



AGENDA
CITY PLANNING COMMISSION

City Hall - Council Chambers
6131 Taylorsville Road
March 14, 2023
6:00 P.M.

1. Call Meeting To Order
2. Roll Call
3. Opening Remarks By The Chair and Commissioners
4. Citizens Comments
5. Swearing of Witnesses
6. Pending Business
7. New Business
 - A. REZONING - The applicant, WRIGHT WAY OHIO, LLC, is requesting approval of a Rezoning to Agricultural (A) for a Campground and Resort. Property is located behind and north of 8101 Old Troy Pike (RZ 23-03).
 - B. BASIC DEVELOPMENT PLAN - The applicant, SKILKEN GOLD REAL ESTATE DEVELOPMENT, is requesting approval of a Rezoning from PEP (Planned Employment Park) to PC (Planned Commercial) and a Basic Development Plan for a restaurant and convenience store, including fueling services, food sales, and drive through. Property is located at the Southeast corner of Brandt Pike and Executive Boulevard (RZ BDP 23-04).

8. Additional Business
 - A. Informal Review
Basic & Detailed Development Plan
Flying Ace - Brandt Pike
9. Approval of Minutes
 - A. Planning Commission February 28, 2023
10. Reports and Calendar Review
11. Upcoming Meetings
 - A. March 28, 2023
April 11, 2023
12. Adjournment

AI-9045

7. A.

Planning Commission

Meeting Date: 03/14/2023

Rezoning

Information

Agenda Title

REZONING - The applicant, WRIGHT WAY OHIO, LLC, is requesting approval of a Rezoning to Agricultural (A) for a Campground and Resort. Property is located behind and north of 8101 Old Troy Pike (RZ 23-03).

Purpose and Background

Attachments

Staff Report

Decision Record

Site Plan

Appraisal Report

Fire Assessment

Memorandum

Staff Report for Meeting of March 14, 2023

To: Huber Heights City Planning Commission
From: Aaron K. Sorrell, City Planner
Date: March 9, 2023
Subject: Rezoning Case: RZ 23-03
(8101 Old Troy Pike)

Department of Planning and Zoning

City of Huber Heights

APPLICANT/OWNER: Wright Way Ohio, LLC. – Applicant
Michael Stafford - Owner

DEVELOPMENT NAME: Jellystone Campground and Resort

ADDRESS/LOCATION: 8101 Old Troy Pike

ZONING/ACREAGE: Planned Commercial / 67.3 Acres

EXISTING LAND USE: Vacant

ZONING

ADJACENT LAND: North: PR (mostly vacant ground)
East: PC (retail)
West: I-1/A (stone extraction and crushing)
South: PEP (Camping World)

REQUEST: The applicant requests a rezoning to Agriculture to develop a campground and resort.

ORIGINAL APPROVAL: N/A

APPLICABLE HHCC: Chapter 1130, 1142

CORRESPONDENCE: In Favor – None Received
In Opposition – One email received.

Overview

The applicant requests rezoning of 67.3 acres to Agriculture to ultimately facilitate the development of a Recreational Vehicle (RV) campground and resort. The site is located directly behind Camping World, a repair destination for many RV owners. Additionally, the applicant feels there is a market for this type of use because there are very few campgrounds in the area, particularly along or near I-70 / I-75. Nearby public facilities include a KOA park in Brookville and a campground in Enon.

A campground is a Special Use in the Agricultural District and will require additional review and approval by the Planning Commission if City Council approves the rezoning.

Site History

The City of Huber Heights acquired this site through a foreclosure sale in 2015. The City sold the remaining I-70 frontage to Gander Mountain / Camping World in 2018. Since that time there has been tepid interest in the balance of the site.

The appraisal performed for the City in 2017 concluded that the highest and best uses of the property included commercial uses along I-70 (subsequently developed), potentially multifamily or institutional residential uses along the north end, and recreational uses on the balance of the site, which is difficult to develop. There has been little interest in residential construction at this site, largely due to the rock-crushing facility to the west and low visibility for institutional facilities such as nursing homes.

The City negotiated a land swap for the parcel included in this application in early 2023 for 30+/- acres the applicant owned along I-70 just north of the Walmart site.

Site Characteristics

The site is the remnants of the Northpark Shopping Center. The western portion of the site, approximately 1/3rd of the entire parcel, has two detention areas totaling approximately 10 acres. The remaining 2/3rd of the site has varying topography, which generally slopes toward the northwest. The highest point has an elevation of 894 feet, and the lowest, near the retention ponds, is approximately 850 feet. Smaller streams flow from the northern portion of the property to the existing retention pond.

The total developable land is approximately 25 acres. While no soil borings have been completed, the staff thinks this general area has shallow bedrock, further limiting development possibilities due to costs associated with laying underground utilities through the rock. This is likely the reason the original shopping center concept was not fully developed at this location.

Applicable Zoning Regulations

The applicable zoning regulations are Chapter 1130 – Amendments and Chapter 1142 Agricultural District. There are few standards associated with the approval of a straight zoning map amendment outside of the Planned Development process.

Chapter 1130.01 - General states: “Whenever the public necessity, convenience, general welfare or good zoning practices require, the City Council may, by ordinance

or resolution, amend, or repeal the regulations, restrictions, boundaries or classification of property.”

Chapter 1130.07 – Recommendation by Planning Commission states:

“After the public hearing required by this chapter is closed, the Planning Commission shall recommend to Council that the requested amendment be:

- (a) Granted as requested;
- (b) Denied;
- (c) Granted as modified by, or subject to such conditions as deemed appropriate by, the Planning Commission. The Planning Commission may, as a condition of approval, modify the proposed amendment or impose any additional requirements or conditions it deems appropriate.”

Chapter 1142.03 – Special Uses states: “The following special uses are subject to review in accordance with Chapter 1135:

- (a) Private and public recreational uses such as: fishing lakes, swimming pools, camps and retreats and riding facilities;
- (b) Such recreational uses may include accessory uses limited to persons using the recreational facility;
- (c) Kindergartens, nurseries and day care in accordance with the provisions of Chapter 1135A;
- (d) Residential care facilities in accordance with the provisions of Section 1135B.01 to 1135B.04;
- (e) Places of worship; and
- (f) Private and public utility facilities.”

Staff Analysis

Rezoning Analysis:

The applicant desires to rezone the property from Planned Commercial to Agriculture for the purpose of eventually constructing a recreational campground. The site has one existing retention lake and an existing wetland/detention easement that cumulatively covers approximately 1/3rd of the site.

Conformance with Comprehensive Plan

The City’s comprehensive plan indicates the site is located in a “Grow and Enhance” character area. Growth areas are those locations within the City where economic development and mixed uses should be encouraged and low-density residential developments discouraged. These areas are the future economic and entertainment engines of the City. The comprehensive plan lists the following appropriate land uses (page 14):

- Conservancy/Recreation
- Agricultural/Low Density Residential
- Single-Family Residential
- Mixed Residential

- Public Use & Institutional
- Commercial Business
- Industrial Business

Staff feels the rezoning from PC to Agriculture is consistent with the Comprehensive Plan. There are agriculturally zoned lands to the west of this site. The applicant is requesting a zoning district that is significantly less intense than the current Planned Commercial district. Staff sees little to no downside in rezoning this land to Agriculture.

Details of the proposed campground will be reviewed at a future time when the applicant submits the Special Use application.

Additional Comments:

Fire: See Attached.

City Engineer: The engineer had no comments at this point in the review process.

Recommendation

Staff is supportive of the rezoning from Planned Commercial to Agricultural and has no recommended conditions at this time.

Planning Commission Action

Planning Commission shall recommend to Council that the requested amendment be:

- 1) Granted as requested;
- 2) Denied;
- 3) Granted subject to conditions.



Planning Commission Decision Record

WHEREAS, on February 09, 2023, the applicant, Wright Way Ohio, LLC, requested approval of a Rezoning to A (Agricultural) for a Campground and Resort. Property is located at behind and north of 8101 Old Troy Pike, further identified as Parcel Number P70 02025 0012 of the Montgomery County Auditor's Map (Case RZ 23-03), and;

WHEREAS, on March 14, 2023, the Planning Commission did meet and fully discuss the details of the request.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission hereby recommended approval of the request.

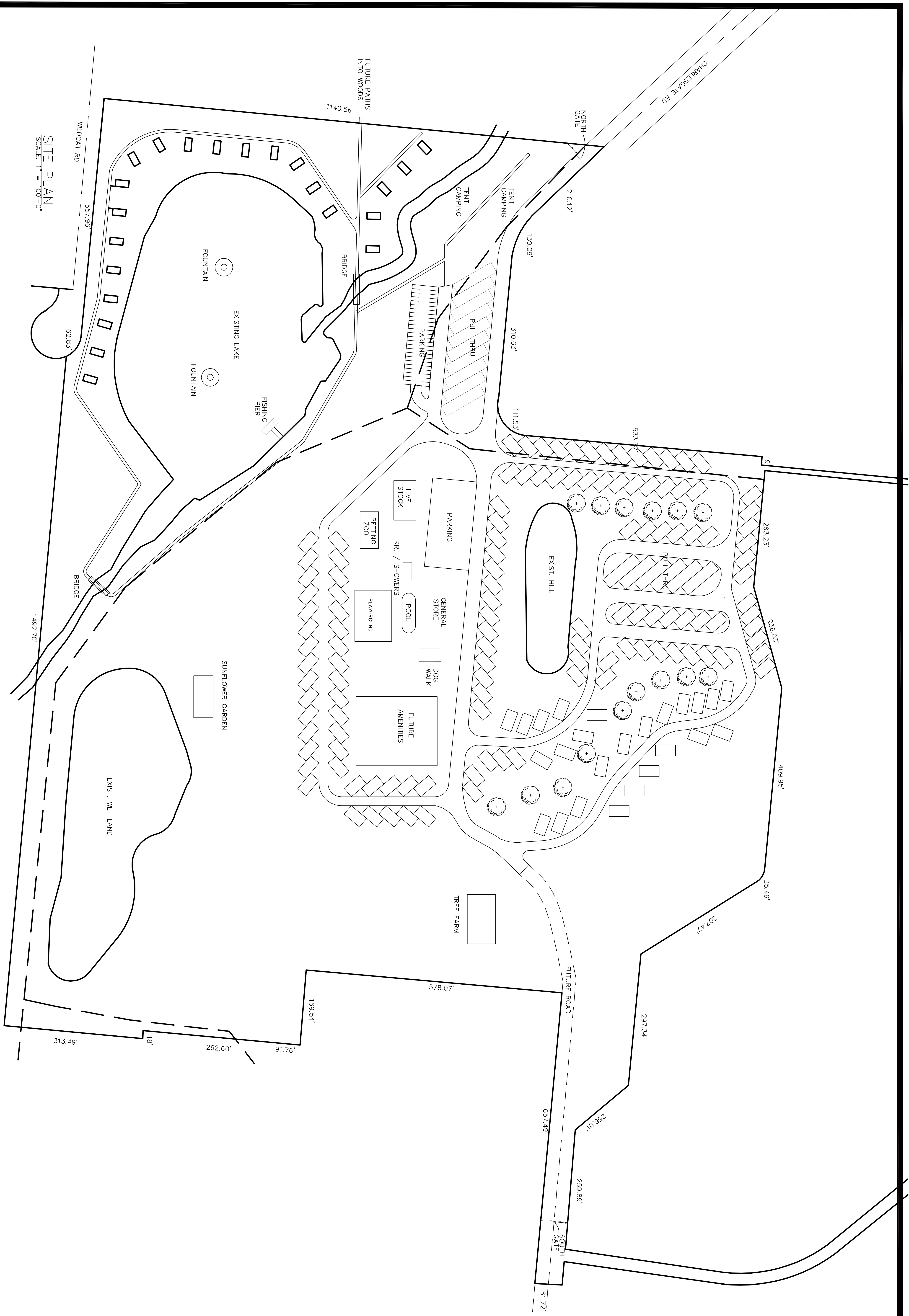
moved to approve the request by the applicant, Wright Way Ohio, LLC, requested approval of a Rezoning to A (Agricultural) for a Campground and Resort. Property is located at behind and north of 8101 Old Troy Pike (RZ 23-03) in accordance with the recommendation of Staff's Memorandum dated, March 9, 2023, with the following conditions:

1. Approve as submitted on the plans dated February 09, 2023.

Seconded by _____ Roll call showed: YEAS NAYS: None. Motion to recommend approval carried

Terry Walton, Chair
Planning Commission

Date



SITE PLAN
SCALE: 1" = 100'-0"

APPRAISAL OF

80.341 ACRES OF VACANT LAND
WILDCAT ROAD
HUBER HEIGHTS, MONTGOMERY COUNTY, OHIO 45424



EFFECTIVE DATE OF VALUE

FEBRUARY 15, 2017

PREPARED FOR

CITY OF HUBER HEIGHTS
ATTENTION: SCOTT FALKOWSKI
6131 TAYLORSVILLE ROAD
HUBER HEIGHTS, OHIO 45424

PREPARED BY

JOSEPH P. KELLEY
STATE OF OHIO CERTIFIED GENERAL REAL ESTATE APPRAISER #2001012265

ROBERT HARRIS
APPRAISING AND
CONSULTING CO.

1250 West Dorothy Lane
Kettering, Ohio 45409

Phone 937-293-1185
Fax 937-293-1234

April 4, 2017

City of Huber Heights
6131 Taylorsville Road
Huber Heights, Ohio 45424

Attention: Mr. Scott Falkowski

Subject: #170202
80.341 Acres Vacant Land
Wildcat Road
Huber Heights, Ohio 45424

Dear Mr. Falkowski:

This is a summary appraisal report in a Narrative Format. I was asked to appraise the fee simple interest in the Subject property. I hereby certify that I, personally, inspected portions of the above referenced property in estimating its Market Value.

I conducted a thorough investigation and performed the necessary research and analysis of the area and neighborhood to obtain relevant information in order to form our opinion of value. The Direct Sales Comparison Approach was completed in this appraisal process and is the most relevant approach to value vacant land such as the Subject. The analysis and conclusions are reported in a summary format. The accompanying report will demonstrate, in greater detail, the methodology used and how the data was analyzed in estimating the value of this property.

As of February 15, 2017, I estimate the value of the Fee Simple Interest in the south 11.7+- acre portion of the Subject property, to be

SEVEN-HUNDRED-EIGHTY-THOUSAND-DOLLARS

\$780,000

(Continued On Next Page)

ROBERT HARRIS
APPRAISING AND
CONSULTING CO.

1250 West Dorothy Lane
Kettering, Ohio 45409

Phone 937-293-1185
Fax 937-293-1234

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As of February 15, 2017, I estimate the value of the Fee Simple Interest in the north 66.6 acre portion of the 80.341 acre Subject property, to be

NINE-HUNDRED-SEVENTY-THOUSAND-DOLLARS

\$970,000

As of February 15, 2017, I estimate the value of the Fee Simple Interest of the entire 80.341 acre Subject property, to be

ONE-MILLION-SIX-HUNDRED-THOUSAND-DOLLARS

\$1,600,000

If you have any questions, or if further information is needed, please call us at (937)-293-1185.

Submitted by



Joseph P. Kelley
State of Ohio Certified General Real Estate Appraiser 2001012265

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**SUBJECT: WILDCAT ROAD
CITY OF HUBER HEIGHTS
MONTGOMERY COUNTY, OHIO**

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ADDENDUM:

Deed	
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ASSUMPTIONS AND LIMITING CONDITIONS

This appraisal report has been made with the following general assumptions:

1. This is a Summary Appraisal Report which is intended to comply with the reporting requirements set forth under Standard Rule 2-2 of the Uniform Standards of Professional Appraisal Practice for a Summary Appraisal Report. As such, it may not include full discussions of the data, reasoning, and analyses that were used in the appraisal process to develop the Appraiser's opinion of value. Supporting documentation concerning the data, reasoning, and analyses is retained in the Appraiser's file. The information contained in this report is specific to the needs of the client and for the intended use stated in this report. The Appraiser is not responsible for unauthorized use of this report.
2. No responsibility is assumed for legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated.
3. The property is appraised free and clear of any or all liens or encumbrances unless otherwise stated.
4. Responsible ownership and competent property management are assumed unless otherwise stated in this report.
5. The information furnished by others is believed to be reliable. However, no warranty is given for its accuracy.
6. All engineering is assumed to be correct. The plot plans and illustrative material in this report are included only to assist the reader in visualizing the property.
7. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. No responsibility is assumed for such conditions or for arranging for engineering studies that may be required to discover them.
8. It is assumed that there is full compliance with all applicable federal, state, and local environmental regulations and laws unless noncompliance is stated, defined, and considered in the appraisal report.
9. It is assumed that all applicable zoning and use regulations and restrictions have been complied with, unless a nonconformity has been stated, defined, and considered in the appraisal report.
10. It is assumed that all required licenses, certificates of occupancy, consents or other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.

LIMITING CONDITIONS, continued

11. Any sketch in this report may show approximate dimensions and is included to assist the reader in visualizing the property. Maps and exhibits found in this report are provided for reader reference purposes only. No guarantee as to accuracy is expressed or implied unless otherwise stated in the report. No survey has been made for the purpose of this report.
12. It is assumed that the utilization of the land and improvements is within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in the report.
13. The Appraiser is not qualified to detect hazardous waste and/or toxic materials. Any comment by the Appraiser that might suggest the possibility of the presence of such substances should not be taken as confirmation of the presence of hazardous waste and/or toxic materials. Such determination would require investigation by a qualified expert in the field of environmental assessment. The presence of substances such as asbestos, urea-formaldehyde foam insulation or other potentially hazardous materials may affect the value of the property. The Appraiser's value estimate is predicated on the assumption that there is no such material on or in the property that would cause a loss in value unless otherwise stated in this report. No responsibility is assumed for any environmental conditions or for any expertise or engineering knowledge required to discover them. The Appraiser's descriptions and resulting comments are the result of the routine observations made during the appraisal process.
14. Unless otherwise stated in this report, the Subject property is appraised without a specific compliance survey having been conducted to determine if the property is or is not in conformance with the requirements of the Americans With Disabilities Act. The presence of architectural land communications barriers that are structural in nature that would restrict access by disabled individuals may adversely affect the property's value, marketability, or utility.
15. Any proposed improvements are assumed to be completed in a good workmanlike manner in accordance with the submitted plans and specifications.
16. The distribution, if any, of the total valuation in this report between land and improvements applies only under the stated program of utilization. The separate allocations for land and buildings must not be used in conjunction with ANY other appraisal and are invalid if so used.
17. This appraisal is prepared for the sole and exclusive use of the appraiser's client. No third parties are authorized to rely upon this report without the express written consent of the appraiser. It may not be used for any purpose by any person other than the party to whom it is addressed without the written consent of the appraiser, and, in any event, only with properly written qualification and only in its entirety.
18. Possession of this report, or a copy thereof, does not carry with it the right of publication. Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the Appraiser, or the firm with which the Appraiser is connected) shall be disseminated to the public through advertising, public relations, news sales, or other media without prior written consent and approval of the Appraiser.

LIMITING CONDITIONS, continued

19. The appraiser is not a property inspector. This report should not be relied upon to disclose any conditions present in the subject property. This appraisal report does not guarantee that the property is free of defects.

20. This appraisal is prepared for the sole and exclusive use of the appraiser's client. No third parties are authorized to rely upon this report without the express written consent of the appraiser. It may not be used for any purpose by any person other than the party to whom it is addressed without the written consent of the appraiser, and, in any event, only with properly written qualification and only in its entirety.

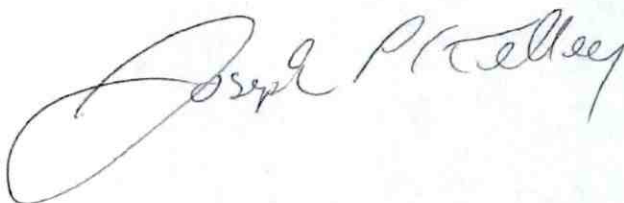
21. The Appraiser will not give testimony or appear in Court because he or she made an appraisal of the property in question unless specific arrangements to do so have been made beforehand or as otherwise required by law.

22. ACCEPTANCE OF AND/OR USE OF THE APPRAISAL REPORT CONSTITUTES ACCEPTANCE OF THE ABOVE CONDITIONS.

CERTIFICATION

I certify that, to the best of my knowledge and belief:

- the statements of fact contained in this report are true and correct.
- the reported analyses, opinions and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, unbiased professional analyses, opinions, and conclusions.
- I have no present or prospective interest in the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.
- I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- my compensation is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly relate to the intended use of this appraisal.
- my analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.
- I have made a personal inspection of the property that is the subject of this report.
- No one provided significant real property appraisal assistance to the person signing this report.



4/4/2017

Joseph P. Kelley

Date

State of Ohio Certified General Real Estate Appraiser #2001012265

SUMMARY OF IMPORTANT CONCLUSIONS

EXECUTIVE SUMMARY

LOCATION:	80.341 Acres Vacant Land Wildcat Road City of Huber Heights Montgomery County, Ohio 45424
LEGAL DESCRIPTION:	Lot 5, Northpark Section Four City Huber Heights Montgomery County, Ohio
LAND AREA:	80.341 Acres – Entire Parcel About 11.7 Acres is the South Portion About 66.6 Acres is the North Portion About 2 Acres are narrow extensions to the east
PARCEL IDENTIFICATION NUMBER:	P70-020-25-0009
IMPROVEMENTS:	No Significant Buildings
REAL ESTATE TAX:	\$42,111.56
CURRENT ASSESSMENTS:	\$13.46
ESTIMATED MARKETING PERIOD:	2 to 10 Years
ESTIMATED EXPOSURE PERIOD:	2 to 10 Years
OWNERSHIP:	City of Huber Heights
PROPERTY RIGHTS APPRAISED:	Fee Simple Interest
CENSUS TRACT:	1001.01
PRESENT USE:	Vacant Land
ZONING CLASSIFICATION:	PC, Planned Commercial District
UTILITIES:	All Public
HIGHEST AND BEST USE:	Commercial Use where financially feasible

SUMMARY OF IMPORTANT CONCLUSIONS, continued

EXECUTIVE SUMMARY

EFFECTIVE DATE OF VALUE: February 15, 2017

DATES OF INSPECTION: February 15, 2017, March 18, 2017

DATE OF REPORT: April 4, 2017

**ESTIMATED VALUE BY THE
SALES COMPARISON APPROACH
11.7+- ACRES SOUTH PORTION
OF PROPERTY:** \$780,000

**ESTIMATED VALUE BY THE
SALES COMPARISON APPROACH
NORTH 66.6+- ACRES (EXCLUDING
SOUTH PORTION OF PROPERTY
AND EXCLUDING 2 ACRES OF
NARROW EXTENSIONS TO EAST):** \$970,000

**ESTIMATED VALUE BY THE
SALES COMPARISON APPROACH
ENTIRE 80.341 ACRE PROPERTY:** \$1,600,000

IDENTIFICATION OF SUBJECT

The Subject of this report is 80.349 acres of vacant land. The Subject is located along the east side of Wildcat Road. It is also located just north of Interstate 70, and about 1,500 feet west of Old Troy Pike. The parcel is located in the in the City of Huber Heights, Montgomery County, Ohio.

PURPOSE, INTENDED USERS AND INTENDED USE OF THIS REPORT

The purpose of this appraisal is to provide the Appraiser's best estimate of the Market Value of the fee simple interest in the Subject property, subject to an existing easement of the school building, as of February 3, 2017. This report will be used by the client and intended user, The City of Huber Heights, for making a selling decision.

PROPERTY RIGHTS APPRAISED

The Fee Simple Interest (see definition below) in the Subject property, located along Wildcat Road and just north of Interstate 70 in the City of Huber Heights, Montgomery County, Ohio 45424. The Subject property is currently vacant land with some asphalt driving roadways and areas on narrow portions to the east.

FEE SIMPLE ESTATE - An absolute fee; a fee without limitations to any particular class of heirs or restrictions, but subject to the limitations of eminent domain, escheat, police power, taxation. An inheritable estate.

SCOPE OF WORK OF THIS REPORT

This appraisal is prepared for the client / intended user, the City of Huber Heights, to assist the intended users in making a selling decision.

In preparing this appraisal, an appraiser inspected the Subject property. The Appraiser researched public records to obtain pertinent information about the Subject. Government officials were contacted and internet sites were visited to verify flood zone, zoning, and tax information. The appraiser gathered information on comparable sales. The Cost Approach is not a relevant approach to value vacant land. The Direct Sales Comparison Approach was completed. Comparable sales of similar vacant land properties were gathered. A south ten acre portion of the site was valued, the Subject property excluding that south ten acre portion was valued, and the entire 80.341 acre parcel was valued. The Income Approach was not completed and is not relevant because the property is not leased and property such as the Subject usually is not leased. The analysis and conclusions are reported in a summary format. Supporting documentation is retained in the Appraisers' files.

PERSONAL PROPERTY APPRAISED

No personal property was valued for this report and no personal property is included in the market value opinion of the property.

PAST SALES AND OWNERSHIP HISTORY

The Subject property has been owned by the City of Huber Heights since September 28, 2015 when it was transferred by a sheriff's deed from Wildcat Development Limited Partnership, which had owned the property since 2010. There is no known listing of the property for sale.

FLOOD ZONE

The Subject is located in an "X" flood zone of minimal flooding, even though there is a small lake and a second detention area on the property. The flood map panels are not printed.

ZONING

The Subject property is zoned PC, Planned Commercial District. There is currently no development plan for the Subject that has been submitted to the City of Huber Heights. The zoning map and relevant regulations are in the addendum of the report.

ASSESSMENT OF TAXES

REAL ESTATE TAX

ASSESSMENT: These assessed values for the Subject property are for the 2016 tax year. The property currently is taxable. The annual real estate taxes are \$42,111.56 and the special assessment is \$13.46.

	County Value 100%	Assessed Value 35%
Land:	\$1,446,140	\$506,150
Improvements:	<u>\$ 0</u>	<u>\$ 0</u>
Total:	\$1,446,140	\$506,150

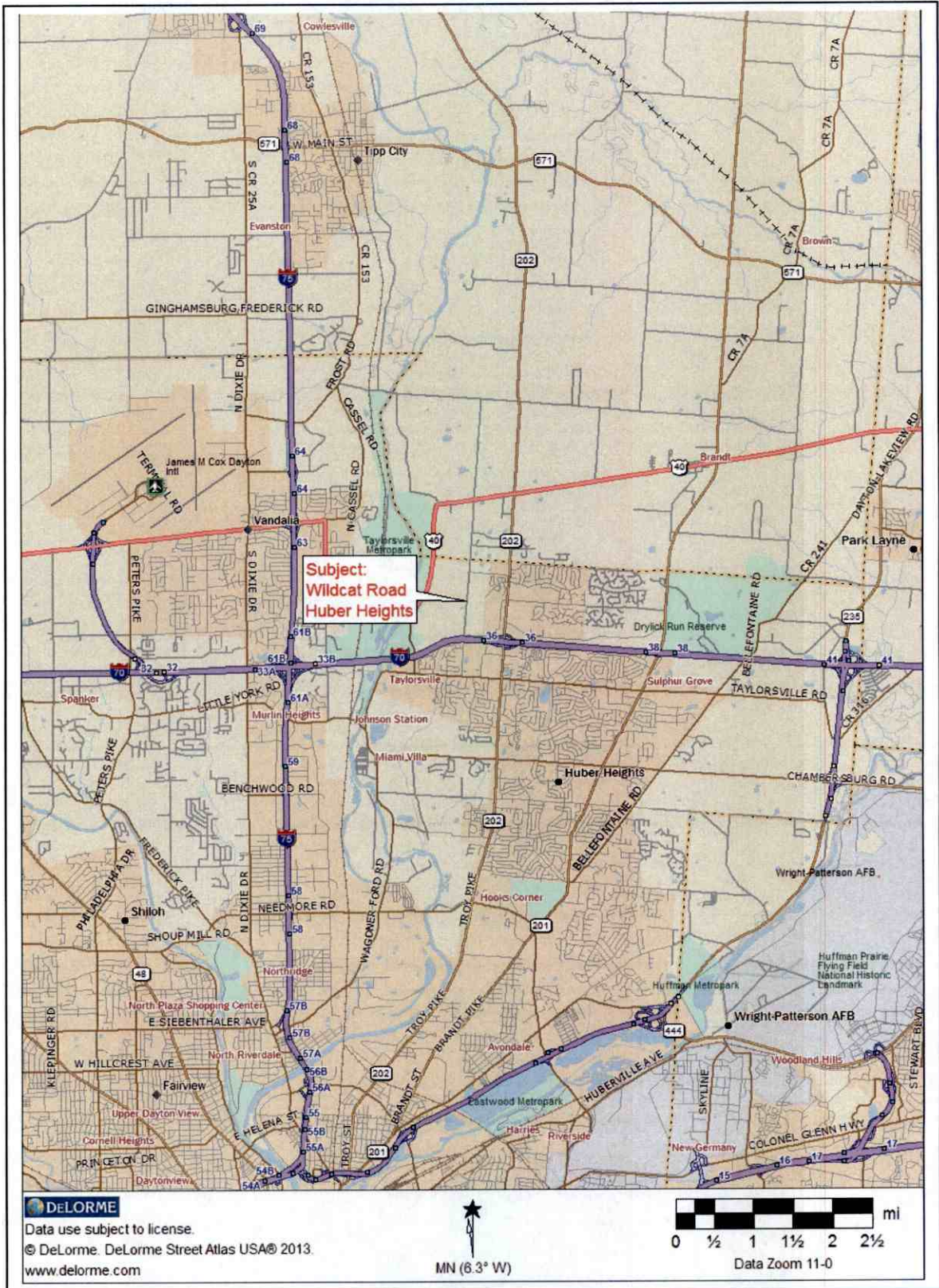
AREA AND NEIGHBORHOOD DESCRIPTION

The Subject is located in the City of Huber Heights and mostly in the northeast portion of Montgomery County, Ohio. A northern portion of the city is located in Miami County. Huber Heights has a population of about 40,000 and Montgomery County has a population of about 535,000. Huber Heights is located northeast of Dayton and is generally considered to be a part of the greater Dayton area as is most of Montgomery County and western Greene County. Interstate 70 runs through the north portion of the city and Interstate 75 is located within two miles of Huber Heights. Huber Heights, which was then Wayne Township, was mostly a rural area until about 1950 when much of the area that is south of Interstate 70 and near Old Troy Pike and Brandt Pike began being developed, mostly with one story brick homes. There are some commercial areas along Old Troy Pike and Brandt Pike. There is a light industrial and warehouse area along Executive Boulevard east of the Subject and there is an industrial development in the northeast portion of the city. Huber Heights now extends into Miami County. Some areas of the city remain mostly undeveloped including Carriage Hill Reserve, a large park in the northeast portion of Huber Heights. Nearly all of the portion of Huber Heights that is in Montgomery County is in the Huber Heights City School District and the Miami County portion of Huber Heights is in the Bethel Local School District which serves much of Bethel Township to the north.

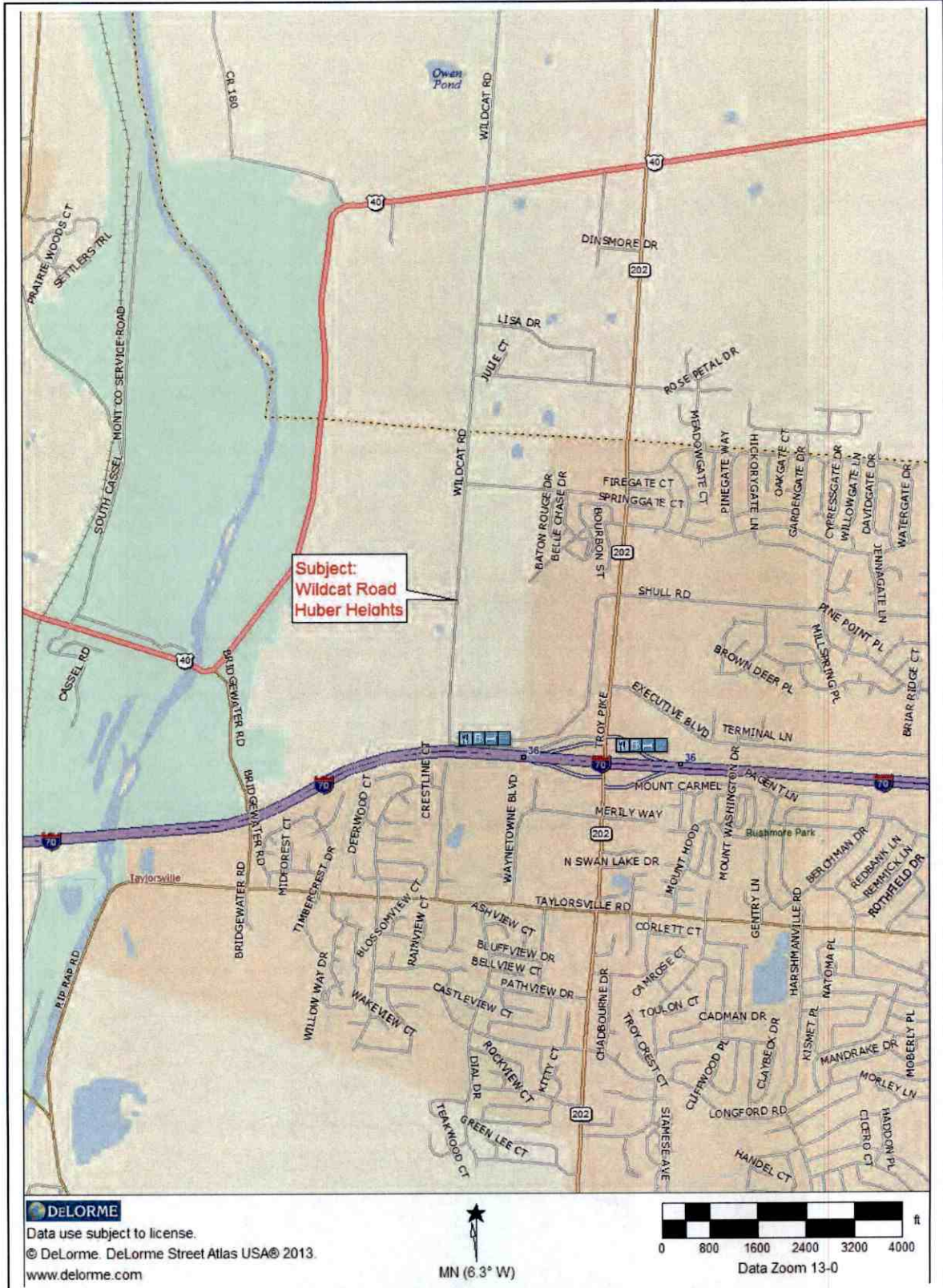
The Subject is located in the northeast portion of Huber Heights immediately north of Interstate 70 where there is a nearby full interchange with Old Troy Pike (which is also State Route 202). The Subject is located just west of the most intense commercial area in Huber Heights. This interchange has more commercial development around it than any Interstate 70 interchange between Columbus and Richmond, Indiana. There is a large shopping center located just east of the Subject that includes an Elder Beerman store, and a Lowe's is located just north of the shopping center. Uses along Old Troy Pike just north of Interstate 70 include several restaurants, a Target store east of Old Troy Pike and a large shopping center along the west side of Old Troy Pike north of Executive Boulevard. Uses farther north include some office uses including medical uses such a new Children's medical office building and a Kettering Medical Center building. There is some residential development not far northeast of the Subject. The nearby areas to the west and northwest of the Subject are mostly undeveloped and include the city yard waste area and a quarry mining type of use to the northwest.

The Subject area is considered to be in the stability phase of the neighborhood life cycle. Most of the current growth in Huber Heights is in or near the Carriage Trails development which is the Miami County portion of the city and northeast of the Subject area.

AREA MAP



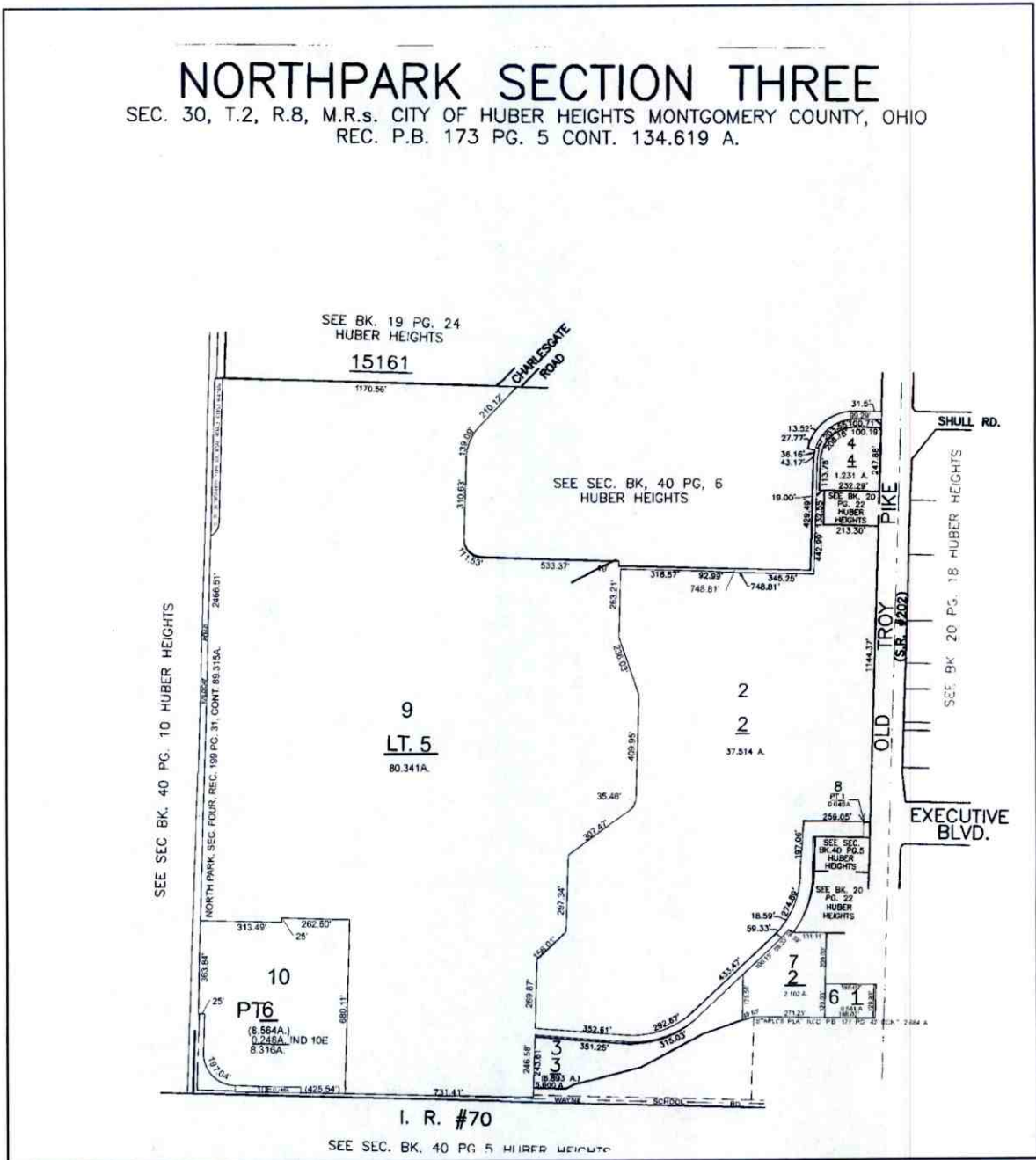
LOCATION MAP



AUDITOR MAP

NORTHPARK SECTION THREE

SEC. 30, T.2, R.8, M.R.s. CITY OF HUBER HEIGHTS MONTGOMERY COUNTY, OHIO
 REC. P.B. 173 PG. 5 CONT. 134.619 A.



AERIAL MAP



UTILITY MAP



DETENTION EASEMENTS MAP



Book 109 Page 31A

NORTH PARK SECTION FOUR
BEING A REPLAT OF ALL OF LOT 1 OF NORTH PARK SECTION 3 RECORDED IN PLAT BOOK 173 PAGE 5

SECTION 31A, TOWN 3 NORTH, RANGE 10 WEST, COUNTY OF WASHINGTON, DISTRICT OF COLUMBIA, 2005

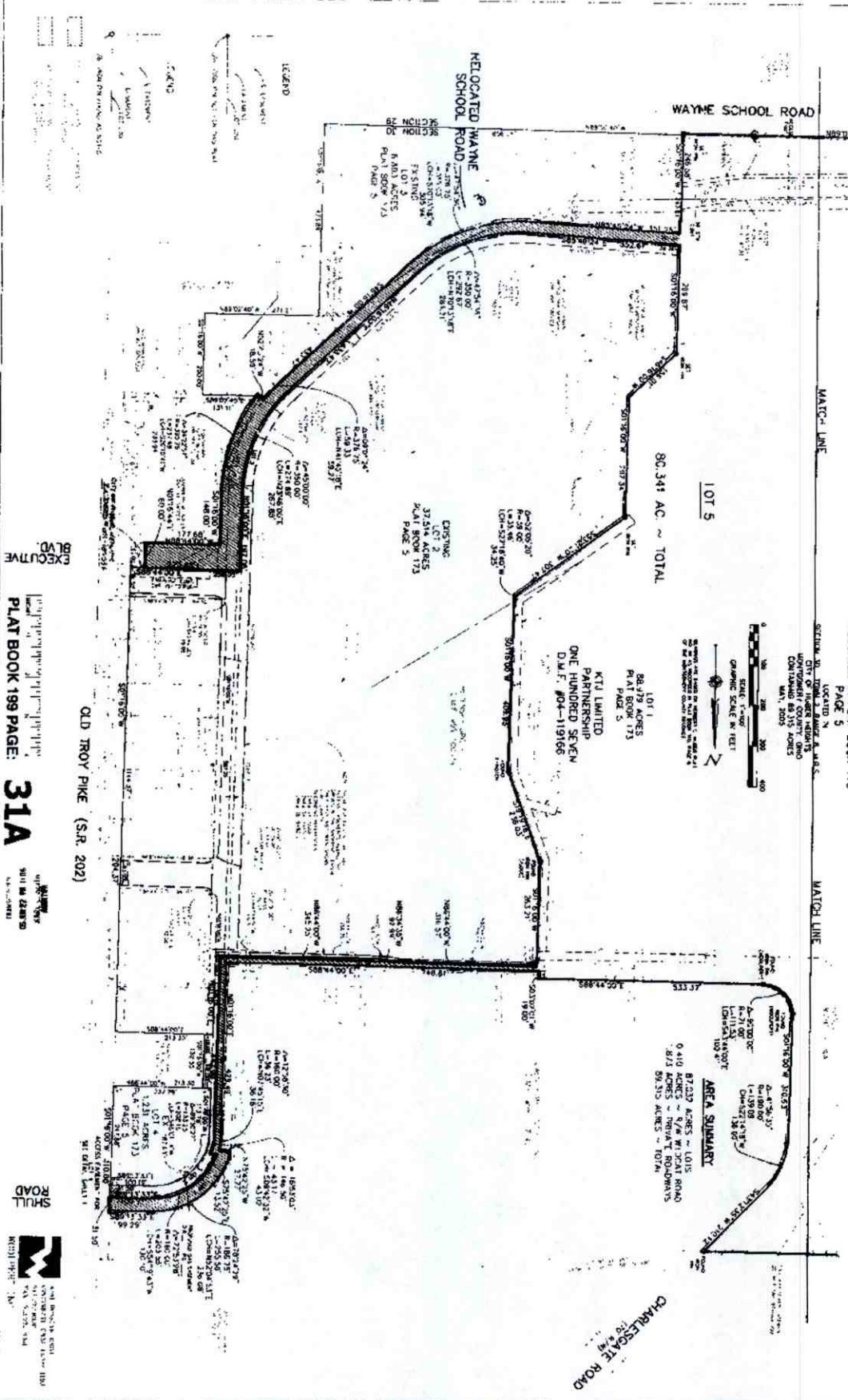
SCALE: 1" = 100' GRAPHIC SCALE IN FEET



LOT 5
SC 344 AC. TOTAL

LOT 1
88.179 ACRES
PLAT BOOK 173
PAGE 5
KTJ LIMITED PARTNERSHIP
ONE HUNDRED SEVEN
D.M.F. #04-119166

LOT 2
37.511 ACRES
PLAT BOOK 173
PAGE 5
CHRISTINE
LOT 2
37.511 ACRES
PLAT BOOK 173
PAGE 5



AREA SUMMARY

87.232 ACRES - LOT 5	87.232 ACRES - 100% WITHIN ROAD
0.410 ACRES - 100% WITHIN ROAD	0.410 ACRES - 100% WITHIN ROAD
87.642 ACRES - TOTAL	87.642 ACRES - TOTAL

EXECUTIVE
PLAT BOOK 199 PAGE: 31A

31A
10/11/05
10/11/05



22X

SECTION AND ADJACENT

SECTION 20, TOWNSHIP 21 N, RANGE 8 E, S. 4

FOR DETAILS OF SECTION 20, TOWNSHIP 21 N, RANGE 8 E, S. 4, SEE PLAT BOOK 198 PAGE 31B OF NORTH PARK SECTION 3 RECORDED IN PLAT BOOK 173 PAGE 5

SECTION 20, TOWNSHIP 21 N, RANGE 8 E, S. 4
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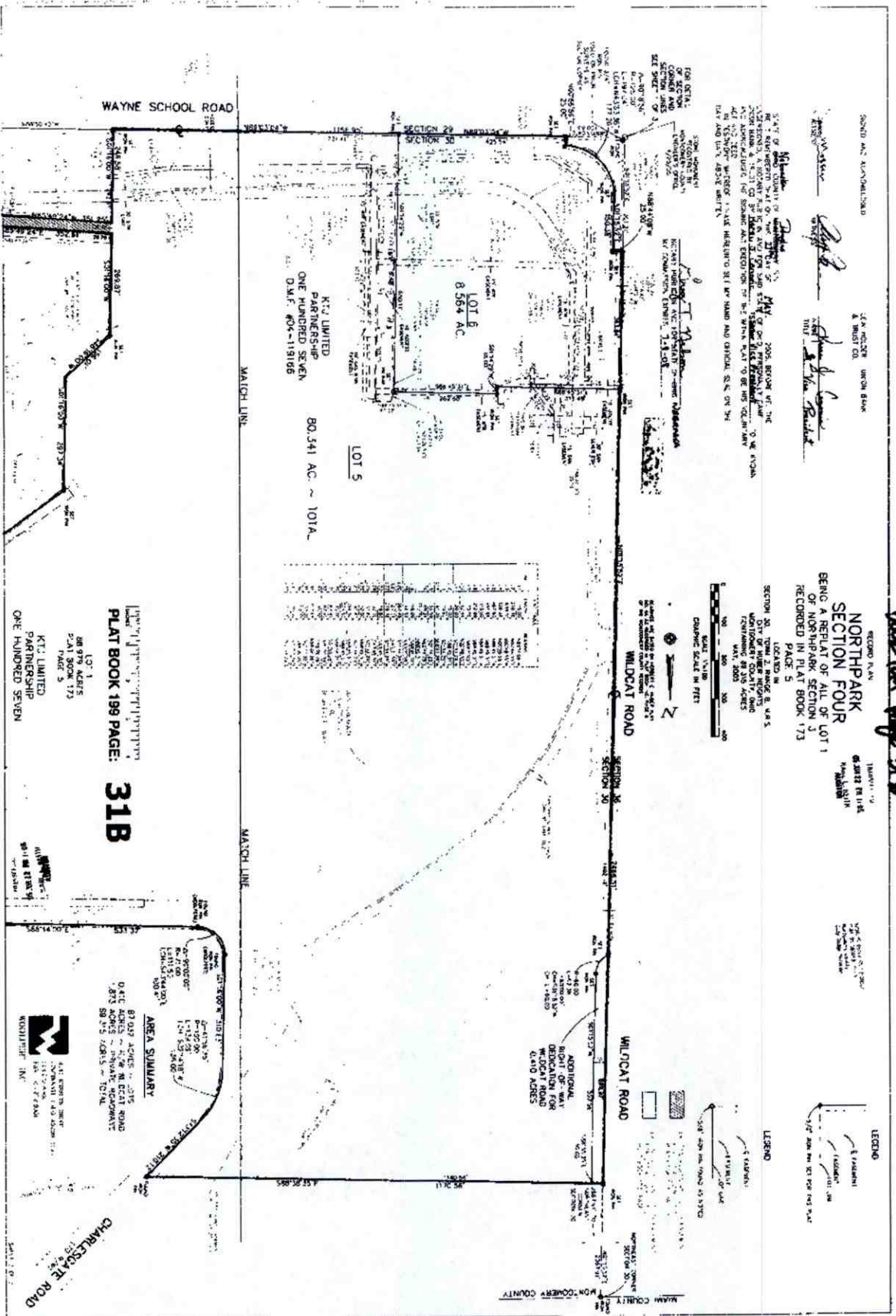
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SECTION 20, TOWNSHIP 21 N, RANGE 8 E, S. 4

Book 100 Page 31B



22X

PLAT BOOK 198 PAGE: 31B

LOT 1
88.976 ACERS
KIC LIMITED PARTNERSHIP
ONE HUNDRED SEVEN

AREA SUMMARY
81,003 ACERS - 101%
0.416 ACERS - 0.5% N. DECAT ROAD
0.813 ACERS - PRIVATE ROADWAY
88.976 ACERS - TOTAL

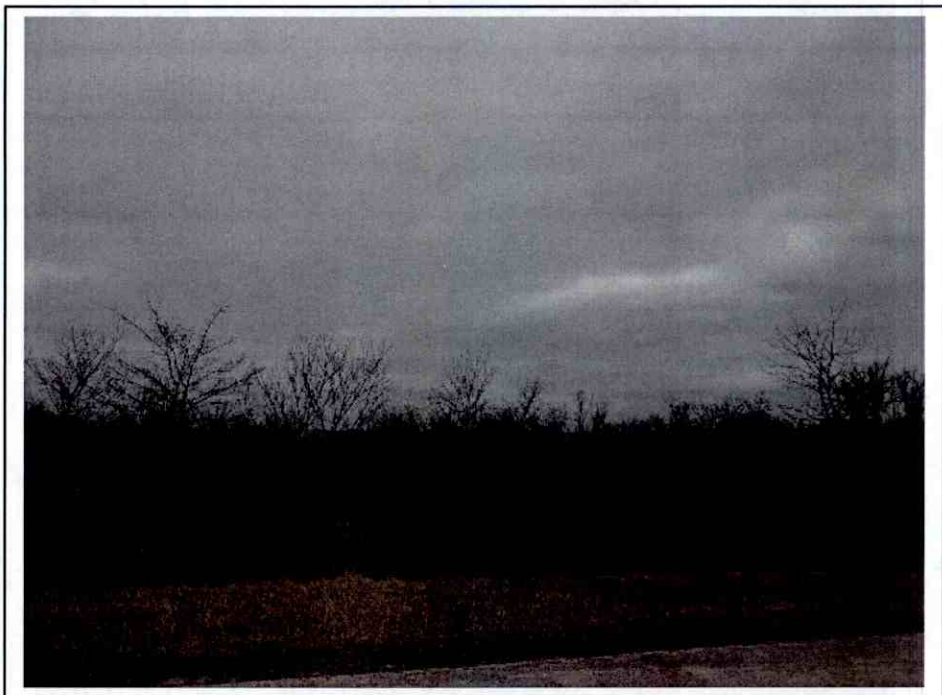


MONTGOMERY INC.
441 E. BENTLEY STREET
TOWNSHIP 21 N, RANGE 8 E, S. 4
SECTION 20, TOWNSHIP 21 N, RANGE 8 E, S. 4

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



LOOKING NORTH ALONG WILDCAT ROAD



LOOKING EAST FROM WILDCAT ROAD

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



LOOKING SOUTH ALONG WEST PROPERTY LINE

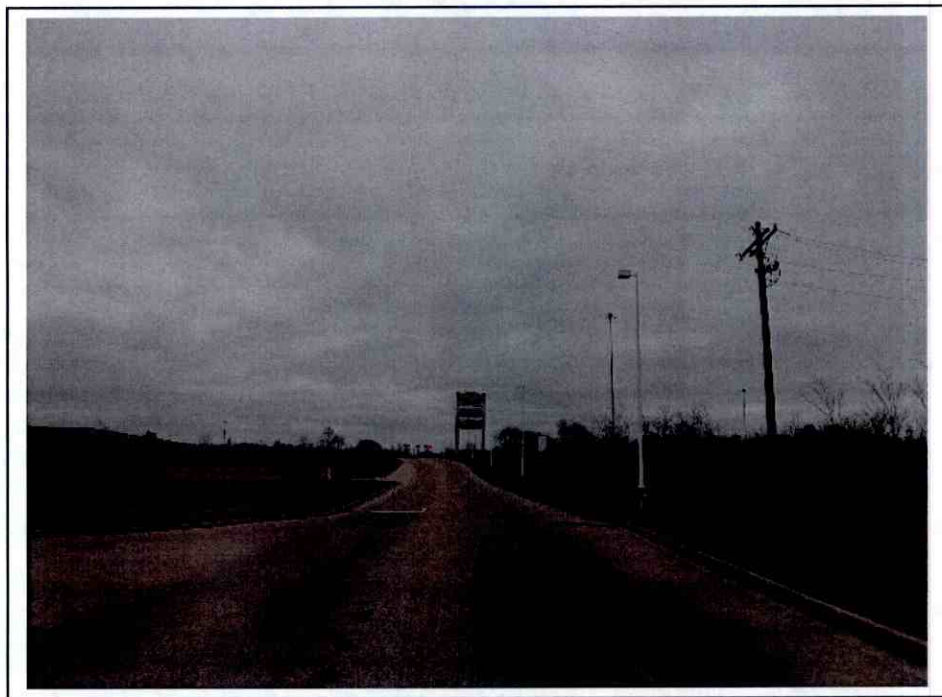


LOOKING SOUTH ALONG WEST PROPERTY LINE

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



LOOKING WEST ALONG ACCESS ROAD TO SOUTH PORTION OF PROPERTY

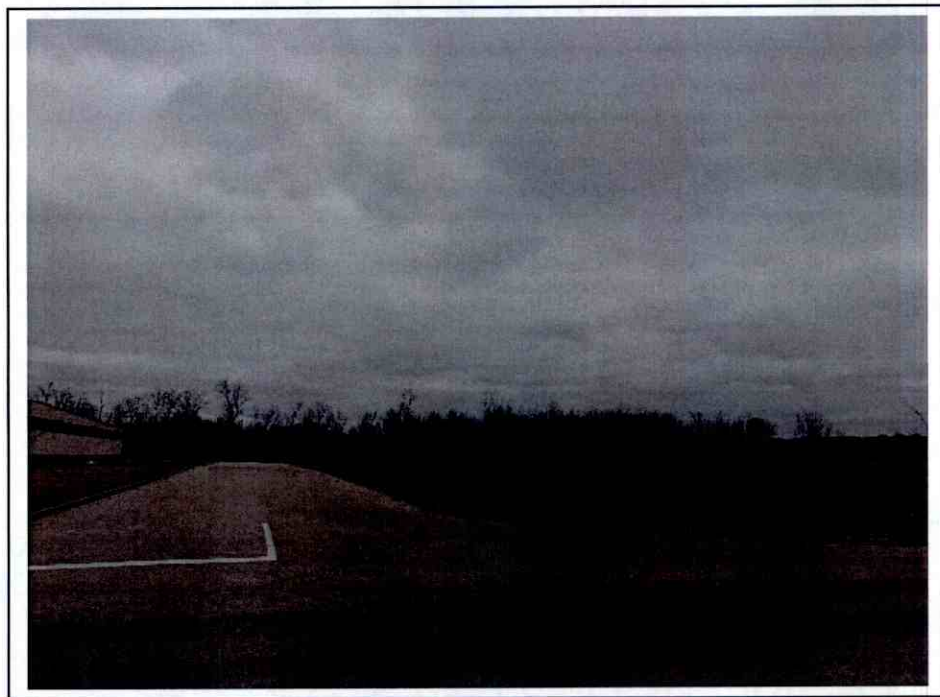


LOOKING EAST ALONG ACCESS ROAD TO SOUTH PORTION F PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



LOOKING NORTHEAST ACROSS KAND ALONG ACCESS ROAD



LOOKING NORTH ALONG ROAD NEXT TO GANDER MOUNTAIN

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO

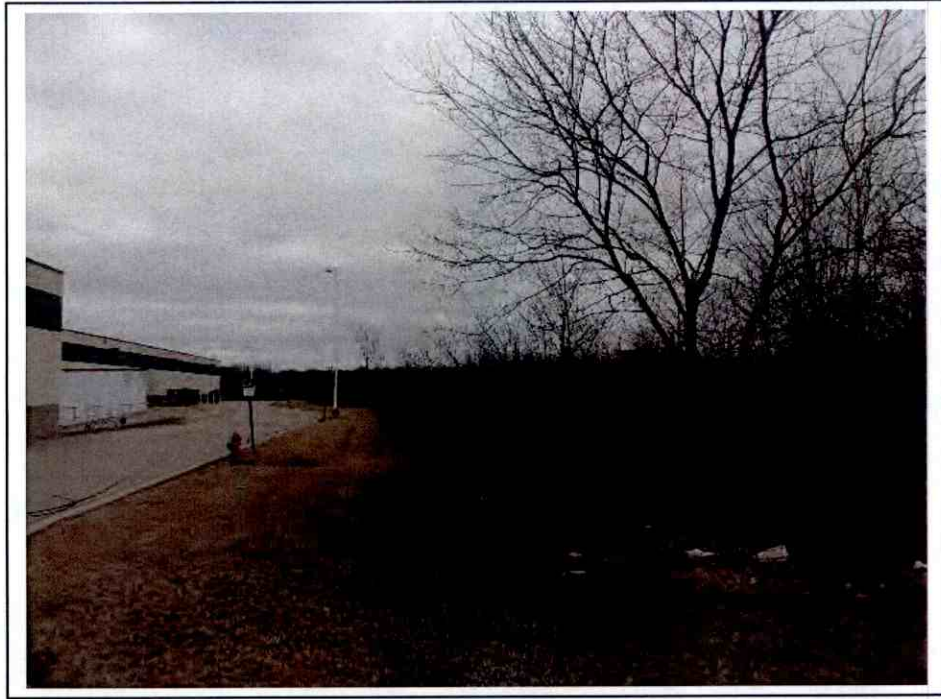


LOOKING SOUTH ALONG ROAD NEXT TO GANDER MOUNTAIN



LOOKING EAST FROM END OF ROAD NEXT TO GANDER MOUNTAIN

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



LOOKING WEST ALONG SOUTH PROPERTY LINE BEHIND GANDER MOUNTAIN



DETENTION AREA NORTH OF GANDER MOUNTAIN

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



LOOKING NORTHEAST NEAR GANDER MOUNTAIN



CREEK NEAR DETENTION AREA ON SOUTHWEST PORTION OF PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO

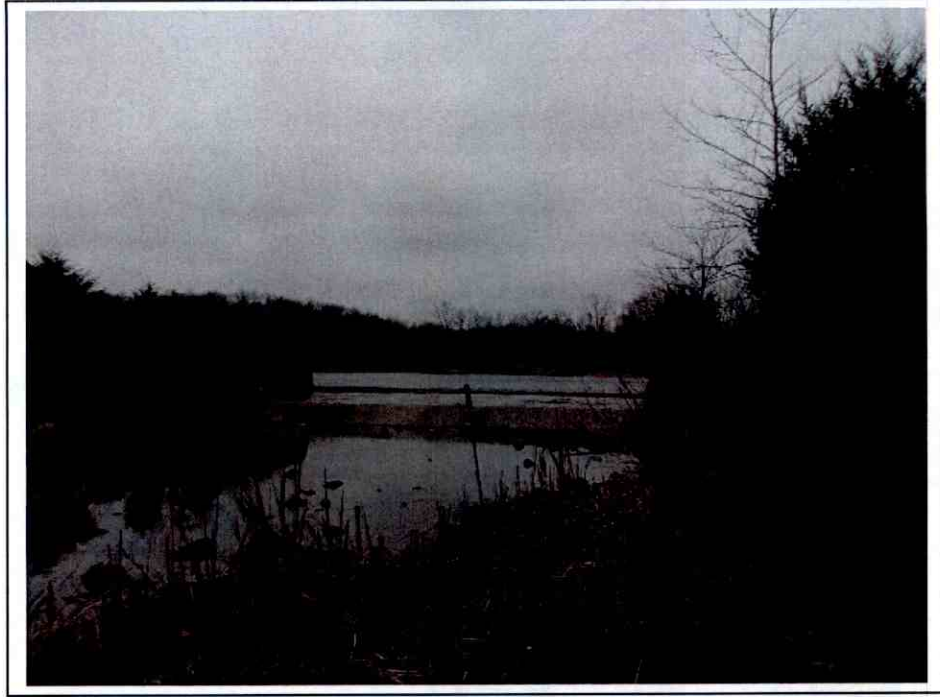


LOOKING SOUTH AT DETENTION AREA ON SOUTHWEST PORTION OF PROPERTY



WOODED AREA

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



SPILLWAY FOR LAKE ON NORTHWEST PORTION OF PROPERTY



NORTHWEST PORTION OF PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



CREEK NEAR LAKE ON NORTHWEST PORTION OF PROPERTY



LAKE ON NORTHWEST PORTION OF PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



NORTH PORTION OF PROPERTY



NORTH PORTION OF PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



LOOKING EAST NEAR BOUNDARY WITH LOWE'S PROPERTY



NORTH PORTION OF PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



CREEK ON NORTH PORTION OF PROPERTY



CREEK ON NORTH PORTION OF PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



LOOKING EAST NEAR NORTH PROPERTY LINE



NORTH PORTION OF PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



END OF CHARLESGATE DRIVE NEAR NORTHEAST CORNER OF PROPERTY



END OF CHARLESGATE DRIVE NEAR NORTHEAST CORNER OF PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



LOOKING SOUTH ON EAST PORTION OF PROPERTY



LOOKING WEST ACROSS PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



LOOKING NORTH ON EAST PORTION OF PROPERTY



EAST PORTION OF PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



LOOKING SOUTH NEAR EAST PROPERTY LINE

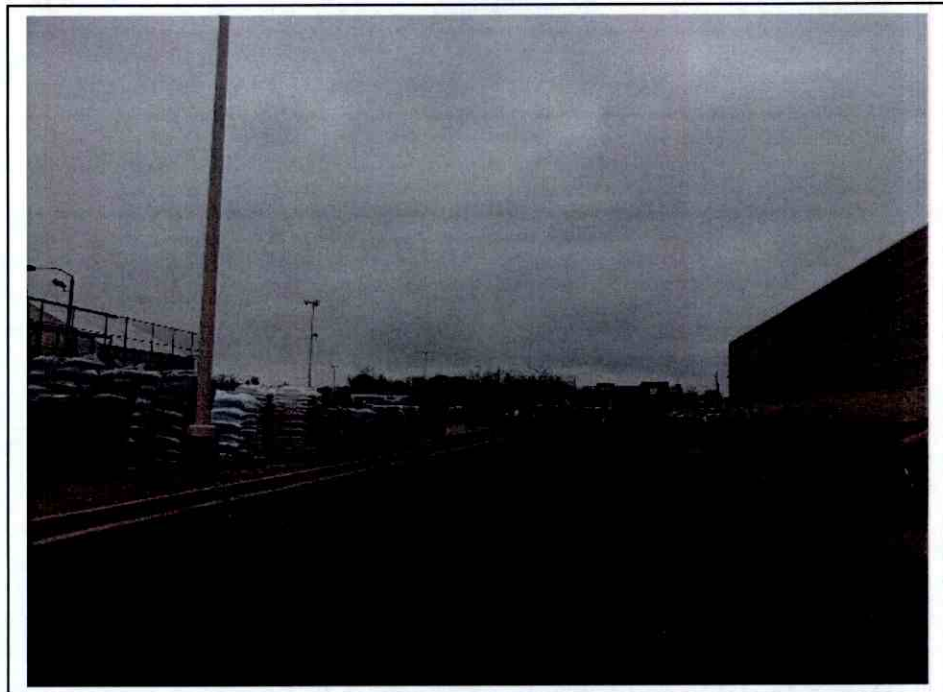


LOOKING WEST ON SOUTH PORTION OF PROPERTY

PHOTOS OF SUBJECT: WILDCAT ROAD, HUBER HEIGHTS, OHIO



NARROW EXTENSION ALONG ACCESS ROAD



NARROW EXTENSION SOUTH OF LOWE'S

PROPERTY DESCRIPTION

The Subject is an 80.3 acre parcel of vacant land located along the east side of the south end of Wildcat Road and just north of Interstate 70 in the City of Huber Heights, Montgomery County, Ohio.

The parcel is somewhat irregular in shape. It is the undeveloped land that remains from a commercial development to the east that includes the Northpark Shopping Center. The north property line extends from the end of Charlesgate Drive to Wildcat Road and is 1,170.56 feet. The west property line runs along the current and former portions of Wildcat Road, part of which has been vacated, and measures 2,466.51 feet. There is a notch out of the southwest corner of the property where a separate 8.6 parcel was platted which has a Gander Mountain store constructed on it. The south property line runs along or very close to the Interstate 70 north right-of-way line and measures 731.41 feet. The east property lines are irregular and follow the rear portions of the neighboring Northpark Shopping Center parcel to the east and the Lowe's parcel, part of which is a notch into the northeast portion of the Subject. The distance from the south property line along Interstate 70 to the north property line is about 3,146 feet. The width varies substantially and is most narrow near the south property line and is widest in the middle area of the property where the width from east to west is estimated to be about 1,750 feet.

The site has some sloping and irregular topography, and a topography map is included in this report. The south portion of the property that is just east of the Gander Mountain parcel is close to level in places although the east portion of that portion of the parcel has a higher elevation. Much of the east portion of the property that is close to the east property line slopes significantly downward. There is a small lake of about 6.7 acres near the northwest corner of the property and land along the west and north side of the lake slopes downward toward the lake. There is a small concrete dam at the south end of the lake where the lake drains into a creek. There is also a creek that drains into the northeast portion of the lake. This creek extends to the northeast and is fed by another creek. Both of these creeks are typically shallow but are several feet lower in elevation than the adjacent land, so large culverts or small bridges would need to be built if a road or driving area is ever installed across either creek. There is also a wetland area which at times may contain water on the southwest portion of the property just north of the Gander Mountain property that is at least 3.1 acres. Both of these lake areas serve as storm water detention areas. There are other areas with significant slopes in the middle area of the property and other areas have much more gradual sloping. The highest elevation is about 914 on a north portion of the east property line and the lowest elevation is about 842 feet close to the former right-of-way of Wildcat Road.

The land has a mixture of meadow area and wooded areas although most of the property is either wooded or covered by brush and small trees except for the south portion of the property that is east of Gander Mountain, which is mostly lawn and meadow area.

Wildcat Road runs along the north portion of the west property line, then becomes a driveway into a city yard waste dumping area. Wildcat Road once extended along the entire west property line but the portion of the road south of the yard waste driveway either no longer exists or is overgrown. Charlesgate Drive dead ends at the north property line at the northeast corner. The Subject property includes two narrow extensions to the east that run almost as far as Old Troy Pike. The combined land area of these two extensions is estimated to be about two acres. These

PROPERTY DESCRIPTION

extensions mostly have interior roadways and driving area on them for the shopping center and out parcels. The private road along the south narrow extension runs west and across the south portion of the Subject property and ends at the Gander Mountain property. This private road has a public access easement and will remain that way. There is also street lighting along the portion of the access road that is near Interstate 70. There is some lawn area between this access road and Interstate 70. The distance from the north edge of the access road to the Interstate 70 right-of-way ranges from about 125 feet near Gander Mountain to about 200 feet near the east property line for a distance of about 731.41 feet. The lawn area between the access road and Interstate 70 is too narrow to develop and even if it could be developed it may obstruct the view to other areas of the property from Interstate 70. Therefore, approximately the south three acres of the property area is very unlikely to be developed. There is also an access road that runs north along the west boundary of the south portion of the Subject property and just east of the Gander Mountain property that provides access to the rear of the Gander Mountain building and ends near the north line of the Gander Mountain parcel.

All typical City utilities are available. A utility map is included in this report. Two main sanitary sewer lines enter the property at the north property line, one near Charlesgate Drive, then merge and runs across the property diagonally to the west property line, then run further south. Another sanitary sewer line enters the property from the east and merges into the north-south sanitary sewer line. A city water line runs along the south property line near Interstate 70 and also along parts of the east property line. Another water line ends at the northeast corner of the property at Charlesgate Road. If the south 11.7 acres of the Subject is developed, it will be necessary to connect to the sewer line that runs near the vacated Wildcat Road several hundred feet to the west. The private road across the south portion of the property is asphalt and has curbing and storm sewer. Easement and drainage lines are not fully shown on the utility map, however, storm water does drain onto and through the Subject property from the property to the east, making its way to one of the detention basins. An electrical line easement sign was also noted on the north portion of the property.

MARKETING TIME AND EXPOSURE TIME

The Subject includes over 80 acres of vacant land. It is speculative to predict how long it would take to market the property if it were advertised for sale. Large commercial sites may take many hours to sell, or until the right buyer comes along.

The south 11.7 acres of the property, and possibly more, can be marketed as a potential separate site from the remaining parcel area. It already has good road access in place. If a building were built it should have good visibility from Interstate 70, similar to the neighboring Gander Mountain building. It is suited for a larger retailer that would be more of a destination due to the distance that it is located from Old Troy Pike. There is enough frontage along the private road so that the site could be divided for two users, though this seems unlikely. It would be ideal if the user would need a larger site than eleven acres and would purchase some additional land to the north.

The portion of the property that is located north of the Gander Mountain property and north of the approximately 11.7 acre south portion of the property probably will be more difficult to sell. This area lacks good road access. Access would be nearly impossible from Wildcat Road due to the lake on the northeast portion of the property and the sloping ground around the north and west shores of the lake. Charlesgate Drive ends at the north property line, however, it cannot be extended very far until a creek must be bridged. The access road along the east side of Gander Mountain would need to be extended into the property at least a short distance for access, and farther if it is necessary to divide the property.

Of the comparable sales for the smaller parcel. Comparable Sale One was auctioned, and it did not sell until the third auction and there was only one buyer who paid the minimum bid. The minimum bid had been higher at least one of the prior auctions. Comparable Sale Three along Weller Drive had been available for some time before being purchased, and other nearby land is still available. Comparable Sale Four probably sold in less than three years, and other nearby land across the street is still available. Comparable Sale Five had a buyer in about six months, however, it took a long time to close due to environmental issues, and it is located much closer to Interstate 70 than the Subject.

Larger parcels may take many years to sell. The land sales along County Road 25A in Tipp City were available for sale for many years, and a road was built alongside one of the properties which became the site of a major plant and large employer in Tipp City. The racino site was viewed as such before it was sold although not all approvals were yet in place, so it probably sold much more quickly than it otherwise would have. The main difference between the Subject and the comparable sales is that the Subject has a large amount of land that is not close to level, and has creeks and lake area, and the comparable properties tend to be close to level. The Subject has remained vacant while nearby land to the east was intensely developed.

Therefore, it is predicted that if the Subject were put on the market for sale that it could take up to ten years to sell. The front portion of the Subject may sell more quickly than the overall site if it were marketed as a separate site. The City of Huber Heights does not have the same motivations as a private property owner or developer, so they may be able to sell the property more quickly because the city will get the future economic benefits from the site including income tax revenue.

DEFINITION OF MARKET VALUE 1.

Market Value means the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and Seller are typically motivated;
2. Both parties are well informed or well advised, and acting in what they consider their own best interests;
3. A reasonable time is allowed for exposure in the open market;
4. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto, and
5. The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

APPRAISAL DEVELOPMENT AND REPORTING PROCESS: In preparing this appraisal, the Appraiser

- * inspected the Subject property
- * gathered information on comparable building sales and listings;
- * interviewed market participants and brokers;
- * confirmed and analyzed the data and applied the Direct Sales Comparison Approach and the Income Approach to the property.

To develop the opinion of value, the appraisers performed an appraisal process as defined by the Uniform Standards of Professional Appraisal Practice. The Summary Appraisal Report is a recapitulation of the Appraiser's data, analyses, and conclusions. Supporting documentation is retained in the appraisers' file.

1. American Institute of Real Estate Appraisers and Society of Real Estate Appraisers, Real Estate Appraisal Terminology, ed. Byrl N. Boyce, Ph.D., SRPA, (Cambridge, Mass.: Ballinger Publishing Company, 1981, p. 149

HIGHEST AND BEST USE

HIGHEST AND BEST USE - That reasonable and probable use that supports the highest present value, as defined, as of the effective date of the appraisal.

Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value.

The definition immediately, above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use.

Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of the highest and best use results from the appraiser's judgment and analytical skill, i.e., that the use determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use. 1.

The Highest and Best Use Analysis should first assume that the land is vacant and ready for development. Then, certain tests must be applied to the proposed use or uses.

1. Is it legal or likely to be permitted?
2. Is it physically possible on the site?
3. Is it economically and financially feasible?
4. Is it estimated to be the most profitable among all alternatives that meet tests #1 - #3?

The second step of the highest and best use analysis is to apply these tests to the property as it is currently developed.

1.
American Institute of Real Estate Appraisers and Society of Real Estate Appraisers, Real Estate Appraisal Terminology, ed. Byrl N. Boyce, Ph.D., SRPA (Cambridge, Mass.: Ballinger Publishing company, 1981), pgs 126, 127

HIGHEST AND BEST USE

The Subject site is currently vacant with a private road that runs across the south portion of the property. City utilities are in place on and near the property but will need to be extended to serve some portions of the property if buildings are constructed.

The first step in estimating the site's highest and best use is to consider the legal constraints of usage on that site. This is typically controlled by local zoning codes. Generally, if a use is not legally permissible, it may be eliminated from consideration as an alternative.

The Subject property is zoned PC, Planned Commercial District. Retail office and commercial establishments are among the permitted uses. Nearby uses to the east are commercial uses and the Gander Mountain building is located southwest of the Subject. Land to the north and west is mostly vacant although there are residential uses farther northeast.

The second step is to determine whether the use is physically possible. The site contains over 80 acres, so it is physically possible to construct improvements for commercial uses on portions of the site, however, there are portions of the site that are difficult or impossible to develop. These would include the east portion of the site where there is a steep slope, the detention and lake area and some of the land around them that has slopes and creeks. Other areas include existing roadways and the small amount of land south of the existing roadway along Interstate 70 which probably cannot be developed or built upon. It is estimated that at least 40% of the site would be either very difficult or impossible to use for building sites, and some of the remaining site area would not have level topography or is not currently easily accessible by roads.

The third and fourth steps involve having a use that is economically feasible and maximally profitable. In essence, a property that produces the most income will ultimately lead to the highest value for the property. Commercial uses where physically possible generally provide a greater land value and therefore a greater return to the owner than other land uses.

The south portion of the site already has good road access and visibility from Interstate 70, so commercial use is the highest and best use for that portion of the site. It is best suited for use by one or two users. If a large portion of the site can be sold it may lessen development costs for remaining areas of the site. If only the front 11.7 acres is sold as a commercial site, it likely would be necessary to extend the existing road that is along the east side of the Gander Mountain property farther north to provide access to the remaining land area.

Office uses on areas of the site that are not visible from Interstate 70 are unlikely to be the highest and best use for those areas of the site, unless an owner occupant constructs a building on the site. Although office use is physically possible in places on the site, it may not be financially feasible due to competition from available office space in the Benchwood / Interstate 75 area and farther away including at newer developments such as Austin Landing.

The north portion of the site near the lake on the northwest portion of the property may be better suited for a residential use of some type if such a use were financially feasible. It is desirable for residential developments to include a small lake, and the Subject already has a lake in place. However, a residential use may have to compete with the existing uses nearby at Carriage Trails. Residential uses would include apartments, condominiums and more intense uses oriented

HIGHEST AND BEST USE

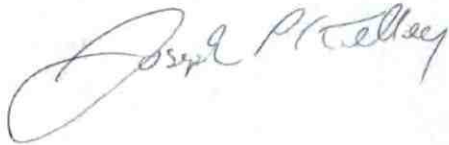
toward senior citizens such as nursing homes and assisted living facilities. Such uses would require a change in zoning so they are not currently legal. Even though the city owns the property and can change the zoning, the city still must consider any valid concerns of its residents so a zoning change cannot be assumed. The main difficulty is access, which may have to come from extending Charlesgate Road into the property, and it would be necessary to construct a large culvert or a small bridge over a creek to access more than just a small portion of the property. A more detailed study would be necessary to determine what residential uses, if any, would be financially feasible to construct on the property.

Some portions of the site such as the lakes and areas with steep slopes are expected to remain vacant and could be used for recreational uses or be used as part of the green space for a larger development.

Therefore, the highest and best use of the site as if vacant would be commercial use where financially feasible, and a recreational use for areas of the site that would be difficult or impossible to develop or build upon. It is also possible that some type of residential use may be the highest and best use of north portions of the property if such uses are determined to be financially feasible and if a zoning change is granted to accommodate such uses.

ENVIRONMENTAL DISCLAIMER

The value estimated is based on the assumption that the property is not negatively affected by the existence of hazardous substances or detrimental environmental conditions unless otherwise stated in this report. The appraiser is not an expert in the identification of hazardous substances or detrimental environmental conditions. It is possible that tests and inspections made by a qualified hazardous substance and environmental expert would reveal the existence of hazardous substances or detrimental environmental conditions on or around the property that affect its value.



4/3/2017

Appraiser _____

Joseph P. Kelley

Date

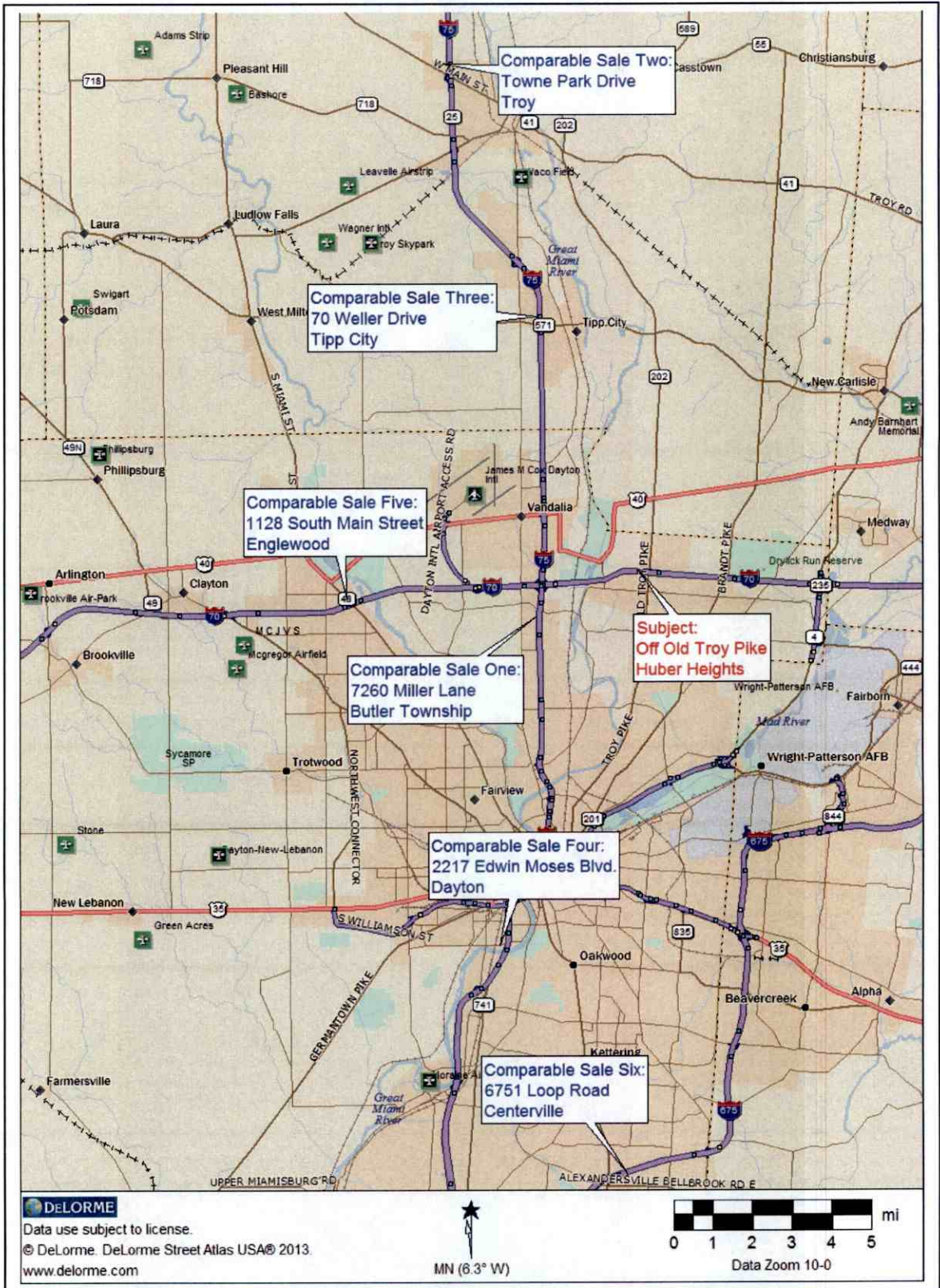
State of Ohio Certified General Real Estate Appraiser #2001012265

THE DIRECT SALES COMPARISON APPROACH
11.7 ACRES ON SOUTH PORTION OF SITE

The purpose of this approach is to estimate, by direct comparison, the value of the subject property. This approach encompasses the premise of comparing like or similar properties with adjustments for any meaningful dissimilarities to arrive at an estimated value for the subject property. It is the best estimate of what the comparable would have sold for had it possessed all of the important characteristics of the subject. This is usually one of the easiest approaches to understand if there are sufficient properties of a comparable nature to form a pattern.

For the purpose of this portion of the report, six comparable land sales were selected to compare to the Subject. An effort was made to find sales that had visibility from an interstate highway and were located near an interchange. These sales were adjusted for significant differences compared to the Subject to estimate a market value per net acre for the Subject property. The Subject 11.7 acre south portion of the property was valued based on the land north and east of the existing roads, driving areas and easements, so that the land area that includes the roads and driving areas and the land area between the access road and Interstate 70 is excluded because these areas would be difficult or impossible to build on. A net site size of 8 acres was used. Another consideration is the older sale of the 8.56 acre adjacent Gander Mountain site that sold for a reported price of \$1,000,000 in 2004.

COMPARABLE SALES MAP



COMPARABLE LAND SALE NUMBER ONE

7260 MILLER LANE, BUTLER TOWNSHIP



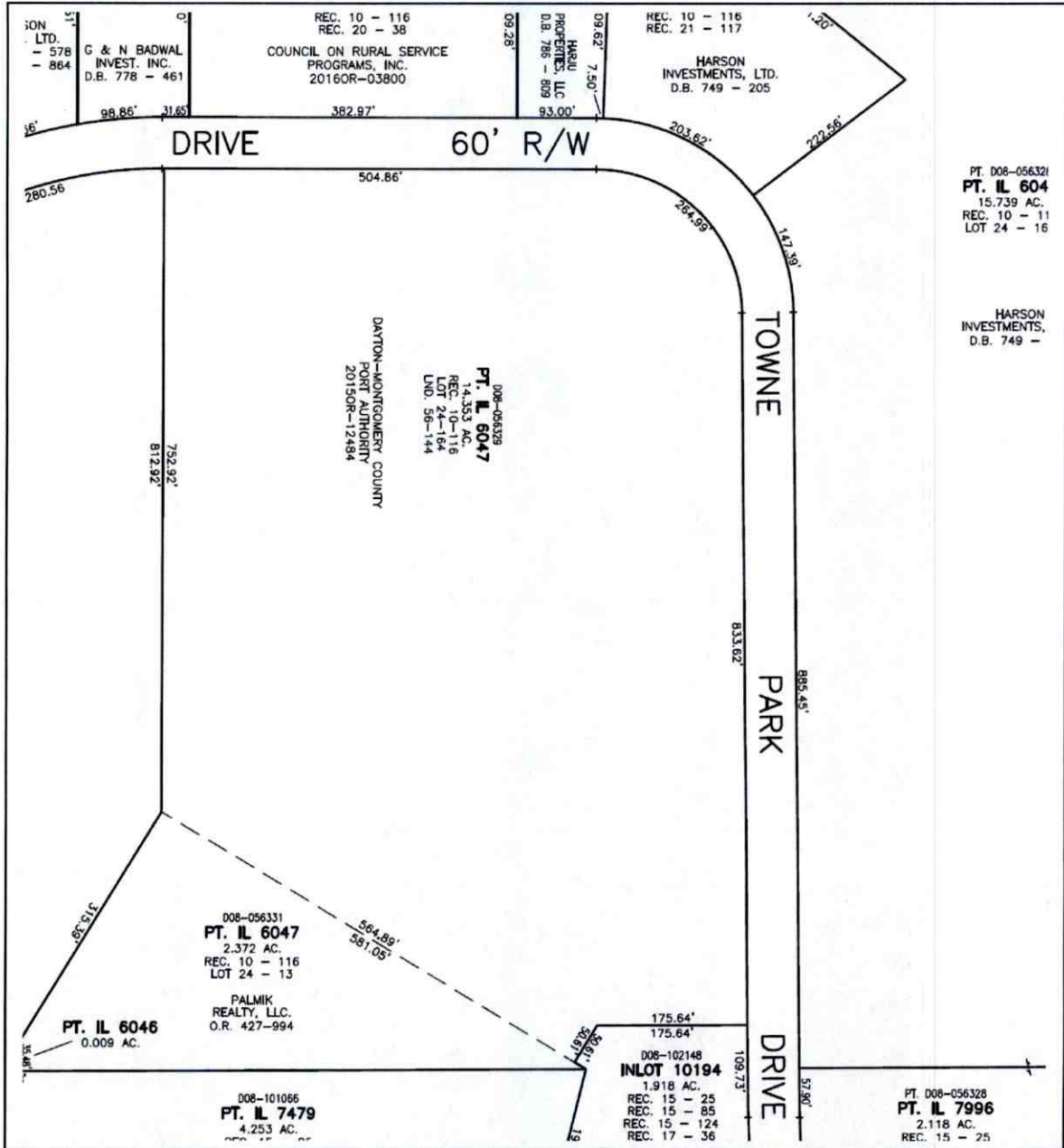
COMPARABLE SALE NUMBER ONE

LOCATION:	7260 Miller Lane, Butler Township
AUDITOR'S REFERENCE:	A01-003-07-0354
CONDITIONS OF SALE:	Arms Length - Auction
GRANTOR:	State of Ohio
GRANTEE:	Tashi Hospitality, Inc.
PROPERTY RIGHTS CONVEYED:	Fee Simple
DATE OF SALE:	11/16/2016
SALE PRICE:	\$430,000
SIZE OF SITE	3.233 Acres
PRICE PER ACRE	\$133,003
VERIFICATION:	Public Records, Ann Althaus, ODOT
FINANCING:	Cash to Seller
UTILITIES:	All
ZONING:	RC / S-1, Regional Commercial Service
TOPOGRAPHY:	Slightly higher near west and south property lines
FRONTAGE:	392.14 Feet

COMMENTS: This is the sale of the land at the location of a former Interstate 75 exit to Miller Lane located not far south of Little York Road. The exit was relocated about three-fourths of a mile to the south in about 2004, so the land was no longer needed. The pavement has either been removed or covered over. The State of Ohio auctions unneeded land and the property was sold at the third auction for two thirds of the appraised value. There was only one bidder.

COMPARABLE LAND SALE NUMBER TWO

TOWNE PARK DRIVE, TROY



COMPARABLE LAND SALE NUMBER TWO

LOCATION: Towne Park Drive, Troy

AUDITOR'S REFERENCE: D08-056329

CONDITIONS OF SALE: Arms Length

GRANTOR: Troy Care 2015 LLC

GRANTEE: Dayton Montgomery County Port Authority

PROPERTY RIGHTS CONVEYED: Fee Simple

DATE OF SALE: 10/15/2015

SALE PRICE: \$940,000

SIZE OF SITE: 14.577 Acres

PRICE PER ACRE: \$64.485

VERIFICATION: Public Records, Alex Kolodesh – Singer Properties

FINANCING: Cash to Seller

UTILITIES: All

ZONING: Was B-2, Changed to accommodate buyer

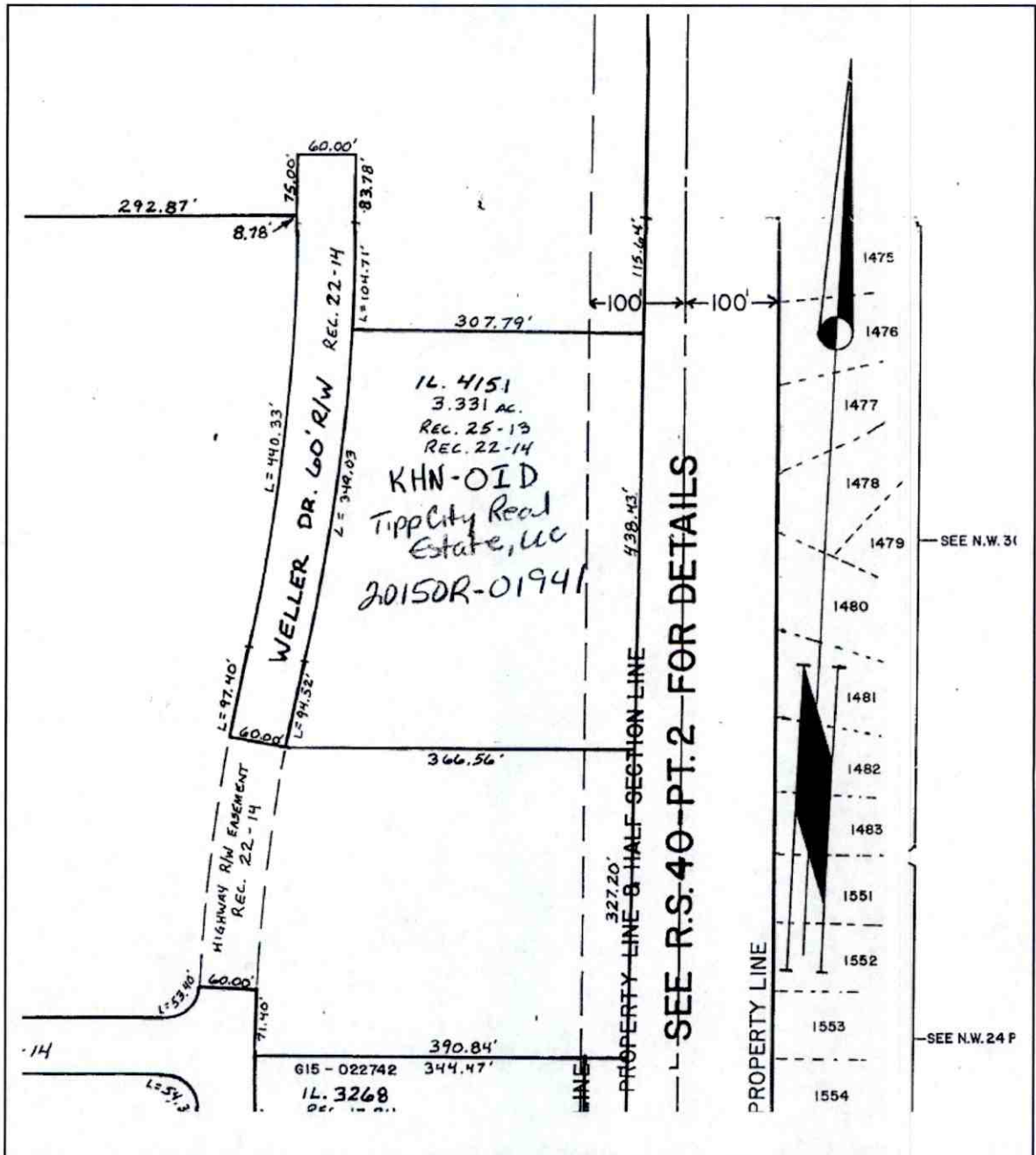
TOPOGRAPHY: Generally Level

FRONTAGE: 1,603.47 Feet

COMMENTS: This is a sale located behind Wal Mart near Interstate 75. It will be the site of a new senior citizen's assisted living and memory care building that is expected to have about 150 units. The buyer will add fill to the remaining land across the street that the seller still owns, which benefits the seller. The seller indicated that the new facility can benefit the remaining land across the street that the seller still owns.

COMPARABLE LAND SALE NUMBER THREE

70 WELLER DRIVE, TIPP CITY



COMPARABLE SALE NUMBER THREE

LOCATION: 70 Weller Drive, Tipp City

AUDITOR'S REFERENCE: R72-137-06-0011

CONDITIONS OF SALE: Arms Length

GRANTOR: Menard Inc.

GRANTEE: KHN OID Tipp City Real Estate LLC

PROPERTY RIGHTS CONVEYED: Fee Simple

DATE OF SALE: 9/8/2014

SALE PRICE: \$549,836.10

SIZE OF SITE 3.331 Acres (Includes 0.526 in I-75 R/W)
2.805 Acres net of right-of-way

PRICE PER ACRE \$165,067 Gross, \$196,020 net of right-of-way

VERIFICATION: Public Records, Alex Bushey – Menard Inc.

FINANCING: Cash to Seller

UTILITIES: All

ZONING: HS – Highway Service

TOPOGRAPHY: Generally Level

FRONTAGE: 443.55 Feet

COMMENTS: This is the sale of vacant land along Weller Drive and also along Interstate 75 about 1,800 feet north of an Interstate 75 interchange. It is an outlot of the Menard's store. A Kettering Medical Center building was built on the site.

COMPARABLE SALE NUMBER FOUR

LOCATION: 2217 S. Edwin Moses Boulevard, Dayton

AUDITOR'S REFERENCE: R72-137-06-0011

CONDITIONS OF SALE: Arms Length

GRANTOR: IRG Dayton 1 LLC

GRANTEE: Love's Travel Stops and Country Stores, Inc.

PROPERTY RIGHTS CONVEYED: Fee Simple

DATE OF SALE: 12/3/2012

SALE PRICE: \$2,439,398

SIZE OF SITE 18.7646 Acres

PRICE PER ACRE \$130,000

VERIFICATION: Public Records, Kelly Gray, Selling Agent

FINANCING: Cash to Seller

UTILITIES: All

ZONING: Was I-2, Changed to SGC-Suburban Gen. Com.

TOPOGRAPHY: Generally Level

FRONTAGE: 1193.21 Feet, Corner

COMMENTS: This is the sale of vacant land that is located about 1,200 feet west of an Interstate 75 interchange. It was formerly a site of a GM plant that had been torn down. Some existing environmental issues may have remained and the buyer was not going to disturb a remaining concrete slab. A Love's Truck stop and travel center was constructed on the site and the city may have changed the zoning to accommodate the buyer.

COMPARABLE SALE NUMBER FIVE

LOCATION: 1128 South Main Street, Englewood

AUDITOR'S REFERENCE: M57-005-02-0012

CONDITIONS OF SALE: Arms Length

GRANTOR: Frank Cecrle

GRANTEE: BSM Englewood LLC

PROPERTY RIGHTS CONVEYED: Fee Simple

DATE OF SALE: 10/11/2015

SALE PRICE: \$1,350,000

SIZE OF SITE 7.08 Acres

PRICE PER ACRE \$190,678

VERIFICATION: Public Records, MLS, Sandy Smith, Selling Agent

FINANCING: Cash to Seller

UTILITIES: All

ZONING: C2

TOPOGRAPHY: Mostly Level

FRONTAGE: About 200 Feet along Main Street (SR 48)
and 625.83 feet along Wenger Road

COMMENTS: This is the sale of land located about 500 feet north of an Interstate 70 interchange. The sale does not include the corner. There was a building on the property that contributed no value. There were environmental issues, some of which were taken care of by the buyer and which made the sale take longer to close. SA shopping center has been built on the property

COMPARABLE LAND SALE NUMBER SIX

6751 LOOP ROAD, CENTERVILLE



COMPARABLE SALE NUMBER SIX

LOCATION: 6751 Loop Road, Centerville

AUDITOR'S REFERENCE: O68-003-09-0049

CONDITIONS OF SALE: Arms Length

GRANTOR: National Amusements, Inc.

GRANTEE: Mills Development Showcase, Ltd.

PROPERTY RIGHTS CONVEYED: Fee Simple

DATE OF SALE: 1/22/2014

SALE PRICE: \$1,800,000

SIZE OF SITE 14.56 Acres

PRICE PER ACRE \$123,626

VERIFICATION: Public Records, Buyer

FINANCING: Cash to Seller

UTILITIES: All

ZONING: B-PD

TOPOGRAPHY: Mostly Level

FRONTAGE: 589.46 Feet along Loop Road

COMMENTS: This is the sale of vacant land along Loop Road. It is located behind the large Cross Pointe shopping center and not far from Far Hills Avenue. The north property line runs along Interstate 675. It was the site of a movie theatre that had been closed. The buyer tore down the theatre.

ADJUSTMENT GRID – COMPARABLE LAND SALES

**SUBJECT: 11.7 ACRES GROSS – OR 8 ACRES NET,
OFF OLD TROY PIKE, HUBER HEIGHTS**

1. 7260 Miller Lane, Butler Township
2. Towne Park Drive, Troy
3. 70 Weller Drive, Tipp City

	Subject	#1	#2	#3
Circumstances:	Arms Length	A.L., Auction	Arms Length	Arms Length
Date:	2/15/2017	11/16/2016	10/15/2015	9/8/2014
Financing:	Cash	Cash	Cash	Cash
Property Rights:	Fee Simple	Fee Simple	Fee Simple	Fee Simple
Sale Price- \$:	Unknown	\$430,000	\$940,000	\$549,836.10
Size, Acres:	8+- Acres Net	3.233 Acres	14.577 Ac	2.805 Acres Net
Frontage:	680'+ Private	392.14 Feet	1,603.47 Feet	443.55 Feet
Utilities:	All	All	All	All
Topography:	Most Level	Level/GenSl	Level	Level
Zoning:	PC	LCS1	Was B2	HS
Shape	Regular	Regular	Regular	Regular
Other:	None	None	Fill	None
Location:	Off Old Troy	Miller Ln/75	Towne Park	Weller Dr/75
Indication				
\$Acre:	N/A	\$133,003	\$64,485	\$196,020 Net

ADJUSTMENTS

	Subject	#1	#2	#3
Circumstances:	Arms Length	+20%	0%	0%
Date:	2/15/2017	0%	0%	0%
Financing:	Cash	0%	0%	0%
Property Rights:	Fee Simple	0%	0%	0%
Price/Acre- \$:	Unknown	\$159,604	\$64,485	\$196,020 Net
Size, Acres:	8+- Acres, Net	-20%	+5%	-25%
Frontage:	680'+ Private	0%	0%	0%
Utilities:	All	0%	0%	0%
Topography:	Most Level	-5%	-15%	-15%
Zoning:	PC	0%	0%	0%
Shape	Regular	0%	0%	0%
Other:	None	0%	+5%	0%
Location:	Off Old Troy	-15%	+25%	-10%
TOTAL ADJUSTMENTS:		-40%	+20%	-50%
ADJUSTED PRICE / ACRE:		\$95,762	\$77,382	\$98,010

ADJUSTMENT GRID – COMPARABLE LAND SALES

**SUBJECT: 11.7 ACRES GROSS – OR 8 ACRES NET,
OFF OLD TROY PIKE, HUBER HEIGHTS**

- 4. 2217 S. Edwin Moses Boulevard, Dayton
- 5. 1128 South Main Street, Englewood
- 6. 6751 Loop Road, Centerville

	Subject	#4	#5	#6
Circumstances:	Arms Length	Arms Length	Arms Length	Arms Length
Date:	2/15/2017	12/3/2012	10/11/2015	1/22/2014
Financing:	Cash	Cash	Cash	Cash
Property Rights:	Fee Simple	Fee Simple	Fee Simple	Fee Simple
Sale Price-\$:	Unknown	\$2,439,398	\$1,350,000	\$1,800,000
Size, Acres:	8+-Acres Net	18.7646 Acres	7.08 Ac	14.56 Acres
Frontage:	680'+Private	1,193.21 Feet	825+-Feet,2	589.46 Feet
Utilities:	All	All	All	All
Topography:	Most Level	Level	Gen. Level	Level
Zoning:	PC	I2-Changed	C2	B-PD
Shape	Regular	Regular-	Regular	Irregular
Other:	None	None	Dem.Envir.	Demo Costs
Location:	Off Old Troy	EdMoses/Nr75	SR48nr 70	Loop Ro/675
Indication				
\$Acre:	N/A	\$130,000	\$190,678	\$123,626

ADJUSTMENTS

	Subject	#4	#5	#6
Circumstances:	Arms Length	0%	0%	0%
Date:	2/15/2017	+5%	0%	0%
Financing:	Cash	0%	0%	0%
Property Rights:	Fee Simple	0%	0%	0%
Price/Acre-\$:	Unknown	\$136,500	\$190,678	\$123,676
Size, Acres:	8+- Acres, Net	+10%	0%	+5%
Frontage:	680'+ Private	-5%	-5%	0%
Utilities:	All	0%	0%	0%
Topography:	Most Level	-15%	-15%	-15%
Zoning:	PC	0%	0%	0%
Shape	Regular	0%	0%	+5%
Other:	None	0%	+10%	+5%
Location:	Off Old Troy	-10%	-40%	-10%
TOTAL ADJUSTMENTS:		-20%	-50%	-10%
ADJUSTED PRICE / ACRE:		\$109,200	\$95,339	\$111,308

INDICATED VALUE OF SUBJECT: \$98,000 PER ACRE X 8 ACRES NET = \$784,000

EXPLANATION OF ADJUSTMENTS AND ESTIMATE OF MARKET VALUE
BY THE DIRECT SALES COMPARISON APPROACH

Some adjustments are based on the experience and knowledge of the Appraiser and may not well supported by market evidence. The adjusted sale prices are listed below.

Comparable Sale Number One.....	\$95,762 Per Acre
Comparable Sale Number Two.....	\$77,382 Per Acre
Comparable Sale Number Three.....	\$98,010 Per Acre
Comparable Sale Number Four.....	\$109,200 Per Acre
Comparable Sale Number Five.....	\$95,339 Per Acre
Comparable Sale Number Six.....	\$111,308 Per Acre

Comparable Sale One was adjusted upward because it was an auction sale. Comparable Sale Four occurred in 2012 so it was adjusted upward for time. Five sales were adjusted for size of land. In general, smaller parcels of land can be expected to sell for a greater per acre value than similar larger parcels of land.

Two comparable sales were adjusted downward for having more frontage than the Subject, which has frontage only along a private road. Most of the comparable sales were adjusted downward for superior generally level topography. The Subject includes some land along the east and north portion of the site that is at a higher elevation than other areas of the property. Comparable Sale Six was adjusted upward for irregular shape. Comparable sale Two was adjusted upward because the seller would benefit from fill from the property that he sold being placed on other nearby property that he owns. Comparable Sale Five was adjusted upward because it had environmental problems and an existing building that was torn down, and the buyer of Comparable Sale Six had to tear down an existing improvement.

Before adjustments were made, the sale prices ranged from \$64,485 per acre to \$196,020 per acre. After adjustments were made, the adjusted sale prices ranged from \$77,382 per acre to \$111,308 per acre. A market value of \$198,000 per acre was selected for the Subject which when multiplied by 8 acres (excludes roads and land south of the road) equals \$784,000, or \$780,000, rounded as the value of the Subject property by the Direct Sales Comparison Approach. Therefore, my opinion of the market value of the 11.7 acre south portion of the Subject property, is

SEVEN-HUNDRED-EIGHTY-THOUSAND-DOLLARS

\$780,000

THE DIRECT SALES COMPARISON APPROACH

66.6 ACRES EXCLUDING SOUTH PORTION OF SITE

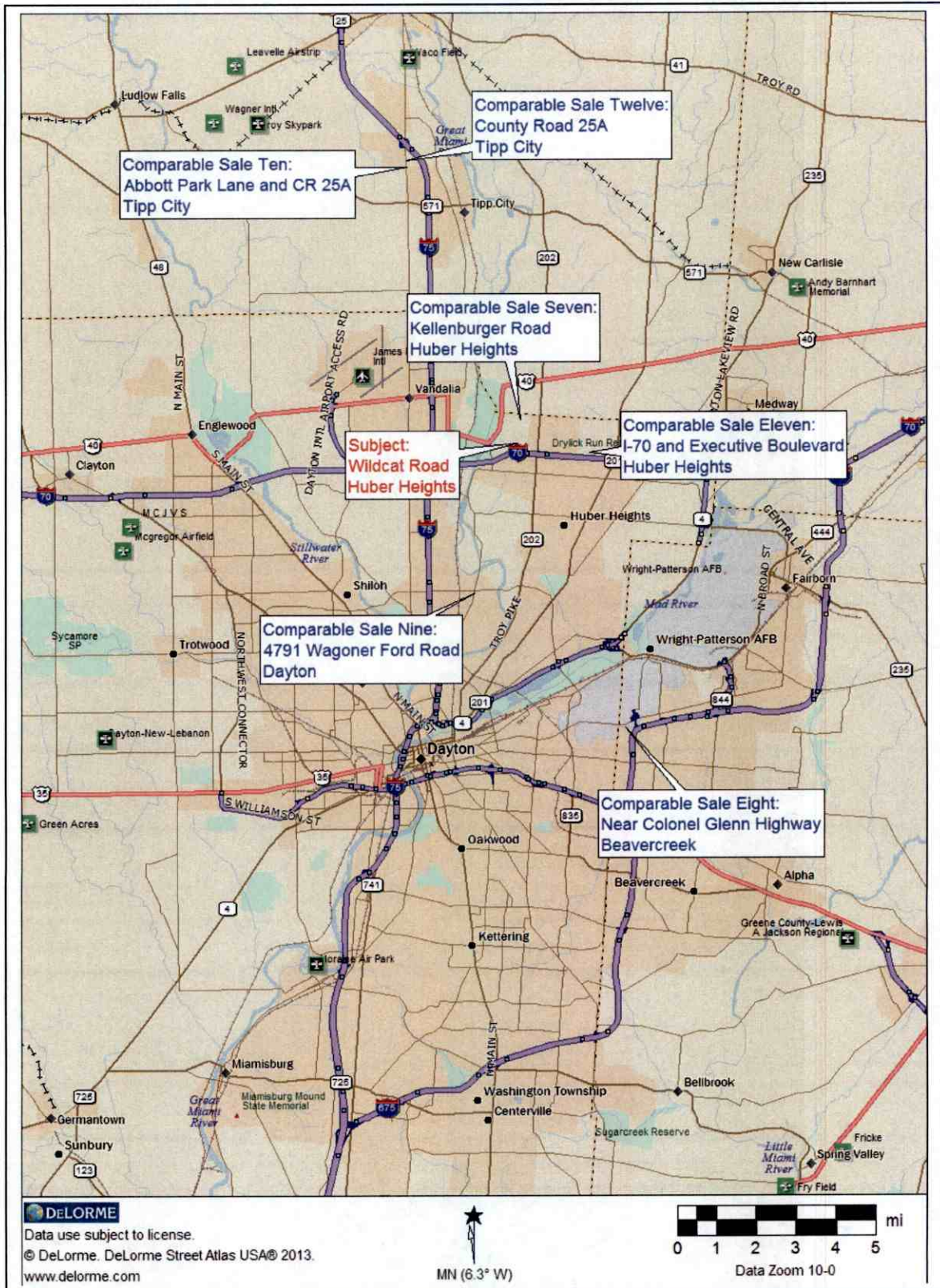
80.341ACRES ENTIRE PROPERTY

The purpose of this approach is to estimate, by direct comparison, the value of the subject property. This approach encompasses the premise of comparing like or similar properties with adjustments for any meaningful dissimilarities to arrive at an estimated value for the subject property. It is the best estimate of what the comparable would have sold for had it possessed all of the important characteristics of the subject. This is usually one of the easiest approaches to understand if there are sufficient properties of a comparable nature to form a pattern.

In this section, the portion of the site that excludes the south 11.7 acre portion and the two roadway extensions to the east was valued. For the purpose of this portion of the report, four comparable land sales were selected to compare to the Subject. These sales were adjusted for significant differences compared to the Subject to estimate a market value per net acre for the Subject property.

Then four comparable sales, including two of the sales used to value the 66.6+- acre portion of the Subject property were used to value the entire 80.341 acre property. All six of the sales that were used are on the following pages. The estimated two acres that is in the two narrow extensions east of the property appears to be used for roadway access except for a very small portion, so it is not marketable and was not valued.

COMPARABLE SALES MAP



COMPARABLE LAND SALE NUMBER SEVEN

KELLENBURGER ROAD AND WILDCAT ROAD, HUBER HEIGHTS



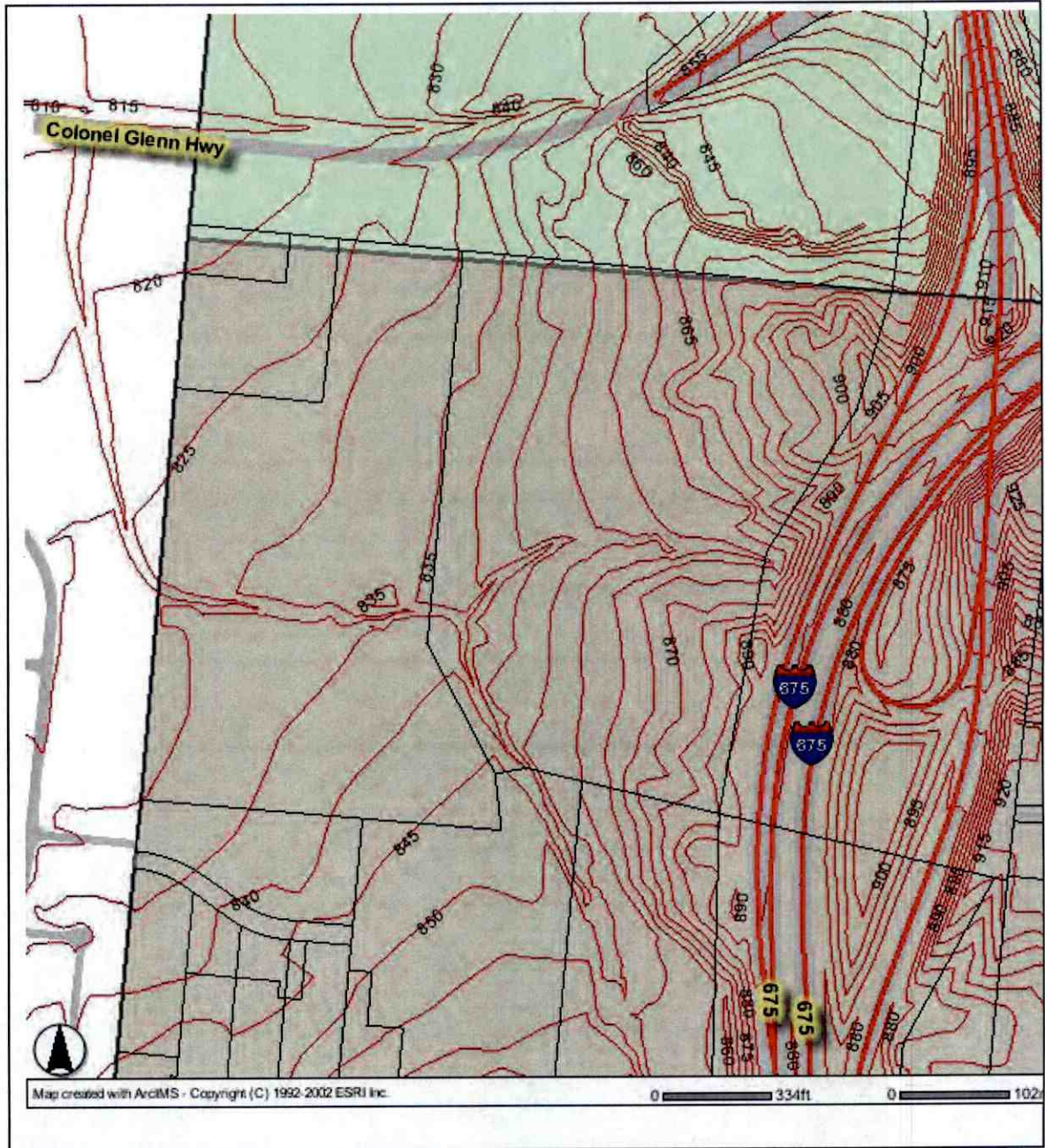
COMPARABLE SALE NUMBER SEVEN

LOCATION:	Kellenburger Road and Wildcat Road, Huber Heights
AUDITOR'S REFERENCE:	P70-040-06-0152
CONDITIONS OF SALE:	Arms Length
GRANTOR:	Studebaker, Marsha Kohler
GRANTEE:	Trimble Inc.
PROPERTY RIGHTS CONVEYED:	Fee Simple
DATE OF SALE:	12/23/2016
SALE PRICE:	\$543,822
SIZE OF SITE	23.9983 Acres
PRICE PER ACRE	\$22,661
VERIFICATION:	Public Records, David Studebaker – one of sellers
FINANCING:	Cash
UTILITIES:	All
ZONING:	LI, Light Industrial District, changed
TOPOGRAPHY:	Part Level, Creek, Wooded west portion
FRONTAGE:	1,990.72 Feet includes corner

COMMENTS: This is the sale of vacant land to an adjacent property owner., Trimble, who is expected to use the land for testing products. The sale was based on a price of \$25,000 per acre. There is a creek that runs through the middle area of the property from north to south.. There is a small pond on the property.

COMPARABLE LAND SALE NUMBER EIGHT

NEAR COLONEL GLENN HIGHWAY, BEAVERCREEK



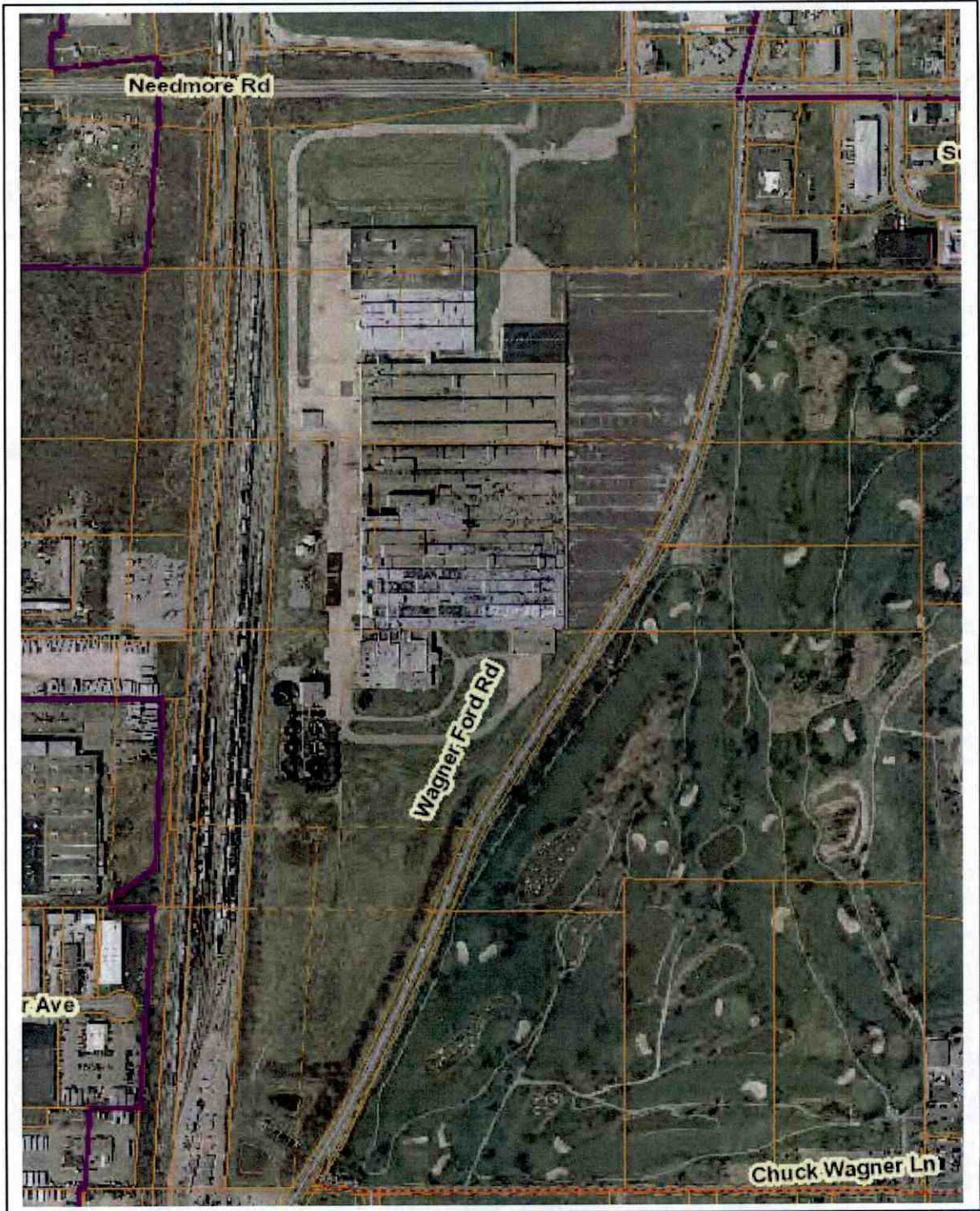
COMPARABLE LAND SALE NUMBER EIGHT

LOCATION:	Near Colonel Glenn Highway, Beaver creek
AUDITOR'S REFERENCE:	B42-1-3-2
CONDITIONS OF SALE:	Arms Length
GRANTOR:	Edward C. and Joanne A. Gerlaugh
GRANTEE:	Colonel Glenn Land Development
PROPERTY RIGHTS CONVEYED:	Fee Simple
DATE OF SALE:	7-19-2006
SALE PRICE:	\$2,157,200
SIZE OF SITE	71.925 Acres
PRICE PER ACRE:	\$29,992
VERIFICATION:	County Records, Chuck McCosh – Miller Valentine
FINANCING:	Cash to Seller
UTILITIES:	Water Will Need To Be Extended
ZONING:	Was A1, Agricultural (zoning likely has changed)
TOPOGRAPHY:	Part close to level, Part Rolling, some higher elevations near I-675.
FRONTAGE:	Estimated 100 Feet Easement

COMMENTS: This is the sale of land located between Interstate 675 and the Montgomery County Line. There is no road frontage; access will be by an easement to Colonel Glenn Highway across land owned by the United States government. The land has some visibility from Interstate 675, however, the elevation along I-675 tends to be higher than other areas of the property which can limit visibility. There are buildings on the property that are assumed to not be of significance. The property is expected to be used for office, industrial, research type uses related to nearby Wright Patterson Air Force Base.

COMPARABLE LAND SALE NUMBER NINE

4791 WAGNER FORD ROAD AT NEEDMORE ROAD, DAYTON



COMPARABLE LAND SALE NUMBER NINE

LOCATION: 4791 Wagner Ford Road At Needmore Road
Dayton, Montgomery County

AUDITOR'S REFERENCE: R72-173-0002

CONDITIONS OF SALE: Arms Length

GRANTOR: Indiana Metal LLC

GRANTEE: Dayton Real Estate Venture LLC

PROPERTY RIGHTS CONVEYED: Fee Simple

DATE OF SALE: 08/11/2011

SALE PRICE: \$3,200,000

SIZE OF SITE: 120.0 Acres, Approximtely

PRICE PER ACRE: \$26,750

VERIFICATION: Dave Tobeson, Selling Agent

FINANCING: Cash

UTILITIES: All City

ZONING: Industrial, Also WP

TOPOGRAPHY: Generally Level To Rolling

OTHER: None

FRONTAGE: 6,598 Feet On Wagner-Ford/Needmore

EXPOSURE TIME: Unknown

COMMENTS: This is the sale of a former General Motors manufacturing site. The building had been demolished except for the slab so the land was vacant when sold. It is the site of the racino. It was known at the time of the sale that the site would be the location of the racino, however, all necessary approvals and/or actions had not yet occurred. The property had sold some time earlier with the large manufacturing building for \$3,100,000, and the buyer tore the building down for scrap.

COMPARABLE LAND SALE NUMBER TEN

LOCATION: Abbot Park Lane and County Road 25A, Tipp City

AUDITOR'S REFERENCE: G15-020570

CONDITIONS OF SALE: Arms Length

GRANTOR: Leshar Farms, Ltd., M. L. Richards

GRANTEE: Abbott Laboratories

PROPERTY RIGHTS CONVEYED: Fee Simple

DATE OF SALE: 4/13/2012

SALE PRICE: \$1,600,000

SIZE OF SITE: 60 Acres

PRICE PER ACRE: \$26,667

VERIFICATION: Tim Logan – Selling Realtor

FINANCING: Cash to Seller

UTILITIES: All

ZONING: I-1 / POI, Industrial / Planned Office Industrial

TOPOGRAPHY: Generally Level

FRONTAGE: About 1,310 Feet at time of sale along 25A.
Abbot Park Lane was later installed, 1,838 Feet
About 3,150 feet of total frontage.

COMMENTS: This is the purchase of 60 acres near the Subject for a manufacturing use. Abbott Lane was then installed along much of the length of the south property line, which is about 1,900 feet, after the sale. Cost of the road extension including utilities was \$1,400,000 and was provided by government entities. The installation of Abbott Lane also benefitted the property to the south that the seller owns. The seller did not have to pay for the road and utility extension but did give up the land for the roadway right-of-way. The new facility constructed on the property will have a 15 year tax abatement.

COMPARABLE LAND SALE NUMBER ELEVEN

LOCATION: I-70 At Executive Boulevard, Huber Heights

AUDITOR'S REFERENCE: P70-018-20-0007 to 12 (current)

CONDITIONS OF SALE: Arms Length

GRANTOR: Meijer Stores Limited

GRANTEE: City Of Huber Heights

PROPERTY RIGHTS CONVEYED: Fee Simple

DATE OF SALE: 6/2013

SALE PRICE: \$2,310,000

SIZE OF SITE 33.607 Acres

PRICE PER ACRE \$68,735

VERIFICATION: Assistant City Manager Of Huber Heights

FINANCING: Cash

UTILITIES: All

ZONING: EP, Employment Park

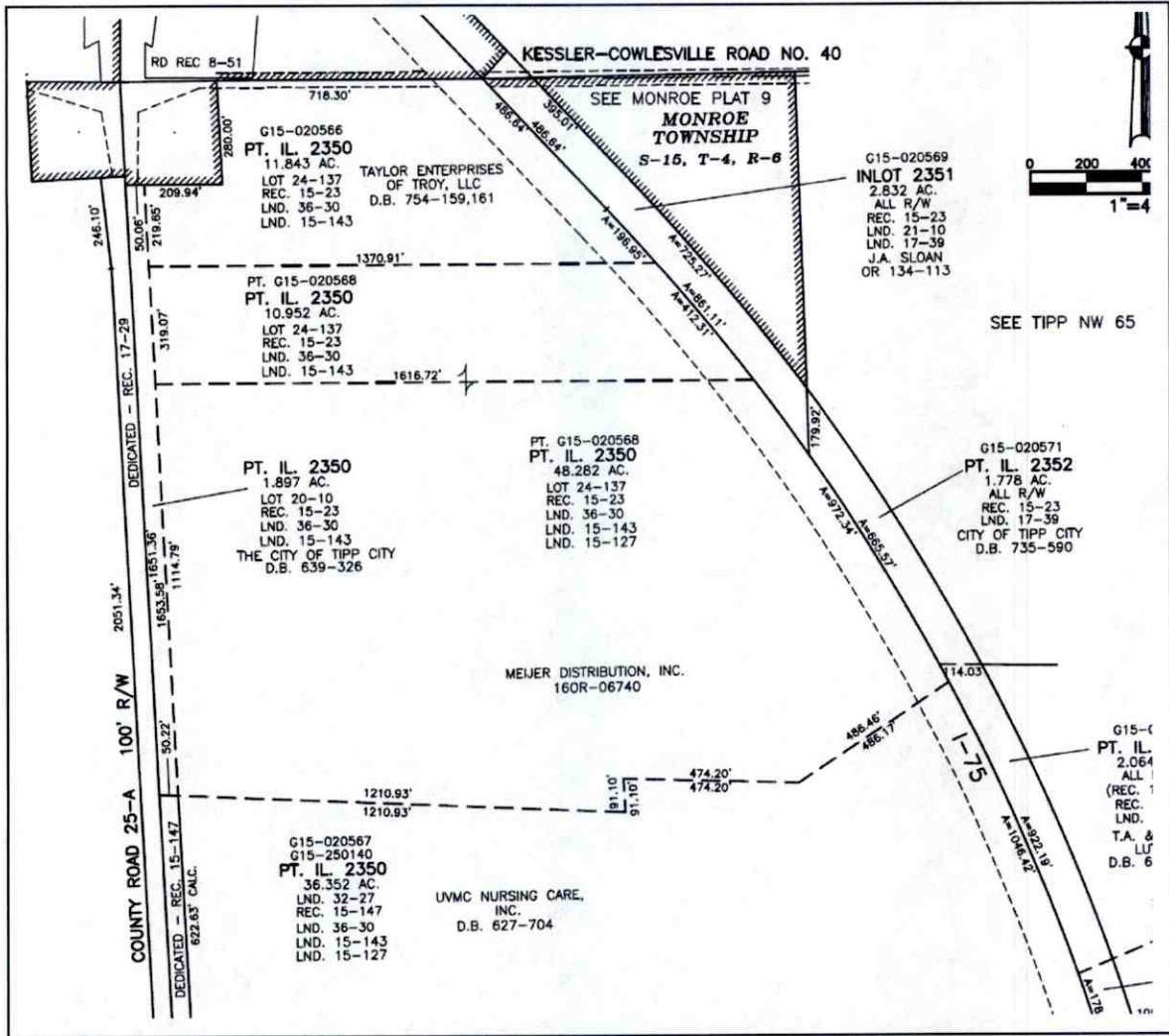
TOPOGRAPHY: Generally Level

FRONTAGE: About 2,400 Feet (Does not include along Interstate 70)

COMMENTS: This is the sale of land where the Music Center is located in Huber Heights. There are deed restrictions regarding certain uses that would complete with or be a detriment to the neighboring Meijer store. There is also the right to use the storm water retention area on the neighboring Meijer parcel. A 3.013 acre parcel was later sold for \$450,000 for a restaurant site.

COMPARABLE LAND SALE NUMBER TWELVE

COUNTY ROAD 25A, TIPP CITY



COMPARABLE SALE NUMBER TWELVE

LOCATION:	County Road 25A, Tipp City
AUDITOR'S REFERENCE:	G15-0
CONDITIONS OF SALE:	Arms Length
GRANTOR:	Leshner Farms Ltd. And M.L. Richards
GRANTEE:	Meijer
PROPERTY RIGHTS CONVEYED:	Fee Simple
DATE OF SALE:	6/8/2016
SALE PRICE:	\$3,000,000
SIZE OF SITE	59.234 gross acres, 55.969 net acres
PRICE PER ACRE	\$53,601 based on net acreage
VERIFICATION:	Tim Logan, Selling Agent
FINANCING:	Cash
UTILITIES:	All
ZONING:	LI, Light Industrial District
TOPOGRAPHY:	Generally Level
FRONTAGE:	1,433.86 Feet along County Road 25A

COMMENTS: This is the sale of vacant land that has its east property line located entirely along Interstate 75 and part of the site is within one-half mile of an interchange. Sanitary sewer is located near the southeast portion of the property so it would need to be extended to serve the entire site. The gross site area of 59.234 acres includes land with the right-of-way of Interstate 75. The southeast portion of the site has about 1.5 acres of wetlands. The buyer, Meijer, has a large distribution facility across the street from this property.

ADJUSTMENT GRID – COMPARABLE LAND SALES - 67 ACRE PORTION

SUBJECT: 66.6+- ACRES, WILDCAT ROAD, HUBER HEIGHTS

- 7. Kellenburger Road, Huber Heights
- 8. Near Colonel Glenn Highway, Beavercreek
- 9. 4791 Wagner Ford Road, Dayton
- 10. Abbott Park Lane and County Road 25A, Tipp City

	Subject	#7	#8	#9	#10
Circumstances:	Arms Length	A. L., Adj By	Arms Length	Arms Length	Arms Length
Date:	2/15/2017	12/23/2016	7/19/2006	08/11/2011	4/13/2012
Financing:	Cash	Cash	Cash	Cash	Cash
Property Rights:	Fee Simple	Fee Simple	Fee Simple	Fee Simple	Fee Simple
Sale Price- \$:	Unknown	\$543,822	\$2,157,200	\$3,200,000	\$1,600,000
Size, Acres:	66.6+-Acres	23.9983 Acres	71.925 Ac	120 Acres+-	60 Acres
Frontage:	Ends 2 Streets	1,990.72 Feet	None, Esmt.	6,598 Feet	1,310 Feet
Utilities:	All	All	All, Water Ext	All	All
Topography:	Lakes, Slopes	Level/Creek	Level,Roll,Sl	Level	Level
Zoning:	PC	Now Ind.	Was A1, Ch	I2, WP	I-1 / POI
Shape	Regular-	Regular	Regular	Regular-	Regular
Other:	None	None	None	None	Road Added
Location:	Off Old Troy	Kellenburger	Beavercreek	Wagner Ford	CR 25A
Indication					
\$Acre:	N/A	\$22,661	\$29,992	\$26,750	\$26,667

ADJUSTMENTS

	Subject	#7	#8	#9	#10
Circumstances:	Arms Length	0%	0%	0%	0%
Date:	2/15/2017	0%	+10%	+10%	+10%
Financing:	Cash	0%	0%	0%	0%
Property Rights:	Fee Simple	0%	0%	0%	0%
Price/Acre- \$:	Unknown	\$22,661	\$32,991	\$29,425	\$29,334
Size, Acres:	66.6+- Acres	-10%	0%	+10%	0%
Frontage:	Ends 2 Streets	-25%	0%	-25%	-15%
Utilities:	All	0%	0%	0%	0%
Topography:	Lakes, Slopes	-25%	-30%	-50%	-50%
Zoning:	PC	+10%	0%	+10%	+5%
Shape	Regular-	0%	0%	0%	0%
Other:	None	0%	0%	0%	+15%
Location:	Off Old Troy	+10%	-25%	0%	0%
TOTAL ADJUSTMENTS:		-40%	-55%	-55%	-45%
ADJUSTED PRICE / ACRE:		\$13,596	\$14,846	\$13,241	\$16,134

**EXPLANATION OF ADJUSTMENTS AND ESTIMATE OF MARKET VALUE
OF THE 66.6 ACRE PORTION OF THE PROEPRTY BY THE DIRECT SALES
COMPARISON APPROACH**

Some adjustments are based on the experience and knowledge of the Appraiser and may not well supported by market evidence. The adjusted sale prices are listed below.

Comparable Sale Number Seven.....	\$13,596 Per Acre
Comparable Sale Number Eight.....	\$14,846 Per Acre
Comparable Sale Number Nine.....	\$13,241 Per Acre
Comparable Sale Number Ten.....	\$16,134 Per Acre

Three comparable sales occurred in 2012 or earlier and were adjusted for date of sale. Two sales were adjusted for size of land. In general, smaller parcels of land can be expected to sell for a greater per acre value than similar larger parcels of land. Three comparable sales were adjusted downward for having more and superior frontage than the Subject. The Subject has access only from the ends of two roadways, one of which is private. There is some frontage along Wildcat Road but access would be difficult or impossible due to the slopes and lake. All of the comparable sales were adjusted downward for superior topography. The Subject includes two detention areas, some land with steep slopes, and some creeks so some portions of the property will be difficult or impossible to develop for any use other than recreational use. Three sales were adjusted upward for inferior zoning. Comparable Sale Ten had a road added along its south property line that benefitted other land that the seller owned. Two sales were adjusted for location.

Before adjustments were made, the sale prices ranged from \$22,661 per acre to \$29,992 per acre. After adjustments were made, the adjusted sale prices ranged from \$13,241 per acre to \$17,600 per acre. A value of \$14,500 per acre was selected as appropriate for the Subject. Therefore, \$14,500 per acre multiplied by 66.6 acres equals \$965,700, or \$970,000, rounded as the market value of the Subject property by the Direct Sales Comparison Approach. Therefore, my opinion of the market value of the 66.6 acre north portion of the Subject property is

NINE-HUNDRED-SEVENTY-THOUSAND-DOLLARS

\$970,000

ADJUSTMENT GRID – COMPARABLE LAND SALES – ENTIRE PARCEL

SUBJECT: 80.431 ACRES, WILDCAT ROAD, HUBER HEIGHTS

- 9. 4791 Wagner Ford Road, Dayton
- 10. Abbott Park Lane and County Road 25A, Tipp City
- 11 I-70 At Executive Boulevard, Huber Heights
- 12. County Road 25A, Tipp City

	Subject	#9	#10	#11	#12
Circumstances:	Arms Length	Arms Length	Arms Length	Arms Length	A.L.,NrBuyer
Date:	2/15/2017	08/11/2011	4/13/2012	6/20/2013	6/8/2016
Financing:	Cash	Cash	Cash	Cash	Cash
Property Rights:	Fee Simple	Fee Simple	Fee Simple	Fee Simple	Fee Simple
Sale Price-\$\$:	Unknown	\$3,200,000	\$1,600,000	\$2,310,000	\$3,000,000
Size, Acres:	80.341 Acres	120 Acres+-	60 Acres	33.607 Acres	55.969 Net
Frontage:	Priv, Ends 2 St	6,598 Feet	1,310 Feet	About2,400 Ft	1,433.86 Ft.
Utilities:	All	All	All	All	All
Topography:	Lakes, Slopes	Level	Level	Level	Level
Zoning:	PC	I2, WP	I-1 / POI	EP	LI
Shape	Irregular	Regular-	Regular	Regular	Regular
Other:	None	None	Road Added	Misc.	None
Location:	Off Old Troy	Wagner Ford	CR 25A	Exec., I-70	CR 25A, I-75
Indication					
\$Acre:	N/A	\$26,750	\$26,667	\$68,735	\$53,601

ADJUSTMENTS

	Subject	#9	#10	#11	#12
Circumstances:	Arms Length	0%	0%	0%	0%
Date:	2/15/2017	+10%	+10%	+5%	0%
Financing:	Cash	0%	0%	0%	0%
Property Rights:	Fee Simple	0%	0%	0%	0%
Price/Acre-\$\$:	Unknown	\$29,425	\$29,334	\$72,172	\$53,601
Size, Acres:	80.341 Acres	+10%	0%	-10%	-5%
Frontage:	Priv, Ends 2 St	-20%	-5%	-20%	-5%
Utilities:	All	0%	0%	0%	0%
Topography:	Lakes, Slopes	-35%	-35%	-35%	-35%
Zoning:	PC	+10%	+5%	0%	+5%
Shape	Irregular	-5%	-5%	-5%	-5%
Other:	None	0%	+15%	0%	0%
Location:	Off Old Troy	0%	0%	-10%	-10%
TOTAL ADJUSTMENTS:		-40%	-25%	-80%	-55%
ADJUSTED PRICE / ACRE:		\$17,655	\$22,000	\$14,434	\$24,120

INDICATED VALUE OF SUBJECT: \$20,000 / ACRE X 80.341 ACRES = \$1,600,000, RO.

EXPLANATION OF ADJUSTMENTS AND ESTIMATE OF MARKET VALUE
BY THE DIRECT SALES COMPARISON APPROACH

Some adjustments are based on the experience and knowledge of the Appraiser and may not well supported by market evidence. The adjusted sale prices are listed below.

Comparable Sale Number Nine.....	\$17,655 Per Acre
Comparable Sale Number Ten.....	\$22,000 Per Acre
Comparable Sale Number Eleven.....	\$14,434 Per Acre
Comparable Sale Number Twelve.....	\$24,120 Per Acre

Three comparable sales occurred in 2013 or earlier and were adjusted for date of sale. Two sales were adjusted for size of land. In general, smaller parcels of land can be expected to sell for a greater per acre value than similar larger parcels of land. All comparable sales were adjusted downward for having more and superior frontage than the Subject. The Subject has access from a private roadway and the end of another road. There is some frontage along Wildcat Road but access would be difficult or impossible due to the slopes and lake. All of the comparable sales were adjusted downward for superior topography. The Subject includes two detention areas, some land with steep slopes, and some creeks so some portions of the property will be difficult or impossible to develop for any use other than recreational use. Three sales were adjusted upward for inferior zoning. All sales were adjusted downward for superior shale because the Subject land area includes narrow extensions to the east that add no significant value to the property. Comparable Sale Ten had a road added along its south property line that benefitted other land that the seller owned. Two sales were adjusted for location including having more land along an interstate highway than the Subject.

Before adjustments were made, the sale prices ranged from \$26,667 to \$68,735 per acre. After adjustments were made, the adjusted sale prices ranged from \$14,434 to \$24,120 per acre. A value of \$20,000 per acre was selected as appropriate for the Subject. Therefore, \$20,000 per acre multiplied by 80.341 acres equals \$1,606,820, or \$1,600,000, rounded as the value of the Subject property by the Direct Sales Comparison Approach. Therefore, my opinion of the market value of the entire 80.341 acre Subject property is.

ONE-MILLION-SIX-HUNDRED-THOUSAND-DOLLARS

\$1,600,000

ADDENDUM:

Deed
Property Record Card
Real Estate Taxes
Zoning Map and Regulations
Flood Map
Disclosure Statement
Appraiser's Credentials

Type: Deeds
Kind: SHERIFF'S DEED
Recorded: 9/28/2015 2:55:23 PM
Fee Amt: \$36.00 Page 1 of 3
Montgomery County, OH
Willis E. Blackshear Recorder

TRANSFER
04:03pm SEPTEMBER 24, 2015
KARL L. KEITH, COUNTY AUDITOR
Conv/Tran #: 14932 1.00

File# 2015-00053137

(BOX)
SHERIFF'S DEED
(Direct Transfer)

(3)

Whereas the Montgomery County Board of Revision ("BOR"), pursuant to Ohio Revised Code §323.65 to §323.79, in a civil administrative proceeding captioned **Case Number 2014-BR-185**, ordered a foreclosure decree ("*Decree*") against **WILDCAT DEVELOPMENT LIMITED PARTNERSHIP, et al.**, wherein the Montgomery County Treasurer was Plaintiff and **WILDCAT DEVELOPMENT LIMITED PARTNERSHIP, et al.**, were defendants;

Whereas the *Decree* was issued to foreclose the State's lien for real estate taxes upon the subject land, thereby dispensing with the requirement of appraisal as prescribed by law; and

Whereas on **June 19, 2015**, an order to transfer ("*Order to Transfer*") issued on said *Decree*, ordering the Montgomery County, Ohio Sheriff ("Sheriff") to proceed to transfer, without sale or appraisal, the land described in **Exhibit A** attached hereto and made a part hereof, whereupon, the Sheriff, pursuant to the *Order to Transfer*, was ordered to execute this *Sheriff's Deed* in compliance therewith; and

Whereas, the proceedings by the Sheriff consisted of executing this *Sheriff's Deed* and collecting such costs and expenses of this proceeding pursuant to R.C. §323.65 to §323.79; and, whereas the Sheriff was ordered to execute and deliver the within *Sheriff's Deed* of said real estate parcel to said Transferee **City of Huber Heights, Ohio, an Ohio Municipal Corporation**;

Therefore, by virtue of the foregoing, the Sheriff has GIVEN, GRANTED, and CONVEYED, and by these present does hereby GRANT, SELL and CONVEY to said **City of Huber Heights, Ohio, an Ohio Municipal Corporation**, tax mailing address 6131 Taylorsville Road, Huber Heights, Ohio, 45424, and its transferees and their heirs, successors and assigns forever, to have and to hold, all the right, title, and interest in lands and tenements being **Permanent Parcel ID Number P70 02025 0009** subject to all restrictions, covenants, limitations, conditions, easements, and rights of way of record.

QBR

Instrument Number: 2015-00053137 Seq: 1

Wherefore, I have, as Sheriff, hereunto set my hand this 23 day of September, 2015.

Montgomery County Sheriff



[Signature]
Sheriff/Deputy Sheriff of Montgomery County, Ohio

The State of Ohio) ss:
County of Montgomery)

Sworn to, acknowledged, and subscribed in my presence
Phil Plummer, Sheriff/Deputy Sheriff of Montgomery County, Ohio
who acknowledged he/she freely and officially signed the foregoing Sheriff's deed this
23 day of September, 2015.

ARACELY DIAZ
NOTARY PUBLIC, STATE OF OHIO
My Commission Expires 10/1/2018

[Signature]
NOTARY PUBLIC



This instrument was prepared by Margaret M. Carper, Assistant Prosecuting Attorney, 301
Street, 5th Floor, Dayton, Ohio 45422.

EXHIBIT A

Situate in the City of Huber Heights, County of Montgomery and State of Ohio and being Lot Five 5 of Northpark, Section 4 as recorded in Plat Book 199, Pages 31-31B and being a replat of part of Lot 1 of Northpark Section 3 as recorded in Plat Book 173, Pages 5-5B of the Plat Records of Montgomery County, Ohio. Subject to all legal highways, easements and restrictions of record.

Permanent Parcel Number: P70 02025 0009



- ▶ Summary
- Property Description
- Tax Summary
- Payments List
- Levy Distribution
- New Levies
- Special Assessments
- Permits
- Value History
- Rental Registration
- Sketch
- Sales
- Photo
- Tax Detail
- Pay Taxes

**PARID: P70 02025
0009**

**PARCEL LOCATION:
WILDCAT RD**

**NBHD CODE:
C100000**

Tax Year: 2016 ▼

CURRENT RECORD

2 of 29

[Return to Search Results](#)

[Click here to view neighborhood map](#)

Maps

Owner

Printable Summary

Printable Version

Name
HUBER HEIGHTS CITY OF

Mailing

Name HUBER HEIGHTS CITY OF
 Mailing Address 6131 TAYLORSVILLE RD
 City, State, Zip DAYTON, OH 45424

Legal

Legal Description 5 NORTHPARK SEC 4
 TAX INCR GRANTED, 2013 NO INCR TO TID
 Land Use Description C - COMMERCIAL VACANT LAND
 Acres 80.341
 Deed
 Tax District Name HUBER HGTS.-H.H. CSD

Sales

Date	Sale Price	Deed Reference	Seller	Buyer
24-JUN-10		201000036957	KTJ LIMITED PARTNERSHIP	WILDCAT DEVELOPMENT LTD
24-SEP-15		201500053137	WILDCAT DEVELOPMENT LTD	HUBER HEIGHTS CITY OF

Values

	35%	100%
Land	506,150	1,446,140
Improvements	0	0
CAUV	0	0
Total	506,150	1,446,140

Current Year Special Assessments

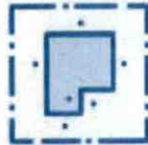
41100-MCD/AP MCD/AQUIFER PRES SUBD \$13.46

Current Year Rollback Summary

Non Business Credit \$0.00
 Owner Occupancy Credit \$0.00
 Homestead \$0.00
 City of Dayton Credit \$0.00
 Reduction Factor -\$11,975.68

Tax Summary

Year	Prior Year	Prior Year Payments	1st Half Due 2/17/2017	1st Half Payments	2nd Half Due 7/21/2017	2nd Half Payments	Total Currently Due
2016	\$0.00	\$0.00	\$21,069.24	-\$21,069.24	\$21,055.78	\$0.00	\$21,055.78



Sorry, no sketch available for this record



**2012 RICHARD J. MAKOWSKI
 OUTSTANDING COUNTY AUDITOR AWARD WINNER**

Data Copyright Montgomery County [Disclaimer] [Privacy Policy]

Site Design Copyright 1999-2013 Tyler Technologies. All rights reserved.

Current Parcel ID: P70 02025 0009	Property Owner for Selected Year: HUBER HEIGHTS CITY OF	Tax Year: 2016
---	---	--------------------------



Tax Information

NOTE: Unpaid taxes from tax year 2015, payable 2016, show on tax year 2016 as delinquent. Please check tax year 2016 for unpaid tax details. Paid taxes show in the year they were paid in full.

Please be sure to check the Master Information screen for Tax Lien Sale status. If "SOLD", contact the Treasurer's office for details.

First Half Taxes					
Tax Year	Real/Project	Charge	Adjustments	Payments	Amount Due
2016	41100	\$13.46	\$0.00	(\$13.46)	\$0.00
2016	Real	\$21,055.78	\$0.00	(\$21,055.78)	\$0.00
Sub-Total		\$21,069.24	\$0.00	(\$21,069.24)	\$0.00

Second Half Taxes					
Tax Year	Real/Project	Charge	Adjustments	Payments	Amount Due
2016	Real	\$21,055.78	\$0.00	\$0.00	\$21,055.78
Sub-Total		\$21,055.78	\$0.00	\$0.00	\$21,055.78

Prior Year Adjustments					
Tax Year	Real/Project	Charge	Adjustments	Payments	Amount Due
Sub-Total		\$0.00	\$0.00	\$0.00	\$0.00

Prior Year Charges/Delinquent Taxes					
Tax Year	Real/Project	Charge	Adjustments	Payments	Amount Due
Sub-Total		\$0.00	\$0.00	\$0.00	\$0.00

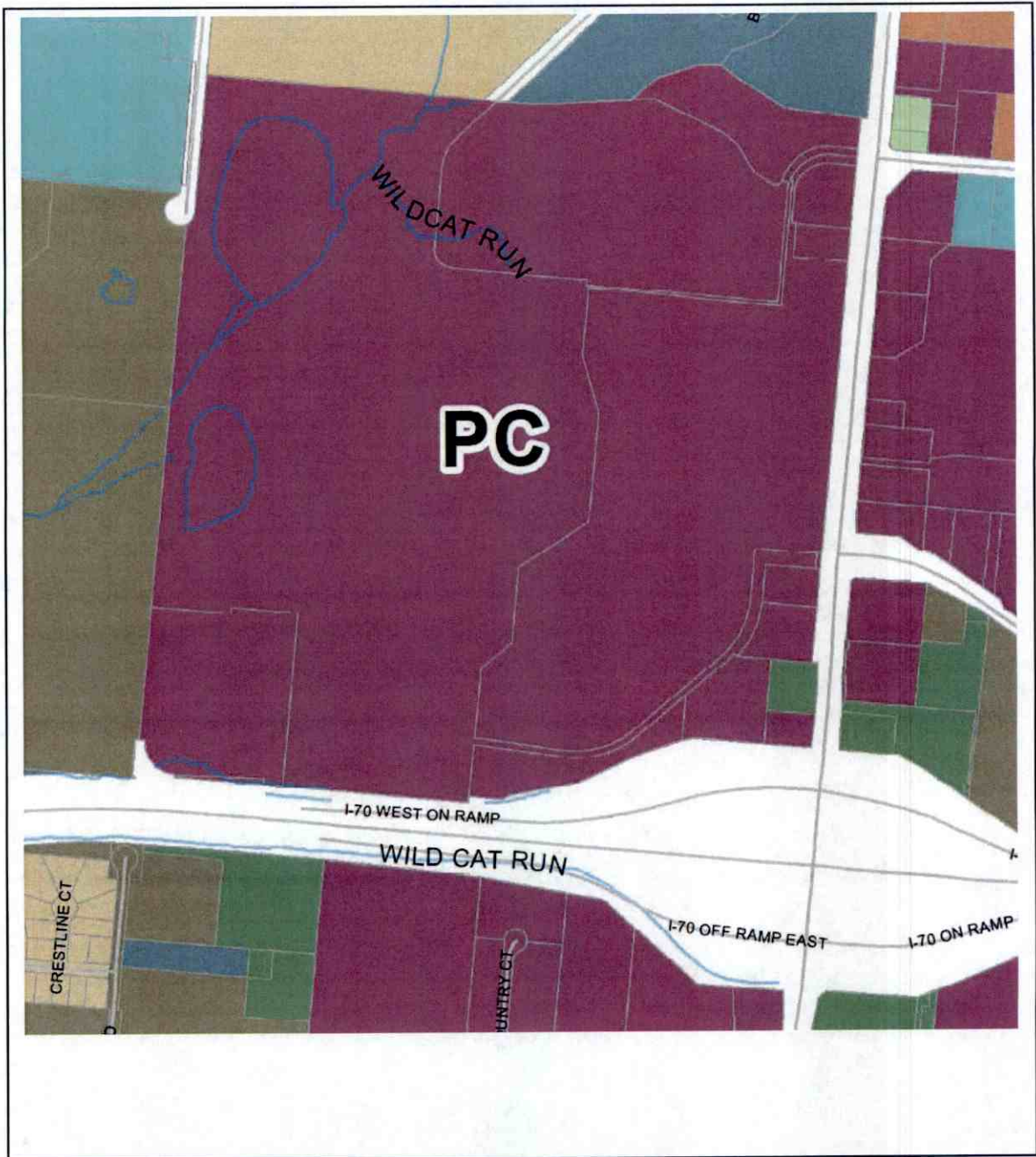
5/10% Payments					
Tax Year	Real/Project	Charge	Adjustments	Payments	Amount Due
Sub-Total		\$0.00	\$0.00	\$0.00	\$0.00

Grand Totals				
	Charge	Adjustments	Payments	Amount Due
Grand Totals	\$42,125.02	\$0.00	(\$21,069.24)	\$21,055.78

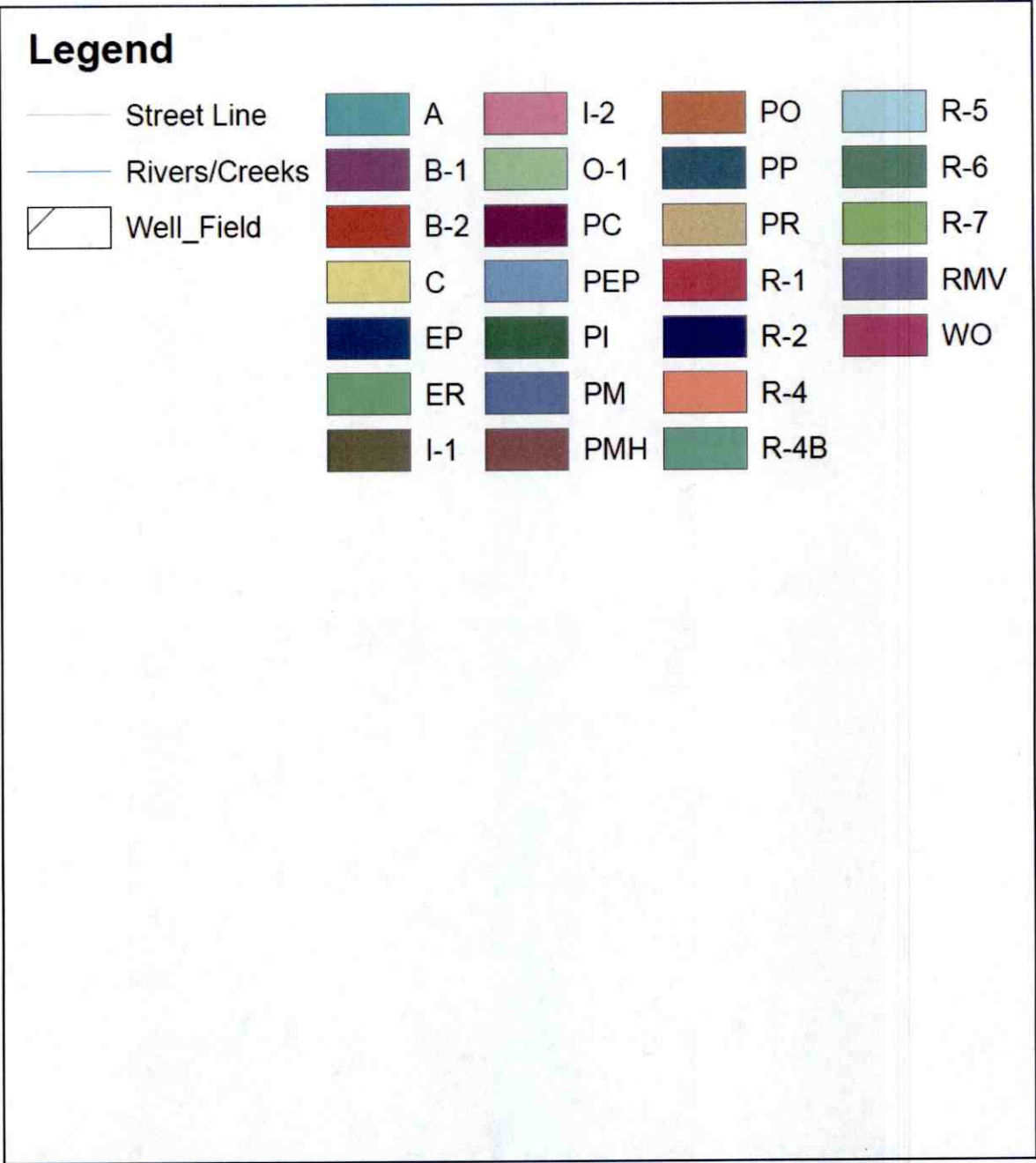
* Payments Posted thru March 22, 2017

Project Number Description	
41100	MCD/AP MCD/AQUIFER PRES SUBD

ZONING MAP



ZONING MAP



**CHAPTER 1176
(PC) Planned Commercial District**

- 1176.01 Principal permitted uses.**
- 1176.02 Accessory uses.**
- 1176.03 Development standards.**
- 1176.04 Parking and loading.**
- 1176.05 Special uses.**

CROSS REFERENCES

General provisions - see P. & Z. Ch. 1171

1176.01 PRINCIPAL PERMITTED USES.

The following principal uses are permitted provided that they are approved as provided for in this chapter:

- (a) Retail, office and commercial establishments;
- (b) Personal service commercial establishments;
- (c) Motels and hotels;
- (d) Filling stations;
- (e) Service stations; and
- (f) Public garages.
- (g) Sweepstakes cafe.

(Ord. 2012-O-1948. Passed 3-12-12.)

1176.02 ACCESSORY USES.

Only the following accessory uses shall be permitted in this District:

- (a) Uses customarily incident to all principal permitted uses; and
- (b) Temporary buildings and uses for construction purposes, not to exceed twelve (12) months.

(Ord. 89-0-339. Passed 2-6-89.)

1176.03 DEVELOPMENT STANDARDS.

Except when specifically modified herein, the provisions of Chapter 1181, "General Provisions" shall govern. In addition, the following development standards shall apply:

- (a) Minimum Land Area Requirement.
 - (1) No minimum land area shall be required.
- (b) Site Planning.

(1) All yards within the development plan except those abutting a Business or Industrial District shall be maintained in landscaping and not used for parking, to the extent of a minimum of fifteen (15) feet along property lines.

(2) The parking and loading facilities shall be a distance of at least twenty-five (25) feet from the established right-of-way line, and the building(s) or the structure(s) at least seventy-five (75) feet from the established right-of-way line per the Official Thoroughfare Plan or the recorded plat.

(Ord. 2006-0-1656. Passed 10-5-05.)

1176.04 PARKING AND LOADING.

The provisions of Chapter 1185, "Parking and Loading" shall apply, except that off-street loading space shall be provided with area, location and design appropriate to the needs of the development and specific uses within it, and the space designated for off-street loading shall not be used for off-street parking.

(Ord. 89-0-339. Passed 2-6-89.)

1176.05 SPECIAL USES.

The following shall be permitted as a special use:

- (a) (EDITOR'S NOTE: Former subsection (a) was repealed by Ordinance 2002-0- 1354, passed June 24, 2002.)

(b) Fraternal organizations, service clubs and other nonprofit organizations in accordance with the provisions of Chapter 1135. In addition to the criteria set forth in Chapter 1135, the parking requirements have to be reviewed yearly.

(c) Places of worship.

(Ord. 2000-0-1159. Passed 1-10-00.)

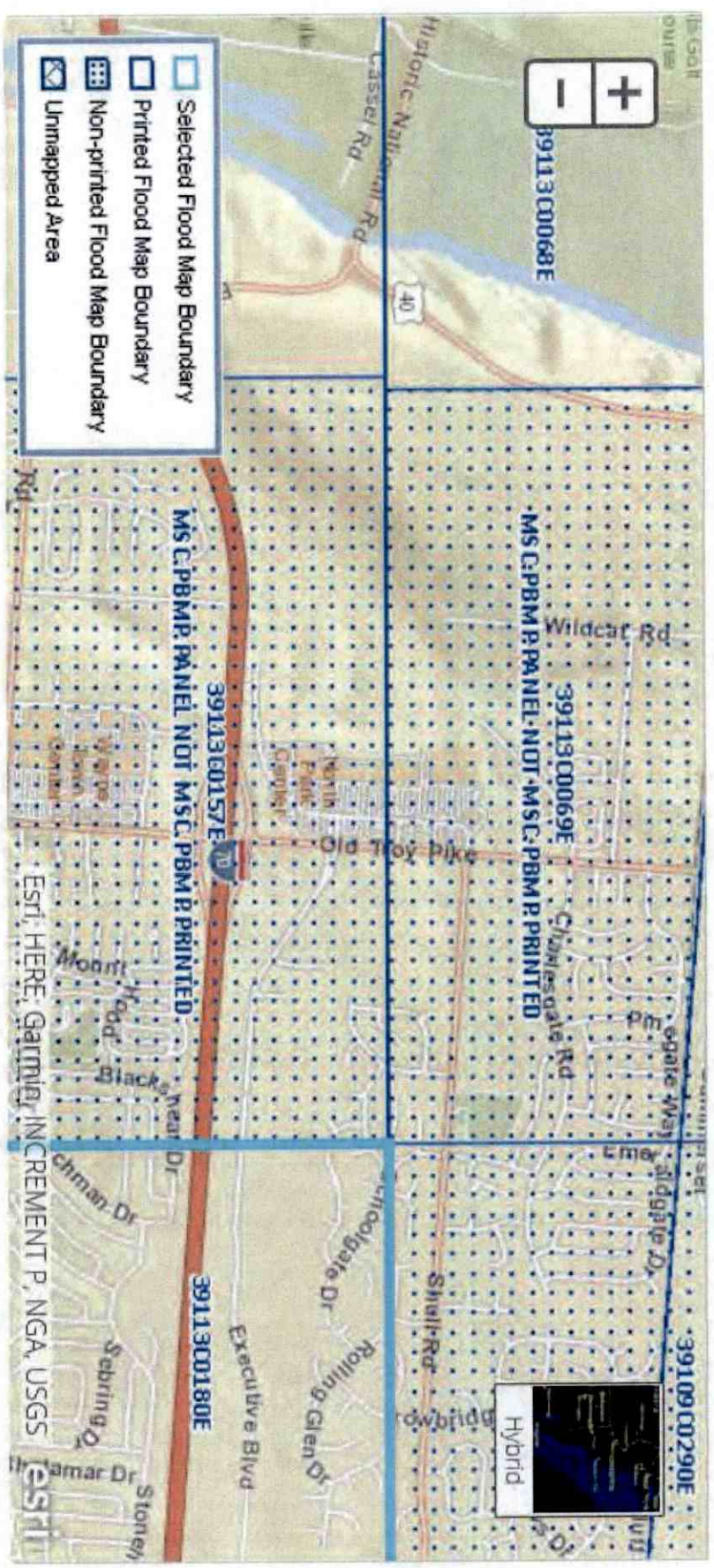
Safe Search

THIS PAGE IS SECURE

ACCESS VAULT

SHARE VIA FACEBOOK

Locator Map



APPRAISER DISCLOSURE STATEMENT

In compliance with Ohio Revised Code Section 4763.12 (C)

1. Name of Appraiser: Joseph P. Kelley

2. Class of Certification/Licensure:

Certified General

Licensed Residential

Temporary General Licensed

Certification/Licensure Number: #2001012265

3. Scope: This report is within the scope of my Certification or License

This report is not within the scope of my Certification or License

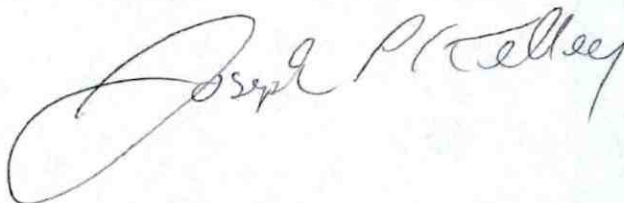
4. Service Provided By:

Disinterested & Unbiased Third Party

Interested & Biased Third Party

Interested Third Party on Contingent Fee Basis

5. Signature of person preparing and reporting the appraisal



State of Ohio
Department of Commerce
Division of Real Estate
Appraiser Section
Cleveland (216) 787-3100

1250 West Dorothy Lane
Kettering, Ohio 45409

ROBERT HARRIS
APPRAISING AND
CONSULTING CO.

Phone 937-293-1185
Fax 937-293-1234

APPRAISAL EDUCATION AND EXPERIENCE

JOSEPH P. KELLEY

STATE OF OHIO CERTIFIED GENERAL REAL ESTATE APPRAISER #2001012265

EDUCATION

B. S. Business - University of Dayton, 1985. Major: Accounting
Sinclair Community College, 1995-1999. Selected Courses for Career Development.

REAL ESTATE AND APPRAISAL EDUCATION

- “Real Estate Appraisal I”, Course RES 204, Sinclair Community College, October 1996.
- “Real Estate Appraisal II”, Course RES 205, Sinclair Community College, March 1997.
- “Standards of Professional Practice, Part A”, Course 410 & Exam, Appraisal Institute, Hudson, Ohio, March 1997
- “Basic Income Capitalization”, Course 310 & Exam, Appraisal Institute, Columbus, Ohio, November, 1998
- “Appraisal Procedures”, Course 120 & Exam, Appraisal Institute, Columbus, Ohio, May, 1999
- “Apartment Appraisal”, Course 330 & Exam, Appraisal Institute, Columbus, Ohio, October, 1999
- “Appraisal Principles”, Course 110 & Exam, Appraisal Institute, Columbus, Ohio, January, 2000
- “Highest and Best Use: Valuation of Lands in Transition”, Ohio Association of Realtors, Columbus, Ohio, July, 2000
- “Fair Housing Issues & Concerns for the Real Estate Professional”, Cincinnati Area Board of Realtors, Cincinnati, Ohio, January, 2001
- “Appraisal Standards and Ethics”, Ohio Association of Realtors, Columbus, Ohio, March, 2002
- “Flood Plain Maps & National Flood Insurance”, Dayton Board of Realtors, November, 2002
- “Home Inspections Explained”, Dayton Area Board of Realtors, June, 2003
- “Advanced Income Capitalization”, Course 510 & Exam, Appraisal Institute, Columbus, Ohio, July, 2003
- “Basics of Business Valuation”, American Society of Appraisers, Sharonville, March, 2004
- “National USPAP Update”, Several Years, Various Locations

EXPERIENCE

Real Estate Appraisal, primarily associated with Robert Harris Appraising and Consulting Company, Kettering, Ohio, September 1996 to Present. I have also done appraisal work for other appraisers or appraisal companies. Developed and assisted in the development of real estate appraisal reports, primarily of nonresidential real estate including commercial and industrial properties.



Huber Heights Fire Division

Inspections require two business days advance notice! (OAC)1301:7-7-09(A)(5)

Occupancy Name:	Proposed Jellystone Campground
Occupancy Address:	Behind and North of 8101 Old Troy Pike

Type of Permit:	HHP&D Site Plan
Additional Permits:	Choose an item.
Additional Permits:	Choose an item.

MCBR BLD:		HH P&D:	
MCBR MEC:		HHFD Plan:	
MCBR ELE:		HHFD Box:	
REVIEWER:	Susong	DATE:	3/7/2023

Fire Department Comments:

The Huber Heights City Code Part 15 Refers to Fire Code Requirements and has adopted by reference OFC and IFC Appendices

Requirements:

- Drawing currently show the access to the site being off Charlesgate Road and a future road off Old Troy Pike. Additional details shall be provided on when this would happen before final approval.
- Fire Department access roads shall be provided and comply with Ohio Fire Code 503.2.1 through 503.2.8. These sections contain dimensions for width, clearance, surface construction, turn radius, etc.
- Water supply for firefighting purposes including fire hydrants shall be provided and comply with Ohio Fire Code 507 and HHCO 1521.06.
- As project progresses additional requirements may arise.

Please reference contact information below for questions or concerns with this document.

Plans reviewed by the Huber Heights Fire Division are reviewed with the intent they comply in **ALL** respects to this code, as prescribed in **SECTION (D) 104.1 of the 2017 Ohio Fire Code**. Any omissions or errors on the plans or in this review do not relieve the applicant of complying with **ALL** applicable requirements of this code. These plans have been reviewed for compliance with the Ohio Fire Code adopted by this jurisdiction. There may be other regulations applicable under local, state, or federal statues and codes, which this department has no authority to enforce and therefore have not been evaluated as part of this plan review.

AI-9046

7. B.

Planning Commission

Meeting Date: 03/14/2023

Rezoning and Basic Development Plan

Information

Agenda Title

BASIC DEVELOPMENT PLAN - The applicant, SKILKEN GOLD REAL ESTATE DEVELOPMENT, is requesting approval of a Rezoning from PEP (Planned Employment Park) to PC (Planned Commercial) and a Basic Development Plan for a restaurant and convenience store, including fueling services, food sales, and drive through. Property is located at the Southeast corner of Brandt Pike and Executive Boulevard (RZ BDP 23-04).

Purpose and Background

Attachments

Staff Report

Decision Record

Project Summary

Land Title Survey

Site Improvements

Traffic Impact Study

Elevations

Aerial Map

Stormwater report

Landscaping Plan

Fire Assessment

Memorandum

Staff Report for Meeting of March 14, 2023

To: Huber Heights City Planning Commission
From: Aaron K. Sorrell, City Planner
Date: March 9, 2023
Subject: Rezoning and Basic Development Plan Case: RZ BDP 23-04
(Sheetz – Executive Blvd & Brandt Pike)

Department of Planning and Zoning

City of Huber Heights

APPLICANT/OWNER: Kareem Amr, Skilken Gold Real Estate – Applicant
City of Huber Heights, Laxmi Hospitality, LLC - Owners

DEVELOPMENT NAME: Sheetz (Executive Blvd.)

ADDRESS/LOCATION: 8245 Brandt Pike

ZONING/ACREAGE: Planned Employment Park (PEP) / 9.59 Acres

EXISTING LAND USE: Vacant

ZONING

ADJACENT LAND: North: PEP (mostly vacant ground)
East: Agriculture (Carriage Hill MetroPark)
West: PEP (vacant ground)
South: PEP (Meijer)

REQUEST: The applicant requests a rezoning to Planned Commercial (PC) (9.59 acres) and Basic Development Plan Approval (3.03 acres) to develop a 6,138 SF Sheetz restaurant and convenience store with a fueling center.

ORIGINAL APPROVAL: N/A

APPLICABLE HHCC: Chapter 1171, 1176, 1181, 1182, 1185

CORRESPONDENCE: In Favor – None Received
In Opposition – One email received.

Overview

The applicant requests a rezoning to Planned Commercial (PC) (9.59 acres) and Basic Development Plan Approval (3.03 acres) to facilitate the development of a 6,138 SF Sheetz restaurant and convenience store with fueling services and regional stormwater detention area.

City staff has been working with the applicant on the site layout and stormwater detention facility to maximize the capacity of the detention basin area to benefit future development potential upstream.

The proposed Sheetz store is nearly identical in size, layout, elevations and signage to the previously approved site at the corner of Old Troy Pike (OTP) and Taylorsville Road. The main differences are this proposal:

- has four (4) fueling islands, and the OTP site has three (3).
- has 17 drive-thru stacking spaces, and the OTP site has 10.
- has 42 proposed parking spaces, and the OTP site has 53.

Site History

In 2019, the City of Huber Heights acquired the Lehman farm, including this site. The City has since executed development agreements for the Lehman farm property with two groups: Horizon Line for a mixed-use development on the land north of Executive Boulevard; and Skilken Gold to develop this Sheetz convenience store and regional detention pond on the part of the land south of Executive Boulevard.

Site Characteristics

The site is generally flat and historically used for agricultural purposes. A stream runs along the applicant's site's south end, draining into the Dry Lick Run creek.

A large stormwater detention facility is planned west of the Sheetz store. Sheetz will utilize approximately 30% of the capacity, and the remaining capacity will be used by the Horizon Line development. This stormwater detention system is intentionally oversized to reduce flooding in Dry Lick Run within Carriage Hill MetroPark.

Applicable Zoning Regulations

The applicable zoning regulations are Chapter 1130 – Amendments, Chapter 1171 – General Provisions, Chapter 1176 – Planned Commercial, Chapter 1181 – General Provisions, Chapter 1182 – Landscaping, and Chapter 1185 – Parking and Loading.

Chapter 1171.05 - Contents of basic development plan, states:

(a) The basic development plan shall consist of at least the following information together with such other data and materials as may be required by the City:

- (1) Site plan showing the actual shape and dimensions of the lot to be built upon or to be changed in its use together with the location of the existing and proposed structures with approximate square footages, number of stories including heights of structures;

- (2) Typical elevation views of the front and side of each type of building;
 - (3) Planning location and dimensions of all proposed drives, service access road, sidewalks and curb openings;
 - (4) Parking lot areas (show dimensions of a typical parking space), unloading areas, fire lanes and handicapped parking;
 - (5) Landscaping plan, walls and fences;
 - (6) Storm water detention and surface drainage;
 - (7) Exterior lighting plan;
 - (8) Vehicular circulation pattern;
 - (9) Location and square footage of signs;
 - (10) Topographic survey; and
 - (11) Listing of proposed uses taken from the list of permitted and special uses of the PUD zoning district to which rezoning is being sought.
- (b) The Planning Commission shall schedule both the proposed rezoning and the issue of approval of the basic development plan for a combined public hearing, following which it shall make its recommendation indicating approval, approval with modification or disapproval.

Chapter 1171.06 - General standards for approval, states:

The Planning Commission shall review the application, prepared development plan and the facts presented at the hearing. The applicant shall have the burden of proof. No approval shall be given unless the Commission shall find by a preponderance of the evidence that such PUD on the proposed locations:

- (a) Is consistent with official thoroughfare plan, comprehensive development plan and other applicable plans and policies;
- (b) Could be substantially completed within the period of time specified in the schedule of development submitted by the developer;
- (c) Is accessible from public roads that are adequate to carry the traffic that shall be imposed upon them by the proposed development. Further, the streets and driveways on the site of the proposed development shall be adequate to serve the residents or occupants of the proposed development;
- (d) Shall not impose an undue burden on public services such as utilities, fire and police protection, and schools;
- (e) Contains such proposed covenants, easements and other provisions relating to the proposed development standards as may reasonably be required for the public health, safety and welfare;
- (f) Shall be landscaped or otherwise improved and the location and arrangement of structures, parking areas, walks, lighting and appurtenant facilities shall be compatible

with the existing intended uses, and any part of a PUD not used for structures, parking and loading areas, or accessways;

(g) Shall preserve natural features such as water courses, trees and rock outcrops, to the degree possible, so that they can enhance the overall design of the PUD;

(h) Is designed to take advantage of the existing land contours in order to provide satisfactory road gradients and suitable building lots and to facilitate the provision of proposed services;

(i) Shall place underground all electric and telephone facilities, street light wiring and other wiring conduits and similar facilities in any development which is primarily designed for or occupied by dwellings, unless waived by the Commission because of technical reasons;

(j) Shall not create excessive additional requirements at public cost of public facilities and services and shall not be detrimental to the economic welfare of the community;

(k) Shall not involve uses, activities, processes, materials, equipment and conditions of operation that shall be detrimental to any persons, property or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare or odors; and

(l) Rezoning of the land to the PUD District and approval of the development plan shall not adversely affect the public peace, health, morals, safety or welfare.

The staff analysis addresses the rezoning request and elements of the Basic Development Plan and standards for approval.

Staff Analysis

Rezoning Analysis:

The applicant desires to rezone the property to Planned Commercial (PC) from Planned Employment Park (PEP) to construct a restaurant and convenience store with fueling pumps. These parcels are some of the many sites along Executive Boulevard where the zoning is transitioning from PEP to Planned Commercial or Planned Mixed Use.

Conformance with Comprehensive Plan

The City's comprehensive plan indicates the site is in a "Grow and Enhance" character area. Growth areas are those locations within the City where economic development and mixed uses should be encouraged and low-density residential developments discouraged. These areas are the future economic and entertainment engines of the City. The comprehensive plan lists the following appropriate land uses (page 14):

- Conservancy/Recreation
- Agricultural/Low Density Residential
- Single-Family Residential
- Mixed Residential
- Public Use & Institutional
- Commercial Business

- Industrial Business

There are several current and planned commercial/retail establishments along Executive Boulevard. This corner lot at Executive Boulevard and Brandt Pike intersection is well suited for commercial or retail development. Staff feels the rezoning from PEP to PC is consistent with the comprehensive plan.

Basic Development Plan Analysis:

The applicant proposes constructing a 6,138 SF restaurant, convenience store and four-island fueling center. The building elevations and wall signs are nearly identical to the site at the Broad Reach development. The applicant has submitted all necessary plans and studies for the Basic Development Plan review.

Conformance With Planned Commercial District Requirements:

Uses: Retail uses and filling stations are principally permitted in the district.

Development Standards:

- The site plan meets all parking and building setback and yard requirements.
- Street trees are not illustrated on the plans. Street trees should be placed 40' on center. 10 street trees are required along Brandt Pike and Executive Boulevard.
- A lighting plan was not submitted with this application but will be reviewed as part of the detailed development plan application.
- The building design meets all exterior materials requirements.
- All utilities are below ground.

Parking and Loading:

- The building is substantially similar to the Broad Reach site, which required 49 parking spaces and five stacking spaces. The Basic Development Plan illustrates 42 parking spaces and 16 stacking spaces. A final determination will be made during Detailed Development Plan approval.

Landscaping:

- The submitted plans appear to meet the landscaping requirements but will be verified when the detailed development plan is submitted.

Signs:

- Building signs are very similar to those approved at the Broad Reach site.
- One monument sign location is indicated on the site plan; however, no sign details were submitted.

Conformance with General Standards of Approval:

Below is the staff analysis of conformance with the general standards of approval.

(a) Is consistent with official thoroughfare plan, comprehensive development plan and other applicable plans and policies;

It is staff's opinion that the proposal is consistent with the comprehensive plan and thoroughfare plan.

(b) Could be substantially completed within the period of time specified in the schedule of development submitted by the developer;

While no schedule of development has been submitted, the applicant has stated to staff that they will initiate construction shortly after all plans are approved by the City and County. There are no concerns on the part of staff that the applicant would have difficulty financing and constructing the project in a reasonable time.

(c) Is accessible from public roads that are adequate to carry the traffic that shall be imposed upon them by the proposed development. Further, the streets and driveways on the site of the proposed development shall be adequate to serve the residents or occupants of the proposed development;

The traffic study estimates there will be 506 AM weekday peak hour trips and 430 PM weekday peak hour trips. The net new peak hour trips generated are estimated at 122 AM and 109 PM. It's important to note that the study estimates that 76% of those trips are pass-by, meaning those vehicles are on the road regardless of whether the Sheetz development is constructed or not.

The traffic study indicates drop and left turn lanes are required along Brandt and westbound Executive Boulevard. The left-bound turn lanes will significantly impact the landscape medians. Staff will work with the applicant to mitigate these visual impacts through additional landscape design treatments, subject to Planning Commission approval during the detailed development plan approval.

(d) Shall not impose an undue burden on public services such as utilities, fire and police protection, and schools;

Staff does not anticipate any undue burden on public services. The area has adequate utility and street capacity. We are unaware of any policing concerns, and the development will comply with all building and fire code requirements.

(e) Contains such proposed covenants, easements and other provisions relating to the proposed development standards as may reasonably be required for the public health, safety and welfare;

Any conditions imposed by the Planning Commission or City Council will be memorialized in the PUD legislation and remain in effect unless modified by the Planning Commission or City Council.

(f) Shall be landscaped or otherwise improved and the location and arrangement of structures, parking areas, walks, lighting and appurtenant facilities shall be compatible

with the existing intended uses, and any part of a PUD not used for structures, parking and loading areas, or accessways;

The staff believes the site plan is generally well arranged, and internal circulation is efficient and compatible with the intended use. The landscaping lighting and parking requirements will be reviewed with the Detailed Development application.

As the residential density of the area increases, pedestrian facilities are necessary to provide convenient connections between residential areas and destinations. The applicant is proposing to relocate the existing sidewalk along Brandt Pike. However, no sidewalks are indicated or illustrated along Executive Blvd. As a condition of approval, staff recommends sidewalks be provided along the length of Executive Boulevard, including the frontage of the stormwater management basin. At a minimum, sidewalks shall be required along Executive Boulevard of the applicant's frontage.

(g) Shall preserve natural features such as water courses, trees and rock outcrops, to the degree possible, so that they can enhance the overall design of the PUD;

Staff recommends the applicant locate and identify all existing trees within 40' of the Executive Boulevard and Brandt Pike right-of-way with a 4" or greater DBH and incorporate said trees into the landscaping plan as appropriate, subject to approval as part of the Detailed Development Plan. The applicant shall also develop a plan to protect key trees during construction.

(h) Is designed to take advantage of the existing land contours in order to provide satisfactory road gradients and suitable building lots and to facilitate the provision of proposed services;

The site will be graded in a manner that reduces or eliminates flooding on to adjacent lots. Additionally, the applicant proposes constructing an oversized stormwater retention basin to help mitigate downstream flooding.

(i) Shall place underground all electric and telephone facilities, street light wiring and other wiring conduits and similar facilities in any development which is primarily designed for or occupied by dwellings, unless waived by the Commission because of technical reasons;

All utilities will be placed underground.

(j) Shall not create excessive additional requirements at public cost of public facilities and services and shall not be detrimental to the economic welfare of the community;

Staff does not anticipate any additional public services required to support this development.

(k) Shall not involve uses, activities, processes, materials, equipment and conditions of operation that shall be detrimental to any persons, property or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare or odors; and

All proposed uses are consistent with the Planned Commercial district zoning being requested as part of this application. The traffic study does not indicate this development will generate excessive traffic, though left turn lanes are warranted.

All lighting, glare, noise (from order boards) will be reviewed with the Detailed Development application.

(l) Rezoning of the land to the PUD District and approval of the development plan shall not adversely affect the public peace, health, morals, safety or welfare.

The staff believes that the rezoning is consistent with the comprehensive plan and will not adversely affect surrounding properties.

Additional Comments:

Fire: See Attached.

City Engineer: The revised Basic Development Plan reflects all comments and changes requested by the Engineer.

Recommendation

Staff is supportive of the rezoning from Planned Employment Park to Planned Commercial. It is staff's opinion that the requirements of Section 1171.06 can be met, and recommends approval of the rezoning and Basic Development Plan with the following conditions:

- Sidewalks shall be provided along the length of Executive Boulevard, including the frontage of the stormwater management basin. At a minimum, sidewalks shall be required along Executive Boulevard of the applicant's frontage.
- The applicant shall locate and identify all existing trees within 40' of the Executive Boulevard and Brandt Pike right-of-way that have a 4" or greater DBH and incorporate said trees into the landscaping plan as appropriate, subject to approval as part of the Detailed Development Plan. The applicant shall also develop a plan to protect key trees during construction.
- The applicant shall mitigate the visual impacts of changes to the decorative medians on Brandt Pike and Executive Boulevard through additional landscape design treatments, subject to Planning Commission approval during the detailed development plan approval.
- Street trees shall be provided along Executive Boulevard and Brandt Pike and placed at a maximum spacing distance of 40' on center.

- Signs shall meet the requirements of Chapter 1189, unless otherwise approved by the Planning Commission.
- Permitted uses shall be those listed as permitted uses in Section 1176.01, except the following are prohibited:
 - Vehicle sales, rental or service
 - Sweepstakes Cafes
 - Short-term lenders (pay-day lenders, loans against auto titles, etc.)
 - Dry cleaners
 - Outdoor sales and storage, unless approved by the Planning Commission

Planning Commission Action

Planning Commission may take the following actions with a motion to:

- 1) Recommend approval of the rezoning and basic development plan application, with or without conditions.
- 2) Recommend denial of the rezoning and basic development plan.
- 3) Table the application to gather additional information.



Planning Commission Decision Record

WHEREAS, on February 21, 2023, the applicant, Skilken Gold Real Estate Development, requested approval of a Rezoning from PEP (Planned Employment Park) to PC (Planned Commercial) and a Basic Development Plan for a restaurant and convenience store, including fueling services, food sales, and drive through. Property is located at 8245 Brandt Pike, further identified as Parcel Numbers P70 03910 0005 and P70 03910 0012 of the Montgomery County Auditor's Map (Case RZ BDP 23-04), and;

WHEREAS, on March 14, 2023, the Planning Commission did meet and fully discuss the details of the request.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission hereby recommended approval of the request.

moved to approve the request by the applicant, Skilken Gold Real Estate Development, requested approval of a Rezoning from PEP (Planned Employment Park) to PC (Planned Commercial) and a Basic Development Plan for a restaurant and convenience store, including fueling services, food sales, and drive through. Property is located at 8245 Brandt Pike (RZ BDP 23-04) in accordance with the recommendation of Staff's Memorandum dated, March 9, 2023, with the following conditions:

1. Sidewalks shall be provided along the length of Executive Boulevard, including the frontage of the stormwater management basin. At a minimum, sidewalks shall be required along Executive Boulevard of the applicant's frontage.
2. The applicant shall locate and identify all existing trees within 40' of the Executive Boulevard and Brandt Pike right-of-way that have a 4" or greater DBH and incorporate said trees into the landscaping plan as appropriate, subject to approval as part of the Detailed Development Plan. The applicant shall also develop a plan to protect key trees during construction.

RZ BDP 23-04 – Decision Record

3. The applicant shall mitigate the visual impacts of changes to the decorative medians on Brandt Pike and Executive Boulevard through additional landscape design treatments, subject to Planning Commission approval during the detailed development plan approval.
4. Street trees shall be provided along Executive Boulevard and Brandt Pike and placed at a maximum spacing distance of 40' on center.
5. Signs shall meet the requirements of Chapter 1189, unless otherwise approved by the Planning Commission.
6. Permitted uses shall be those listed as permitted uses in Section 1176.01, except the following are prohibited:
 - a. Vehicle sales, rental, or service
 - b. Sweepstakes Cafes
 - c. Short-term lenders (pay-day lenders, loans against auto titles, etc.)
 - d. Dry cleaners
 - e. Outdoor sales and storage, unless approved by the Planning Commission

Seconded by _____ Roll call showed: YEAS NAYS: None. Motion to recommend approval carried

Terry Walton, Chair
Planning Commission

Date

Project Summary

Date: February 16, 2022

Project: Sheetz Huber Heights, OH (Executive Boulevard)

Submittal: Basic Development Plan

This project proposes to develop a Sheetz convenience store and restaurant. The project proposes to have fuel services on site and a drive through for food pick up. The site is the southwest corner of Brandt Pike and Executive Boulevard. The proposed building is 6,138 SF. The parcel is zoned PEP (Planned Employment Park) and the proposed zoning will be PC (Planned Commercial). The site proposes 42 parking spaces.

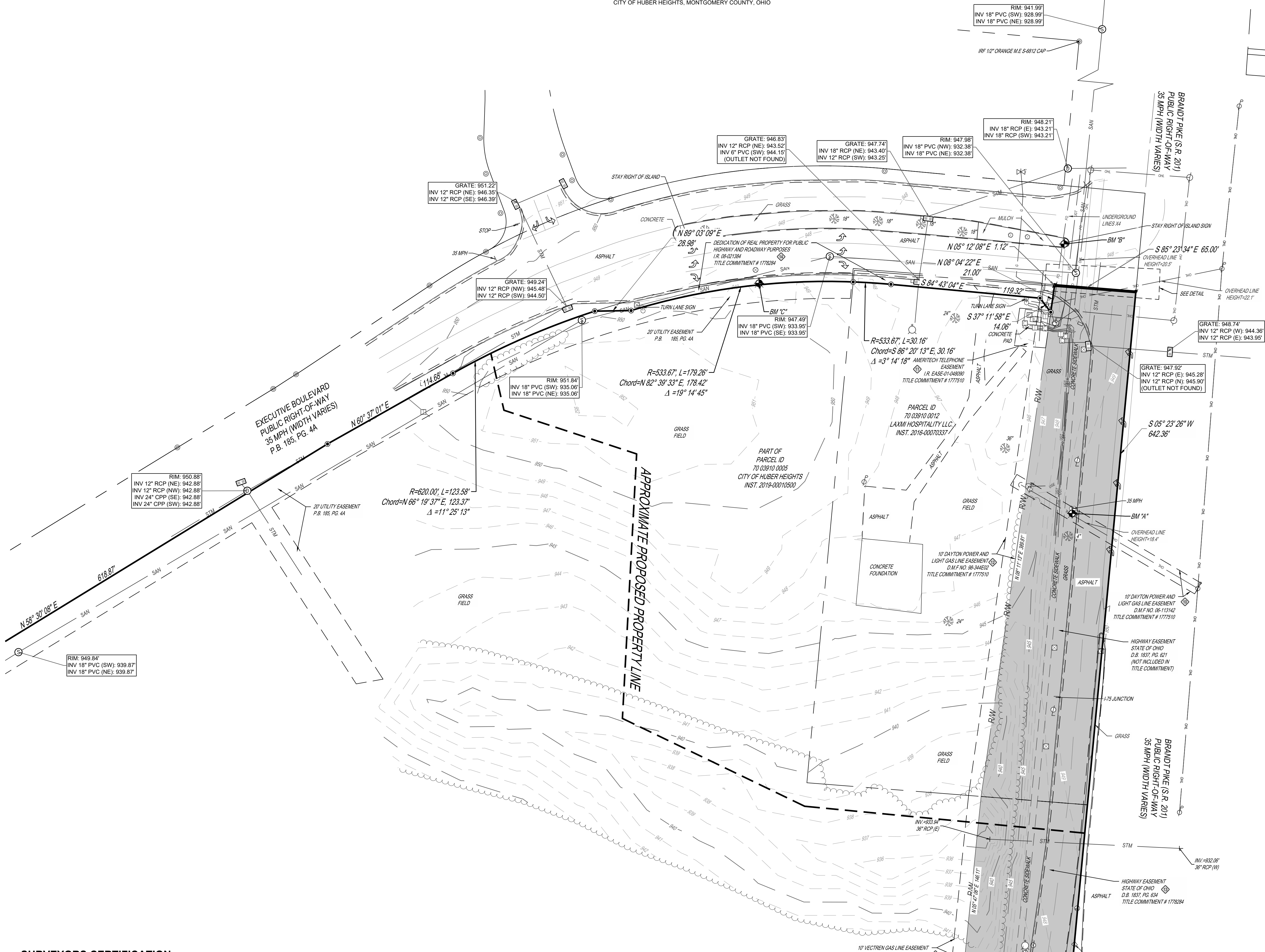
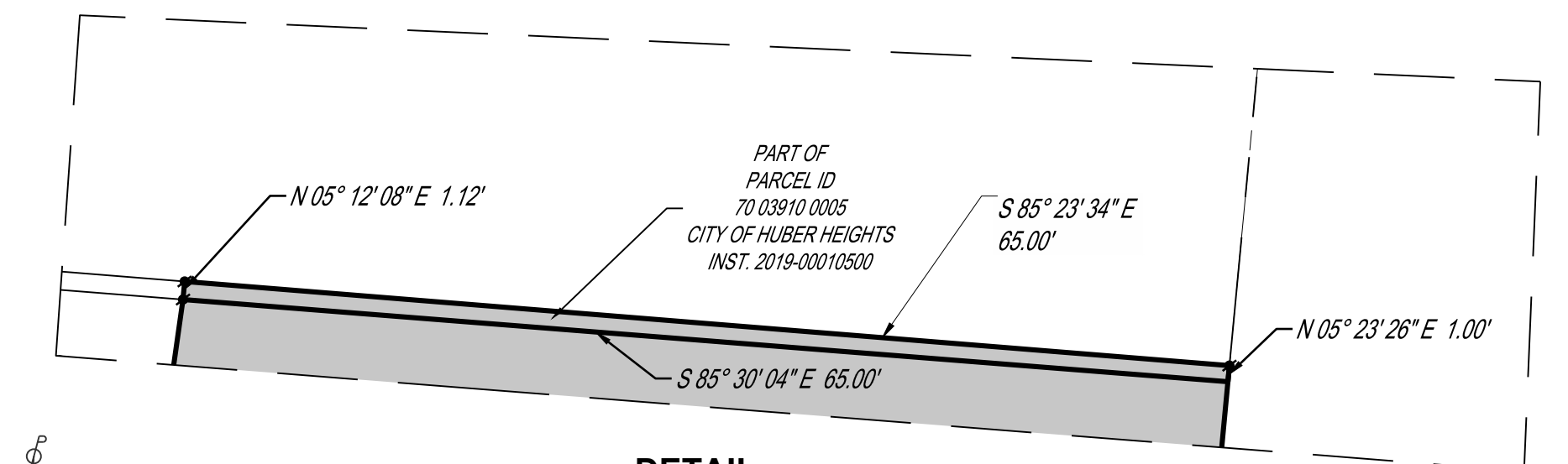
A traffic study has been completed for this project and reviewed with Russ Bergman (city engineer). From that study a secondary access point to Executive Boulevard was removed to promote a safe travel pattern. Additionally, the access point to Brandt Pike was found to require a restricted access removing the left-out movement for safety concerns. Additionally, it was found that public improvements were required for the access points to this project. The proposed public improvements include:

- Southbound right turn lane on Brandt Pike
- Northbound left turn lane on Brandt Pike
- Westbound left turn lane on Executive Boulevard

The stormwater detention has been reviewed on this project. With coordination with the City of Huber Heights staff it was found there was potential to utilize a regional detention basin located west of the proposed development. Calculations were completed and the detention pond can provide enough storage where the Sheetz development would utilize 30% of the pond's capacity and 70% would be utilized by future development. A stormwater report is included in this submittal.

Water & Sanitary are available along the frontage of the site and no main extensions are required as part of this project.

ALTA/NSPS LAND TITLE SURVEY
 XX,XXX ACRES TRACT LOCATED AT EXECUTIVE BLVD. AND BRANDT PIKE
 SECTION 18, TOWN 2, RANGE 8, M.R.s.
 CITY OF HUBER HEIGHTS, MONTGOMERY COUNTY, OHIO



- SURVEYOR'S NOTES:**
- THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR. ALL INFORMATION REGARDING RECORD EASEMENTS AND OTHER DOCUMENTS THAT MIGHT AFFECT THE QUALITY OF TITLE TO THE PARCEL SHOWN HEREON WERE OBTAINED THROUGH CERTIFIED TITLE COMMITMENTS CONDUCTED BY STEWART TITLE GUARANTY COMPANY. COMMITMENT NUMBER 1778294 WITH AN EFFECTIVE DATE OF OCTOBER 19, 2022 AT 8:00 A.M. AND COMMITMENT NUMBER 1777510 WITH AN EFFECTIVE DATE OF JULY 28, 2022 AT 8:00 A.M.
 - ALL DATA SOURCES, DOCUMENTS AND RECORDS SHOWN HEREON ARE ON FILE IN THE MONTGOMERY COUNTY RECORDERS OFFICE LOCATED IN DAYTON, OHIO.
 - OCCUPATION IN GENERAL MATCHED THE SURVEY.
 - HORIZONTAL DATUM - U.S. STATE PLANE, NAD83 OHIO SOUTH (3402) ESTABLISHED FROM UTILIZING THE OHIO REAL TIME NETWORK (RTN) PROVIDED BY THE OHIO DEPARTMENT OF TRANSPORTATION. COORDINATES TAKEN TO GROUND AT LATITUDE N39°52'17.63473", LONGITUDE W84°05'59.49882", PROJECT HEIGHT 838.768' GROUND SCALE FACTOR 1.00006810878568.
 - THERE ARE NO MARKED PARKING SPACES ON THE SURVEYED PROPERTY.
 - THERE IS NO EVIDENCE OF RECENT EARTH MOVEMENT, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS AT THE TIME OF THE FIELDWORK.
 - NO CHANGES OF STREET RIGHT-OF-WAY LINES WERE PROVIDED TO THE SURVEYOR AT THE TIME OF THIS SURVEY.
 - NO ZONING REPORT WAS PROVIDED AT THE TIME OF THE SURVEY.

MONUMENT LEGEND:

- RF 5/8" YELLOW L/SSE INC. CAP FOUND (UNLESS OTHERWISE NOTED)
- 5/8"x30" IRON PIN WITH "CESO" CAP SET
- FOUND MAG NAIL

LEGEND:

- BENCHMARK
- EXISTING SIGN
- EXISTING CATCH BASIN
- EXISTING COLUMN
- EXISTING TELEPHONE/CABLE BOX
- EXISTING HYDRANT
- EXISTING GAS METER
- EXISTING SANITARY SEWER MANHOLE
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- EXISTING SIGNAL POLE
- EXISTING GAS LINE MARKER
- EXISTING ELECTRIC METER / ELECTRIC BOX
- PROPERTY BOUNDARY
- ADJOINER BOUNDARY
- EASEMENT LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE LINE
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING FIBER OPTIC
- EXISTING GAS LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD UTILITY WIRES
- EXISTING HIGHWAY EASEMENT AREA

BENCHMARKS:

- BM "A" - CROSS NOTCH SET ON THE EAST BOLT OF FIRE HYDRANT ON EAST SIDE OF SITE, ALONG BRANDT PIKE. ELEV. = 951.86' (NAVD 88)
- BM "B" - SPIKE WITH METAL PLATE WITH "M-E CIVIL ENG BM 1603" IN CONCRETE ON ISLAND ON EXECUTIVE BLVD. TOWARDS INTERSECTION AT BRANDT PIKE. ELEV. = 948.28' (NAVD 88)
- BM "C" - CROSS NOTCH ON WEST BOLT OF FIRE HYDRANT ON NORTH SIDE OF SITE, SOUTH OF EXECUTIVE BLVD. ELEV. = 956.40' (NAVD 88)

GRAPHIC SCALE (IN FEET)

SURVEYORS CERTIFICATION

TO: SKILKEN GOLD, STEWART TITLE GUARANTY COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6(A), 6(B), 7(A), 7(B)(1), 7(C), 8, 9, 10, 11(A), 11(B), 13, 14, 16, AND 17 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED IN OCTOBER, 2022.

DATE OF PLAT OR MAP: NOVEMBER 7, 2022

PRELIMINARY

SEAN T. BROOKS, P.S. DATE STATE PROFESSIONAL SURVEYOR #8628

UTILITY DISCLAIMER:

THE UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES LOCATED HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES LOCATED ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

FLOOD ZONE STATEMENT:

BY INFORMATION PROVIDED BY FEMA FLOOD MAP SERVICE CENTER, THIS PROPERTY WAS FOUND TO BE LOCATED WITHIN FLOOD ZONE X, AREA OF MINIMAL FLOOD HAZARD, BY THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 39113C0180E, WHICH BEARS AN EFFECTIVE DATE OF JANUARY 6, 2005.

DEVELOPER:
 SKILKEN GOLD REAL ESTATE DEVELOPMENT
 4270 MORSE ROAD
 COLUMBUS, OH 43220
 (614) 418-3100

SURVEYOR:
 CESO, INC.
 3601 RIGHT ROAD, SUITE 300
 MAMMISBURG, OHIO 45342
 (937) 435-8584

ALTA/NSPS LAND TITLE SURVEY

105 SHEETZ HUBER HEIGHTS

EXECUTIVE BOULEVARD AND BRANDT PIKE SECTION 18, TOWN 2, RANGE 8, M.R.s.
 CITY OF HUBER HEIGHTS MONTGOMERY COUNTY, OHIO

SCALE: 1" = 40' DATE: 11/8/2022

DESIGN:	N/A	JOB NO.:	761668
DRAWN:	TBC	SHEET NO.:	2 OF 2
CHECKED:	CIT		

CESO
 WWW.CESOINC.COM

W:\PROJECTS\SKILKEN GOLD\761668-01 SKILKEN GOLD - 105 SHEETZ - HUBER HEIGHTS, OHIO\4 SURVEY\DWG\761668-01 SURVEY.DWG - 11/8/2022 2:13 PM

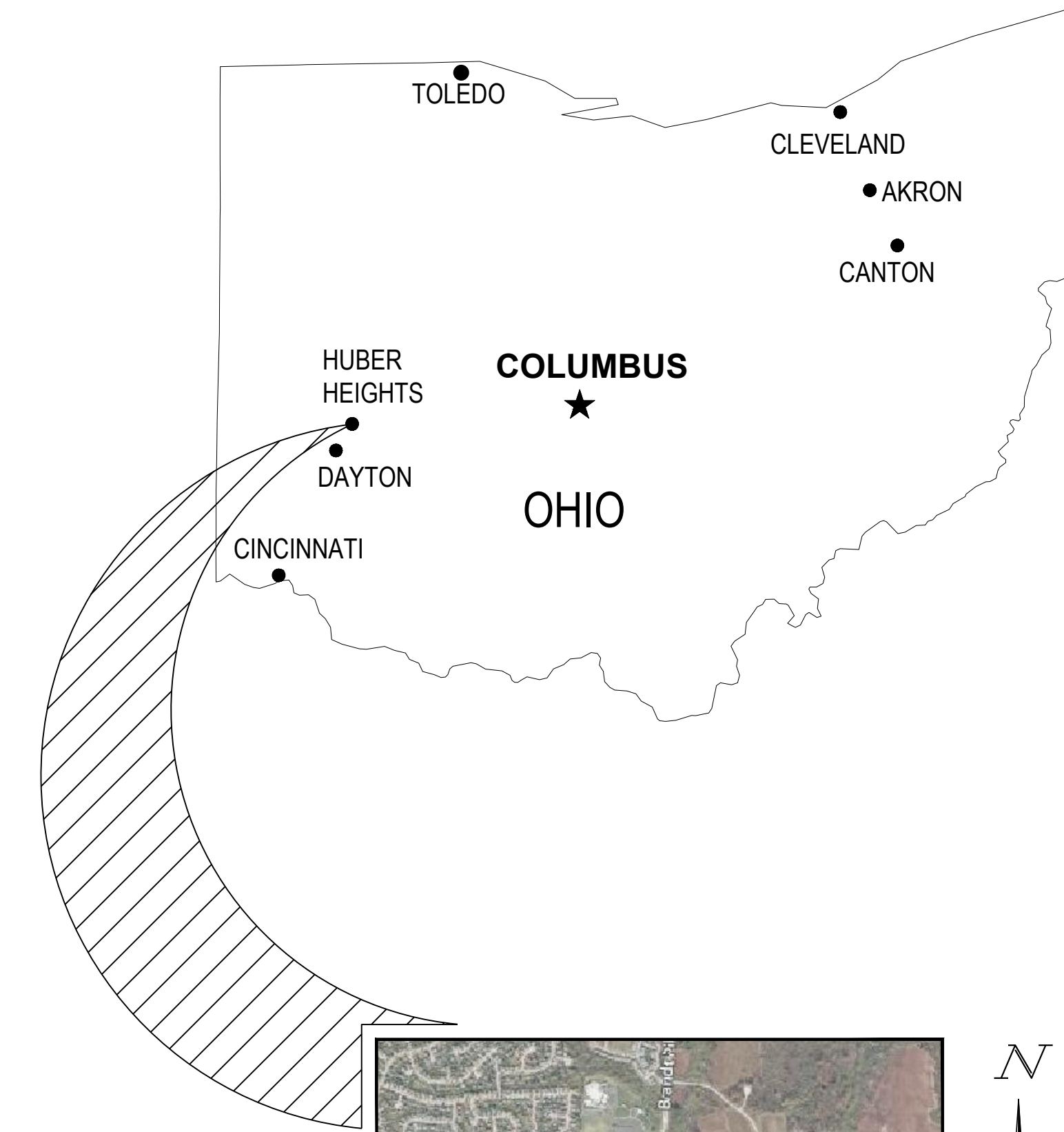
CITY OF HUBER HEIGHTS, MONTGOMERY COUNTY, OHIO

PRIVATE SITE IMPROVEMENTS

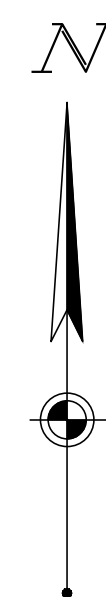
FOR

SHEETZ #105

EXECUTIVE BOULEVARD & BRANDT PIKE
HUBER HEIGHTS, OH



VICINITY MAP
SCALE: 1" = 200'



DEVELOPER:
SKILKEN GOLD REAL ESTATE DEVELOPMENT
4270 MORSE ROAD
COLUMBUS, OH 43230
PHONE: (380) 800-7811
CONTACT: KAREEM AMR

ENGINEER:
CESO, INC.
2800 CORPORATE EXCHANGE DR, SUITE 400
COLUMBUS, OH 43231
PHONE: (380) 759-5227
CONTACT: JOSH LONG
EMAIL: JOSH.LONG@CESOINC.COM

GOVERNING AGENCIES AND UTILITY COMPANIES:

SEWER:
CITY OF HUBER HEIGHTS
PHONE: (937) 233-1423
CONTACT: RUSS BERGMAN
EMAIL: RBERGMAN@HCHOH.ORG

GAS SERVICE:
CENTER POINT ENERGY
PHONE: (937) 440-1830
CONTACT: RANDY CECH
EMAIL: RANDY.CECH@CENTERPOINTENERGY.COM

WATER:
CITY OF HUBER HEIGHTS
PHONE: (937) 233-1423
CONTACT: RUSS BERGMAN
EMAIL: RBERGMAN@HCHOH.ORG

COMMUNICATIONS:
SPECTRUM
PHONE: (315) 234-7040
CONTACT: SHAQUILLE LEGGETT
EMAIL: SHAQUILLE.LEGGETT@CHARTER.COM

STORMWATER:
CITY OF HUBER HEIGHTS
PHONE: (937) 233-1423
CONTACT: RUSS BERGMAN
EMAIL: RBERGMAN@HCHOH.ORG

ELECTRIC:
AES OHIO
PHONE: 937-331-4860
CONTACT: LYNDA

ZONING:
CITY OF HUBER HEIGHTS
PHONE: (937) 237-5815
CONTACT: DON MILLARD
EMAIL: DMILLARD@HCHOH.ORG

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
C1.0	TITLE SHEET
C1.3	ALTA
C1.4	ALTA
C3.0	SITE PLAN
C3.1	AUTOTURN EXHIBIT
C3.2	DUMPSTER DETAIL
C4.0	PRELIMINARY GRADING PLAN
C5.0	PRELIMINARY UTILITY PLAN

LEGEND

EXISTING FEATURES LEGEND

APPLIES TO ALL CIVIL SHEETS

	R/W	RIGHT OF WAY LINE		BENCHMARK
	PARCEL LINE	SUBJECT PROPERTY		SET 5/8" x 30" IRON REBAR WITH YELLOW CAP STAMPED "CESO"
	BOUNDARY LINE	EASEMENT LINE		SANITARY MANHOLE
	CURB	EDGE OF PAVEMENT		TELEPHONE BOX
	EDGE OF WALK	PAVEMENT MARKINGS		CLEANOUT
	STORM SEWER	STORM SEWER		GUY WIRE ANCHOR
	SANITARY SEWER	SANITARY SEWER		CATCH BASIN
	WATER LINE	WATER LINE		CURB INLET
	GAS LINE	GAS LINE		LIGHT POLE
	OVHD ELECTRIC LINE	OVHD ELECTRIC LINE		POWER POLE
	UGND ELECTRIC LINE	UGND ELECTRIC LINE		ELECTRIC METER
	UGND TELECOMM LINE	UGND TELECOMM LINE		GAS METER
	MAJOR CONTOUR	MAJOR CONTOUR		SIGN
	MINOR CONTOUR	MINOR CONTOUR		ELECTRIC BOX
				TRAFFIC BOX
				WATER VALVE
				FIRE HYDRANT
				SIGNAL POLE



SKILKEN | GOLD
REAL ESTATE DEVELOPMENT

SHEETZ -
HUBER HEIGHTS, OH
EXECUTIVE BOULEVARD & BRANDT PIKE
HUBER HEIGHTS, OH 45424

Revisions / Submissions

ID	Description	Date

Project Number: 761668
Scale: AS SHOWN
Drawn By: MST
Checked By: BP
Date: 02.17.2023
Issue: NOT FOR CONSTRUCTION

Drawing Title:
TITLE SHEET



FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE. THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 1 (800) 362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF OHIO UTILITIES PROTECTION SERVICE

C1.0

EXHIBIT "A" LEGAL DESCRIPTION

(FROM TITLE COMMITMENT, BY STEWART TITLE GUARANTY COMPANY, COMMITMENT NUMBER 1777510 WITH AN EFFECTIVE DATE OF JULY 28, 2022 AT 8:00 A.M.)
 SITUATE IN THE CITY OF HUBER HEIGHTS, COUNTY OF MONTGOMERY AND STATE OF OHIO, AND BEING MORE PARTICULARLY DESCRIBED AS BEING, TO-WIT: SITUATE IN THE SOUTHWEST QUARTER OF SECTION 18, TOWN 2, RANGE 8, MRS. AND BEING PART OF A FIFTY-SEVEN AND FIFTY-THREE HUNDREDS (57.53) ACRE TRACT WHICH IS DESCRIBED IN DEED VOLUME 569, PAGE 289, OF THE DEED RECORDS OF MONTGOMERY COUNTY, OHIO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE EAST LINE OF SAID TRACT AND ON THE EAST LINE OF SAID QUARTER SECTION IN THE CENTER OF THE BRANDT PIKE, SAID BEGINNING POINT IS LOCATED A DISTANCE OF THREE HUNDRED THREE AND THREE TENTHS (303.3) FEET SOUTH FROM THE NORTH LINE OF SAID 57.53 ACRE TRACT AND A DISTANCE OF ONE THOUSAND TWO HUNDRED ONE AND THREE TENTHS (1201.3) FEET SOUTH FROM THE NORTH LINE OF SAID QUARTER SECTION, WITNESS AN IRON PIN BEARING SOUTH 89° 13' WEST A DISTANCE OF TWENTY-THREE (23) FEET; THENCE FROM SAID BEGINNING POINT, SOUTH 89° 13' WEST FOR A DISTANCE OF TWO HUNDRED TWENTY-FIVE (225) FEET TO AN IRON PIN SET FOR A CORNER, THENCE DUE SOUTH AND PARALLEL TO THE EAST LINE OF SAID TRACT FOR A DISTANCE OF FOUR HUNDRED TEN (410) FEET TO AN IRON PIN SET FOR A CORNER, THENCE NORTH 89° 13' EAST FOR A DISTANCE OF TWO HUNDRED TWENTY-FIVE (225) FEET TO A CORNER ON THE EAST LINE OF SAID 57.53 ACRES, WITNESS AN IRON PIN BEARING SOUTH 89° 13' WEST A DISTANCE OF TWENTY-THREE (23) FEET; THENCE DUE NORTH ALONG THE EAST LINE OF SAID 57.53 ACRES AND WITH THE EAST LINE OF SAID QUARTER SECTION FOR A DISTANCE OF FOUR HUNDRED TEN (410) FEET TO THE POINT OF BEGINNING, CONTAINING TWO AND ONE HUNDRED EIGHTEEN THOUSANDTHS (2.118), MORE OR LESS. PRIOR INSTRUMENT REF. VOLUME 1508, PAGE 490, OF MONTGOMERY COUNTY DEEDS, ABOVE DESCRIPTION INCLUDES PERPETUAL EASEMENTS AND RIGHTS OF WAY IN FAVOR OF THE STATE OF OHIO FOR PUBLIC HIGHWAY AND ROAD PURPOSES UPON 0.708 ACRES, MORE OR LESS AND ANOTHER 0.284 ACRES, MORE OR LESS.

EXCEPTING THEREFROM THE FOLLOWING DESCRIBED REAL ESTATE:

SITUATE IN SECTION 18, TOWNSHIP 2, RANGE 8, M.R.S., CITY OF HUBER HEIGHTS, COUNTY OF MONTGOMERY, STATE OF OHIO, AND BEING OVER PART OF A 2.118 ACRE TRACT OF LAND CONVEYED TO BETTY LOU BARNEY BY DEEDS RECORDED IN DEED BOOK 1791, PAGE 619 AND DEED MICROFICHE NUMBER 98-278292 ALL REFERENCES TO DEEDS, MICROFICHE, PLATS, SURVEYS, ETC. REFER TO THE RECORDS OF THE MONTGOMERY COUNTY RECORDER'S OFFICE, UNLESS NOTED OTHERWISE, AND BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING FOR REFERENCE AT A RAILROAD SPIKE SET AT THE SOUTHEAST CORNER OF THE RIGHT OF WAY FOR EXECUTIVE BOULEVARD AS DEDICATED IN EXECUTIVE BOULEVARD SECTION THREE AS RECORDED IN PLAT BOOK 183, PAGE 4, SAID CORNER BEING IN THE EAST LINE OF A 54.532 ACRE TRACT OF LAND CONVEYED TO EUGENE A. LEHMAN, TRUST BY DEEDS RECORDED IN DEED BOOK 1790, PAGE 11 AND DEED MICROFICHE NO. 97-572678, WITH A LIFE ESTATE TO EUGENE A. LEHMAN AND THE NORTH SOUTH HALF SECTION LINE OF SAID SECTION 18.

THENCE ALONG THE EAST LINE OF EUGENE A. LEHMAN TRUST'S 54.532 ACRE TRACT AND THE NORTH SOUTH HALF SECTION LINE OF SAID SECTION 18, SOUTH 5° 23' 18" WEST FOR 1.00' TO A RAILROAD SPIKE SET AT THE NORTHEAST CORNER OF BETTY LOU BARNEY'S 2.118 ACRE TRACT OF LAND;

THENCE ALONG THE NORTH LINE OF BETTY LOU BARNEY'S 2.118 ACRE TRACT OF LAND, NORTH 85° 23' 42" WEST FOR 65.00' TO A RAILROAD SPIKE SET AT THE INTERSECTION WITH THE WEST RIGHT OF WAY LINE OF STATE ROUTE 201 (BRANDT PIKE) BY PERPETUAL HIGHWAY EASEMENT AS CONVEYED TO THE STATE OF OHIO BY DEED RECORDED IN DEED BOOK 1837, PAGE 621 OVER BARNEY'S PROPERTY AND DEED BOOK 1837, PAGE 635 OVER LEHMAN'S PROPERTY, SAID INTERSECTION ALSO BEING THE POINT OF BEGINNING;

THENCE LEAVING THE NORTH LINE OF BETTY LOU BARNEY'S 2.118 ACRE TRACT OF LAND AND ALONG THE EXISTING WEST RIGHT OF WAY LINE OF STATE ROUTE 201 (BRANDT PIKE), SOUTH 8° 10' 44" WEST FOR 21.00' TO AN IRON PIN SET AT THE INTERSECTION OF THE WEST RIGHT OF WAY LINE OF STATE ROUTE 201 (BRANDT PIKE) AND THE NEW SOUTH RIGHT OF WAY LINE OF EXECUTIVE BOULEVARD;

THENCE ALONG THE NEW SOUTH RIGHT OF WAY LINE OF EXECUTIVE BOULEVARD FOR THE FOLLOWING THREE (3) COURSES:

1. NORTH 37° 05' 38" WEST FOR 14.06' TO AN IRON PIN SET AT THE ANGLE POINT;
2. THENCE ON A TANGENT BEARING, NORTH 84° 36' 42" WEST FOR 119.32' TO AN IRON PIN SET AT A POINT OF CURVATURE;
3. THENCE ON A CURVE TO THE LEFT WITH A RADIUS OF 533.67' FOR AN ARC DISTANCE OF 30.16'; [CHORD BEARING NORTH 85° 13' 51" WEST FOR 30.16'; DELTA ANGLE OF SAID CURVE BEING 3° 14' 16"] TO AN IRON PIN SET AT THE INTERSECTION OF THE NEW SOUTH RIGHT OF WAY LINE OF EXECUTIVE BOULEVARD AND THE WEST LINE OF BETTY LOU BARNEY'S 2.118 ACRE TRACT OF LAND;

THENCE ALONG THE WEST LINE OF BETTY LOU BARNEY'S 2.118 ACRE TRACT OF LAND, NORTH 5° 23' 18" EAST FOR 9.27' TO A RAILROAD SPIKE SET AT THE NORTHWEST CORNER OF BETTY LOU BARNEY'S 2.118 ACRE TRACT OF LAND;

THENCE ALONG THE NORTH LINE OF BETTY LOU BARNEY'S 2.118 ACRE TRACT OF LAND, SOUTH 85° 23' 42" EAST FOR 160.00' TO THE POINT OF BEGINNING, CONTAINING 0.0383 ACRES, MORE OR LESS, SUBJECT HOWEVER TO ALL COVENANTS, CONDITIONS, RESTRICTIONS, RESERVATIONS, AND EASEMENTS CONTAINED IN ANY INSTRUMENT OF RECORD PERTAINING TO THE ABOVE DESCRIBED TRACT OF LAND.

THIS DESCRIPTION WAS PREPARED FROM FIELD SURVEYS BY WOOLPERT, INC. (F.K.A. WOOLPERT LLP) IN JANUARY, 1997 AND DECEMBER, 2006, UNDER THE SUPERVISION OF DARYL L. WELLS, OHIO PROFESSIONAL SURVEYOR NO. 6832. THIS DESCRIPTION WAS BASED ON THE RECORD PLAN FOR EXECUTIVE BOULEVARD SECTION THREE AS RECORDED IN PLAT BOOK 185, PAGE 4 AND 4A, WITH BEARINGS BASED ON SAID PLAT. (THE BEARING ON THE NORTH-SOUTH HALF SECTION LINE OF SECTION 18 IS SOUTH 05° 23' 18" WEST).

IRON PINS SET IN THE ABOVE DESCRIPTION ARE 5/8 INCH DIAMETER STEEL REINFORCING ROD, 30 INCHES LONG, WITH A YELLOW PLASTIC CAP STAMPED "WOOLPERT".

SURVEY FILED IN RECORD OF LAND SURVEYS 2006-05877 IN THE MONTGOMERY COUNTY ENGINEER'S OFFICE.

SCHEDULE BII ITEMS:

(FROM TITLE COMMITMENT, BY STEWART TITLE GUARANTY COMPANY, COMMITMENT NUMBER 1777510 WITH AN EFFECTIVE DATE OF JULY 28, 2022 AT 8:00 A.M.)

ITEMS 1-9 & 13-16 ARE NOT SURVEY RELATED.

SCHEDULE BII ITEMS:

10. RIGHT OF WAY AND EASEMENT GRANTED TO THE DAYTON POWER AND LIGHT COMPANY, AS MORE FULLY SET FORTH IN THE DOCUMENT RECORDED AS VOLUME 06-113142. EASEMENT IS ON THE SURVEYED PROPERTY AND SHOWN HEREON
11. EASEMENT GRANTED TO OHIO BELL TELEPHONE COMPANY AKA AMERITECH OHIO INC., AS MORE FULLY SET FORTH IN THE DOCUMENT RECORDED AS VOLUME 91-0280 PAGE 008. EASEMENT IS ON THE SURVEYED PROPERTY AND SHOWN HEREON
12. EASEMENT GRANTED TO THE DAYTON POWER AND LIGHT COMPANY, AS MORE FULLY SET FORTH IN THE DOCUMENT RECORDED AS VOLUME 98-0544 PAGE E02. EASEMENT IS ON THE SURVEYED PROPERTY AND SHOWN HEREON

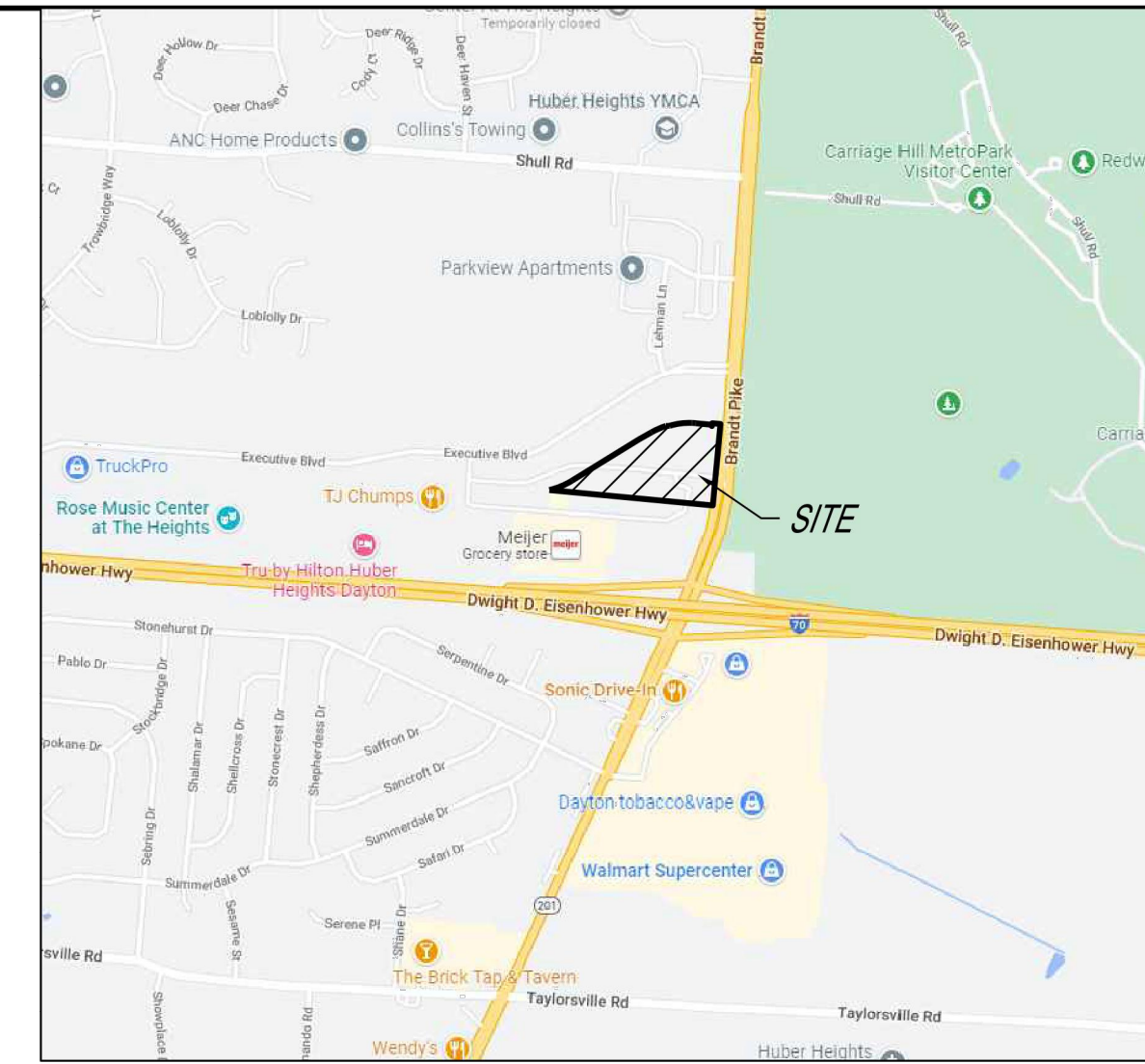
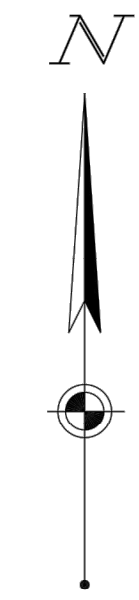
AS-SURVEYED DESCRIPTION:

XXXXXXXXXX

ALL IRON PINS CALLED AS SET ARE 5/8" X 30" REBAR WITH YELLOW CAP STAMPED "CESO".

ALTA/NSPS LAND TITLE SURVEY

XX.XXX ACRE TRACT LOCATED AT EXECUTIVE BLVD. AND BRANDT PIKE
 SECTION 18, TOWN 2, RANGE 8, M.Rs.
 CITY OF HUBER HEIGHTS, MONTGOMERY COUNTY, OHIO



VICINITY MAP:
NOT TO SCALE

OVERALL PARCEL MAP

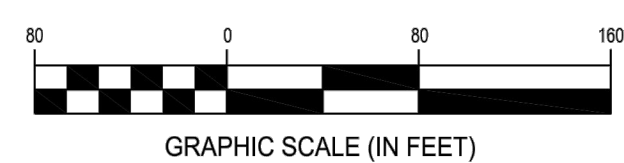
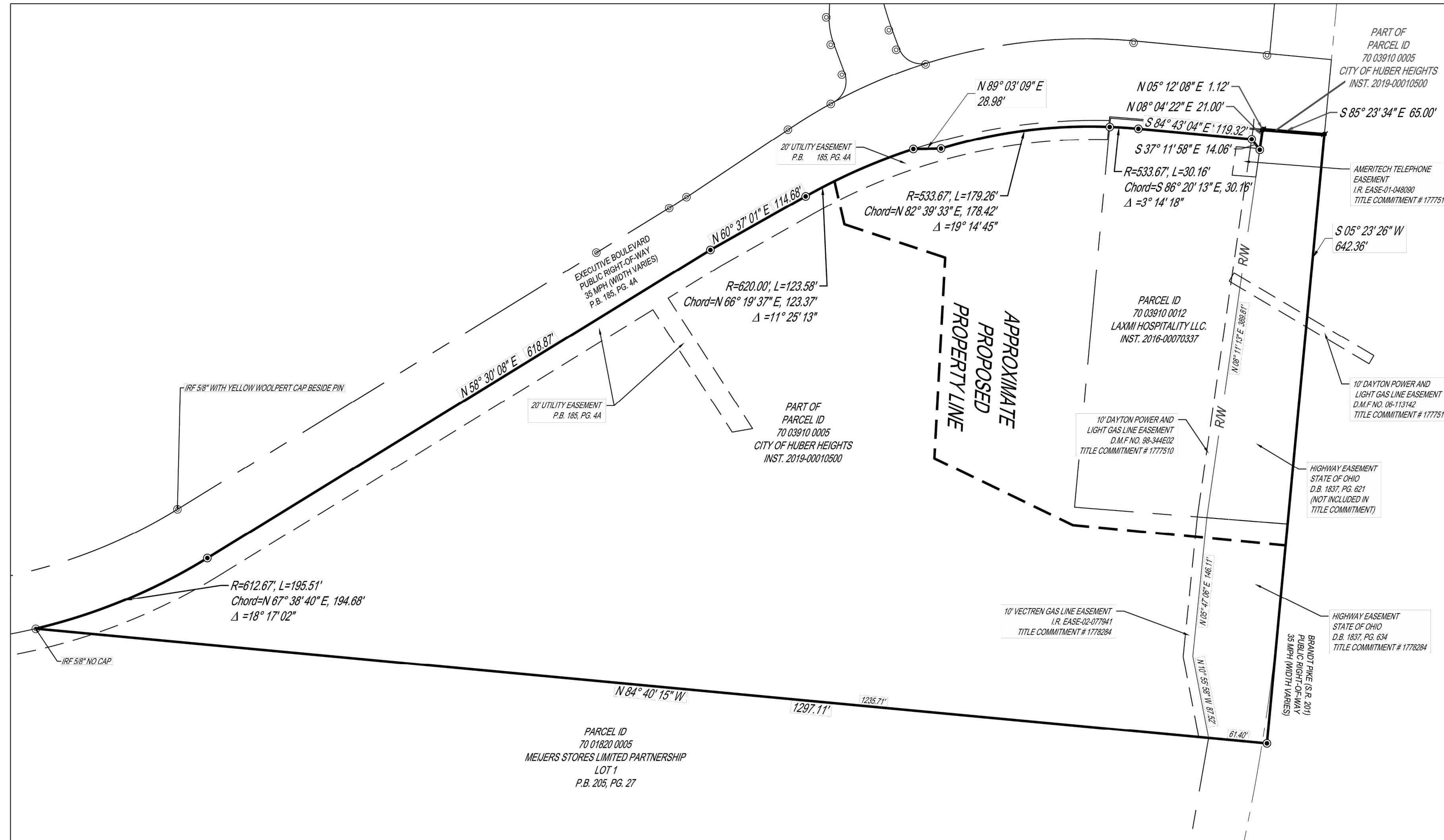


EXHIBIT "A" LEGAL DESCRIPTION

(FROM TITLE COMMITMENT, BY STEWART TITLE GUARANTY COMPANY, COMMITMENT NUMBER 1778284 WITH AN EFFECTIVE DATE OF OCTOBER 19, 2022 AT 8:00 A.M.)

BEING A TRACT OF LAND CONTAINING 51.9979 ACRES, MORE OR LESS; A MORE COMPLETE DESCRIPTION OF WHICH IS TO BE PROVIDED TO INSURER PRIOR TO CLOSING.

PARCEL NUMBER P70 03910 0005

SCHEDULE BII ITEMS:

(FROM TITLE COMMITMENT, BY STEWART TITLE GUARANTY COMPANY, COMMITMENT NUMBER 1778284 WITH AN EFFECTIVE DATE OF OCTOBER 19, 2022 AT 8:00 A.M.)

ITEMS 1-8 & 16-19 ARE NOT SURVEY RELATED.

SCHEDULE BII ITEMS:

9. EASEMENT FOR UTILITIES GRANTED TO THE CITY OF HUBER HEIGHTS, AS MORE FULLY SET FORTH IN THE DOCUMENT RECORDED AS VOLUME 08-021384. EASEMENT IS NOT ON THE SURVEYED PROPERTY
10. PIPELINE RIGHT OF WAY AND EASEMENT GRANTED TO VECTREN ENERGY DELIVERY OF OHIO INC., AS MORE FULLY SET FORTH IN THE DOCUMENT RECORDED AS VOLUME 02-077941. EASEMENT IS ON THE SURVEYED PROPERTY AND SHOWN HEREON
11. EASEMENT FOR UTILITIES GRANTED TO THE CITY OF HUBER HEIGHTS, MONTGOMERY COUNTY, OHIO, AS MORE FULLY SET FORTH IN THE DOCUMENT RECORDED AS VOLUME 99-0682 PAGE 009. EASEMENT IS NOT ON THE SURVEYED PROPERTY
12. EASEMENT GRANTED TO THE DAYTON POWER AND LIGHT COMPANY, AS MORE FULLY SET FORTH IN THE DOCUMENT RECORDED AS VOLUME 88-0152 PAGE 404. EASEMENT IS NOT ON THE SURVEYED PROPERTY
13. EASEMENT FOR HIGHWAY PURPOSES GRANTED TO THE STATE OF OHIO, AS MORE FULLY SET FORTH IN THE DOCUMENT RECORDED AS VOLUME 1837 PAGE 634. EASEMENT IS ON THE SURVEYED PROPERTY AND SHOWN HEREON
14. DEDICATION OF REAL PROPERTY FOR PUBLIC HIGHWAY AND ROADWAY PURPOSES GRANTED TO THE CITY OF HUBER HEIGHTS, OHIO OF RECORD IN VOLUME 07-030037. EASEMENT IS ON THE SURVEYED PROPERTY AND SHOWN HEREON
15. BUILDING LINES, EASEMENTS AND RESTRICTIONS SHOWN ON THE RECORDED PLATMAP OF LEHMAN PLAT AS PLAT BOOK 238 PAGE 19. EASEMENT IS NOT ON AND DOES NOT TOUCH THE SURVEYED PROPERTY

ALTA/NSPS LAND TITLE SURVEY

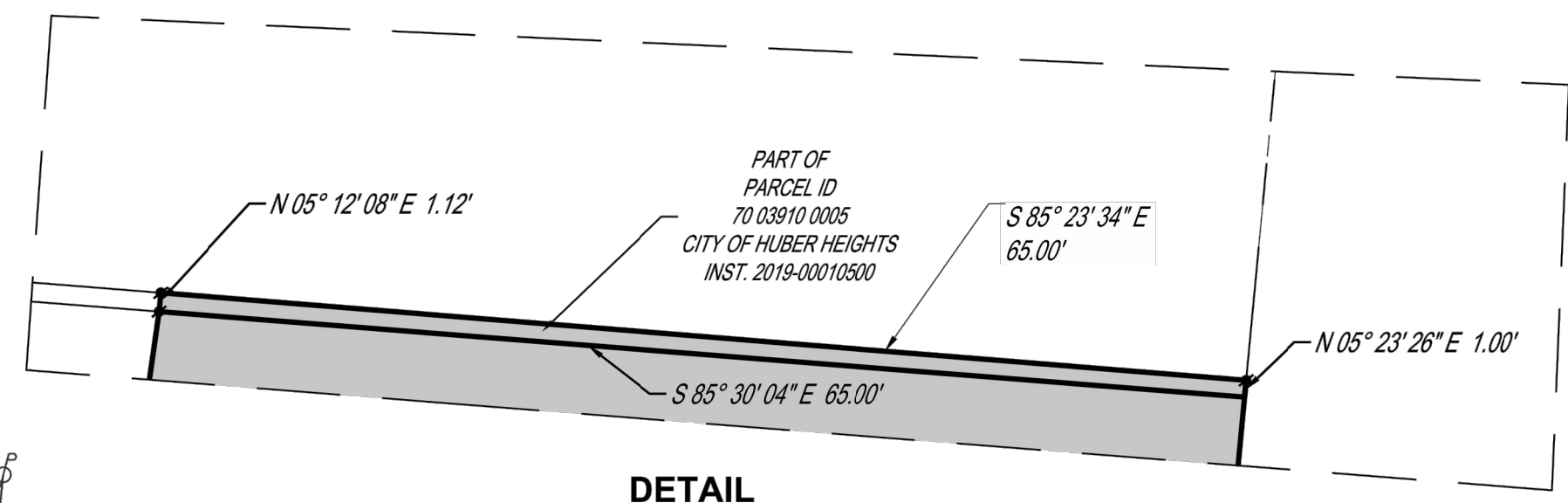
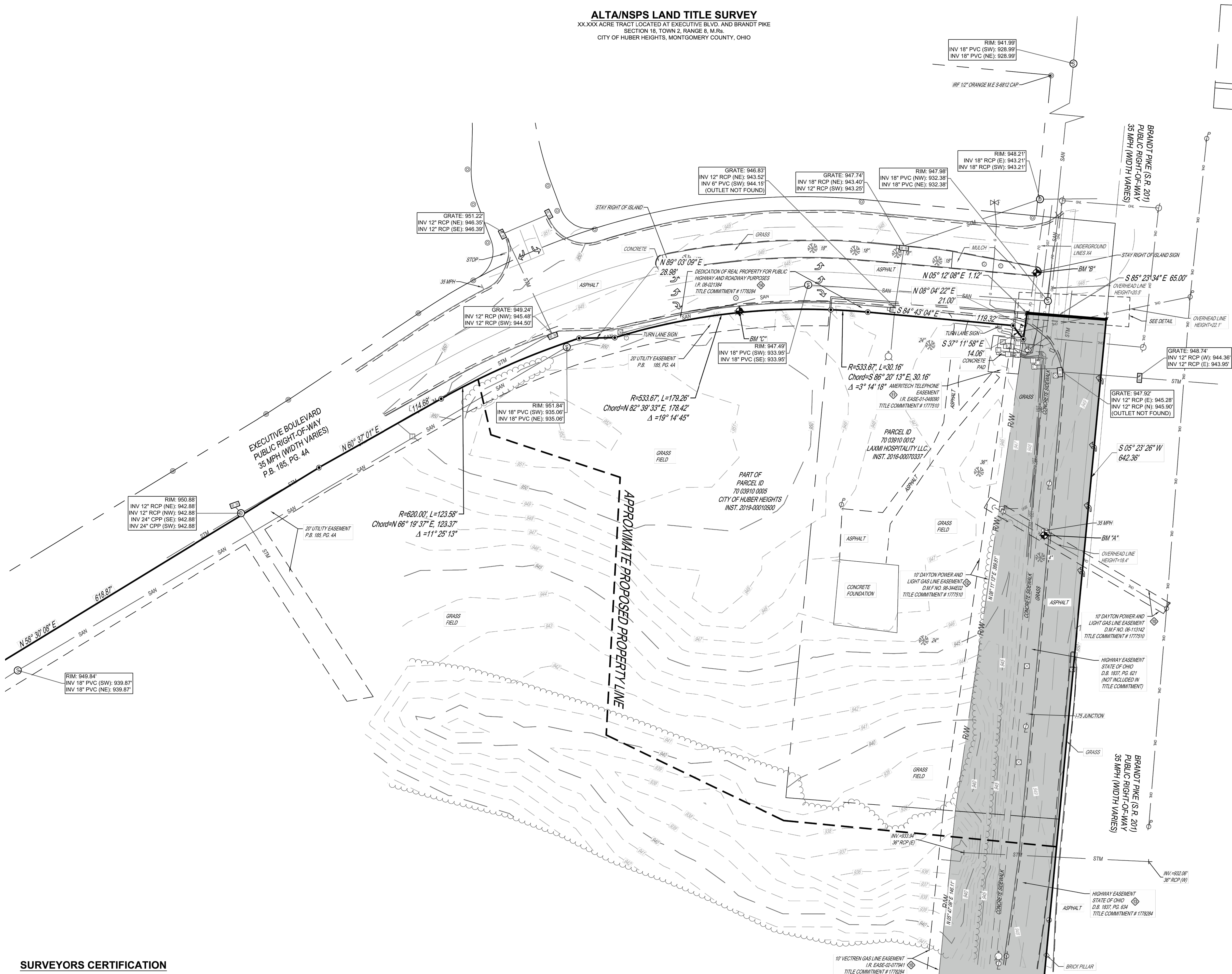
105 SHEETZ HUBER HEIGHTS

EXECUTIVE BOULEVARD AND BRANDT PIKE SECTION 18, TOWN 2, RANGE 8, M.Rs.
 CITY OF HUBER HEIGHTS MONTGOMERY COUNTY, OHIO

SCALE: 1"=80' DATE: 11/8/2022

DESIGN:	N/A	JOB NO.:	761668
DRAWN:	TBC	SHEET NO.:	1 OF 2
CHECKED:	CIT	 WWW.CESOINC.COM	
CIT			

ALTA/NSPS LAND TITLE SURVEY
 XX.XXX ACRE TRACT LOCATED AT EXECUTIVE BLVD. AND BRANDT PIKE
 SECTION 18, TOWN 2, RANGE 8, M.Rs.
 CITY OF HUBER HEIGHTS, MONTGOMERY COUNTY, OHIO



SURVEYOR'S NOTES:

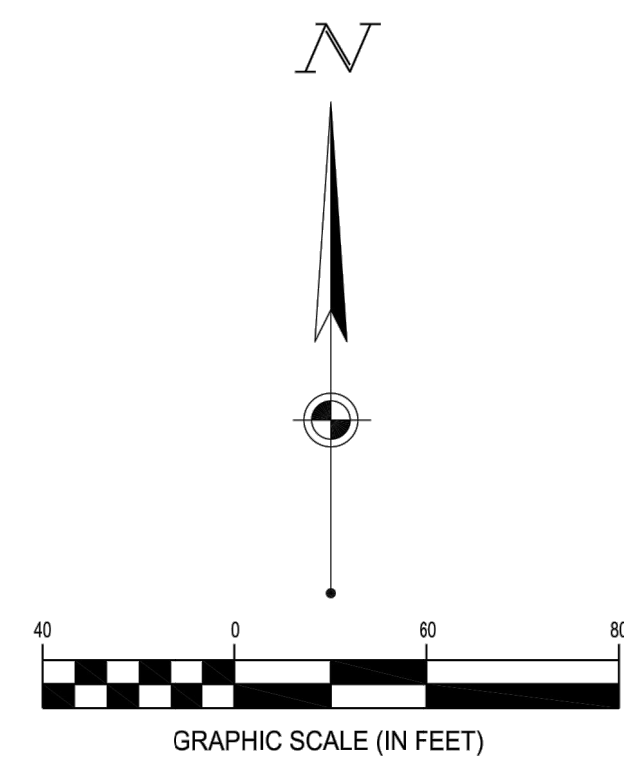
- THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR. ALL INFORMATION REGARDING RECORD EASEMENTS AND OTHER DOCUMENTS THAT MIGHT AFFECT THE QUALITY OF TITLE TO THE PARCEL SHOWN HEREON WERE OBTAINED THROUGH CERTIFIED TITLE COMMITMENTS CONDUCTED BY STEWART TITLE GUARANTY COMPANY. COMMITMENT NUMBER 1778294 WITH AN EFFECTIVE DATE OF OCTOBER 19, 2022 AT 8:00 A.M. AND COMMITMENT NUMBER 1777510 WITH AN EFFECTIVE DATE OF JULY 28, 2022 AT 8:00 A.M.
- ALL DATA SOURCES, DOCUMENTS AND RECORDS SHOWN HEREON ARE ON FILE IN THE MONTGOMERY COUNTY RECORDERS OFFICE LOCATED IN DAYTON, OHIO.
- OCCUPATION IN GENERAL MATCHED THE SURVEY.
- HORIZONTAL DATUM - U.S. STATE PLANE, NAD83 OHIO SOUTH (3402) ESTABLISHED FROM UTILIZING THE OHIO REAL TIME NETWORK (RTN) PROVIDED BY THE OHIO DEPARTMENT OF TRANSPORTATION. COORDINATES TAKEN TO GROUND AT LATITUDE N39°52'17.63473", LONGITUDE W84°05'59.49882", PROJECT HEIGHT 838.766' GROUND SCALE FACTOR 1.00006810878568.
- THERE ARE NO MARKED PARKING SPACES ON THE SURVEYED PROPERTY.
- THERE IS NO EVIDENCE OF RECENT EARTH MOVEMENT, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS AT THE TIME OF THE FIELDWORK.
- NO CHANGES OF STREET RIGHT-OF-WAY LINES WERE PROVIDED TO THE SURVEYOR AT THE TIME OF THIS SURVEY.
- NO ZONING REPORT WAS PROVIDED AT THE TIME OF THE SURVEY.

MONUMENT LEGEND:

- RF 5/8" YELLOW/SSC INC. CAP FOUND (UNLESS OTHERWISE NOTED)
- 5/8"x3/32" IRON PIN WITH "CESO" CAP SET
- FOUND MAG NAIL

LEGEND:

- BENCHMARK
- EXISTING SIGN
- EXISTING CATCH BASIN
- EXISTING COLUMN
- EXISTING TELEPHONE/CABLE BOX
- EXISTING HYDRANT
- EXISTING GAS METER
- EXISTING SANITARY SEWER MANHOLE
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- EXISTING SIGNAL POLE
- EXISTING GAS LINE MARKER
- EXISTING ELECTRIC METER / ELECTRIC BOX
- PROPERTY BOUNDARY
- ADJOINER BOUNDARY
- EASEMENT LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE LINE
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING FIBER OPTIC
- EXISTING GAS LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD UTILITY WIRES
- EXISTING HIGHWAY EASEMENT AREA



BENCHMARKS:

- BM "A" - CROSS NOTCH SET ON THE EAST BOLT OF FIRE HYDRANT ON EAST SIDE OF SITE, ALONG BRANDT PIKE. ELEV. = 951.66' (NAVD 88)
- BM "B" - SPIKE WITH METAL PLATE WITH "M-E CIVIL ENG BM 1603" IN CONCRETE ON ISLAND ON EXECUTIVE BLVD. TOWARDS INTERSECTION AT BRANDT PIKE. ELEV. = 948.28' (NAVD 88)
- BM "C" - CROSS NOTCH ON WEST BOLT OF FIRE HYDRANT ON NORTH SIDE OF SITE, SOUTH OF EXECUTIVE BLVD. ELEV. = 950.40' (NAVD 88)

SURVEYORS CERTIFICATION

TO: SKILKEN GOLD, STEWART TITLE GUARANTY COMPANY:
 THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6(A), 6(B), 7(A), 7(B)(1), 7(C), 8, 9, 10, 11(A), 11(B), 13, 14, 16, AND 17 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED IN OCTOBER, 2022.
 DATE OF PLAT OR MAP: NOVEMBER 7, 2022

PRELIMINARY

SEAN T. BROOKS, P.S. DATE STATE PROFESSIONAL SURVEYOR #8628

UTILITY DISCLAIMER:

THE UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES LOCATED HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES LOCATED ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

FLOOD ZONE STATEMENT:

BY INFORMATION PROVIDED BY FEMA FLOOD MAP SERVICE CENTER, THIS PROPERTY WAS FOUND TO BE LOCATED WITHIN FLOOD ZONE X, AREA OF MINIMAL FLOOD HAZARD, BY THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 39113C0180E, WHICH BEARS AN EFFECTIVE DATE OF JANUARY 6, 2005.

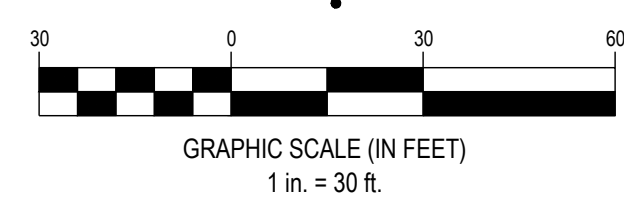
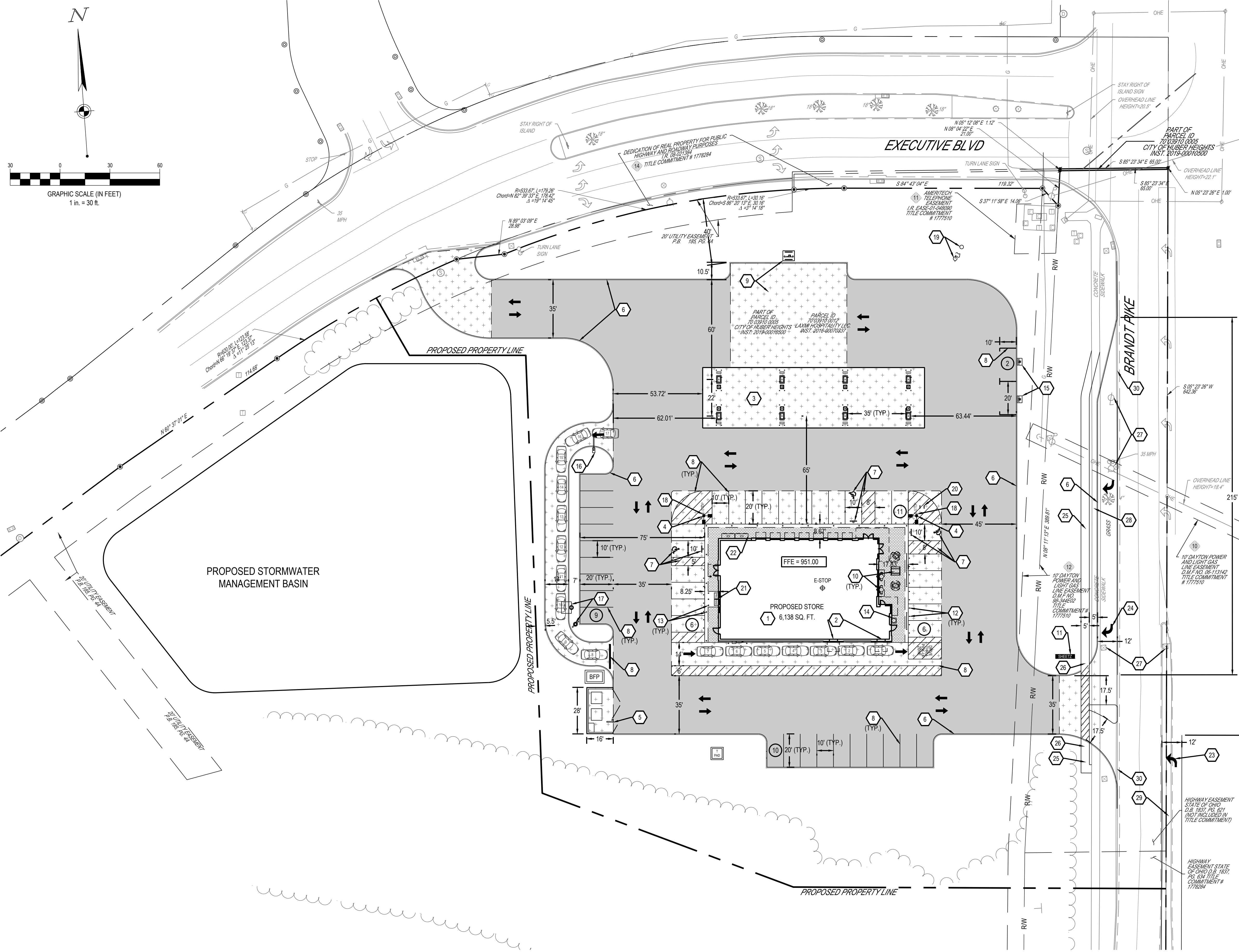
DEVELOPER:

SKILKEN GOLD REAL ESTATE DEVELOPMENT
 4270 MORSE ROAD
 COLUMBUS, OH 43230
 (614) 418-3100

SURVEYOR:

CESO, INC.
 3901 RIGHT ROAD, SUITE 300
 MARIETTA, OHIO 45752
 (937) 435-8584

ALTA/NSPS LAND TITLE SURVEY	
105 SHEETZ HUBER HEIGHTS	
EXECUTIVE BOULEVARD AND BRANDT PIKE SECTION 18, TOWN 2, RANGE 8, M.Rs. CITY OF HUBER HEIGHTS MONTGOMERY COUNTY, OHIO	
DESIGN: N/A	DATE: 11/8/2022
DRAWN: TBC	JOB NO.: 761668
CHECKED: CIT	SHEET NO.: 2 OF 2



SITE LEGEND

- EXISTING**
REFER TO C1.0 FOR EXISTING FEATURES LEGEND
- PROPOSED**
- PROPOSED BRICK PAVERS (REFER TO ARCHITECTURAL PLANS)
 - PROPOSED ASPHALT PAVEMENT (SEE DETAIL ON SHEET C6.0)
 - PROPOSED CONCRETE PAVEMENT (SEE DETAIL ON SHEET C6.0)
 - BUILDING
 - CONCRETE CURB
 - EDGE OF PAVEMENT / WALK
 - PAVEMENT TRANSITION
 - PARKING SPACE COUNT SIGN

NOTE: DETAIL SHEETS NOT YET PROVIDED

PARKING COUNT = 42 SPACES

CODED NOTES:

1. PROPOSED 6,138 SF STORE. REFER TO ARCHITECTURAL PLANS.
2. PROPOSED DRIVE-THRU WINDOW.
3. PROPOSED SIX (6) DISPENSER FUEL CANOPY. REFER TO ARCHITECTURAL PLANS.
4. PROPOSED LIGHT POLE. SEE DETAIL ON SHEET C7.1.
5. PROPOSED DUMPSTER ENCLOSURE AND PAD. SEE DETAIL ON SHEET C6.1.
6. PROPOSED 6" CONCRETE CURB. SEE DETAIL ON SHEET C6.2.
7. CONTRACTOR TO CONSTRUCT ADA PARKING SPACE PER DETAIL ON SHEET C6.2 AND ACCORDING TO ALL LOCAL, STATE AND FEDERAL REGULATIONS.
8. PROPOSED PAVEMENT MARKINGS. ALL PAVEMENT MARKINGS SHALL BE YELLOW.
9. PROPOSED UNDERGROUND FUEL TANK PAD AND VENT PAD. SEE DETAIL ON SHEET C6.0 FOR VENT PAD DETAIL.
10. PROPOSED PATIO SEATING. REFER TO ARCHITECTURAL PLANS.
11. PROPOSED SHEETZ MONUMENT SIGN. REFER TO SIGNAGE PLAN.
12. PROPOSED 4" X 4" STOREFRONT BUMPER POST. SEE DETAIL ON SHEET C6.0.
13. PROPOSED 6" BOLLARD. SEE DETAIL ON SHEET C6.0.
14. PROPOSED GREASE TANK. REFER TO PLUMBING PLANS.
15. PROPOSED AIR MACHINE. SEE DETAIL ON SHEET C6.0.
16. PROPOSED DRIVE-THRU CANTILEVERED CLEARANCE BAR. REFER TO SIGNAGE PLAN.
17. PROPOSED DRIVE-THRU TOUCH-SCREEN MENUBOARD. REFER TO SIGNAGE PLAN.
18. EMERGENCY STOP BUTTON FOR GASOLINE DISPENSERS. SEE DETAIL ON SHEET C6.1.
19. PROPOSED FLAG POLE AND SPOTLIGHT. SEE DETAILS ON SHEET C6.1.
20. PROPOSED BIKE RACK. SEE DETAIL ON SHEET C6.0.
21. PROPOSED PROPANE LOCKER. SEE DETAIL ON SHEET C6.1.
22. PROPOSED ICE MERCHANDISER LOCATION.
23. PROPOSED LEFT TURN ONLY LANE.
24. PROPOSED RIGHT TURN ONLY LANE.
25. PROPOSED SIDEWALK.
26. PROPOSED CURB RAMP.
27. EXISTING UTILITIES TO BE RELOCATED.
28. EXISTING SIDEWALK TO BE REMOVED AND RELOCATED.
29. EXISTING MEDIUM TO BE REMOVED.
30. EXISTING CURB TO BE REMOVED.



CESO
WWW.CESONC.COM
2800 Corporate Exchange Dr., Suite 400
Columbus, OH 43231
Phone: 614.794.7090 Fax: 888.208.4826



SKILKEN | GOLD
REAL ESTATE DEVELOPMENT

SHEETZ - HUBER HEIGHTS, OH
EXECUTIVE BOULEVARD & BRANDT PIKE
HUBER HEIGHTS, OH 45424

Revisions / Submissions		
ID	Description	Date

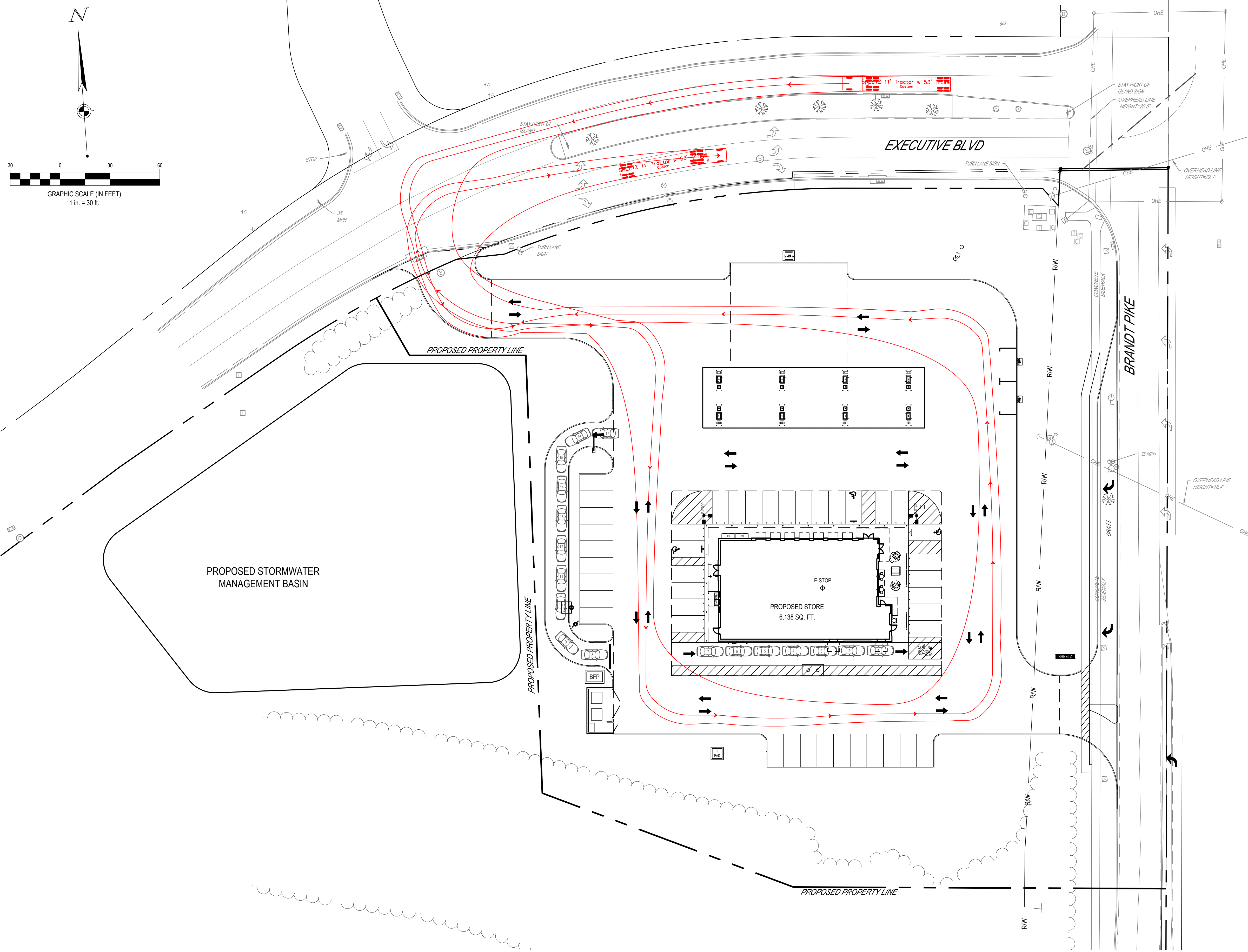
Project Number: 761668
Scale: AS SHOWN
Drawn By: MST
Checked By: BP
Date: 02.17.2023
Issue: NOT FOR CONSTRUCTION

Drawing Title:
SITE PLAN



FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE. THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 1 (800) 362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF OHIO UTILITIES PROTECTION SERVICE

C3.0



W:\PROJECTS\SKILKEN GOLD\761688-01 Skilken Gold - 105 Sheetz - Huber Heights, OH\05-CIVIL\PLAN\CONSTRUCTION\761688_C30-SITE.dwg - 2/13/2023 - Michael Talanico



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HUBER HEIGHTS, OH
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HUBER HEIGHTS, OH 45424

Revisions / Submissions

ID	Description	Date

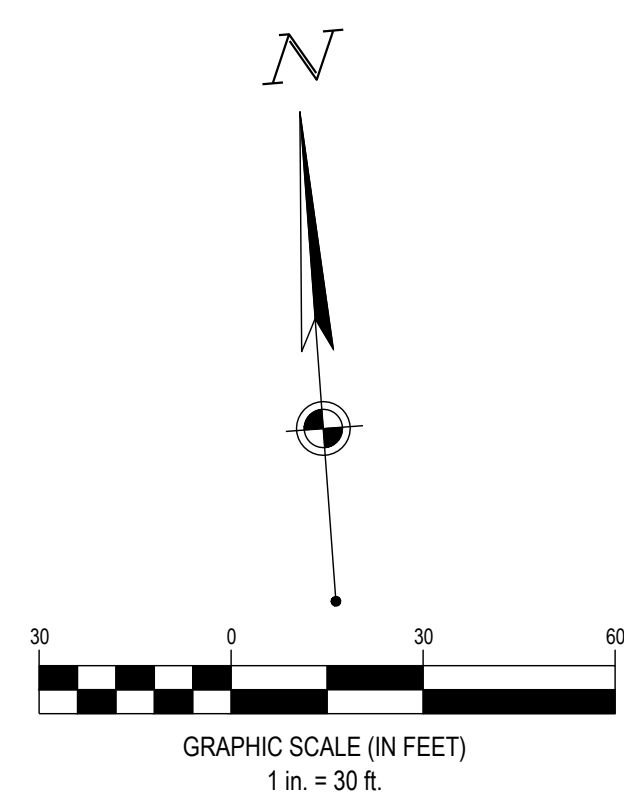
Project Number: 761668
Scale: AS SHOWN
Drawn By: MST
Checked By: BP
Date: 02.17.2023
Issue: NOT FOR CONSTRUCTION

Drawing Title:
AUTOTURN EXHIBIT



FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE. THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 1 (800) 362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF OHIO UTILITIES PROTECTION SERVICE

C3.1

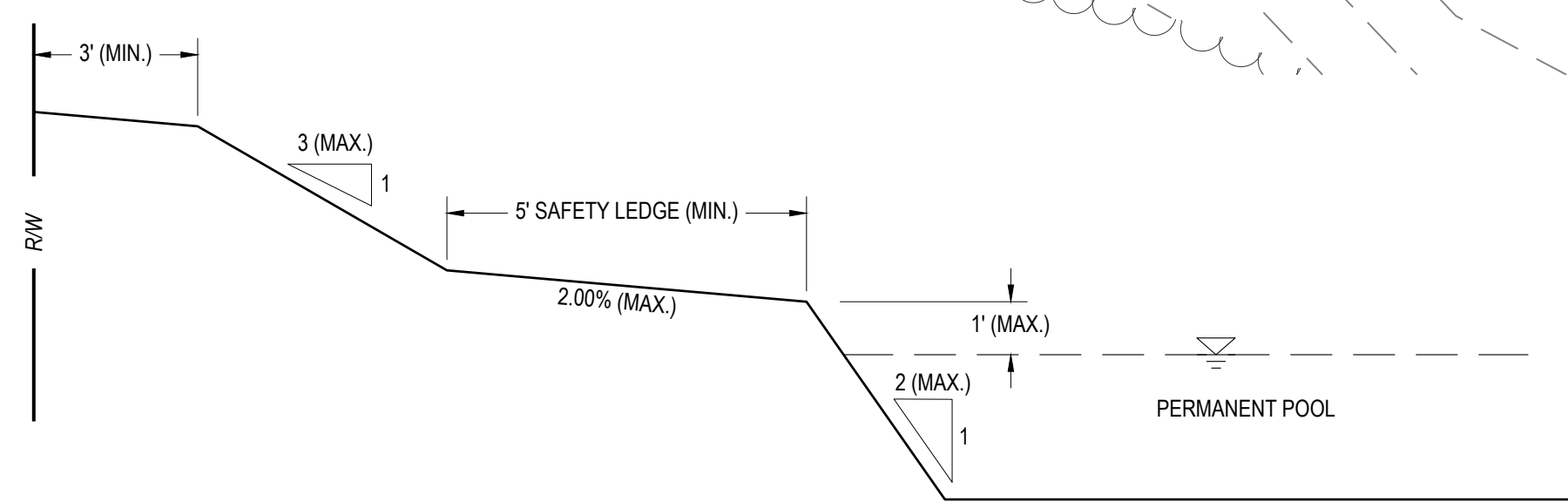
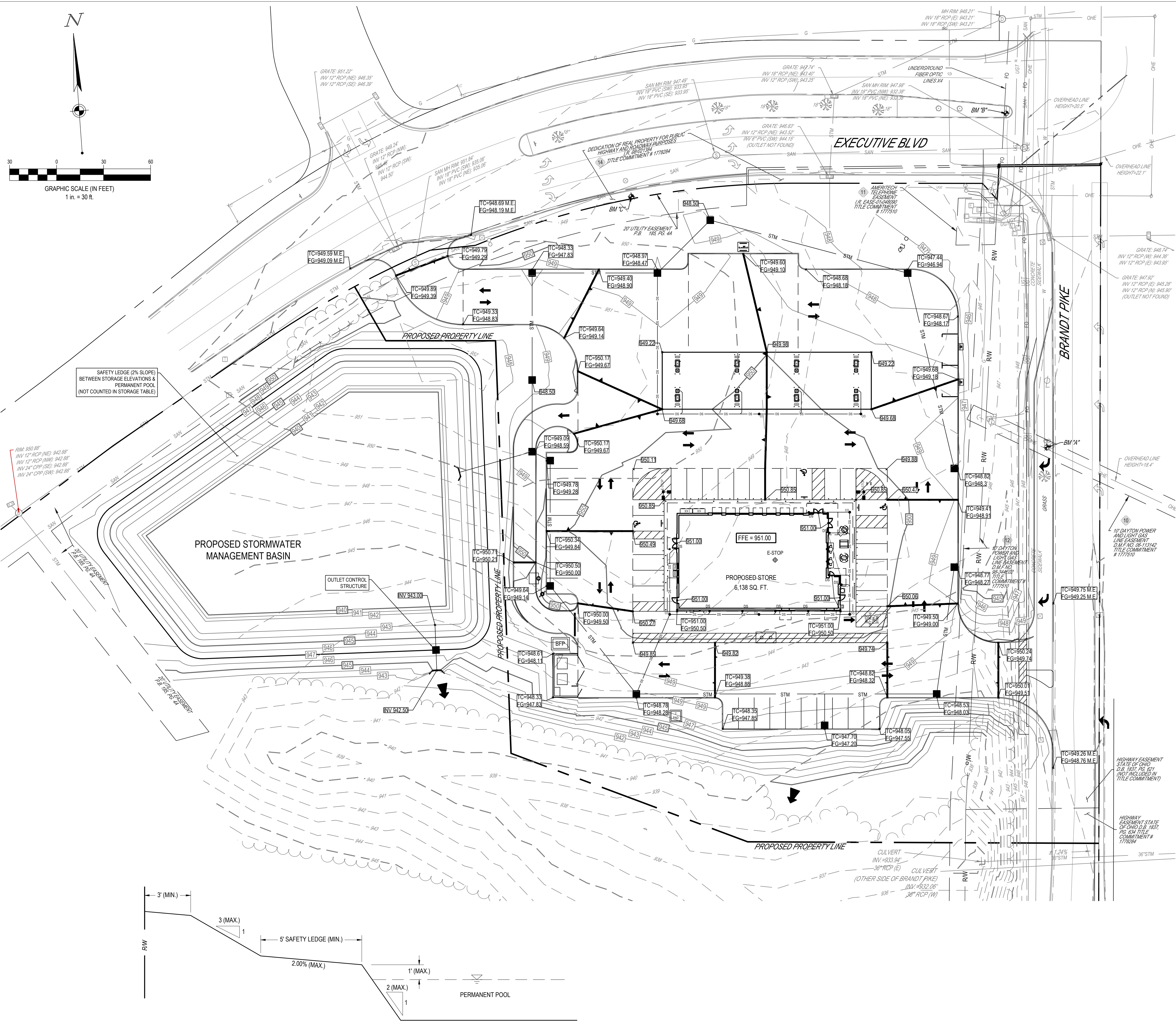


GRADING LEGEND

- EXISTING
REFER TO C1.0 FOR EXISTING FEATURES LEGEND
- PROPOSED
- BUILDING
 - MAJOR CONTOUR
 - MINOR CONTOUR
 - GRADE BREAK
 - CATCH BASIN
 - STORM MANHOLE
 - CLEANOUT
 - DOWNSPOUT
 - FINISHED GRADE ELEVATION
 - TOP OF CURB ELEVATION
 - FINISHED GRADE ELEVATION
 - MATCH EXISTING ELEVATION
 - FLOOD ROUTE

NOTE: DETAIL SHEETS NOT YET PROVIDED

NOTE: UTILITY DESIGN AND SITE GRADING SHOWN ON THIS PLAN IS PRELIMINARY AND NOT YET FINAL.



*DESIGNED BASED OFF OF THE RETENTION BASIN TYPICAL SECTION FOUND ON PAGE 92 OF THE MONTGOMERY COUNTY SUBDIVISION REGULATIONS



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HUBER HEIGHTS, OH 45424

Revisions / Submissions

ID	Description	Date

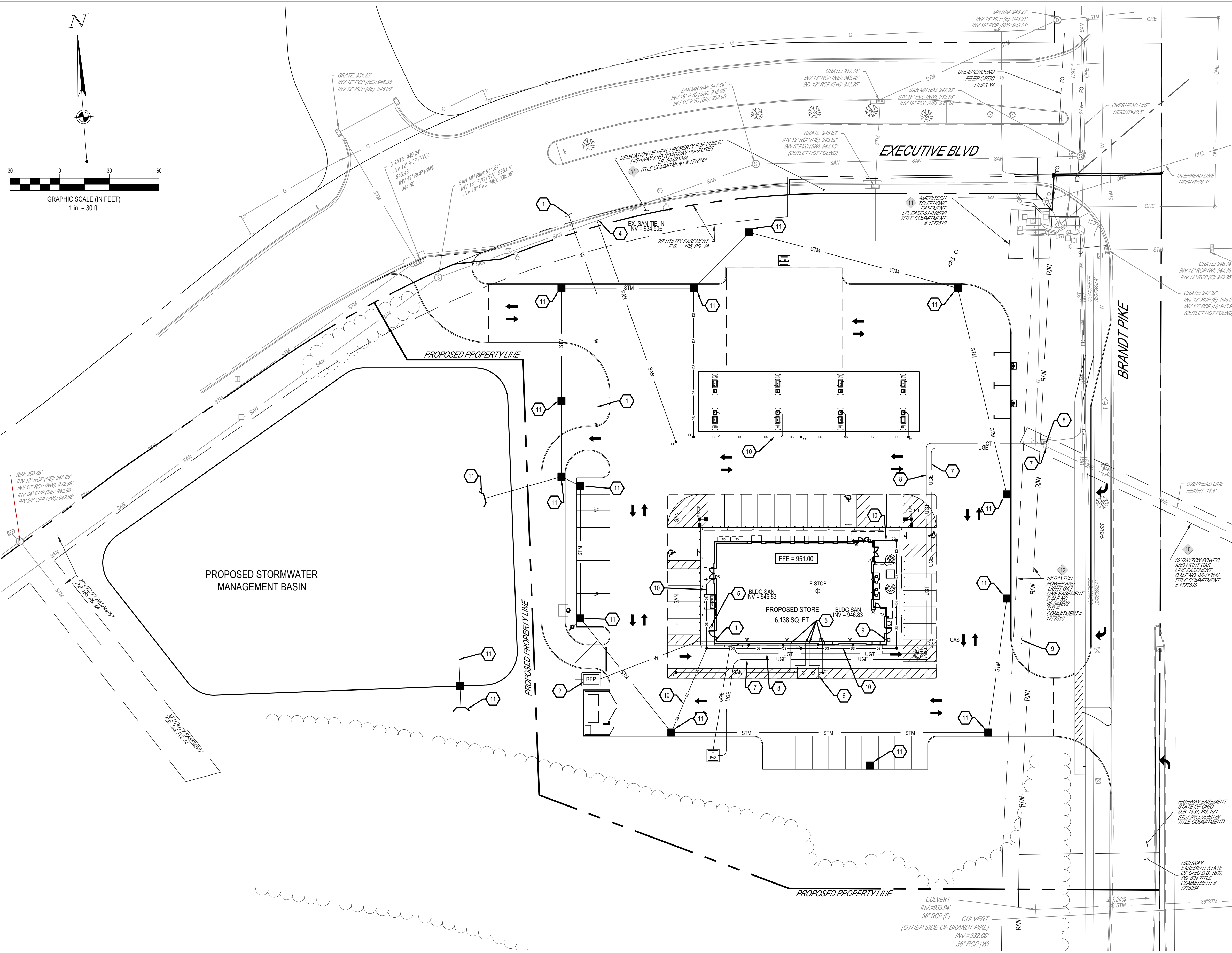
Project Number: 761668
Scale: AS SHOWN
Drawn By: MST
Checked By: BP
Date: 02.17.2023
Issue: NOT FOR CONSTRUCTION

Drawing Title:
PRELIMINARY GRADING PLAN



FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE. THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: OHIO UTILITIES PROTECTION SERVICE AT 811 OR 1 (800) 362-2764 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF OHIO UTILITIES PROTECTION SERVICE

C4.0



UTILITY LEGEND

REFER TO C1.0 FOR EXISTING FEATURES LEGEND

EXISTING		PROPOSED	
—	BUILDING	—	SEE ENLARGED PLAN, THIS SHEET
—	STORM SEWER LINE	—	STORM SEWER LINE
—	STORM DOWNSPOUT LINE	—	STORM DOWNSPOUT LINE
—	SANITARY SEWER LINE	—	SANITARY SEWER LINE
—	DOMESTIC WATER LINE	—	DOMESTIC WATER LINE
—	IRRIGATION LINE	—	IRRIGATION LINE
—	GAS SERVICE LINE	—	GAS SERVICE LINE
—	UNDERGROUND ELECTRIC LINE	—	UNDERGROUND ELECTRIC LINE
—	UNDERGROUND TELEPHONE LINE	—	UNDERGROUND TELEPHONE LINE
■	CATCH BASIN	■	CATCH BASIN
⊙	STORM SEWER	⊙	STORM SEWER
⊙	SANITARY SEWER	⊙	SANITARY SEWER
■	CURB INLET	■	CURB INLET
■	CLEANOUT	■	CLEANOUT
■	AREA DRAIN	■	AREA DRAIN
■	DOWNSPOUT	■	DOWNSPOUT
■	ELECTRICAL TRANSFORMER PAD	■	ELECTRICAL TRANSFORMER PAD
■	WATER VALVE	■	WATER VALVE
■	WATER METER	■	WATER METER
■	GAS METER	■	GAS METER

NOTE: DETAIL SHEETS NOT YET PROVIDED

NOTE: UTILITY DESIGN AND SITE GRADING SHOWN ON THIS PLAN IS PRELIMINARY AND NOT YET FINAL.

CONTRACTOR NOTE:

1. CONTRACTOR SHALL VERIFY ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES.

- CODED NOTES:**
- CONTRACTOR SHALL FURNISH AND INSTALL 2" WATER LINE FROM METER IN BUILDING TO NEW 2" TAP. NEW WATER TAPS WILL NEED TO BE INSTALLED AT WATER MAIN. CONTRACTOR SHALL COORDINATE WITH LOCAL JURISDICTION FOR ALL WORK WITHIN RIGHT-OF-WAY. METER AND BACKFLOW PREVENTOR SHALL BE WITHIN ENCLOSURE. WATER LINE SHALL BE TYPE "K" ASTM B88, WITH AWWA C800 FITTINGS, INSTALLED PER AWWA C800, OR APPROVED EQUAL.
 - PROPOSED WATER SERVICE ENCLOSURE WITH BACKFLOW PREVENTOR AND METER. SEE DETAILS ON SHEET C6.4.
 - PROPOSED 4" PVC IRRIGATION SLEEVES. SLEEVES SHALL BE MINIMUM 12" BELOW FINISHED GRADE. (NOT YET PROVIDED)
 - CONNECT 6" SDR-35 PVC SANITARY SERVICE (MINIMUM 1.00% SLOPE) TO EXISTING SANITARY CLEANOUT / MAIN PER LOCAL STANDARDS. CONTRACTOR SHALL FIELD LOCATE AND VERIFY EXISTING SANITARY CLEANOUT / MAIN PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENGINEER. CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS FOR FINAL CONNECTION.
 - COORDINATE UTILITIES WITH PLUMBING CONTRACTOR. CAP AND MARK FOR FUTURE CONNECTION. FINAL CONNECTION BY PLUMBING CONTRACTOR.
 - CONTRACTOR SHALL SUPPLY AND INSTALL BELOW GRADE 2,000 GALLON GREASE INTERCEPTOR. REFER TO UTILITY DETAILS, SHEET C6.3.
 - PROPOSED ELECTRIC LINE CONTRACTOR SHALL COORDINATE WITH THE POWER COMPANY FOR ALL STANDARDS FOR WORK. CONTRACTOR SHALL PROVIDE THE TRANSFORMER VAULT AND PAD, CT, METER SOCKET, CONDUIT AND CABLE, AND SECONDARY FINAL CONNECTION.
 - CONTRACTOR SHALL PROVIDE (2) 4" CONDUIT FOR TELEPHONE. CONTRACTOR SHALL VERIFY EXACT ROUTING AND TERMINATION REQUIREMENTS WITH UTILITY COMPANIES BEFORE STARTING WORK. CONTRACTOR SHALL COORDINATE WITH OTHER UTILITIES AND UTILIZE SHARED TRENCHING IF PERMITTED.
 - CONNECTION TO GAS MAIN. LOCAL GAS COMPANY SHALL FURNISH AND INSTALL GAS LINE FROM METER TO NEW TAP. THE CONTRACTOR SHALL INSTALL THE GAS LINE FROM THE METER TO THE BUILDING PER THE BUILDING DRAWINGS. CONTRACTOR SHALL FIELD LOCATE AND VERIFY EXISTING GAS MAIN PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENGINEER.
 - PROPOSED 4" & 6" PVC STORM LINE FROM DOWNSPOUTS TO STORM STRUCTURES (MIN. SLOPE 1.00% FOR 6", MIN. SLOPE 2.00% FOR 4"). REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DOWNSPOUT LOCATIONS. MAIN DOWNSPOUT TRUNK LINES SHALL BE 6". DOWNSPOUT LINES COMING DIRECTLY FROM THE BUILDING INTO THE MAIN DOWNSPOUT TRUNK LINES SHALL BE 4".
 - PROPOSED STORM STRUCTURE PER LOCAL STANDARDS.



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SHEETZ -
HUBER HEIGHTS, OH
EXECUTIVE BOULEVARD & BRANDT PIKE
HUBER HEIGHTS, OH 45424

Revisions / Submissions		
ID	Description	Date

Project Number: 761668
Scale: AS SHOWN
Drawn By: MST
Checked By: BP
Date: 02.17.2023
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PRELIMINARY UTILITY PLAN



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C5.0



12.28.2022

Traffic Impact Study

Proposed Sheetz Development



On behalf of:



Contact:

Skilken Gold
Kareem Amr
4270 Morse Road
Columbus, OH 43230

Preparation Date:

12/20/2022

Traffic Study

CLIENT Skilken Gold Real Estate Development

STORE #

LOCATION: Southwest corner of Brandt Pike & Executive Boulevard

ADDRESS

COUNTY Montgomery

CITY, STATE Huber Heights, OH

PREPARED BY Zachary Ruddick

CESO, Inc.

ADDRESS 175 Montrose W. Ave. Suite 400

CITY, STATE Akron, OH 44321

PHONE (330) 665-0660

DATE December 28th, 2022



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1. Executive Summary

1.1. Summary

This report is submitted on behalf of Skilken Gold Real Estate Development in connection with its application to the City of Huber Heights, Ohio (OH) for Site Plan approval. The Traffic Impact Study (TIS) conducted by CESO, Inc. addresses the traffic related impacts associated with the proposed Sheetz C-Store Development; referred to herein as “Sheetz Development.”

The proposed Sheetz Development is to be located in the southwest quadrant of the Brandt Pike and Executive Boulevard intersection, within the City of Huber Heights, OH. The full buildout of the Sheetz Development is projected to include an approximate 6,100 S.F. convenience market and 16 passenger car fueling positions.

Sheetz Site Plan application requests approval of the following access points:

- Full access driveway connection to Executive Boulevard that will be aligned with Lehman Lane (referred to as “Site Access #1”).
- Right-in (inbound only) access driveway (referred to as “Site Access #2”) approximately 150’ east of the Brandt Pike and Executive Boulevard Intersection (stop bar-to-centerline).
- $\frac{3}{4}$ access (right-in, right-out, left-in) driveway connection (referred to as “Site Access #3”) approximately 310’ south of the Brandt Pike and Executive Boulevard Intersection (stop bar-to-centerline).

The Traffic Impact Study focused on evaluating the Existing, 2023 No-Build, 2023 Build, 2033 No-Build and 2033 Design Year traffic conditions in the vicinity of the site.

1.2. Conclusions

The full buildout of the Sheetz is estimated to generate 5,532 trips per day on a typical weekday (2,766 inbound and 2,766 outbound), of which 506 trips will be generated during the Weekday AM Peak Hour (253 inbound and 253 outbound) and 430 trips will be generated during the Weekday PM Peak Hour (215 inbound and 215 outbound).

Pass-by trips were included in the analysis.

Trips for the proposed Sheetz Development are anticipated to approach and depart the Site following the distribution patterns illustrated on Figures 6.A-6.B (see pg. 27-28).

Highway Capacity Software (HCS) Version 8.2 methodology was used to analyze the current level of service at the key study intersections. *Note: According to the ODOT Analysis and Traffic Simulation Manual (OATS), Section 5.9, the operational goals for intersection analyses (TWSC and Signalized) are to operate at overall LOS “D” or better conditions and for each movement to operate at LOS “E” or better conditions.*

Under the **2022 Existing Traffic Scenario**, all study intersections operate at an overall level of service (LOS) “B” or better conditions. Additionally, all individual study intersection movements operate at a LOS “C” or better conditions.

Under the **2023 No-Build Traffic Scenario**, all study intersections operate at an overall level of service (LOS) “B” or better conditions. Additionally, all individual study intersection movements operate at a LOS “C” or better conditions.

Under the **2023 Build Traffic Scenario**, all study intersections operate at an overall level of service (LOS) “C” or better conditions. Additionally, all individual study intersection movements operate at a LOS “D” or better conditions.

Under the **2033 No-Build Traffic Scenario**, all study intersections operate at an overall level of service (LOS) “C” or better conditions. Additionally, all individual study intersection movements operate at a LOS “C” or better.

Under the **2033 Design Year Traffic Scenario**, all study intersections operate at an overall level of service (LOS) “C” or better conditions. Additionally, all individual study intersection movements operate at a LOS “D” or better conditions.

CESO conducted turn lane analyses for the study network and reached the following conclusions:

- According to ODOT Chart 401-5a and 401-5c, inbound left-turn lanes **are warranted** at Site Access #1 (WBL) and Site Access #3 (NBL) under the 2023 Build and 2033 Design Year Traffic Scenarios.
- According to ODOT Chart 401-6a and 401-6c an inbound (SBR) right-turn lane **is warranted** at Site Access #3 under the 2023 Build and 2033 Design Year Traffic Scenarios.

CESO conducted queue length analyses for the study network and reached the following conclusions:

- Under all analyzed traffic scenarios, 95th percentile queue lengths do not exceed existing or proposed storage lengths.

1.3. Summary of Recommendations

The following summary of recommendations was generated based upon the findings in the Traffic Impact Study.

2023 No-Build Traffic Scenario (Responsibility – Others):

- No improvements are recommended or required.

2023 Build Traffic Scenario (Responsibility – Sheetz):

Executive Boulevard & Lehman Lane/Site Access #1:

- Construct Site Access Driveway #1 to permit left-in, left-out, right-in, and right-out (full-access) vehicle movements. Provide one (1) inbound lane and one (1) outbound shared left and right-turn lane.
- Construct one (1) westbound-to-southbound (WBL) turn lane to provide 165' of storage and a 50' taper.

Executive Boulevard & Site Access #2:

- Construct Site Access Driveway #2 to permit right-in (inbound only) vehicle movements.

Brandt Pike & Site Access #3:

- Construct Site Access Driveway #3 to permit left-in, right-in, and right-out (¾ access) vehicle movements. Provide one (1) inbound lane and one (1) outbound right-turn lane.
- Construct one (1) northbound-to-westbound (NBL) turn lane to provide 165' of storage and a 50' taper.
- Construct one (1) southbound-to-westbound (SBR) turn lane to provide 165' of storage and a 50' taper.

2033 No-Build Traffic Scenario (Responsibility – Others):

- No additional improvements are recommended or required.

2033 Design Year Traffic Scenario (Responsibility – Sheetz):

- No additional improvements are recommended or required.

2. Introduction

This report is submitted on behalf of Skilken Gold Real Estate Development in connection with its application to the City of Huber Heights, Ohio (OH) for Site Plan approval. The Traffic Impact Study (TIS) conducted by CESO, Inc. addresses the traffic related impacts associated with the proposed Sheetz C-Store Development; referred to herein as “Sheetz Development.”

The proposed Sheetz Development is to be located in the southwest quadrant of the Brandt Pike and Executive Boulevard intersection, within the City of Huber Heights, OH. The full buildout of the Sheetz Development is projected to include an approximate 6,100 S.F. convenience market and 16 passenger car fueling positions.

Sheetz Site Plan application requests approval of the following access points:

- Full access driveway connection to Executive Boulevard that will be aligned with Lehman Lane (referred to as “Site Access #1”).
- Right-in only access driveway (referred to as “Site Access #2”) approximately 150’ east of the Brandt Pike and Executive Boulevard Intersection (stop bar-to-centerline).
- $\frac{3}{4}$ access (Right-in, Right-out, Left-in) driveway connection (referred to as “Site Access #3”) approximately 310’ south of the Brandt Pike and Executive Boulevard Intersection (stop bar-to-centerline).

This report presents the methodologies, analyses, and results of the Traffic Impact Study (TIS) for traffic generated by the proposed Sheetz Development. The purpose of the TIS was to identify the traffic related impacts, if any, during typical weekday AM and PM peak hours of the adjacent street traffic corresponding with the weekday hours of operation for the proposed Sheetz Development. The study parameters of this report were generated based upon a conceptual site plan and a Memorandum of Understanding (MOU) dated November 7th, 2022, between CESO and the City of Huber Heights outlining the TIS scope (see Appendix A).

Additionally, the Sheetz Site Plan application also requests approval to conduct work within public right-of-way to construct the proposed access driveways along with recommended roadway improvements. Brandt Pike, Executive Boulevard, and Lehman Lane are all under the jurisdiction of the City of Huber Heights.

The following intersections were analyzed in the Traffic Impact Study:

- Brandt Pike & Executive Boulevard (Signal Controlled).
- Executive Boulevard & Lehman Lane (Stop Sign Controlled).

The following traffic scenarios were included in the analysis:

2022 Existing Traffic Scenario – Represents traffic conditions during the weekday AM and PM Peak Hours of the adjacent roadway network that would exist during year 2022, without the proposed Sheetz Development.

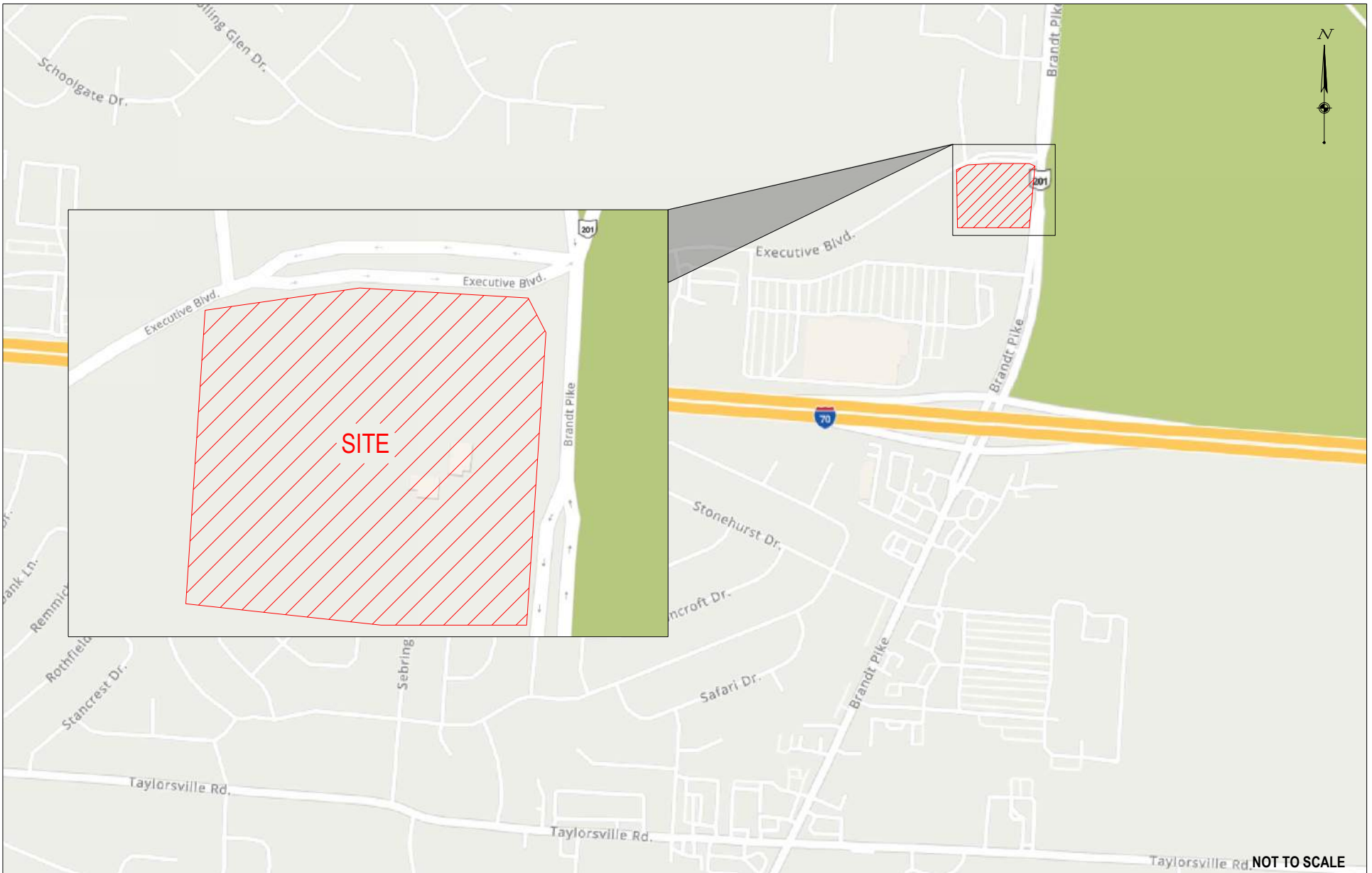
2023 No-Build Traffic Scenario – Represents traffic conditions during the weekday AM and PM Peak Hours of the adjacent roadway network that would exist during year 2023, without the proposed Sheetz Development.

2023 Build Traffic Scenario – Represents traffic conditions during the weekday AM and PM Peak Hours of the adjacent roadway network that would exist during year 2023, with the proposed Sheetz Development.

2033 No-Build Traffic Scenario – Represents traffic conditions during the weekday AM and PM Peak Hours of the adjacent roadway network that would exist during year 2033, without the proposed Sheetz Development.

2033 Design Year Traffic Scenario – Represents traffic conditions during the weekday AM and PM Peak Hours of the adjacent roadway network that would exist during year 2033, with the proposed Sheetz Development.

Figure 1 illustrates the Site location with respect to the study area and Figure 2 illustrates the Site Plan for the proposed Sheetz Development.

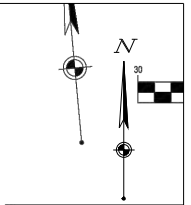


SITE LOCATION

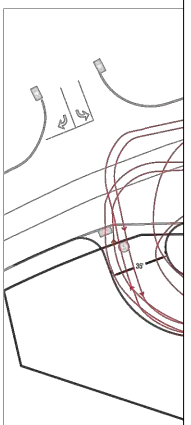
SHEETZ DEVELOPMENT

FIGURE 1

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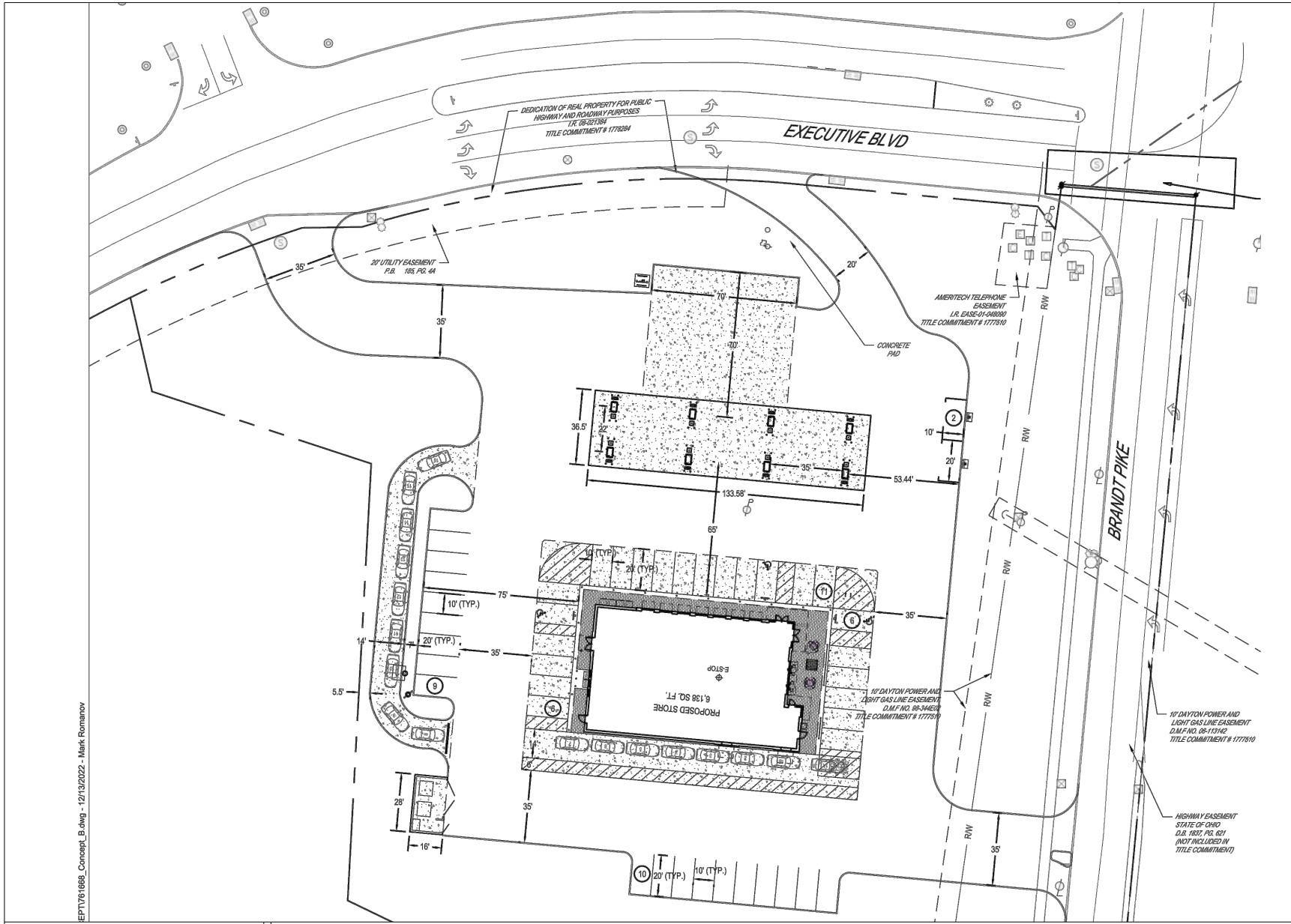
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FIGURE 2

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SITE PLAN

SHEETZ DEVELOPMENT

CITY OF HUBER HEIGHTS

MONTGOMERY COUNTY, OH

2.1. Study Procedure

The following studies and analyses were undertaken:

1. Traffic turning movement counts were conducted by Gewalt Hamilton Associates, Inc. (GHA) on Tuesday, December 6th, 2022, between the morning hours of 7:00 AM to 9:00 AM and evening hours of 4:00 PM to 6:00 PM at the following study intersections:
 - Brandt Pike & Executive Boulevard (Signal Controlled).
 - Executive Boulevard & Lehman Lane (Stop Sign Controlled).
2. The Existing Traffic Volumes (Year 2022) – Cars and Trucks (Figure 4.A) were reviewed and balanced. The car and truck volumes listed in Figure 4.A were combined to form the Existing Traffic Volumes (Year 2022) – Total Volumes (Figure 4.B) for simplicity.
3. Capacity analyses of the 2022 Existing Traffic Volumes (Figures 4.A-4.B) were completed to determine the capacity of the key study intersections during AM and PM Peak Hours using Highway Capacity Software (HCS) Version 8.2 methodology.
4. The 2023 No-Build Traffic Volumes – Cars and Trucks (Figure 5.A) were calculated by applying growth rates to the 2022 Existing Traffic Volumes (Figure 4.A). Growth rates were calculated using the linear regression method referenced in the *Ohio Traffic Forecasting Manual, Volume 2, Section 4.2* for Brandt Pike. As such, a conservative linear annual growth rate of 1.0 percent (%) was selected and applied for one (1) year to the study roadways (growth factor of 1.01) to simulate 2023 No-Build Traffic Volumes. The car and truck volumes shown on Figure 5.A were combined to form the 2023 No-Build Traffic Volumes – Total Volumes (Figure 5.B) for simplicity.
5. Capacity analyses of the 2023 No-Build Traffic Volumes (Figures 5.A-5.B) were completed to determine the capacity of the key study intersections during AM and PM Peak Hours using Highway Capacity Software (HCS) Version 8.2 methodology.
6. Directional distribution analyses were conducted to determine the potential distribution of patrons for the proposed Sheetz Development under the 2023 Build/2033 Design Year Traffic Scenarios (see Figures 6.A-6.B).
7. Trip generation analyses were conducted to determine the potential traffic volumes generated by the proposed Sheetz Development under the 2023 Build and 2033 Design Year Traffic Scenarios utilizing data provided in the Institute of Transportation Engineers' *Trip Generation Manual, 11th Edition* (see Table 5).
8. Site Generated Traffic Volumes (Figures 7.A-7.B) were added to the 2023 No-Build Traffic Volumes (Figures 5.A-5.B) to reflect the 2023 Build Traffic Volumes (Figures 8.A-8.B).
9. Capacity analyses of the 2023 Build Traffic Volumes (Figures 8.A-8.B) were completed to determine the capacity of the key study intersections during AM and PM Peak Hours using HCS Version 8.2 methodology.
10. The 2033 No-Build Traffic Volumes – Cars and Trucks (Figure 9.A) were calculated by applying growth rates to the 2022 Existing Traffic Volumes (Figure 4.A). A conservative linear annual growth rate of 1.0 percent (%) was applied for eleven (11) years to the study roadways (growth factor of 1.11) to simulate 2033 No-Build Traffic Volumes. The car and truck volumes shown on Figure 9.A were combined to form the 2033 No-Build Traffic Volumes – Total Volumes (Figure 9.B) for simplicity.

11. Capacity analyses of the 2033 No-Build Traffic Volumes (Figures 9.A-9.B) were completed to determine the capacity of the key study intersections during AM and PM Peak Hours using HCS Version 8.2 methodology.
12. Site Generated Traffic Volumes (Figures 7.A-7.B) were added to the 2033 No-Build Traffic Volumes (Figures 9.A-9.B) to reflect the 2033 Design Year Traffic Volumes (Figures 10.A-10.B).
13. Capacity analyses of the 2033 Design Year Traffic Volumes (Figures 10.A-10.B) were completed to determine the capacity of the study intersections during AM and PM Peak Hours using HCS Version 8.2 methodology.
14. Turn lane analyses were completed to determine if left-turn lanes or right-turn lanes were required as a result of the Sheetz Development. Turn-lane analyses utilized ODOT charts for unsignalized free-flowing approaches and capacity analyses results for signal-controlled intersections.
15. Queue Length Analyses were completed using the 95th percentile queue lengths generated by HCS Version 8.2.
16. Recommendations for roadway improvements were generated under the 2033 Design Year Traffic Scenario based upon the capacity/queue length analyses of the surrounding roadway network.

2.2. References

This report utilizes information provided by the following sources:

1. *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis*. Transportation Research Board, Washington, D.C., 2016.
2. *Trip Generation Manual*. 11th ed. Washington, DC: Institute of Transportation Engineers, 2022.
3. Most recent Site Plan obtained from Sheetz.
4. "Huber Heights, OH." 39°52'17" N and 84°06'00" W, *Google Earth*. November 30th, 2022.
5. *Location & Design Manual – Volume I (July 2022)*. Ohio Department of Transportation (ODOT).
6. *State Highway Access Management Manual (July 2021)*. Ohio Department of Transportation – Office of Roadway Engineering.
7. *ODOT Analysis and Traffic Simulation Manual (OATS, July 2021)*. Ohio Department of Transportation (ODOT).

3. Roadway and Traffic Conditions in the Vicinity of the Site

An inventory of existing transportation conditions in the vicinity of the Site was created to form a database for use in projecting future build conditions.

3.1. Study Location and Area Land Use

The proposed Sheetz Development is to be located in the southwest quadrant of the Brandt Pike and Executive Boulevard intersection, within the City of Huber Heights, OH. Regional land use in the Site vicinity is primarily residential while land use in the immediate vicinity of the Site is commercial. The Site is in close proximity to a nearby Meijer grocery store, Walmart Supercenter, Rose Music Center, and interstate 70 (I-70).

Access to the proposed Sheetz Development is proposed via following three (3) access points:

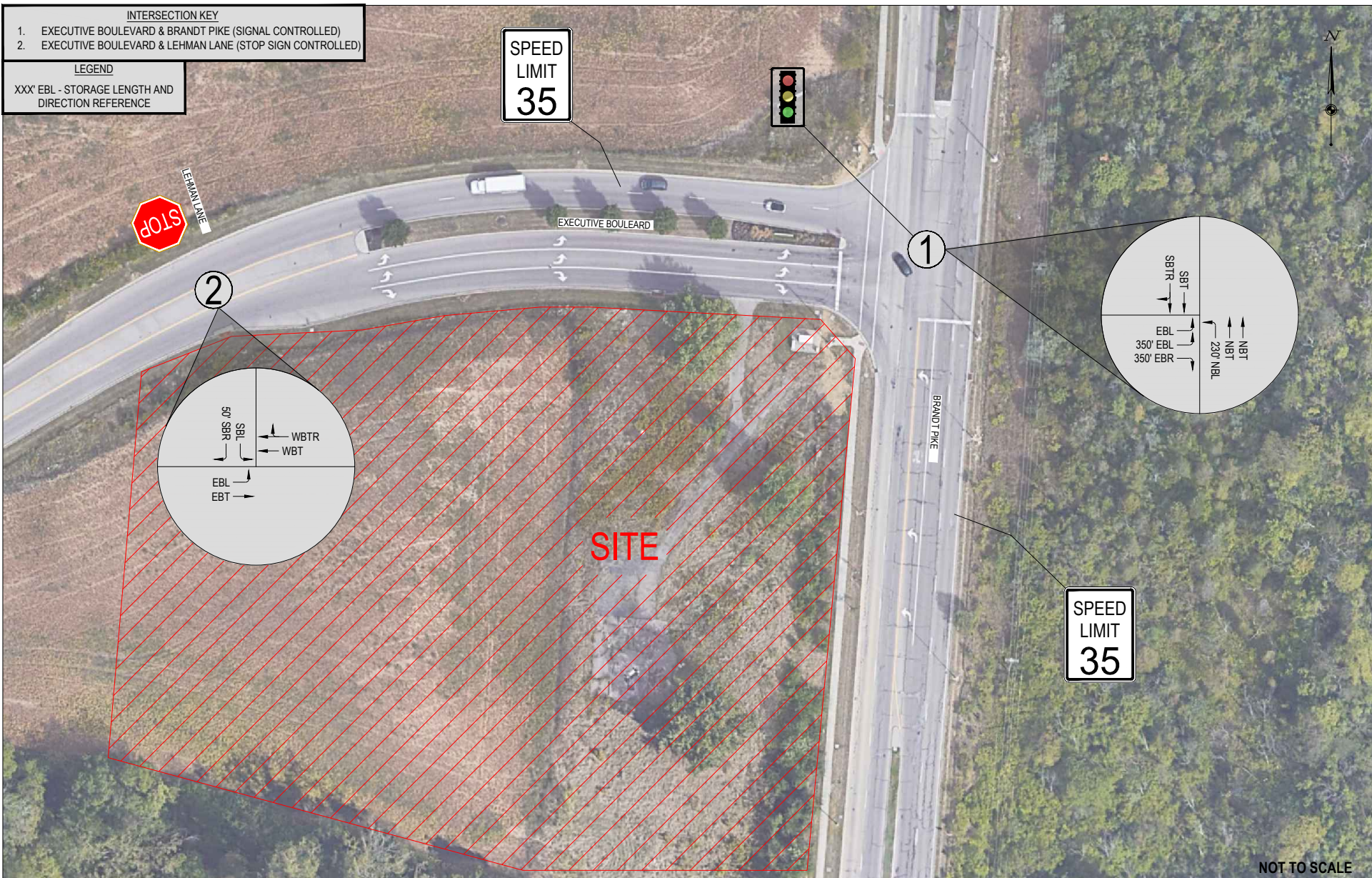
- Full access driveway connection to Executive Boulevard that will be aligned with Lehman Lane (referred to as "Site Access #1").
- Right-in (inbound only) access driveway (referred to as "Site Access #2") approximately 150' east of the Brandt Pike and Executive Boulevard Intersection (stop bar-to-centerline).
- $\frac{3}{4}$ access (Right-in, Right-out, Left-in) driveway connection (referred to as "Site Access #3") approximately 310' south of the Brandt Pike and Executive Boulevard Intersection (stop bar-to-centerline).

3.2. Area Roadway Characteristics

Brandt Pike – Brandt Pike is a four-lane, two-way roadway that runs in the north/southbound direction in the vicinity of the Site. Brandt Pike is classified as a minor arterial roadway according to the *ODOT Transportation Information Mapping System*. In the Site vicinity, Brandt Pike has a posted speed limit of 35 mph and is under the jurisdiction of the City of Huber Heights.

Executive Boulevard – Executive Boulevard is a two-lane, two-way roadway that runs in the east/westbound direction in the vicinity of the Site. Executive Boulevard is classified as a major collector roadway according to the *ODOT Transportation Information Mapping System*. In the Site vicinity, Executive Boulevard has a posted speed limit of 35 mph and is under the jurisdiction of the City of Huber Heights.

The Existing Transportation System is shown on Figure 3 of the report.



NOT TO SCALE

3.3. Existing Traffic Volumes

Traffic turning movement counts were conducted by Gewalt Hamilton Associates, Inc. (GHA) on Tuesday, December 6th, 2022, between the morning hours of 7:00 AM to 9:00 AM and evening hours of 4:00 PM to 6:00 PM at the following intersections:

- Brandt Pike & Executive Boulevard (Signal Controlled).
- Executive Boulevard & Lehman Lane (Stop Sign Controlled).

The weekday peak hours of the study roadway network were determined to occur between the hours of:

- 7:15 AM – 8:15 AM (AM Peak Hour).
- 4:45 PM – 5:45 PM (PM Peak Hour).

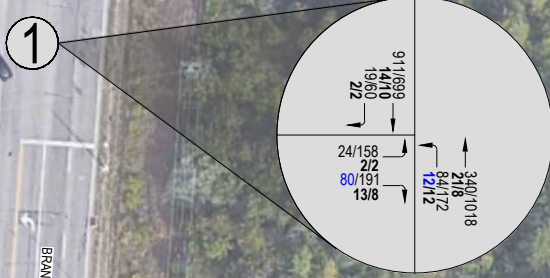
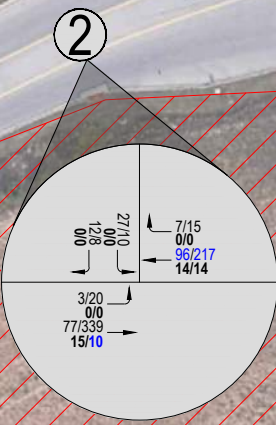
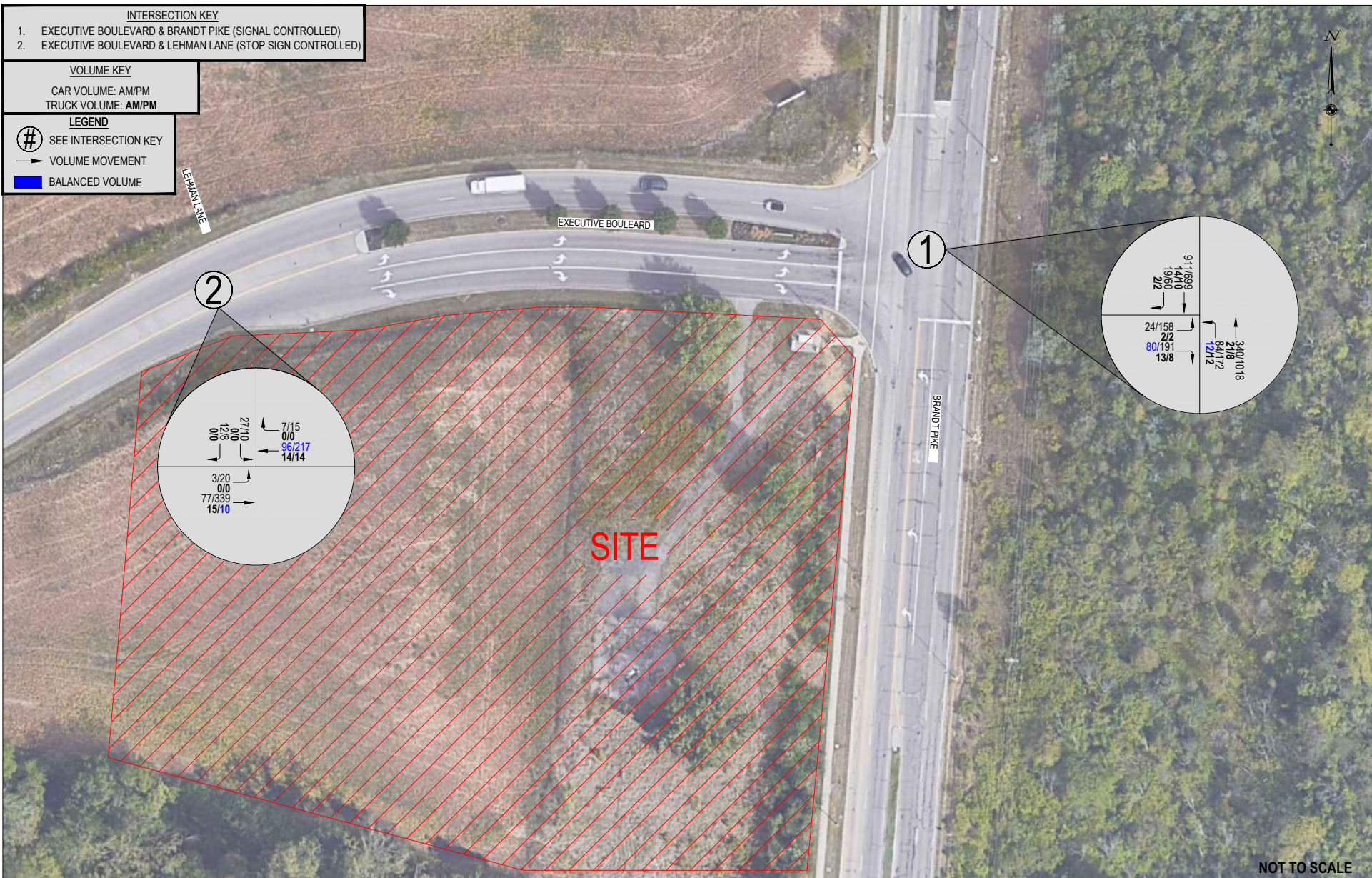
Count data collected consists of turning movement counts with classification breakouts of lights, buses, single-unit trucks, and articulated trucks.

The Existing Traffic Count Data and Signal Timing Sheets are located in Appendix B of the report. The Existing Weekday Peak Hour Traffic Volumes (Year 2022) are illustrated on Figure 4.A (Cars and Trucks) and Figure 4.B (Total Volumes).

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE (STOP SIGN CONTROLLED)

VOLUME KEY
 CAR VOLUME: AM/PM
 TRUCK VOLUME: AM/PM

- LEGEND**
- # SEE INTERSECTION KEY
 - VOLUME MOVEMENT
 - BALANCED VOLUME



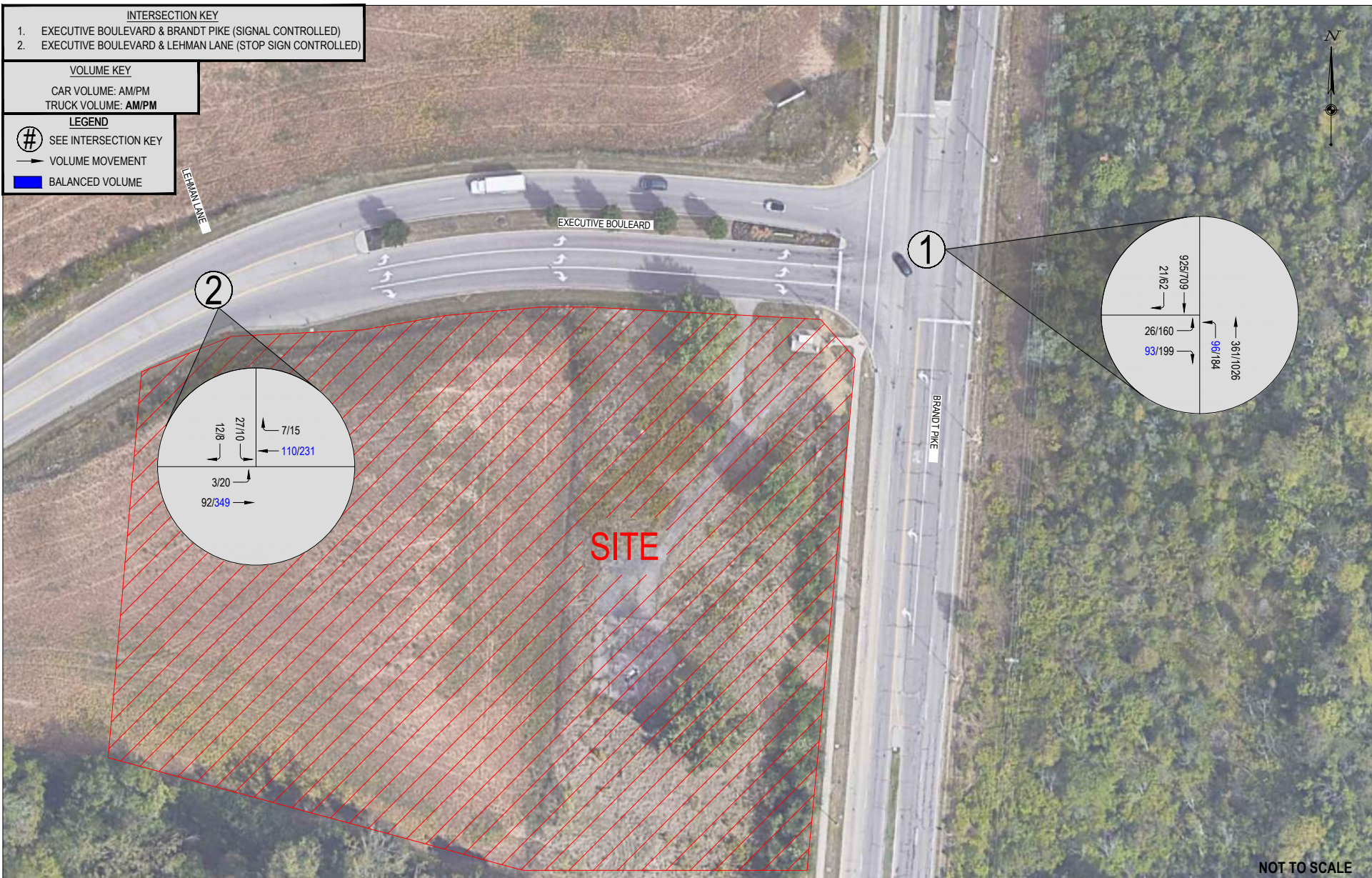
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EXISTING WEEKDAY PEAK HOUR TRAFFIC VOLUMES (YEAR 2022) - CARS & TRUCKS

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE (STOP SIGN CONTROLLED)

VOLUME KEY
 CAR VOLUME: AM/PM
 TRUCK VOLUME: AM/PM

- LEGEND**
- # SEE INTERSECTION KEY
 - VOLUME MOVEMENT
 - BALANCED VOLUME



NOT TO SCALE



EXISTING WEEKDAY PEAK HOUR TRAFFIC VOLUMES (YEAR 2022) - TOTAL VOLUMES

SHEETZ DEVELOPMENT	
CITY OF HUBER HEIGHTS	MONTGOMERY COUNTY, OH

FIGURE 4.B

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3.4. Capacity Analysis Parameters

The capacity of an intersection (signalized or unsignalized) can best be described by its corresponding Level of Service (LOS). The level of service of an intersection is a qualitative measure of the various attributes of an intersection. There are six levels of service ranging from “ideal” free flow conditions at LOS “A”, to forced or “breakdown” conditions at LOS “F”.

The level of service for unsignalized intersections is based upon total delay. Total delay is defined in the HCM as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position. Table 1 summarizes the LOS definitions for unsignalized intersections. Throughout the report “unsignalized intersections” are commonly referred to as “stop controlled.”

**Table 1
 Level of Service Criteria (Unsignalized Intersections)**

Level of Service (LOS)	Delay per Vehicle (Sec.)	Description
A	≤ 10.0	Little or no delay.
B	> 10.0 and ≤ 15.0	Short traffic delays.
C	> 15.0 and ≤ 25.0	Average traffic delays.
D	> 25.0 and ≤ 35.0	Long traffic delays.
E	> 35.0 and ≤ 50.0	Very long traffic delays.
F	> 50.0	Extreme traffic delays.

Source: *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis*. Transportation Research Board.

The level of service for signalized intersections is based upon the average stopped delay per vehicle for various movements within the intersection. Although the volume-to-capacity ratio (v/c) affects delay, there are other parameters that more strongly affect it, such as the quality of progression, length of green phases, cycle lengths, and others. Thus, for any given v/c ratio, a range of delay values may result, and vice versa. Table 2 summarizes the LOS definitions for signalized intersections.

**Table 2
 Level of Service Criteria (Signalized Intersections)**

Level of Service (LOS)	Delay per Vehicle (Sec.)	Description
A	< 10.0	Most vehicles do not stop at all.
B	> 10.0 and ≤ 20.0	More vehicles stop than with LOS A.
C	> 20.0 and ≤ 35.0	The number of vehicles stopping is significant, although many pass through without stopping.
D	> 35.0 and ≤ 55.0	Many Vehicles stop. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	Considered to be the limit of acceptable delay. Individual cycle failures are frequent.
F	> 80.0	Unacceptable delay.

Source: *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis*. Transportation Research Board.

Per Section 8.2.1 of the OATS Manual, the capacity results presented in the tables below shall be highlighted using the following color scheme:

- LOS D = Yellow
- LOS E = Orange
- LOS F = Red
- v/c ratio > 0.93 = Orange
- v/c ratio ≥ 1.0 = Red
- Queue-Storage Ratio (QSR) ≥ 1.0 = Red

Note: According to the ODOT Analysis and Traffic Simulation Manual (OATS), Section 5.9, the operational goals for intersection analyses (TWSC and Signalized) are to operate at overall LOS D or better conditions and for each movement to operate at LOS E or better conditions.

3.5. Existing Traffic Scenario Capacity Analysis

Utilizing the Existing Weekday Peak Hour Traffic Volumes (Year 2022) shown on Figures 4.A and Figure 4.B, capacity calculations were performed for the key study intersections. All capacity calculations within the TIS followed procedures documented in the *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis (Transportation Research Board, 2016)*. The capacity analyses were completed using HCS Version 8.2 Signalized/TWSC methodology. Table 3 summarizes the capacity analysis results for the Existing Traffic Scenario.

**Table 3
 Summary of Existing Traffic Scenario Capacity Analysis**

Lane	AM Peak Hour					PM Peak Hour				
	LOS	Delay (sec/veh)	v/c	QSR	95 th %ile Queue (ft)	LOS	Delay (sec/veh)	v/c	QSR	95 th %ile Queue (ft)
Brandt Pike & Executive Boulevard (Signal Controlled)										
Intersection	B	19.0	--	--	--	B	15.3	--	--	--
EBL	C	29.9	0.041	0.04	13.8	C	31.3	0.216	0.24	75.9
EBR	C	20.2	0.189	0.26	80.1	C	21.7	0.345	0.51	157.8
EB Approach	C	22.3	--	--	--	C	26.0	--	--	--
NBL	B	12.0	0.245	0.19	42.7	B	10.7	0.360	0.33	76.4
NBT	A	6.7	0.184	0.06	72.2	A	8.5	0.466	0.17	223.0
NB Approach	A	7.8	--	--	--	A	8.9	--	--	--
SBT	C	24.0	0.663	0.86	385.9	C	20.5	0.505	0.62	279.4
SBTR	C	24.0	0.663	0.85	377.4	C	20.6	0.506	0.61	268.9
SB Approach	C	24.0	--	--	--	C	20.5	--	--	--
Executive Boulevard & Lehman Lane (Stop Sign Controlled)										
Intersection	--	--	--	--	--	--	--	--	--	--
EBL	A	7.7	0.00	--	0.0	A	8.0	0.02	--	2.5
EB Approach	A	0.2	--	--	--	A	0.4	--	--	--
SBL	B	10.4	0.05	--	5.0	B	14.6	0.03	--	2.5
SBR	A	8.8	0.02	--	0.0	A	9.1	0.01	--	0.0
SB Approach	A	9.9	--	--	--	B	12.1	--	--	--
L – Left T – Through R – Right										

Under the **2022 Existing Traffic Scenario**, all study intersections operate at an overall level of service (LOS) “B” or better conditions. Additionally, all individual intersection movements operate at a LOS “C” or better conditions.

The 2022 Existing Capacity Analysis Summary Sheets are included in Appendix C of the report.

4. Estimates of 2023 No-Build Traffic in the Vicinity of the Site

4.1. 2023 No-Build Traffic Volumes

The 2023 No-Build Traffic Volumes – Cars and Trucks (Figure 5.A) were calculated by applying growth rates to the 2022 Existing Traffic Volumes (Figure 4.A). Growth rates were calculated using the linear regression method referenced in the *Ohio Traffic Forecasting Manual, Volume 2, Section 4.2* for Brandt Pike. As such, a conservative linear annual growth rate of 1.0 percent (%) was selected and applied for one (1) year to the study roadways (growth factor of 1.01) to simulate 2023 No-Build Traffic Volumes. The car and truck volumes shown on Figure 5.A were combined to form the 2023 No-Build Traffic Volumes – Total Volumes (Figure 5.B) for simplicity. Growth rate documentation is included in Appendix D.

4.2. 2023 No-Build Traffic Scenario Capacity Analysis

Utilizing the 2023 No-Build Traffic Volumes shown on Figures 5.A and Figure 5.B, capacity calculations were performed for the key study intersections. All capacity calculations within the TIS followed procedures documented in the *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis (Transportation Research Board, 2016)*. The capacity analyses were completed using HCS Version 8.2 Signalized/TWSC methodology. Table 4 summarizes the capacity analysis results for the 2023 No-Build Traffic Scenario.

Table 4
Summary of 2023 No-Build Traffic Scenario Capacity Analysis

Lane	AM Peak Hour					PM Peak Hour				
	LOS	Delay (sec/veh)	v/c	QSR	95 th %ile Queue (ft)	LOS	Delay (sec/veh)	v/c	QSR	95 th %ile Queue (ft)
Brandt Pike & Executive Boulevard (Signal Controlled)										
Intersection	B	19.1	--	--	--	B	15.4	--	--	--
EBL	C	29.9	0.041	0.04	13.8	C	31.3	0.218	0.25	76.8
EBR	C	20.2	0.191	0.26	81.2	C	21.8	0.349	0.51	159.6
EB Approach	C	22.3	--	--	--	C	26.0	--	--	--
NBL	B	12.1	0.249	0.19	43.2	B	10.8	0.366	0.34	77.5
NBT	A	6.7	0.186	0.06	73.1	A	8.6	0.470	0.17	225.3
NB Approach	A	7.8	--	--	--	A	8.9	--	--	--
SBT	C	24.2	0.670	0.87	391.0	C	20.6	0.511	0.63	282.3
SBTR	C	24.2	0.670	0.86	382.4	C	20.6	0.511	0.61	271.6
SB Approach	C	24.2	--	--	--	C	20.6	--	--	--
Executive Boulevard & Lehman Lane (Stop Sign Controlled)										
Intersection	--	--	--	--	--	--	--	--	--	--
EBL	A	7.7	0.00	--	0.0	A	8.0	0.02	--	2.5
EB Approach	A	0.2	--	--	--	A	0.4	--	--	--
SBL	B	10.4	0.05	--	5.0	B	14.7	0.03	--	2.5
SBR	A	8.8	0.02	--	0.0	A	9.1	0.01	--	0.0
SB Approach	A	9.9	--	--	--	B	12.2	--	--	--
L – Left T – Through R – Right										

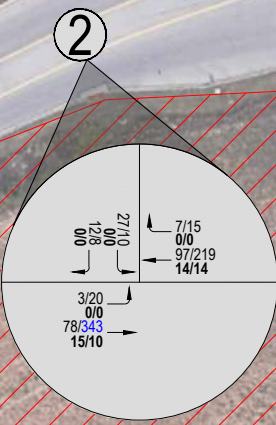
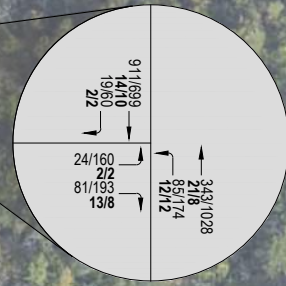
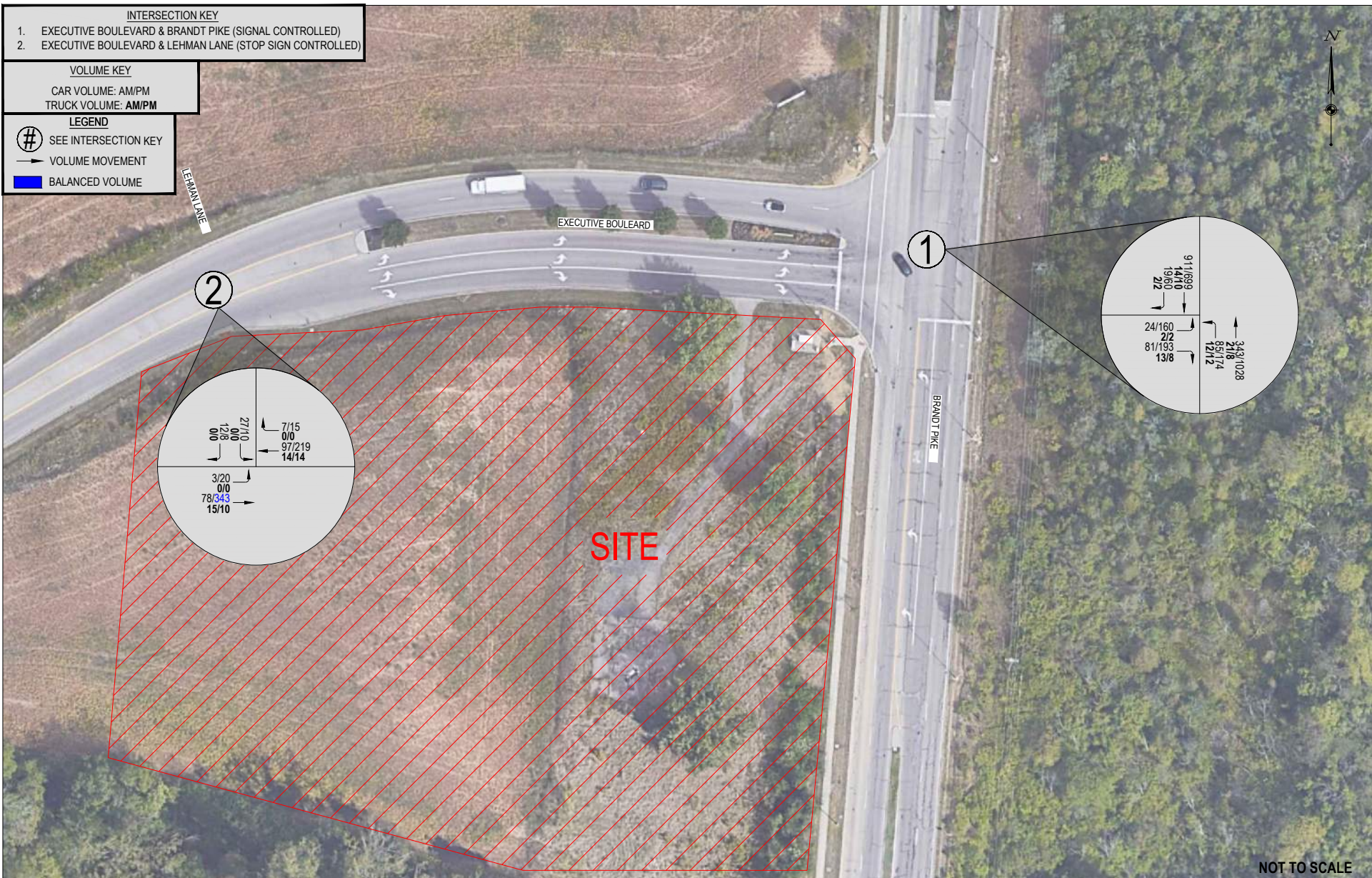
Under the **2023 No-Build Traffic Scenario**, all study intersections operate at an overall level of service (LOS) “B” or better conditions. Additionally, all individual intersection movements operate at a LOS “C” or better conditions.

The 2023 No-Build Capacity Analysis Summary Sheets are included in Appendix E of the report.

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE (STOP SIGN CONTROLLED)

VOLUME KEY
 CAR VOLUME: AM/PM
 TRUCK VOLUME: AM/PM

- LEGEND**
- # SEE INTERSECTION KEY
 - VOLUME MOVEMENT
 - BALANCED VOLUME



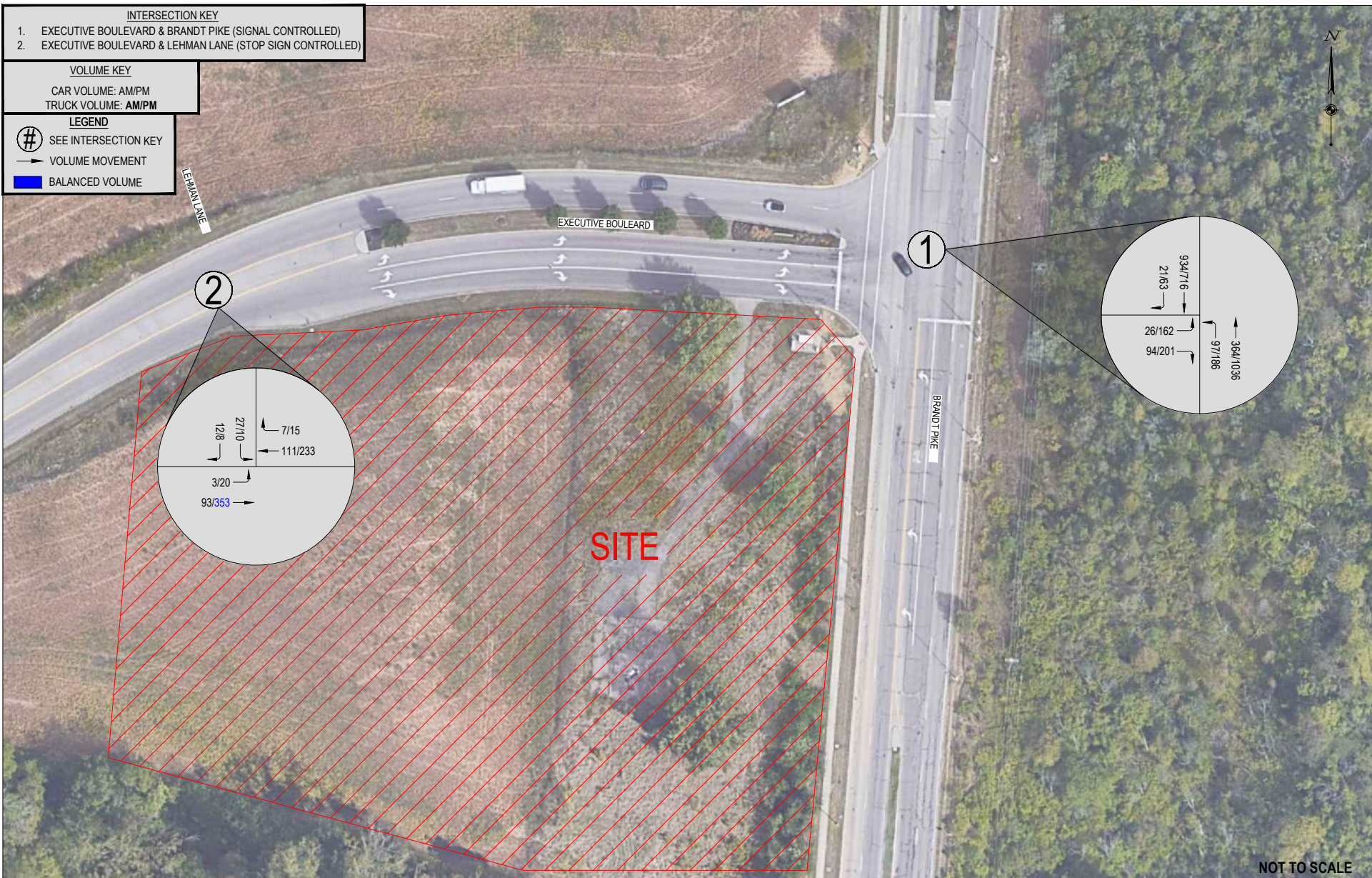
NOT TO SCALE

2023 NO-BUILD WEEKDAY PEAK HOUR TRAFFIC VOLUMES - CARS & TRUCKS

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE (STOP SIGN CONTROLLED)

VOLUME KEY
 CAR VOLUME: AM/PM
 TRUCK VOLUME: AM/PM

- LEGEND**
- # SEE INTERSECTION KEY
 - VOLUME MOVEMENT
 - BALANCED VOLUME



NOT TO SCALE

2023 NO-BUILD WEEKDAY PEAK HOUR TRAFFIC VOLUMES - TOTAL VOLUMES

FIGURE 5.B

DATE:	12/12/2022
JOB NO.:	761688
DESIGNED BY:	ZAR
DRAWN BY:	ZAR
CHECKED BY:	REM
PAGE:	24

5. Trip Generation

5.1. Site Generated Traffic Volumes

Studies of similar developments throughout North America have shown that the amount of development-generated traffic will be functionally related to some unit of activity (i.e., number of fueling stations, gross floor area, service bays, etc.). In development, site traffic fluctuates substantially on different days and hours throughout the year. Therefore, it is imperative to select an appropriate hourly volume on which to base the design of the external roadway and site access facilities. The Weekday AM and PM Peak Hours were selected based on the adjacent street traffic during this hour.

The 2023 Build and 2033 Design Year Traffic Scenarios include the proposed use of the Site as a Sheetz Development that consists of the following:

- Gasoline Service Station with a 6,138 S.F. Convenience Market consisting of 16 passenger car fueling positions.

For analysis purposes, the base variable unit for trip-generation was the number of vehicle fueling positions. The Site Generated Traffic Volumes (Table 1) were calculated by utilizing data included in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*, in combination with methods outlined in the (ITE) *Trip Generation Handbook*. In addition, pass-by trips were calculated based on percentages found in the (ITE) *Trip Generation Manual, 11th Edition*. The Site Generated Traffic Volumes are presented below in Table 5.

Table 5
Site Generated Traffic Volumes

ITE Land Use Description	ITE Cat.	Size	Unit	Total Generated Trips										
				Weekday			Weekday AM Peak Hour				Weekday PM Peak Hour			
				Tot	In	Out	^A Tot	In	Out	^B PB	^A Tot	In	Out	^B PB
Convenience Store/Gas Station	945	16	Fuel Pos.	5,532	2,766	2,766	506	61	61	384	430	54	54	322
<i>Entering (%) / Exiting (%)</i>				100%	50%	50%	100%	50%	50%	^C 76%	100%	50%	50%	^C 75%
Net Trip Generation Summary				5,532	2,766	2,766	506	61	61	384	430	54	54	322

^A – Primary Trips + Pass-by Trips, ^B – Pass-by Trips Generated, ^C – Percent (%) of ^ATot

The full buildout of the Sheetz Development is estimated to generate 5,532 trips per day on a typical weekday (2,766 inbound and 2,766 outbound), of which 506 trips will be generated during the Weekday AM Peak Hour (253 inbound and 253 outbound) and 430 trips will be generated during the Weekday PM Peak Hour (215 inbound and 215 outbound).

Appendix F includes trip generation calculations and ITE Trip Generation Category 945 Sheets utilized to calculate the values presented in Table 5.

5.2. Directional Distribution of Site Generated Traffic Volumes

The directional distribution of development-generated traffic is a function of several variables. The assumptions and methods used in estimating the direction in which traffic will approach and depart the Site varies with several location-specific conditions such as:

- Size and type of the proposed development.
- Population distribution within the defined area of influence.
- Prevailing operating conditions on the existing street system.

The analysis of directional distribution is based upon the observation that drivers normally choose the most convenient (not necessarily the most direct) routes to and from a given traffic generator. The anticipated directional distribution of trips generated by the proposed Sheetz Development is summarized in Table 6.

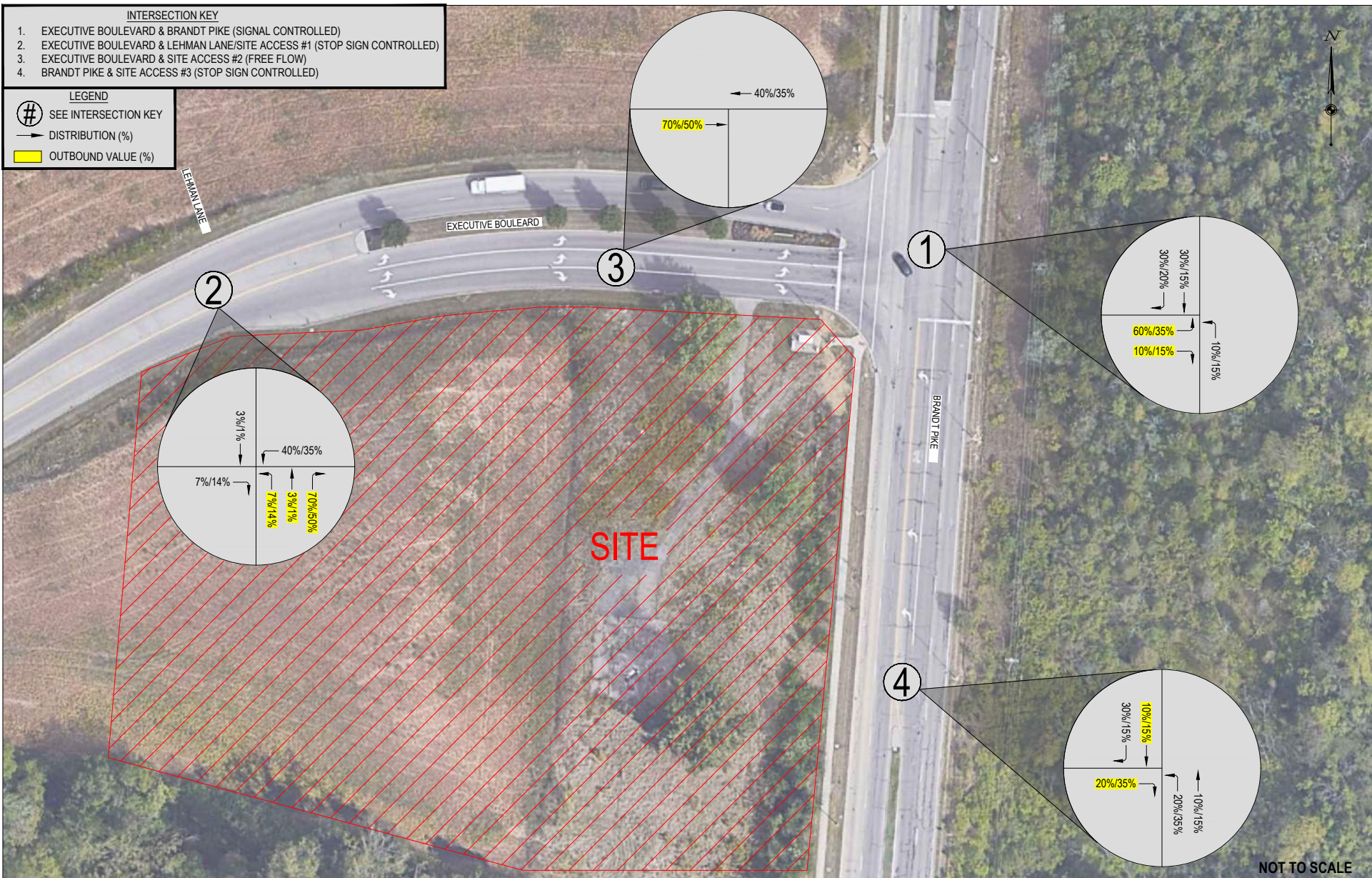
Table 6
Directional Distribution of Site Generated Traffic Volumes

Route	Distribution Approach/Departure	
	Passenger Cars	
	AM Peak Hour	PM Peak Hour
Primary Trip Distribution - Cars (Figure 6.A)		
To/From the East via Executive Boulevard	10%/10%	15%/15%
To/From the North via Brandt Pike	60%/60%	35%/35%
To/From the South via Brandt Pike	30%/30%	50%/50%
TOTAL	100%/100%	100%/100%
Pass-by/Diverted Trip Distribution – Cars (Figure 6.B)		
Pass-by from the East/To the West via Executive Boulevard	10%/10%	15%/15%
Pass-by from the North/To the South via Executive Boulevard	60%/60%	35%/35%
Pass-by from the South/To the North via Executive Boulevard	30%/30%	50%/50%
TOTAL	100%/100%	100%/100%

Based upon the directional distributions listed in Table 6 and illustrated on Figures 6.A-6.B, the estimated Site Generated Traffic Volumes shown in Table 5 were distributed to the adjacent roadway system. The Site Generated Traffic Volumes are illustrated on Figures 7.A-7.B.

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE/SITE ACCESS #1 (STOP SIGN CONTROLLED)
 - EXECUTIVE BOULEVARD & SITE ACCESS #2 (FREE FLOW)
 - BRANDT PIKE & SITE ACCESS #3 (STOP SIGN CONTROLLED)

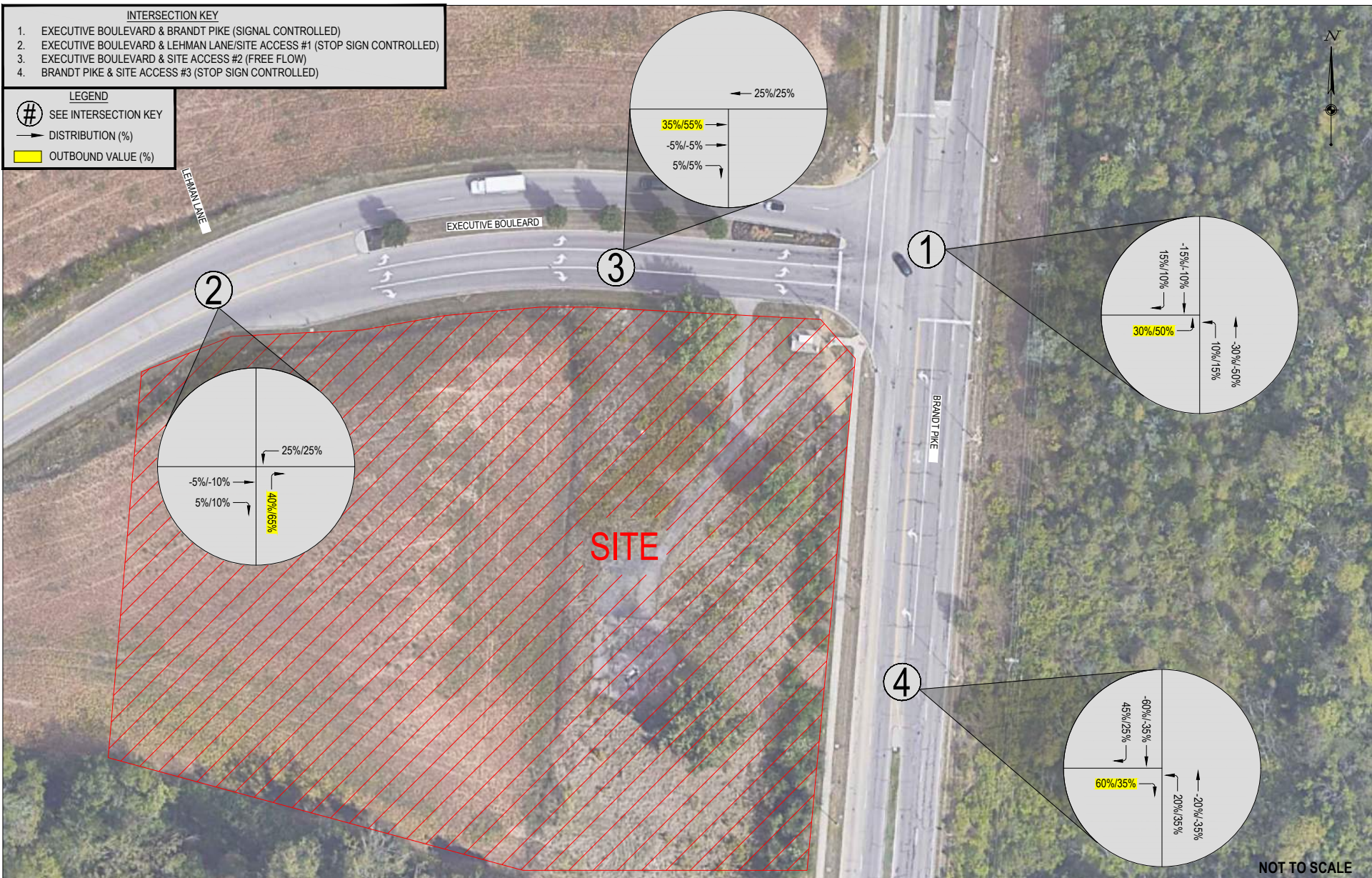
- LEGEND**
- # SEE INTERSECTION KEY
 - DISTRIBUTION (%)
 - OUTBOUND VALUE (%)



NOT TO SCALE

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE/SITE ACCESS #1 (STOP SIGN CONTROLLED)
 - EXECUTIVE BOULEVARD & SITE ACCESS #2 (FREE FLOW)
 - BRANDT PIKE & SITE ACCESS #3 (STOP SIGN CONTROLLED)

- LEGEND**
- # SEE INTERSECTION KEY
 - DISTRIBUTION (%)
 - OUTBOUND VALUE (%)



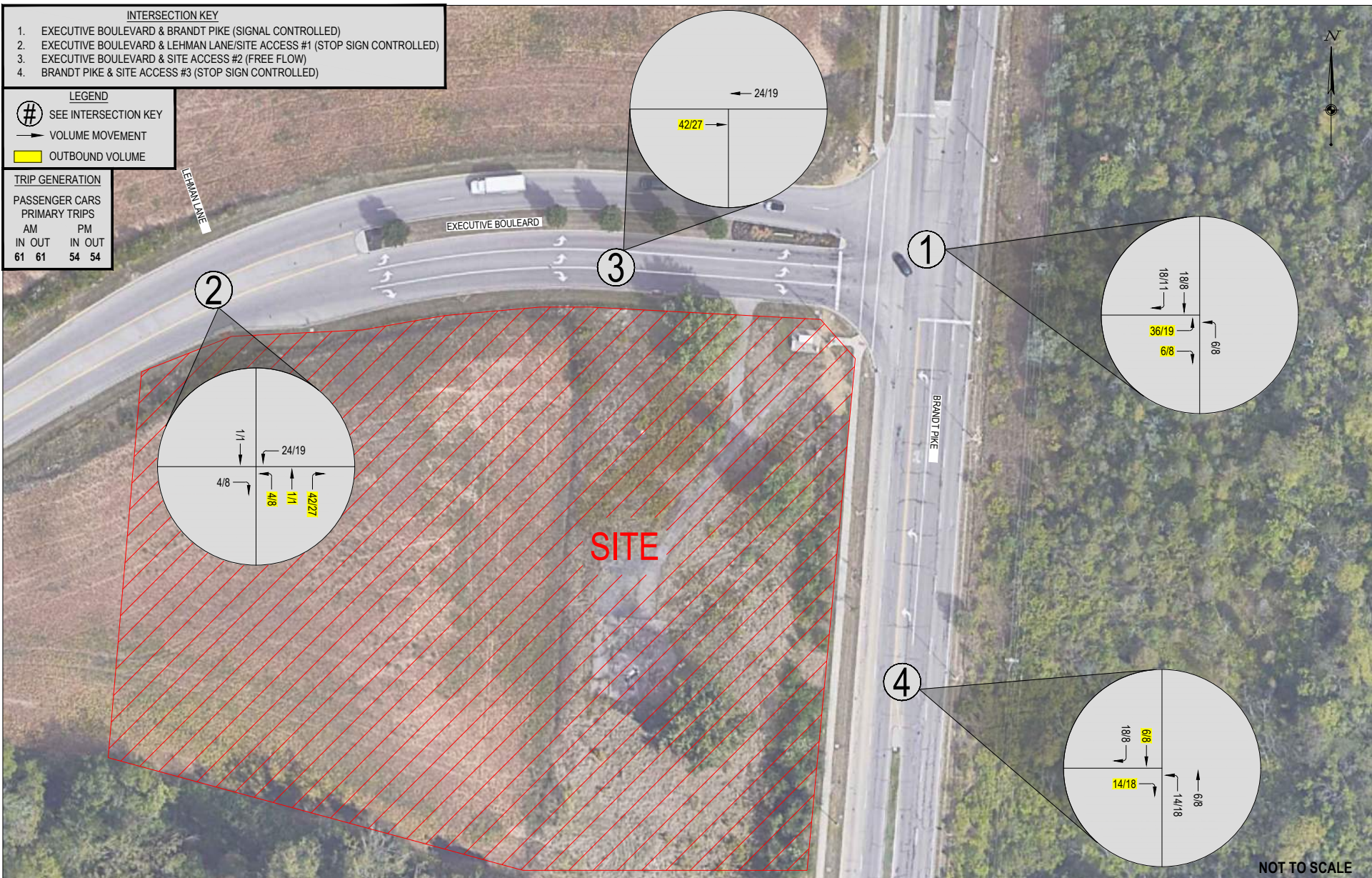
NOT TO SCALE

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE/SITE ACCESS #1 (STOP SIGN CONTROLLED)
 - EXECUTIVE BOULEVARD & SITE ACCESS #2 (FREE FLOW)
 - BRANDT PIKE & SITE ACCESS #3 (STOP SIGN CONTROLLED)

- LEGEND**
- # SEE INTERSECTION KEY
 - VOLUME MOVEMENT
 - OUTBOUND VOLUME

TRIP GENERATION

PASSENGER CARS				
PRIMARY TRIPS				
AM	PM			
IN	OUT	IN	OUT	
61	61	54	54	



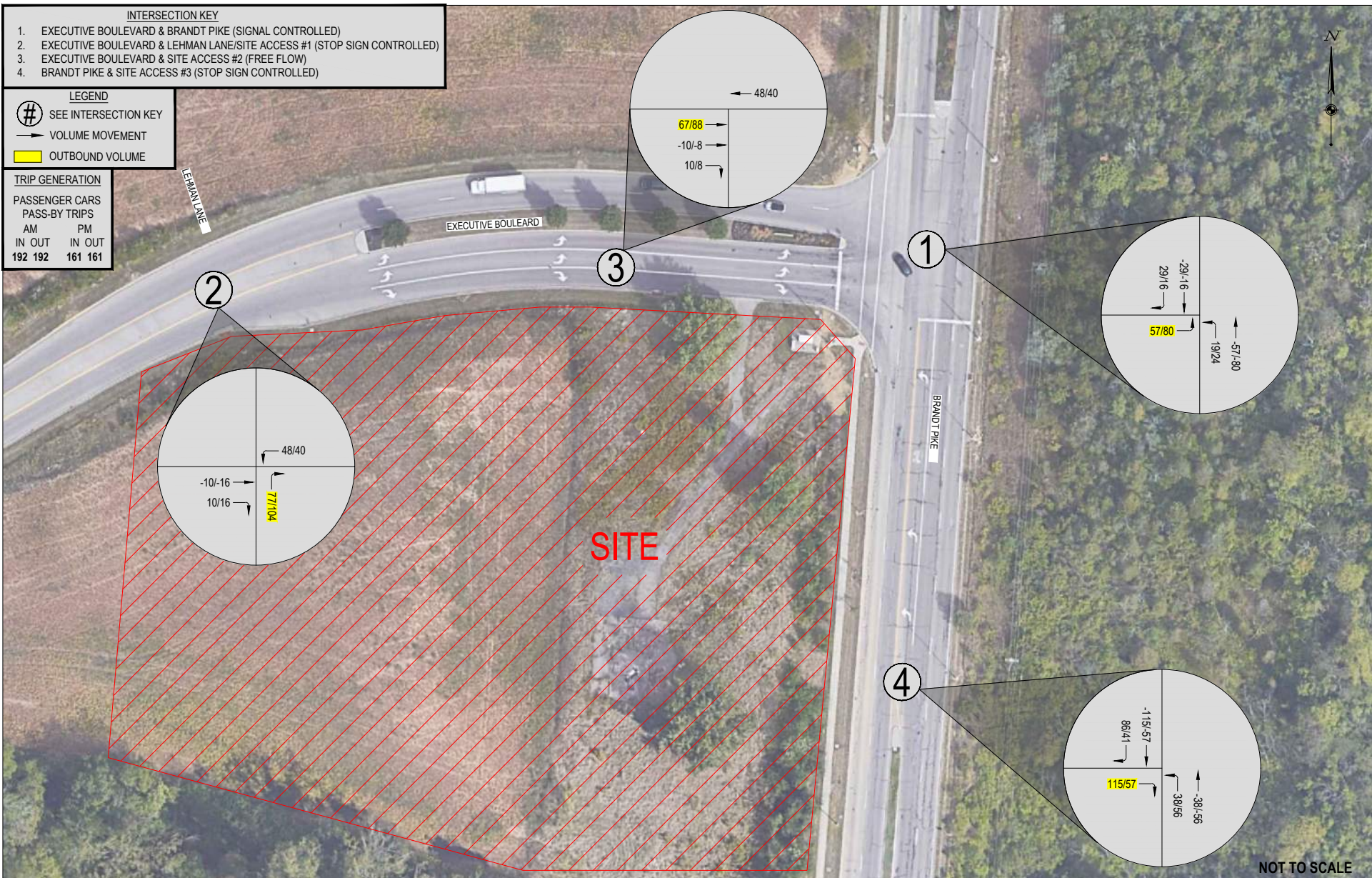
NOT TO SCALE

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE/SITE ACCESS #1 (STOP SIGN CONTROLLED)
 - EXECUTIVE BOULEVARD & SITE ACCESS #2 (FREE FLOW)
 - BRANDT PIKE & SITE ACCESS #3 (STOP SIGN CONTROLLED)

- LEGEND**
- # SEE INTERSECTION KEY
 - VOLUME MOVEMENT
 - OUTBOUND VOLUME

TRIP GENERATION

PASSENGER CARS			
PASS-BY TRIPS			
AM	PM		
IN	OUT	IN	OUT
192	192	161	161



NOT TO SCALE

6. Estimates of 2023 Build Traffic in the Vicinity of the Site

6.1. 2023 Build Traffic Volumes

The 2023 Build Traffic Volumes (Figure 8.A) were calculated by adding the Site Generated Traffic Volumes (Figures 7.A-7.B) to the 2023 No-Build Traffic Volumes – Cars and Trucks (Figure 5.A). The car and truck volumes shown on Figure 8.A were combined to form the 2023 Build Traffic Volumes – Total Volumes (Figure 8.B) for simplicity.

6.2. 2023 Build Traffic Scenario Capacity Analysis

Utilizing the 2023 Build Traffic Volumes shown on Figure 8.A and Figure 8.B, capacity calculations were performed for the key study intersections. All capacity calculations within the TIS followed procedures documented in the *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis* (Transportation Research Board, 2016). The capacity analyses were completed using HCS Version 8.2 Signalized/TWSC methodology. Table 7 summarizes the capacity analysis results for the 2023 Build Traffic Scenario.

Table 7
Summary of 2023 Build Traffic Scenario Capacity Analysis

Lane	AM Peak Hour					PM Peak Hour				
	LOS	Delay (sec/veh)	v/c	QSR	95 th %ile Queue (ft)	LOS	Delay (sec/veh)	v/c	QSR	95 th %ile Queue (ft)
Brandt Pike & Executive Boulevard (Signal Controlled)										
Intersection	C	20.7	--	--	--	B	16.2	--	--	--
EBL	C	30.4	0.098	0.11	33.3	C	31.5	0.244	0.28	86.5
EBR	C	21.5	0.320	0.46	143.3	C	23.6	0.501	0.76	234.7
EB Approach	C	24.0	--	--	--	C	26.7	--	--	--
NBL	B	13.3	0.322	0.24	55.5	B	11.5	0.435	0.40	92.9
NBT	A	6.5	0.157	0.05	60.2	A	8.3	0.434	0.16	205.9
NB Approach	A	8.5	--	--	--	A	8.9	--	--	--
SBT	C	25.2	0.700	0.87	415.3	C	20.9	0.526	0.61	291.7
SBTR	C	25.2	0.701	0.85	401.2	C	20.9	0.526	0.59	278.6
SB Approach	C	25.2	--	--	--	C	20.9	--	--	--
Executive Boulevard & Lehman Lane (Stop Sign Controlled)										
Intersection	--	--	--	--	--	--	--	--	--	--
EBL	A	7.7	0.00	--	0.0	A	8.0	0.02	--	2.5
EB Approach	A	0.2	--	--	--	A	0.4	--	--	--
WBL	A	7.7	0.06	--	5.0	A	8.3	0.05	--	5.0
WB Approach	A	2.9	--	--	--	A	1.6	--	--	--
NBLTR	A	9.8	0.17	--	15.0	B	12.5	0.24	--	22.5
NB Approach	A	9.8	--	--	--	B	12.5	--	--	--
SBL	C	16.6	0.10	--	7.5	D	25.7	0.06	--	5.0
SBTR	A	9.1	0.02	--	2.5	B	10.0	0.01	--	0.0
SB Approach	B	14.2	--	--	--	C	18.3	--	--	--
Brandt Pike & Site Access #3 (Stop Sign Controlled)										
Intersection	--	--	--	--	--	--	--	--	--	--
EBR	C	15.7	0.290	--	30.0	B	13.2	0.160	--	15.0
EB Approach	C	15.7	--	--	--	B	13.2	--	--	--
NBL	B	11.3	0.090	--	7.5	B	10.9	0.120	--	10.0
NB Approach	A	2.1	--	--	--	A	1.7	--	--	--

L – Left T – Through R – Right

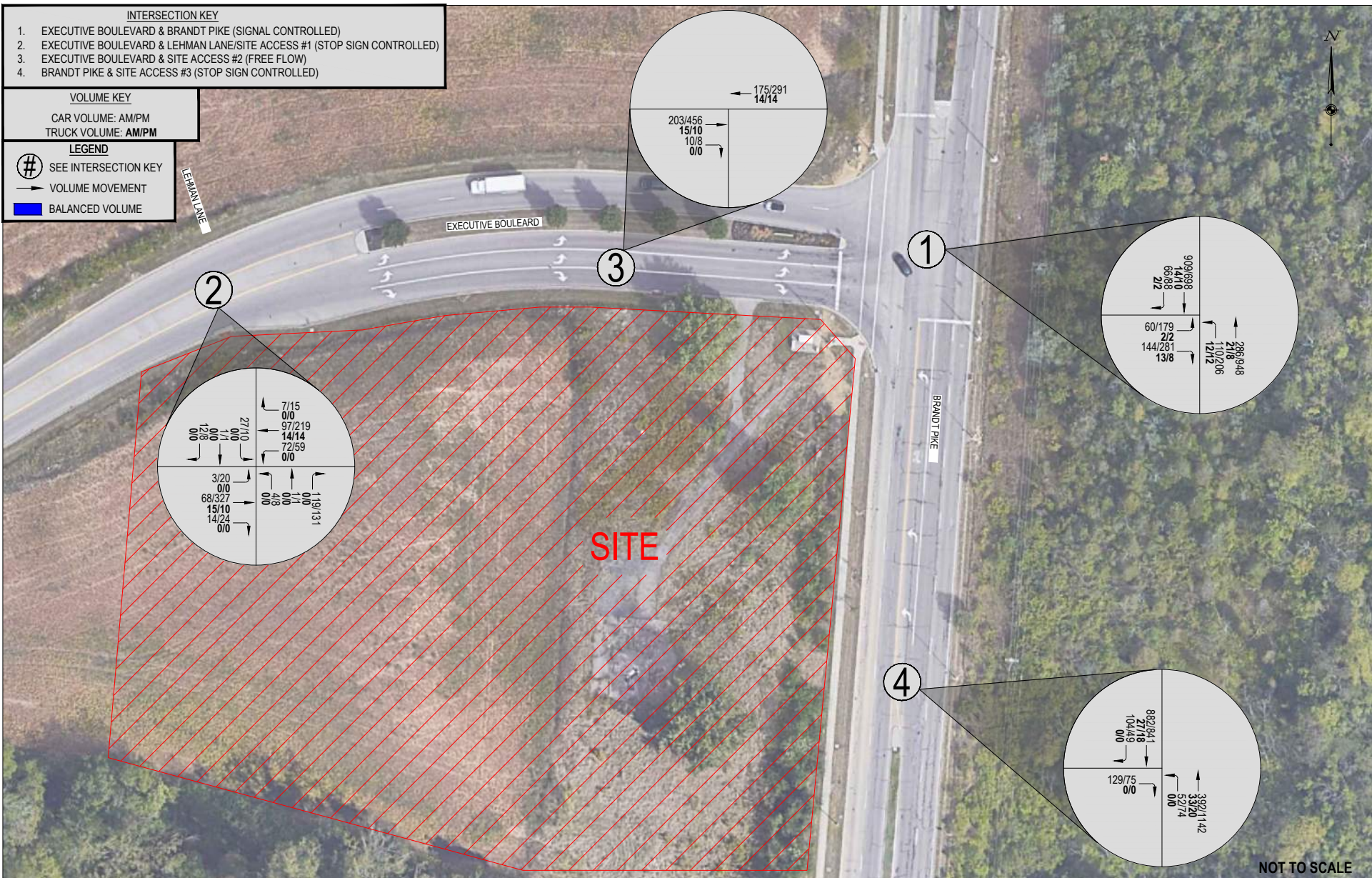
Under the **2023 Build Traffic Scenario**, all study intersections operate at an overall level of service (LOS) “C” or better conditions. Additionally, all individual intersection movements operate at a LOS “D” or better conditions.

The 2023 Build Traffic Scenario Capacity Analysis Summary Sheets are included in Appendix G of the report.

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE/SITE ACCESS #1 (STOP SIGN CONTROLLED)
 - EXECUTIVE BOULEVARD & SITE ACCESS #2 (FREE FLOW)
 - BRANDT PIKE & SITE ACCESS #3 (STOP SIGN CONTROLLED)

VOLUME KEY
 CAR VOLUME: AM/PM
 TRUCK VOLUME: AM/PM

- LEGEND**
- # SEE INTERSECTION KEY
 - VOLUME MOVEMENT
 - BALANCED VOLUME

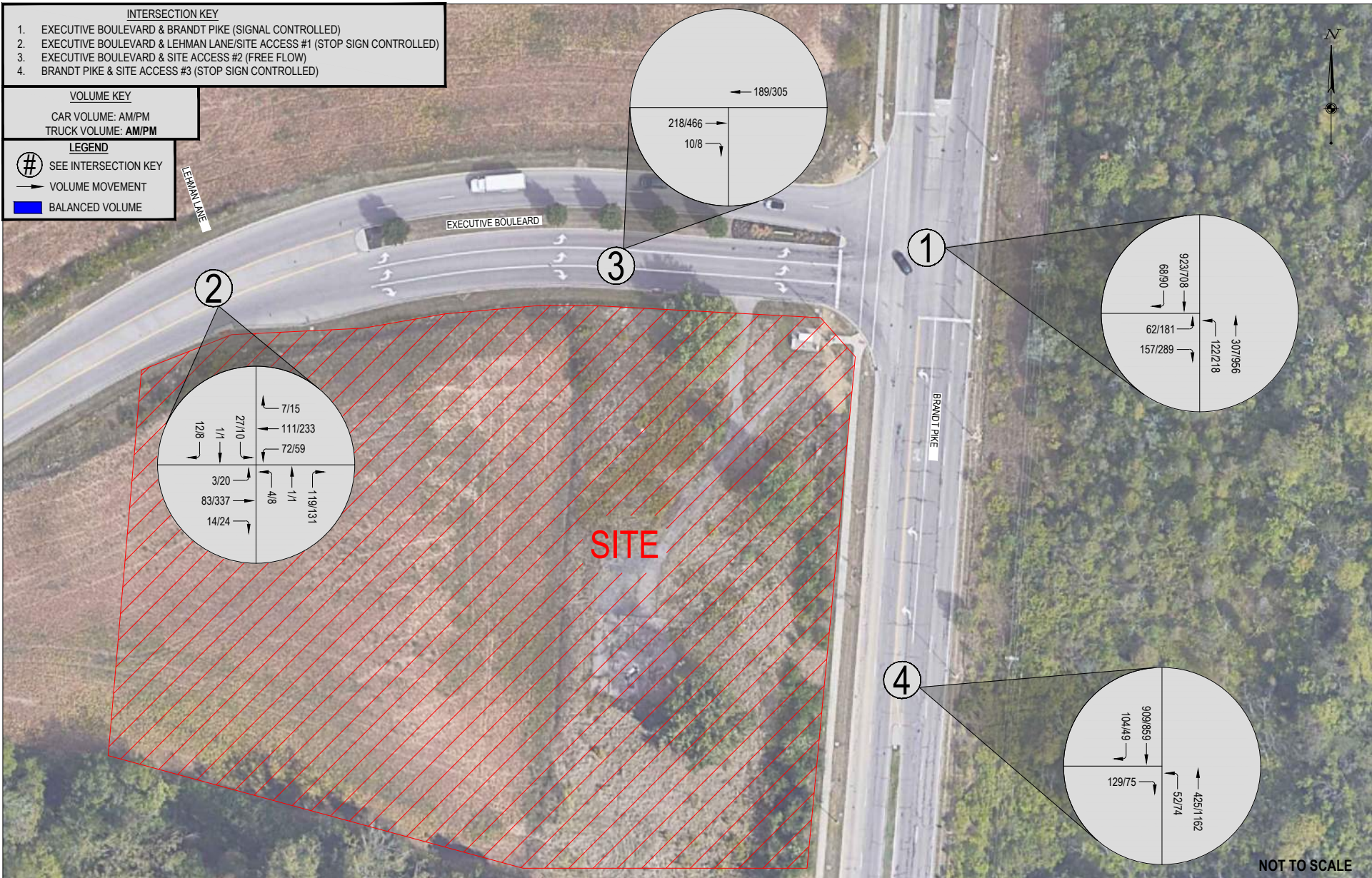


NOT TO SCALE

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE/SITE ACCESS #1 (STOP SIGN CONTROLLED)
 - EXECUTIVE BOULEVARD & SITE ACCESS #2 (FREE FLOW)
 - BRANDT PIKE & SITE ACCESS #3 (STOP SIGN CONTROLLED)

VOLUME KEY
 CAR VOLUME: AM/PM
 TRUCK VOLUME: AM/PM

- LEGEND**
- # SEE INTERSECTION KEY
 - VOLUME MOVEMENT
 - BALANCED VOLUME



NOT TO SCALE

7. Estimates of 2033 No-Build Traffic in the Vicinity of the Site

7.1. 2033 No-Build Traffic Volumes

The 2033 No-Build Traffic Volumes – Cars and Trucks (Figure 9.A) were calculated by applying growth rates to the 2022 Existing Traffic Volumes (Figure 4.A). Growth rates were calculated using the linear regression method referenced in the *Ohio Traffic Forecasting Manual, Volume 2, Section 4.2* for Brandt Pike. As such, a conservative linear annual growth rate of 1.0 percent (%) was selected and applied for eleven (11) years to the study roadways (growth factor of 1.11) to simulate 2033 No-Build Traffic Volumes. The car and truck volumes shown on Figure 9.A were combined to form the 2033 No-Build Traffic Volumes – Total Volumes (Figure 9.B) for simplicity.

7.2. 2033 No-Build Traffic Scenario Capacity Analysis

Utilizing the 2033 No-Build Traffic Volumes shown on Figure 9.A and Figure 9.B, capacity calculations were performed for the key study intersections. All capacity calculations within the TIS followed procedures documented in the *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis (Transportation Research Board, 2016)*. The capacity analyses were completed using HCS Version 8.2 Signalized/TWSC methodology. Table 8 summarizes the capacity analysis results for the 2033 No-Build Traffic Scenario.

Table 8
Summary of 2033 No-Build Traffic Scenario Capacity Analysis

Lane	AM Peak Hour					PM Peak Hour				
	LOS	Delay (sec/veh)	v/c	QSR	95 th %ile Queue (ft)	LOS	Delay (sec/veh)	v/c	QSR	95 th %ile Queue (ft)
Brandt Pike & Executive Boulevard (Signal Controlled)										
Intersection	C	20.7	--	--	--	B	15.7	--	--	--
EBL	C	30.0	0.044	0.05	14.8	C	31.4	0.229	0.26	80.9
EBR	C	20.4	0.212	0.29	90.5	C	22.0	0.366	0.54	168.8
EB Approach	C	22.4	--	--	--	C	26.2	--	--	--
NBL	B	13.8	0.291	0.21	48.2	B	11.3	0.396	0.36	82.4
NBT	A	6.8	0.205	0.06	81.4	A	8.8	0.494	0.18	238.5
NB Approach	A	8.3	--	--	--	A	9.2	--	--	--
SBT	C	26.5	0.736	0.99	445.7	C	21.1	0.536	0.66	298.4
SBTR	C	26.5	0.736	0.98	436.2	C	21.1	0.536	0.65	287.0
SB Approach	C	26.5	--	--	--	C	21.1	--	--	--
Executive Boulevard & Lehman Lane (Stop Sign Controlled)										
Intersection	--	--	--	--	--	--	--	--	--	--
EBL	A	7.7	0.00	--	0.0	A	8.1	0.02	--	2.5
EB Approach	A	0.2	--	--	--	A	0.4	--	--	--
SBL	B	10.7	0.06	--	5.0	C	15.2	0.03	--	2.5
SBR	A	8.8	0.02	--	2.5	A	9.1	0.01	--	0.0
SB Approach	B	10.1	--	--	--	B	12.7	--	--	--

L – Left T – Through R – Right

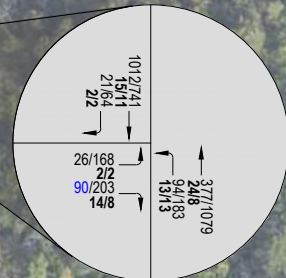
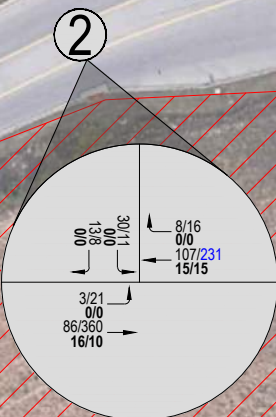
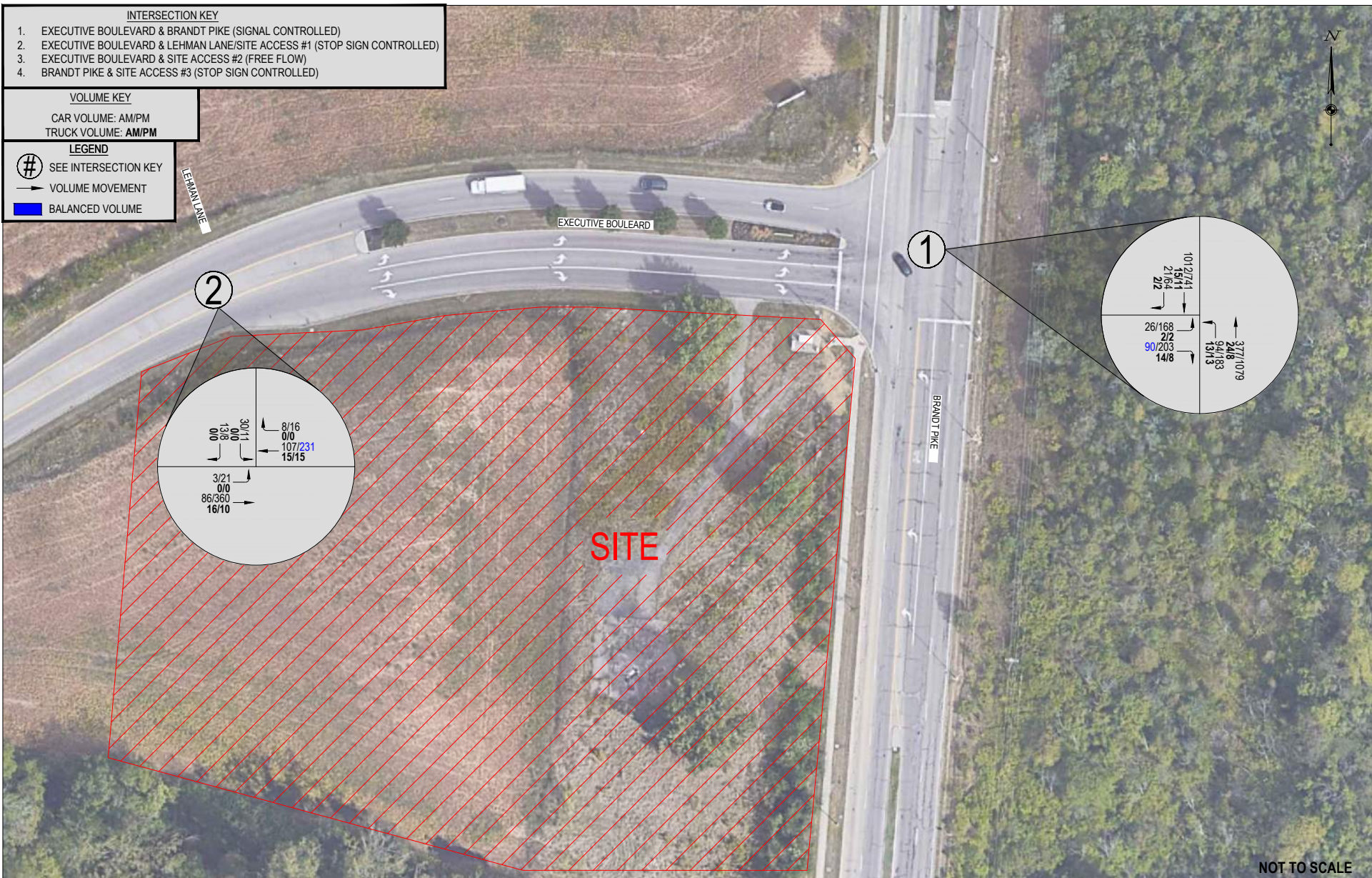
Under the **2033 No-Build Traffic Scenario**, all study intersections operate at an overall level of service (LOS) “C” or better conditions. Additionally, all individual intersection movements operate at a LOS “C” or better conditions.

The 2033 No-Build Traffic Scenario Capacity Analysis Summary Sheets are included in Appendix H of the report.

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE/SITE ACCESS #1 (STOP SIGN CONTROLLED)
 - EXECUTIVE BOULEVARD & SITE ACCESS #2 (FREE FLOW)
 - BRANDT PIKE & SITE ACCESS #3 (STOP SIGN CONTROLLED)

VOLUME KEY
 CAR VOLUME: AM/PM
 TRUCK VOLUME: AM/PM

- LEGEND**
- # SEE INTERSECTION KEY
 - VOLUME MOVEMENT
 - BALANCED VOLUME



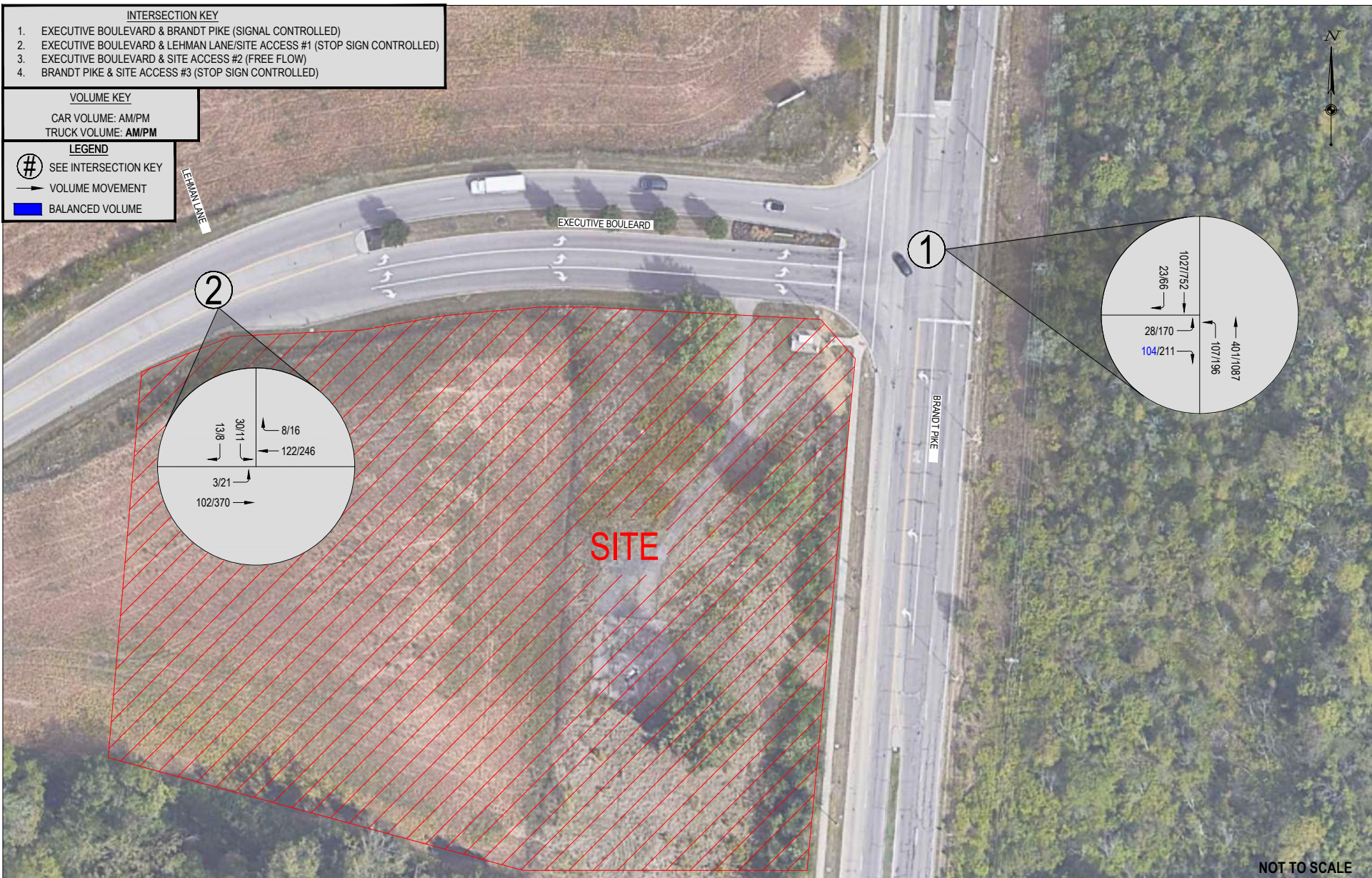
NOT TO SCALE

2033 NO-BUILD WEEKDAY PEAK HOUR TRAFFIC VOLUMES - CARS & TRUCKS

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE/SITE ACCESS #1 (STOP SIGN CONTROLLED)
 - EXECUTIVE BOULEVARD & SITE ACCESS #2 (FREE FLOW)
 - BRANDT PIKE & SITE ACCESS #3 (STOP SIGN CONTROLLED)

VOLUME KEY
 CAR VOLUME: AM/PM
 TRUCK VOLUME: AM/PM

- LEGEND**
- # SEE INTERSECTION KEY
 - VOLUME MOVEMENT
 - BALANCED VOLUME



NOT TO SCALE

2033 NO-BUILD WEEKDAY PEAK HOUR TRAFFIC VOLUMES - TOTAL VOLUMES

8. Estimates of 2033 Design Year Traffic in the Vicinity of the Site

8.1. 2033 Design Year Traffic Volumes

The 2033 Design Year Traffic Volumes (Figure 10.A) were calculated by adding the Site Generated Traffic Volumes (Figures 7.A-7.B) to the 2033 No-Build Traffic Volumes – Cars and Trucks (Figure 9.A). The car and truck volumes shown on Figure 10.A were combined to form the 2033 Design Year Traffic Volumes – Total Volumes (Figure 10.B).

8.2. 2033 Design Year Traffic Scenario Capacity Analysis

Utilizing the 2033 Design Year Traffic Volumes illustrated on Figures 10.A-10.B, capacity calculations were performed for the Site driveways and key study intersections. Capacity calculations followed procedures documented in the *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis* (Transportation Research Board, 2016). All study intersections were analyzed with HCS Version 8.2 methodology. Table 9 summarizes the capacity analyses results for the 2033 Design Year Traffic Scenario.

Table 9
Summary of 2033 Design Year Traffic Scenario Capacity Analysis

Lane	AM Peak Hour					PM Peak Hour				
	LOS	Delay (sec/veh)	v/c	QSR	95 th %ile Queue (ft)	LOS	Delay (sec/veh)	v/c	QSR	95 th %ile Queue (ft)
Brandt Pike & Executive Boulevard (Signal Controlled)										
Intersection	C	22.4	--	--	--	B	16.5	--	--	--
EBL	C	30.4	0.101	0.11	34.4	C	31.6	0.255	0.29	90.5
EBR	C	21.7	0.340	0.50	154.1	C	23.9	0.519	0.78	243.3
EB Approach	C	24.1	--	--	--	C	26.9	--	--	--
NBL	B	15.6	0.369	0.27	62.3	B	12.1	0.467	0.43	98.4
NBT	A	6.6	0.176	0.05	68.5	A	8.5	0.457	0.17	218.2
NB Approach	A	9.1	--	--	--	A	9.1	--	--	--
SBT	C	27.9	0.767	0.99	473.7	C	21.4	0.552	0.64	308.1
SBTR	C	28.0	0.768	0.97	459.4	C	21.4	0.552	0.62	293.8
SB Approach	C	27.9	--	--	--	C	21.4	--	--	--
Executive Boulevard & Lehman Lane (Stop Sign Controlled)										
Intersection	--	--	--	--	--	--	--	--	--	--
EBL	A	7.7	0.00	--	0.0	A	8.1	0.02	--	2.5
EB Approach	A	0.2	--	--	--	A	0.4	--	--	--
WBL	A	7.7	0.06	--	5.0	A	8.3	0.05	--	5.0
WB Approach	A	2.8	--	--	--	A	1.5	--	--	--
NBLTR	A	9.9	0.17	--	15.0	B	12.8	0.24	--	22.5
NB Approach	A	9.9	--	--	--	B	12.8	--	--	--
SBL	C	17.4	0.11	--	10.0	D	27.4	0.07	--	5.0
SBTR	A	9.1	0.02	--	2.5	B	10.1	0.01	--	0.0
SB Approach	B	14.8	--	--	--	C	19.6	--	--	--
Brandt Pike & Site Access #3 (Stop Sign Controlled)										
Intersection	--	--	--	--	--	--	--	--	--	--
EBR	C	17.2	0.320	--	35.0	B	13.7	0.16	--	15.0
EB Approach	C	17.2	--	--	--	B	13.7	--	--	--
NBL	B	12.2	0.100	--	7.5	B	11.3	0.12	--	10.0
NB Approach	A	2.3	--	--	--	A	2.5	--	--	--

L – Left T – Through R – Right



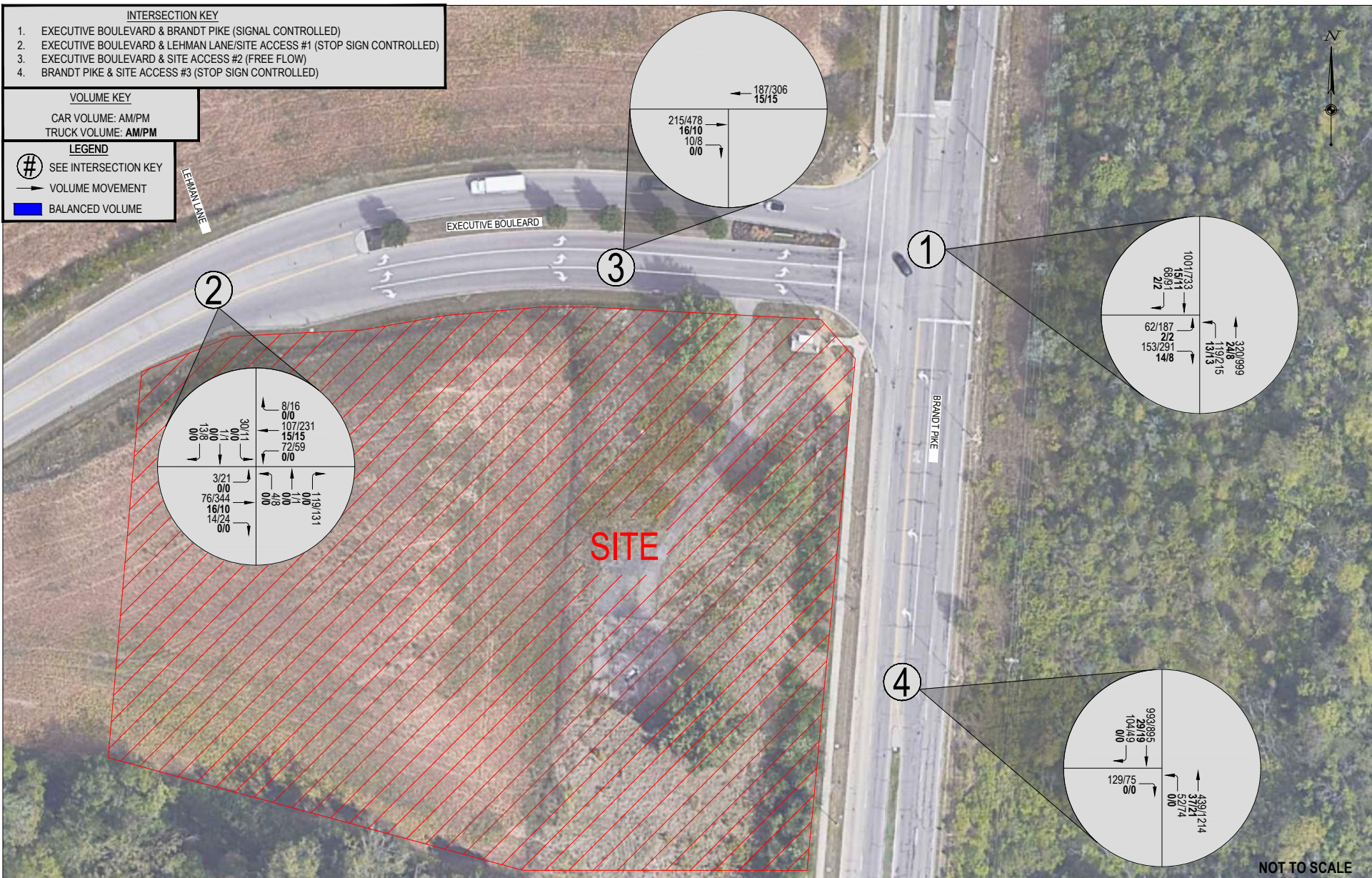
Under the **2033 Design Year Traffic Scenario**, all study intersections operate at an overall level of service (LOS) “C” or better conditions. Additionally, all individual intersection movements operate at a LOS “D” or better conditions.

The 2033 Design Year Traffic Scenario Capacity Analysis Summary Sheets are included in Appendix I of the report.

- INTERSECTION KEY**
- EXECUTIVE BOULEVARD & BRANDT PIKE (SIGNAL CONTROLLED)
 - EXECUTIVE BOULEVARD & LEHMAN LANE/SITE ACCESS #1 (STOP SIGN CONTROLLED)
 - EXECUTIVE BOULEVARD & SITE ACCESS #2 (FREE FLOW)
 - BRANDT PIKE & SITE ACCESS #3 (STOP SIGN CONTROLLED)

VOLUME KEY
 CAR VOLUME: AM/PM
 TRUCK VOLUME: AM/PM

- LEGEND**
- # SEE INTERSECTION KEY
 - VOLUME MOVEMENT
 - BALANCED VOLUME



NOT TO SCALE

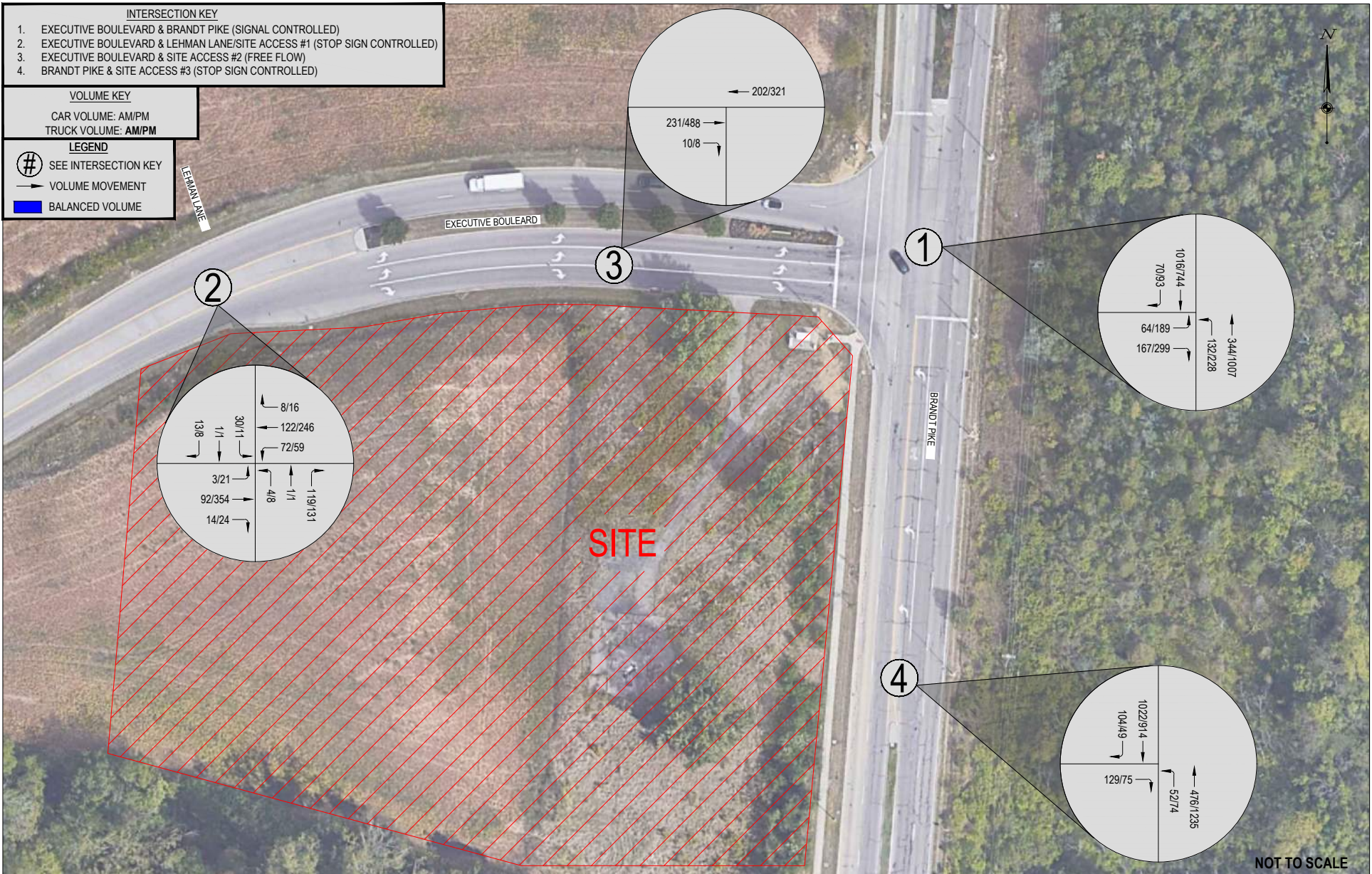
CESO 
 WWW.CESOINC.COM

2033 DESIGN YEAR WEEKDAY PEAK HOUR TRAFFIC VOLUMES - CARS & TRUCKS

SHEETZ DEVELOPMENT	
CITY OF HUBER HEIGHTS	
MONTGOMERY COUNTY, OH	

FIGURE 10.A

DATE:	12/12/2022
JOB NO.:	761688
DESIGNED BY:	ZAR
DRAWN BY:	ZAR
CHECKED BY:	REM
PAGE:	40



NOT TO SCALE

9. Turn Lane Analysis

Left and right-turn lane analyses were completed using the turn lane warrant charts from the ODOT *Location & Design Manual – Volume I (July 2022)* and capacity analysis results. Based on a speed limit of 35 mph (40 mph Design Speed) on Brandt Pike, the low-speed turn lane warrant charts were used for the analysis. ODOT Turn Lane Resources are located in Appendix J of the report.

9.1. Left-Turn Lane Analysis

Table 10 provides a summary of the data and results utilized in the review of each study location for a left-turn lane. ODOT Chart 401-5a and 401-5c were used to determine if left-turn lanes were warranted at the applicable study locations.

Table 10
Left-Turn Lane Warrant Review

Intersection and Traffic Scenario	Lane	*Advancing Traffic (am/pm)	Opposing Traffic (am/pm)	Left-Turn (am/pm)	% Left	Method or Chart Used	Warranted
2023 Build Traffic Scenario							
Executive Boulevard & Site Access #1	WBL	183/292	97/361	72/59	39%/20%	401-5a	No/Yes
Brandt Pike & Site Access #3	NBL	477/1236	1013/908	52/74	11%/6%	401-5c	Yes/Yes
2033 Design Year Traffic Scenario							
Executive Boulevard & Site Access #1	WBL	194/305	106/378	72/59	37%/20%	401-5a	No/Yes
Brandt Pike & Site Access #3	NBL	528/1309	1126/963	52/74	10%/6%	401-5c	Yes/Yes

* Includes Left Turns

9.2. Left-Turn Lane Warrant Review Summary

According to ODOT Chart 401-5a and 401-5c, inbound left-turn lanes **are warranted** at Site Access #1 (WBL) and Site Access #3 (NBL) under the 2023 Build and 2033 Design Year Traffic Scenarios.

9.3. Right-Turn Lane Analysis

Table 11 provides a summary of the data and results utilized in the review of each study location for a right-turn lane. ODOT Chart 401-6a and 401-6c were used to determine if right-turn lanes were warranted at the applicable study locations.

Table 11
Right-Turn Lane Warrant Review

Intersection and Traffic Scenario	Direction	*Advancing Traffic (am/pm)	Right-Turn (am/pm)	Method or Chart Used	Warranted
2023 Build Traffic Scenario					
Executive Boulevard & Site Access #1	EBR	97/361	14/24	401-6a	No/No
Executive Boulevard & Site Access #2	EBR	228/474	10/8	401-6a	No/No
Brandt Pike & Site Access #3	SBR	1013/908	104/49	401-6c	Yes/No
2033 Design Year Traffic Scenario					
Executive Boulevard & Site Access #1	EBR	106/378	14/24	401-6a	No/No
Executive Boulevard & Site Access #2	EBR	241/496	10/8	401-6a	No/No
Brandt Pike & Site Access #3	SBR	1126/963	104/49	401-6c	Yes/No

* Includes Right Turns

9.4. Right-Turn Lane Warrant Review Summary

According to ODOT Chart 401-6a and 401-6c an inbound (SBR) right-turn lane **is warranted** at Site Access #3 under the 2023 Build and 2033 Design Year Traffic Scenarios.

ODOT Turn Lane Resources are located in Appendix J of the report.

9.5. Computation of Turn Lane Lengths

Proposed turn lane storage length calculations were completed based upon procedures in the ODOT *Location & Design Manual – Volume I, Section 400 (July 2022)*. Specifically, ODOT sheet 401-9 – Basis for Computing Length of Turn Lanes and sheet 401-10 – Storage Length at Intersections were used. The turn lane length analysis was conducted to provide the final design length of proposed turn lanes under the 2033 No-Build Traffic Scenario. Table 12 summarizes the storage lengths required for the AM Peak Hour while Table 13 summarizes the storage lengths required for the PM Peak Hour. ODOT Storage Length Calculation Sheets are located in Appendix J of the report.

Table 12
Computation of Turn Lane Lengths - AM Peak Hour

Intersection	Direction	DHV	No. of Lanes	Cycles/ Hour	Avg. Veh/ Cycle/ Lane	Design Speed (mph)	Fig. 401-10 Storage Length (ft)	Fig. 401-9 Condition			Backup Length (ft)	Required Turn Lane Length* (ft)	Proposed Storage Length* (ft)	Turn Lane Length Ex/Prop < Required	HCS 95 th % Queue Length** (ft)
								A*	B*	C*					
2033 Design Year Traffic Scenario															
Executive Boulevard & Site Access #1	WBL	72	1	60	2.0	40	100	--	125	215	--	215	215	No	5.0
Brandt Pike & Site Access #3	NBL	52	1	60	1.0	40	50	--	125	165	--	165	215	No	7.5
	SBR	104	1	60	2.0	40	100	--	125	215	--	215	215	No	--

* Includes 50' Diverging Taper.

Table 13
Computation of Turn Lane Lengths – PM Peak Hour

Intersection	Direction	DHV	No. of Lanes	Cycles/ Hour	Avg. Veh/ Cycle/ Lane	Design Speed (mph)	Fig. 401-10 Storage Length (ft)	Fig. 401-9 Condition			Backup Length (ft)	Required Turn Lane Length* (ft)	Proposed Storage Length* (ft)	Turn Lane Length Ex/Prop < Required	HCS 95 th % Queue Length** (ft)
								A*	B*	C*					
2033 Design Year Traffic Scenario															
Executive Boulevard & Site Access #1	WBL	59	1	60	1.0	40	50	--	125	165	--	165	215	No	5.0
Brandt Pike & Site Access #3	NBL	74	1	60	2.0	40	100	--	125	215	--	215	215	No	10.0
	SBR	49	1	60	1.0	40	50	--	125	165	--	165	215	No	--

* Includes 50' Diverging Taper.

9.6. Turn Lane Lengths Review Summary

CESO utilized ODOT Figure 401-9 and 401-10 to determine storage length requirements for proposed turn lanes. The turn lane length analysis revealed the following:

- Based upon ODOT Figure 401-9 and 401-10, CESO has determined the required storage length for the proposed WBL turn lane at Site Access #1 to be 165' of storage plus a 50' taper.
- Based upon ODOT Figure 401-9 and 401-10, CESO has determined the required storage length for the proposed NBL turn lane at Site Access #3 to be 165' of storage plus a 50' taper.
- Based upon ODOT Figure 401-9 and 401-10, CESO has determined the required storage length for the proposed SBR turn lane at Site Access #3 to be 165' of storage plus a 50' taper.

10. Queue Length Analysis

10.1. Queue Length Analysis Procedure and Results

The 95th percentile queue lengths were calculated using Highway Capacity Software (HCS) Version 8.2. CESO reviewed the 2033 No-Build and 2033 Design Year Traffic Scenarios. The results of the analyses are listed below in Table 14. The 95th percentile queue length summary sheets are located with their associated capacity analyses summary sheets in the report appendices.

Table 14
Queue Length Analysis – 2033 No-Build and Design Year Traffic Scenarios

Location	Movement	Existing [Proposed] Storage Length (ft)	2033 No-Build/Design Year Traffic Scenario Comparison			
			95 th Percentile Queue Lengths			
			AM Peak Hour		PM Peak Hour	
Traffic Scenario →			2033 No-Build	2033 Design Year	2033 No-Build	2033 Design Year
Brandt Pike & Executive Boulevard	EBL	350'	14.8	34.4	80.9	90.5
	EBR	350'	90.5	154.1	168.8	243.3
	NBL	230'	48.2	62.3	82.4	98.4
	NBT	---	81.4	68.5	238.5	218.2
	SBT	---	445.7	473.7	298.4	308.1
	SBTR	---	436.2	459.4	287.0	293.8
Executive Boulevard & Lehman Lane/Site Access #1 ¹	EBL	---	0.0	0.0	2.5	2.5
	WBL	90' [165']	--	5.0	--	5.0
	NBLTR	---	--	15.0	--	22.5
	SBL	---	5.0	10.0	2.5	5.0
	SBR	50'	2.5	2.5	0.0	0.0
Brandt Pike & Site Access #3 ¹	EBR	---	--	35.0	--	15.0
	NBL	[165']	--	7.5	--	10.0
	SBR	[165']	--	--	--	--

¹ – Value calculated by multiplying value by an average car length of 25 feet to convert car-lengths to queue length in feet.

10.2. Queue Length Analysis Summary

CESO reviewed all study locations to determine if calculated queue lengths exceed existing turn lane storage lengths. The queue length analysis revealed the following:

- Under all analyzed traffic scenarios, 95th percentile queue lengths do not exceed existing or proposed storage lengths.

11. Summary of Recommendations

11.1. Recommendations

The following summary of recommendations was generated based upon the findings in the Traffic Impact Study.

2023 No-Build Traffic Scenario (Responsibility – Others):

- No improvements are recommended or required.

2023 Build Traffic Scenario (Responsibility – Sheetz):

Executive Boulevard & Lehman Lane/Site Access #1:

- Construct Site Access Driveway #1 to permit left-in, left-out, right-in, and right-out (full-access) vehicle movements. Provide one (1) inbound lane and one (1) outbound shared left and right-turn lane.
- Construct one (1) westbound-to-southbound (WBL) turn lane to provide 165' of storage and a 50' taper.

Executive Boulevard & Site Access #2:

- Construct Site Access Driveway #2 to permit right-in (inbound only) vehicle movements.

Brandt Pike & Site Access #3:

- Construct Site Access Driveway #3 to permit left-in, right-in, and right-out (¾ access) vehicle movements. Provide one (1) inbound lane and one (1) outbound right-turn lane.
- Construct one (1) northbound-to-westbound (NBL) turn lane to provide 165' of storage and a 50' taper.
- Construct one (1) southbound-to-westbound (SBR) turn lane to provide 165' of storage and a 50' taper.

2033 No-Build Traffic Scenario (Responsibility – Others):

- No additional improvements are recommended or required.

2033 Design Year Traffic Scenario (Responsibility – Sheetz):

- No additional improvements are recommended or required.



APPENDIX A
MEMORANDUM OF UNDERSTANDING BETWEEN
CESO & THE CITY OF HUBER HEIGHTS

MEMORANDUM OF UNDERSTANDING

TO: Russ Bergman, P.E. City of Huber Heights, City Engineer
CC: Josh Long, P.E. CESO Project Manager
FROM: Robert Matko, P.E., P.S., PTOE, CESO Senior Engineering Manager
DATE: December 2, 2022
SUBJECT: C-Store Development – Huber Heights, Ohio Traffic Impact Study Scope

The following Traffic Impact Study Scope was prepared based on past experience with the preparation of traffic impact studies in the surrounding area. Please review the following tasks and provide your concurrence prior to commencing with the study.

Traffic Impact Study Scope

Key Items:

- The proposed development is anticipated to open in 2023. Based on the opening date, CESO proposes the following four (4) traffic scenarios:
 - 2023 No-Build
 - 2023 Build
 - 2033 No-Build
 - 2033 Build
- HCS Software Version 8.2 will be used for all analysis. ODOT Oats procedures to be used.
- ITE 11th Edition shall be used to determine the site generated traffic volumes.

1. Conduct Traffic Counts

Conduct existing weekday (Tuesday – Thursday) peak hour (7:00 – 9:00 am and 4:00 – 6:00 pm) turning movement traffic counts at the following intersections:

1. Executive Blvd. & Lehman Lane (Stop Sign Controlled).
2. Executive Blvd. & Brandt Pike (Signal Controlled).



Note: Counts will not be taken during inclement weather and during holidays; nor shall counts be taken during times when City of Huber Heights School District is not in session.

Traffic counts will be collected by our sub-consultant (Gewalt Hamilton Associates, Inc.), processed by Miovision, and will be video collected for twelve (12) hours should additional hours need to be processed in the future.

- 2. Inventory the existing roadway system (existing traffic controls, signage, and lane geometry).**
- 3. Perform capacity analysis (Existing Traffic Scenario) at the key study intersections during the peak study hours.**
Perform capacity analyses using procedures documented in the most recent edition of the *Highway Capacity Manual/HCS* Version 8.2 at the key study intersections utilizing 2022 Existing Peak Hour traffic volumes during the study peak hour time periods.
- 4. Traffic Growth Rate**
CESO will review ADT traffic count information and determine a growth rate to be used in the analysis. This growth rate will be applied to the 2022 Weekday Peak Hour Traffic Volumes to arrive at 2023 and 2033 No-Build Weekday Peak Hour Traffic Volumes.
- 5. 2023 No-Build Traffic Volumes**
Apply growth rate from #4 to the 2022 Existing weekday peak hour traffic volumes for one (1) year to arrive at 2023 No-Build Traffic Volumes.

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6. Perform capacity analysis (2023 No-Build Traffic Scenario) at the key study intersections during the peak study hours.

Perform capacity analyses using procedures documented in the most recent edition of the *Highway Capacity Manual/HCS* Version 8.2 at the key study intersections utilizing the 2023 No-Build Peak Hour traffic volumes during the study peak hour time periods.

7. Prepare trip generation

Prepare trip generation for the proposed development using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. ITE Land Use Code 945 (Convenience Store/Gas Station) will be used based on the C-Store Development use.

Pass-By

Pass-By will be applied due to the type of use.

Internal Trip Reduction

No internal trip reduction will be applied due to the type of use and being a single development.

8. Determine directional distribution of development traffic

Directional distribution of the site traffic will be based on existing traffic patterns within the study area.

9. Assign project traffic to the key study roadways

Based on the traffic projections, the development generated traffic volumes will be assigned to the adjacent street network.

10. 2023 Build Traffic Volumes

Add the 2023 No-Build Weekday Peak Hour Traffic Volumes to the 2023 Site Generated Weekday Peak Hour Traffic Volumes to arrive at 2023 Build Weekday Peak Hour Traffic Volumes.

11. Perform capacity analysis (Build Traffic Scenario ~ 2023) at the key study intersections and Site Driveway(s) during the peak study hours.

Perform capacity analyses using procedures documented in the most recent edition of the *Highway Capacity Manual/HCS* Version 8.2 at the key study intersections and site driveway(s) utilizing 2023 Build traffic volumes during the study peak hour time periods.

12. 2033 No-Build Traffic Volumes

Increase the 2022 Existing Weekday Peak Hour Traffic Volumes by an approved growth rate for eleven (11) years to arrive at 2033 No-Build Weekday Peak Hour Traffic Volumes.

13. Perform capacity analysis (No-Build Traffic Scenario ~ 2033) at the key study intersections during the peak study hours.

Perform capacity analyses using procedures documented in the most recent edition of the *Highway Capacity Manual/HCS* Version 8.2 at the key study intersections and site driveway(s) utilizing 2033 No-Build traffic volumes during the study peak hour time periods.

14. 2033 Design Year Traffic Volumes

Add the 2033 No-Build Weekday Peak Hour Traffic Volumes to the 2023 Site Generated Weekday Peak Hour Traffic Volumes (full buildout) to arrive at 2033 Design Year Weekday Peak Hour Traffic Volumes.

15. Perform capacity analysis (Design Year Traffic Scenario ~ 2033) at the key study intersections and Site Driveway(s) during the peak study hours.

Perform capacity analyses using procedures documented in the most recent edition of the *Highway Capacity Manual/HCS* Version 8.2 at the key study intersections and site driveway(s) utilizing 2033 Design Year traffic volumes during the study peak hour time periods.

16. Perform turn lane/queuing analysis.

Perform turn lane warrant/queuing analysis to determine if turn lanes or turn lane extensions are required at the study intersections. ODOT methodology (L&D Vol. 1, Figures 401-5a-5c and 401-6a-6d) will be used. ODOT L&D Vol. 1, Figure 401-9 and 401-10 will be used for turn lane storage lengths at the key study intersections and site driveway(s).

17. Based on turn lane/queueing analysis, recommend geometry for all study scenarios.

Based on the projected volumes from the analysis, CESO will recommend the geometry for the proposed Development including turn lane length calculations at the key study intersections and site driveway(s) per the L&D Vol. 1, Figure 401-9 and 401-10. A figure showing the conceptual geometry will be included.

18. Prepare a report documenting all findings and recommendations and submit to the City of Huber Heights for review.

Report shall include the following:

- a. Title Page
- b. Table of Contents including a list of figures, tables and appendices.
- c. Introduction, which includes the description of the project, purpose of the report and executive summary.
- d. Proposed development description, including location, land use, and proposed use. This section will also include a regional map, vicinity map and site plan.
- e. Description of the study area.
- f. Existing conditions, including study site land use, adjacent roadway description and traffic volumes. This section will also include a summary of existing traffic counts, graphic of existing daily and peak hour traffic and roadway condition diagram.
- g. Project traffic, including site traffic generation, distribution and assignment and non-site traffic for each time period to be analyzed. Graphics will be included showing the peak hour traffic volumes for each analysis time period and project phase for both the on and off-site traffic.
- h. Site traffic and total traffic volumes will be shown for each analysis time period.
- i. Traffic analysis showing tabular and graphic result of the analyses.
- j. Turn Lane Analysis.
- k. Site Access Review.
- l. Summary of findings with conclusions and recommendations, including a graphic illustration of the recommendation/conclusion.
- m. Appendix including all computer-run data as well as any material related to the traffic study data collection and results.

**APPENDIX B
EXISTING TRAFFIC COUNT DATA
AND SIGNAL TIMING SHEETS**

Executive Boulevard & Brandt Pike - TMC

Tue Dec 6, 2022

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

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

All Movements

ID: 1020690, Location: 39.872066, -84.09919



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

Leg Direction	Executive Blvd Eastbound				Brandt Pike Northbound				Brandt Pike Southbound				
Time	L	R	U	App	L	T	U	App	T	R	U	App	Int
2022-12-06 7:00AM	4	20	0	24	11	44	0	55	208	2	0	210	289
7:15AM	2	15	0	17	11	59	0	70	227	5	0	232	319
7:30AM	6	12	0	18	24	92	0	116	296	7	0	303	437
7:45AM	8	32	0	40	32	114	0	146	217	5	0	222	408
Hourly Total	20	79	0	99	78	309	0	387	948	19	0	967	1453
8:00AM	10	32	0	42	28	96	0	124	185	4	0	189	355
8:15AM	0	20	0	20	17	82	0	99	182	8	0	190	309
8:30AM	9	21	0	30	18	95	0	113	197	3	0	200	343
8:45AM	6	25	0	31	28	119	0	147	166	14	0	180	358
Hourly Total	25	98	0	123	91	392	0	483	730	29	0	759	1365
4:00PM	36	49	0	85	41	203	0	244	167	18	0	185	514
4:15PM	42	46	0	88	41	257	0	298	175	11	0	186	572
4:30PM	48	56	0	104	49	230	0	279	156	14	0	170	553
4:45PM	30	58	0	88	49	251	0	300	190	20	0	210	598
Hourly Total	156	209	0	365	180	941	0	1121	688	63	0	751	2237
5:00PM	46	54	0	100	46	239	0	285	166	12	0	178	563
5:15PM	49	44	0	93	44	297	0	341	170	16	0	186	620
5:30PM	35	43	0	78	45	239	0	284	183	14	0	197	559
5:45PM	43	39	0	82	56	233	0	289	144	14	0	158	529
Hourly Total	173	180	0	353	191	1008	0	1199	663	56	0	719	2271
Total	374	566	0	940	540	2650	0	3190	3029	167	0	3196	7326
% Approach	39.8%	60.2%	0%	-	16.9%	83.1%	0%	-	94.8%	5.2%	0%	-	-
% Total	5.1%	7.7%	0%	12.8%	7.4%	36.2%	0%	43.5%	41.3%	2.3%	0%	43.6%	-
Lights	365	528	0	893	500	2581	0	3081	2971	158	0	3129	7103
% Lights	97.6%	93.3%	0%	95.0%	92.6%	97.4%	0%	96.6%	98.1%	94.6%	0%	97.9%	97.0%
Articulated Trucks and Single-Unit Trucks	1	31	0	32	33	52	0	85	38	5	0	43	160
% Articulated Trucks and Single-Unit Trucks	0.3%	5.5%	0%	3.4%	6.1%	2.0%	0%	2.7%	1.3%	3.0%	0%	1.3%	2.2%
Buses	8	7	0	15	7	17	0	24	20	4	0	24	63
% Buses	2.1%	1.2%	0%	1.6%	1.3%	0.6%	0%	0.8%	0.7%	2.4%	0%	0.8%	0.9%

*L: Left, R: Right, T: Thru, U: U-Turn

Executive Boulevard & Brandt Pike - TMC

Tue Dec 6, 2022

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

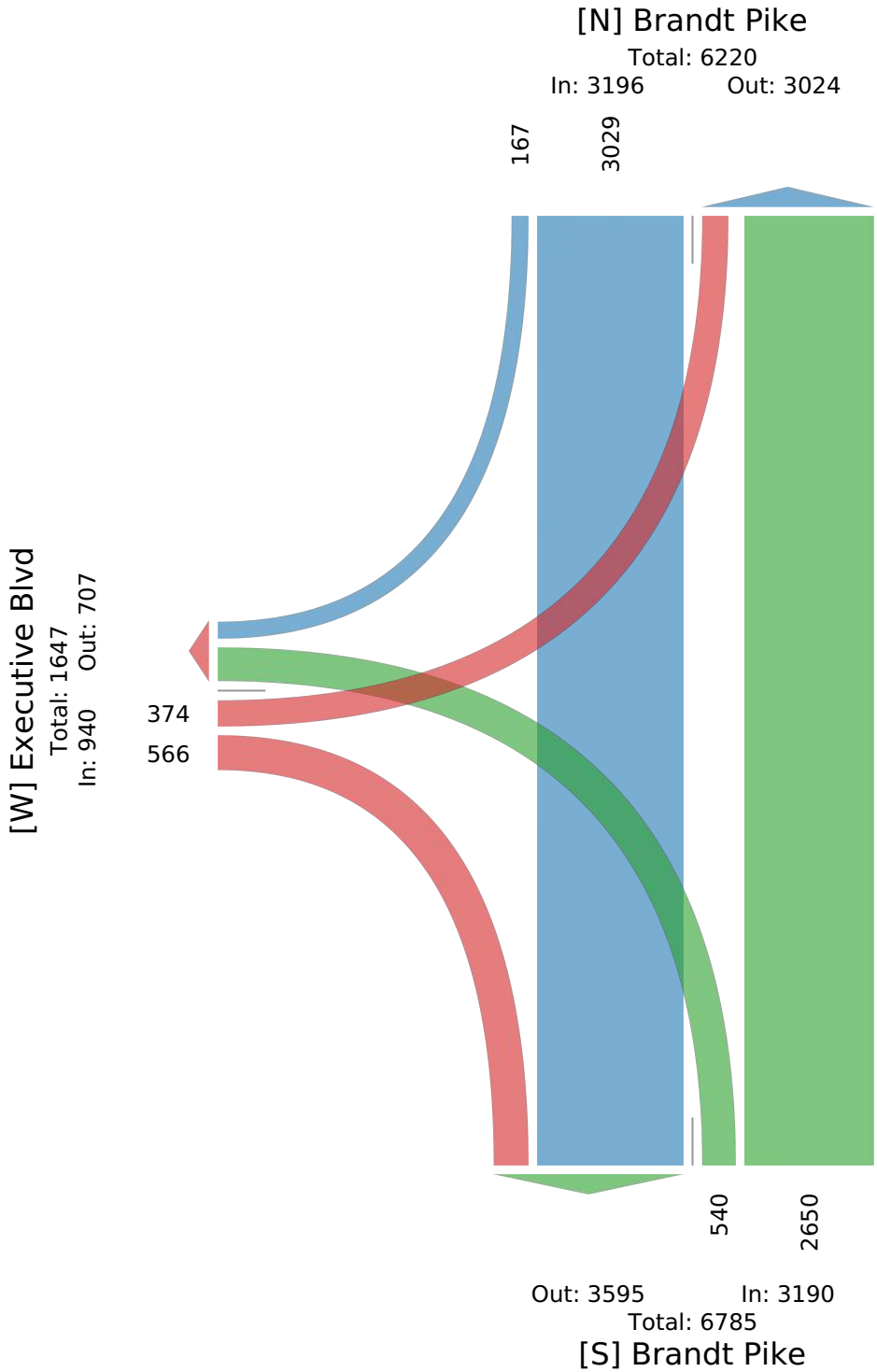
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)

All Movements

ID: 1020690, Location: 39.872066, -84.09919



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



Executive Boulevard & Brandt Pike - TMC

Tue Dec 6, 2022

AM Peak (7:15 AM - 8:15 AM)

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

All Movements

ID: 1020690, Location: 39.872066, -84.09919



Provided by: Gewalt Hamilton Associates Inc.

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

Leg Direction	Executive Blvd Eastbound				Brandt Pike Northbound				Brandt Pike Southbound				
Time	L	R	U	App	L	T	U	App	T	R	U	App	Int
2022-12-06 7:15AM	2	15	0	17	11	59	0	70	227	5	0	232	319
7:30AM	6	12	0	18	24	92	0	116	296	7	0	303	437
7:45AM	8	32	0	40	32	114	0	146	217	5	0	222	408
8:00AM	10	32	0	42	28	96	0	124	185	4	0	189	355
Total	26	91	0	117	95	361	0	456	925	21	0	946	1519
% Approach	22.2%	77.8%	0%	-	20.8%	79.2%	0%	-	97.8%	2.2%	0%	-	-
% Total	1.7%	6.0%	0%	7.7%	6.3%	23.8%	0%	30.0%	60.9%	1.4%	0%	62.3%	-
PHF	0.650	0.711	-	0.696	0.742	0.792	-	0.781	0.781	0.750	-	0.781	0.869
Lights	24	78	0	102	84	340	0	424	911	19	0	930	1456
% Lights	92.3%	85.7%	0%	87.2%	88.4%	94.2%	0%	93.0%	98.5%	90.5%	0%	98.3%	95.9%
Articulated Trucks and Single-Unit Trucks	0	12	0	12	9	16	0	25	14	1	0	15	52
% Articulated Trucks and Single-Unit Trucks	0%	13.2%	0%	10.3%	9.5%	4.4%	0%	5.5%	1.5%	4.8%	0%	1.6%	3.4%
Buses	2	1	0	3	2	5	0	7	0	1	0	1	11
% Buses	7.7%	1.1%	0%	2.6%	2.1%	1.4%	0%	1.5%	0%	4.8%	0%	0.1%	0.7%

* L: Left, R: Right, T: Thru, U: U-Turn

Executive Boulevard & Brandt Pike - TMC

Tue Dec 6, 2022

AM Peak (7:15 AM - 8:15 AM)

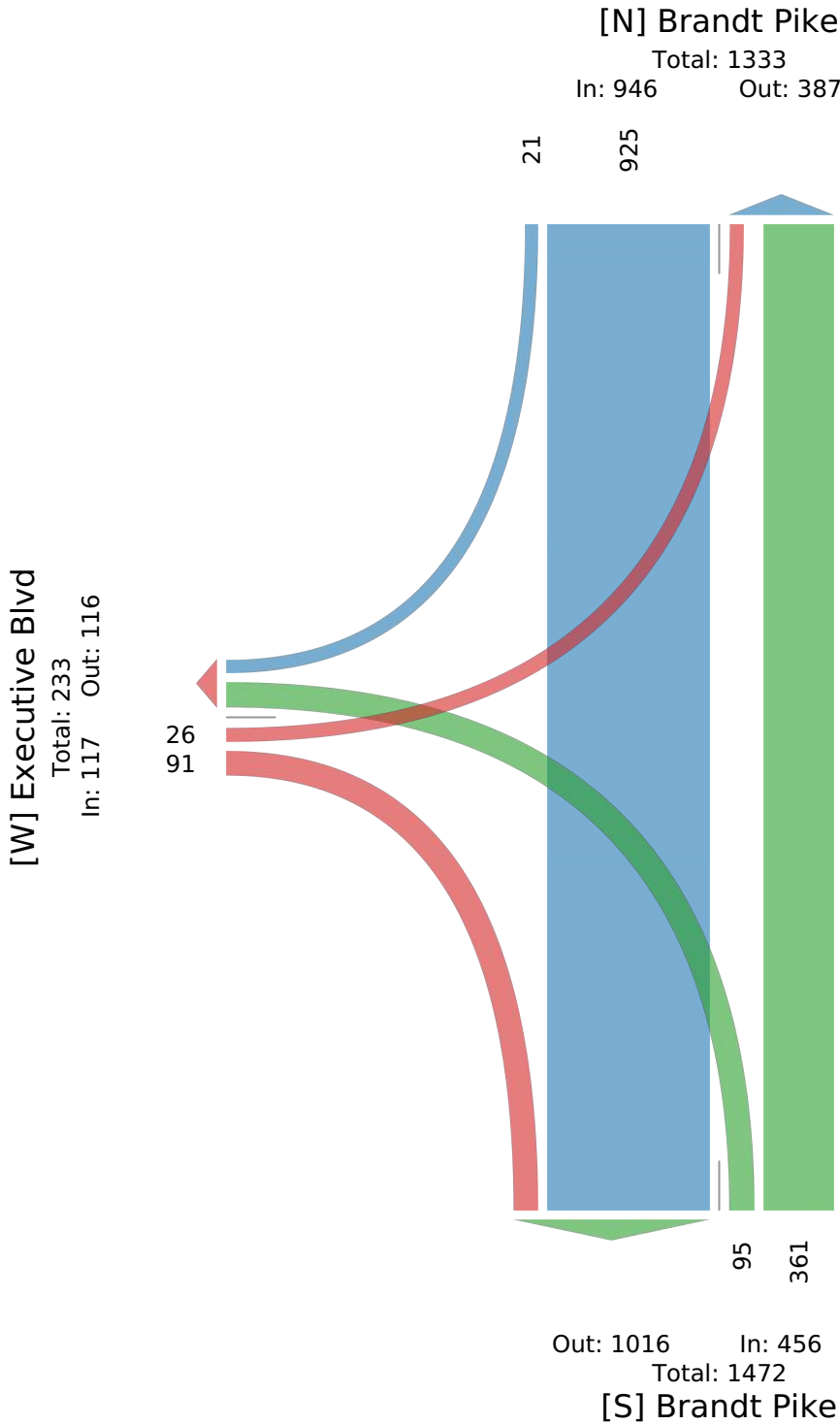
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)

All Movements

ID: 1020690, Location: 39.872066, -84.09919



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



Executive Boulevard & Brandt Pike - TMC

Tue Dec 6, 2022

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

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

All Movements

ID: 1020690, Location: 39.872066, -84.09919



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

Leg Direction	Executive Blvd Eastbound				Brandt Pike Northbound				Brandt Pike Southbound				
Time	L	R	U	App	L	T	U	App	T	R	U	App	Int
2022-12-06 4:45PM	30	58	0	88	49	251	0	300	190	20	0	210	598
5:00PM	46	54	0	100	46	239	0	285	166	12	0	178	563
5:15PM	49	44	0	93	44	297	0	341	170	16	0	186	620
5:30PM	35	43	0	78	45	239	0	284	183	14	0	197	559
Total	160	199	0	359	184	1026	0	1210	709	62	0	771	2340
% Approach	44.6%	55.4%	0%	-	15.2%	84.8%	0%	-	92.0%	8.0%	0%	-	-
% Total	6.8%	8.5%	0%	15.3%	7.9%	43.8%	0%	51.7%	30.3%	2.6%	0%	32.9%	-
PHF	0.816	0.858	-	0.898	0.939	0.864	-	0.887	0.933	0.775	-	0.918	0.944
Lights	158	191	0	349	172	1018	0	1190	699	60	0	759	2298
% Lights	98.8%	96.0%	0%	97.2%	93.5%	99.2%	0%	98.3%	98.6%	96.8%	0%	98.4%	98.2%
Articulated Trucks and Single-Unit Trucks	1	7	0	8	10	8	0	18	10	1	0	11	37
% Articulated Trucks and Single-Unit Trucks	0.6%	3.5%	0%	2.2%	5.4%	0.8%	0%	1.5%	1.4%	1.6%	0%	1.4%	1.6%
Buses	1	1	0	2	2	0	0	2	0	1	0	1	5
% Buses	0.6%	0.5%	0%	0.6%	1.1%	0%	0%	0.2%	0%	1.6%	0%	0.1%	0.2%

* L: Left, R: Right, T: Thru, U: U-Turn

Executive Boulevard & Brandt Pike - TMC

Tue Dec 6, 2022

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

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

All Movements

ID: 1020690, Location: 39.872066, -84.09919



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

[N] Brandt Pike

Total: 1957

In: 771

Out: 1186

62

709

[W] Executive Blvd

Total: 605

In: 359 Out: 246

160
199

184

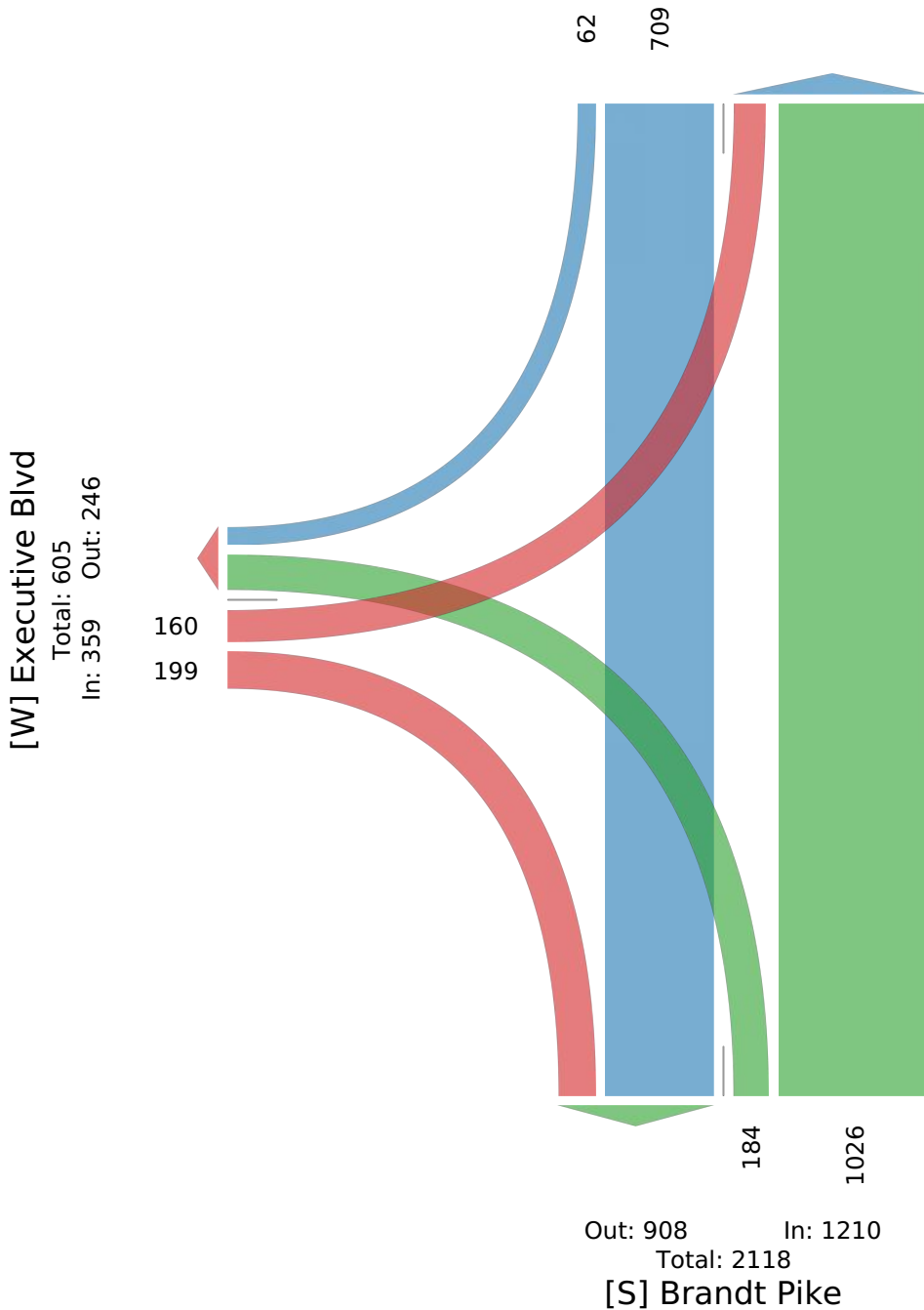
1026

Out: 908

In: 1210

Total: 2118

[S] Brandt Pike



Executive Boulevard & Lehman Lane - TMC

Tue Dec 6, 2022

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

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

All Movements

ID: 1020689, Location: 39.871996, -84.100851



Provided by: Gewalt Hamilton Associates Inc.

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

Leg Direction	Executive Blvd Eastbound				Executive Blvd Westbound				Lehman Ln Southbound				
Time	L	T	U	App	T	R	U	App	L	R	U	App	Int
2022-12-06 7:00AM	0	15	0	15	11	3	0	14	9	1	0	10	39
7:15AM	0	12	0	12	15	1	0	16	5	2	0	7	35
7:30AM	0	13	0	13	28	3	0	31	5	6	0	11	55
7:45AM	2	32	0	34	33	2	0	35	9	1	0	10	79
Hourly Total	2	72	0	74	87	9	0	96	28	10	0	38	208
8:00AM	1	35	0	36	32	1	0	33	8	3	0	11	80
8:15AM	3	13	0	16	27	0	0	27	6	0	0	6	49
8:30AM	0	29	0	29	20	3	0	23	3	1	0	4	56
8:45AM	0	28	0	28	40	1	0	41	4	1	0	5	74
Hourly Total	4	105	0	109	119	5	0	124	21	5	0	26	259
4:00PM	2	80	0	82	52	6	0	58	3	1	0	4	144
4:15PM	2	82	0	84	43	9	0	52	9	4	0	13	149
4:30PM	9	93	0	102	59	4	0	63	6	2	0	8	173
4:45PM	1	92	1	94	62	5	0	67	3	3	0	6	167
Hourly Total	14	347	1	362	216	24	0	240	21	10	0	31	633
5:00PM	9	95	0	104	55	4	0	59	1	2	0	3	166
5:15PM	2	88	0	90	58	3	0	61	2	2	0	4	155
5:30PM	8	73	0	81	54	3	0	57	4	1	0	5	143
5:45PM	5	82	0	87	67	2	0	69	2	3	0	5	161
Hourly Total	24	338	0	362	234	12	0	246	9	8	0	17	625
Total	44	862	1	907	656	50	0	706	79	33	0	112	1725
% Approach	4.9%	95.0%	0.1%	-	92.9%	7.1%	0%	-	70.5%	29.5%	0%	-	-
% Total	2.6%	50.0%	0.1%	52.6%	38.0%	2.9%	0%	40.9%	4.6%	1.9%	0%	6.5%	-
Lights	44	815	1	860	607	50	0	657	78	33	0	111	1628
% Lights	100%	94.5%	100%	94.8%	92.5%	100%	0%	93.1%	98.7%	100%	0%	99.1%	94.4%
Articulated Trucks and Single-Unit Trucks	0	34	0	34	36	0	0	36	0	0	0	0	70
% Articulated Trucks and Single-Unit Trucks	0%	3.9%	0%	3.7%	5.5%	0%	0%	5.1%	0%	0%	0%	0%	4.1%
Buses	0	13	0	13	13	0	0	13	1	0	0	1	27
% Buses	0%	1.5%	0%	1.4%	2.0%	0%	0%	1.8%	1.3%	0%	0%	0.9%	1.6%

*L: Left, R: Right, T: Thru, U: U-Turn

Executive Boulevard & Lehman Lane - TMC

Tue Dec 6, 2022

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

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

All Movements

ID: 1020689, Location: 39.871996, -84.100851



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

[N] Lehman Ln

Total: 206

In: 112 Out: 94

33
79

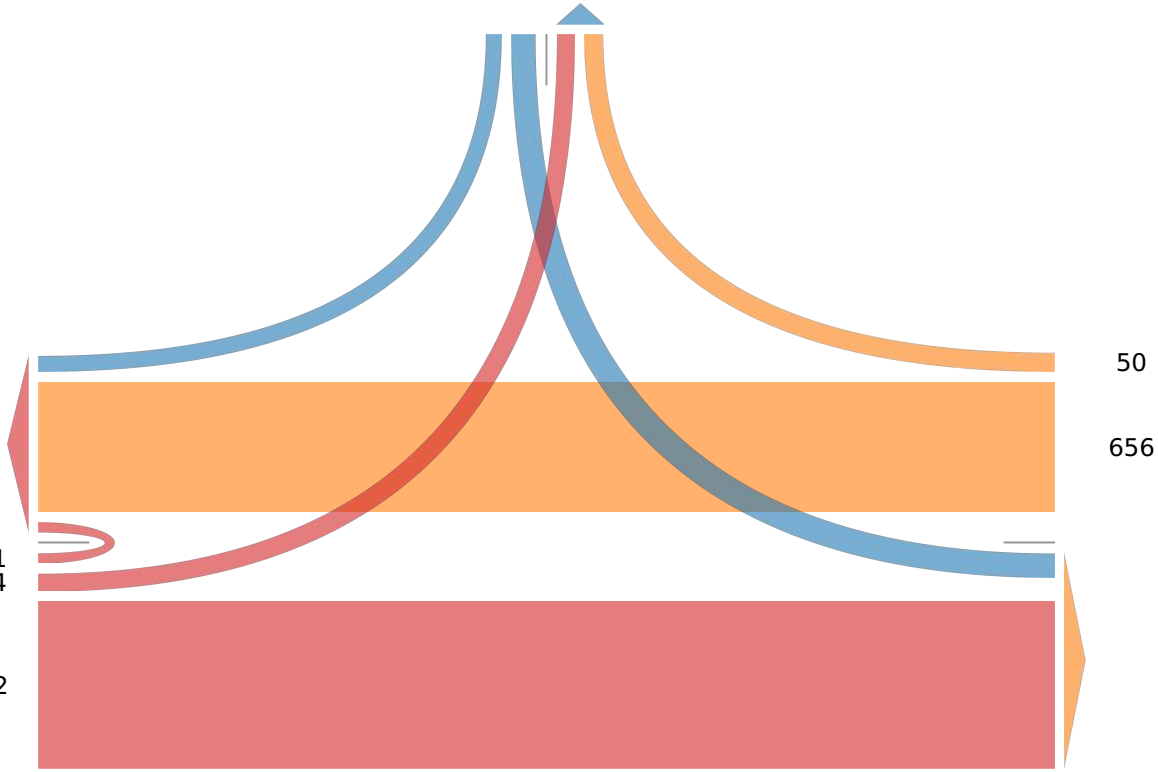
[W] Executive Blvd

Total: 1597

Out: 690

In: 907

1
44
862



50
656

In: 706

Out: 941

Total: 1647

[E] Executive Blvd

Executive Boulevard & Lehman Lane - TMC

Tue Dec 6, 2022

Forced Peak (7:15 AM - 8:15 AM)

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

All Movements

ID: 1020689, Location: 39.871996, -84.100851



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

Leg Direction	Executive Blvd Eastbound				Executive Blvd Westbound				Lehman Ln Southbound				
Time	L	T	U	App	T	R	U	App	L	R	U	App	Int
2022-12-06 7:15AM	0	12	0	12	15	1	0	16	5	2	0	7	35
7:30AM	0	13	0	13	28	3	0	31	5	6	0	11	55
7:45AM	2	32	0	34	33	2	0	35	9	1	0	10	79
8:00AM	1	35	0	36	32	1	0	33	8	3	0	11	80
Total	3	92	0	95	108	7	0	115	27	12	0	39	249
% Approach	3.2%	96.8%	0%	-	93.9%	6.1%	0%	-	69.2%	30.8%	0%	-	-
% Total	1.2%	36.9%	0%	38.2%	43.4%	2.8%	0%	46.2%	10.8%	4.8%	0%	15.7%	-
PHF	0.375	0.657	-	0.660	0.818	0.583	-	0.821	0.750	0.500	-	0.886	0.778
Lights	3	77	0	80	94	7	0	101	27	12	0	39	220
% Lights	100%	83.7%	0%	84.2%	87.0%	100%	0%	87.8%	100%	100%	0%	100%	88.4%
Articulated Trucks and Single-Unit Trucks	0	12	0	12	11	0	0	11	0	0	0	0	23
% Articulated Trucks and Single-Unit Trucks	0%	13.0%	0%	12.6%	10.2%	0%	0%	9.6%	0%	0%	0%	0%	9.2%
Buses	0	3	0	3	3	0	0	3	0	0	0	0	6
% Buses	0%	3.3%	0%	3.2%	2.8%	0%	0%	2.6%	0%	0%	0%	0%	2.4%

* L: Left, R: Right, T: Thru, U: U-Turn

Executive Boulevard & Lehman Lane - TMC

Tue Dec 6, 2022

Forced Peak (7:15 AM - 8:15 AM)

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

All Movements

ID: 1020689, Location: 39.871996, -84.100851



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

[N] Lehman Ln

Total: 49

In: 39 Out: 10

12 27

[W] Executive Blvd

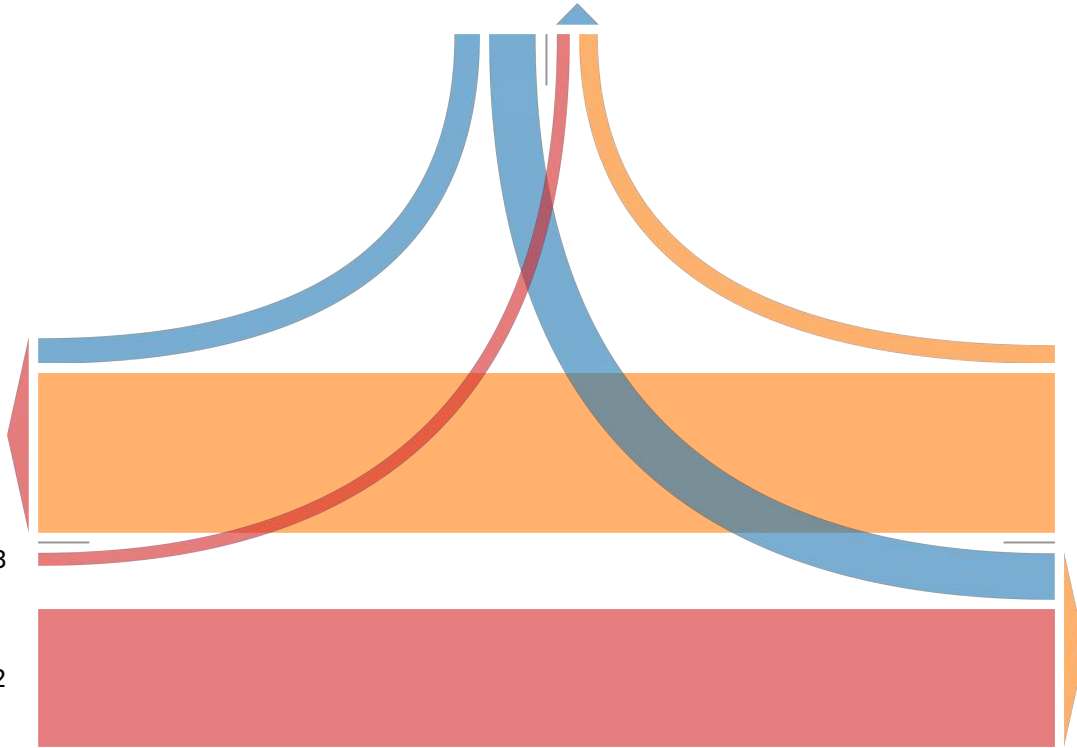
Total: 215

In: 95

Out: 120

3

92



7

108

Out: 119 In: 115

Total: 234

[E] Executive Blvd

Executive Boulevard & Lehman Lane - TMC

Tue Dec 6, 2022

Forced Peak (4:45 PM - 5:45 PM)

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

All Movements

ID: 1020689, Location: 39.871996, -84.100851



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

Leg Direction	Executive Blvd Eastbound				Executive Blvd Westbound				Lehman Ln Southbound				Int
	L	T	U	App	T	R	U	App	L	R	U	App	
Time													
2022-12-06 4:45PM	1	92	1	94	62	5	0	67	3	3	0	6	167
5:00PM	9	95	0	104	55	4	0	59	1	2	0	3	166
5:15PM	2	88	0	90	58	3	0	61	2	2	0	4	155
5:30PM	8	73	0	81	54	3	0	57	4	1	0	5	143
Total	20	348	1	369	229	15	0	244	10	8	0	18	631
% Approach	5.4%	94.3%	0.3%	-	93.9%	6.1%	0%	-	55.6%	44.4%	0%	-	-
% Total	3.2%	55.2%	0.2%	58.5%	36.3%	2.4%	0%	38.7%	1.6%	1.3%	0%	2.9%	-
PHF	0.556	0.916	0.250	0.887	0.923	0.750	-	0.910	0.625	0.667	-	0.750	0.945
Lights	20	339	1	360	215	15	0	230	10	8	0	18	608
% Lights	100%	97.4%	100%	97.6%	93.9%	100%	0%	94.3%	100%	100%	0%	100%	96.4%
Articulated Trucks and Single-Unit Trucks	0	7	0	7	10	0	0	10	0	0	0	0	17
% Articulated Trucks and Single-Unit Trucks	0%	2.0%	0%	1.9%	4.4%	0%	0%	4.1%	0%	0%	0%	0%	2.7%
Buses	0	2	0	2	4	0	0	4	0	0	0	0	6
% Buses	0%	0.6%	0%	0.5%	1.7%	0%	0%	1.6%	0%	0%	0%	0%	1.0%

* L: Left, R: Right, T: Thru, U: U-Turn

Executive Boulevard & Lehman Lane - TMC

Tue Dec 6, 2022

Forced Peak (4:45 PM - 5:45 PM)

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

All Movements

ID: 1020689, Location: 39.871996, -84.100851



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

[N] Lehman Ln

Total: 53

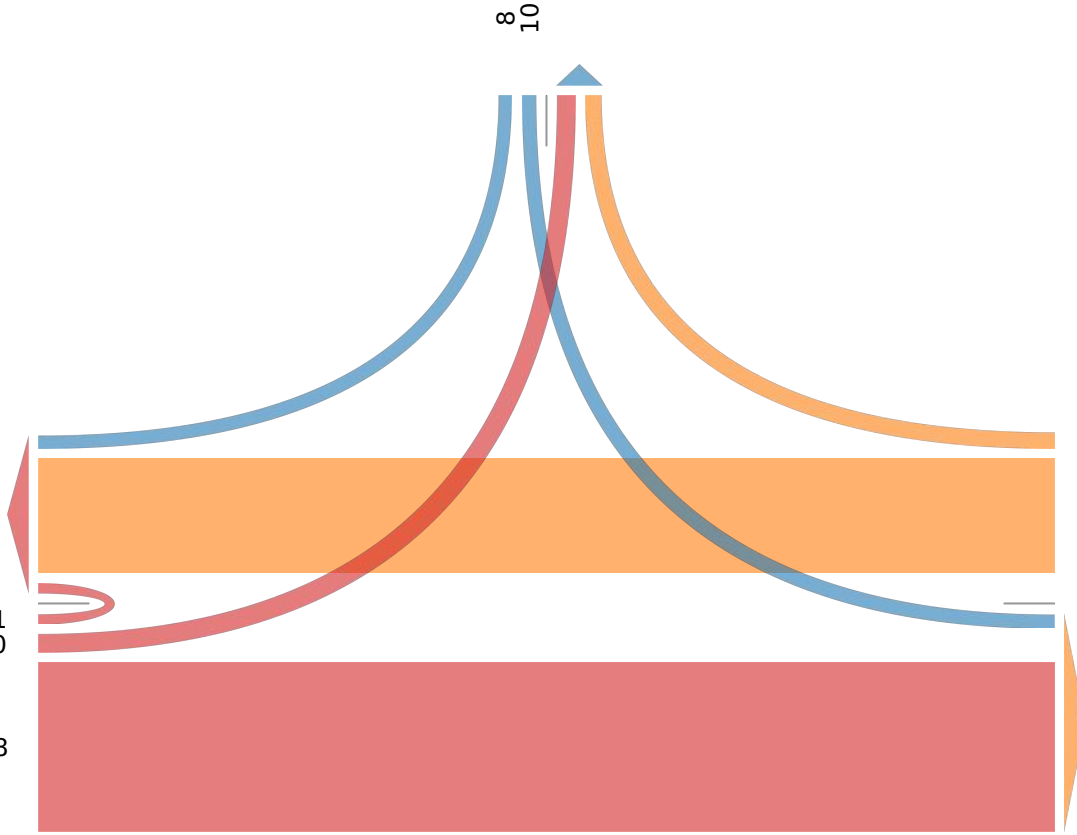
In: 18 Out: 35

10

[W] Executive Blvd

Total: 607
In: 369 Out: 238

1
20
348



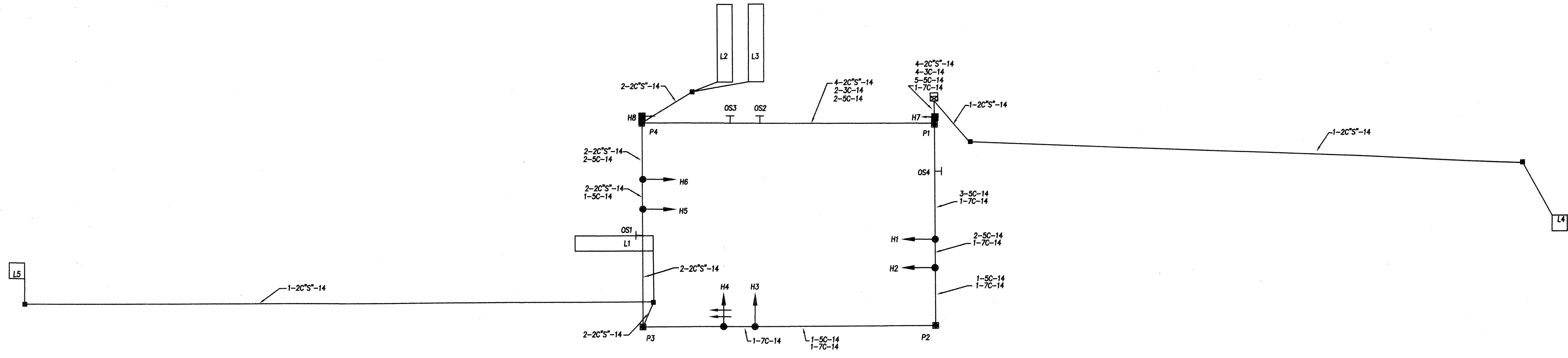
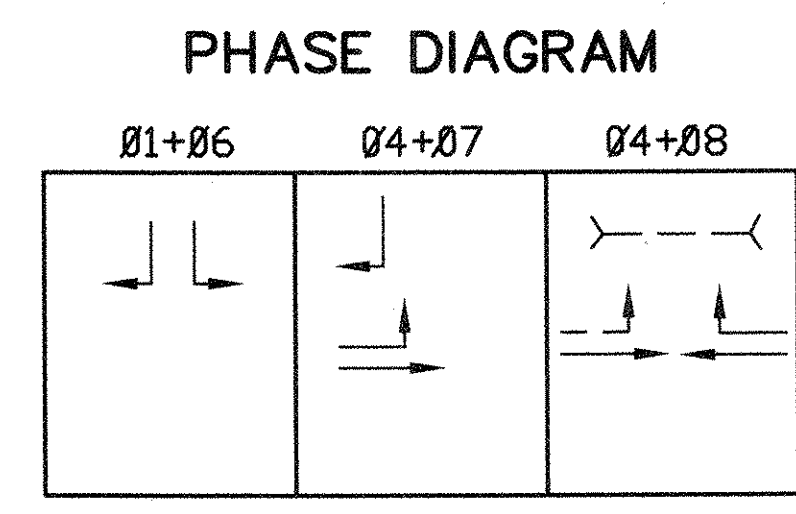
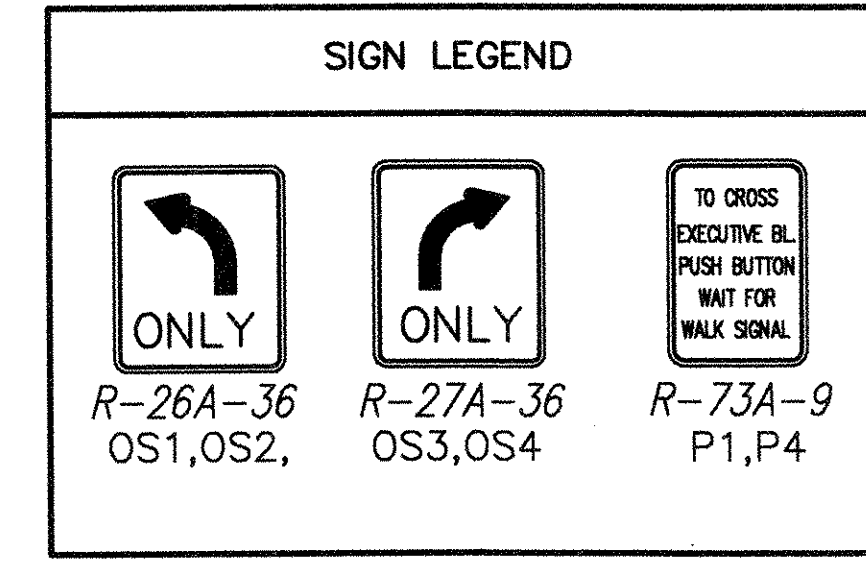
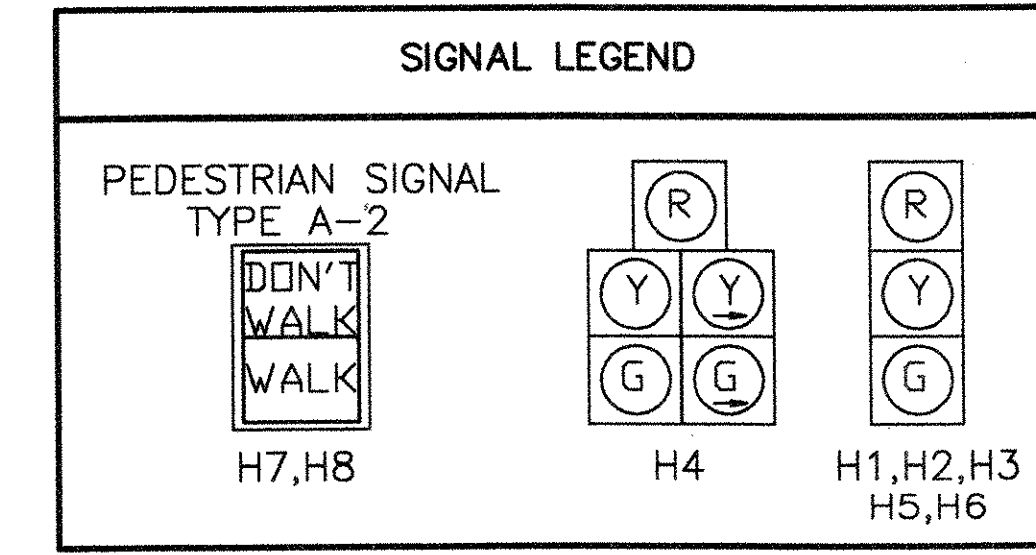
15
229

Out: 358 In: 244
Total: 602
[E] Executive Blvd

TIMING CHART									
START UP					DUAL ENTRY				
START IN: \sqrt{R} FLASH; ALL RED					REST IN RED:				
TIME FOR FLASH OR ALL RED 8.0 SEC.					[RING 1]; RING 2				
FIRST PHASE(S) # 4 & # 7					OVER LAP A B C D				
COLOR DISPLAYED: GREEN, YELLOW					PHASES 06				
CONTROLLER MOVEMENT NO.									
INTERVAL OR FEATURE	1	2	3	4	5	6	7	8	
INTERSECTION MOVEMENT	EBL			NB		EBR	NBL	SB	
MINIMUM GREEN (INITIAL) (SEC.)	10			12		10	8	12	
ADDED INITIAL* (SEC./ACTUATION)									
PASSAGE TIME (PRESET GAP) (SEC.)	2.5			2.5		2.5	2.5	2.5	
TIME BEFORE REDUCTION *(SEC.)									
MINIMUM GAP *(SEC.)									
TIME TO REDUCE *(SEC.)									
MAXIMUM GREEN I (SEC.)	23			44		23	16	44	
MAXIMUM GREEN II (SEC.)	0			0		0	0	0	
YELLOW CHANGE (SEC.)	3.5			3.5		3.5	3.5	3.5	
ALL RED CLEARANCE (SEC.)	2.3			1.9		2.3	2.3	1.9	
WALK (SEC.)	0			4		0	0	4	
PEDESTRIAN CLEARANCE (SEC.)	0			15		0	0	15	
RECALL	MAXIMUM (ON/OFF)	OFF		OFF		OFF	OFF	OFF	
	MINIMUM (ON/OFF)	OFF		OFF		OFF	OFF	OFF	
	PEDESTRIAN (ON/OFF)	OFF		OFF		OFF	OFF	OFF	
MEMORY (ON/OFF)	OFF			OFF		OFF	OFF	OFF	
CALL TO NON-ACTUATED	NO. 1	OFF		ON		OFF	OFF	ON	
	NO. 2								

* VOLUME DENSITY CONTROLS
 NOTE: FLASH YELLOW TO S.R. 201 AND RED TO EXECUTIVE BLBD FOR U.C.F. (UNIFORM CODE FLASH).

DETECTOR UNIT TABLE										
LOOP NO.	DET. UNIT	LOCATION	REF. SIZE	PHASE	TYPE	TURNS	OPERATION	DELAY TIME	EXTEND TIME	OVERRIDE PHASE
L1	1	N.B. LEFT	6'X30'	7	RECTANGLE	2	PRESENCE			
L2	2	E.B. RIGHT	6'X30'	6	RECTANGLE	2	PRESENCE			
L3	3	E.B. LEFT	6'X30'	1	RECTANGLE	2	PRESENCE			
L4	4	S.B. THROUGH	6'X6'	8	SQUARE	4	PULSE			
L5	5	N.B. THROUGH	6'X6'	4	SQUARE	4	PULSE			



EACH RUN OF CABLE IS "HOME RUN", THAT IS, IT ORIGINATES AT THE CONTROLLER BACK PANEL AND TERMINATES AT A SIGNAL HEAD OR LOOP DETECTOR.

REVISIONS

DATE

NO.

CONTRACT No. 22639.05.094

SCALE 1"=20'

DES. 45402-1261

DWG. 937.461.5660

CKD. 937.461.0743

WOOLPERT LLP
 409 East Monument Avenue
 Dayton, Ohio
 45402-1261
 937.461.5660
 937.461.0743

WOOLPERT

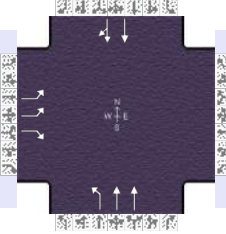
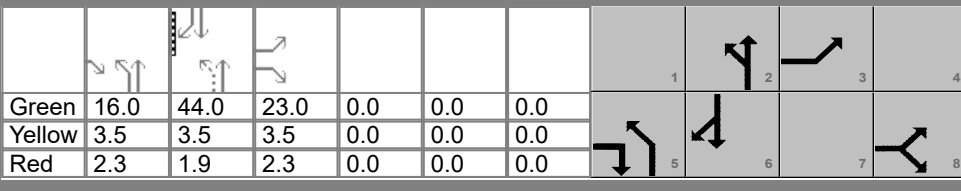
I-70 BUSSINESS PARK EXTENSION, PHASE III

TRAFFIC SIGNAL PLAN

SHEET NO. 31

APPENDIX C
2022 EXISTING TRAFFIC SCENARIO
CAPACITY ANALYSIS SUMMARY SHEETS

HCS Signalized Intersection Results Summary

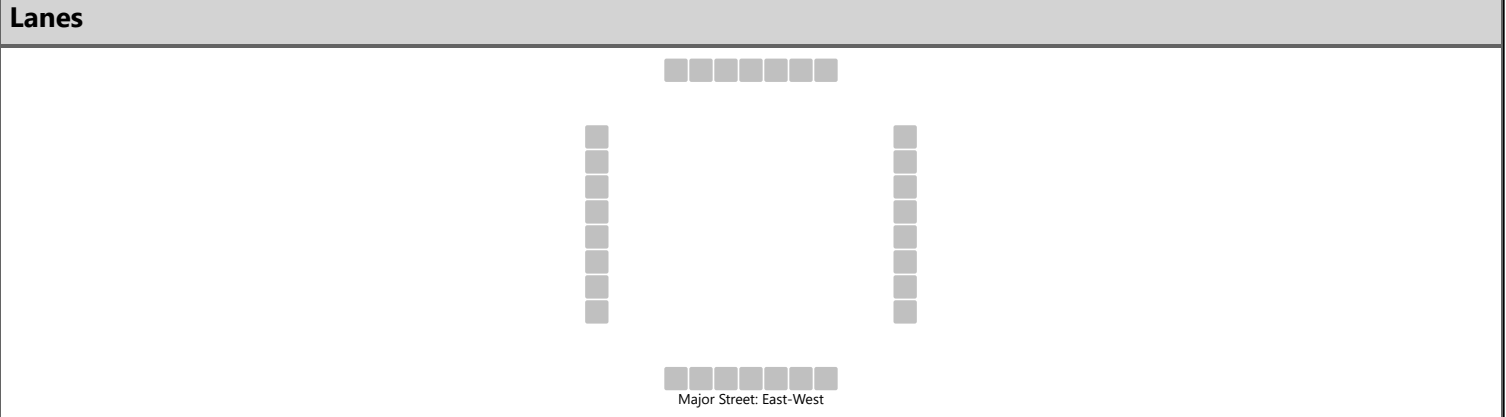
General Information						Intersection Information										
Agency	CESO					Duration, h	0.250									
Analyst	DMB		Analysis Date	12/16/2022		Area Type	Other									
Jurisdiction	City of Huber Heights		Time Period	AM Peak		PHF	0.87									
Urban Street	Executive Boulevard		Analysis Year	2022		Analysis Period	1 > 7:00									
Intersection	Brandt Pike & Executive...		File Name	01_AM.xus												
Project Description	2022 Existing Year															
Demand Information				EB			WB			NB			SB			
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R	
Demand (v), veh/h				26		93				96	361			925	21	
Signal Information																
Cycle, s	100.0	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	Yes	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On													
Green				16.0	44.0	23.0	0.0	0.0	0.0							
Yellow				3.5	3.5	3.5	0.0	0.0	0.0							
Red				2.3	1.9	2.3	0.0	0.0	0.0							
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT					
Assigned Phase					8			5	2			6				
Case Number					9.0			1.0	4.0			8.3				
Phase Duration, s					28.8			21.8	71.2			49.4				
Change Period, (Y+R _c), s					5.8			5.8	5.4			5.4				
Max Allow Headway (MAH), s					3.8			3.6	3.5			3.5				
Queue Clearance Time (g _s), s					6.9			4.6	6.7			25.1				
Green Extension Time (g _e), s					0.3			0.2	5.1			4.6				
Phase Call Probability					1.00			1.00	1.00			1.00				
Max Out Probability					0.00			0.00	0.00			0.08				
Movement Group Results				EB			WB			NB			SB			
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R	
Assigned Movement				3		18				5	2			6	16	
Adjusted Flow Rate (v), veh/h				30		107				110	415			546	542	
Adjusted Saturation Flow Rate (s), veh/h/ln				1579		1447				1711	1710			1870	1855	
Queue Service Time (g _s), s				0.7		4.9				2.6	4.7			23.1	23.1	
Cycle Queue Clearance Time (g _c), s				0.7		4.9				2.6	4.7			23.1	23.1	
Green Ratio (g/C)				0.23		0.39				0.62	0.66			0.44	0.44	
Capacity (c), veh/h				726		564				450	2250			823	816	
Volume-to-Capacity Ratio (X)				0.041		0.189				0.245	0.184			0.663	0.663	
Back of Queue (Q), ft/ln (95 th percentile)				13.8		80.1				42.7	72.2			385.9	377.4	
Back of Queue (Q), veh/ln (95 th percentile)				0.5		2.9				1.6	2.7			15.2	15.1	
Queue Storage Ratio (RQ) (95 th percentile)				0.04		0.26				0.19	0.06			0.80	0.80	
Uniform Delay (d ₁), s/veh				29.9		20.1				11.8	6.7			22.1	22.1	
Incremental Delay (d ₂), s/veh				0.0		0.1				0.2	0.0			1.8	1.9	
Initial Queue Delay (d ₃), s/veh				0.0		0.0				0.0	0.0			0.0	0.0	
Control Delay (d), s/veh				29.9		20.2				12.0	6.7			24.0	24.0	
Level of Service (LOS)				C		C				B	A			C	C	
Approach Delay, s/veh / LOS				22.3	C	0.0				7.8	A		24.0	C		
Intersection Delay, s/veh / LOS				19.0					B							
Multimodal Results				EB			WB			NB			SB			
Pedestrian LOS Score / LOS				2.31	B	2.15	B	0.67	A	2.10	B					
Bicycle LOS Score / LOS					F			0.92	A	1.38	A					

HCS Signalized Intersection Results Summary

General Information					Intersection Information											
Agency	CESO				Duration, h	0.250										
Analyst	DMB		Analysis Date	12/16/2022		Area Type	Other									
Jurisdiction	City of Huber Heights		Time Period	PM Peak		PHF	0.94									
Urban Street	Executive Boulevard		Analysis Year	2022		Analysis Period	1 > 7:00									
Intersection	Brandt Pike & Executive...		File Name	01_PM.xus												
Project Description	2022 Existing Year															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					160		199				184	1026			709	62
Signal Information																
Cycle, s	100.0	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	Yes	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On													
Green	16.0	44.0	23.0	0.0	0.0	0.0										
Yellow	3.5	3.5	3.5	0.0	0.0	0.0										
Red	2.3	1.9	2.3	0.0	0.0	0.0										
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase						8			5	2		6				
Case Number						9.0			1.0	4.0		8.3				
Phase Duration, s						28.8			21.8	71.2		49.4				
Change Period, (Y+R _c), s						5.8			5.8	5.4		5.4				
Max Allow Headway (MAH), s						3.8			3.6	3.5		3.5				
Queue Clearance Time (g _s), s						11.5			6.7	17.1		18.0				
Green Extension Time (g _e), s						0.9			0.3	7.3		7.2				
Phase Call Probability						1.00			1.00	1.00		1.00				
Max Out Probability						0.01			0.01	0.07		0.08				
Movement Group Results					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					3		18				5	2			6	16
Adjusted Flow Rate (v), veh/h					170		212				196	1091			416	404
Adjusted Saturation Flow Rate (s), veh/h/ln					1716		1572				1781	1781			1870	1817
Queue Service Time (g _s), s					4.0		9.5				4.7	15.1			16.0	16.0
Cycle Queue Clearance Time (g _c), s					4.0		9.5				4.7	15.1			16.0	16.0
Green Ratio (g/C)					0.23		0.39				0.62	0.66			0.44	0.44
Capacity (c), veh/h					789		613				544	2343			823	799
Volume-to-Capacity Ratio (X)					0.216		0.345				0.360	0.466			0.505	0.506
Back of Queue (Q), ft/ln (95 th percentile)					75.9		157.8				76.4	223			279.4	268.9
Back of Queue (Q), veh/ln (95 th percentile)					3.0		6.2				3.0	8.8			11.0	10.8
Queue Storage Ratio (RQ) (95 th percentile)					0.24		0.51				0.33	0.17			0.58	0.57
Uniform Delay (d ₁), s/veh					31.2		21.5				10.4	8.4			20.2	20.2
Incremental Delay (d ₂), s/veh					0.1		0.2				0.3	0.1			0.4	0.4
Initial Queue Delay (d ₃), s/veh					0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (d), s/veh					31.3		21.7				10.7	8.5			20.5	20.6
Level of Service (LOS)					C		C				B	A			C	C
Approach Delay, s/veh / LOS					26.0		C	0.0			8.9	A	20.5		C	
Intersection Delay, s/veh / LOS					15.3			B								
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS					2.31		B	2.15		B	0.67		A	2.10		B
Bicycle LOS Score / LOS							F				1.55		B	1.16		A

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Executive Boulevard & Lehman Lane		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Executive Boulevard		
Analysis Year	2022			North/South Street	Lehman Lane		
Time Analyzed	AM Peak			Peak Hour Factor	0.80		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Existing Traffic Scenario						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	3	92				110	7						27		12
Percent Heavy Vehicles (%)	3	16												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

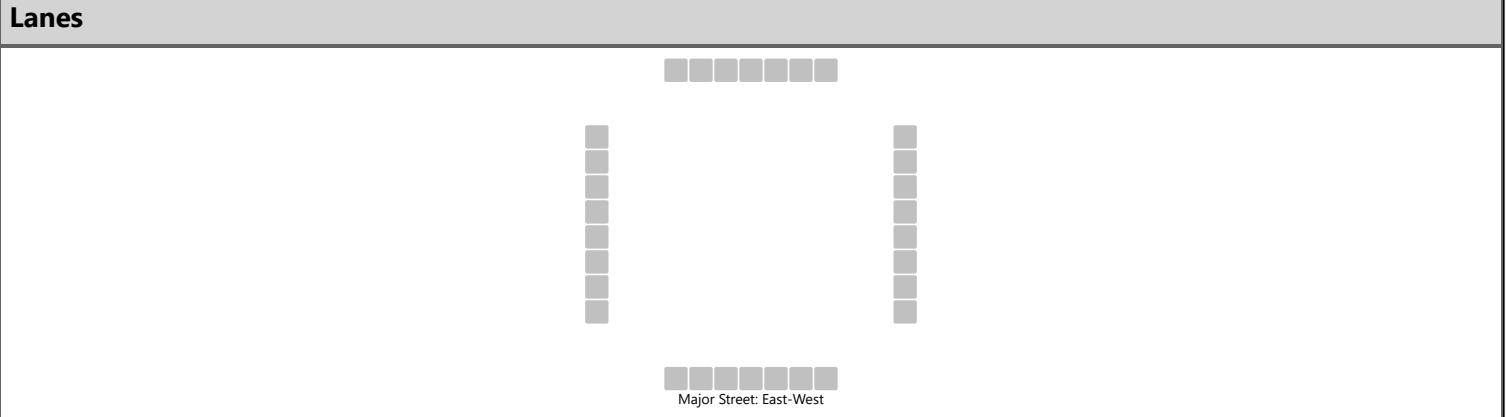
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.42												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.36												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4												34		15
Capacity, c (veh/h)		1337												698		971
v/c Ratio		0.00												0.05		0.02
95% Queue Length, Q ₉₅ (veh)		0.0												0.2		0.0
Control Delay (s/veh)		7.7												10.4		8.8
Level of Service (LOS)		A												B		A
Approach Delay (s/veh)	0.2												9.9			
Approach LOS	A												A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Executive Boulevard & Lehman Lane		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Executive Boulevard		
Analysis Year	2022			North/South Street	Lehman Lane		
Time Analyzed	PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Existing Traffic Scenario						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	20	349				231	15						10		8
Percent Heavy Vehicles (%)	3	16												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.42												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.36												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		21												11		8	
Capacity, c (veh/h)		1207												387		893	
v/c Ratio		0.02												0.03		0.01	
95% Queue Length, Q ₉₅ (veh)		0.1												0.1		0.0	
Control Delay (s/veh)		8.0												14.6		9.1	
Level of Service (LOS)		A												B		A	
Approach Delay (s/veh)		0.4												12.1			
Approach LOS		A												B			



APPENDIX D
GROWTH RATE DOCUMENTATION



Transportation Data Management
System

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	16357	Time	15-min Interval				Hourly Count
Type	SPOT		1st	2nd	3rd	4th	
Funct'l Class	4	0:00-1:00	38	29	32	28	127
Located On	BRANDT PIKE	1:00-2:00	21	22	17	23	83
Direction	2-WAY	2:00-3:00	12	15	8	9	44
County	MONTGOMERY	3:00-4:00	9	11	14	10	44
Community	HUBER HEIGHTS	4:00-5:00	17	20	33	49	119
MPO ID		5:00-6:00	51	64	93	106	314
HPMS ID		6:00-7:00	149	157	263	233	802
Agency	ODOT	7:00-8:00	265	283	383	342	1,273
		8:00-9:00	290	277	265	287	1,119
		9:00-10:00	247	269	243	277	1,036
		10:00-11:00	254	260	271	273	1,058
		11:00-12:00	323	301	325	320	1,269
		12:00-13:00	331	316	320	317	1,284
		13:00-14:00	288	324	343	305	1,260
		14:00-15:00	342	307	345	326	1,320
		15:00-16:00	328	394	390	439	1,551
		16:00-17:00	459	471	488	530	1,948
		17:00-18:00	523	532	478	487	2,020
		18:00-19:00	458	402	375	347	1,582
		19:00-20:00	309	333	340	283	1,265
		20:00-21:00	330	263	261	270	1,124
		21:00-22:00	225	194	194	160	773
		22:00-23:00	136	109	110	86	441
		23:00-24:00	77	76	69	56	278
		Total					22,134
		AADT					20,098
		AM Peak	07:15-08:15				1,298
		PM Peak	16:30-17:30				2,073

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 6/6/2019
End Date	Fri 6/7/2019
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	
Station	XC32861
Study	
Speed Limit	
Description	
Sensor Type	ATR Class
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	



Transportation Data Management System

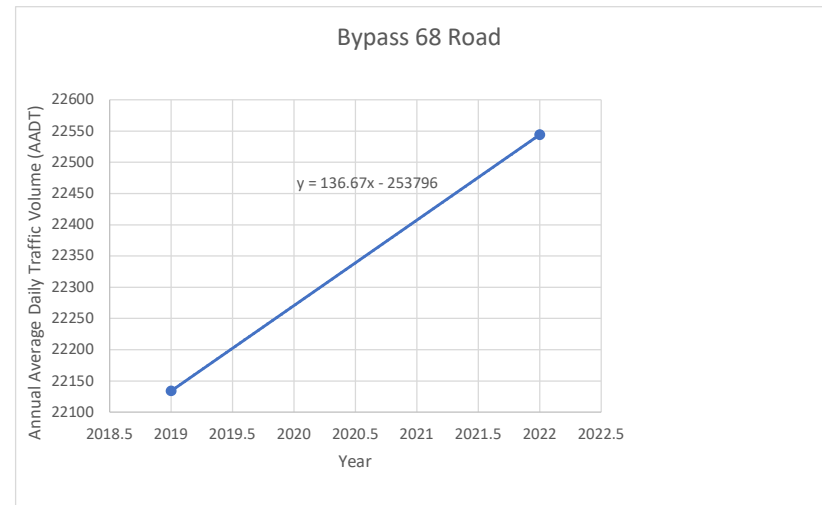
Volume Count Report

LOCATION INFO	
Location ID	16357
Type	SPOT
Funct'l Class	4
Located On	BRANDT PIKE
Direction	2-WAY
County	MONTGOMERY
Community	HUBER HEIGHTS
MPO ID	
HPMS ID	
Agency	ODOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Tue 5/24/2022
End Date	Wed 5/25/2022
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	
Station	
Study	
Speed Limit	
Description	
Sensor Type	ATR Class
Source	
Latitude,Longitude	

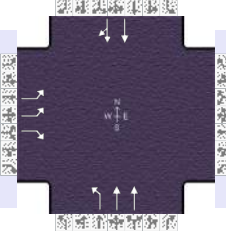
INTERVAL:15-MIN					
Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
▶ 0:00-1:00	33	39	30	27	129
1:00-2:00	25	16	20	15	76
2:00-3:00	11	10	11	14	46
3:00-4:00	9	17	9	21	56
4:00-5:00	14	28	27	39	108
5:00-6:00	54	64	91	143	352
6:00-7:00	148	187	244	287	866
7:00-8:00	298	333	374	367	1,372
8:00-9:00	336	294	325	297	1,252
9:00-10:00	248	261	283	240	1,032
10:00-11:00	272	264	267	288	1,091
11:00-12:00	291	309	321	309	1,230
12:00-13:00	338	283	348	284	1,253
13:00-14:00	315	342	290	359	1,306
14:00-15:00	309	360	307	385	1,361
15:00-16:00	407	421	428	412	1,668
16:00-17:00	437	505	524	548	2,014
17:00-18:00	542	536	455	491	2,024
18:00-19:00	436	413	392	382	1,623
19:00-20:00	336	308	277	268	1,189
20:00-21:00	267	275	262	245	1,049
21:00-22:00	224	185	212	153	774
22:00-23:00	140	118	96	69	423
23:00-24:00	◻ 64	64	62	60	250
Total					22,544
AADT					20,087
AM Peak					07:15-08:15 1,410
PM Peak					16:30-17:30 2,150

Brandt Pike				
Location ID: 16357				
Year	AADT	Years	Difference	
			(Total)	(Per Year)
		-	-	-
2019	22134	2019	22134	11
2022	22544	3	410	137
Slope of Line	136.67			
Growth Rate	0.61%			
1 Year Factor	1.0061			

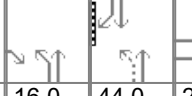
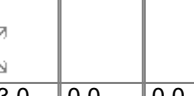
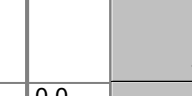
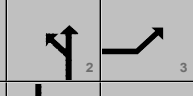


APPENDIX E
2023 NO-BUILD TRAFFIC SCENARIO
CAPACITY ANALYSIS SUMMARY SHEETS

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	CESO			Duration, h	0.250	
Analyst	DMB	Analysis Date	12/16/2022	Area Type	Other	
Jurisdiction	City of Huber Heights	Time Period	AM Peak	PHF	0.87	
Urban Street	Executive Boulevard	Analysis Year	2023	Analysis Period	1 > 7:00	
Intersection	Brandt Pike & Executive...	File Name	01_AM.xus			
Project Description	2023 No-Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	26		94				97	364			934	21

Signal Information												
Cycle, s	100.0	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	16.0	44.0	23.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.3	1.9	2.3	0.0	0.0	0.0	0.0	0.0

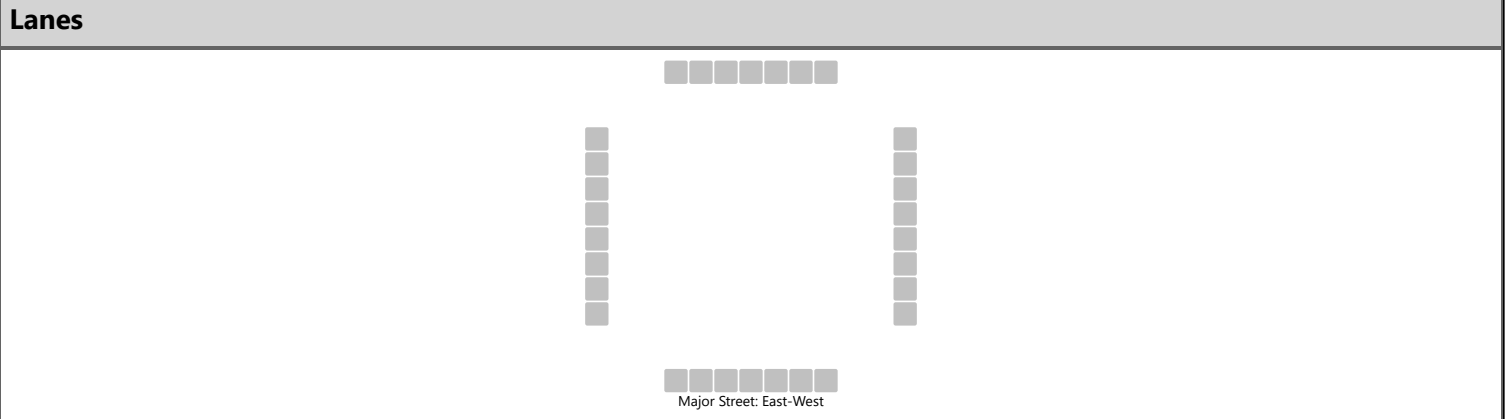
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8			5	2		6
Case Number		9.0			1.0	4.0		8.3
Phase Duration, s		28.8			21.8	71.2		49.4
Change Period, (Y+R _c), s		5.8			5.8	5.4		5.4
Max Allow Headway (MAH), s		3.8			3.6	3.5		3.5
Queue Clearance Time (g _s), s		6.9			4.6	6.8		25.4
Green Extension Time (g _e), s		0.3			0.2	5.1		4.7
Phase Call Probability		1.00			1.00	1.00		1.00
Max Out Probability		0.00			0.00	0.00		0.09

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3		18				5	2		6		16
Adjusted Flow Rate (v), veh/h	30		108				111	418		551		547
Adjusted Saturation Flow Rate (s), veh/h/ln	1579		1447				1711	1710		1870		1856
Queue Service Time (g _s), s	0.7		4.9				2.6	4.8		23.4		23.4
Cycle Queue Clearance Time (g _c), s	0.7		4.9				2.6	4.8		23.4		23.4
Green Ratio (g/C)	0.23		0.39				0.62	0.66		0.44		0.44
Capacity (c), veh/h	726		564				447	2250		823		816
Volume-to-Capacity Ratio (X)	0.041		0.191				0.249	0.186		0.670		0.670
Back of Queue (Q), ft/ln (95 th percentile)	13.8		81.2				43.2	73.1		391		382.4
Back of Queue (Q), veh/ln (95 th percentile)	0.5		2.9				1.6	2.8		15.4		15.3
Queue Storage Ratio (RQ) (95 th percentile)	0.04		0.26				0.19	0.06		0.81		0.81
Uniform Delay (d ₁), s/veh	29.9		20.1				11.9	6.7		22.2		22.2
Incremental Delay (d ₂), s/veh	0.0		0.1				0.2	0.0		1.9		2.0
Initial Queue Delay (d ₃), s/veh	0.0		0.0				0.0	0.0		0.0		0.0
Control Delay (d), s/veh	29.9		20.2				12.1	6.7		24.2		24.2
Level of Service (LOS)	C		C				B	A		C		C
Approach Delay, s/veh / LOS	22.3		C	0.0			7.8	A		24.2		C
Intersection Delay, s/veh / LOS	19.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.15	B	0.67	A	2.10	B
Bicycle LOS Score / LOS		F			0.92	A	1.39	A

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Executive Boulevard & Lehman Lane		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Executive Boulevard		
Analysis Year	2023			North/South Street	Lehman Lane		
Time Analyzed	AM Peak			Peak Hour Factor	0.80		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	2023 No-Build Traffic Scenario						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	3	93				111	7						27		12
Percent Heavy Vehicles (%)	3	16												3		3
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

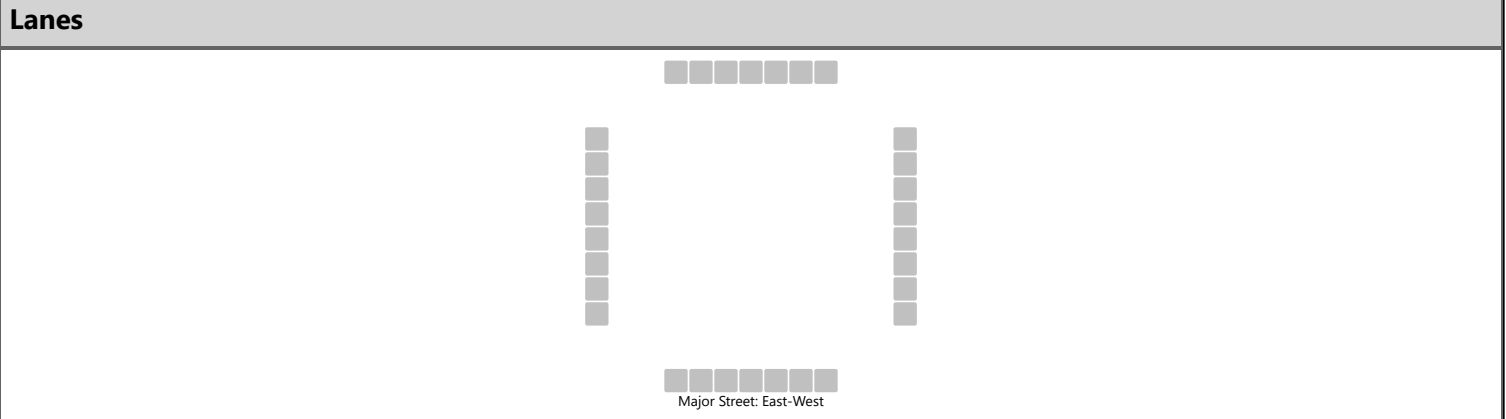
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.42												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.36												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4												34		15	
Capacity, c (veh/h)		1335												695		970	
v/c Ratio		0.00												0.05		0.02	
95% Queue Length, Q ₉₅ (veh)		0.0												0.2		0.0	
Control Delay (s/veh)		7.7												10.4		8.8	
Level of Service (LOS)		A												B		A	
Approach Delay (s/veh)		0.2												9.9			
Approach LOS		A												A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Executive Boulevard & Lehman Lane		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Executive Boulevard		
Analysis Year	2023			North/South Street	Lehman Lane		
Time Analyzed	PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	2023 No-Build Traffic Scenario						



Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	20	353				233	15						10		8
Percent Heavy Vehicles (%)	3	16												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.42												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.36												3.53		3.33

Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		21												11		8
Capacity, c (veh/h)		1205												383		892
v/c Ratio		0.02												0.03		0.01
95% Queue Length, Q ₉₅ (veh)		0.1												0.1		0.0
Control Delay (s/veh)		8.0												14.7		9.1
Level of Service (LOS)		A												B		A
Approach Delay (s/veh)	0.4												12.2			
Approach LOS	A												B			

APPENDIX F
ITE TRIP GENERATION RESOURCES AND CALCULATIONS

Convenience Store/Gas Station - GFA (5.5-10k) (945)

Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Weekday

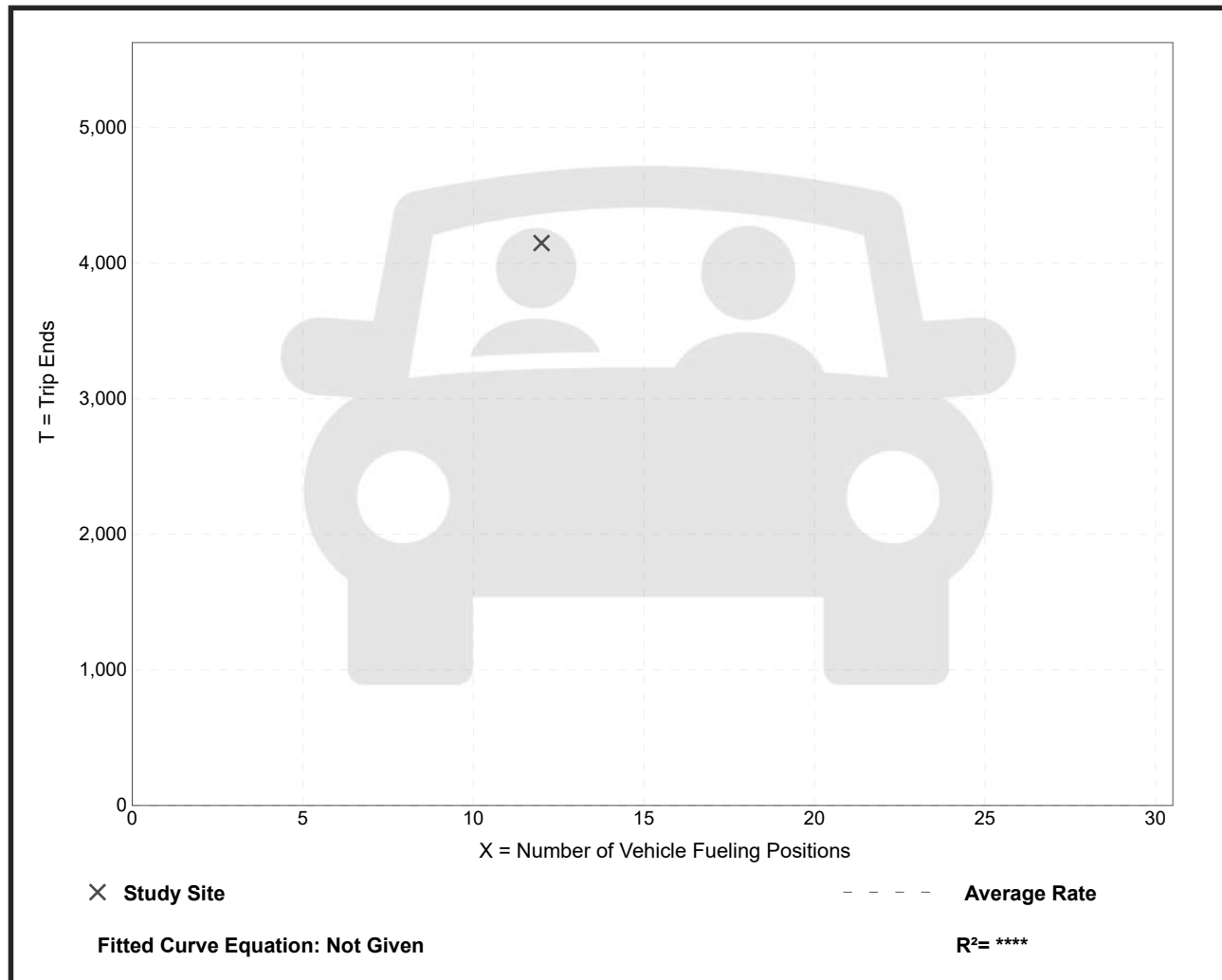
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. Num. of Vehicle Fueling Positions: 12
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
345.75	345.75 - 345.75	*

Data Plot and Equation

Caution – Small Sample Size



Convenience Store/Gas Station - GFA (5.5-10k) (945)

Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

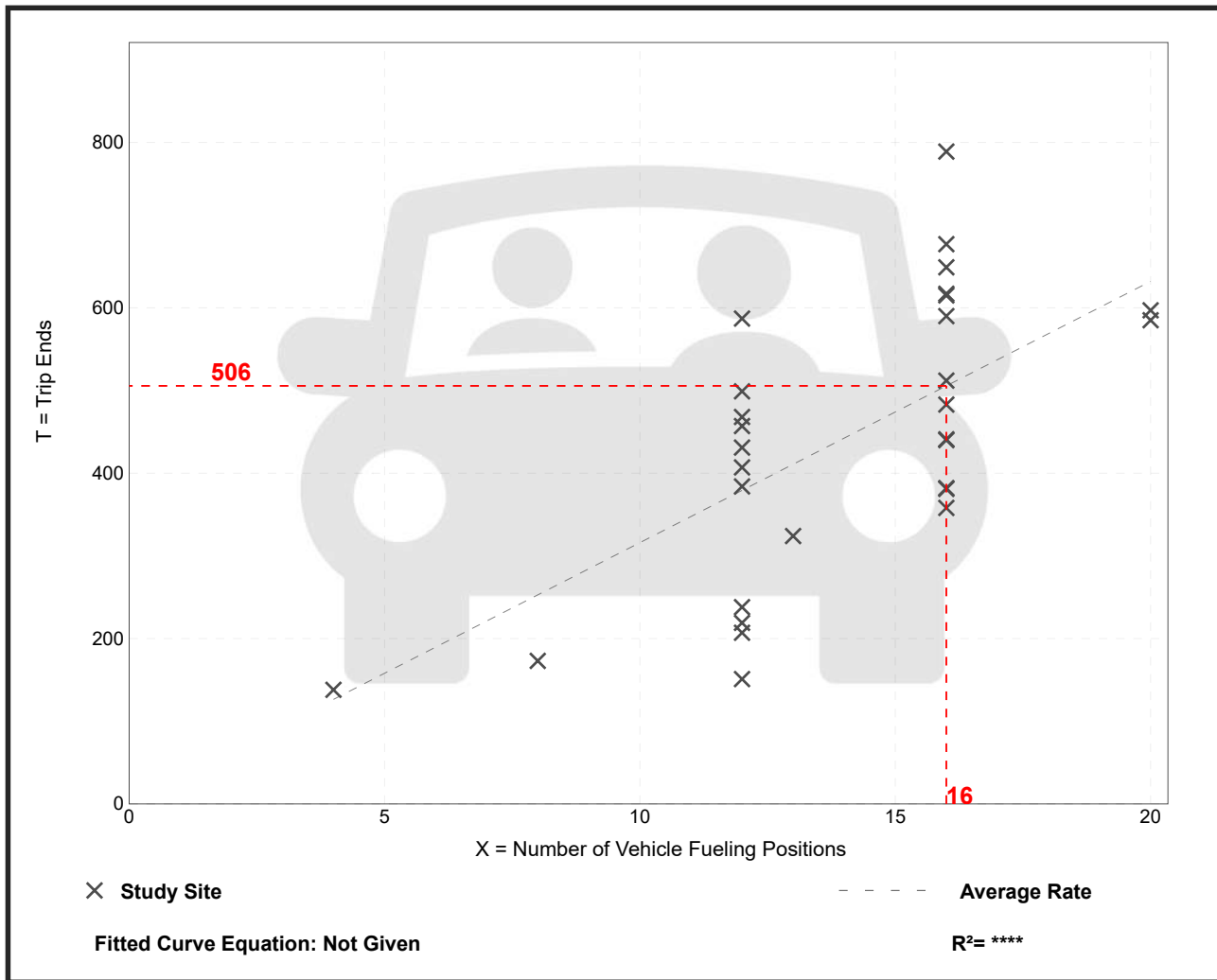
Setting/Location: General Urban/Suburban

Number of Studies: 29
 Avg. Num. of Vehicle Fueling Positions: 14
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
31.60	12.58 - 49.31	9.10

Data Plot and Equation



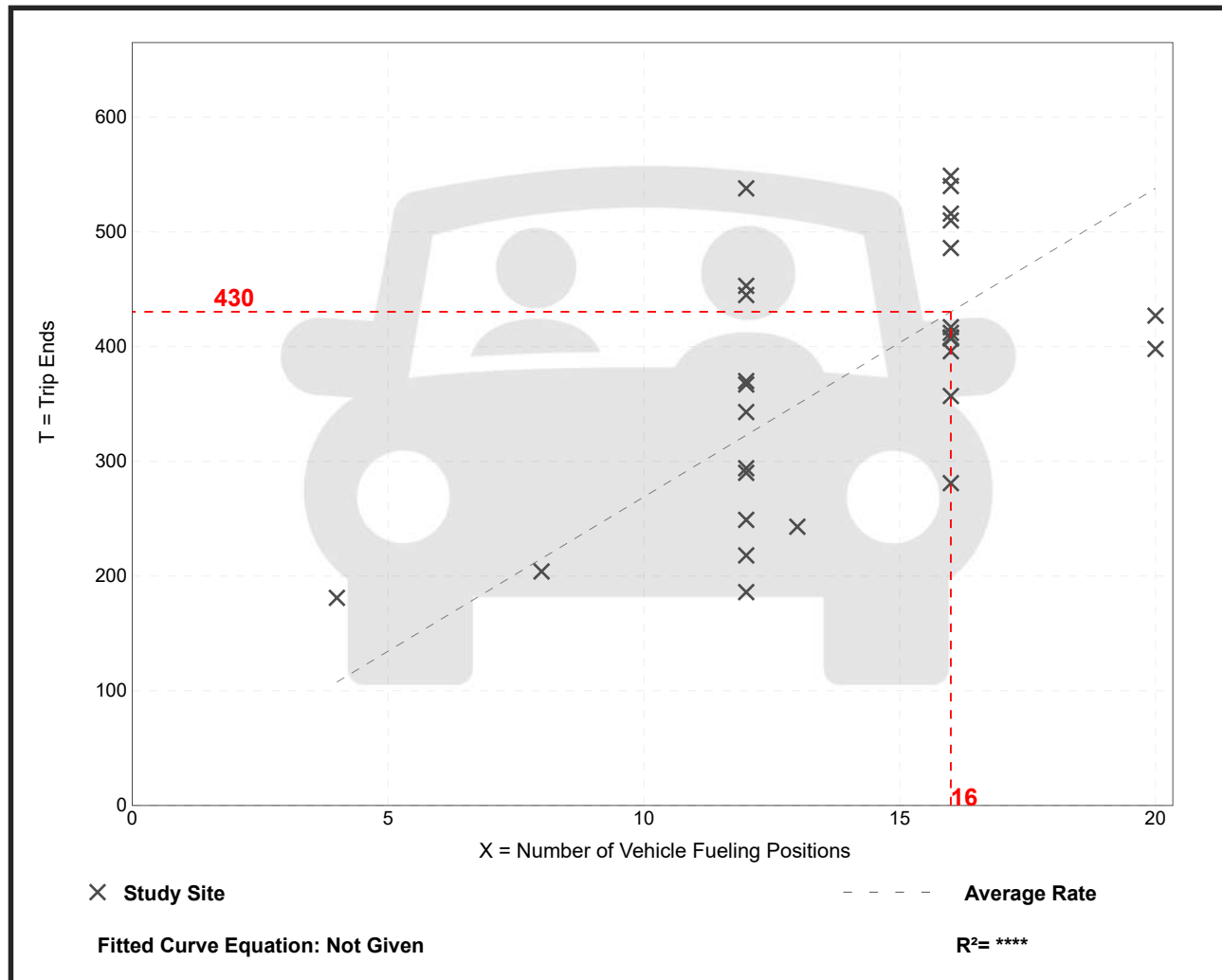
Convenience Store/Gas Station - GFA (5.5-10k) (945)

Vehicle Trip Ends vs: Vehicle Fueling Positions
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: 29
 Avg. Num. of Vehicle Fueling Positions: 14
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
26.90	15.50 - 45.25	6.87

Data Plot and Equation



December 14, 2022

Traffic Impact Study – Proposed Sheetz Development

Huber Heights, OH

CESO Trip Generation Calculations – 2023 and 2033 Build Traffic Scenarios:

ITE 945 – Gasoline/Service Station with Convenience Market

For Weekday → 50% Enter/50% Exit

345.75 x 16 Passenger Car Fueling Positions = 5,532 Trips

5,532 Trips x 0.50 (50%) = 2,766 Trips Enter/2,766 Trips Exit

For AM Peak Hour → 50% Enter/50% Exit

31.60 x 16 Passenger Car Fueling Positions = 505.6 ≈ 506 Trips

Pass-by Trips = 378 Trips x 0.76 (76%) = 384.56 ≈ 384 Trips

Pass-by Trips = 384 Trips x 0.50 (50%) = 192 Trips Enter/192 Trips Exit

Primary Trips = 506 - 384 = 122 Trips

Primary Trips = 122 x 0.50 = 61 Trips Enter/61 Trips Exit

For PM Peak Hour → 50% Enter/50% Exit

26.90 x 16 Passenger Car Fueling Positions = 430.4 ≈ 430 Trips

Pass-by Trips = 430 Trips x 0.75 (75%) = 322.5 ≈ 322 Trips

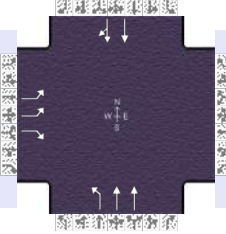
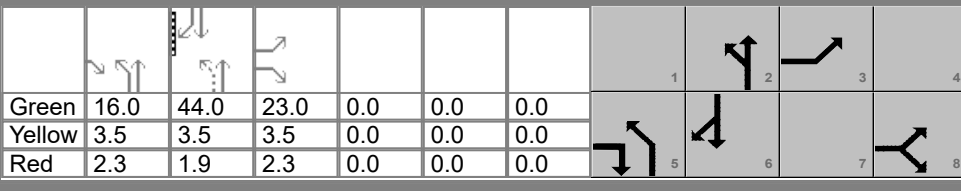
Pass-by Trips = 322 Trips x 0.50 (50%) = 161 Trips Enter/161 Trips Exit

Primary Trips = 430 - 322 = 108 Trips

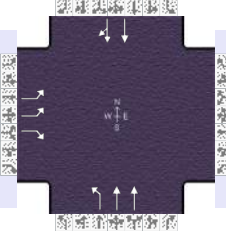
Primary Trips = 108 x 0.50 (50%) = 54 Trips Enter/54 Trips Exit

APPENDIX G
2023 BUILD TRAFFIC SCENARIO
CAPACITY ANALYSIS SUMMARY SHEETS

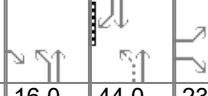
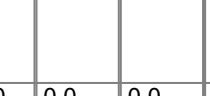


HCS Signalized Intersection Results Summary

General Information					Intersection Information											
Agency	CESO				Duration, h	0.250										
Analyst	DMB		Analysis Date	12/16/2022		Area Type	Other									
Jurisdiction	City of Huber Heights		Time Period	AM Peak		PHF	0.87									
Urban Street	Executive Boulevard		Analysis Year	2023		Analysis Period	1 > 7:00									
Intersection	Brandt Pike & Executive...		File Name	01_AM.xus												
Project Description	2023 Build															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					62		157				122	307			923	68
Signal Information								Cycle, s		100.0	Reference Phase	2				
Offset, s		0		Reference Point				End								
Uncoordinated	Yes	Simult. Gap E/W	On	Green				16.0	44.0	23.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow				3.5	3.5	3.5	0.0	0.0	0.0			
				Red				2.3	1.9	2.3	0.0	0.0	0.0			
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase						8			5	2		6				
Case Number						9.0			1.0	4.0		8.3				
Phase Duration, s						28.8			21.8	71.2		49.4				
Change Period, (Y+R _c), s						5.8			5.8	5.4		5.4				
Max Allow Headway (MAH), s						3.8			3.6	3.5		3.5				
Queue Clearance Time (g _s), s						10.7			5.4	5.9		27.0				
Green Extension Time (g _e), s						0.6			0.2	5.1		4.5				
Phase Call Probability						1.00			1.00	1.00		1.00				
Max Out Probability						0.00			0.00	0.00		0.12				
Movement Group Results					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					3		18				5	2		6		16
Adjusted Flow Rate (v), veh/h					71		180				140	353		576	563	
Adjusted Saturation Flow Rate (s), veh/h/ln					1579		1447				1711	1710		1870	1825	
Queue Service Time (g _s), s					1.8		8.7				3.4	3.9		24.9	25.0	
Cycle Queue Clearance Time (g _c), s					1.8		8.7				3.4	3.9		24.9	25.0	
Green Ratio (g/C)					0.23		0.39				0.62	0.66		0.44	0.44	
Capacity (c), veh/h					726		564				436	2250		823	803	
Volume-to-Capacity Ratio (X)					0.098		0.320				0.322	0.157		0.700	0.701	
Back of Queue (Q), ft/ln (95 th percentile)					33.3		143.3				55.5	60.2		415.3	401.2	
Back of Queue (Q), veh/ln (95 th percentile)					1.2		5.2				2.1	2.3		16.4	16.0	
Queue Storage Ratio (RQ) (95 th percentile)					0.11		0.46				0.24	0.05		0.87	0.85	
Uniform Delay (d ₁), s/veh					30.3		21.3				13.0	6.5		22.7	22.7	
Incremental Delay (d ₂), s/veh					0.0		0.2				0.3	0.0		2.5	2.6	
Initial Queue Delay (d ₃), s/veh					0.0		0.0				0.0	0.0		0.0	0.0	
Control Delay (d), s/veh					30.4		21.5				13.3	6.5		25.2	25.2	
Level of Service (LOS)					C		C				B	A		C	C	
Approach Delay, s/veh / LOS					24.0	C	0.0				8.5	A		25.2	C	
Intersection Delay, s/veh / LOS					20.7			C								
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS					2.31	B	2.15	B	0.67	A	2.10	B				
Bicycle LOS Score / LOS						F			0.89	A	1.43	A				

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	CESO			Duration, h	0.250	
Analyst	DMB	Analysis Date	12/16/2022	Area Type	Other	
Jurisdiction	City of Huber Heights	Time Period	PM Peak	PHF	0.94	
Urban Street	Executive Boulevard	Analysis Year	2023	Analysis Period	1 > 7:00	
Intersection	Brandt Pike & Executive...	File Name	01_PM.xus			
Project Description	2023 Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	181		289				218	956			708	90

Signal Information												
Cycle, s	100.0	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	16.0	44.0	23.0	0.0	0.0	0.0		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.3	1.9	2.3	0.0	0.0	0.0		

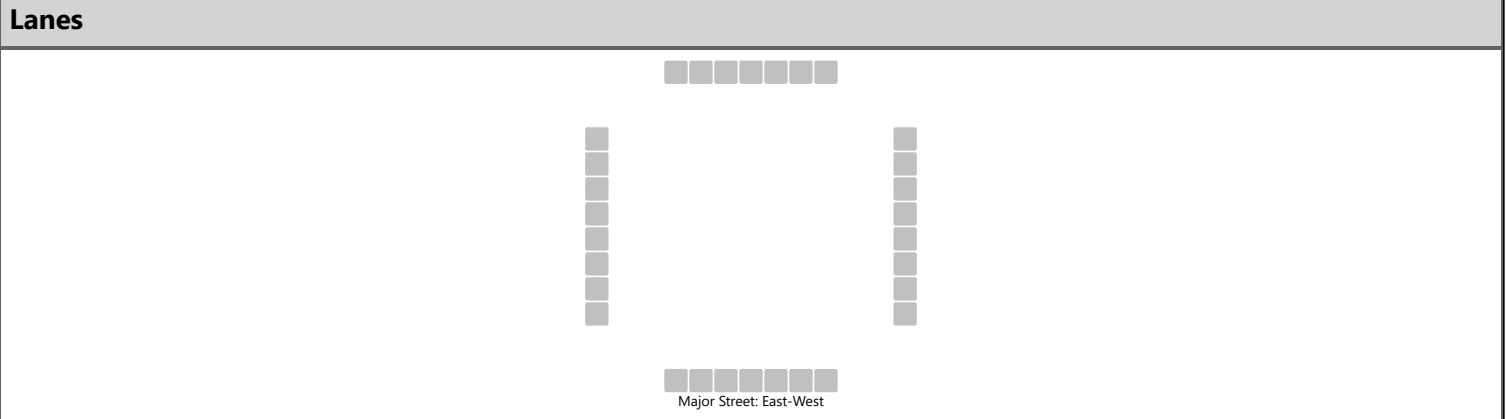
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8			5	2		6
Case Number		9.0			1.0	4.0		8.3
Phase Duration, s		28.8			21.8	71.2		49.4
Change Period, ($Y+R_c$), s		5.8			5.8	5.4		5.4
Max Allow Headway (MAH), s		3.8			3.6	3.5		3.5
Queue Clearance Time (g_s), s		16.8			7.7	15.7		18.9
Green Extension Time (g_e), s		0.9			0.4	7.1		6.9
Phase Call Probability		1.00			1.00	1.00		1.00
Max Out Probability		0.33			0.03	0.06		0.08

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3		18				5	2			6	16
Adjusted Flow Rate (v), veh/h	193		307				232	1017			433	416
Adjusted Saturation Flow Rate (s), veh/h/ln	1716		1572				1781	1781			1870	1796
Queue Service Time (g_s), s	4.6		14.8				5.7	13.7			16.8	16.9
Cycle Queue Clearance Time (g_c), s	4.6		14.8				5.7	13.7			16.8	16.9
Green Ratio (g/C)	0.23		0.39				0.62	0.66			0.44	0.44
Capacity (c), veh/h	789		613				533	2343			823	790
Volume-to-Capacity Ratio (X)	0.244		0.501				0.435	0.434			0.526	0.526
Back of Queue (Q), ft/ln (95 th percentile)	86.5		234.7				92.9	205.9			291.7	278.6
Back of Queue (Q), veh/ln (95 th percentile)	3.4		9.2				3.7	8.1			11.5	11.1
Queue Storage Ratio (RQ) (95 th percentile)	0.28		0.76				0.40	0.16			0.61	0.59
Uniform Delay (d_1), s/veh	31.4		23.1				11.1	8.2			20.4	20.4
Incremental Delay (d_2), s/veh	0.1		0.5				0.4	0.1			0.5	0.5
Initial Queue Delay (d_3), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (d), s/veh	31.5		23.6				11.5	8.3			20.9	20.9
Level of Service (LOS)	C			C			B			A		
Approach Delay, s/veh / LOS	26.7		C	0.0			8.9		A	20.9		C
Intersection Delay, s/veh / LOS	16.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.15	B	0.67	A	2.10	B
Bicycle LOS Score / LOS		F			1.52	B	1.19	A

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Executive Boulevard & Lehman Lane		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Executive Boulevard		
Analysis Year	2023			North/South Street	Lehman Lane		
Time Analyzed	AM Peak			Peak Hour Factor	0.80		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	2023 Build Traffic Scenario						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	1	2	0		0	1	0		1	1	0
Configuration		L		TR		L	T	TR			LTR			L		TR
Volume (veh/h)	0	3	83	14		72	111	7		4	1	119		27	1	12
Percent Heavy Vehicles (%)	3	16				7				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

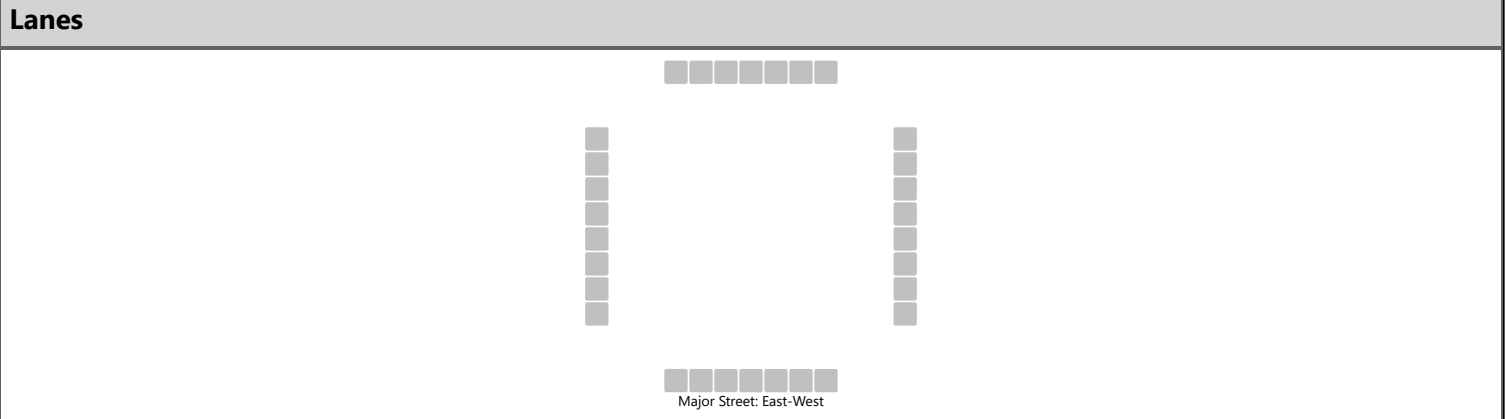
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.2		7.5	6.5	6.9
Critical Headway (sec)		4.42				4.24				7.56	6.56	6.26		7.56	6.56	6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.36				2.27				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				90					155			34		16	
Capacity, c (veh/h)		1335				1428					904			343		896	
v/c Ratio		0.00				0.06					0.17			0.10		0.02	
95% Queue Length, Q ₉₅ (veh)		0.0				0.2					0.6			0.3		0.1	
Control Delay (s/veh)		7.7				7.7					9.8			16.6		9.1	
Level of Service (LOS)		A				A					A			C		A	
Approach Delay (s/veh)		0.2				2.9				9.8				14.2			
Approach LOS		A				A				A				B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Executive Boulevard & Lehman Lane		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Executive Boulevard		
Analysis Year	2023			North/South Street	Lehman Lane		
Time Analyzed	PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	2023 Build Traffic Scenario						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	1	2	0		0	1	0		1	1	0
Configuration		L		TR		L	T	TR			LTR			L		TR
Volume (veh/h)	0	20	337	24		59	233	15		8	1	131		10	1	8
Percent Heavy Vehicles (%)	3	16				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

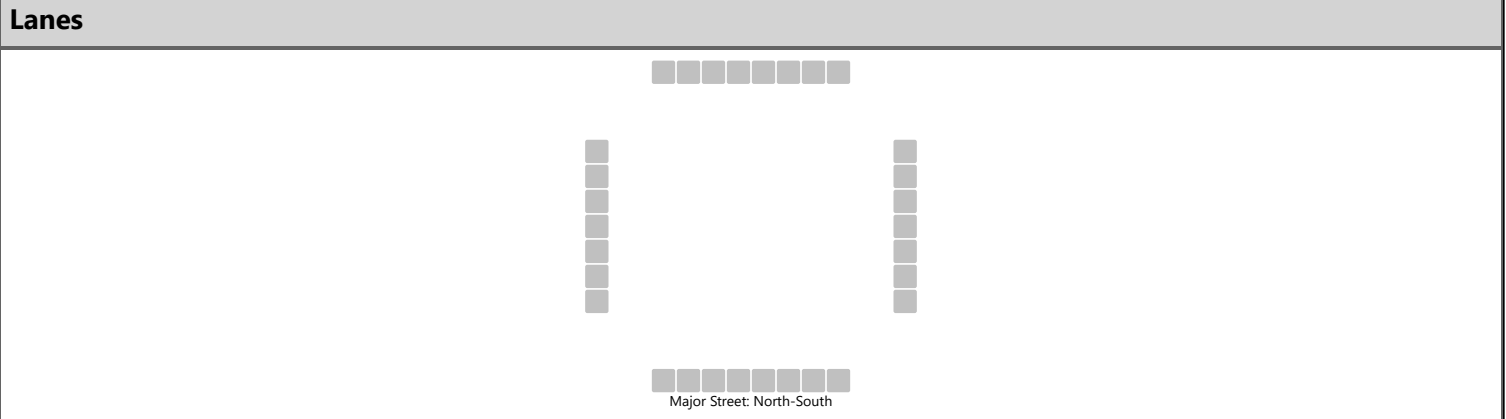
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.2		7.5	6.5	6.9
Critical Headway (sec)		4.42				4.16				7.56	6.56	6.26		7.56	6.56	6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.36				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		21				62					147			11		9	
Capacity, c (veh/h)		1205				1168					627			184		727	
v/c Ratio		0.02				0.05					0.24			0.06		0.01	
95% Queue Length, Q ₉₅ (veh)		0.1				0.2					0.9			0.2		0.0	
Control Delay (s/veh)		8.0				8.3					12.5			25.7		10.0	
Level of Service (LOS)		A				A					B			D		B	
Approach Delay (s/veh)		0.4				1.6				12.5				18.3			
Approach LOS		A				A				B				C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Brandt Pike & Site Access #3		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Site Access #3		
Analysis Year	2023			North/South Street	Brandt Pike		
Time Analyzed	AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	2023 Build Traffic Scenario						



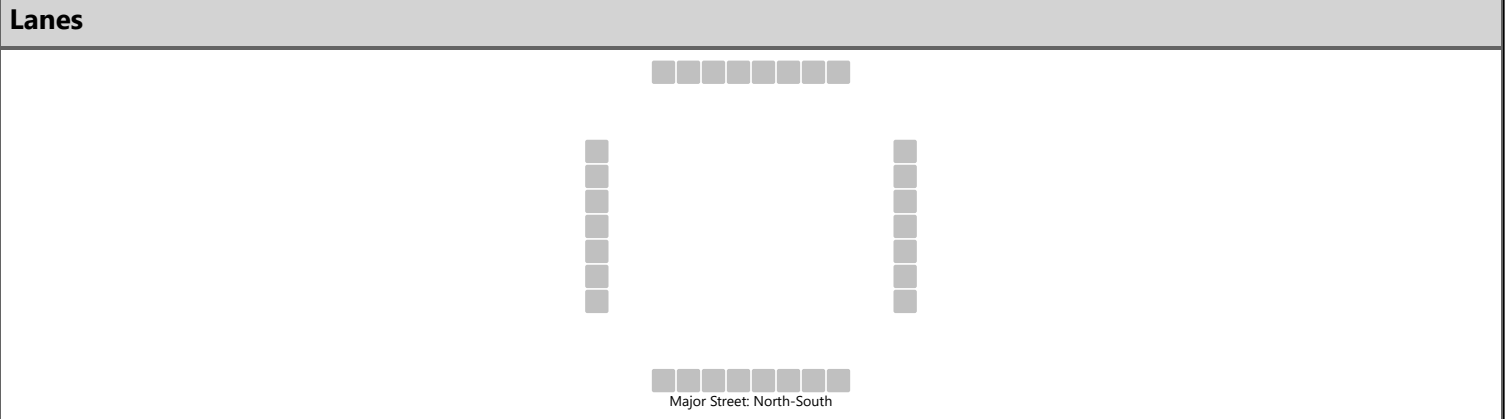
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	2	0	0	0	2	0
Configuration				R						LT	T				T	TR
Volume (veh/h)				129						52	425				909	104
Percent Heavy Vehicles (%)				3						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways																
Base Critical Headway (sec)				6.9							4.1					
Critical Headway (sec)				6.96							4.16					
Base Follow-Up Headway (sec)				3.3							2.2					
Follow-Up Headway (sec)				3.33							2.23					

Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				140							57					
Capacity, c (veh/h)				476							624					
v/c Ratio				0.29							0.09					
95% Queue Length, Q ₉₅ (veh)				1.2							0.3					
Control Delay (s/veh)				15.7							11.3	0.9				
Level of Service (LOS)				C							B	A				
Approach Delay (s/veh)	15.7								2.1							
Approach LOS	C								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Brandt Pike & Site Access #3		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Site Access #3		
Analysis Year	2023			North/South Street	Brandt Pike		
Time Analyzed	AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	2023 Build Traffic Scenario						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	2	0	0	0	2	0
Configuration				R						LT	T				T	TR
Volume (veh/h)				75						74	1162				859	49
Percent Heavy Vehicles (%)				3						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

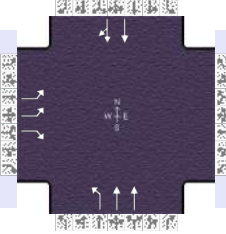
Base Critical Headway (sec)				6.9						4.1						
Critical Headway (sec)				6.96						4.16						
Base Follow-Up Headway (sec)				3.3						2.2						
Follow-Up Headway (sec)				3.33						2.23						

Delay, Queue Length, and Level of Service





Flow Rate, v (veh/h)				82						80						
Capacity, c (veh/h)				519						690						
v/c Ratio				0.16						0.12						
95% Queue Length, Q ₉₅ (veh)				0.6						0.4						
Control Delay (s/veh)				13.2						10.9	1.7					
Level of Service (LOS)				B						B	A					
Approach Delay (s/veh)	13.2								2.3							
Approach LOS	B								A							

APPENDIX H
2033 NO-BUILD TRAFFIC SCENARIO
CAPACITY ANALYSIS SUMMARY SHEETS

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	CESO			Duration, h	0.250	
Analyst	DMB	Analysis Date	12/16/2022	Area Type	Other	
Jurisdiction	City of Huber Heights	Time Period	AM Peak	PHF	0.87	
Urban Street	Executive Boulevard	Analysis Year	2033	Analysis Period	1 > 7:00	
Intersection	Brandt Pike & Executive...	File Name	01_AM.xus			
Project Description	2033 No-Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	28		104				107	401			1027	23

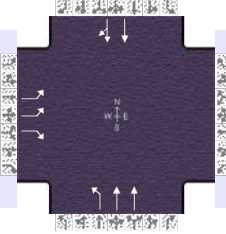
Signal Information												
Cycle, s	100.0	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	16.0	44.0	23.0	0.0	0.0	0.0	0.0	0.0
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.3	1.9	2.3	0.0	0.0	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8			5	2		6
Case Number		9.0			1.0	4.0		8.3
Phase Duration, s		28.8			21.8	71.2		49.4
Change Period, ($Y+R_c$), s		5.8			5.8	5.4		5.4
Max Allow Headway (MAH), s		3.8			3.6	3.5		3.5
Queue Clearance Time (g_s), s		7.5			4.9	7.3		28.8
Green Extension Time (g_e), s		0.3			0.2	5.9		5.0
Phase Call Probability		1.00			1.00	1.00		1.00
Max Out Probability		0.00			0.00	0.01		0.21

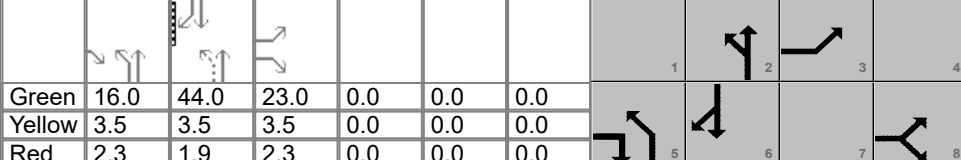
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3		18				5	2			6	16
Adjusted Flow Rate (v), veh/h	32		120				123	461			606	601
Adjusted Saturation Flow Rate (s), veh/h/ln	1579		1447				1711	1710			1870	1856
Queue Service Time (g_s), s	0.8		5.5				2.9	5.3			26.8	26.8
Cycle Queue Clearance Time (g_c), s	0.8		5.5				2.9	5.3			26.8	26.8
Green Ratio (g/C)	0.23		0.39				0.62	0.66			0.44	0.44
Capacity (c), veh/h	726		564				422	2250			823	817
Volume-to-Capacity Ratio (X)	0.044		0.212				0.291	0.205			0.736	0.736
Back of Queue (Q), ft/ln (95 th percentile)	14.8		90.5				48.2	81.4			445.7	436.2
Back of Queue (Q), veh/ln (95 th percentile)	0.5		3.3				1.8	3.1			17.5	17.4
Queue Storage Ratio (RQ) (95 th percentile)	0.05		0.29				0.21	0.06			0.93	0.92
Uniform Delay (d_1), s/veh	30.0		20.3				13.5	6.8			23.2	23.2
Incremental Delay (d_2), s/veh	0.0		0.1				0.3	0.0			3.3	3.3
Initial Queue Delay (d_3), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (d), s/veh	30.0		20.4				13.8	6.8			26.5	26.5
Level of Service (LOS)	C		C				B	A			C	C
Approach Delay, s/veh / LOS	22.4		C	0.0			8.3	A		26.5		C
Intersection Delay, s/veh / LOS	20.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.15	B	0.67	A	2.10	B
Bicycle LOS Score / LOS		F			0.97	A	1.48	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	CESO			Duration, h	0.250	
Analyst	DMB	Analysis Date	12/16/2022	Area Type	Other	
Jurisdiction	City of Huber Heights	Time Period	PM Peak	PHF	0.94	
Urban Street	Executive Boulevard	Analysis Year	2033	Analysis Period	1 > 7:00	
Intersection	Brandt Pike & Executive...	File Name	01_PM.xus			
Project Description	2033 No-Build					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	170		211				196	1087			752	66

Signal Information														
Cycle, s	100.0	Reference Phase	2	Green	16.0	44.0	23.0	0.0	0.0	0.0				
Offset, s	0	Reference Point	End	Yellow	3.5	3.5	3.5	0.0	0.0	0.0				
Uncoordinated	Yes	Simult. Gap E/W	On	Red	2.3	1.9	2.3	0.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											

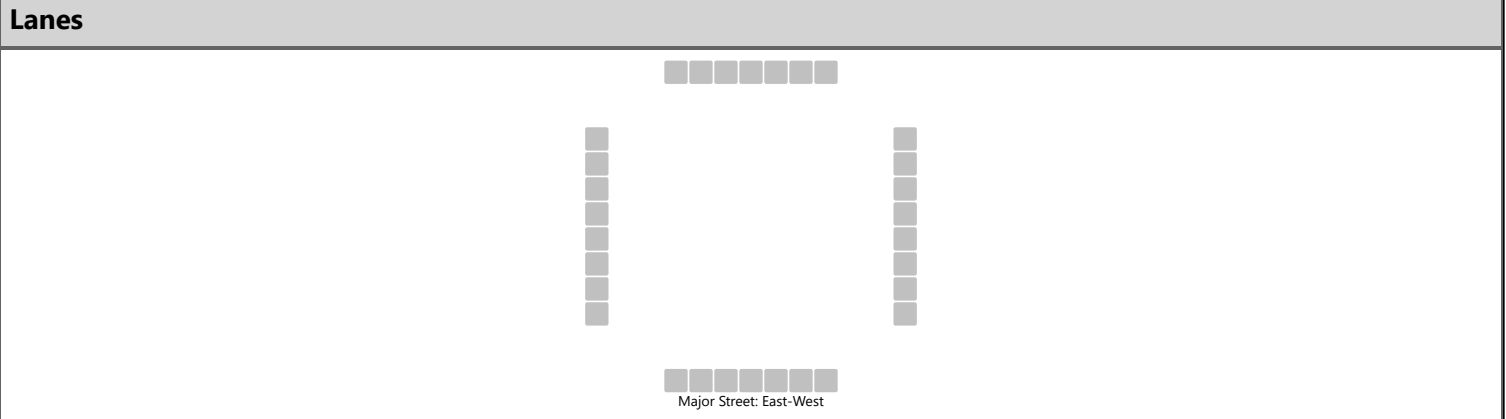
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8			5	2		6
Case Number		9.0			1.0	4.0		8.3
Phase Duration, s		28.8			21.8	71.2		49.4
Change Period, ($Y+R_c$), s		5.8			5.8	5.4		5.4
Max Allow Headway (MAH), s		3.8			3.6	3.5		3.5
Queue Clearance Time (g_s), s		12.2			7.0	18.4		19.3
Green Extension Time (g_e), s		1.0			0.3	7.8		7.8
Phase Call Probability		1.00			1.00	1.00		1.00
Max Out Probability		0.02			0.01	0.11		0.12

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3		18				5	2			6	16
Adjusted Flow Rate (v), veh/h	181		224				209	1156			441	429
Adjusted Saturation Flow Rate (s), veh/h/ln	1716		1572				1781	1781			1870	1817
Queue Service Time (g_s), s	4.3		10.2				5.0	16.4			17.3	17.3
Cycle Queue Clearance Time (g_c), s	4.3		10.2				5.0	16.4			17.3	17.3
Green Ratio (g/C)	0.23		0.39				0.62	0.66			0.44	0.44
Capacity (c), veh/h	789		613				527	2343			823	799
Volume-to-Capacity Ratio (X)	0.229		0.366				0.396	0.494			0.536	0.536
Back of Queue (Q), ft/ln (95 th percentile)	80.9		168.8				82.4	238.5			298.4	287
Back of Queue (Q), veh/ln (95 th percentile)	3.2		6.6				3.2	9.4			11.7	11.5
Queue Storage Ratio (RQ) (95 th percentile)	0.26		0.54				0.36	0.18			0.62	0.61
Uniform Delay (d_1), s/veh	31.3		21.7				11.0	8.7			20.5	20.5
Incremental Delay (d_2), s/veh	0.1		0.3				0.4	0.1			0.6	0.6
Initial Queue Delay (d_3), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (d), s/veh	31.4		22.0				11.3	8.8			21.1	21.1
Level of Service (LOS)	C		C				B	A			C	C
Approach Delay, s/veh / LOS	26.2		C	0.0			9.2	A		21.1		C
Intersection Delay, s/veh / LOS	15.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.15	B	0.67	A	2.10	B
Bicycle LOS Score / LOS		F			1.61	B	1.21	A

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Executive Boulevard & Lehman Lane		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Executive Boulevard		
Analysis Year	2033			North/South Street	Lehman Lane		
Time Analyzed	AM Peak			Peak Hour Factor	0.80		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	2033 No-Build Traffic Scenario						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	3	102				122	8						30		13
Percent Heavy Vehicles (%)	3	16												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

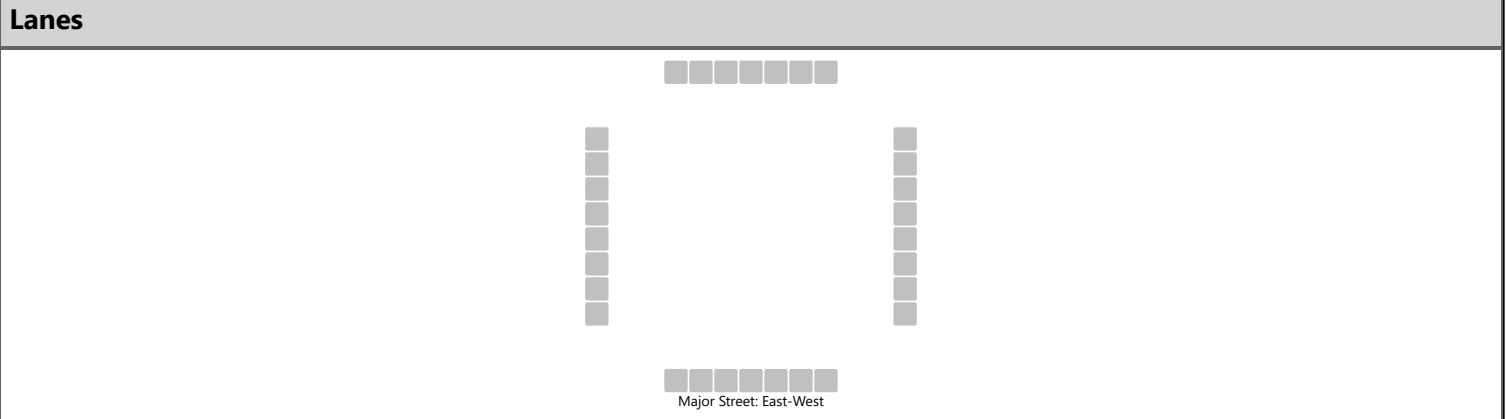
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.42												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.36												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4												38		16	
Capacity, c (veh/h)		1317												670		959	
v/c Ratio		0.00												0.06		0.02	
95% Queue Length, Q ₉₅ (veh)		0.0												0.2		0.1	
Control Delay (s/veh)		7.7												10.7		8.8	
Level of Service (LOS)		A												B		A	
Approach Delay (s/veh)		0.2												10.1			
Approach LOS		A												B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Executive Boulevard & Lehman Lane		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Executive Boulevard		
Analysis Year	2033			North/South Street	Lehman Lane		
Time Analyzed	PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	2033 No-Build Traffic Scenario						



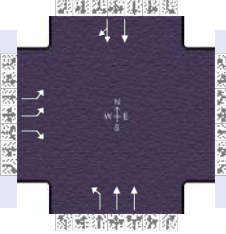
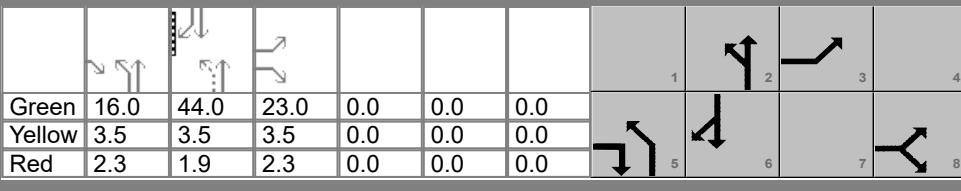
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	21	370				246	16						11		8
Percent Heavy Vehicles (%)	3	16												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.42												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.36												3.53		3.33

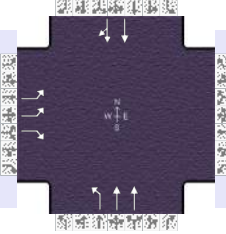
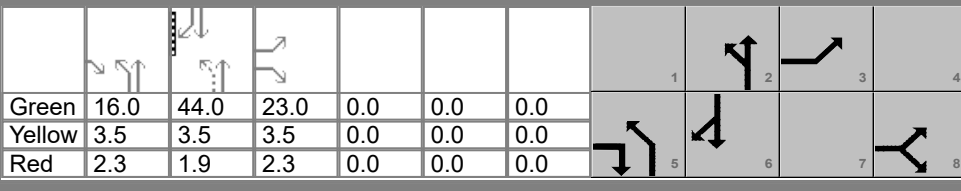
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)		22												12		8	
Capacity, c (veh/h)		1189												364		882	
v/c Ratio		0.02												0.03		0.01	
95% Queue Length, Q ₉₅ (veh)		0.1												0.1		0.0	
Control Delay (s/veh)		8.1												15.2		9.1	
Level of Service (LOS)		A												C		A	
Approach Delay (s/veh)		0.4												12.7			
Approach LOS		A												B			

APPENDIX I
2033 DESIGN YEAR TRAFFIC SCENARIO
CAPACITY ANALYSIS SUMMARY SHEETS

HCS Signalized Intersection Results Summary

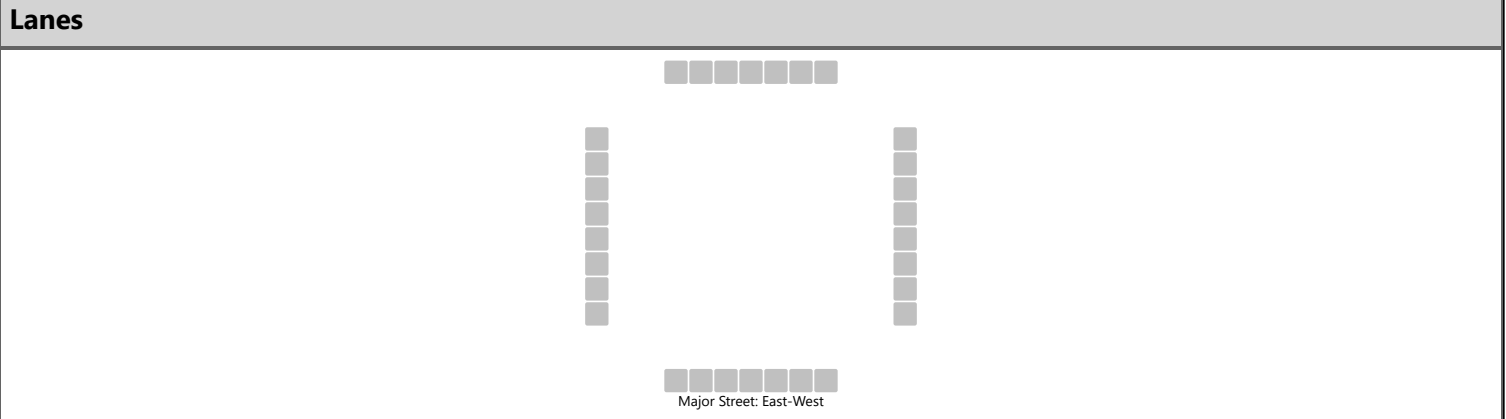
General Information					Intersection Information											
Agency	CESO				Duration, h	0.250										
Analyst	DMB		Analysis Date	12/16/2022		Area Type	Other									
Jurisdiction	City of Huber Heights		Time Period	AM Peak		PHF	0.87									
Urban Street	Executive Boulevard		Analysis Year	2033		Analysis Period	1 > 7:00									
Intersection	Brandt Pike & Executive...		File Name	01_AM.xus												
Project Description	2033 Design Year															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					64		167				132	344			1016	70
Signal Information																
Cycle, s	100.0	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	Yes	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On													
Green					16.0	44.0	23.0	0.0	0.0	0.0						
Yellow					3.5	3.5	3.5	0.0	0.0	0.0						
Red					2.3	1.9	2.3	0.0	0.0	0.0						
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase						8			5	2		6				
Case Number						9.0			1.0	4.0		8.3				
Phase Duration, s						28.8			21.8	71.2		49.4				
Change Period, ($Y+R_c$), s						5.8			5.8	5.4		5.4				
Max Allow Headway (MAH), s						3.8			3.6	3.5		3.5				
Queue Clearance Time (g_s), s						11.3			5.7	6.5		30.6				
Green Extension Time (g_e), s						0.6			0.2	5.9		4.7				
Phase Call Probability						1.00			1.00	1.00		1.00				
Max Out Probability						0.00			0.00	0.01		0.26				
Movement Group Results					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					3		18				5	2		6	16	
Adjusted Flow Rate (v), veh/h					74		192				152	395		631	617	
Adjusted Saturation Flow Rate (s), veh/h/ln					1579		1447				1711	1710		1870	1827	
Queue Service Time (g_s), s					1.8		9.3				3.7	4.5		28.5	28.6	
Cycle Queue Clearance Time (g_c), s					1.8		9.3				3.7	4.5		28.5	28.6	
Green Ratio (g/C)					0.23		0.39				0.62	0.66		0.44	0.44	
Capacity (c), veh/h					726		564				412	2250		823	804	
Volume-to-Capacity Ratio (X)					0.101		0.340				0.369	0.176		0.767	0.768	
Back of Queue (Q), ft/ln (95 th percentile)					34.4		154.1				62.3	68.5		473.7	459.4	
Back of Queue (Q), veh/ln (95 th percentile)					1.2		5.6				2.4	2.6		18.7	18.4	
Queue Storage Ratio (RQ) (95 th percentile)					0.11		0.50				0.27	0.05		0.99	0.97	
Uniform Delay (d_1), s/veh					30.4		21.5				15.2	6.6		23.7	23.7	
Incremental Delay (d_2), s/veh					0.0		0.3				0.4	0.0		4.2	4.3	
Initial Queue Delay (d_3), s/veh					0.0		0.0				0.0	0.0		0.0	0.0	
Control Delay (d), s/veh					30.4		21.7				15.6	6.6		27.9	28.0	
Level of Service (LOS)					C		C				B	A		C	C	
Approach Delay, s/veh / LOS					24.1	C	0.0				9.1	A	27.9	C		
Intersection Delay, s/veh / LOS					22.4			C								
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS					2.31	B	2.15	B	0.67	A	2.10	B				
Bicycle LOS Score / LOS						F			0.94	A	1.52	B				

HCS Signalized Intersection Results Summary

General Information					Intersection Information											
Agency	CESO				Duration, h	0.250										
Analyst	DMB		Analysis Date	12/16/2022		Area Type	Other									
Jurisdiction	City of Huber Heights		Time Period	PM Peak		PHF	0.94									
Urban Street	Executive Boulevard		Analysis Year	2033		Analysis Period	1 > 7:00									
Intersection	Brandt Pike & Executive...		File Name	01_PM.xus												
Project Description	2033 Design Year															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					189		299				228	1007			744	93
Signal Information																
Cycle, s	100.0	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	Yes	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On													
Green					16.0	44.0	23.0	0.0	0.0	0.0						
Yellow					3.5	3.5	3.5	0.0	0.0	0.0						
Red					2.3	1.9	2.3	0.0	0.0	0.0						
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase						8			5	2		6				
Case Number						9.0			1.0	4.0		8.3				
Phase Duration, s						28.8			21.8	71.2		49.4				
Change Period, (Y+R _c), s						5.8			5.8	5.4		5.4				
Max Allow Headway (MAH), s						3.8			3.6	3.5		3.5				
Queue Clearance Time (g _s), s						17.5			8.0	16.7		20.0				
Green Extension Time (g _e), s						0.9			0.4	7.6		7.3				
Phase Call Probability						1.00			1.00	1.00		1.00				
Max Out Probability						0.45			0.04	0.08		0.11				
Movement Group Results					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					3		18				5	2			6	16
Adjusted Flow Rate (v), veh/h					201		318				243	1071			454	436
Adjusted Saturation Flow Rate (s), veh/h/ln					1716		1572				1781	1781			1870	1797
Queue Service Time (g _s), s					4.8		15.5				6.0	14.7			17.9	18.0
Cycle Queue Clearance Time (g _c), s					4.8		15.5				6.0	14.7			17.9	18.0
Green Ratio (g/C)					0.23		0.39				0.62	0.66			0.44	0.44
Capacity (c), veh/h					789		613				520	2343			823	791
Volume-to-Capacity Ratio (X)					0.255		0.519				0.467	0.457			0.552	0.552
Back of Queue (Q), ft/ln (95 th percentile)					90.5		243.3				98.4	218.2			308.1	293.8
Back of Queue (Q), veh/ln (95 th percentile)					3.5		9.5				3.9	8.6			12.1	11.8
Queue Storage Ratio (RQ) (95 th percentile)					0.29		0.78				0.43	0.17			0.64	0.62
Uniform Delay (d ₁), s/veh					31.5		23.3				11.6	8.4			20.7	20.7
Incremental Delay (d ₂), s/veh					0.1		0.6				0.5	0.1			0.7	0.7
Initial Queue Delay (d ₃), s/veh					0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (d), s/veh					31.6		23.9				12.1	8.5			21.4	21.4
Level of Service (LOS)					C		C				B	A			C	C
Approach Delay, s/veh / LOS					26.9		C	0.0			9.1	A	21.4		C	
Intersection Delay, s/veh / LOS					16.5			B								
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS					2.31		B	2.15		B	0.67	A	2.10		B	
Bicycle LOS Score / LOS							F				1.57	B	1.22	A		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Executive Boulevard & Lehman Lane		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Executive Boulevard		
Analysis Year	2033			North/South Street	Lehman Lane		
Time Analyzed	AM Peak			Peak Hour Factor	0.80		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	2033 Design Year Traffic Scenario						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	1	0	0	1	2	0		0	1	0		1	1	0
Configuration		L		TR		L	T	TR			LTR			L		TR
Volume (veh/h)	0	3	92	14		72	122	8		4	1	119		30	1	13
Percent Heavy Vehicles (%)	3	16				7				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

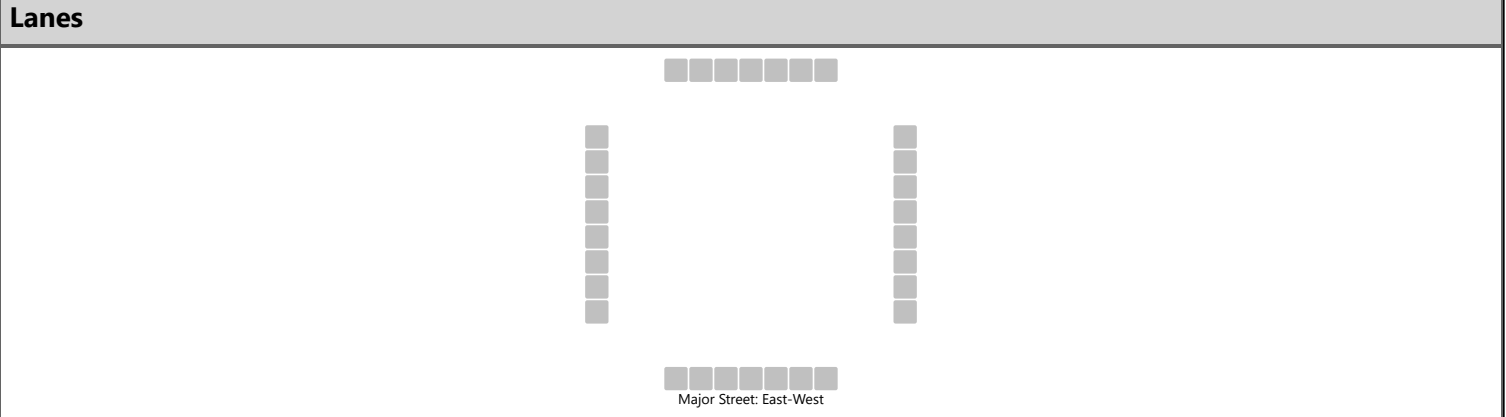
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.2		7.5	6.5	6.9
Critical Headway (sec)		4.42				4.24				7.56	6.56	6.26		7.56	6.56	6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.36				2.27				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				90					155			38		18	
Capacity, c (veh/h)		1317				1414					890			328		888	
v/c Ratio		0.00				0.06					0.17			0.11		0.02	
95% Queue Length, Q ₉₅ (veh)		0.0				0.2					0.6			0.4		0.1	
Control Delay (s/veh)		7.7				7.7					9.9			17.4		9.1	
Level of Service (LOS)		A				A					A			C		A	
Approach Delay (s/veh)		0.2				2.8				9.9				14.8			
Approach LOS		A				A				A				B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Executive Boulevard & Lehman Lane		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Executive Boulevard		
Analysis Year	2033			North/South Street	Lehman Lane		
Time Analyzed	PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	2033 Design Year Traffic Scenario						



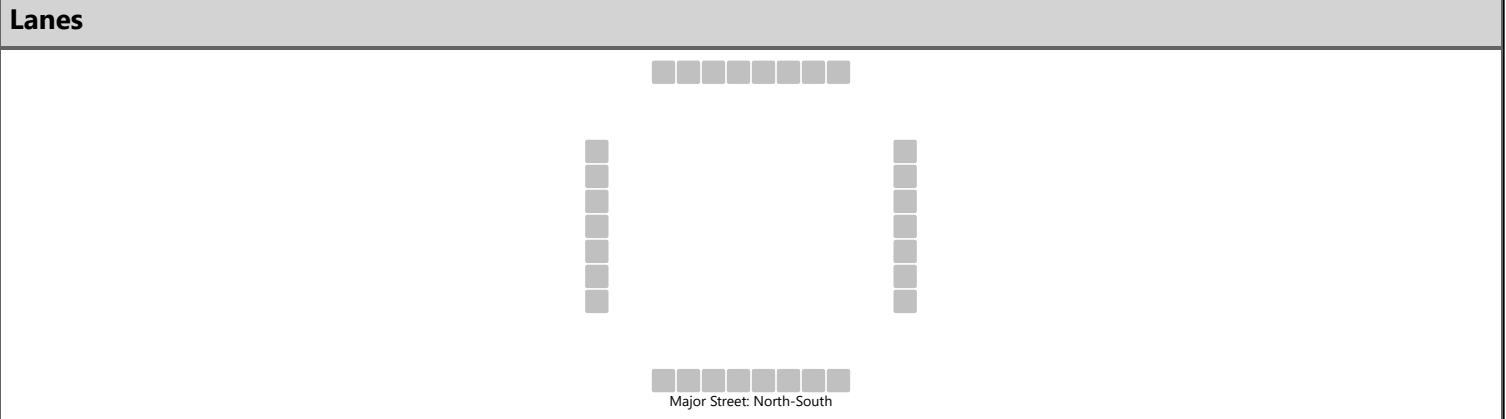
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	2	0		0	1	0		1	1	0
Configuration		L		TR		L	T	TR			LTR			L		TR
Volume (veh/h)	0	21	354	24		59	246	16		8	1	131		11	1	8
Percent Heavy Vehicles (%)	3	16				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.2		7.5	6.5	6.9
Critical Headway (sec)		4.42				4.16				7.56	6.56	6.26		7.56	6.56	6.96
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)		2.36				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)		22				62					147				12		9
Capacity, c (veh/h)		1189				1150					610				172		711
v/c Ratio		0.02				0.05					0.24				0.07		0.01
95% Queue Length, Q ₉₅ (veh)		0.1				0.2					0.9				0.2		0.0
Control Delay (s/veh)		8.1				8.3					12.8				27.4		10.1
Level of Service (LOS)		A				A					B				D		B
Approach Delay (s/veh)	0.4				1.5				12.8				19.6				
Approach LOS	A				A				B				C				

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Brandt Pike & Site Access #3		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Site Access #3		
Analysis Year	2033			North/South Street	Brandt Pike		
Time Analyzed	AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	2033 Design Year Traffic Scenario						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	1		0	0	0	0	0	2	0	0	0	2	0	
Configuration				R						LT	T				T	TR	
Volume (veh/h)				129						52	476				1022	104	
Percent Heavy Vehicles (%)				3						3							
Proportion Time Blocked																	
Percent Grade (%)	0																
Right Turn Channelized	No																
Median Type Storage	Undivided																

Critical and Follow-up Headways

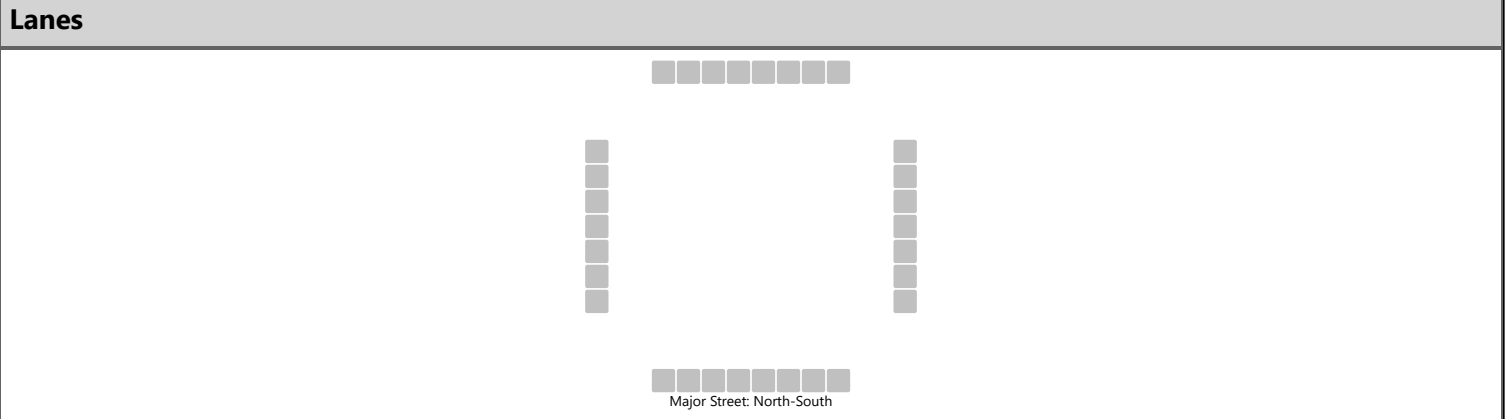
Base Critical Headway (sec)				6.9						4.1							
Critical Headway (sec)				6.96						4.16							
Base Follow-Up Headway (sec)				3.3						2.2							
Follow-Up Headway (sec)				3.33						2.23							

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)				140						57							
Capacity, c (veh/h)				434						560							
v/c Ratio				0.32						0.10							
95% Queue Length, Q ₉₅ (veh)				1.4						0.3							
Control Delay (s/veh)				17.2						12.2	1.2						
Level of Service (LOS)				C						B	A						
Approach Delay (s/veh)	17.2								2.3								
Approach LOS	C								A								

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMB			Intersection	Brandt Pike & Site Access #3		
Agency/Co.	CESO			Jurisdiction	City of Huber Heights		
Date Performed	12/19/2022			East/West Street	Site Access #3		
Analysis Year	2033			North/South Street	Brandt Pike		
Time Analyzed	AM Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	2033 Design Year Traffic Scenario						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	2	0	0	0	2	0
Configuration				R						LT	T				T	TR
Volume (veh/h)				75						74	1235				914	49
Percent Heavy Vehicles (%)				3						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)				6.9						4.1						
Critical Headway (sec)				6.96						4.16						
Base Follow-Up Headway (sec)				3.3						2.2						
Follow-Up Headway (sec)				3.33						2.23						

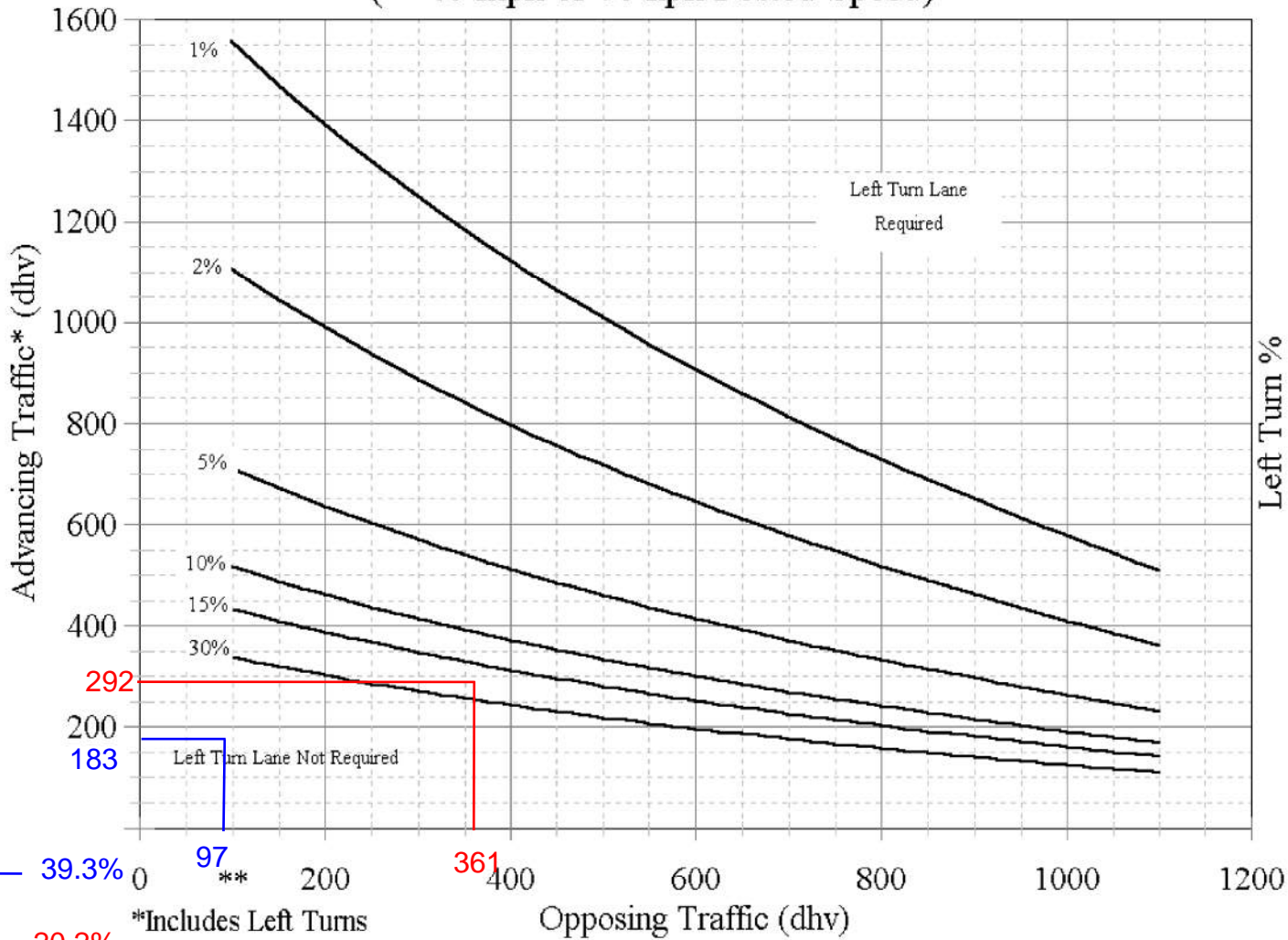
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)				82						80						
Capacity, c (veh/h)				496						654						
v/c Ratio				0.16						0.12						
95% Queue Length, Q ₉₅ (veh)				0.6						0.4						
Control Delay (s/veh)				13.7						11.3	2.0					
Level of Service (LOS)				B						B	A					
Approach Delay (s/veh)	13.7								2.5							
Approach LOS	B								A							

APPENDIX J
ODOT TURN LANE RESOURCES

2023 Build Traffic Scenario
Executive Blvd & Site Access #1 - WBL

2-Lane Highway Left Turn Lane Warrant
(=<40 mph or 70 kph Posted Speed)



October 2004

AM ——— 39.3%
PM ——— 20.2%

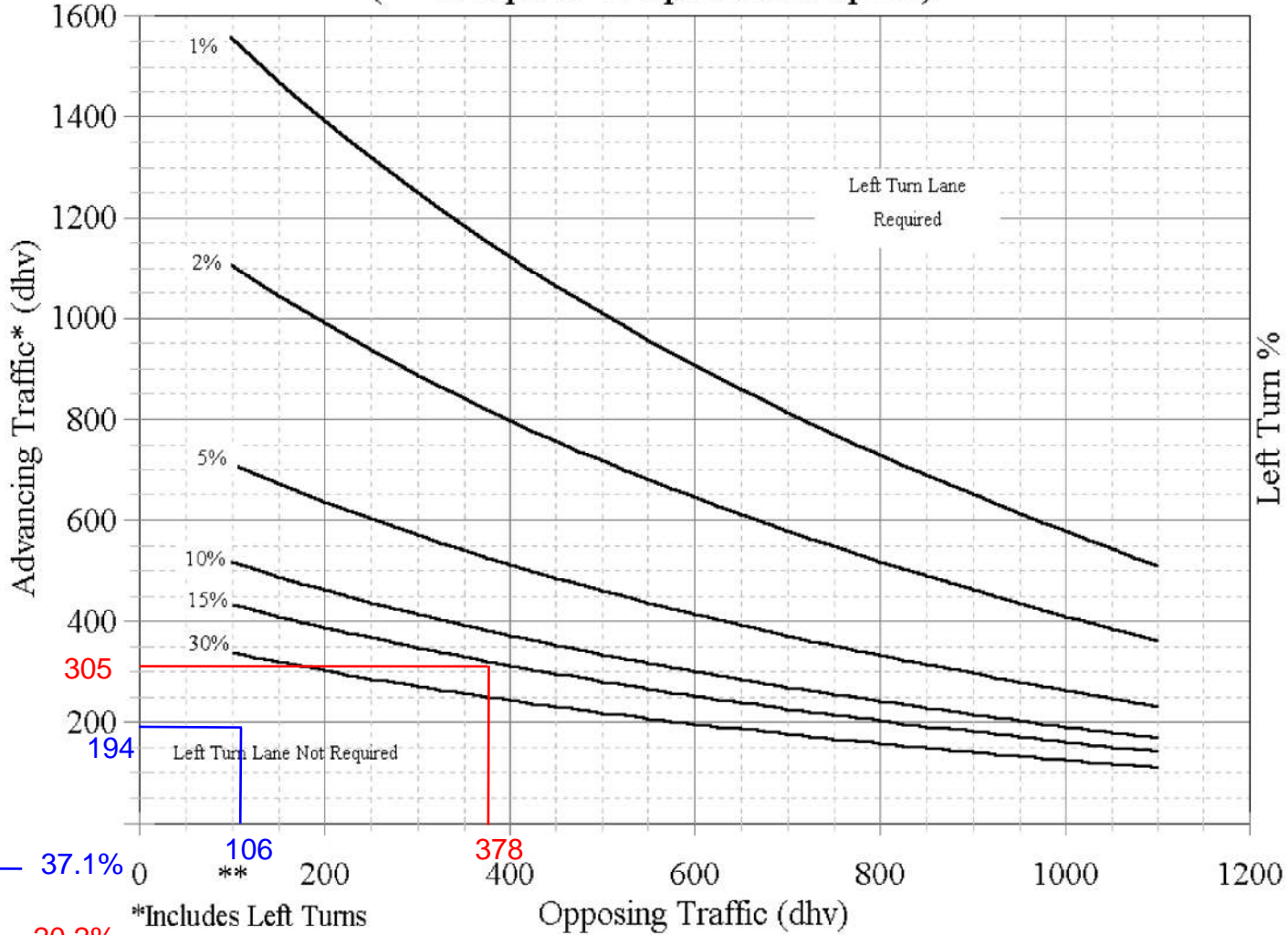
*Includes Left Turns
** There is no minimum number of turns

**2-LANE LEFT TURN LANE
WARRANT (LOW SPEED)**

401-5a
REFERENCE SECTION
401.6.1

2033 Design Traffic Scenario
Executive Blvd & Site Access #1 - WBL

2-Lane Highway Left Turn Lane Warrant
(=<40 mph or 70 kph Posted Speed)



October 2004

AM ——— 37.1%

PM ——— 20.2%

*Includes Left Turns
** There is no minimum number of turns

**2-LANE LEFT TURN LANE
WARRANT (LOW SPEED)**

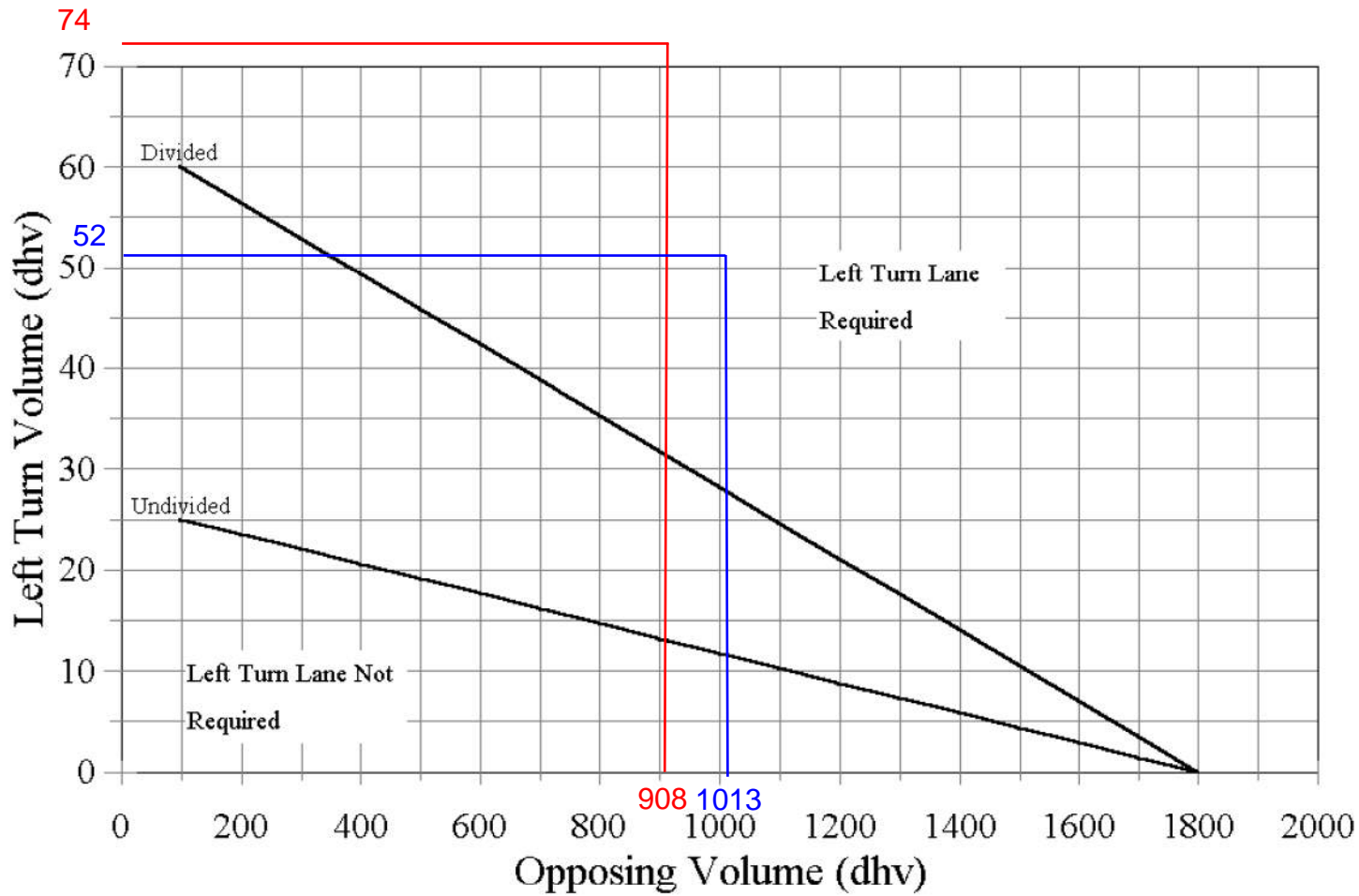
401-5a

REFERENCE SECTION
401.6.1

2023 Build Traffic Scenario
 Brandt Pike & Site Access #3 - NBL

4-Lane Highway Left Turn Lane Warrant

October 2004



AM ——— (Blue line)
 PM ——— (Red line)

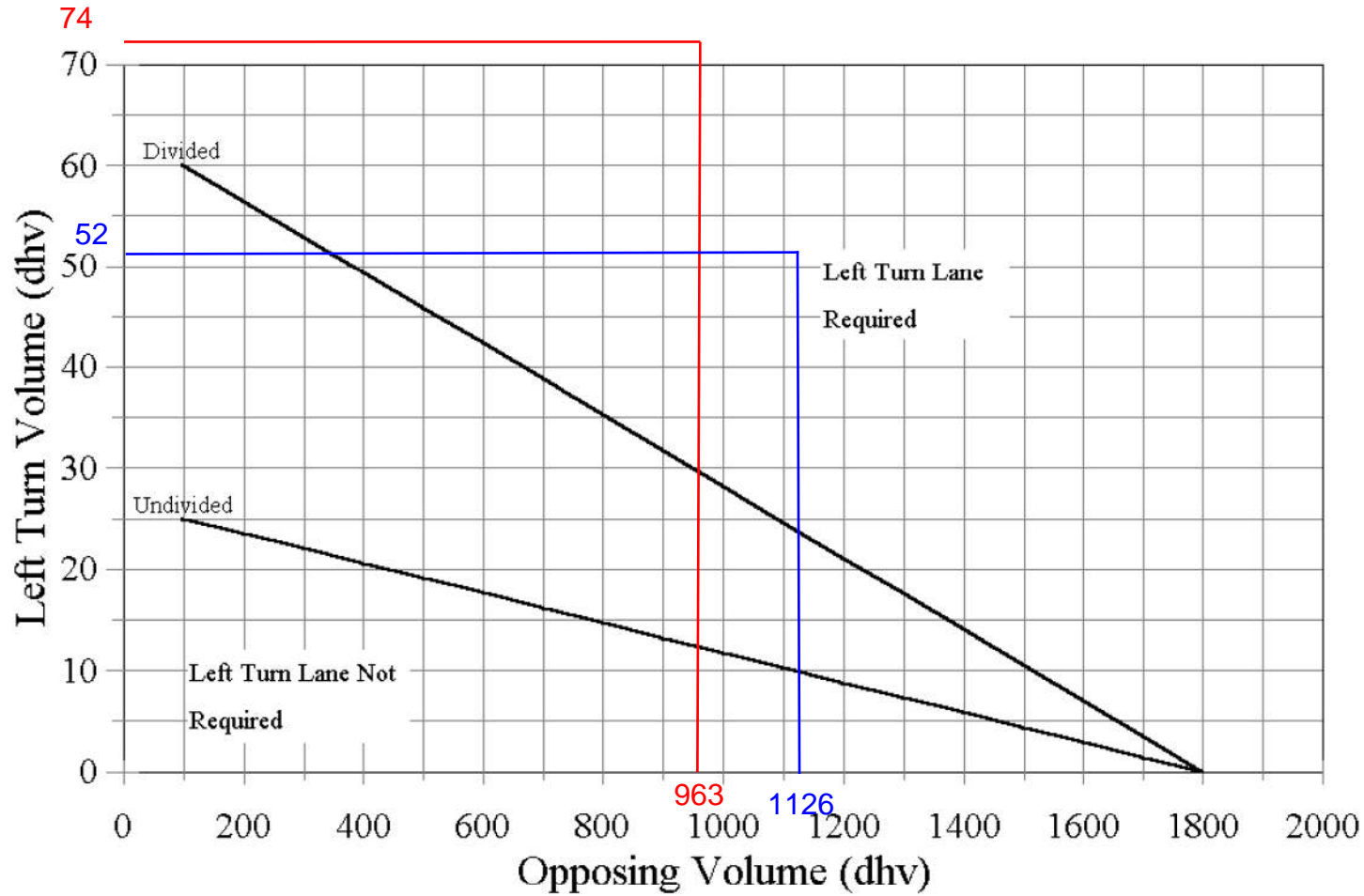
4-LANE LEFT TURN LANE WARRANT	401-5c
REFERENCE SECTION 401.6.1	

2033 Design Traffic Scenario

Brandt Pike & Site Access #3 - NBL

4-Lane Highway Left Turn Lane Warrant

October 2004



AM ———

PM ———

4-LANE LEFT TURN
LANE WARRANT

REFERENCE SECTION
401.6.1

401-5c

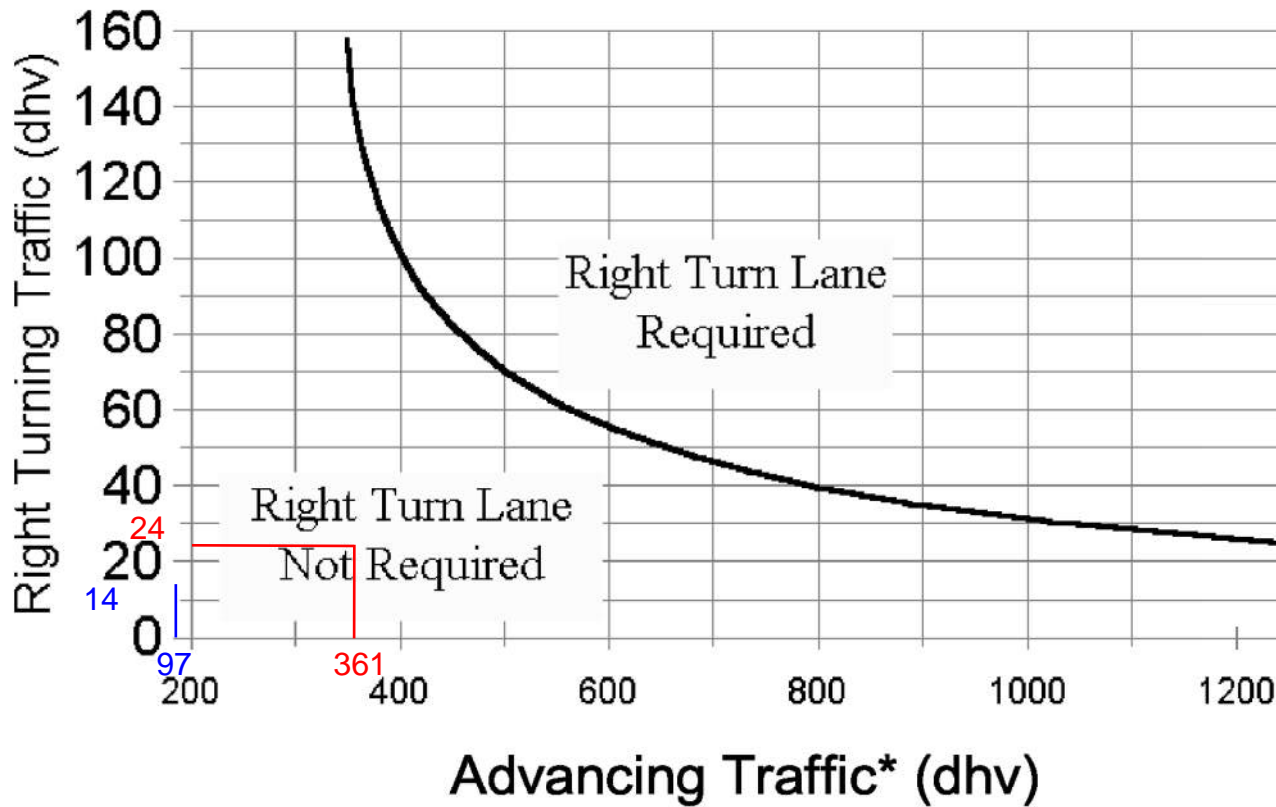
2023 Build Traffic Scenario

Executive Blvd & Lehman Ln/Site Access #1 - EBR

2-Lane Highway Right Turn Lane Warrant

= < 40 mph or 70 kph Posted Speed

October 2004



Advancing Traffic* (dhv)

*Includes Right Turns

AM

PM

2-LANE RIGHT TURN LANE
WARRANT (LOW SPEED)

REFERENCE SECTION
401.6.3

401-6a

2023 Build Traffic Scenario

Executive Blvd & Site Access #2 - EBR

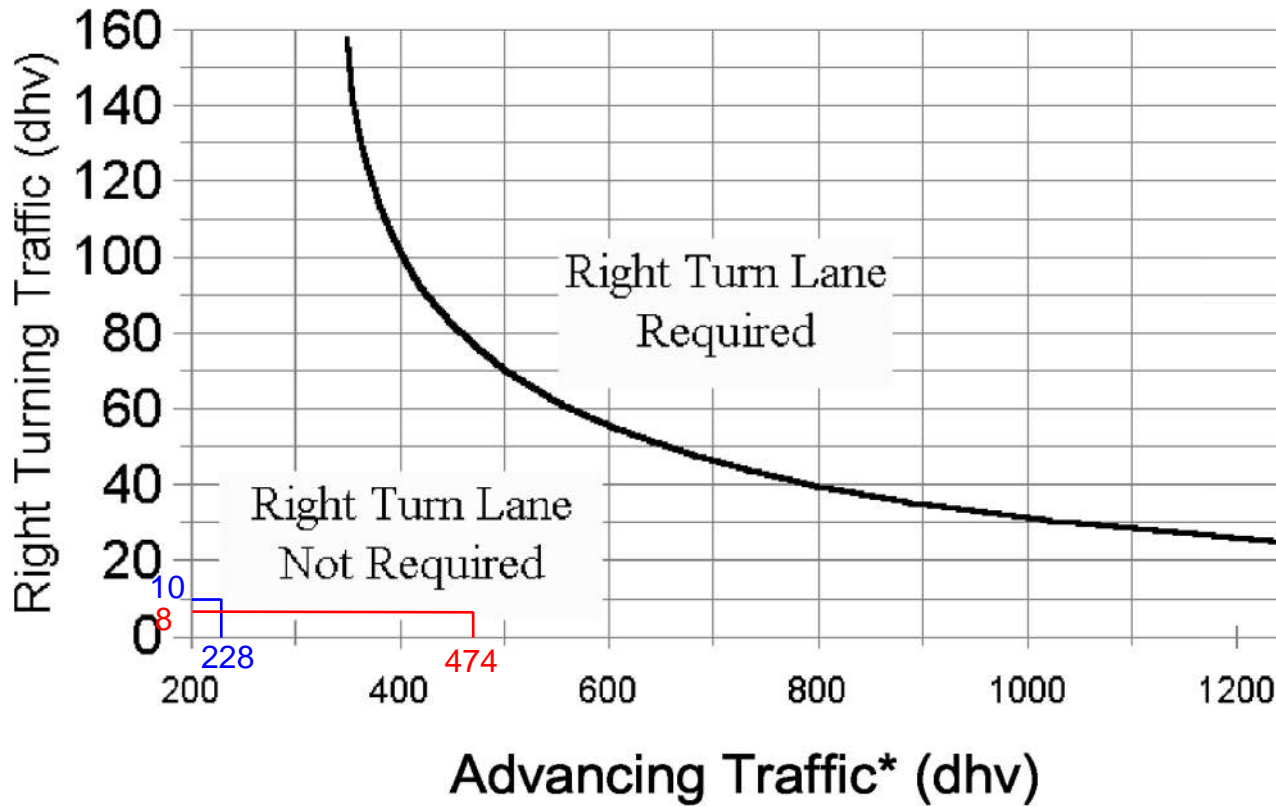
2-Lane Highway Right Turn Lane Warrant

= < 40 mph or 70 kph Posted Speed

2-LANE RIGHT TURN LANE
WARRANT (LOW SPEED)

401-6a

REFERENCE SECTION
401.6.3



Advancing Traffic* (dhv)

*Includes Right Turns

AM

PM

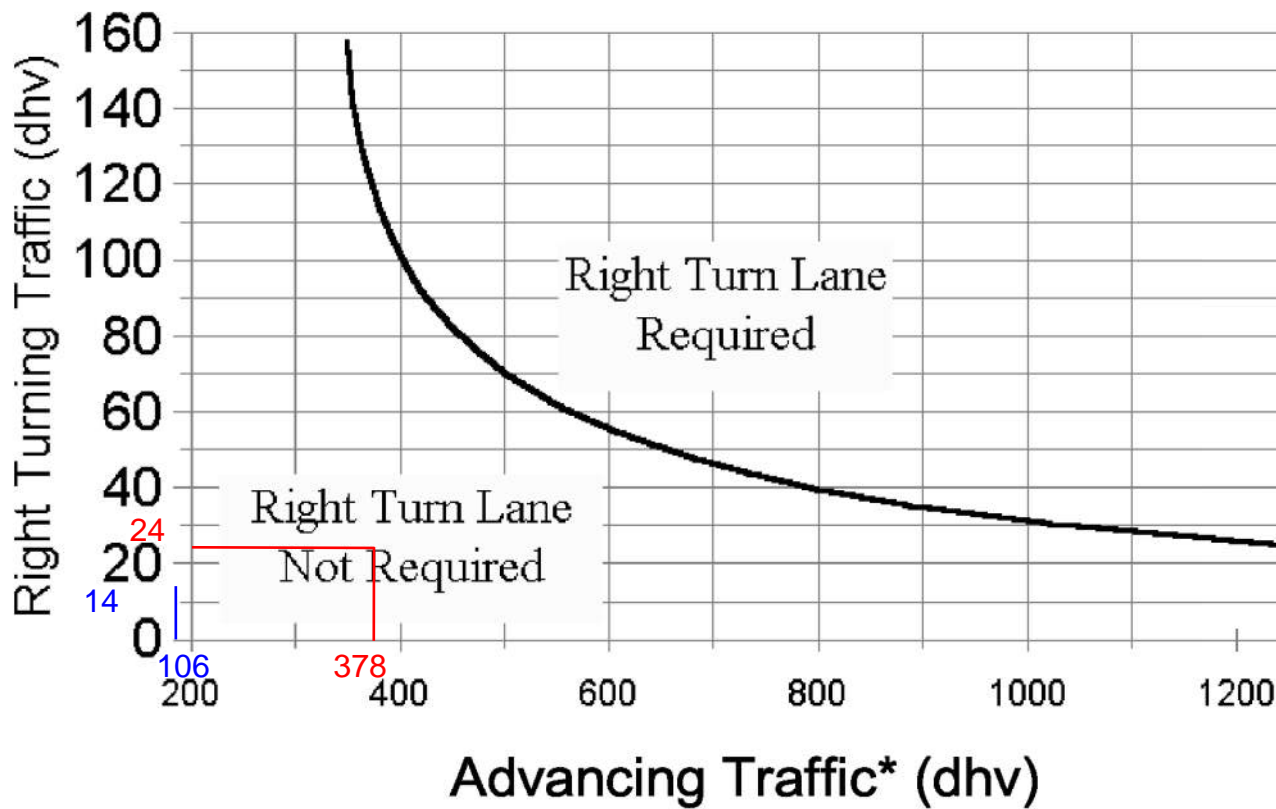
October 2004

2033 Design Traffic Scenario

Executive Blvd & Lehman Ln/Site Access #1 - EBR

2-Lane Highway Right Turn Lane Warrant

= < 40 mph or 70 kph Posted Speed



October 2004

AM

PM

Advancing Traffic* (dhv)

*Includes Right Turns

2-LANE RIGHT TURN LANE
WARRANT (LOW SPEED)

REFERENCE SECTION
401.6.3

401-6a

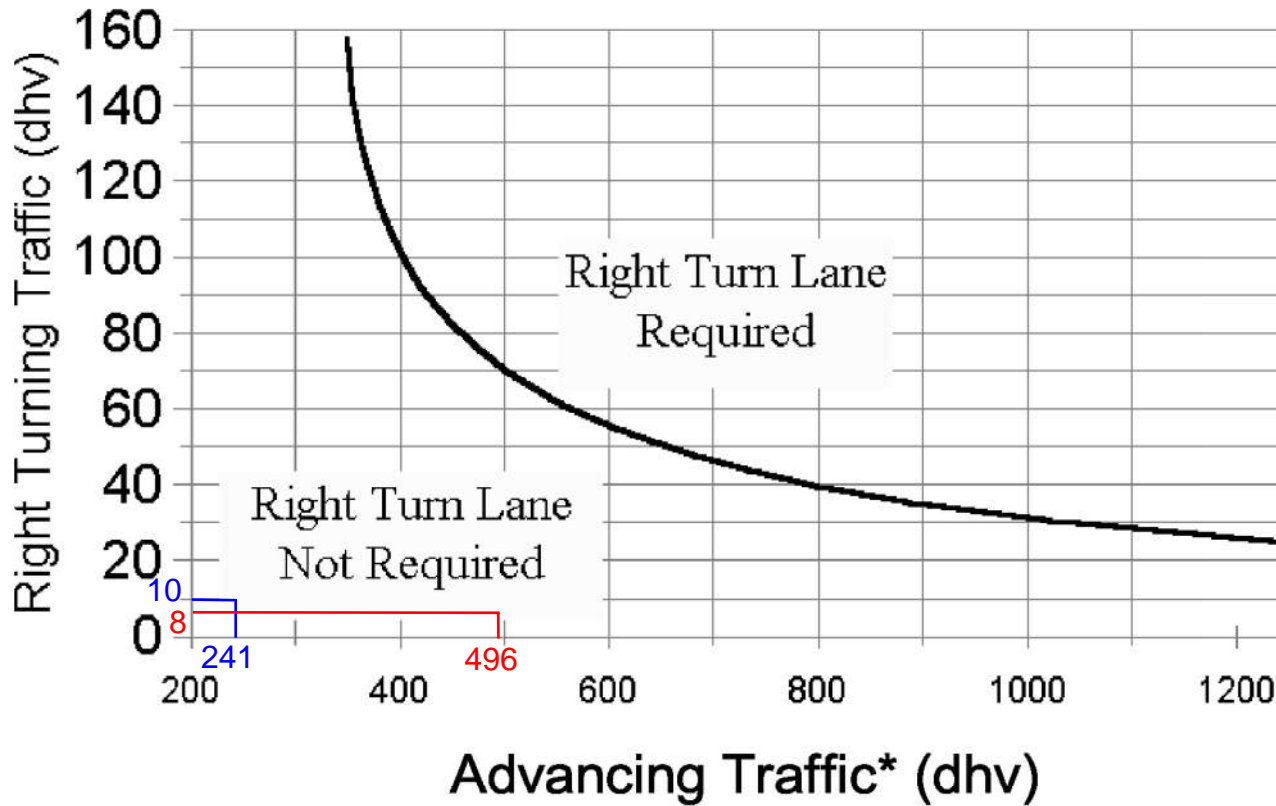
2033 Design Traffic Scenario

Executive Blvd & Site Access #2 - EBR

2-Lane Highway Right Turn Lane Warrant

= < 40 mph or 70 kph Posted Speed

October 2004



Advancing Traffic* (dhv)

*Includes Right Turns

AM

PM

2-LANE RIGHT TURN LANE
WARRANT (LOW SPEED)

REFERENCE SECTION
401.6.3

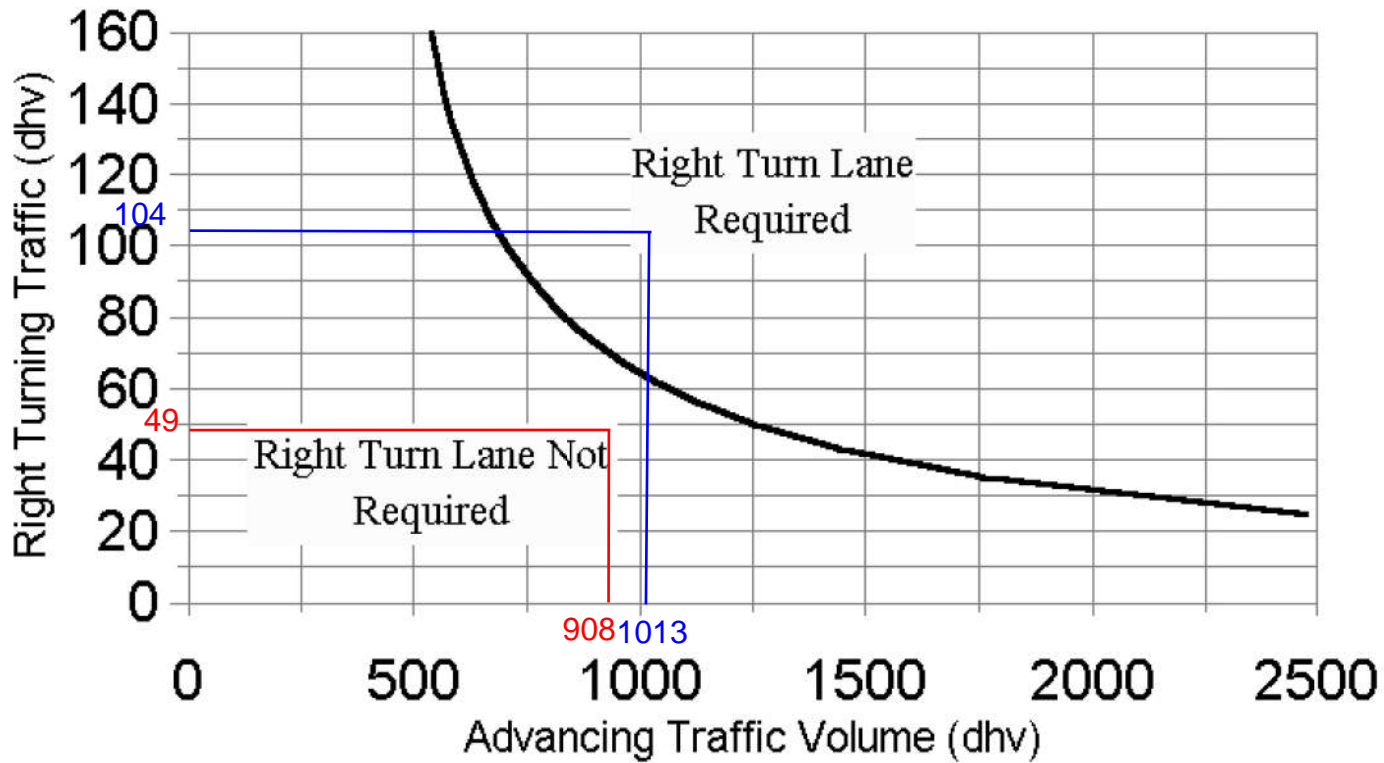
401-6a

2023 Build Traffic Scenario

Brandt Pike & Site Access #3 - SBR

4 Lane Highway Right Turn Lane Warrant
(=<40 mph or 70 kph Posted Speed)

October 2004



AM ———

PM ———

4-LANE RIGHT TURN LANE
WARRANT (LOW SPEED)

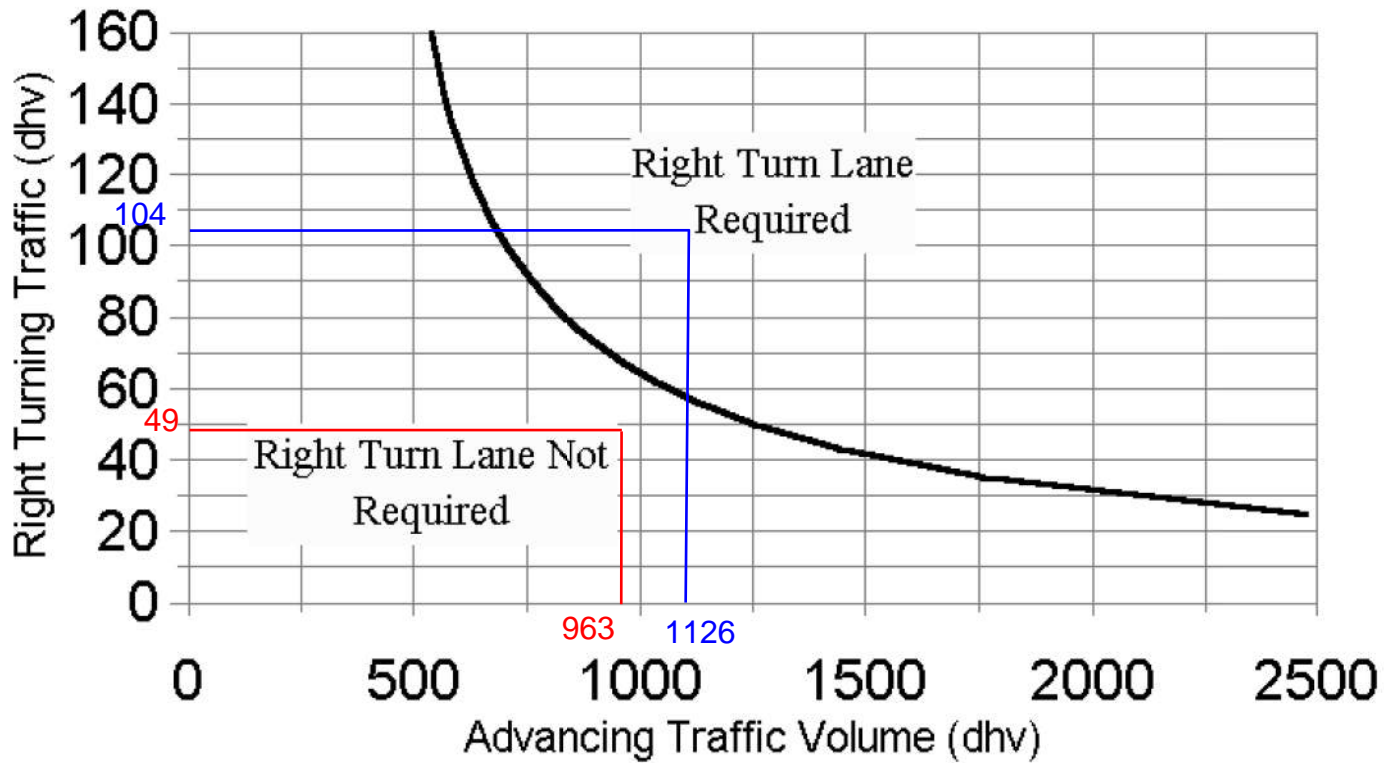
REFERENCE SECTION
401.6.3

401-6c

2033 Design Traffic Scenario

Brandt Pike & Site Access #3 - SBR

4 Lane Highway Right Turn Lane Warrant (=<40 mph or 70 kph Posted Speed)



October 2004

AM ———

PM ———

4-LANE RIGHT TURN LANE
WARRANT (LOW SPEED)

REFERENCE SECTION
401.6.3

401-6c

BASIS FOR COMPUTING LENGTH OF TURN LANES

401-9

REFERENCE SECTIONS
401.6.1 & 401.6.3

Type of Traffic Control	Design Speed		
	30-35	40-65	
	Turn Demand Volume		
	All	Low*	High
Signalized	A	B ** C	B ** C
Unsignalized Stopped Crossroad	A	A	A
Unsignalized Through Road	A	B	** B or C

* Low is considered 10% or less of approach traffic volume

** Whichever is greater

CONDITION A	STORAGE ONLY
Length = 50' (diverging taper) + Storage Length (Figure 401-10)	

CONDITION B	HIGH SPEED DECELERATION ONLY
Design Speed	Length (including 50' Diverging Taper)
40	125
45	175
50	225
55	285
60	345
65	405

CONDITION C	MODERATE SPEED DECELERATION AND STORAGE
Design Speed	Length (including 50' Diverging Taper)
40	115 + Storage Length (Figure 401-10)
45	125 "
50	145 "
55	165 "
60	185 "
65	205 "

For explanation, see Turn Lane Design Example

STORAGE LENGTH AT INTERSECTIONS

401-10

REFERENCE SECTIONS
401.6.1 & 401.6.3

* AVERAGE NO. OF VEHICLES/CYCLE	REQUIRED LENGTH (FT.)
1	50
2	100
3	150
4	175
5	200
6	250
7	275
8	325
9	350
10	375
11	400
12	450
13	475
14	500
15	525
16	550

* AVERAGE NO. OF VEHICLES/CYCLE	REQUIRED LENGTH (FT.)
17	600
18	625
19	650
20	675
21	725
22	750
23	775
24	800
25	825
30	975
35	1125
40	1250
45	1400
50	1550
55	1700
60	1850

$$* \text{ AVERAGE VEHICLES PER CYCLE} = \frac{\text{DHV (TURNING LANE)}}{\text{CYCLES/HOUR}}$$

IF CYCLES ARE UNKNOWN ASSUME:

UNSIGNALIZED OR 2 PHASE = 60 CYCLES/HOUR

3 PHASE = 40 CYCLES/HOUR

4 PHASE = 30 CYCLES/HOUR

PROJECT NAME:
NEW SHEETZ STORE

HUBER HEIGHTS

Int. of Executive Blvd.
and Brandt Pike
Huber Heights, OH

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

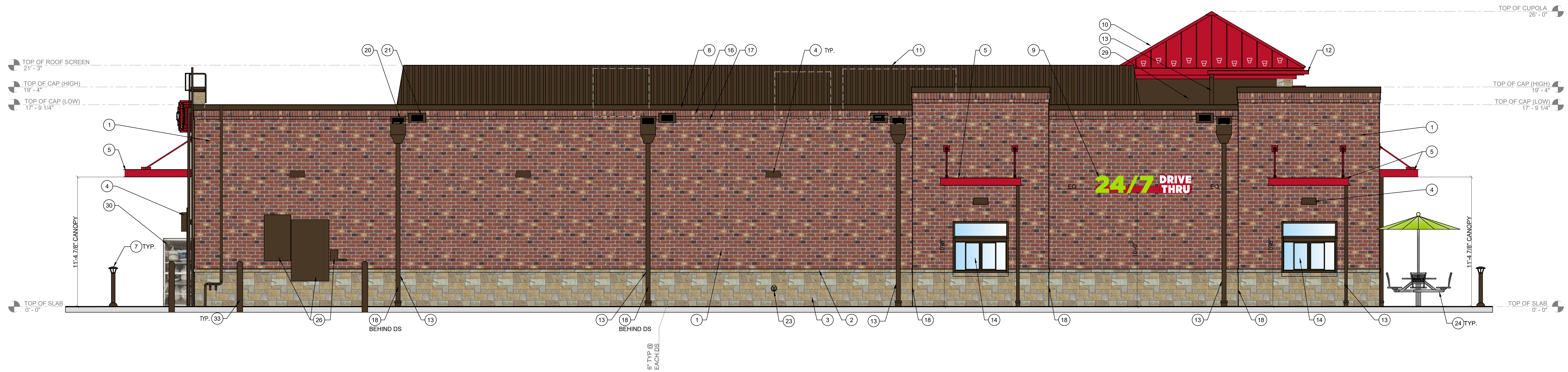
KEYPLAN

ISSUE:	12.16.2022
SITE ID NO:	214417
AUTHOR BY:	RJK
REVIEW BY:	NMV
VERSION:	6139_v1.3

EXTERIOR
ELEVATIONS

A201

PRELIMINARY ELEVATIONS



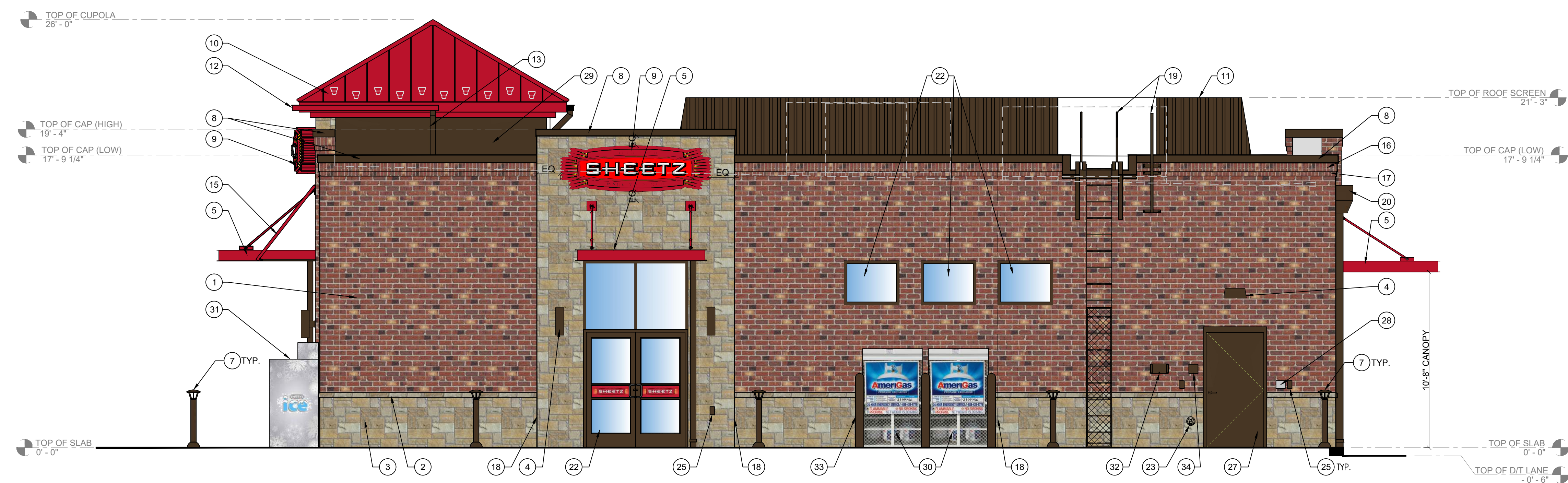
3 REAR ELEVATION
1/4" = 1'-0"

TYPICAL EXTERIOR ELEVATION NOTES:

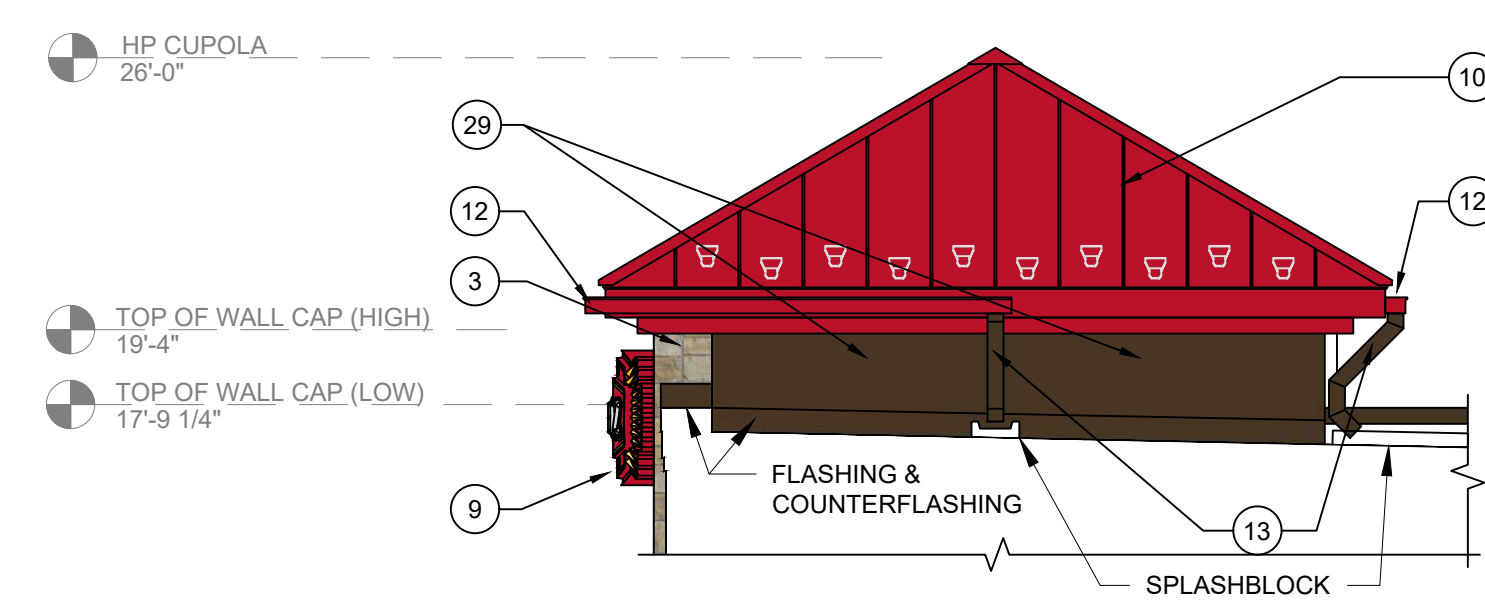
- ALL LIGHTS SHOWN ABOVE AND/OR BELOW DOORS OR WINDOWS ARE TO BE CENTERED ON THE DOOR OR WINDOW UNLESS NOTED OTHERWISE.
- FIXTURES/EQUIPMENT BETWEEN TWO DOORS OR WINDOWS ARE TO BE CENTERED EQUALLY.
- EXTERIOR SEALANT FOR STONE SHALL COMPLY WITH SECTION 07 9005 JOINT SEALANTS, GENERAL BUILDING FASCIAE WEATHER SEALANT AND SHALL MATCH THE COLOR OF THE STORE.

EXTERIOR ELEVATION KEYNOTES:

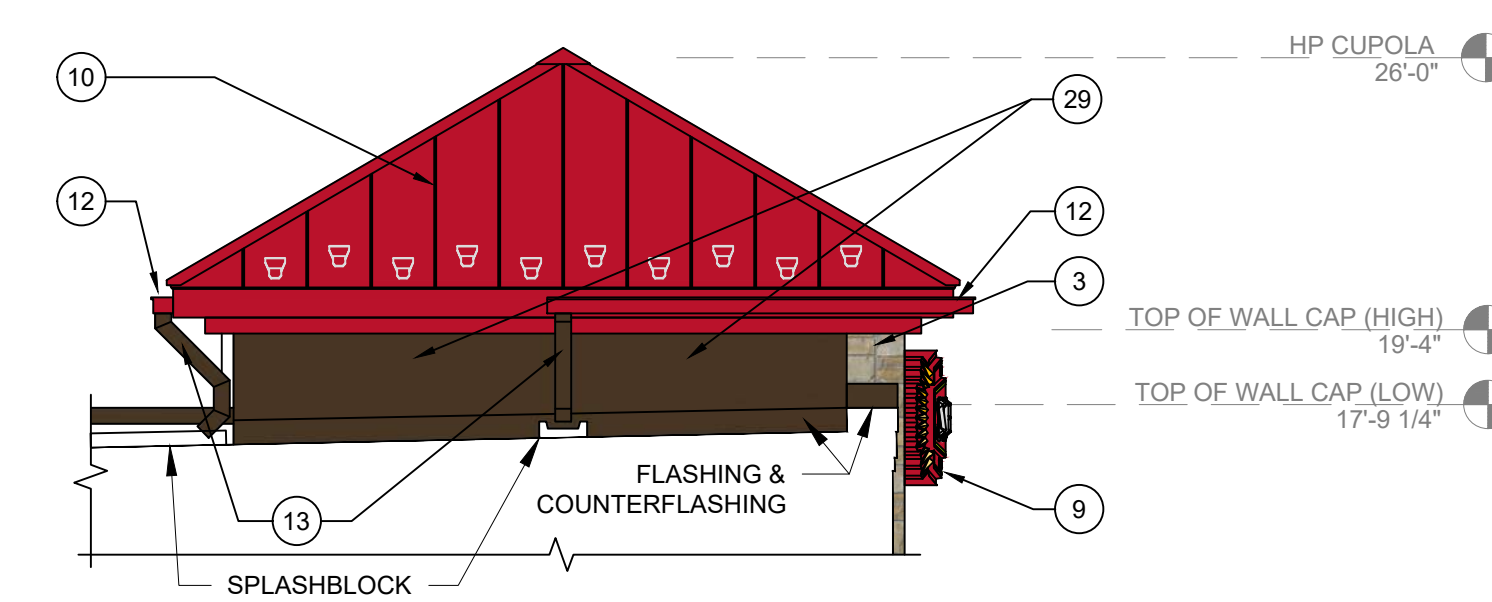
- BRICK VENEER (0/S 680 MOD BY CONTINENTAL BRICK CO.)
- CAST STONE SILL (COLOR = CRAB ORCHARD)
- ANCHORED CAST STONE MASONRY VENEER (COLOR = CRAB ORCHARD)
- EXTERIOR LIGHT FIXTURE, SEE ELEC DWGS
- ARCHITECTURAL CANOPY (COLOR = REGAL RED, PREMIUM TWO-COAT KYNAR FINISH)
- BRICK PAVER WALKWAY
- LIGHTED BOLLARD
- METAL COPING (COLOR = DARK BRONZE)
- WALL MOUNTED BUILDING SIGN, INTERNALLY ILLUMINATED. SEE SHEET A200.
- STANDING SEAM METAL ROOF (COLOR = BRITE RED)
- ROOF EQUIPMENT SCREEN (COLOR = DARK BRONZE)
- GUTTER (COLOR = RED)
- DOWNSPOUT (COLOR = DARK BRONZE)
- DRIVE-THRU WINDOW (IF APPLICABLE)
- METAL STANDING SEAM SHED STYLE AWNING AND FRAME ASSEMBLY (ROOF COLOR = BRITE RED, FRAME COLOR = DARK BRONZE)
- BRICK SOLDIER COURSE (0/S 680 MOD BY CONTINENTAL BRICK CO.)
- BRICK ROWLOCK COURSE (0/S 680 MOD BY CONTINENTAL BRICK CO.)
- CONTROL JOINT SEE MASONRY SPECS FOR COLOR
- STEEL ROOF LADDER AND CRANKY POST (COLOR = DARK BRONZE)
- STANDARD THROUGH WALL SCUPPER W/ CONDUCTOR HEAD & DOWNSPOUT (COLOR = DARK BRONZE)
- OVERFLOW SCUPPER
- ALUMINUM STOREFRONT SYSTEM
- EXTERIOR HOSE BIB
- OUTDOOR FURNITURE
- ELECTRICAL RECEPTACLE (REFER TO ELECTRICAL DRAWINGS)
- ELECTRICAL EQUIPMENT (REFER TO ELECTRICAL DRAWINGS)
- HM DOOR AND FRAME (COLOR = DARK BRONZE)
- EMERGENCY WATER CONNECTION
- SEAMLESS ALUM. PANEL SYSTEM W/ EXPOSED FASTENERS - COLOR: DARK BRONZE
- PROPANE LOCKER
- ICE MERCHANDISER
- RTI FILLPORT
- STEEL BOLLARD (COLOR = DARK BRONZE)
- CO2 FILLPORT
- DECORATIVE ALUMINUM FENCE



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



5 CUPOLA FROM ROOF
1/4" = 1'-0"



6 CUPOLA FROM ROOF
1/4" = 1'-0"

SHEETZ - HUBER HEIGHTS, OH (EXECUTIVE BOULEVARD)

Legend

Write a description for your map.





Stormwater Management Report Basic Development Plan Stage

Sheetz (Executive Blvd)
Huber Heights, OH

Date Prepared: 2023-02-15
Revised:

On behalf of:

Skilken Gold
Real Estate Development

Contact:

Josh Long
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Engineer of Record:

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APPENDICES

A. Hydrographs

B. Stormwater Quality Calculations

C. Drainage Area Maps

C1. Existing Conditions Drainage Area Map

C2. Proposed Conditions Drainage Area Map

C3. Tributary Drainage Area Map (To be provided with detailed development plan submittal)

D. Stormwater Pipe Calculations (To be provided with detailed development plan submittal)

E. USDA NRCS Web Soil Survey

Introduction

This report covers the methodology and calculations used in the design of the stormwater management system for the proposed development anticipated for Sheetz at the southwest corner of Brandt Pike & Executive Boulevard.

The stormwater management system is designed in accordance with the City of Huber Heights Code (Chapter 922B – Post Construction Stormwater Runoff), the Ohio EPA (Permit Number OHC000005). The regulations have requirements for stormwater quantity and quality. Additionally, the stormwater basin has been designed in accordance with the Montgomery County Stormwater Management Program.

- The stormwater quality requirements can be met by permanent pool in a basin treating the water quality volume. In addition, the outlet structure will be designed to meet the drawdown time regulated by the Ohio EPA regulations.
- The stormwater quantity requirements can be satisfied by ensuring the post-developed peak flows are at or below the pre-developed peak flow for all storms up to the Critical Storms. All less frequent storms shall be at or below their pre-developed flow.

Storm routings for this project were performed using HydroCAD. Time of Concentration was determined by using the TR-55 method, within HydroCAD.

The onsite soils were obtained from USDA NRCS Web Soil Survey and can be found in **Appendix E**.

The storm pipe network was designed using Hydraflow Stormsewers Extension for Autodesk Civil 3D. City of Huber Heights Code (Chapter 922B – Post Construction Stormwater Runoff) requires that the pipes be sized using 5-year design storm. Refer to **Appendix D** for the Storm Pipe Calculations and **Appendix C3** for the associated Tributary Drainage area Map.

Existing Conditions

The site is 2.89 acres of undeveloped land. There are remains of a demolished building and gravel path within the disturbed area. The current drainage pattern flows north to south tributary to ditch south of the site. Bordering the site to the north and east are public roads with stormwater systems associated to the drainage. The public road storm system is tributary to the same ditch as the proposed development site.

The existing runoff consists of one (1) major existing drainage areas as listed below:

- EDA-1 - This drainage area drains to the south, towards the ditch on the south side

The Soil Survey indicates this site to have mainly Miamian silt loam (MIB), hydric group C. The report utilizes a curve number of 74 for pervious grass areas (>75% cover grass cover) and 98 for impervious areas.

Peak runoff rates from the existing conditions of the site are listed in the following table:

Existing Conditions Peak Runoff Rates							
Drainage Area	1-year Storm	2-year Storm	5-year Storm	10-year Storm	25-year Storm	50-year Storm	100-year Storm
EDA-1	1.66 CFS	2.62 CFS	4.09 CFS	5.33 CFS	7.07 CFS	8.52 CFS	10.02 CFS

The Existing Conditions Drainage Area Map can be found in **Appendix C1**.

Proposed Conditions

The proposed development of the site will consist of the construction of a 6,138 SF building, a paved parking area, paved drive aisles, associated site improvements and a stormwater management system. The stormwater management system consists of an above-ground Stormwater Management Basin. The outflow from the stormwater management system will be routed through the outlet structure and directed to the ditch south of the site.

Stormwater Quality

To satisfy the water quality requirements, a permanent pool will be established within the stormwater management basin that will treat the entire water quality volume.

Therefore, the stormwater quality requirements have been satisfied. Refer to **Appendix B** for Stormwater Quality Calculations.

Stormwater Quantity

The resulting proposed conditions peak runoff rates are listed in the following table:

Proposed Conditions Peak Runoff Rates							
Drainage Area	1-year Storm	2-year Storm	5-year Storm	10-year Storm	25-year Storm	50-year Storm	100-year Storm
DA-1	5.31 CFS	6.92 CFS	9.14 CFS	10.89 CFS	13.23 CFS	15.09 CFS	16.98 CFS

A summary of the conditions of each event are listed in the following table:

Runoff Reduction Summary					
Storm	Existing (cubic feet per sec)	Allowable (cubic feet per sec)	Proposed (cubic feet per sec)	Storage used (in Cubic Feet) (above WQ Permanent Pool)	Water Surface Elevation (feet)
1-year	1.66 cfs	1.66 cfs	0.12 cfs	10,033 cf	943.37
2-year	2.62 cfs	1.66 cfs	0.14 cfs	13,348 cf	943.49
5-year	4.09 cfs	1.66 cfs	0.33 cfs	16,988 cf	943.62
10-year	5.33 cfs	1.66 cfs	0.56 cfs	19,591 cf	943.71
*25-year	7.07 cfs	1.66 cfs	0.95 cfs	23,047 cf	943.83
50-year	8.52 cfs	8.52 cfs	1.22 cfs	25,972 cf	943.93
100-year	10.02 cfs	10.02 cfs	1.44 cfs	29,187 cf	944.04
Total Basin Storage above WQ Permanent Pool:				128,973 Cubic Feet	
Critical Storm Calculation					
1-year pre-developed runoff volume				5,577 CF	
1-year post-developed runoff volume				13,352 CF	
Calculation				$(13,352 - 5,577)/5,577 = 139\%$ Increase	
139% Increase = 25-year Critical Storm*					

Refer to **Appendix A** for the Hydrographs. The Proposed Conditions Drainage Area Map can be found in **Appendix C2**.

Summary

The proposed stormwater management system has been successfully designed to manage the increased runoff from associated improvements of the project. The stormwater management system has been designed in accordance with the appropriate regulations, as demonstrated in the previous tables and accompanying calculations.

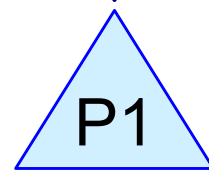
**APPENDIX A:
HYDROGRAPHS**



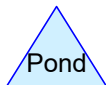
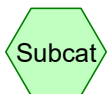
Pre-Developed



Post-Developed



Basin



Routing Diagram for 761668_Sheetz Huber Hts OH - Exec Blvd2

Prepared by CESO, Inc, Printed 2/8/2023

HydroCAD® 10.20-2d s/n 11958 © 2021 HydroCAD Software Solutions LLC

761668_Sheetz Huber Hts OH - Exec Blvd2

Prepared by CESO, Inc

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Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	NOAA 24-hr	A	Default	24.00	1	2.29	2
2	2-Year	NOAA 24-hr	A	Default	24.00	1	2.74	2
3	5-Year	NOAA 24-hr	A	Default	24.00	1	3.35	2
4	10-Year	NOAA 24-hr	A	Default	24.00	1	3.83	2
5	25-Year	NOAA 24-hr	A	Default	24.00	1	4.47	2
6	50-Year	NOAA 24-hr	A	Default	24.00	1	4.98	2
7	100-Year	NOAA 24-hr	A	Default	24.00	1	5.50	2

Summary for Subcatchment S1: Pre-Developed

Runoff = 1.66 cfs @ 12.27 hrs, Volume= 5,577 cf, Depth= 0.53"

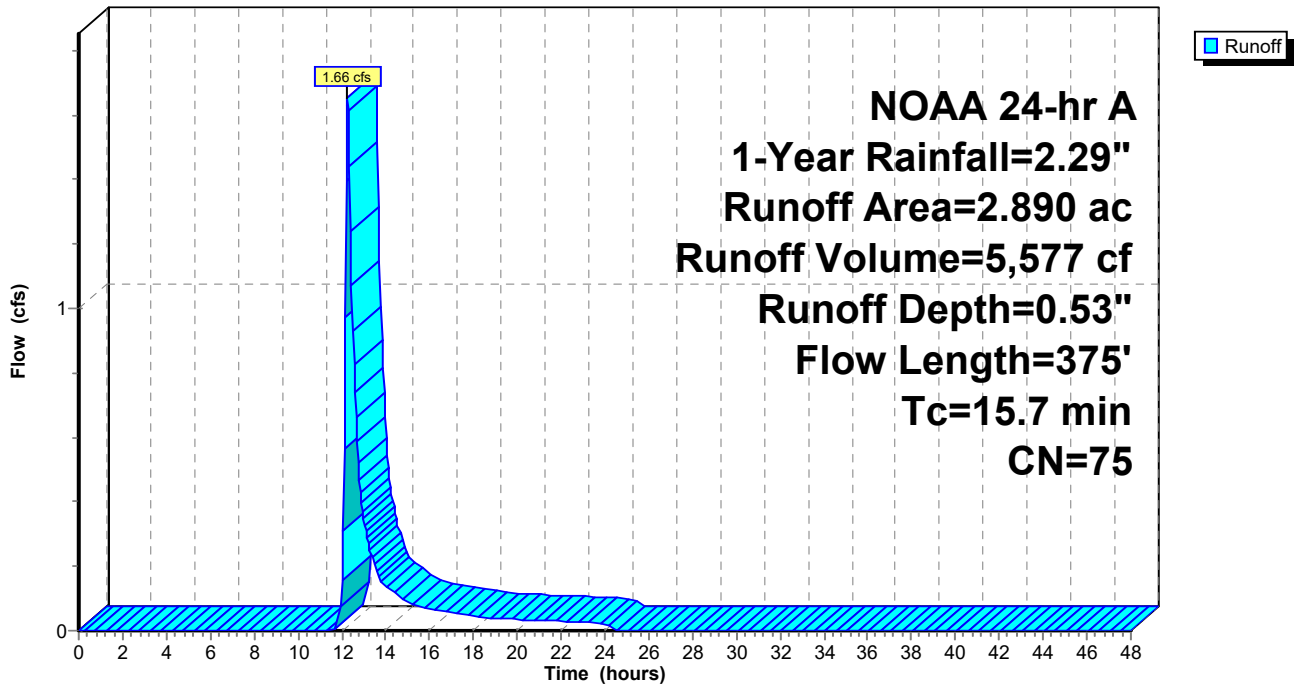
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 1-Year Rainfall=2.29"

Area (ac)	CN	Description
2.740	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking, HSG C
2.890	75	Weighted Average
2.740		94.81% Pervious Area
0.150		5.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0140	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.74"
1.6	100	0.0230	1.06		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
1.9	175	0.0500	1.57		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
15.7	375	Total			

Subcatchment S1: Pre-Developed

Hydrograph



Summary for Subcatchment S2: Post-Developed

Runoff = 5.31 cfs @ 12.18 hrs, Volume= 13,352 cf, Depth= 1.27"
 Routed to Pond P1 : Basin

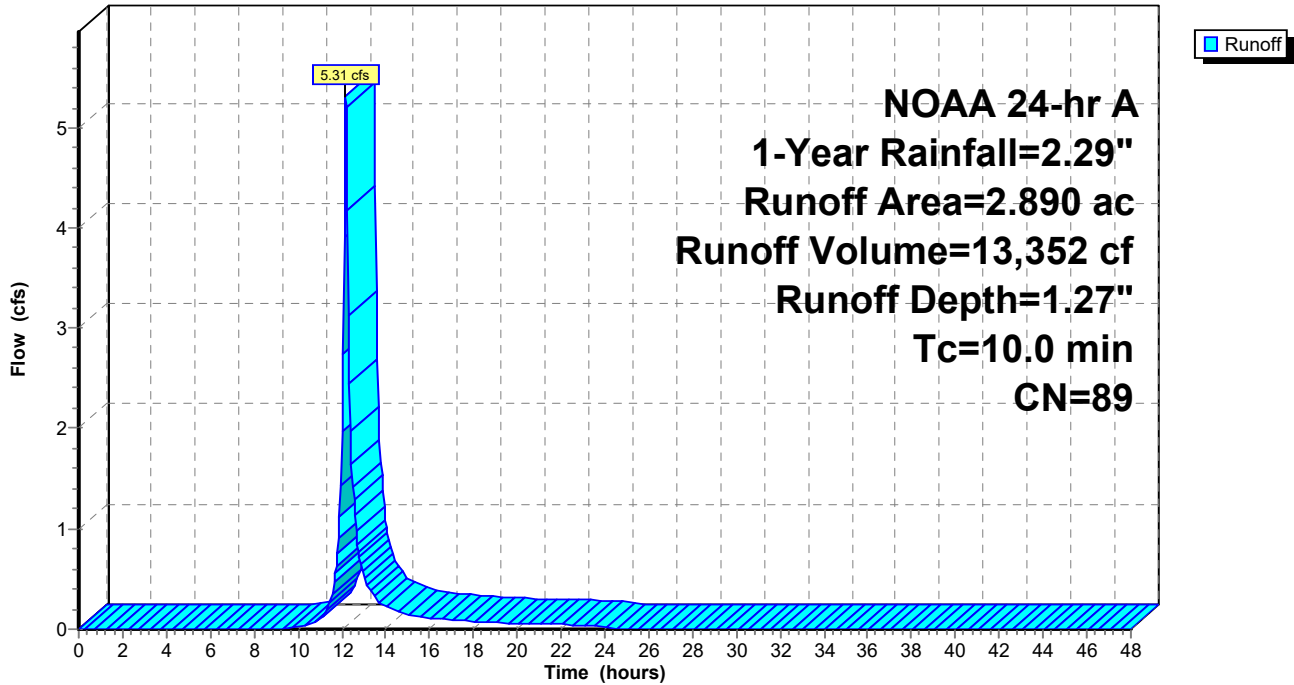
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 1-Year Rainfall=2.29"

Area (ac)	CN	Description
1.030	74	>75% Grass cover, Good, HSG C
1.860	98	Paved parking, HSG C
2.890	89	Weighted Average
1.030		35.64% Pervious Area
1.860		64.36% Impervious Area

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

Subcatchment S2: Post-Developed

Hydrograph



Summary for Pond P1: Basin

Inflow Area = 125,888 sf, 64.36% Impervious, Inflow Depth = 1.27" for 1-Year event
 Inflow = 5.31 cfs @ 12.18 hrs, Volume= 13,352 cf
 Outflow = 0.12 cfs @ 15.70 hrs, Volume= 10,058 cf, Atten= 98%, Lag= 211.0 min
 Primary = 0.12 cfs @ 15.70 hrs, Volume= 10,058 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 943.37' @ 15.70 hrs Surf.Area= 27,721 sf Storage= 10,033 cf

Plug-Flow detention time= 835.4 min calculated for 10,047 cf (75% of inflow)
 Center-of-Mass det. time= 763.9 min (1,572.5 - 808.6)

Volume	Invert	Avail.Storage	Storage Description
#1	943.00'	128,973 cf	Storage Area (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
943.00	26,740	0	0
944.00	29,404	28,072	28,072
945.00	32,168	30,786	58,858
946.00	35,032	33,600	92,458
947.00	37,998	36,515	128,973

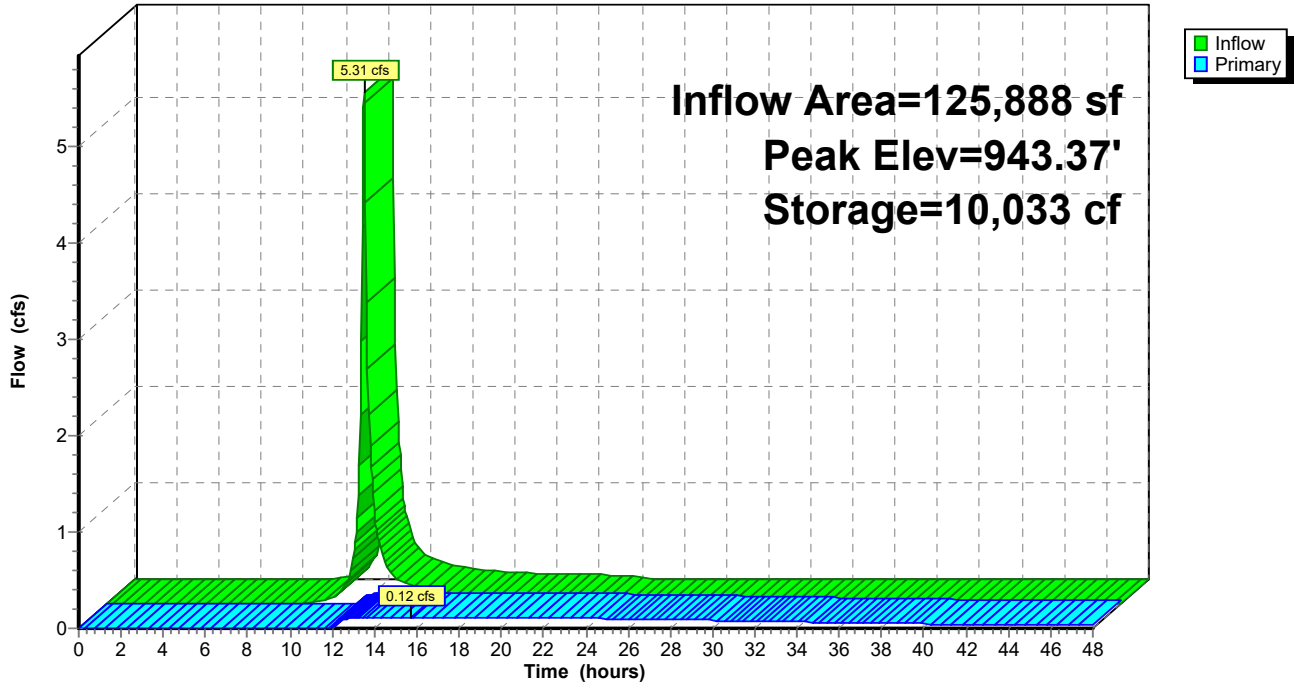
Device	Routing	Invert	Outlet Devices
#1	Primary	943.00'	24.0" Round Culvert L= 29.1' Ke= 0.500 Inlet / Outlet Invert= 943.00' / 942.50' S= 0.0172 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	943.00'	3.0" Vert. WQ Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	943.50'	15.0" W x 4.0" H Vert. Window for quantity release C= 0.600 Limited to weir flow at low heads
#4	Device 1	944.75'	4.0' long x 0.5' breadth Weir wall Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.12 cfs @ 15.70 hrs HW=943.37' (Free Discharge)

- 1=Culvert (Passes 0.12 cfs of 0.82 cfs potential flow)
- 2=WQ Orifice (Orifice Controls 0.12 cfs @ 2.38 fps)
- 3=Window for quantity release (Controls 0.00 cfs)
- 4=Weir wall (Controls 0.00 cfs)

Pond P1: Basin

Hydrograph



Summary for Subcatchment S1: Pre-Developed

Runoff = 2.62 cfs @ 12.26 hrs, Volume= 8,341 cf, Depth= 0.80"

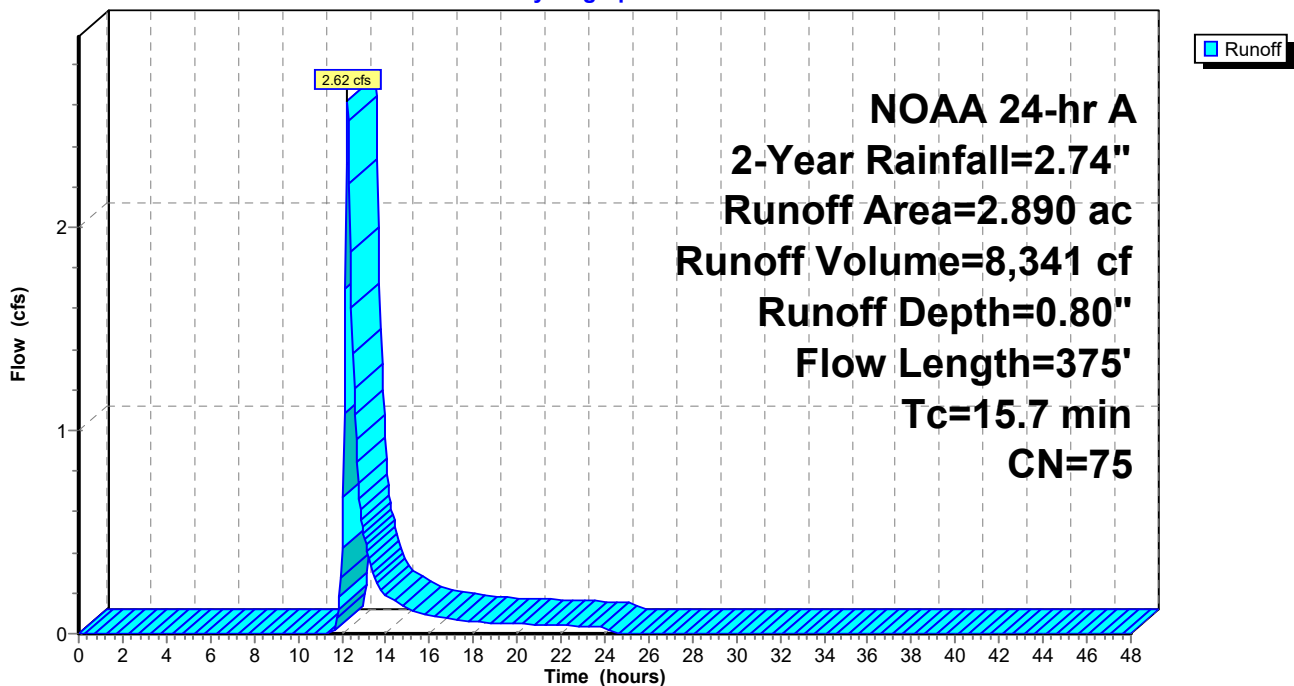
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 2-Year Rainfall=2.74"

Area (ac)	CN	Description
2.740	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking, HSG C
2.890	75	Weighted Average
2.740		94.81% Pervious Area
0.150		5.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0140	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.74"
1.6	100	0.0230	1.06		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
1.9	175	0.0500	1.57		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
15.7	375	Total			

Subcatchment S1: Pre-Developed

Hydrograph



Summary for Subcatchment S2: Post-Developed

Runoff = 6.92 cfs @ 12.18 hrs, Volume= 17,483 cf, Depth= 1.67"
 Routed to Pond P1 : Basin

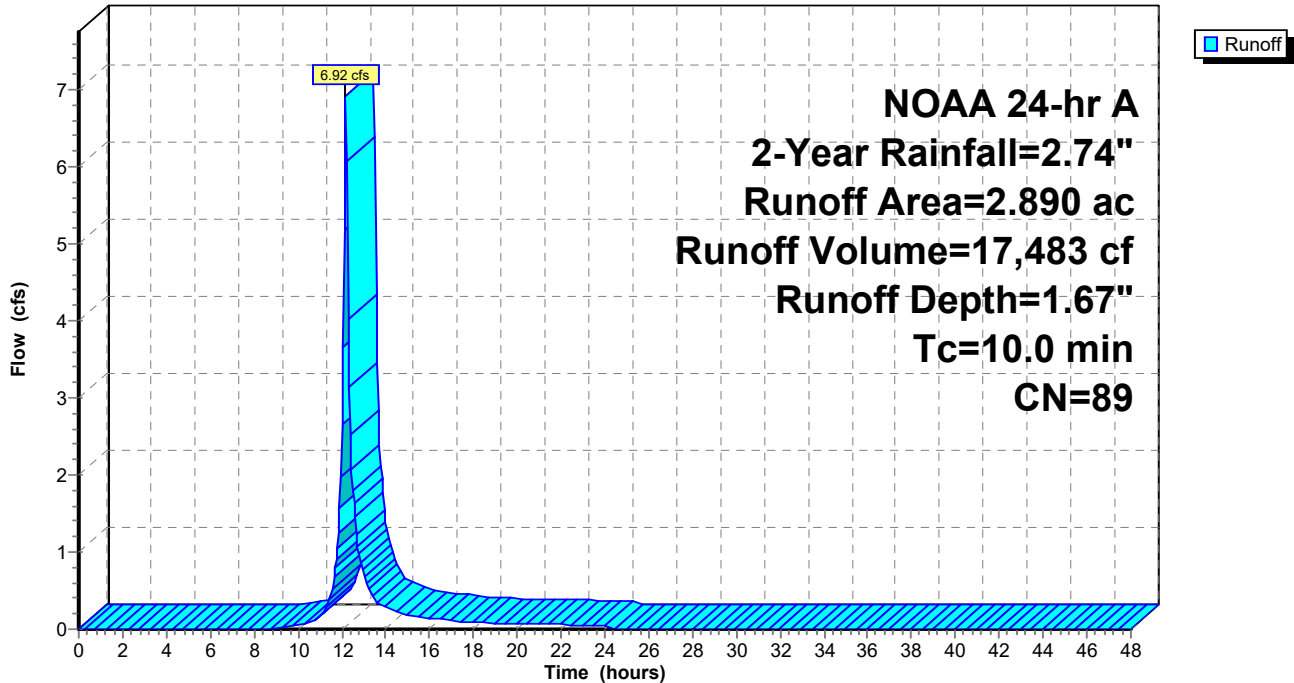
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 2-Year Rainfall=2.74"

Area (ac)	CN	Description
1.030	74	>75% Grass cover, Good, HSG C
1.860	98	Paved parking, HSG C
2.890	89	Weighted Average
1.030		35.64% Pervious Area
1.860		64.36% Impervious Area

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

Subcatchment S2: Post-Developed

Hydrograph



Summary for Pond P1: Basin

Inflow Area = 125,888 sf, 64.36% Impervious, Inflow Depth = 1.67" for 2-Year event
 Inflow = 6.92 cfs @ 12.18 hrs, Volume= 17,483 cf
 Outflow = 0.14 cfs @ 15.83 hrs, Volume= 13,273 cf, Atten= 98%, Lag= 219.1 min
 Primary = 0.14 cfs @ 15.83 hrs, Volume= 13,273 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 943.49' @ 15.83 hrs Surf.Area= 28,038 sf Storage= 13,348 cf

Plug-Flow detention time= 883.3 min calculated for 13,273 cf (76% of inflow)
 Center-of-Mass det. time= 812.9 min (1,615.9 - 803.0)

Volume	Invert	Avail.Storage	Storage Description
#1	943.00'	128,973 cf	Storage Area (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
943.00	26,740	0	0
944.00	29,404	28,072	28,072
945.00	32,168	30,786	58,858
946.00	35,032	33,600	92,458
947.00	37,998	36,515	128,973

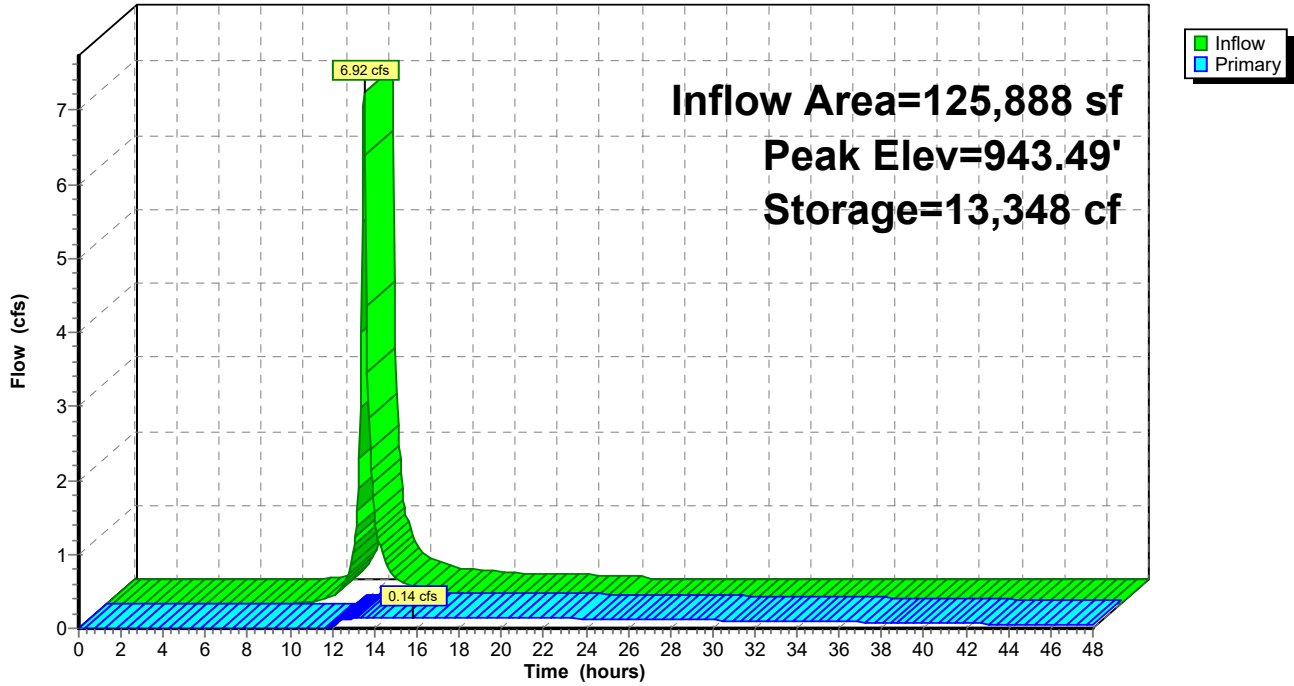
Device	Routing	Invert	Outlet Devices
#1	Primary	943.00'	24.0" Round Culvert L= 29.1' Ke= 0.500 Inlet / Outlet Invert= 943.00' / 942.50' S= 0.0172 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	943.00'	3.0" Vert. WQ Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	943.50'	15.0" W x 4.0" H Vert. Window for quantity release C= 0.600 Limited to weir flow at low heads
#4	Device 1	944.75'	4.0' long x 0.5' breadth Weir wall Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.14 cfs @ 15.83 hrs HW=943.49' (Free Discharge)

- 1=Culvert (Passes 0.14 cfs of 1.41 cfs potential flow)
- 2=WQ Orifice (Orifice Controls 0.14 cfs @ 2.90 fps)
- 3=Window for quantity release (Controls 0.00 cfs)
- 4=Weir wall (Controls 0.00 cfs)

Pond P1: Basin

Hydrograph



Summary for Subcatchment S1: Pre-Developed

Runoff = 4.09 cfs @ 12.26 hrs, Volume= 12,554 cf, Depth= 1.20"

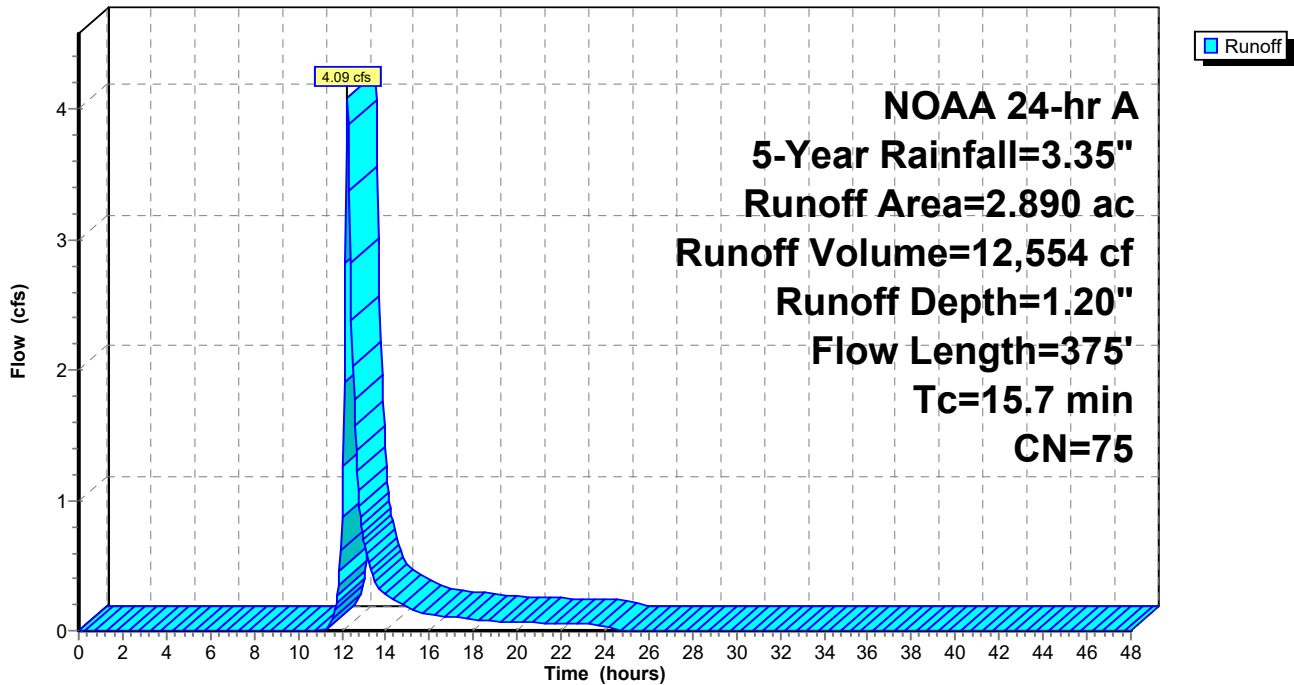
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 5-Year Rainfall=3.35"

Area (ac)	CN	Description
2.740	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking, HSG C
2.890	75	Weighted Average
2.740		94.81% Pervious Area
0.150		5.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0140	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.74"
1.6	100	0.0230	1.06		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
1.9	175	0.0500	1.57		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
15.7	375	Total			

Subcatchment S1: Pre-Developed

Hydrograph



Summary for Subcatchment S2: Post-Developed

Runoff = 9.14 cfs @ 12.17 hrs, Volume= 23,278 cf, Depth= 2.22"
 Routed to Pond P1 : Basin

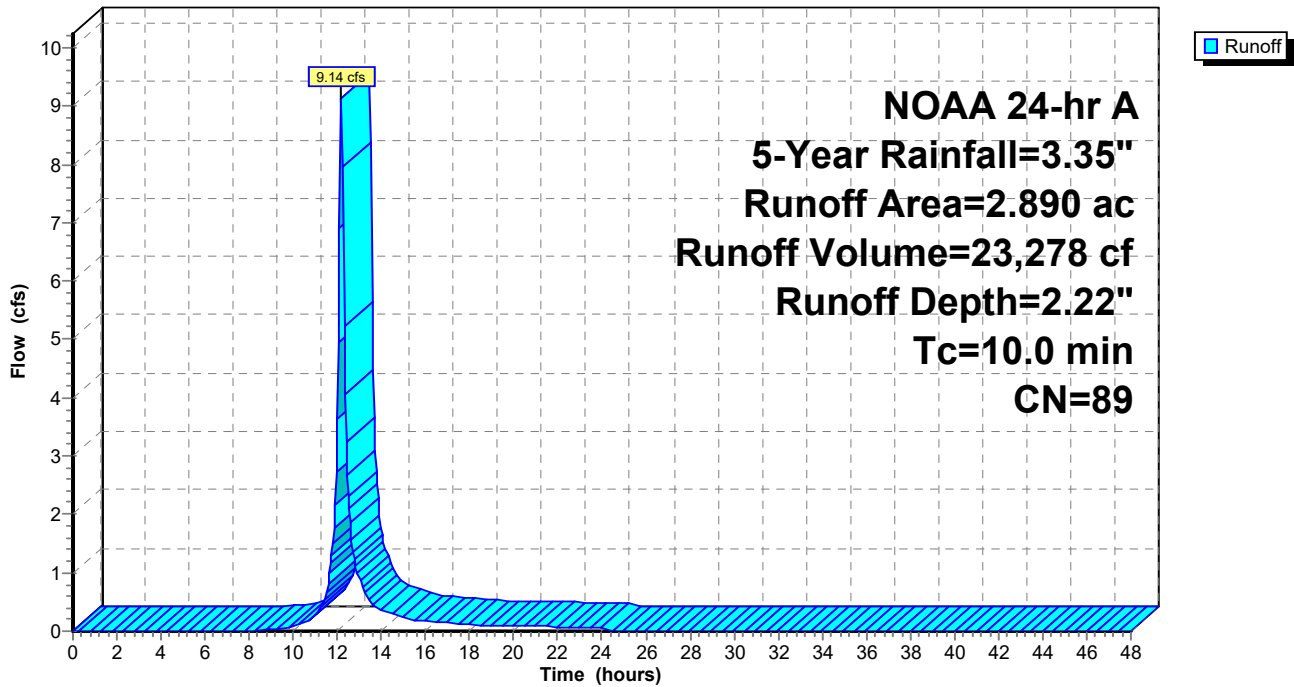
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 5-Year Rainfall=3.35"

Area (ac)	CN	Description
1.030	74	>75% Grass cover, Good, HSG C
1.860	98	Paved parking, HSG C
2.890	89	Weighted Average
1.030		35.64% Pervious Area
1.860		64.36% Impervious Area

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

Subcatchment S2: Post-Developed

Hydrograph



Summary for Pond P1: Basin

Inflow Area = 125,888 sf, 64.36% Impervious, Inflow Depth = 2.22" for 5-Year event
 Inflow = 9.14 cfs @ 12.17 hrs, Volume= 23,278 cf
 Outflow = 0.33 cfs @ 14.26 hrs, Volume= 18,350 cf, Atten= 96%, Lag= 125.1 min
 Primary = 0.33 cfs @ 14.26 hrs, Volume= 18,350 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 943.62' @ 14.26 hrs Surf.Area= 28,382 sf Storage= 16,988 cf

Plug-Flow detention time= 788.6 min calculated for 18,350 cf (79% of inflow)
 Center-of-Mass det. time= 723.0 min (1,520.1 - 797.1)

Volume	Invert	Avail.Storage	Storage Description
#1	943.00'	128,973 cf	Storage Area (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
943.00	26,740	0	0
944.00	29,404	28,072	28,072
945.00	32,168	30,786	58,858
946.00	35,032	33,600	92,458
947.00	37,998	36,515	128,973

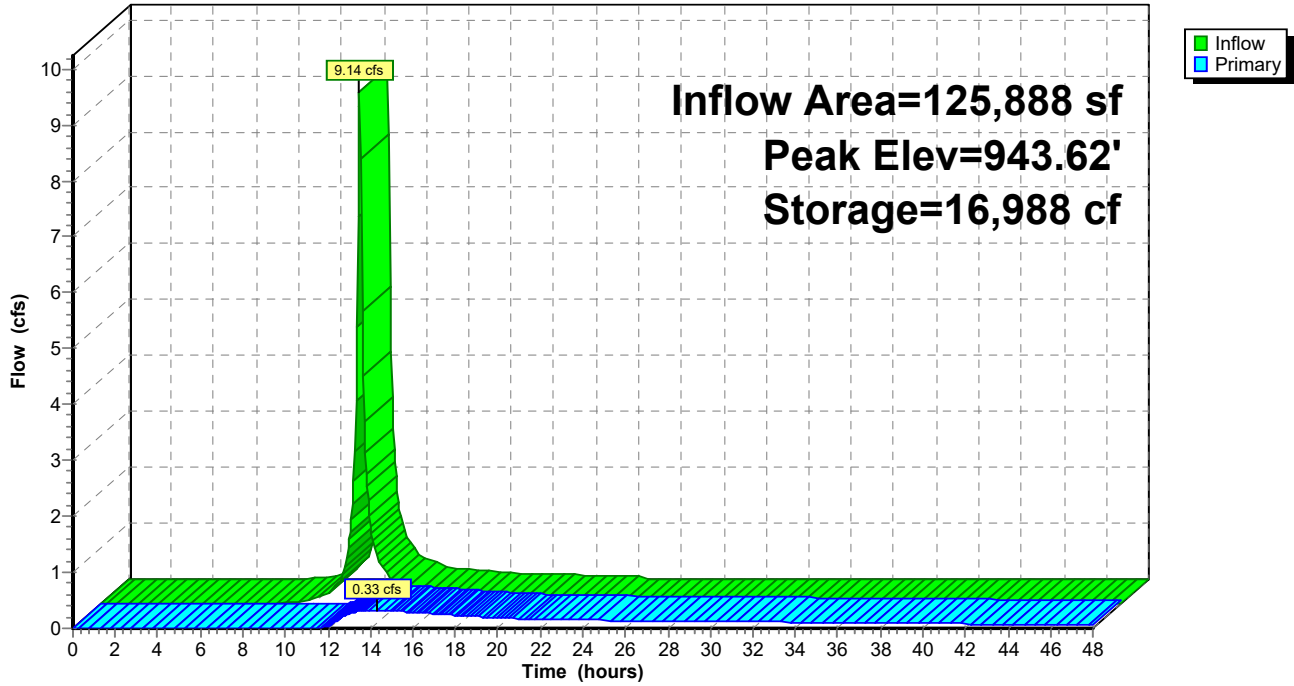
Device	Routing	Invert	Outlet Devices
#1	Primary	943.00'	24.0" Round Culvert L= 29.1' Ke= 0.500 Inlet / Outlet Invert= 943.00' / 942.50' S= 0.0172 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	943.00'	3.0" Vert. WQ Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	943.50'	15.0" W x 4.0" H Vert. Window for quantity release C= 0.600 Limited to weir flow at low heads
#4	Device 1	944.75'	4.0' long x 0.5' breadth Weir wall Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.32 cfs @ 14.26 hrs HW=943.62' (Free Discharge)

- 1=Culvert (Passes 0.32 cfs of 2.20 cfs potential flow)
- 2=WQ Orifice (Orifice Controls 0.17 cfs @ 3.38 fps)
- 3=Window for quantity release (Orifice Controls 0.16 cfs @ 1.10 fps)
- 4=Weir wall (Controls 0.00 cfs)

Pond P1: Basin

Hydrograph



Summary for Subcatchment S1: Pre-Developed

Runoff = 5.33 cfs @ 12.25 hrs, Volume= 16,159 cf, Depth= 1.54"

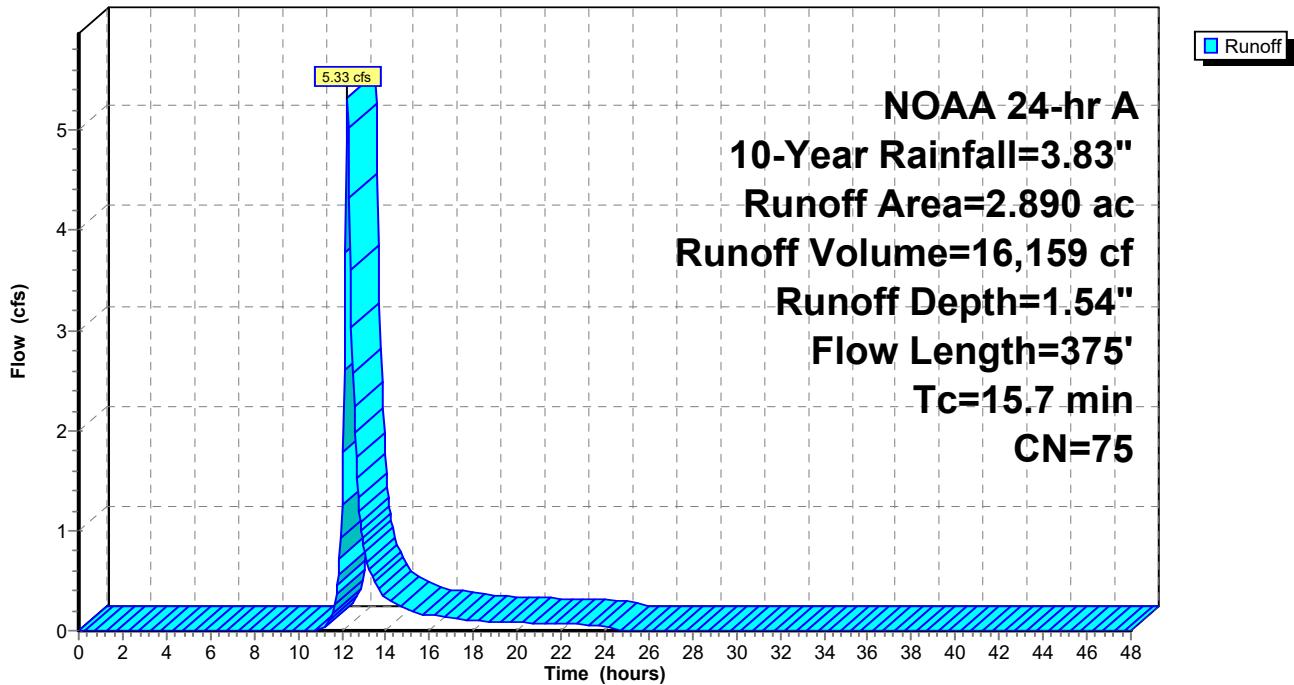
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 10-Year Rainfall=3.83"

Area (ac)	CN	Description
2.740	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking, HSG C
2.890	75	Weighted Average
2.740		94.81% Pervious Area
0.150		5.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0140	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.74"
1.6	100	0.0230	1.06		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
1.9	175	0.0500	1.57		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
15.7	375	Total			

Subcatchment S1: Pre-Developed

Hydrograph



Summary for Subcatchment S2: Post-Developed

Runoff = 10.89 cfs @ 12.17 hrs, Volume= 27,946 cf, Depth= 2.66"
 Routed to Pond P1 : Basin

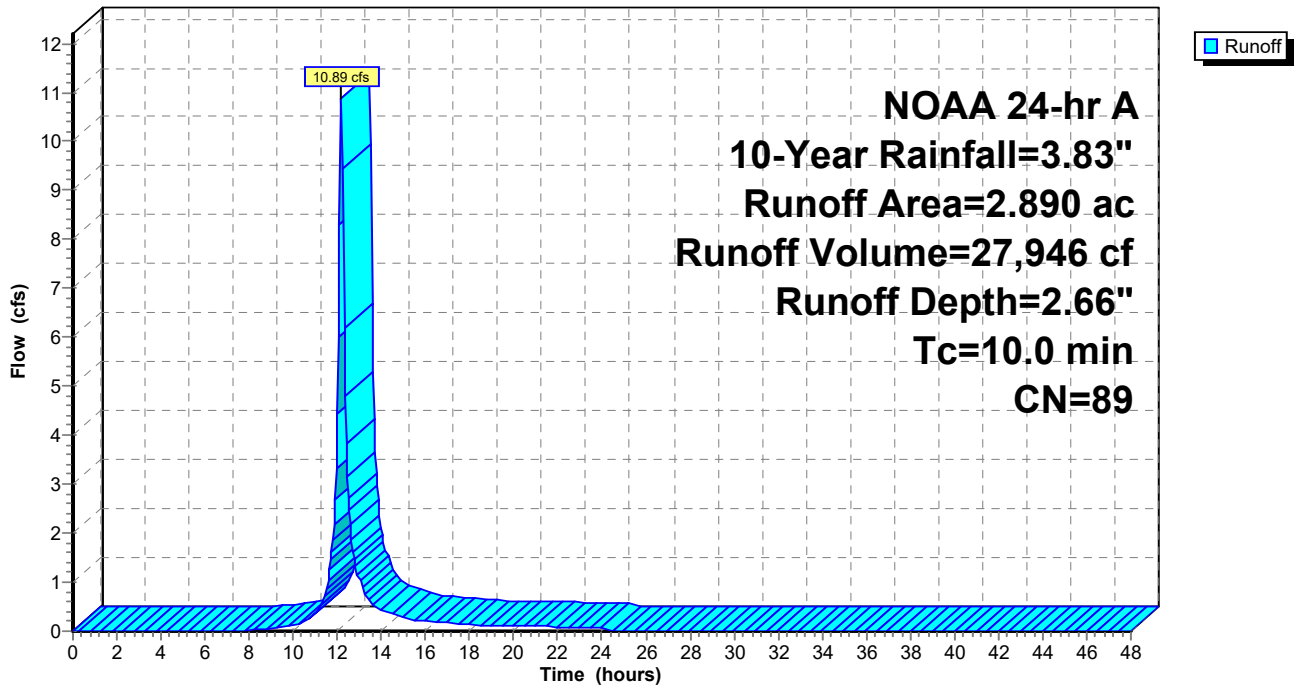
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 10-Year Rainfall=3.83"

Area (ac)	CN	Description
1.030	74	>75% Grass cover, Good, HSG C
1.860	98	Paved parking, HSG C
2.890	89	Weighted Average
1.030		35.64% Pervious Area
1.860		64.36% Impervious Area

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

Subcatchment S2: Post-Developed

Hydrograph



Summary for Pond P1: Basin

Inflow Area = 125,888 sf, 64.36% Impervious, Inflow Depth = 2.66" for 10-Year event
 Inflow = 10.89 cfs @ 12.17 hrs, Volume= 27,946 cf
 Outflow = 0.56 cfs @ 13.56 hrs, Volume= 22,805 cf, Atten= 95%, Lag= 83.0 min
 Primary = 0.56 cfs @ 13.56 hrs, Volume= 22,805 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 943.71' @ 13.56 hrs Surf.Area= 28,625 sf Storage= 19,591 cf

Plug-Flow detention time= 692.1 min calculated for 22,805 cf (82% of inflow)
 Center-of-Mass det. time= 630.8 min (1,424.2 - 793.4)

Volume	Invert	Avail.Storage	Storage Description
#1	943.00'	128,973 cf	Storage Area (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
943.00	26,740	0	0
944.00	29,404	28,072	28,072
945.00	32,168	30,786	58,858
946.00	35,032	33,600	92,458
947.00	37,998	36,515	128,973

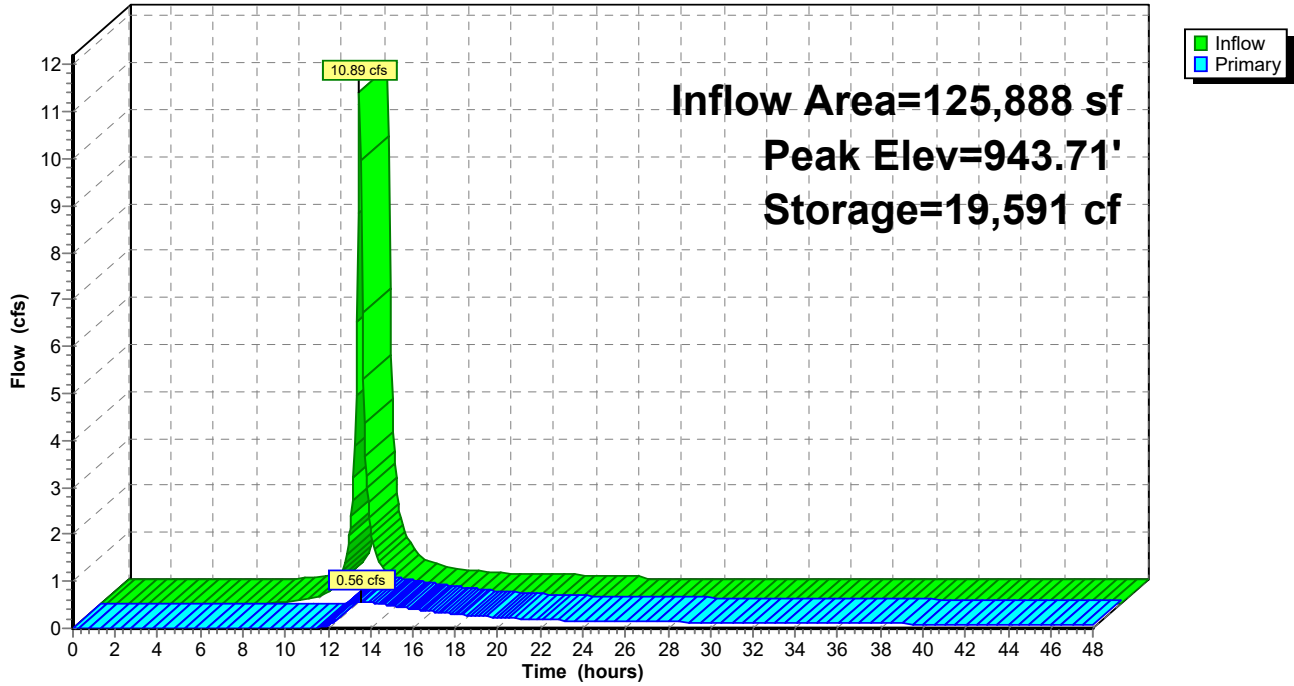
Device	Routing	Invert	Outlet Devices
#1	Primary	943.00'	24.0" Round Culvert L= 29.1' Ke= 0.500 Inlet / Outlet Invert= 943.00' / 942.50' S= 0.0172 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	943.00'	3.0" Vert. WQ Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	943.50'	15.0" W x 4.0" H Vert. Window for quantity release C= 0.600 Limited to weir flow at low heads
#4	Device 1	944.75'	4.0' long x 0.5' breadth Weir wall Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.56 cfs @ 13.56 hrs HW=943.71' (Free Discharge)

- 1=Culvert (Passes 0.56 cfs of 2.85 cfs potential flow)
- 2=WQ Orifice (Orifice Controls 0.18 cfs @ 3.68 fps)
- 3=Window for quantity release (Orifice Controls 0.38 cfs @ 1.46 fps)
- 4=Weir wall (Controls 0.00 cfs)

Pond P1: Basin

Hydrograph



Summary for Subcatchment S1: Pre-Developed

Runoff = 7.07 cfs @ 12.25 hrs, Volume= 21,264 cf, Depth= 2.03"

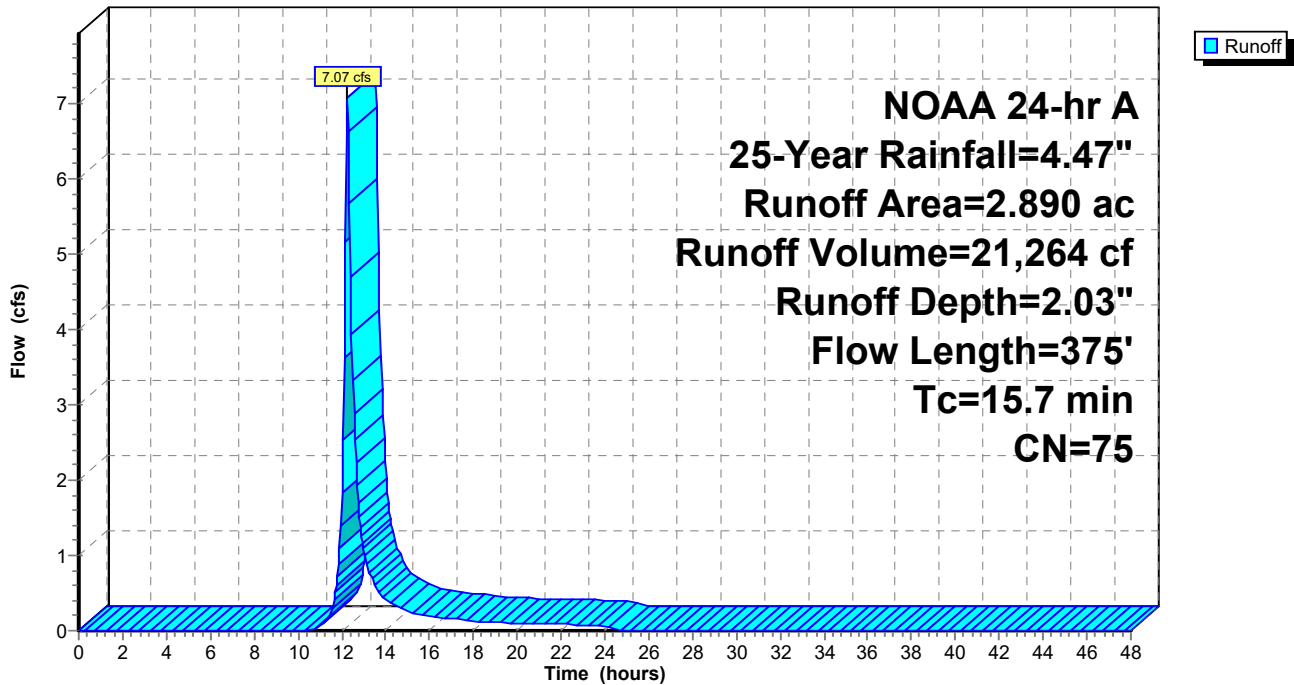
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 25-Year Rainfall=4.47"

Area (ac)	CN	Description
2.740	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking, HSG C
2.890	75	Weighted Average
2.740		94.81% Pervious Area
0.150		5.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0140	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.74"
1.6	100	0.0230	1.06		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
1.9	175	0.0500	1.57		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
15.7	375	Total			

Subcatchment S1: Pre-Developed

Hydrograph



Summary for Subcatchment S2: Post-Developed

Runoff = 13.23 cfs @ 12.17 hrs, Volume= 34,270 cf, Depth= 3.27"
 Routed to Pond P1 : Basin

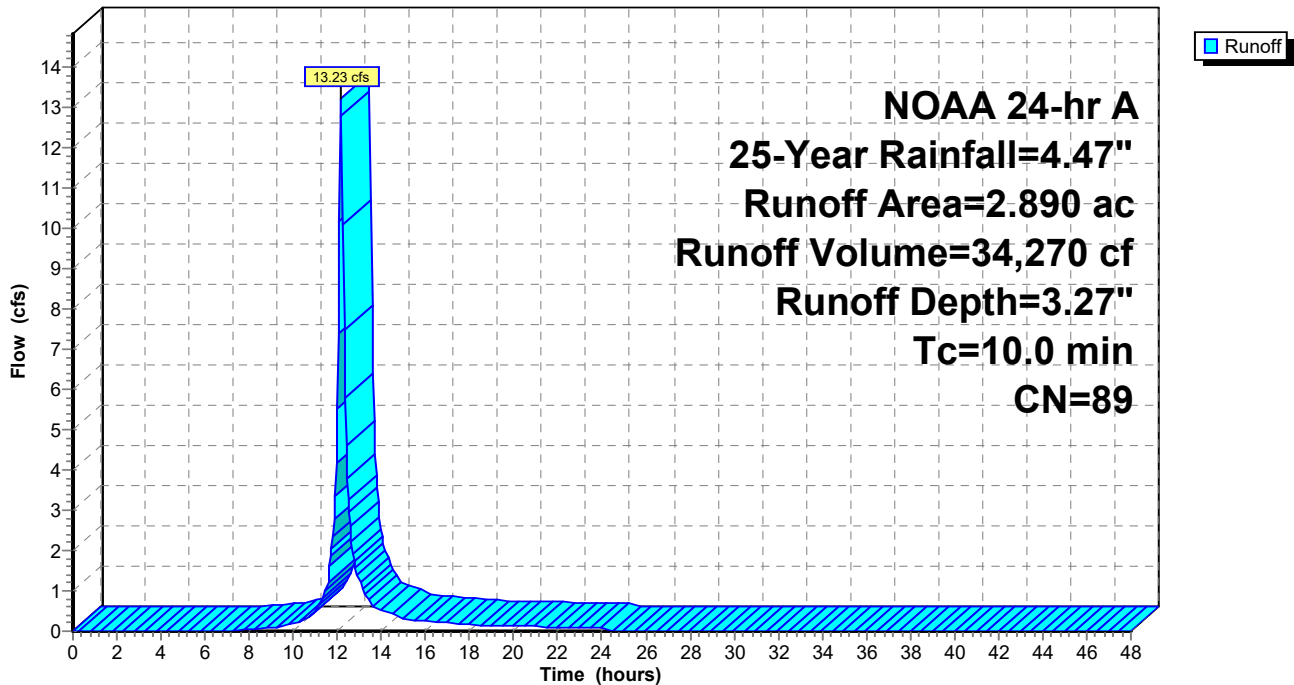
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 25-Year Rainfall=4.47"

Area (ac)	CN	Description
1.030	74	>75% Grass cover, Good, HSG C
1.860	98	Paved parking, HSG C
2.890	89	Weighted Average
1.030		35.64% Pervious Area
1.860		64.36% Impervious Area

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

Subcatchment S2: Post-Developed

Hydrograph



Summary for Pond P1: Basin

Inflow Area = 125,888 sf, 64.36% Impervious, Inflow Depth = 3.27" for 25-Year event
 Inflow = 13.23 cfs @ 12.17 hrs, Volume= 34,270 cf
 Outflow = 0.95 cfs @ 13.21 hrs, Volume= 28,946 cf, Atten= 93%, Lag= 62.5 min
 Primary = 0.95 cfs @ 13.21 hrs, Volume= 28,946 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 943.83' @ 13.21 hrs Surf.Area= 28,945 sf Storage= 23,047 cf

Plug-Flow detention time= 594.4 min calculated for 28,916 cf (84% of inflow)
 Center-of-Mass det. time= 539.6 min (1,328.9 - 789.2)

Volume	Invert	Avail.Storage	Storage Description
#1	943.00'	128,973 cf	Storage Area (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
943.00	26,740	0	0
944.00	29,404	28,072	28,072
945.00	32,168	30,786	58,858
946.00	35,032	33,600	92,458
947.00	37,998	36,515	128,973

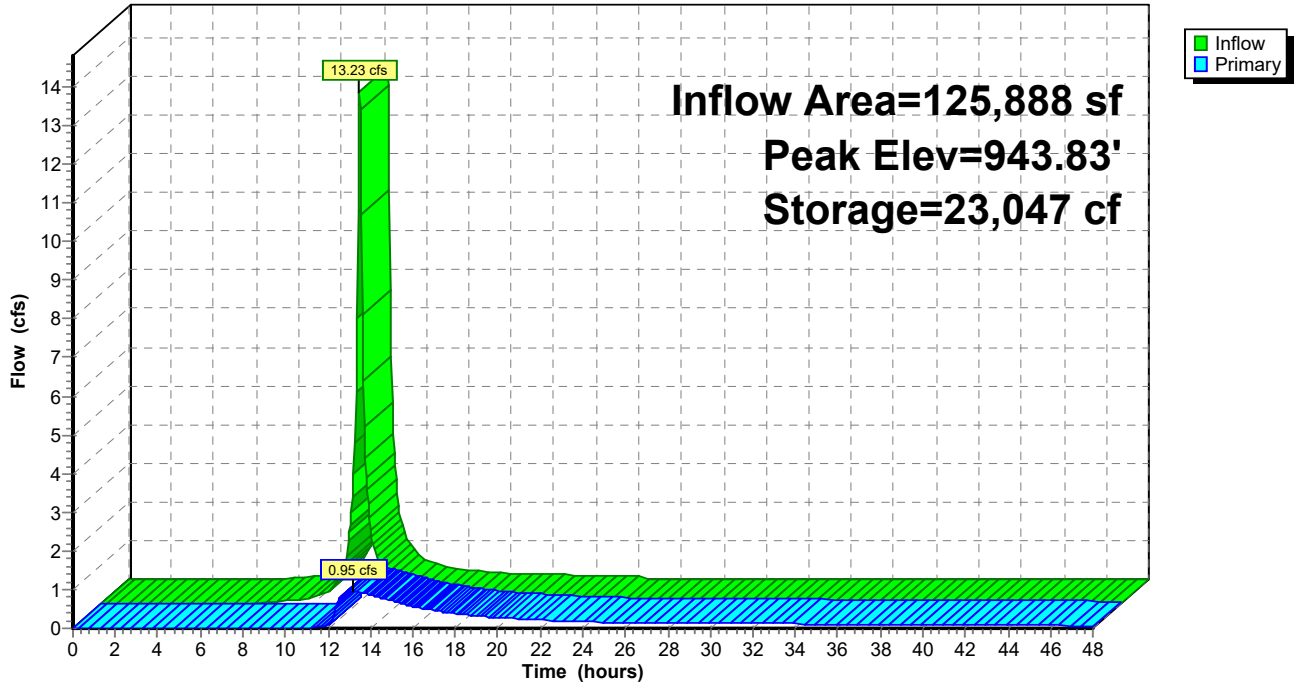
Device	Routing	Invert	Outlet Devices
#1	Primary	943.00'	24.0" Round Culvert L= 29.1' Ke= 0.500 Inlet / Outlet Invert= 943.00' / 942.50' S= 0.0172 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	943.00'	3.0" Vert. WQ Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	943.50'	15.0" W x 4.0" H Vert. Window for quantity release C= 0.600 Limited to weir flow at low heads
#4	Device 1	944.75'	4.0' long x 0.5' breadth Weir wall Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.95 cfs @ 13.21 hrs HW=943.83' (Free Discharge)

- 1=Culvert (Passes 0.95 cfs of 3.80 cfs potential flow)
- 2=WQ Orifice (Orifice Controls 0.20 cfs @ 4.04 fps)
- 3=Window for quantity release (Orifice Controls 0.75 cfs @ 1.84 fps)
- 4=Weir wall (Controls 0.00 cfs)

Pond P1: Basin

Hydrograph



Summary for Subcatchment S1: Pre-Developed

Runoff = 8.52 cfs @ 12.25 hrs, Volume= 25,525 cf, Depth= 2.43"

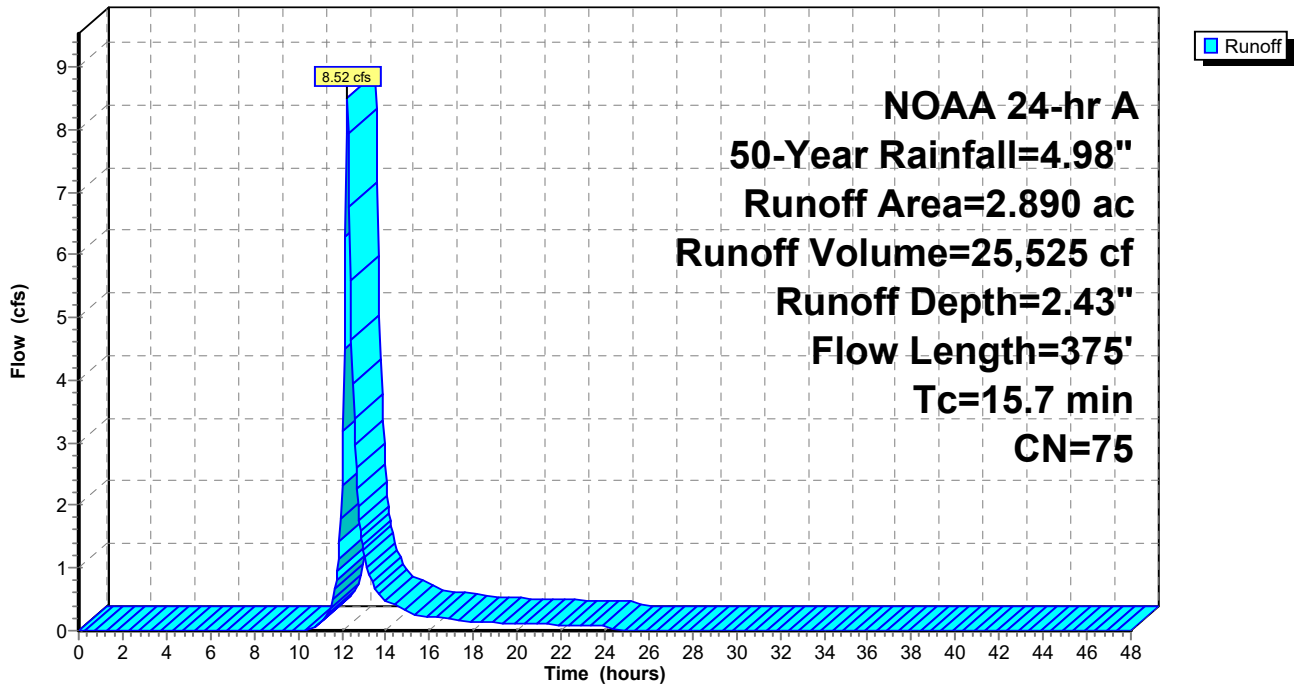
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 50-Year Rainfall=4.98"

Area (ac)	CN	Description
2.740	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking, HSG C
2.890	75	Weighted Average
2.740		94.81% Pervious Area
0.150		5.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0140	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.74"
1.6	100	0.0230	1.06		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
1.9	175	0.0500	1.57		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
15.7	375	Total			

Subcatchment S1: Pre-Developed

Hydrograph



Summary for Subcatchment S2: Post-Developed

Runoff = 15.09 cfs @ 12.17 hrs, Volume= 39,369 cf, Depth= 3.75"
 Routed to Pond P1 : Basin

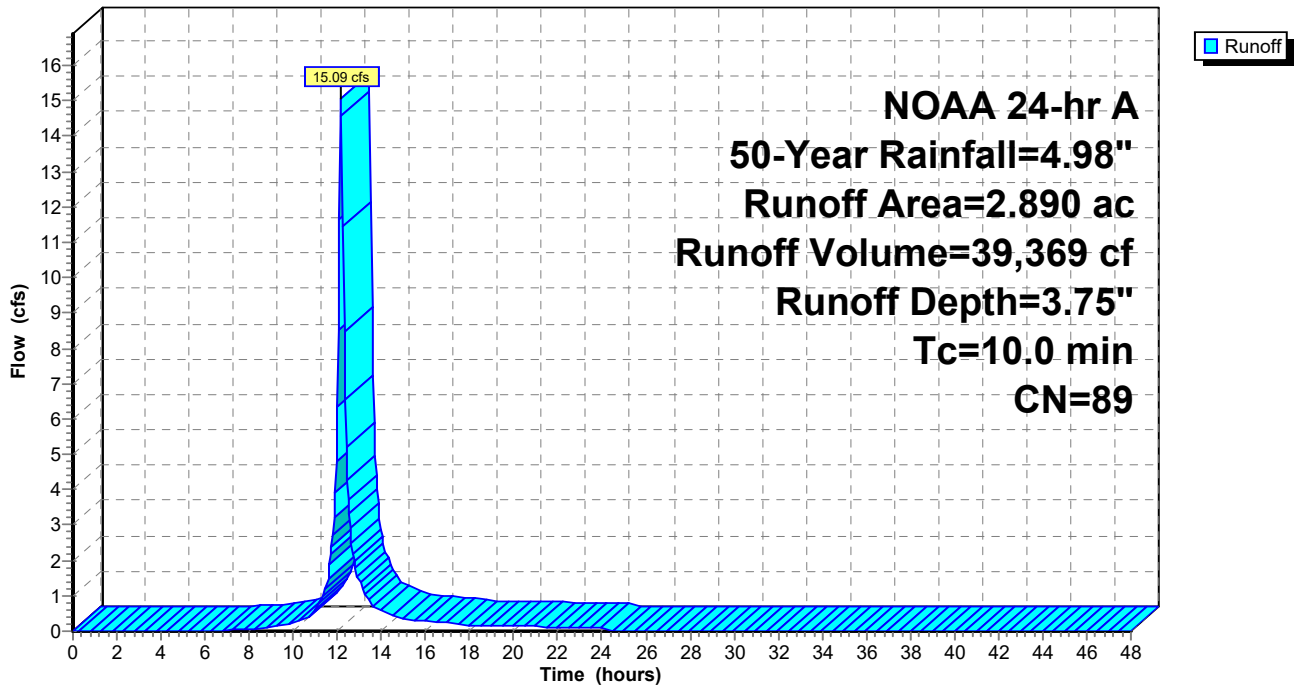
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 50-Year Rainfall=4.98"

Area (ac)	CN	Description
1.030	74	>75% Grass cover, Good, HSG C
1.860	98	Paved parking, HSG C
2.890	89	Weighted Average
1.030		35.64% Pervious Area
1.860		64.36% Impervious Area

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

Subcatchment S2: Post-Developed

Hydrograph



Summary for Pond P1: Basin

Inflow Area = 125,888 sf, 64.36% Impervious, Inflow Depth = 3.75" for 50-Year event
 Inflow = 15.09 cfs @ 12.17 hrs, Volume= 39,369 cf
 Outflow = 1.22 cfs @ 13.11 hrs, Volume= 33,929 cf, Atten= 92%, Lag= 56.5 min
 Primary = 1.22 cfs @ 13.11 hrs, Volume= 33,929 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 943.93' @ 13.11 hrs Surf.Area= 29,213 sf Storage= 25,972 cf

Plug-Flow detention time= 539.9 min calculated for 33,893 cf (86% of inflow)
 Center-of-Mass det. time= 488.6 min (1,275.0 - 786.4)

Volume	Invert	Avail.Storage	Storage Description
#1	943.00'	128,973 cf	Storage Area (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
943.00	26,740	0	0
944.00	29,404	28,072	28,072
945.00	32,168	30,786	58,858
946.00	35,032	33,600	92,458
947.00	37,998	36,515	128,973

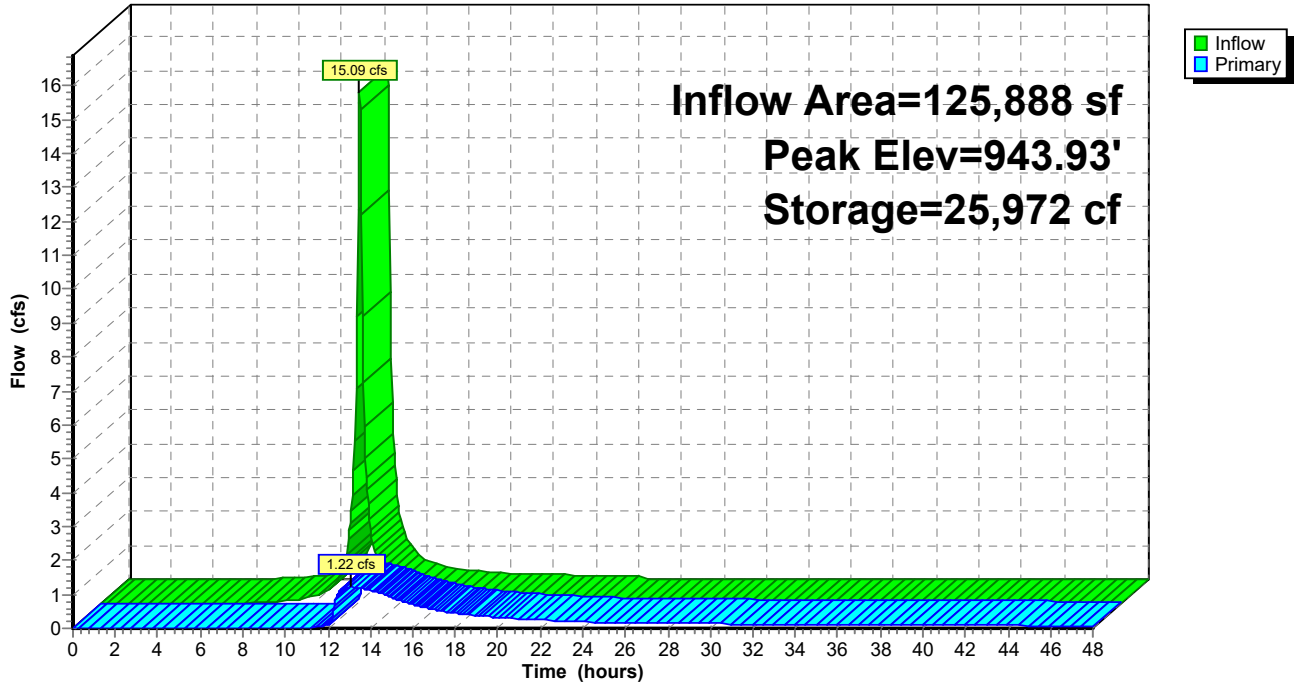
Device	Routing	Invert	Outlet Devices
#1	Primary	943.00'	24.0" Round Culvert L= 29.1' Ke= 0.500 Inlet / Outlet Invert= 943.00' / 942.50' S= 0.0172 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	943.00'	3.0" Vert. WQ Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	943.50'	15.0" W x 4.0" H Vert. Window for quantity release C= 0.600 Limited to weir flow at low heads
#4	Device 1	944.75'	4.0' long x 0.5' breadth Weir wall Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.22 cfs @ 13.11 hrs HW=943.93' (Free Discharge)

- 1=Culvert (Passes 1.22 cfs of 4.68 cfs potential flow)
- 2=WQ Orifice (Orifice Controls 0.21 cfs @ 4.32 fps)
- 3=Window for quantity release (Orifice Controls 1.01 cfs @ 2.42 fps)
- 4=Weir wall (Controls 0.00 cfs)

Pond P1: Basin

Hydrograph



Summary for Subcatchment S1: Pre-Developed

Runoff = 10.02 cfs @ 12.25 hrs, Volume= 30,009 cf, Depth= 2.86"

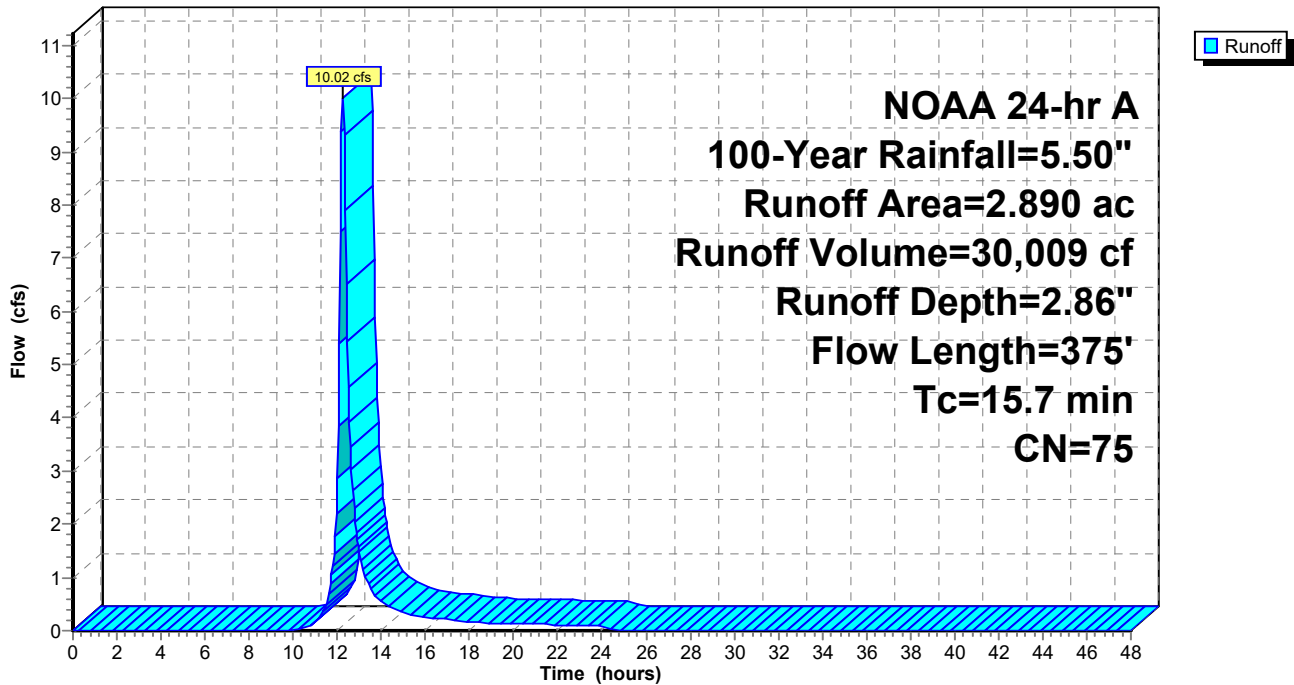
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 100-Year Rainfall=5.50"

Area (ac)	CN	Description
2.740	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking, HSG C
2.890	75	Weighted Average
2.740		94.81% Pervious Area
0.150		5.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0140	0.14		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.74"
1.6	100	0.0230	1.06		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
1.9	175	0.0500	1.57		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
15.7	375	Total			

Subcatchment S1: Pre-Developed

Hydrograph



Summary for Subcatchment S2: Post-Developed

Runoff = 16.98 cfs @ 12.17 hrs, Volume= 44,609 cf, Depth= 4.25"
 Routed to Pond P1 : Basin

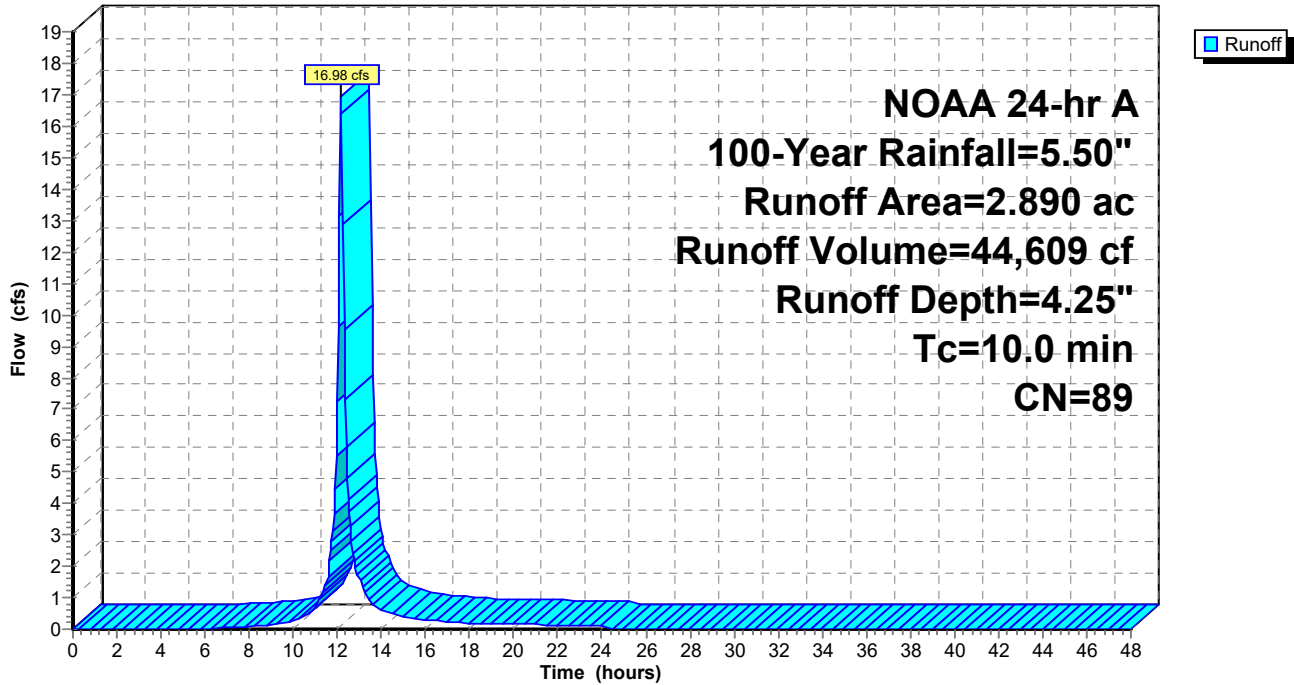
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 NOAA 24-hr A 100-Year Rainfall=5.50"

Area (ac)	CN	Description
1.030	74	>75% Grass cover, Good, HSG C
1.860	98	Paved parking, HSG C
2.890	89	Weighted Average
1.030		35.64% Pervious Area
1.860		64.36% Impervious Area

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

Subcatchment S2: Post-Developed

Hydrograph



Summary for Pond P1: Basin

Inflow Area = 125,888 sf, 64.36% Impervious, Inflow Depth = 4.25" for 100-Year event
 Inflow = 16.98 cfs @ 12.17 hrs, Volume= 44,609 cf
 Outflow = 1.44 cfs @ 13.07 hrs, Volume= 39,061 cf, Atten= 92%, Lag= 54.2 min
 Primary = 1.44 cfs @ 13.07 hrs, Volume= 39,061 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 944.04' @ 13.07 hrs Surf.Area= 29,509 sf Storage= 29,187 cf

Plug-Flow detention time= 500.3 min calculated for 39,020 cf (87% of inflow)
 Center-of-Mass det. time= 452.0 min (1,235.9 - 783.9)

Volume	Invert	Avail.Storage	Storage Description
#1	943.00'	128,973 cf	Storage Area (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
943.00	26,740	0	0
944.00	29,404	28,072	28,072
945.00	32,168	30,786	58,858
946.00	35,032	33,600	92,458
947.00	37,998	36,515	128,973

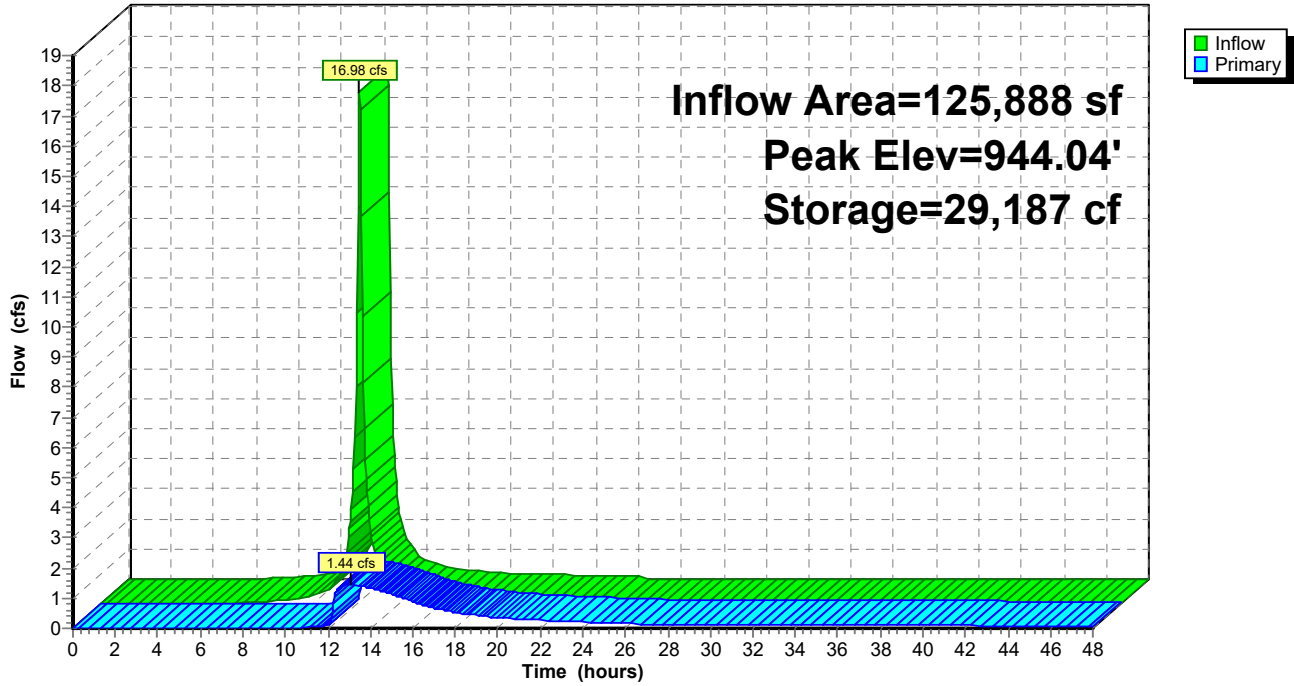
Device	Routing	Invert	Outlet Devices
#1	Primary	943.00'	24.0" Round Culvert L= 29.1' Ke= 0.500 Inlet / Outlet Invert= 943.00' / 942.50' S= 0.0172 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	943.00'	3.0" Vert. WQ Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	943.50'	15.0" W x 4.0" H Vert. Window for quantity release C= 0.600 Limited to weir flow at low heads
#4	Device 1	944.75'	4.0' long x 0.5' breadth Weir wall Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.44 cfs @ 13.07 hrs HW=944.04' (Free Discharge)

- 1=Culvert (Passes 1.44 cfs of 5.65 cfs potential flow)
- 2=WQ Orifice (Orifice Controls 0.23 cfs @ 4.60 fps)
- 3=Window for quantity release (Orifice Controls 1.21 cfs @ 2.91 fps)
- 4=Weir wall (Controls 0.00 cfs)

Pond P1: Basin

Hydrograph



**APPENDIX B:
STORMWATER QUALITY CALCULATIONS**

Project and Watershed Information; WQv Calculation

version 3.2 2020-07-07

Project Details

Project Name:	Sheetz
Project Location:	SW corner @ Brandt Pike & Executive Blvd Huber Heights, OH 45424
Project Latitude:	
Project Longitude:	
NPDES Permit Applicant:	
Submitted by:	Josh Long, P.E.
Date:	2/15/2023

Subwatershed Details

Subwatershed ID/Label:			
Subwatershed Drainage Area, A_{total} =	2.89 acres	=	125,888 ft ²
Subwatershed Impervious Area, A_{imp} =	1.86 acres	=	81,022 ft ²
Imperviousness fraction, i =	0.64	=	64 %
Volumetric Runoff Coefficient, R_v =	0.63		
Water Quality Volume, WQ_v =	5,941 ft ³	=	0.136 ac-ft

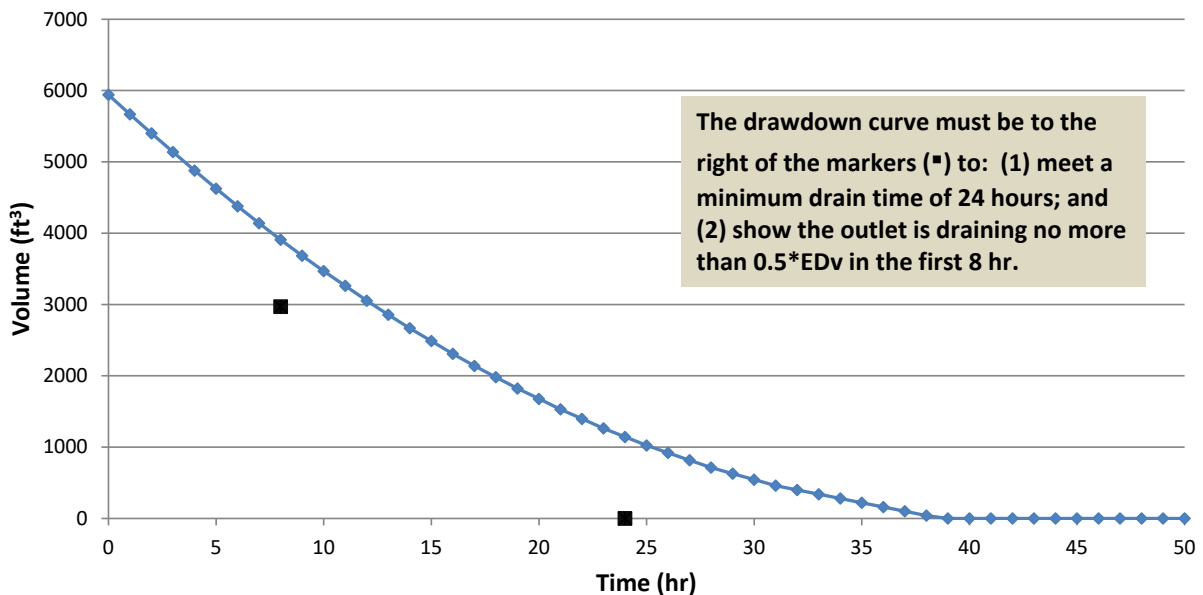
Step 4 - Outlet Elevations and Storage Volumes

WQ Orifice Invert Elevation =	943.00	
Elevation of Top of EDv =	943.22	
Secondary Outlet Invert Elevation =	943.50	OKAY
WQ Treatment Volume Provided, $V_{\text{treatment}}$ =	13,698 ft^3	
Treatment Vol Provided Relative to EDv, $V_{\text{treatment}}/\text{EDv}$ =	2.31	= 231% OKAY
Permanent Pool Volume Provided, PPv =	66,408 ft^3	
Ratio PPv Provided to PPv Required =	9.31	= 931% OKAY

Step 5 - Outlet (Orifice) Sizing

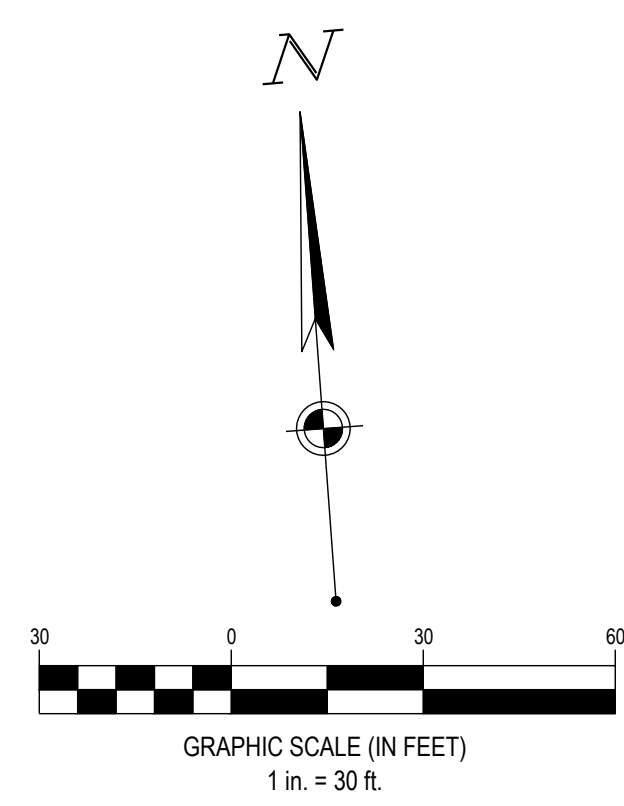
Maximum Hydraulic Head, H_{max} =	0.22 ft	
Orifice Coefficient, C =	0.6	
Target (Minimum) Draw-down Time, T_d =	24 hr	
Target Average Discharge, Q_{avg} =	0.07 cfs	
Average Hydraulic Head, H_{avg} =	0.11 ft	
Estimated Orifice Area, A_{orifice} =	6.20 in^2	= 0.043 ft^2
Estimated Orifice Diameter, D_{orifice} =	2.81 in	= 0.23 ft
Design Orifice Diameter, D_{orifice} =	3.00 in	= 0.25 ft
Design Orifice Area, A_{orifice} =	7.02 in^2	= 0.049 ft^2
Time to Completely Drain EDv, T_d =	39 hr	must be ≥ 24 hr OKAY
Volume Drained in First 8 hr =	2,033 ft^3	
% of EDv =	34.2 %	must be $\leq 50\%$ OKAY

Wet Basin - EDv Drawdown vs Time



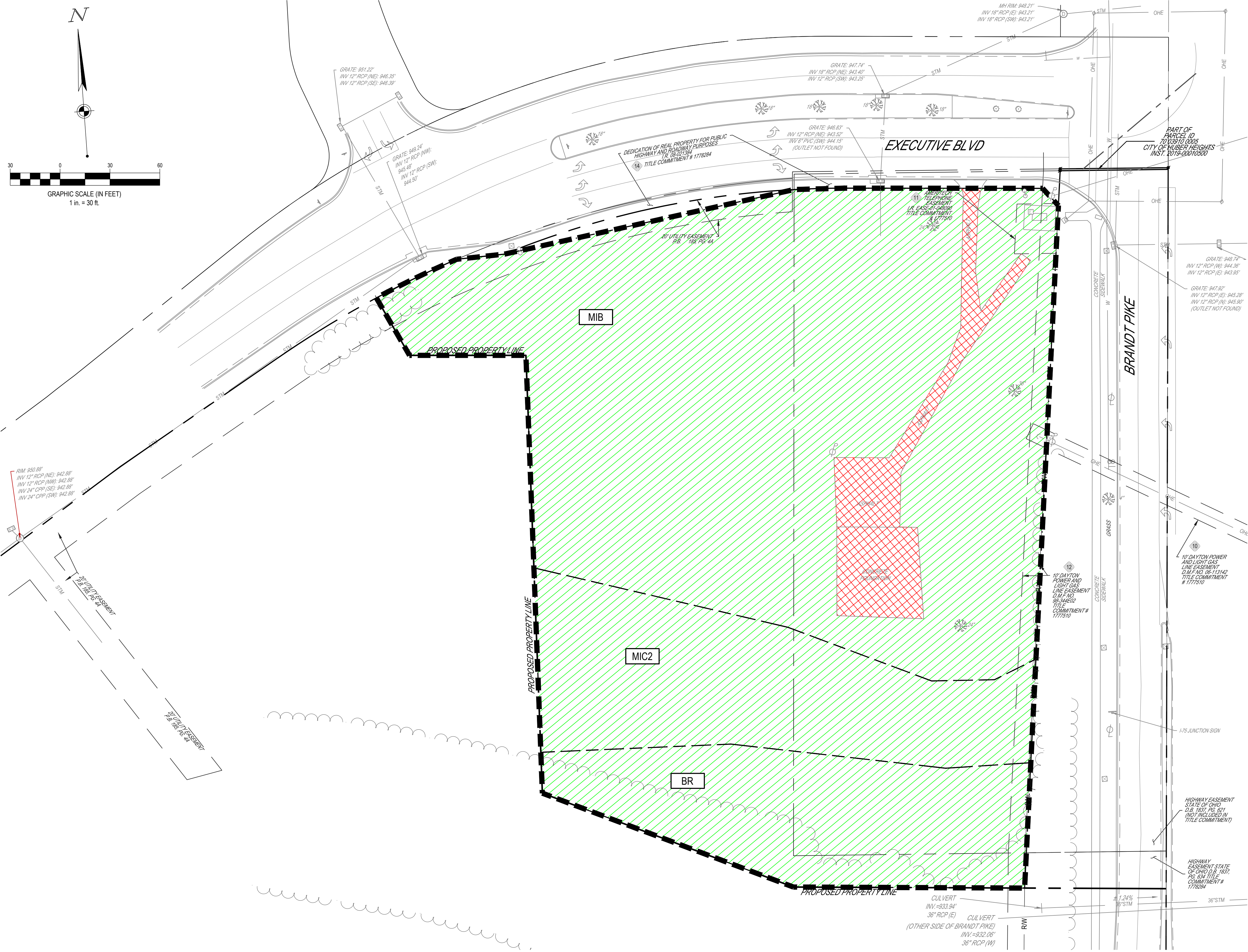
**APPENDIX C:
DRAINAGE AREA MAPS**

**APPENDIX C1:
EXISTING CONDITIONS DRAINAGE AREA MAP**



PRE-CONSTRUCTION LEGEND

- PERVIOUS AREA
- IMPERVIOUS AREA
- DRAINAGE BOUNDARY
- SOIL BOUNDARY
- SOIL IDENTIFIER



SOIL DATA TABLE	
SOIL NAME	HYDROLOGIC SOIL GROUP
BROCKSTON SILT LOAM (BR), OVERWASH, FINE SUBSOIL, 0 TO 2 PERCENT SLOPES	CD
MIAMIAN SILT LOAM (MIB), 2 TO 6 PERCENT SLOPES	C
MIAMIAN SILT LOAM (MIC2), 6 TO 12 PERCENT SLOPES, ERODED	C

PRE-DEVELOPED DRAINAGE CALCULATIONS				
HYDROGRAPH NAME	PERVIOUS AREA: FIELD CN (C) = 74 [ACRES]	IMPERVIOUS AREA: PAVEMENT CN = 98 [ACRES]	TOTAL AREA [ACRES]	WEIGHTED CN
PRE-DEVELOPED SITE	2.74	0.15	2.89	75

SKILKEN | GOLD
REAL ESTATE DEVELOPMENT

SHEETZ -
HUBER HEIGHTS, OH
EXECUTIVE BOULEVARD & BRANDT PIKE
HUBER HEIGHTS, OH 45424

Revisions / Submissions		
ID	Description	Date

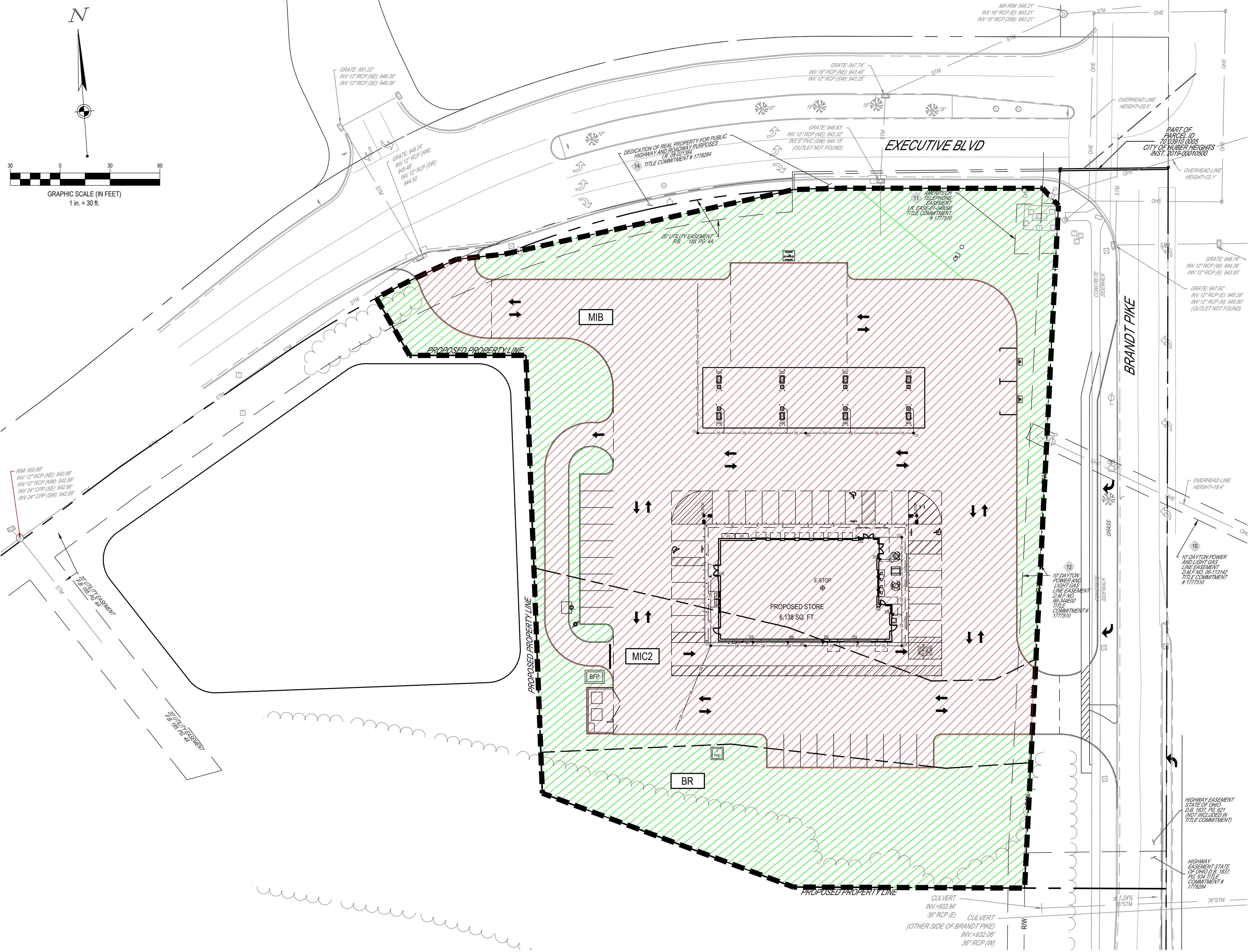
Project Number: 761668
Scale: AS SHOWN
Drawn By: MDR
Checked By: BP
Date: 2.8.2023
Issue: NOT FOR CONSTRUCTION

Drawing Title:
PRE DEVELOPED DRAINAGE MAP

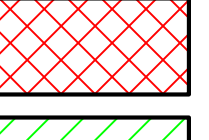
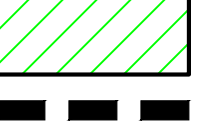
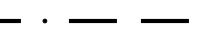
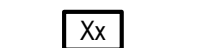

EX-A

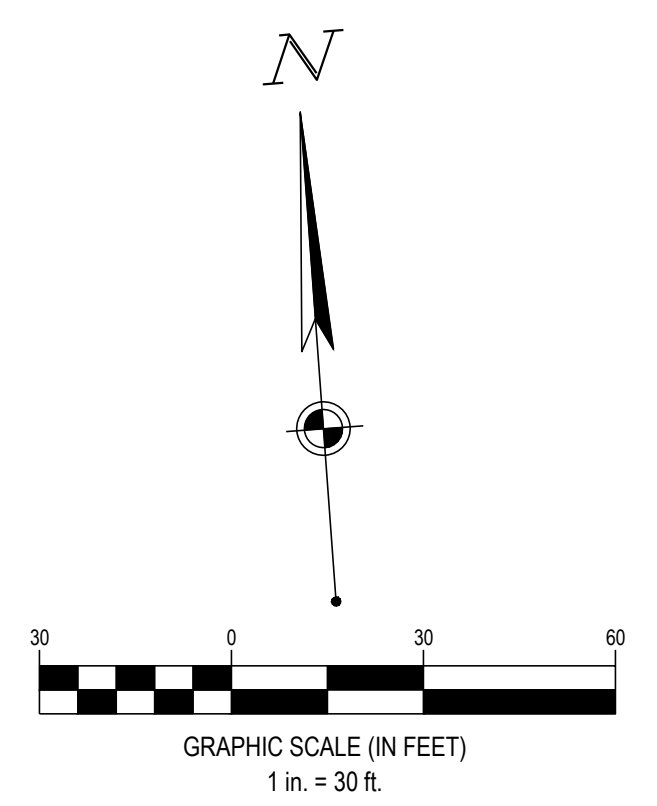
W:\PROJECTS\SKILKEN GOLD\761668-01 Skilken Gold - 105 Sheetz - Huber Heights, OH\105-CIVIL\PLAN\EXHIBITS\761668_PREPOST.dwg - 2/8/2023 - Michael Talirico

**APPENDIX C2:
PROPOSED CONDITIONS DRAINAGE AREA MAP**



POST-CONSTRUCTION LEGEND

-  IMPERVIOUS AREA
-  PERVIOUS AREA
-  DRAINAGE BOUNDARY
-  SOIL BOUNDARY
-  SOIL IDENTIFIER





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REAL ESTATE DEVELOPMENT

SHEETZ -
HUBER HEIGHTS, OH
EXECUTIVE BOULEVARD & BRANDT PIKE
HUBER HEIGHTS, OH 45424

Revisions / Submissions

ID	Description	Date

Project Number: 761668
Scale: AS SHOWN
Drawn By: MST
Checked By: BP
Date: 2.8.2023
Issue: NOT FOR CONSTRUCTION

SOIL DATA TABLE	
SOIL NAME	HYDROLOGIC SOIL GROUP
BROOKSTON SILT LOAM (BR), OVERWASH, FINE SUBSOIL, 0 TO 2 PERCENT SLOPES	C/D
MIAMIAN SILT LOAM (MIB), 2 TO 6 PERCENT SLOPES	C
MIAMIAN SILT LOAM (MIC2), 6 TO 12 PERCENT SLOPES, ERODED	C

POST-DEVELOPED DRAINAGE CALCULATIONS				
HYDROGRAPH NAME	PERVIOUS AREA; FIELD CN (C) = 74 [ACRES]	IMPERVIOUS AREA; PAVEMENT CN = 98 [ACRES]	TOTAL AREA [ACRES]	WEIGHTED CN
PRE-DEVELOPED SITE	1.03	1.86	2.89	89

Drawing Title:
POST DEVELOPED DRAINAGE MAP

EX-B

W:\PROJECTS\SKILKEN GOLD\761668-01 Skilken Gold - 105 Sheetz - Huber Heights, OH\05-CIVIL\PLAN\EXHIBITS\761668_PREPOST.dwg - 2/13/2023 - Michael Talario

**APPENDIX C3:
TRIBUTARY DRAINAGE AREA MAP
(To be provided with detailed development plan)**

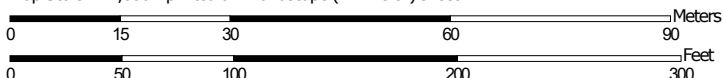
**APPENDIX D:
STORMWATER PIPE CALCULATIONS
(To be provided with detailed development plan)**

**APPENDIX E:
USDA NRCS Web Soil Survey**

Custom Soil Resource Report Soil Map



Map Scale: 1:1,030 if printed on A landscape (11" x 8.5") sheet.




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




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

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

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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

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

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

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

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

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

Soil Survey Area: Montgomery County, Ohio
 Survey Area Data: Version 21, Sep 9, 2022

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

Date(s) aerial images were photographed: Oct 9, 2020—Nov 5, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Br	Brookston silt loam, overwash, fine subsoil, 0 to 2 percent slopes	0.2	6.8%
MIB	Miamian silt loam, 2 to 6 percent slopes	1.9	75.8%
MIC2	Miamian silt loam, 6 to 12 percent slopes, eroded	0.4	17.4%
Totals for Area of Interest		2.6	100.0%

Map Unit Descriptions

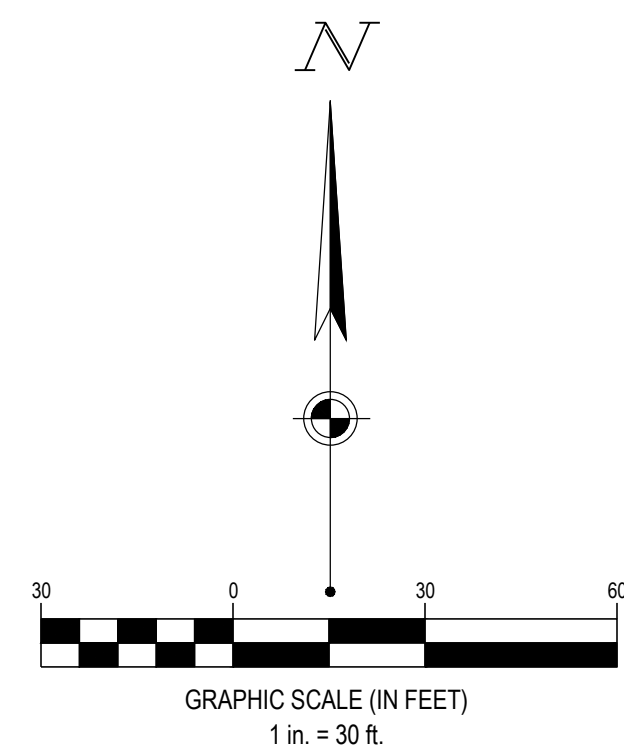
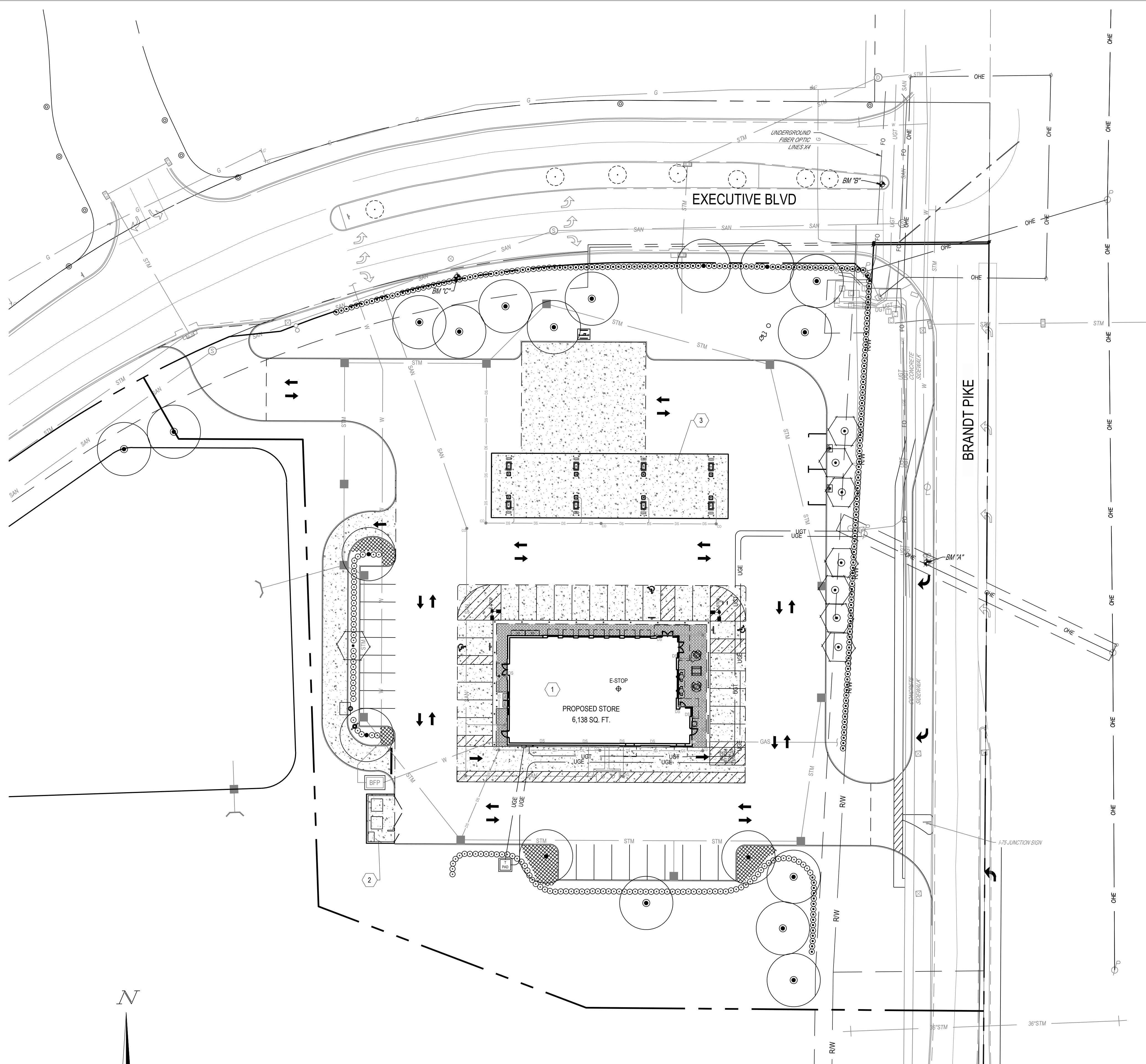
The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

W:\PROJECTS\SKILKEN GOLD\1761688-01 Skilken Gold - 105 Sheetz - Huber Heights, OH\05-LA_PLAN_CD\Sheetz-Huber Heights_OH-Planting.dwg - 2/13/2023 - Michael Talanco



- CODED NOTES:**
- PROPOSED 6,138 DF BUILDING
 - PROPOSED TRASH ENCLOSURES
 - PROPOSED GAS CANOPY

CONCEPT_PLANT_SCHEDULE

- SHADE TREE A
- SHADE TREE B
- SHRUB A
- SHRUB B
- GROUNDCOVER A

LANDSCAPE REQUIREMENTS

PARKING BUFFERS ALONG PUBLIC RIGHTS-OF-WAY
BRANDT PIKE (370 LF, NOT INCL DRIVES)
 REQUIRED WIDTH: 10'
 PROPOSED WIDTH: 35'
 REQUIRED CANOPY TREES (1 PER 35'): 11
 PROPOSED CANOPY TREES: 11
 REQUIRED SHRUBS (10 PER 35'): 106
 PROPOSED SHRUBS: 106

EXECUTIVE BLVD (354 LF, NOT INCL DRIVES)
 REQUIRED WIDTH: 10'
 PROPOSED WIDTH: 42'
 REQUIRED CANOPY TREES (1 PER 35'): 11
 PROPOSED CANOPY TREES: 11
 REQUIRED SHRUBS (10 PER 35'): 102
 PROPOSED SHRUBS: 102

PARKING LOT INTERIOR REQUIREMENTS
 REQUIRED PERCENTAGE PERVIOUS AREA: 2,995 SF (4% OF TOTAL AREA: 74,875 SF)
 PROPOSED PERCENTAGE PERVIOUS AREA: 1,094

TERMINAL ISLAND PLANTING
 REQUIRED COVERING OTHER THAN SOD: 75%
 PROPOSED COVERING OTHER THAN SOD: 100%

LEGEND

- RW RIGHT-OF-WAY
- PROPERTY LINE
- SETBACK
- EASEMENT
- BUILDING
- CONCRETE CURB
- PAVEMENT/WALK
- STM STORM LINE
- SAV SANITARY LINE
- W WATER LINE
- G GAS LINE
- UGT UNDERGROUND TELEPHONE LINE
- UGE UNDERGROUND ELECTRIC LINE
- OHE OVERHEAD ELECTRIC LINE
- SIGN
- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
- FIRE HYDRANT
- LIGHT POLE
- EXISTING TREE TO REMAIN



SKILKEN | GOLD
REAL ESTATE DEVELOPMENT

SHEETZ -

HUBER HEIGHTS, OH

EXECUTIVE BOULEVARD & BRANDT PIKE
HUBER HEIGHTS, OH 45424

Revisions / Submissions

ID	Description	Date

© 2022 CESO, INC.

Project Number: 761668
 Scale: 1"=30'
 Drawn By: TRH
 Checked By: EAB
 Date: 02/01/2023
 Issue: FOR REVIEW

Drawing Title:

PLANTING PLAN

L1.0



Huber Heights Fire Division

Inspections require two business days advance notice! (OAC)1301:7-7-09(A)(5)

Occupancy Name:	Sheetz		
Occupancy Address:	Executive Road and Brandt Pike		
Type of Permit:	HHP&D Site Plan		
Additional Permits:	Choose an item.		
Additional Permits:	Choose an item.		
MCBR BLD:	Not Yet Assigned	HH P&D:	
MCBR MEC:		HHFD Plan:	23-059
MCBR ELE:		HHFD Box:	
REVIEWER:	Susong	DATE:	3/8/2023

Fire Department Comments:

The Huber Heights City Code Part 15 Refers to Fire Code Requirements and has adopted by reference OFC and IFC Appendices

These comments are based only on the proposed site work, fire department access and basic fire protection concept at this time. A full plan review of the building systems, fire protection, egress and life safety will need to be conducted once the architectural plans have been submitted for permit. The proposed development will need to meet the requirements of the Ohio Fire Code 2017, Ohio Building Code 2017, and the Huber Heights Codified Ordinance. Based on the drawings provided the following requirements need to be met.

Requirements: (Site Plan)

- The canopy over fuel pumps shall have a clearance of 13 feet 6 inches or higher for fire apparatus clearance. Ohio Fire Code 503.2.1.
- The turn radius off Executive Boulevard appear to meet the requirements for fire department access as required in Ohio Fire Code.
- Hydrants in multi-family and commercial districts shall be placed not more than 300 feet apart, measured on the main and not more than 400 feet from any opening in any building. All new fire hydrants and any existing fire hydrants that are in need of replacement, shall meet the Huber Heights hydrant standard for this district of two (2), five (5) inch diameter steamer nozzles. These steamer nozzles shall have a five (5) inch STORTZ quick connection and one steamer shall have a four (4) inch STORTZ connection approved by the Code Official.

Huber Heights Codified Ordinance 1521.06(c). (***An additional hydrant may be required.***)

- Unobstructed access to fire hydrants shall be maintained at all times. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants. Ohio Fire Code 507.5.4.
- A 3-foot (914 mm) clear space shall be maintained around the circumference of fire hydrants except as otherwise required or approved. (No trees, bushes, plantings, etc.) Ohio Fire Code 507.5.5.

Please reference contact information below for questions or concerns with this document.

Plans reviewed by the Huber Heights Fire Division are reviewed with the intent they comply in **ALL** respects to this code, as prescribed in **SECTION (D) 104.1 of the 2017 Ohio Fire Code**. Any omissions or errors on the plans or in this review do not relieve the applicant of complying with **ALL** applicable requirements of this code. These plans have been reviewed for compliance with the Ohio Fire Code adopted by this jurisdiction. There may be other regulations applicable under local, state, or federal statutes and codes, which this department has no authority to enforce and therefore have not been evaluated as part of this plan review.

AI-9047

8. A.

Planning Commission

Meeting Date: 03/14/2023

Informal Review

Information

Agenda Title

Informal Review

Basic & Detailed Development Plan

Flying Ace - Brandt Pike

Purpose and Background

Attachments

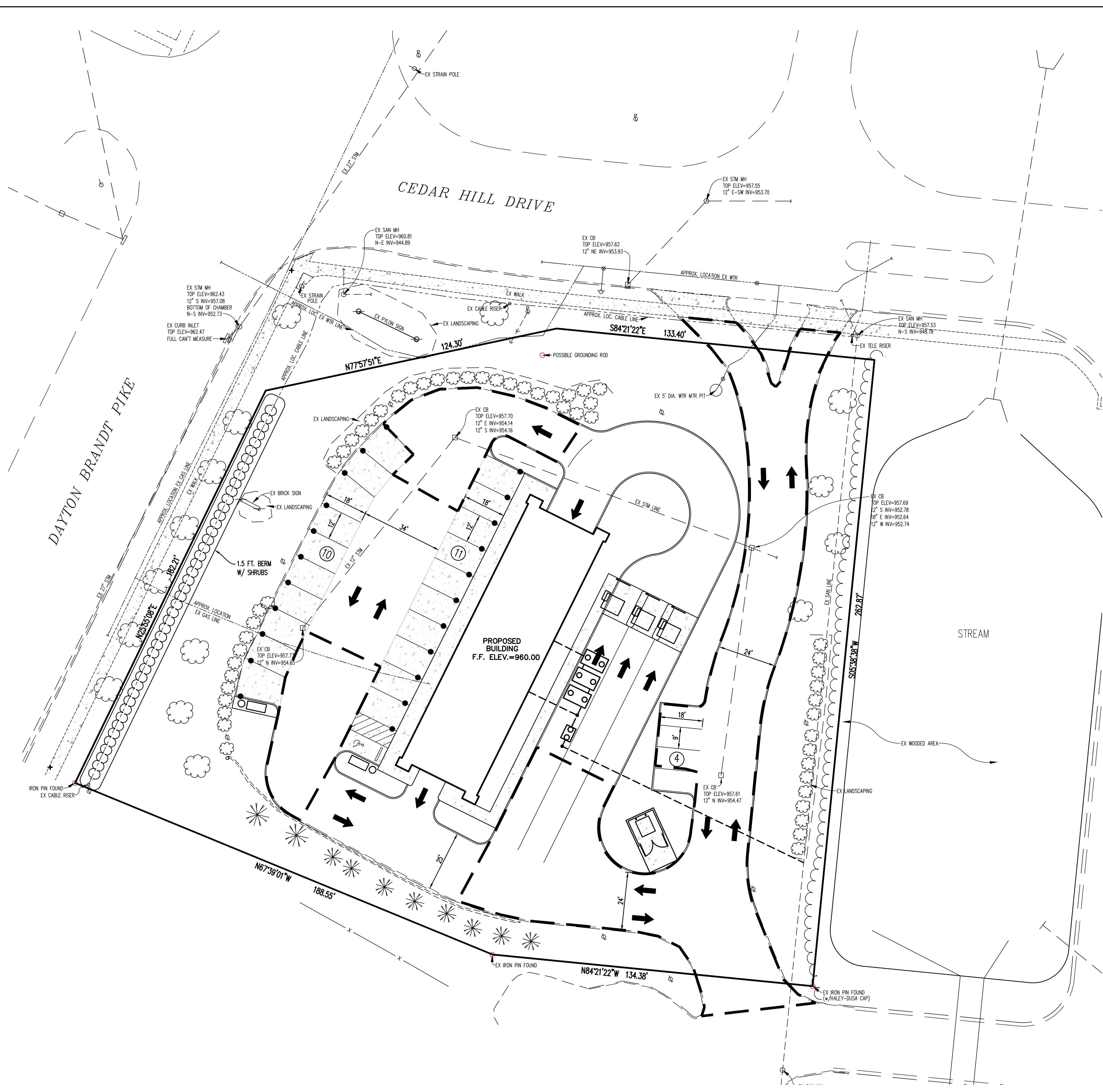
Site Plan

Drawing

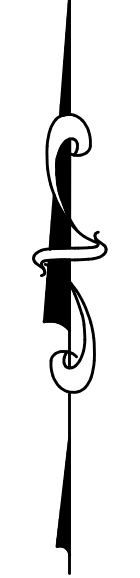
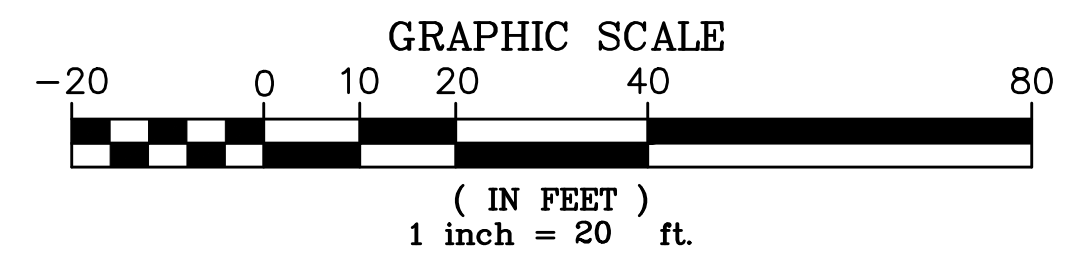
Drawing

Customer Analysis

\\va-dc1\data\CADD\Projects\Flying Ace Car Wash\Flying Ace Huber Brandt Pike Base.DWG, MAR 03, 2023 - 14:23:59



LEGEND	
	EX. TREE OR SHRUB TO REMAIN
	EX. PINE TREE TO REMAIN
	LIGHT POLE
	LANDSCAPE AREA
	HEAVY DUTY PAVEMENT
	STANDARD DUTY PAVEMENT
	PAVEMENT AREAS TO BE MILLED AND RESURFACED
	CONCRETE PAVEMENT OR SIDEWALK



NO.	DATE	REVISION

VANATTA ENGINEERING
 570 Congress Park Dr • Dayton, OH 45459
 Phone: 937.438.5650
 Fax: 937.438.5846

SITE/UTILITY PLAN
FLYING ACE CAR WASH

LOCATED IN
 SECTION 17, TOWN 2, RANGE 8 M.Rs.
 CITY OF HUBER HEIGHTS, MONTGOMERY COUNTY, OHIO

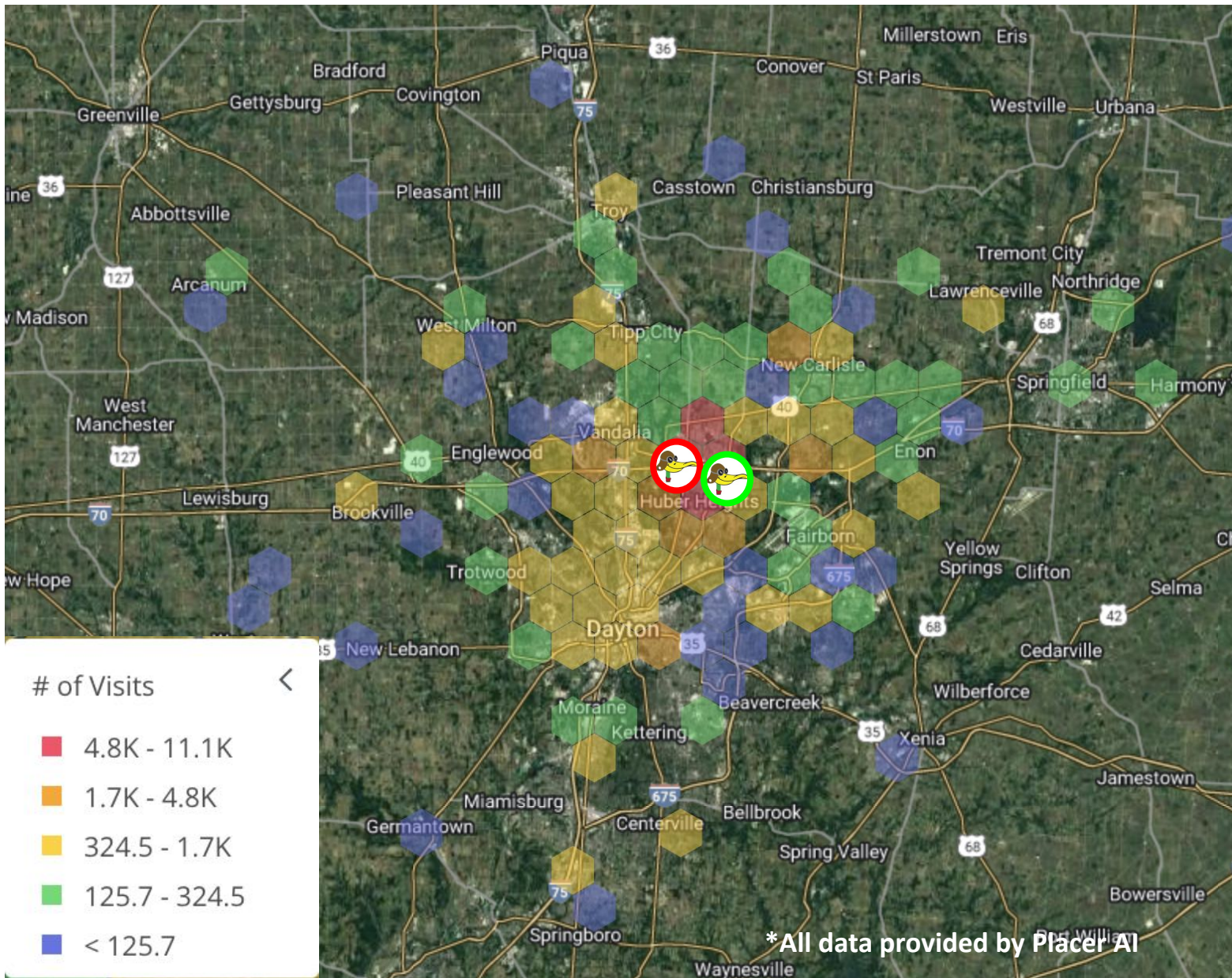
DATE: MARCH 3, 2023
 SCALE: 1"=20'
 PROJECT No. 7929
 FILE No. _____
 SHEET NO. _____
 X of X



Reduce Merily Way Traffic

Proposed Flying Ace - Brandt Pike -

Reduce Merily Way Traffic - Brandt Pike Flying Ace



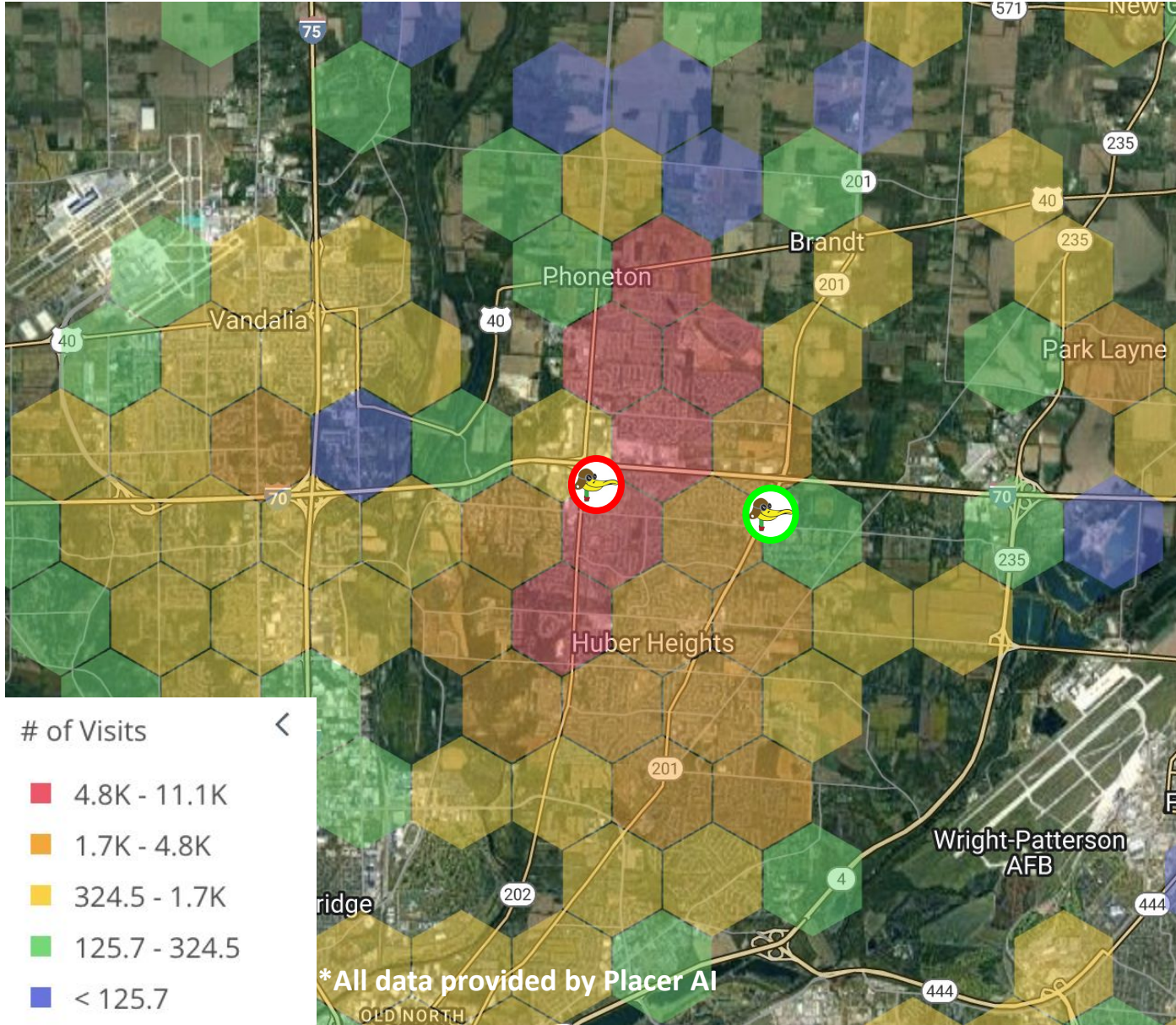
Density of Merily Way Customers

- Heaviest concentrations east of site

*All data provided by Placer AI

Flying Ace - Merily Way

Proposed Flying Ace - Brandt Pike

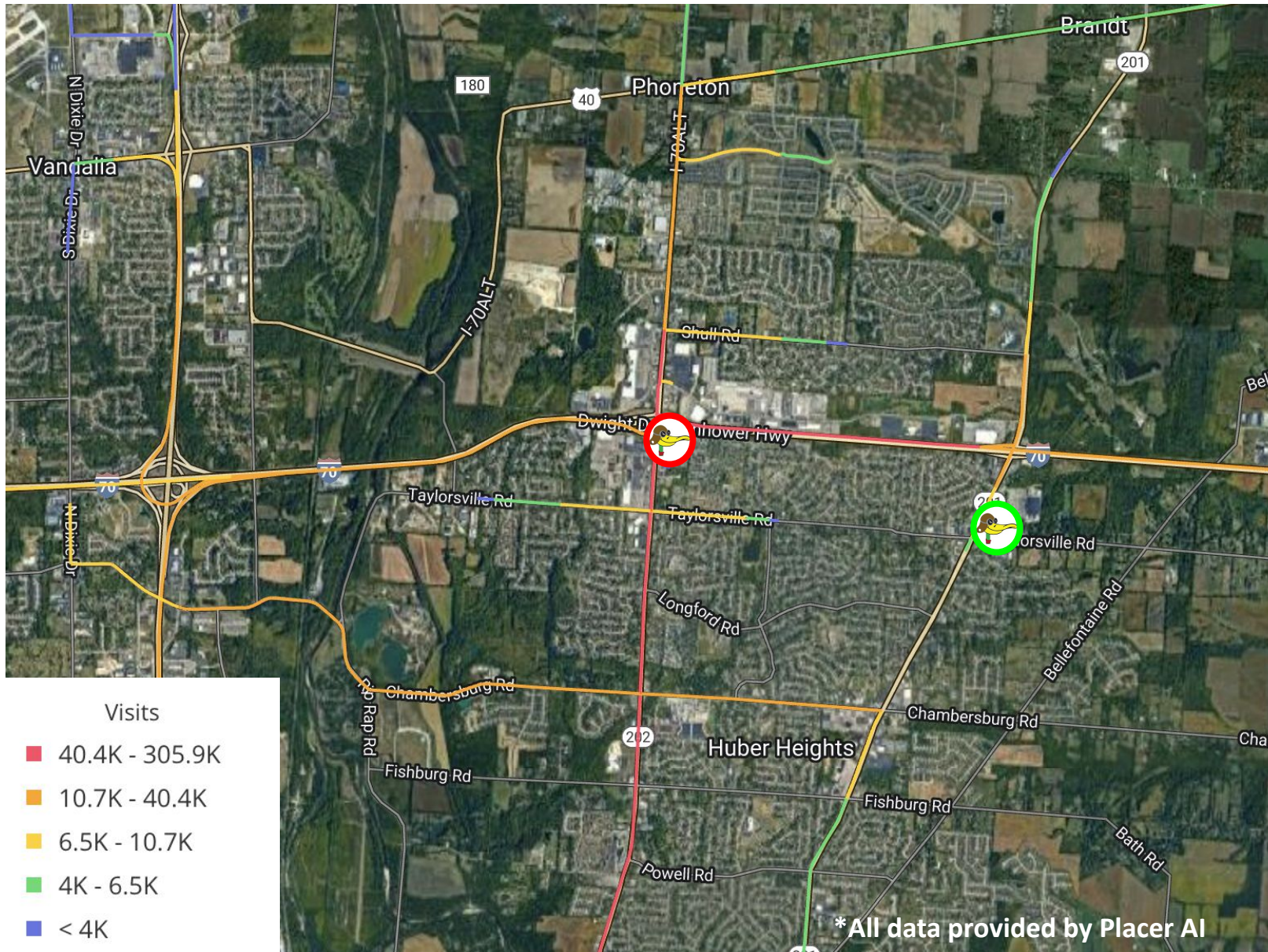


Density of Merily Way Customers

- Heaviest concentrations east of site

Flying Ace - Merily Way

Proposed Flying Ace - Brandt Pike

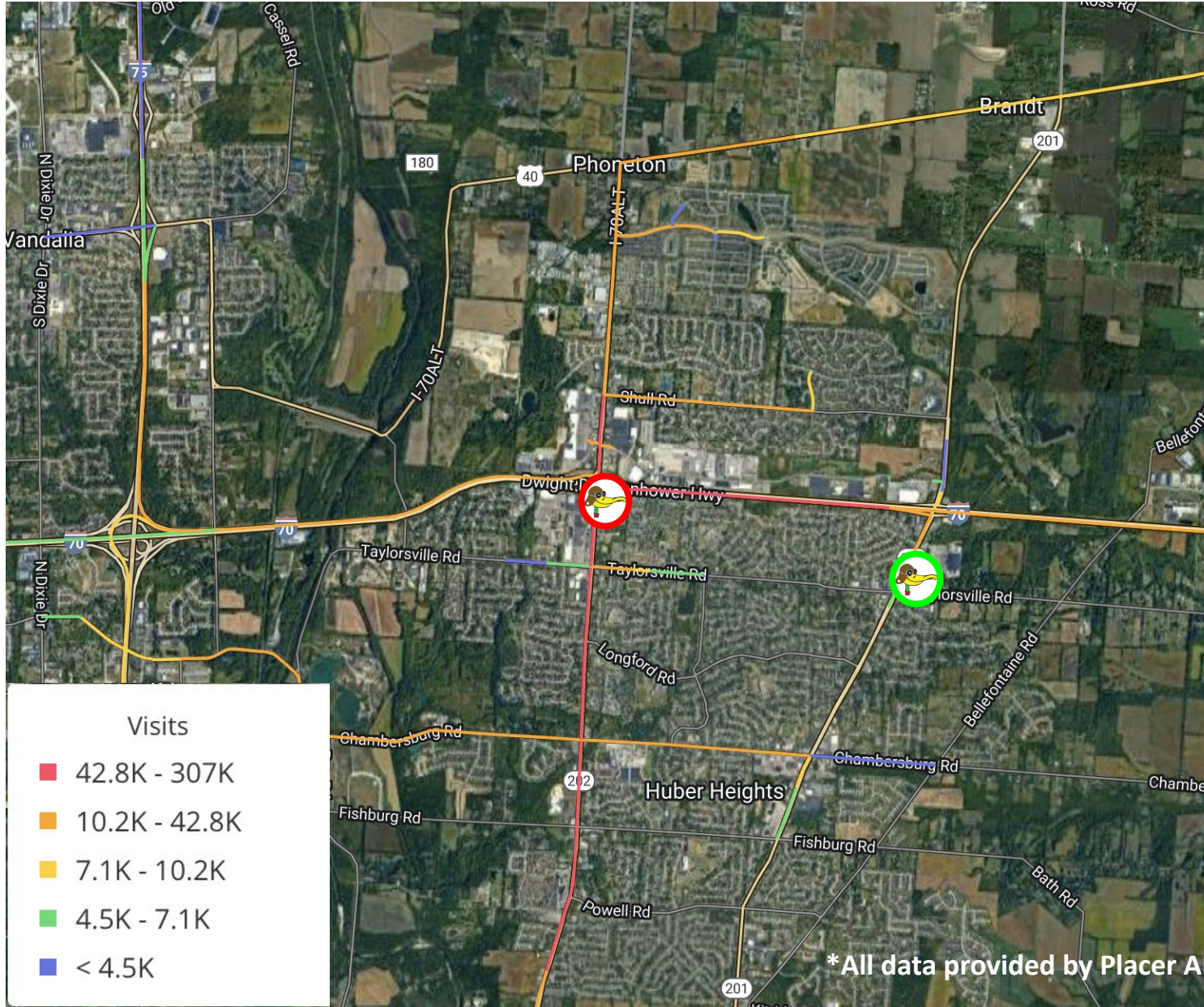


Customer Paths TO Merrily Way Flying Ace

- Heavy volume of customer traffic comes from east and south

*All data provided by Placer AI

- Flying Ace - Merily Way
- Proposed Flying Ace - Brant Pike



Customer Paths FROM Merrily Way Flying Ace

- Heavy volume of customer traffic comes from east and south



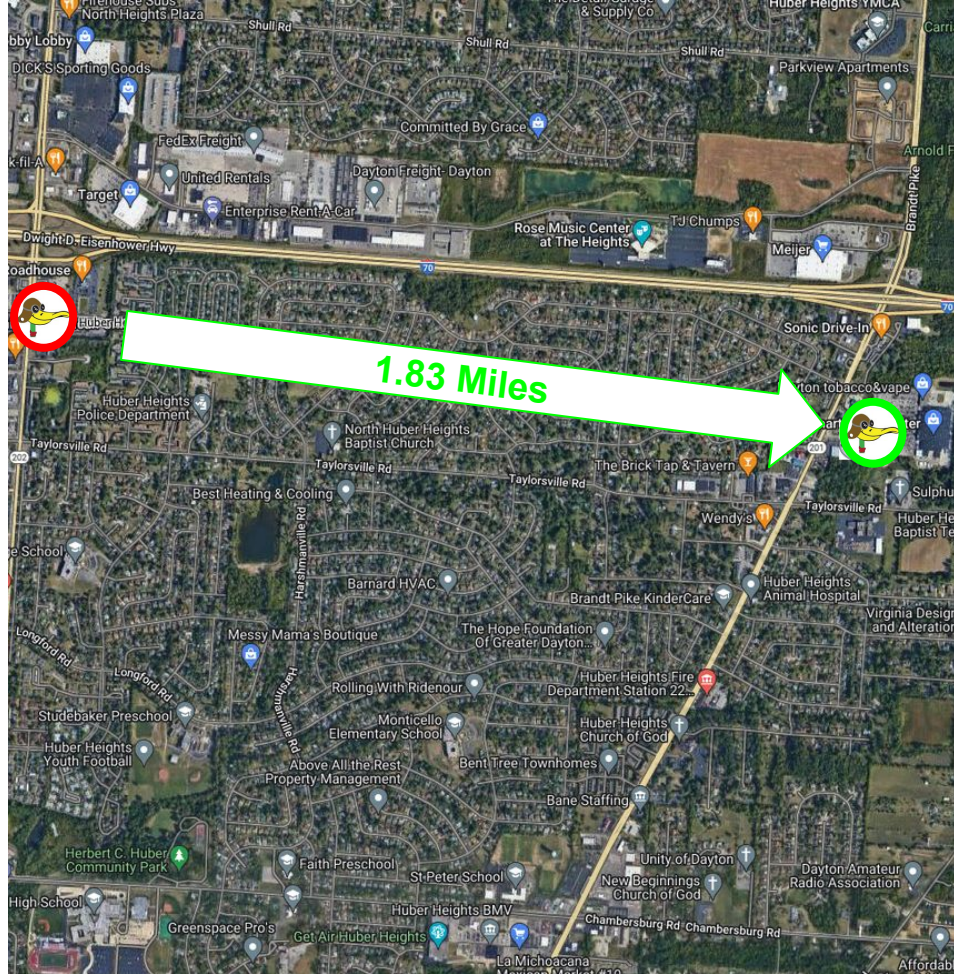
Has this worked before? - Yes

Case study - Moo Moo Broad St and E Main

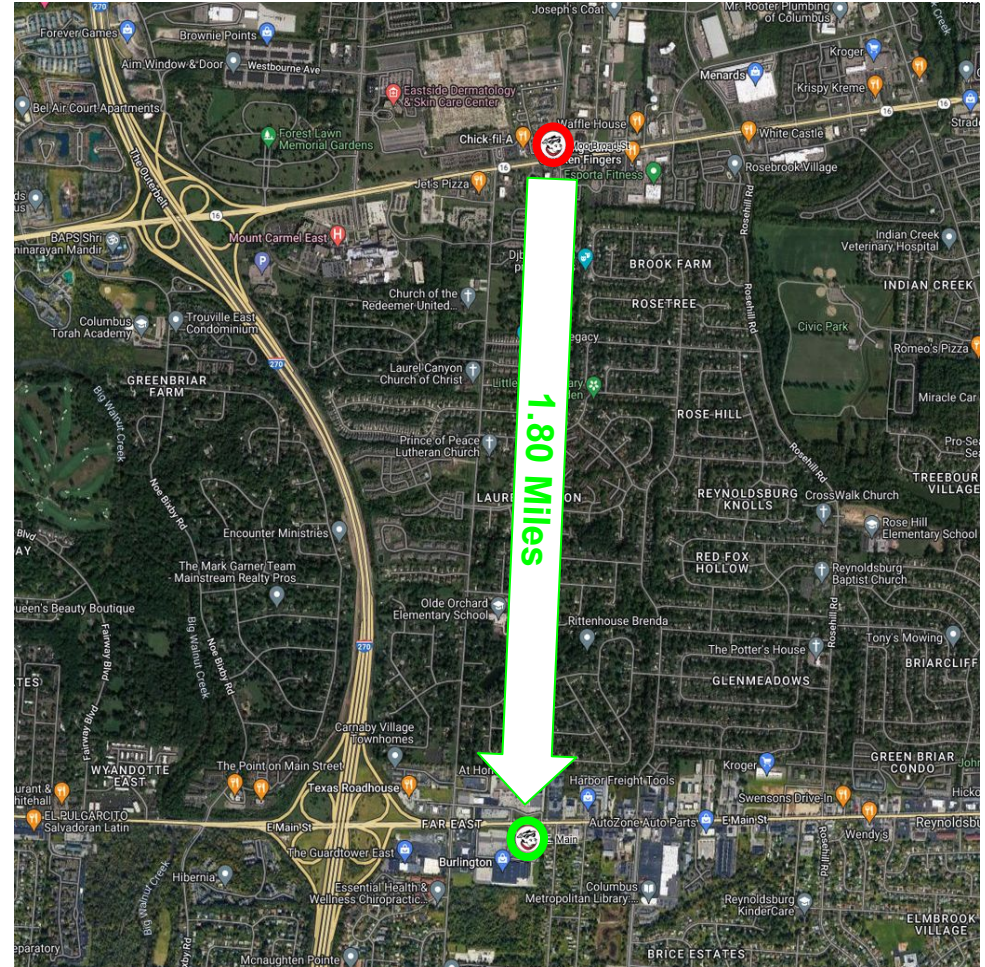


COMPARABLE SCENARIO

Flying Ace Merily and Brandt



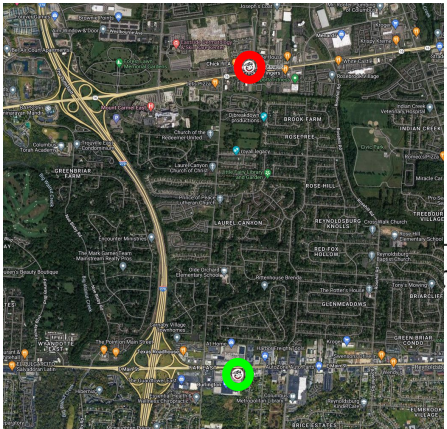
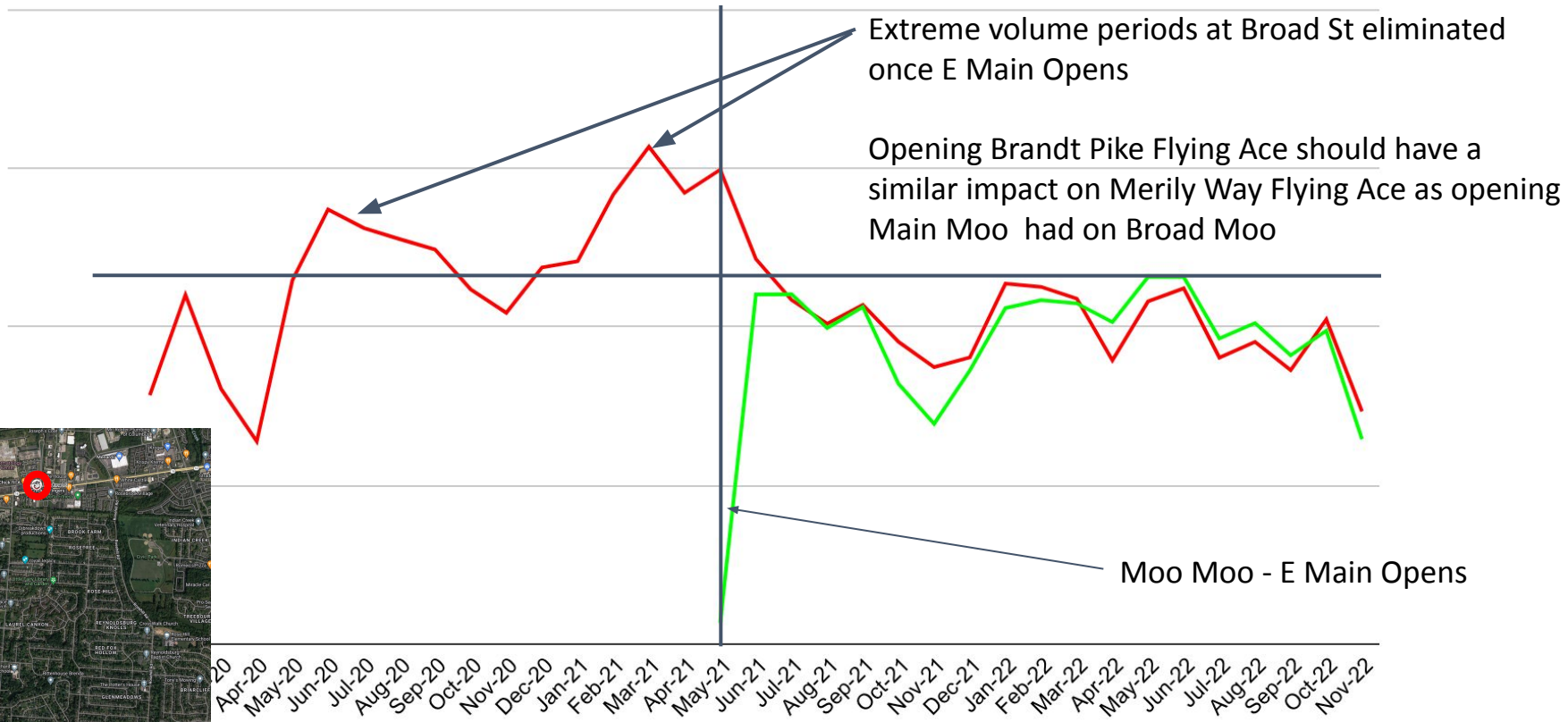
Moo Moo Broad and E Main





Broad St - Volume Controlled by Main St

— Broad St - Monthly Wash Volumes — Main St - Monthly Wash Volumes



Dec-17

*EWC - Proprietary data (actuals)

AI-9048

9. A.

Planning Commission

Meeting Date: 03/14/2023

Minutes

Information

Agenda Title

Planning Commission February 28, 2023

Purpose and Background

Attachments

Minutes

**Planning Commission
February 28, 2023, Meeting
City of Huber Heights**

- I. Chair Terry Walton called the meeting to order at approximately 6:00 p.m.
- II. Present at the meeting: Mr. Cassity, Mr. Jeffries, Ms. Thomas, Ms. Vargo, and Mr. Walton.

Members absent: None.

Staff Present: Aaron K. Sorrell, Interim City Planner, and Geri Hoskins, Planning & Zoning Administrative Secretary.

- III. **Opening Remarks by the Chairman and Commissioners**

Mr. Walton thanked everyone for their condolences.

- IV. **Citizens Comments**

None.

- V. **Swearing of Witnesses**

Mr. Walton explained the proceedings of tonight's meeting and administered the sworn oath to all persons wishing to speak or give testimony regarding items on the agenda. All persons present responded in the affirmative.

- VI. **Pending Business**

None.

- VII. **New Business**

- 1. **REPLAT - The applicant, CITY OF HUBER HEIGHTS, is requesting approval of a Replat of 40.407 acres into four lots of various size to facilitate redevelopment. Property is located at 7125 Executive Boulevard (RP 23-05).**

Mr. Sorrell stated that the applicant requests a replat of 40.407 acres into four lots of various sizes. The replat is requested to facilitate redevelopment of the area by allowing the developer to purchase the four lots at various periods according to a redevelopment agreement executed between the City and the developer, Pride One. This replat is the initial steps in the redevelopment process.

The developer will be coming forward with a rezoning and basic development plan approval in the subsequent months.

Planning Commission Meeting
February 28, 2023

The Planning Commission should consider this replat an interim step. Additional replat(s) will be needed based upon the terms and conditions imposed during the basic development plan approval.

This replat conforms with Section 1105 (preliminary plat) of the City Code of Regulations. This plat is simply for the subdivision of the land and not for the dedication of any streets, alleyways or easements.

This replat conforms with Chapter 1178 (Planned Employment Park), which requires a minimum frontage of 100-feet.

The applicant desires to subdivide 40.407 acres into four lots of various sizes to facilitate the transfer and subsequent redevelopment of the land. The replat meets all requirements of the subdivision regulations and current zoning classification.

A rezoning and basic development plan approval request will be forthcoming and therefore Planning Commission should consider this replat an interim step in the redevelopment process.

Action

Mr. Jeffries moved to approve the request by the applicant, CITY OF HUBER HEIGHTS, for approval of a Replat of 40.407 acres into four lots of various size to facilitate redevelopment. Property is located at 7125 Executive Boulevard (RP 23-05).

Seconded by Ms. Thomas. Roll call showed: YEAS: Mr. Cassity, Ms. Vargo, Ms. Thomas, Mr. Jeffries, and Mr. Walton. NAYS: None. Motion to approve carried 5-0.

2. COMPREHENSIVE PLAN - The applicant, CITY OF HUBER HEIGHTS, is requesting adoption of the 2023 Comprehensive Plan (ZC 23-06).

Mr. Sorrell presented the 2023 Comp Plan (attached).

Discussion on the property maintenance code being reviewed during the same period as the City's development codes.

Action

Mr. Cassity moved to approve the request by the applicant, CITY OF HUBER HEIGHTS, for adoption of the 2023 Comprehensive Plan (ZC 23-06) in accordance with the recommendation of Staff's memorandum dated February 22, 2023, as amended.

Seconded by Ms. Vargo. Roll call showed: YEAS: Ms. Thomas, Mr. Jeffries, Ms. Vargo, Mr. Cassity, and Mr. Walton. NAYS: None. Motion to adopt carried 5-0.

VIII. Additional Business

IX. Approval of the Minutes

Without objection, the minutes of the February 14, 2023, Planning Commission meeting are approved.

X. Reports and Calendar Review

Mr. Sorrell stated a Rezoning for a campground behind and north of Gander Mountain and a BDP for Sheetz at 8245 Brandt Pike. Also Flying Ace will give an informal presentation about carwash on Brandt Pike.

XI. Upcoming Meetings

March 14, 2023
March 28, 2023

XII. Adjournment

There being no further business to come before the Commission, the meeting was adjourned at approximately 8:15 p.m.

Terry Walton, Chair

Date

Geri Hoskins, Administrative Secretary

Date

ZC 23-06 2023 Comprehensive Plan

February 28, 2023

1

Presentation Contents

- Purpose of the comprehensive plan
- Community engagement efforts
- Key themes, goals, and implementation recommendations
- Next steps

Brief overview:

- Current comprehensive plan was adopted in 2011
- Update began in spring 2022
- Engaged Yard & Company to assist in the development of the plan



2

What is a comprehensive plan?

A statement of the community's goals, objectives, and policies to help guide public and private development.

Key characteristics of comprehensive plans are:

- **They are comprehensive.** The plan covers the entire jurisdiction, as opposed to a limited areas or sections of a community.
- **They are general.** A comprehensive plan summarizes high-level policies, goals and objectives, as opposed to a zoning ordinance that regulates the design and use of individual parcels.
- **They are long-range.** A comprehensive plan looks forward 15* to 20 years.

3

Why are comprehensive plans important?

Developing the plan allows residents to help set goals and guide the community's priorities.

Comprehensive plans:

- Identify the vision and shape the long-term development of well-designed neighborhoods, including land uses, parks, streets, open spaces, public utilities, and infrastructure.
- Outline actions the City and its partners can undertake to implement the community goals and visions outlined in the plan.



4

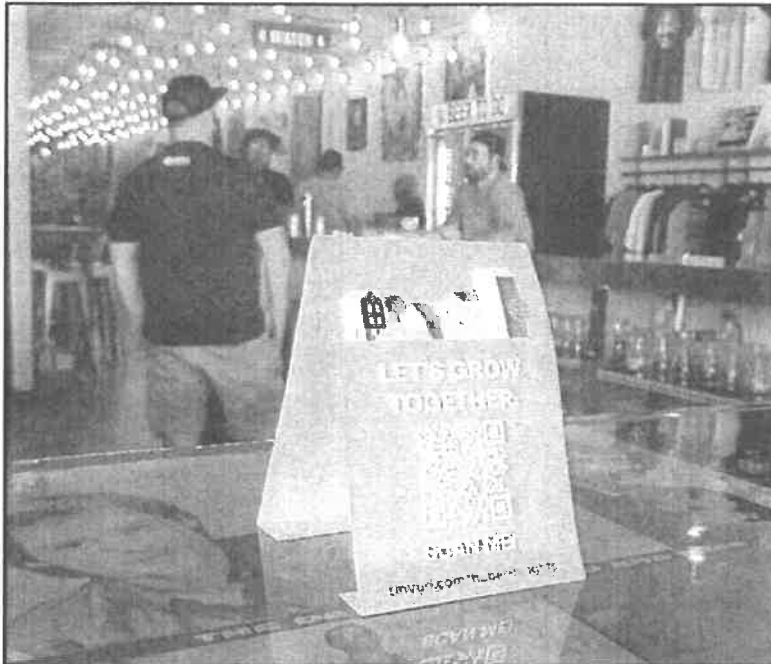
Community Engagement Efforts

- Branding
- Steering committee
- Surveys (online, offline, mapping)
- Multimedia
- Public events



A Comprehensive Plan branding kit was created and used throughout the planning process.

5



Pop-up at Alematic Brewing



Pop-up at the Farmers Market at The Heights



Feedback on the draft Plan

6



7

Community Engagement Efforts

Reach:

- 1400 surveys
- 200 people at Ignite the Heights
- Over 4,800 direct engagements
- 54,000 reached through social media



Public pins with comments posted to the online interactive map



Steering Committee Meeting

8

MOBILITY PLAN THE LOOP

The Loop Map

- Existing Trail Access
- Proposed Trail Access
- Existing Trail
- Long-term Proposed Trail
- Tree canopy
- Public bldgs
- ▲ River Access
- Proposed Loop
- Park
- Places of worship
- Destinations

15

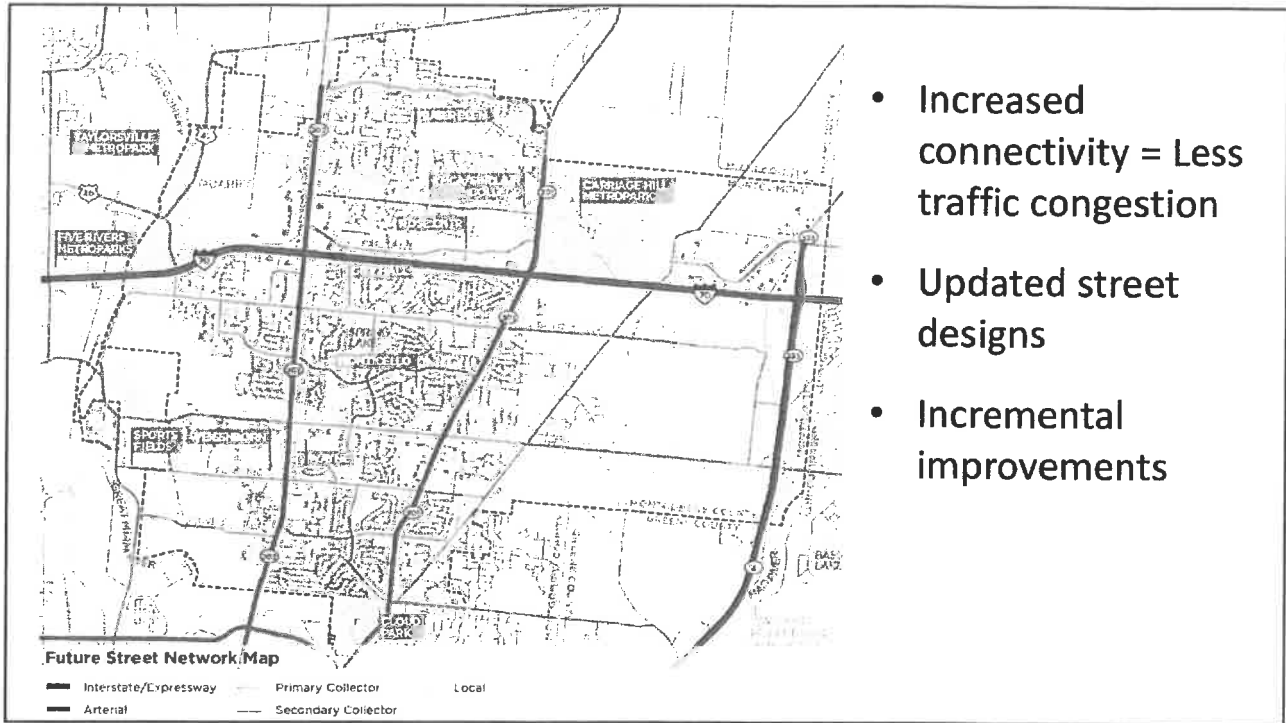
MOBILITY PLAN STREETS FOR EVERYONE

- Streets make up the largest amount of public space
- An effective street network is critical for accommodating growth and enabling safe travel by all, including pedestrians, bicyclists, and vehicles.
- Focus on developing “complete streets”

Vine Street, Cincinnati, OH

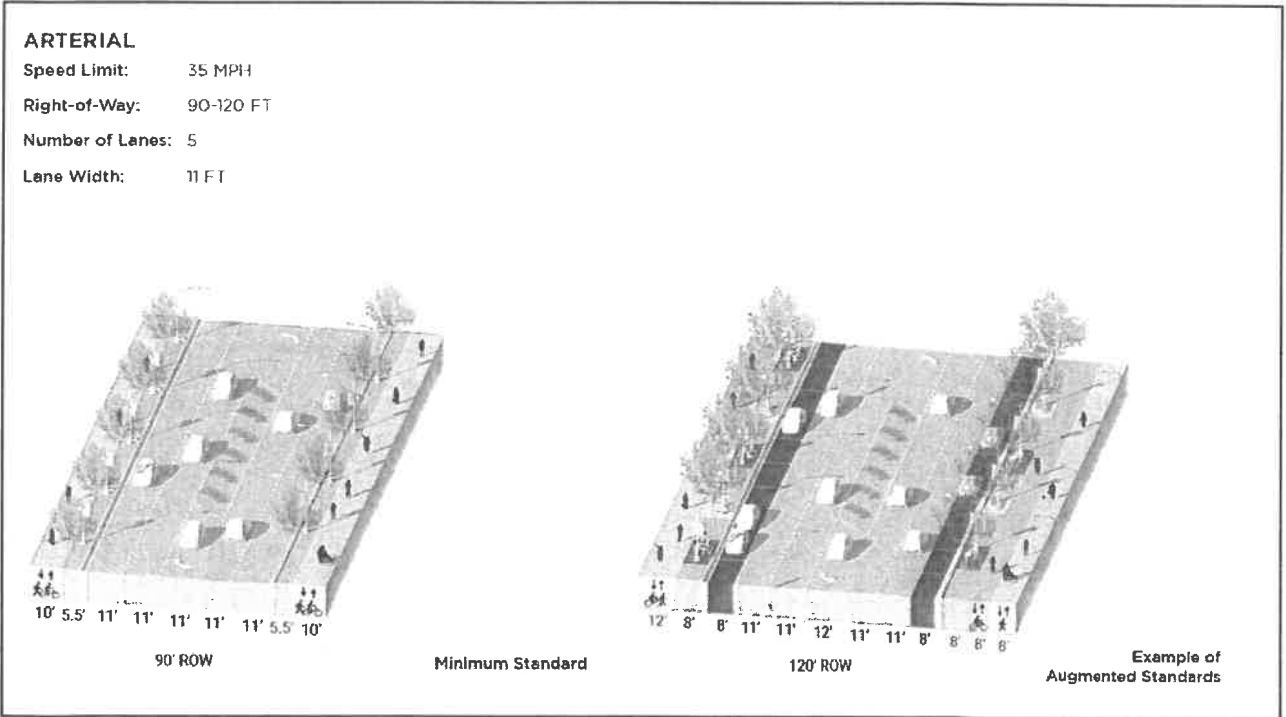
Menon Boulevard, Carmel, IN

16



- Increased connectivity = Less traffic congestion
- Updated street designs
- Incremental improvements

17



18

MAJOR COLLECTOR
Speed Limit: 25-35 MPH
Right-of-Way: 60-90 FT
Number of Lanes: 3
Lane Width: 10 FT

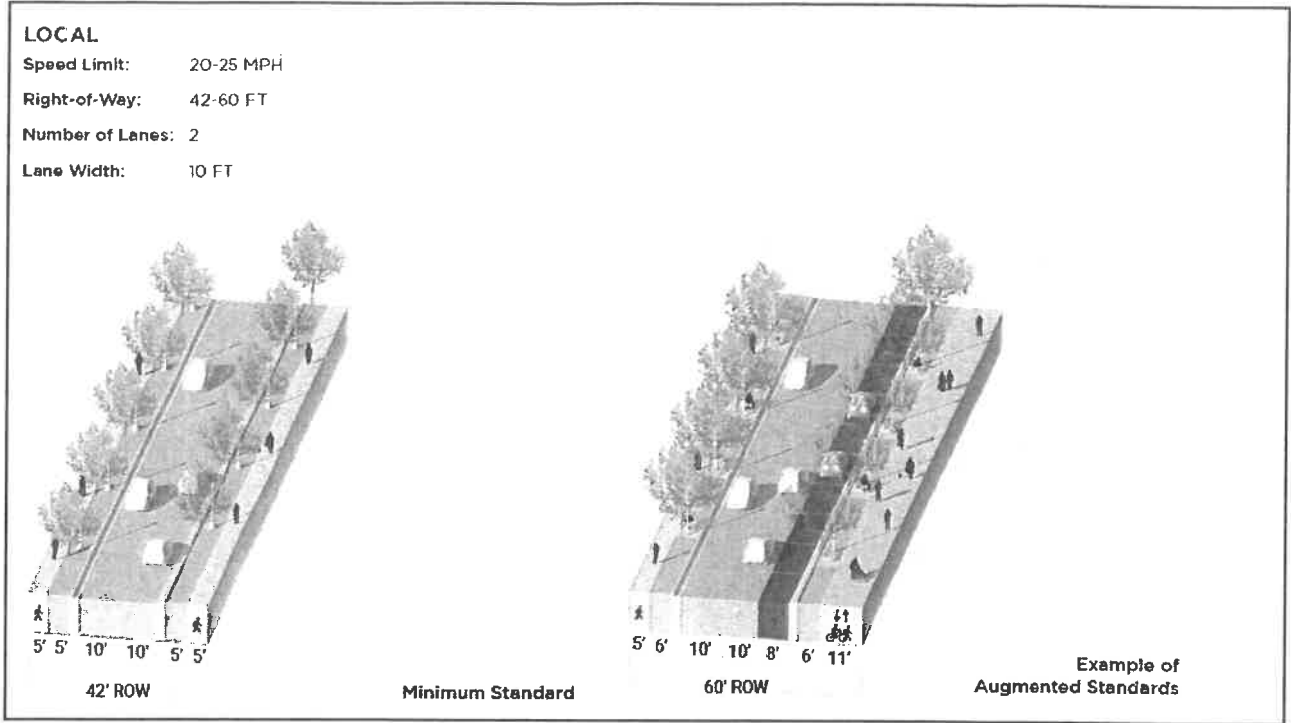
60' ROW Minimum Standard 90' ROW Example of Augmented Standards

19

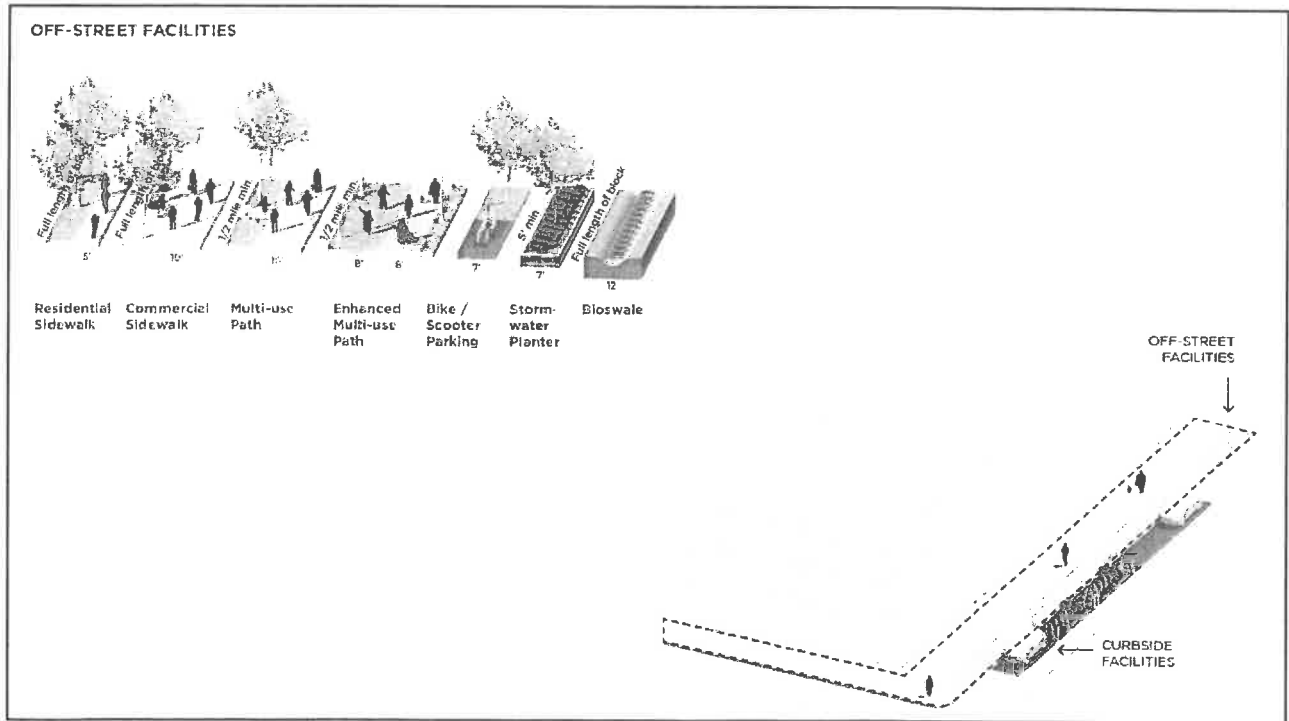
MINOR COLLECTOR
Speed Limit: 20-25 MPH
Right-of-Way: 50-70 FT
Number of Lanes: 2
Lane Width: 11 FT

50' ROW Minimum Standard 70' ROW Example of Augmented Standards

20



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MOBILITY PLAN

IMPLEMENTATION STEPS

9-12 MONTHS

1 UPDATE LOCAL MOBILITY POLICIES

We should align our street design and use policies to meet our human-centered multi-modal infrastructure goals and objectives.

- » Adopt Street Network Map and Typical Sections
- » Update Subdivision Regulations
- » Eliminate or reduce parking minimums
- » Promote infill development
- » Support traffic calming
- » Introduce eBike incentive
- » Expand charging station availability
- » Implement access management

12-24 MONTHS

2 ALIGN STREET + TRAIL DESIGN STANDARDS WITH STATE & NATIONAL BEST PRACTICES

National resources and models should be utilized to guide our best-in-class street design.

- » Join NACTO
- » Incorporate ODOT Multi-Modal Design Guide (MDG)
- » Incorporate VisionZero goals and objectives
- » Incorporate Safe Routes to School Best Practices

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MOBILITY PLAN

IMPLEMENTATION STEPS

24-36 MONTHS

3 CREATE LOOP MASTER PLAN

We sit on the edge of one of the country's best trail systems. The Loop will connect all of Huber.

- » Create Loop Master Plan
- » Vacate Old Shull Road

36-60 MONTHS

4 CREATE MULTI-MODAL PLANNING COORDINATOR STAFF POSITION

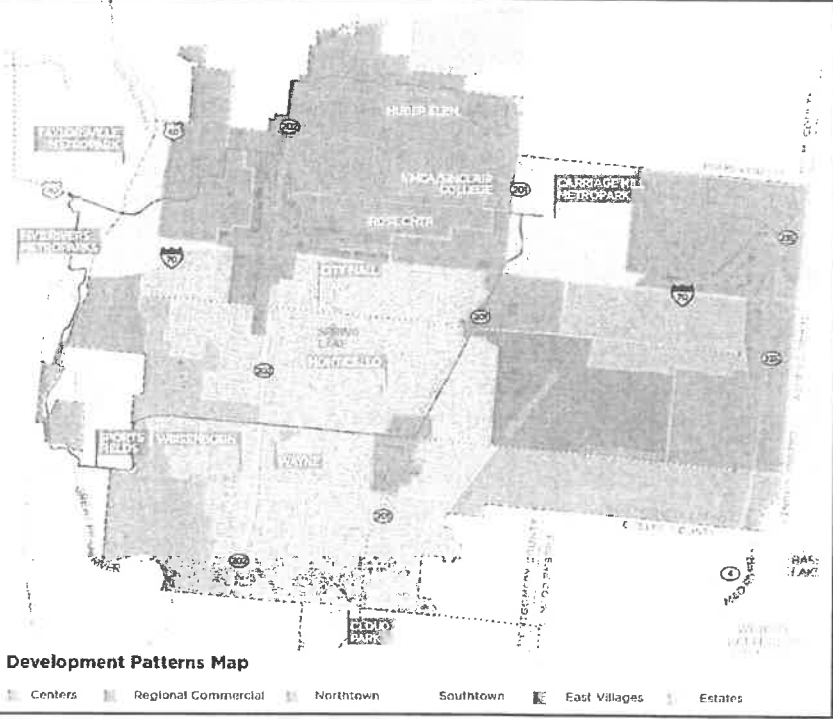
Dedicated staff and resources are required to modernize and activate our mobility network.

- » Create new staff position
- » Improve transit along priority routes
- » Develop public-private partnerships to improve mobility and logistics

24

DEVELOPMENT PATTERNS

Develop patterns focus on the physical environment where people live, work and play.



25

DEVELOPMENT PATTERNS

By shifting from thinking about the City as separate land uses, development patterns think about the areas in terms of physical and environmental characteristics such as scale, building design and siting, open space, density and mass.

Focus on **place-making**: *how people feel about their areas and environments and how they function and engage within those places.*



GOALS + OBJECTIVES

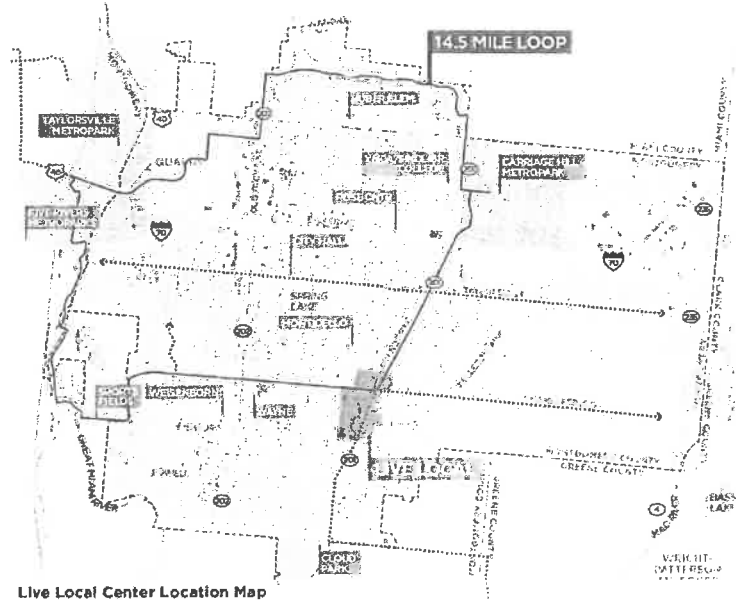
- » Encourage human-centered innovation
- » Focus on talent attraction/retention
- » Encourage walkable density
- » Allow people to live closer to jobs and amenities
- » Expand housing options
- » Focus growth in clusters

26

CENTER: LIVE LOCAL

ESSENTIAL ELEMENTS

- » Build off the Brandt Pike Revitalization Plan and Marian Meadows development
- » Focus on local services, government functions, professional services, daily needs, retail, and amenities
- » Offer a wide range of housing types
- » Double down on a park-once walkable infrastructure and quality public realm
- » Update Brandt Pike Revitalization plan with recent developments and new opportunities



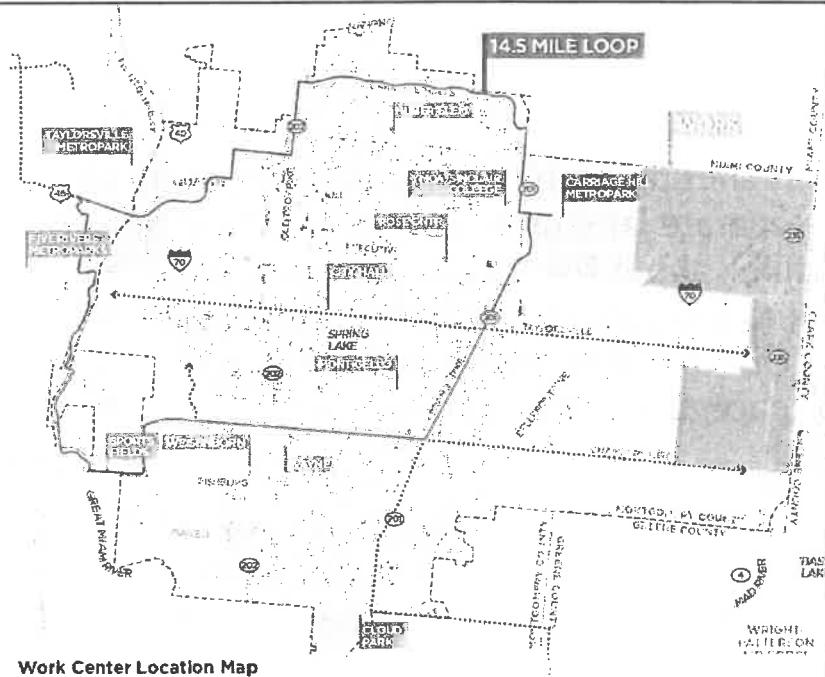
Live Local Center Location Map

27

CENTER: WORK

ESSENTIAL ELEMENTS

- » Build off light industrial, industrial, and corporate anchors with access to highways and Wright Patterson
- » Develop for density, flexibility, and mix of use adjacencies
- » Build housing along the eastern edge of Carriage Hill Metro Park
- » While the focus is on employment, support multi-family residential and amenities where suitable
- » Economize and share infrastructure where feasible
- » Leverage current master development interest to create an integrated mixed-use environment



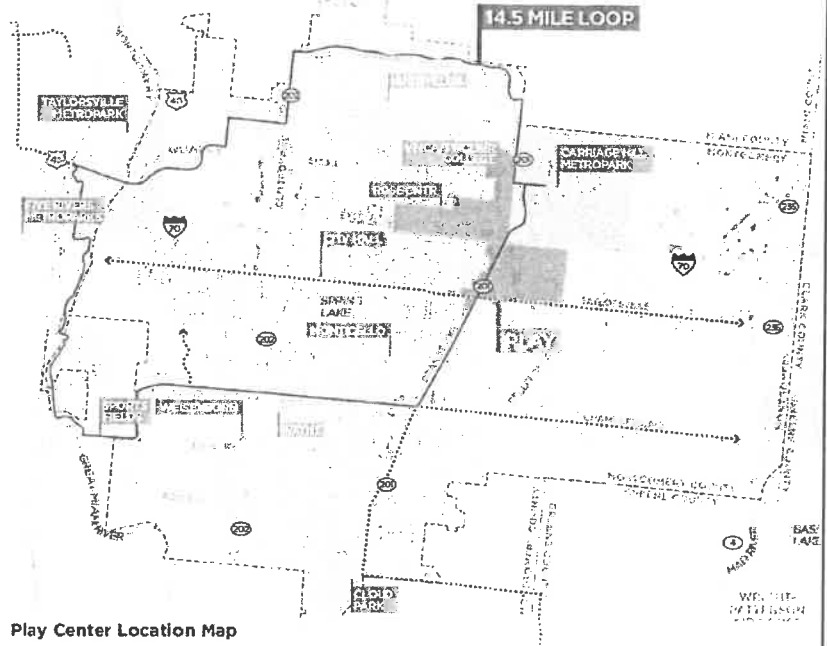
Work Center Location Map

28

CENTER: PLAY

ESSENTIAL ELEMENTS

- » Build off recent momentum created by Executive Boulevard, the Rose Center, Warped Wing, the YMCA/Aquatic Center/Sinclair, and Parkview Apartments
- » Target regionally-scaled hospitality and entertainment uses
- » Support multi-family and mixed-use development
- » Emphasize a park-once, dynamic visitor experience
- » Enhance connectivity within the district and to Carriage Hill MetroPark
- » Create sub area plan that incorporates and coordinates current market interest and future potential



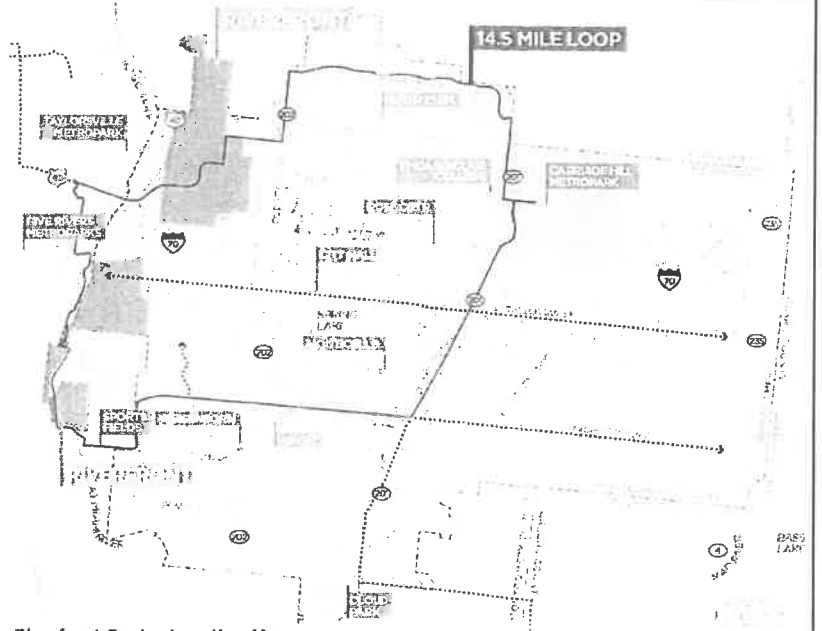
Play Center Location Map

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CENTER: RIVERFRONT

ESSENTIAL ELEMENTS

- » Capitalize on under-developed land along the river and MetroPark
- » Connect to nearby retail, employment, and neighborhoods
- » Structure development around trail and green networks
- » Focus on traditional neighborhood and trail-oriented development principles
- » Explore annexation of land between Huber Heights and MetroPark
- » Create sub area plan for the center in conjunction with the Loop master plan



Riverfront Center Location Map

30

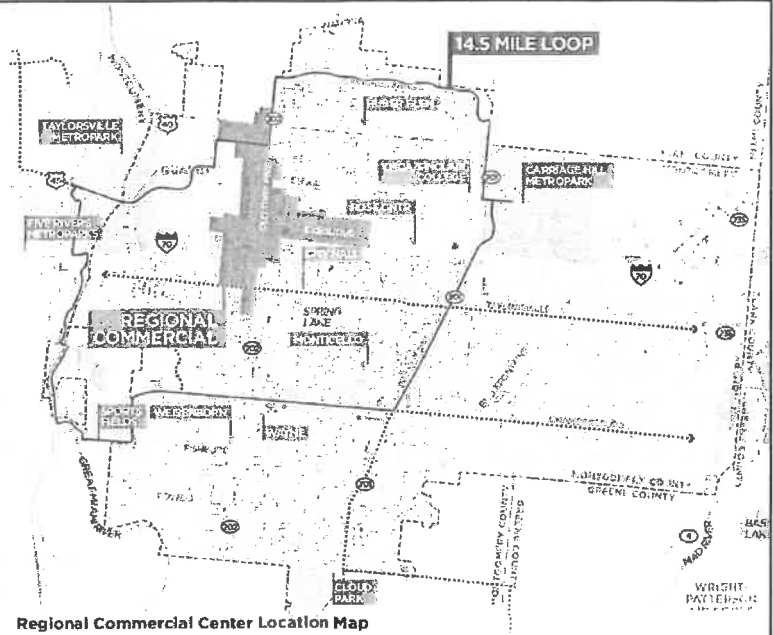
REGIONAL COMMERCIAL



Liberty Center, Liberty Township, OH

ESSENTIAL ELEMENTS

- » Large format commercial and out-lot retail
- » Focus on maintaining and growing current tenants; broadening the mix of uses; additional street connectivity; and beautification.
- » Encourage paving removal and parking lot redevelopment/reuse



Regional Commercial Center Location Map

31

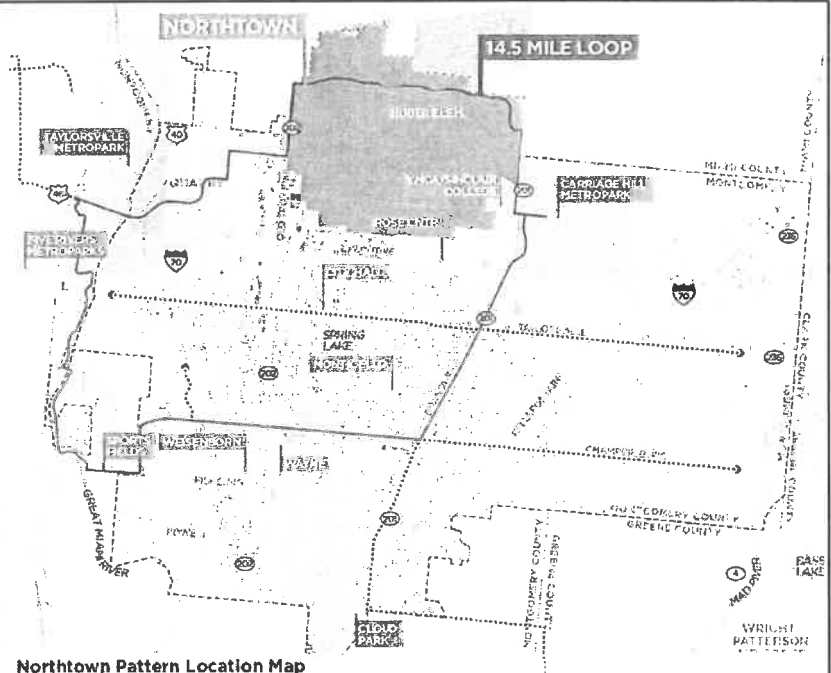
NORTHTOWN



Norton Commons, Louisville, KY

ESSENTIAL ELEMENTS

- » Late-century housing development
- » For existing developments, focus on completing subdivisions and completing bike/pedestrian networks
- » For new subdivisions, focus on bike/pedestrian infrastructure, external connections, streetscape, and setback garages



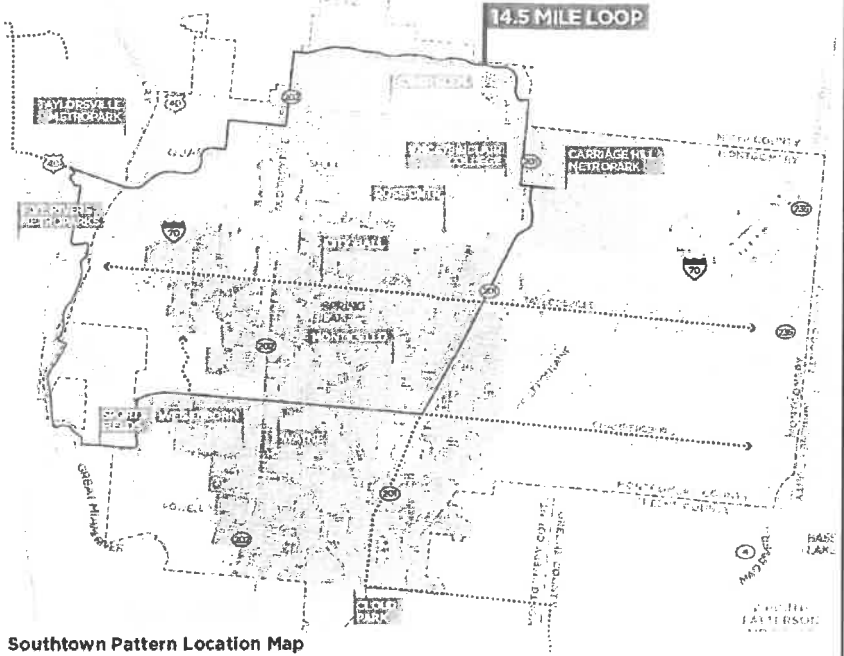
Northtown Pattern Location Map

32

SOUTHTOWN

ESSENTIAL ELEMENTS

- » Mid-century brick homes and apartment complexes
- » Focus on renovation, infill development, and incremental broadening of uses and housing types
- » Continue to prioritize utility upgrades and expand focus on connectivity through street tree maintenance, sidewalks, placemaking, and traffic calming
- » Expand homeowner reinvestment tools and incentives
- » Broaden focus on marketing neighborhoods



Southtown Pattern Location Map

33

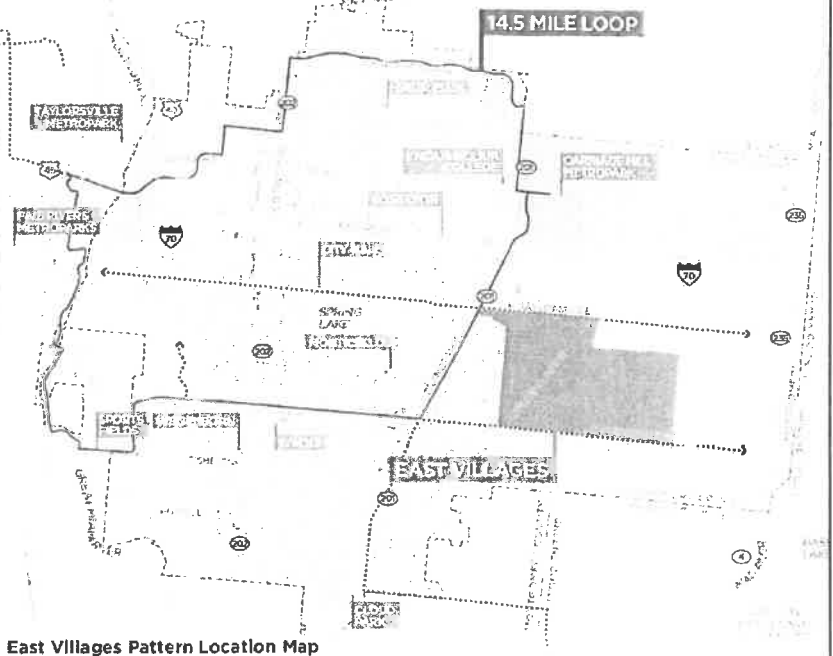
EAST VILLAGES



Wheeler District, OKC

ESSENTIAL ELEMENTS


- » Largely undeveloped land that will transition to new traditional neighborhood forms
- » For new development focus should be on heightened innovation and quality; inter-connected streets, trails and green spaces; human-centered design: walkable density; and a mix of uses



East Villages Pattern Location Map

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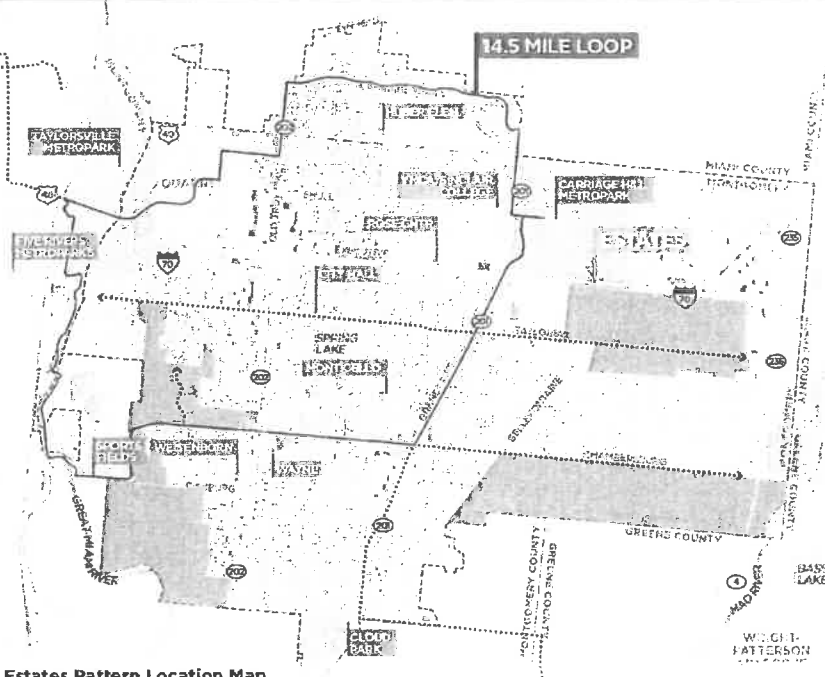
ESTATES



Example residential estate

ESSENTIAL ELEMENTS

- » Slow growth, large lot (1 acre plus) residential
- » Maintain and enhance semi-rural character with improvements to trail connectivity and intersection safety
- » Allow for incremental, contextually relevant non-residential uses and amenities



Estates Pattern Location Map

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DEVELOPMENT PATTERNS

IMPLEMENTATION STEPS

2-3 MONTHS	6-18 MONTHS
<p>1 ADOPT COMPREHENSIVE PLAN</p> <p>Marketing and broadcasting the Plan's adoption will launch implementation efforts.</p> <ul style="list-style-type: none"> » Create web-based version of Plan » Create Spanish translation of the Plan » Proactively market new Comprehensive Plan Goals » Maintain social media and newsletter updates about Plan and growth 	<p>2 REFORM PLANNING & ZONING CODE</p> <p>The City should modify current development standards to more easily allow the goals of this Plan to be met.</p> <ul style="list-style-type: none"> » Foster transit supportive densities » Encourage a mix of housing types » Encourage a mix of uses » Decrease the overall number of residential districts » Eliminate barriers to density » Expand homeowner choices » Make traditional neighborhood development the default » Reduce reliance on zoning variances and Planned Unit Developments (PUDs)

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IMPLEMENTATION STEPS

DEVELOPMENT PATTERNS

18-24 MONTHS	24-48 MONTHS	EVERY 2-3 YEARS
<p>5 UPDATE OR CREATE NEW SUB AREA PLANS & STRATEGIES</p> <p>Detailing specific plans and strategies for high-priority areas of the city are critical for successful implementation of the Plan</p> <ul style="list-style-type: none"> • Chambersburg and Brandt • The Heights • The Work Center • The Riverfront 	<p>6 EXPAND STAFF RESOURCES & CAPACITY</p> <p>Proactively shaping and guiding growth requires sufficient staff capacity and expertise.</p> <ul style="list-style-type: none"> » Expand community engagement city-wide » Coordinate planning and development resources » Broaden marketing efforts » Participate in regional economic development forums » Expand innovation in government services » Foster creation of growth organization(s) 	<p>7 UPDATE THIS PLAN</p> <p>This Plan is a living document that should be regularly updated to reflect new opportunities.</p> <p>» Amend or update this Plan</p>

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Staff Analysis and Recommendation

- The 2023 Comprehensive Plan draws from the rich history of Huber Heights and recognizes we have evolved from a bedroom community to a regional destination for entertainment, employment, and innovation.
- The plan builds on the strength and talents of our residents and community assets and our locational advantages.



HUBER HEIGHTS
COMPREHENSIVE PLAN
17 FEBRUARY 2023

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Staff Analysis and Recommendation

The Mobility Plan builds upon our current efforts to improve mobility options, particularly for bicyclists and pedestrians, and encourages the City to modernize our street design standards.

- The Loop can be an economic engine by linking Huber Heights neighborhoods to the 340-mile regional trail network.



Example multi-use trails in Carmel, IN

Staff Analysis and Recommendation

- Updating our street standards and emphasizing connectivity will create great corridors and reduce congestion and household transportation costs.
- The street sections illustrated in this plan are consistent with ODOT's Multimodal Design Guide and eligible for ODOT funding.
- The mobility plan encourages a commitment to Vision Zero (zero roadway deaths) goals and Safe Route to Schools best practices.



Staff Analysis and Recommendation

The Development Patterns lens encourages the City to emphasize neighborhood character, context and building design and put less emphasis on a strict separation of land uses.

- The plan advocates a hybrid form-based development code rather than the current Euclidean zoning code.



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Staff Analysis and Recommendation

- The plan encourages a more efficient and market-responsive approach to land utilization, allowing smaller lots, less parking and more nimble land use regulations and processes.
- The plan recommends a more robust public engagement process while plans are being formulated and refined. Staff strongly support these goals.



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Staff Analysis and Recommendation

The plan charts a path forward over the next 15 to 20 years that build upon our past successes and leverages the opportunities ahead to build a multi-dimensional community that provides the housing, jobs, amenities, and quality of life that future generations demand and deserve.

Staff recommends the adoption of the 2023 Comprehensive Plan.

