



CITY OF PATASKALA BOARD OF ZONING APPEALS

City Hall, Council Chambers
621 West Broad Street
Pataskala, Ohio 43062

STAFF REPORT

December 7, 2022

Transportation Corridor Overlay District TCOD-22-002

Applicant:	PVL Investments, LLC.
Owner:	P & G Pataskala, LTD.
Location:	200 W Broad Street, Pataskala, OH 43062 (PID: 064-307692-00.000)
Acreage:	+/- 53.30
Zoning:	GB – General Business / R-10 – High Density Residential
Request:	Requesting approval of a Transportation Corridor Overlay District Application pursuant to Section 1259.07 of the Pataskala Code for the construction of a Retirement Home, Independent Living Villas, and associated site improvements.

Description of the Request:

The applicant is seeking approval of a Transportation Corridor Overlay District application in order to allow for the construction of an Assisted-Living Facility, with additional “Independent Living Villas”, and associated site improvements.

Staff Summary:

The 53.30-acre property located at 200 W Broad Street is currently unoccupied and is split-zoned. The main frontage of Broad Street is zoned GB – General Business, while a small portion of the overall property, mostly corresponding to the existing detention pond at the rear (north) is zoned R-10 – High Density Residential. The property itself is also not entirely contiguous. The largest section, 46.767-acres has frontage on Broad Street to the south, Heron Avenue to the west, and John Reese Parkway to the east. There is also a 2.815-acre area on the west side of Heron Avenue, also with frontage on Broad Street, and then a 3.402-acre area to the east, with frontage on John Reese Parkway and Richard Connie Street. As mentioned before, there is a large detention pond area in the north of the property.

On November 8, 2022, the Board of Zoning Appeals approved a conditional use to allow for the property to be used as an Assisted Living Facility, with Independent Living Villas, and associated site improvements.

The Applicant is now requesting approval of the TCOD application pursuant to Chapter 1259. A General Summary of the proposed development is below:

Structures

- Assisted Living and Memory Care Facility (75 Units)
 - Size: 66,000 square feet, two (2) stories.
 - Setbacks:
 - 126.05-feet from R/W on Broad Street
 - Unknown dimensions from East, North, West property lines.
 - Parking:

- 68 paved asphalt surface parking spaces (inc. 4 ADA Spaces)
- Independent Living Villas (61 units total)
 - Two-Family Attached style dwellings.
 - 24 one (1) bedroom units, 1,190-square feet each.
 - 37 two (2) bedroom units, 1,770-square feet each.
 - Each unit has a driveway onto the interior private roadway.
- Clubhouse
 - Approximately 3,000-square feet
 - 11 paved asphalt surface parking spaces.
 - Two (2) pickleball courts at the north end of the interior private roadway with parking for six (6).

Access

- West: Two-way entrance onto Heron Avenue.
- South: Entrance onto Broad Street to South (Identified as a right-in/right-out on Conditional Use Plans, but is unmarked on these plans)
- Interior private road to serve Independent Living Villas.

Landscaping

- Front, Broad Street: L2 along southern border of parking lot for main building. No other landscaping provided. (L2 required for perimeter of frontage).
- Front, Heron Avenue: None. (L2 required for perimeter of frontage).
- Side – West: Mix of low shrubs behind some patios, some shade/evergreen trees (L3 or L4 required for perimeter of development).
- Side – East: None. (None required if not abutting residential use)
- Rear – North: Mix of shade/evergreen trees behind northernmost building (L3 or L4 required for perimeter of development).

Signage

- One (1) monument sign at western entrance to Heron Avenue.
 - 5'-5 ½" in height.
 - 32-square feet in size.
 - Illumination unknown.
- One (1) monument sign at southern entrance to Broad Street.

Staff Review: *The following summary does not constitute recommendations but merely conclusions and suggestions from the Staff Review, the full text of which follows the summary.*

Planning and Zoning Staff:

Staff has drafted a list of comments regarding the Application, which is attached to this Staff Report and includes all comments from the initial Concept Review to now. Comments which have been addressed are ~~struck through~~ and remaining/new comments are left as-is. A few of the major items are listed below.

- The proposed building height exceeds the 35' maximum height permitted by Section 1249.05(A) by 4-11/32" The Planning and Zoning Commission is unable to approve as proposed, so a Variance will be needed
- The Transportation Corridor Overlay District requires that sidewalk/paths shall be installed along each developed parcels frontage. The existing sidewalk satisfies this requirement for the frontage along Heron Avenue. The plan shows a concrete sidewalk of unknown with along a portion of the frontage

on Broad Street. An eight-foot asphalt path, or fee-in-lieu, is required to be installed for the length of the development connecting to Heron Avenue.

- For uses within the GB zoning district the following landscaping standards must be provided:
 - Frontage: L2
 - L2 shall consist of a continuous shrub line, three (3) feet in height with 95% opacity, with one (1) tree per 30 lineal feet. A three (3) foot high mound or wall may be substituted for the shrubs.
 - Currently, only the southern border of the parking lot is screened with L2. No other frontage landscaping is provided for the remainder of Broad Street or Heron Avenue.
 - Side: L3 or L4 if abutting a residential use
 - L3 shall consist of a continuous shrub line, six (6) feet in height with 95% opacity (arborvitae), with one (1) tree per 30 lineal feet. A six (6) foot high fence or wall may be substituted for the shrubs.
 - L4 shall consist of a fence, no less than six (6) feet tall with 100% opacity, plus one (1) tree per 30 lineal feet. In addition, four (4) high shrubs are required per 30 lineal feet of wall.
 - Currently, only minimal screening is provided to buffer between proposed use and existing Heron Manor/Settlement at Pataskala.
 - Rear: L3 or L4 if abutting a residential use.
 - Currently, only minimal screening is provided to buffer between proposed use and existing Heron Manor/Settlement at Pataskala.
- Front Yard setback must be based off of recommended right-of-way width. On Broad Street, this is 60-feet off centerline. Appears to be based off of edge of pavement(?) or about 15-feet off centerline.
- More information needs to be provided/revise on the Plans to confirm compliance with Pataskala Code.

Should this Application be approved, the next step for the Applicant would be to submit a full site engineering package (Construction Plans) including Stormwater Calculations which is to be approved administratively, followed by the New Commercial Construction Permit (administrative), after which they may begin construction.

Public Service Director (Full comments attached)

- a. Stormwater control
 - i. A stormwater report will need to be submitted as part of the construction plan application process.
 - ii. The site will presumably drain to the existing retention pond adjacent to this property, and the report will need to verify that the existing pond is sized to accommodate the additional load.
 - iii. Some improvements may be needed to the existing pond/outlet structure.
- b. Existing retention pond is currently on private property
 - i. As part of this development, the existing basin should be deeded to the City for operation and maintenance, as there is not currently an entity having responsibility, nor is there a specific entity that should have responsibility.
 - ii. As part of this process, and for the City to accept responsibility of the pond, clearing, grubbing and grading around the pond is requested to be completed to start fresh and make this a usable and maintainable area.
- c. Traffic
 - i. Access on Broad St. shall be right-in/right-out only

- ii. See additional comments from reviewing traffic engineer
- d. Right-of-way
 - i. Verify existing right-of-way along Broad St. is 60' from the center line. If not, right-of-way should be dedicated to achieve 60' from center line.

GPD (Full comments attached – Reviewed Traffic Access Study)

- Minor edit comments for appendix/table of contents.
- Recommended westbound right turn lane at Broad Street Right In – Right Out access drive.

Pataskala Utilities (Full comments attached)

This project will put a very large burden on our sanitary sewer system. It is possible that this concept will require an upgrade to the Settlement Lift Station which will be funded by the developer. The Water Reclamation Facility is also extremely limited on available capacity. It is possible that this project will not be able to move forward due to lack of available capacity at the Water Reclamation Facility. This project will also be required to comply with our drinking water backflow regulations as well as our Sewer Fats Oil and Grease regulations. Two water feed points for this project will also be required.

West Licking Joint Fire District (Full comments attached)

General comments relating to Fire Code compliance.

Other Departments and Agencies

No other comments were received.

Surrounding Area:

Direction	Zoning	Land Use
North	R-10 – High Density Residential	Heron Manor
East	GB – General Business R-10 – High Density Residential	Vacant Settlement at Pataskala
South	GB – General Business M-1 – Light Manufacturing	Misc. Commercial Misc. Industrial
West	R-10 – High Density Residential GB – General Business	Heron Manor Vacant

Department and Agency Review

- Zoning Inspector – No comments.
- Public Service – See attached.
- City Engineer – No comments.
- GPD – See attached.
- Pataskala Utilities – See attached.
- Police Department – No comments
- West Licking Joint Fire District – See attached
- Southwest Licking School District – No comments

Conditions:

Should the Board choose to approve the applicant's request, the following conditions may be considered:

1. The Applicant shall address all comments from Planning and Zoning Staff, Public Service Director, Pataskala Utilities, GPD, and the West Licking Joint Fire District.
2. The Applicant shall submit the Construction Plans Application within one (1) year of the date of approval.

Resolution:

For your convenience, the following resolution may be considered by the Planning and Zoning Commission when making a motion:

"I move to approve a Transportation Corridor Overlay District Application TCOD-22-002 pursuant to Section 1259.07 of the Pataskala Code ("with the following conditions" if conditions are to be placed on the approval)."



CITY OF PATASKALA PLANNING & ZONING DEPARTMENT

621 West Broad Street, Suite 2A
Pataskala, Ohio 43062

TCOD-22-002 Staff Review

December 7, 2022

General Plan Comments

- ILV on far north side appears to sit directly on line between GB and R-20 zoning.
 - Include dimension for distance from zoning boundary line. Must be on the GB side of it come construction.
- Indicate Zoning District boundaries on the site plan.
- Include property line dimensions.
- “Wetland Boundary” should be revised to “Conservation Tract” to reflect what it is platted as.
- Include a “Notes” section of page 1.
 - Include note for all interior roadways to be private.
- Include widths of interior roadways, radius of eyebrow
- Dimensions of pickleball courts
- Dimensions for sidewalks, front path.
- Identify access types (full access, right-in/right-out). If right-in/right-out, will need a “porkchop” or island in the middle.
- Sign: size and height okay. Need details on illumination (or, if no illumination). There is something marked “Entrance Sign” on plan, but unclear as to actual location. Will need location and dimensions (from R/W, and from adjacent sidewalk). Code minimum is 10’ from R/W. Same thing for southern sign.
 - Signage on building? Will need to know if there is any.
- For the front yard setback: there are several requirements throughout the code, in summary, the following requirements apply and should be shown on the plan as such.
 - The front yard setback, when in the TCOD, shall be based off of the recommend R/W width. That is 60’ off centerline. Include a line showing proposed future R/W on the site plan, and base the proposed setback dimension from that line.
 - The required front yard setback in GB is 50’, show as a line on the site plan from the future R/W.
 - Within that 50’ setback, there is a further 40’ buffer which must be landscaped to the L2 standard.
- With the TCOD Application, it is possible to have certain aspects of the proposal approved as proposed. Essentially granting a deviation from the Pataskala Code, subject to approval of the PZC. Those items identified below which do not meet Pataskala Code but are eligible to be approved as proposed are indicated with “*”.

Chapter 1249 – General Business District

- ~~1249.04 – Conditionally Permitted Uses~~
 - ~~1249.04(17) All conditionally permitted uses as allowed in the PRO and LB Districts.~~
 - ~~1243.04(1): Nursing Homes are a Conditional Use in the PRO zoning district. Therefore, it is also Conditionally Permitted in GB.~~
 - ~~CU-22-004 Approved by BZA on October 11, 2022.~~
- 1249.05 – General Requirements of the GB District
 - 1249.05(A): Maximum building height is 35-feet.
 - Proposed building height exceeds max at 35’-4 11/32”.

- Will need a Variance for this. Height deviations not allowed under TCOD.
- 1249.05(C): Setbacks and Yards
 - *1249.05(C)(1): Front Yard shall be 50' in depth when serviced by central water and sewer.
 - Show front yard setback as dimension from recommended R/W width.
 - Why is dimension from westernmost ILV show at an angle to the rear of the structure? Should be shown from closest point of structure to closest property line.
 - *1249.05(C)(2): Side Yard shall be 35' for buildings, and 25' for paved areas when abutting a residential zoning district.
 - Page 2 of Plans indicates building setback line at an incorrect 25'.
 - *1249.05(C)(3): Rear Yard shall be 35' for buildings, and 25' for paved areas when abutting a residential zoning district.
- 1249.05(D): Maximum lot occupancy of 85% for principal and accessory buildings.
 - Provide lot coverage statistics on Page 1 under Site Data. Undoubtedly will meet the 85% with entire lot, just need the numbers.
- 1249.05(G): All trash and garbage shall be stored in container systems which are located and enclosed so as to effectively screen them from view. Screening of trash and garbage areas shall meet the requirements of Section 1283.06. Container systems shall not be located in front yards.
 - Information on refuse disposal for both types of uses will be needed. Indicate location of dumpster(s) and type of screening for the AL/MC building.
 - Indicate type of refuse disposal for Independent Living Villas. Will each unit have its own trashcan (typical residential trashcans) or will there be a central dumpster location? Indicate as a note on the first page.

Chapter 1259 – Transportation Corridor Overlay District

- 1259.05 – Design Standards
 - 1259.05(A): One or more of the traffic safety measures as defined in 1259.05(A) shall be required in an effort to aid access and traffic management. At the discretion of the Public Service Department.
 - 1259.05(B): The front yard setback shall be based on the recommended right-of-way width as outlined in the Master Thoroughfare Plan.
 - See comment in “General” section above.
 - 1259.05(C): Loading Areas shall be located behind buildings and screen from adjacent unlike uses.
 - 1259.05(D): Storage areas and trash storage receptacles shall be totally enclosed by structures or opaque fences on four sides, screened from adjacent uses, and be located behind building(s).
 - None shown, see comment in Chapter 1249 above.
 - 1259.05(E): New or upgraded utility, cable or other communications lines, and transmission lines located within the TC Overlay District (including those located along the rear property line) shall be located underground
 - Place note on the plans stating as such.
 - 1259.05(F): Sidewalks shall be provided along each developed parcel or upon change in use of an existing developed parcel within the TC Overlay District if a sidewalk does not exist at the time of the development or change in use of the parcel.
 - Along Broad Street this is an 8' wide asphalt path.

- A concrete sidewalk is indicated along the frontage of the AL/MC building, unknown width. This will need to be asphalt and width indicated. No sidewalk shown extending from proposed to the west (Heron Ave). Fee-in-lieu or install.
 - Fee-in-lieu possible.
- 1259.06 – Site Design Submittal Requirements
 - 1259.06(1): Site Plan – Following information must be shown on the plans.
 - 1259.06(1)(a): The boundaries and dimensions of the lot.
 - Boundaries shown, need dimensions. Show dimensions of conservation easement as well, these can be found on the survey.
 - 1259.06(1)(b): Size and location of existing and proposed structures.
 - Please show the exterior dimensions of the AL/MC building on the elevation pages.
 - 1259.06(1)(e): The use of land on adjacent property, within 100 feet of the property line.
 - Put a label on the adjacent Subdivisions for “Heron Manor Phase...” and “Settlement at Pataskala Phase...”
 - 1259.06(2): Development Plan
 - 1259.06(2)(a): All proposed structures shall be located, showing square footage of each structure, expected entrance(s), service, and pedestrian areas.
 - On page 2: Only the ILV’s on the east side of the site are labeled with bedroom numbers. Indicate the remaining.
 - 1259.06(2)(b): Traffic concept: All points of ingress and egress onto public roadways and the overall traffic distribution scheme shall be shown, indicating traffic flow patterns and traffic control points. The requirements for a traffic study and the need for “Traffic Safety Measures” shall be at the discretion of the City Engineer and approved, approved with modifications or disapproved by the Planning and Zoning Commission.
 - Indicate intended traffic flow with arrows.

Chapter 1283 – Landscaping and Screening

- 1283.07 – Application of Landscaping Standards
 - 1283.07(B) for uses within the GB Zoning District:
 - *Front Yard: L2 (any frontage on public R/W)
 - L2 shown along south border of parking to west of AL/MC building. No other perimeter screening shown along frontages.
 - *Side Yard: L3 or L4 if abutting a residential use (west, abutting Heron Manor. East, adjacent to undeveloped portion)
 - West: Mix of low shrubs behind proposed patios, and trees
 - Will not meet L3 or L3 standards.
 - *Rear Yard: L3 or L4 if abutting a residential use (North, along Heron Manor/Settlement of Pataskala)
 - North: Trees behind northernmost structure, no other landscaping provided.
- 1283.06 – Landscaping and Screening Standards
 - 1283.06(3): L2 shall consist of a continuous shrub line, three (3) feet in height with 95% opacity, with one (1) tree per 30 lineal feet.
 - A three (3) foot high mound or wall may be substituted for the shrubs.
 - 1283.06(4): L3 shall consist of a continuous shrub line, six (6) feet in height with 95% opacity (arborvitae), with one (1) tree per 30 lineal feet.
 - A six (6) foot high fence or wall may be substituted for the shrubs.

- 1283.06(5): L4 shall consist of a fence, no less than six (6) feet tall with 100% opacity, plus one (1) tree per 30 lineal feet. In addition, four (4) high shrubs are required per 30 lineal feet of wall.

Chapter 1291 – Parking and Loading

- 1291.03 – Lighting
 - Any nonresidential parking area with ten or more off-street parking spaces and any residential parking area with 20 or more off-street parking spaces shall be illuminated during periods of darkness to provide an average intensity of 1/2 foot candles of light as measured at the parking surface area. All outdoor lighting shall be constant intensity, and shall be directed, reflected, or shielded.
 - Locations and types of lighting required to be shown. Recommend including photometric plan.
 - Independent Living Villas: Will there be streetlights/front yard light posts, lights on the front of buildings/no lighting? Need information.
- 1291.05 – Location of Parking and Loading Spaces
 - *1291.05(A)(4): a 40-foot vegetated zone (landscaped to the L2 standard identified in Chapter 1283) shall be maintained between the street right-of-way-line.
 - See note in “General” above.
- 1291.07 – Parking Spaces for People with Disabilities
 - 1291.07(B): Minimum Dimensions: 11’ x 19’ with a 5’ access aisle on one side.
 - Dimensions not shown.
 - 1291.07(C): All spaces shall be designate in conformance with Ohio Manual of Traffic Control Devices.
 - Add Note.
- 1291.11 – Parking and Loading Space Dimensions
 - Figure 655 – 1: For 79-90 degree angle parking, spaces shall be 9’ x 19’, with a parking space maneuvering (aisle width between opposite parking spaces) of 20’.
 - Parking space dimensions/spacing for AL/MC are OK. Need dimensions/spacing for clubhouse, pickleball courts parking areas.
- 1291.12 – Interior Screening and/or Landscaping
 - 1291.12(B): Interior parking lot landscaping shall conform to one or a mix of the following options:
 - 1291.12(B)(1)(a): Option 1 - Interior landscaping shall be provided at the rate of 20 square feet per stall. At least one tree must be provided for every 200 square feet of landscaped area. Ground cover plants as listed in Chapter 1283 must completely cover the remainder of the landscaped area.
 - 1291.12(B)(1)(b): Option 2 - One tree must be provided for every four parking spaces. The tree planting area must have a minimum dimension of 25 square feet. All island trees shall be protected from potential damage by vehicles.
 - Interior Landscaping provided, but give us some statistics to show compliance with the requirements above. Square footage? Numbers of trees?
- 1291.15 – Width of Access Driveway
 - For two-way entrances: 28-feet
 - Width of East entrance only 23.81-feet.
 - Width of South entrance not shown.

From: [Alan Haines](#)
To: [Jack Kuntzman](#)
Cc: [Antonio Anzalone](#)
Subject: RE: Pataskala PZC Review Memo for 12-07-2022
Date: Tuesday, November 29, 2022 5:36:18 PM
Attachments: [image001.png](#)

Jack,

My comments for the subject PZC hearing are as follows:

1. TCOD-22-002
 - a. Stormwater control
 - i. A stormwater report will need to be submitted as part of the construction plan application process.
 - ii. The site will presumably drain to the existing retention pond adjacent to this property, and the report will need to verify that the existing pond is sized to accommodate the additional load.
 - iii. Some improvements may be needed to the existing pond/outlet structure.
 - b. Existing retention pond is currently on private property
 - i. As part of this development, the existing basin should be deeded to the City for operation and maintenance, as there is not currently an entity having responsibility, nor is there a specific entity that should have responsibility.
 - ii. As part of this process, and for the City to accept responsibility of the pond, clearing, grubbing and grading around the pond is requested to be completed to start fresh and make this a usable and maintainable area.
 - c. Traffic
 - i. Access on Broad St. shall be right-in/right-out only
 - ii. See additional comments from reviewing traffic engineer
 - d. Right-of-way
 - i. Verify existing right-of-way along Broad St. is 60' from the center line. If not, right-of-way should be dedicated to achieve 60' from center line.
2. TCOD-22-003
 - a. Tabled – not reviewed.
3. ZON-22-006
 - a. Stormwater control
 - i. The retention pond layout shown appears as though it should be adequate; however, not that this site drains to headwaters that have low capacity, meaning that during heavy rain events, this area does not drain well.
 - ii. Accordingly, it may be necessary to provide over-retention.
 - iii. A stormwater report will need to be submitted as part of the construction plan application process.
 - b. Traffic
 - i. A left-turn lane should be constructed at the north entrance to the development.
 - ii. Verify that all interior streets are to be, and remain, private.
 - c. ROW
 - i. Verify proposed ROW is 45' from existing centerline of ROW.

Let me know if questions.

Regards,

City of Pataskala, Ohio

Provision Living Traffic Access Study

November 2022

11-29-2022, Review Comments

There are minor edit comments for the appendix and table of contents.

The Recommendations section should include a westbound right turn lane at the Broad Street and RI-RO access drive. In reviewing the site plan, this is the shortest access location for any building in the development.

Scott Seaman, PE



GPD Groups

W. Central Ohio/E. Indiana
440 E. Hoewisher Rd.
Sidney, OH 45365
937.497.0200 Phone

S. Ohio/N. Kentucky
8956 Glendale Milford Rd., Suite 1
Loveland, OH 45140
513.239.8554 Phone

Jack,

Please see below:

ZON-22-006 – Please see the attached letter.

Thanks,

CJ Gilcher
Utilities Superintendent
8718 Gale Road
Hebron, Ohio 43025
Ph: 740-928-2178



From: Jack Kuntzman <jkuntzman@ci.pataskala.oh.us>

Sent: Wednesday, November 9, 2022 10:58 AM

To: Felix Dellibovi <fdellibovi@ci.pataskala.oh.us>; Chris Sharrock <csharrock@ci.pataskala.oh.us>; Scott Haines <shaines@hullinc.com>; Jim Roberts <jroberts@verdantas.com>; Doug White <DWhite@westlickingfire.org>; Kevin Miller <kevin.miller@lhschools.org>; aitken@lhschools.org; kperkins@laca.org; Bruce Brooks <bbrooks@pataskalapolice.net>; Chris Gilcher <cgilcher@swlcws.com>; Alan Haines <ahaines@ci.pataskala.oh.us>; Antonio Anzalone <aanzalone@ci.pataskala.oh.us>

Cc: Lisa Paxton <lpaxton@ci.pataskala.oh.us>; Scott Fulton <sfulton@ci.pataskala.oh.us>

Subject: Pataskala PZC Review Memo for 12-07-2022

Good Morning Everyone,

You are receiving this email because one or more of the Application(s) submitted for the **December 7, 2022**, Planning and Zoning Commission are within your jurisdiction. Please see the list below for which Applications are being submitted for your review.

TCOD-22-002: Felix Dellibovi, Chris Sharrock, Verdantas, Bruce Brooks, Doug White, Kasey Perkins, Alan Haines

This project will put a very large burden on our sanitary sewer system. It is possible that this concept will require an upgrade to the Settlement Lift Station which will be funded by the developer. The Water Reclamation Facility is also extremely limited on available capacity. It is possible that this

project will not be able to move forward due to lack of available capacity at the Water Reclamation Facility. This project will also be required to comply with our drinking water backflow regulations as well as our Sewer Fats Oil and Grease regulations. Two water feed points for this project will also be required.

TCOD-22-003: Felix Dellibovi, Chris Sharrock, Verdantas, Bruce Brooks, Doug White, Kasey Perkins, Alan Haines

The screening along the northern property line that lies in the Utility Easement should be kept to a minimum. Items placed in the easement will be removed without replacement should the Utility Department need to access its infrastructure in said easement. Minimal screening in the easement allows for quicker response time to water and sewer emergencies.

ZON-22-006: Felix Dellibovi, Verdantas, Doug White, Kevin Miller, CJ Gilcher, Alan Haines

Please review the applications, and if you have any comments or concerns regarding them they may be submitted to me in writing no later than Monday, November 28th.

And if you have any questions about the Applications themselves, feel free to contact me.

Here is a link to download the review memo:

 [PZC Review Memo for 12-07-2022](#)

Respectfully,

JACK R. KUNTZMAN

City Planner

City of Pataskala

621 West Broad Street, Suite 2-A

Pataskala, Ohio 43062

Phone: 740-964-1316



WEST LICKING JOINT FIRE DISTRICT

www.westlickingfire.org

District Headquarters

851 East Broad Street
Pataskala, Ohio 43062
740-927-8600 [Office]
740-964-6621 [Fax]
www.westlickingfire.org

November 21, 2022

Subject: PVL Investments 200 W Broad St.

Jack,

The West Licking Fire District has reviewed the plans for PVL Investments and we have the following comments.

- 1) Fire hydrants located in a residential area shall be installed every 500'.
- 2) All fire hydrants on a private system shall have the bonnet of the hydrant painted blue.
This comment shall be added to the detail page of the construction plans.
- 3) Each project shall provide 1 spare "screw on" type Stortz fitting for every (5) private fire hydrant installed on the water line to be used at the discretion of the Fire District. They shall be delivered to the Fire District prior to the final acceptance of the project.
This comment shall be added to the detail page of the construction plans.
- 4) All fire hydrants shall have: One (1) 5" Stortz connection / Two (2) 2.5" hose connections. **This comment shall be added to the detail page of the construction plans.**
- 5) Per the Fire Districts regulations section J note (b): All fire hydrants shall be installed every 300' in commercial districts and out of the collapse zone. i.e. 1 ½ times the height of the building.
- 6) All threads provided for the FDC's shall be a 5" Stortz fitting with a 30 degree angle towards the ground and at a height of 36" off of finish grade. **This comment shall be added to the detail page of the construction plans.**
- 7) The Fire District requires that the FDC for the assistance living facility shall be installed in a remote location.
- 8) Per the Fire Districts regulations section K note c: the FDC shall be installed within 40' of a fire hydrant. **This comment shall be added to the detail page of the construction plans.**
- 9) The FDC shall be marked with a red aluminum sign, 18" in height and 24" wide. The sign shall have white letters reading "FDC" that are 6" in height and 1" stroke width.
This comment shall be added to the detail page of the construction plans.
- 10) The water line shall be a minimum of 6" diameter line from the 5" Stortz fitting to the sprinkler riser. **This comment shall be added to the detail page of the construction plans.**
- 11) All fire hydrants, PIV's and FDC's that are in areas subject to vehicular traffic, impact bollards shall be installed per the 2017 edition of the Ohio Fire Code section 312 guidelines. **This comment shall be added to the detail page of the construction plans.**

WEST LICKING JOINT FIRE DISTRICT

www.westlickingfire.org

- 12) FDC's shall be painted fire protection red. **This comment shall be added to the detail page of the construction plans.**
- 13) The following requirements are in addition to NFPA 24, and the Water Department jurisdiction that work is to be performed. Installation requirements: All clamps, rods, rod couplings or turnbuckles, bolts, washers and straps used below ground level shall be stainless steel. **This comment shall be added to the detail page of the construction plans.**
- 14) The Fire Districts Fire Code Official shall inspect all fire line material prior to it being installed in the ground. **This comment shall be added to the detail page of the construction plans.**
- 15) The State Fire Marshal's State fire inspectors shall be notified for all inspections, testing and life safety finals that involve fire protection systems. i.e.: underground fire line, sprinkler systems and fire alarm and any hydro tests for the fire protection systems.
- 16) Where access to or within a structure or an area is restricted because of secured openings or where immediate access for life-saving or firefighting purposes, the Fire Code Official is authorized to require a key box to be installed in an approved location. The key box shall be of an approved type listed per the Fire Districts regulations section G.
- 17) The Fire Districts permit application shall be filled out and permit fees paid in full prior to the start of construction.
- 18) The Fire District requires a 48 hour notice for any inspections and testing.
- 19) The Fire District's regulations can be found on our website at westlickingfire.org

This concludes our comments at this time. If you have any questions please feel free to contact me.

Regards,

Doug White
dwhite@westlickingfire.org
Fire Marshal
West Licking Fire District
851 E. Broad St.
Pataskala Oh 43062
Office Phone # 740-927-3046 Opt. 2
Westlickingfire.org

WEST LICKING JOINT FIRE DISTRICT

www.westlickingfire.org





CITY OF PATASKALA PLANNING AND ZONING COMMISSION

City Hall, Council Chambers
621 West Broad Street
Pataskala, Ohio 43062

TRANSPORTATION CORRIDOR OVERLAY DISTRICT APPLICATION

(Pataskala Codified Ordinances Chapter 1259)

Property Information	
Address: E Broad Street, Pataskala OH 43062 <i>200 W Broad ST</i>	
Parcel Number: 064-307692-00.000	
Zoning: GB + R10	Acres: 53.3
Water Supply:	
<input checked="" type="checkbox"/> City of Pataskala	<input type="checkbox"/> South West Licking <input type="checkbox"/> On Site
Wastewater Treatment:	
<input checked="" type="checkbox"/> City of Pataskala	<input type="checkbox"/> South West Licking <input type="checkbox"/> On Site

Applicant Information		
Name: PVL Investments, LLC		
Address: 1630 Des Peres Road, Suite 310		
City: St. Louis	State: MO	Zip: 63131
Phone: 314-328-0519	Email: dbaylis@rangecap.com	

Property Owner Information		
Name: P & G PATASKALA LTD		
Address: P.O. Box 3500		
City: Newark	State: OH	Zip: 43058
Phone: (740) 349-3798	Email: thomas.cumiskey@parknationalbank.com	

Staff Use
Application Number: <i>TCUD-22-002</i>
Fee: <i>300/2500</i>
Filing Date: <i>11-4-22</i>
Hearing Date: <i>12-7-22</i>
Receipt Number: <i>000922/21920</i>

Documents
<input checked="" type="checkbox"/> Application
<input checked="" type="checkbox"/> Fee
<input checked="" type="checkbox"/> Site Plan
<input checked="" type="checkbox"/> Development Plan
<input checked="" type="checkbox"/> Deed
<input checked="" type="checkbox"/> Area Map

Transportation Corridor Overlay District Information
Describe the Project:
Construction of the Phase 1 portion of the 53 acre Development (+/-12.5 Acres) which includes a +/-65,000 SF, 75 unit two-story Assisted Living Facility with accompanying Independent Living Villas (24 One-Bed and 37 Two-Bed Units).
The independent living community will also have their own dedicated clubhouse as well as the campus boasts walking paths throughout with pickleball courts towards the northern end. This development plans to preserve the wooded wetlands area, which promotes great scenery and privacy for future residents.

Documents to Submit

Transportation Corridor Overlay District Application: Submit one (1) copy of the Transportation Corridor Overlay District application.

Site Plan: Submit one (1) copy (unless otherwise directed by staff) of a site plan to scale including the following:

- The boundaries and dimensions of the lot.
- The size and location of existing and proposed structures.
- The proposed use of all parts of the lot and structures.
- All reserve parcels and anticipated development phases.
- The use of land and location of structures on adjacent property within 100 feet of the property line.
- Existing trees that are six (6) inches or greater in diameter measured five (5) feet above the ground located within the setback.

Development Plan: Submit one (1) copy (unless staff requests additional) of a development plan including the following:

- Structures: All proposed structures shall be located, showing square footage for each structure, expected entrance(s), service, and pedestrian areas for each phase of the development.
- Traffic concept: All points of ingress and egress onto public roadways and the overall traffic distribution scheme shall be shown, indicating traffic flow patterns and traffic control points. The requirements for a traffic study and the need for "Traffic Safety Measures" shall be at the discretion of the City Engineer and approved, approved with modifications or disapproved by the Planning and Zoning Commission.
- Parking layout: A parking layout must be shown to include access points and expected movement for all transportation modes through and between separate parking lot areas and expected pedestrian access routes from parking areas and bus stops to structures.
- Landscaping: All proposed site landscaping, screening, and buffering shall be indicated as to type and size of material to be used, proposed locations, berming and other features in accordance with Section 1259.05(G).
- Proposed location, dimensions, and design of signs.
- Elevations of proposed structures or expansion of existing structures including dimensions and materials.

Deed: Provide a copy of the deed for the property with any deed restrictions. Deeds can be obtained at www.lcounty.com/rec.

Area Map: Submit one (1) copy of an area map from the Licking County Engineer's office showing the property and surrounding area. Area maps can be obtained at www.lcounty.com/taxparcelviewer/default.

Signatures

I certify the facts, statements and information provided on and attached to this application are true and correct to the best of my knowledge. Also, I authorize City of Pataskala staff to conduct site visits and photograph the property as necessary as it pertains to this Transportation Corridor Overlay District request.

Applicant (required):



Date:

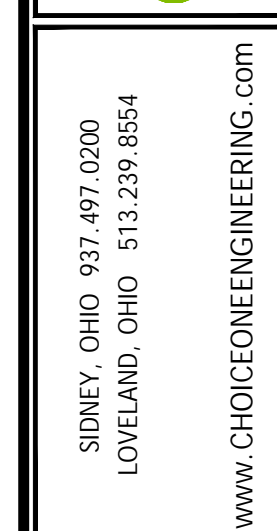
11/3/22

Property Owner (required):



Date:

11/3/22



REVISIONS:
FILE NAME OVERALL
DRAWN BY JLH
CHECKED BY MLS
PROJECT No. LICPAT2201
DATE 09/13/2022
SHEET NUMBER 1 OF 6

SITE DATA:

TOTAL SITE: 53.3 AC.

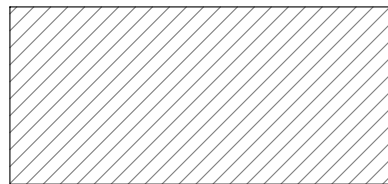
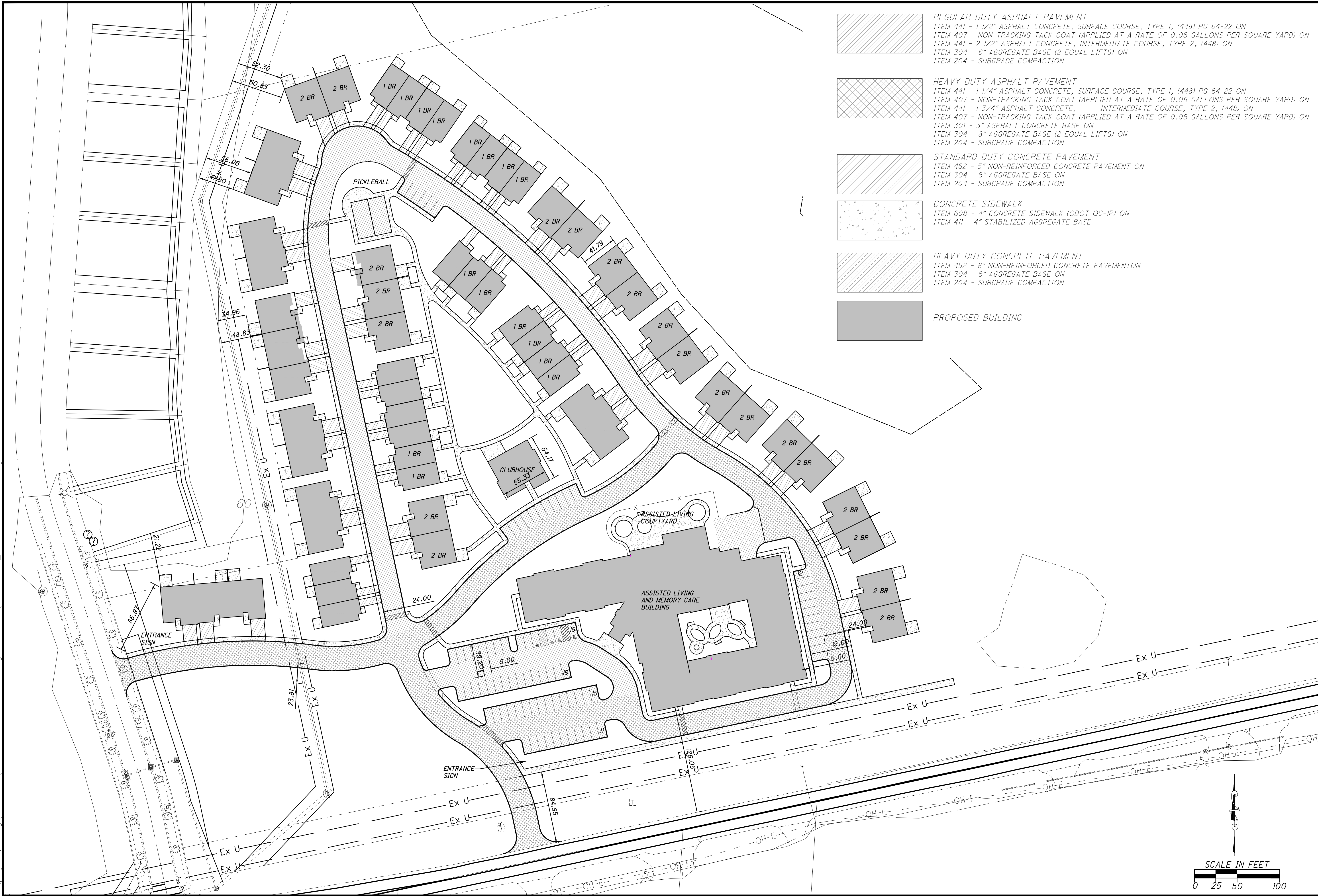
AL/MC BUILDING: 66,000 SF
75 UNITS

IL VILLAS:
(37) 1,770 SF - 2 BR VILLAS
(24) 1,190 SF - 1 BR VILLAS
TOTAL: 61 UNITS

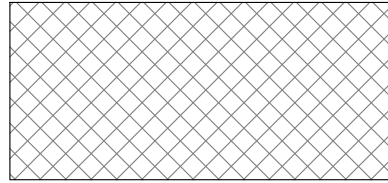
IL VILLA AMENITIES:
(1) 2,715 SF CLUBHOUSE
(2) PICKLEBALL COURTS

PARKING: 74 SPACES
INCLUDING 4 ADA

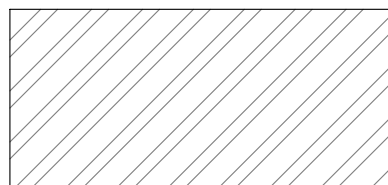
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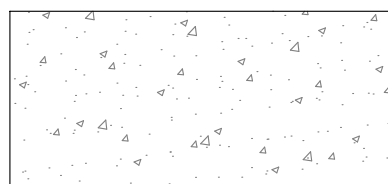
REGULAR DUTY ASPHALT PAVEMENT
ITEM 441 - 1 1/2" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, (448) PG 64-22 ON
ITEM 407 - NON-TRACKING TACK COAT (APPLIED AT A RATE OF 0.06 GALLONS PER SQUARE YARD) ON
ITEM 441 - 2 1/2" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, (448) ON
ITEM 304 - 6" AGGREGATE BASE (2 EQUAL LIFTS) ON
ITEM 204 - SUBGRADE COMPACTION



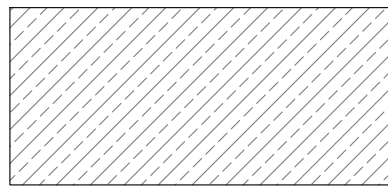
HEAVY DUTY ASPHALT PAVEMENT
ITEM 441 - 1 1/4" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, (448) PG 64-22 ON
ITEM 407 - NON-TRACKING TACK COAT (APPLIED AT A RATE OF 0.06 GALLONS PER SQUARE YARD) ON
ITEM 441 - 1 3/4" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, (448) ON
ITEM 407 - NON-TRACKING TACK COAT (APPLIED AT A RATE OF 0.06 GALLONS PER SQUARE YARD) ON
ITEM 301 - 3" ASPHALT CONCRETE BASE ON
ITEM 304 - 8" AGGREGATE BASE (2 EQUAL LIFTS) ON
ITEM 204 - SUBGRADE COMPACTION



STANDARD DUTY CONCRETE PAVEMENT
ITEM 452 - 5" NON-REINFORCED CONCRETE PAVEMENT ON
ITEM 304 - 6" AGGREGATE BASE ON
ITEM 204 - SUBGRADE COMPACTION



CONCRETE SIDEWALK
ITEM 608 - 4" CONCRETE SIDEWALK (ODOT QC-IP) ON
ITEM 411 - 4" STABILIZED AGGREGATE BASE



HEAVY DUTY CONCRETE PAVEMENT
ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT ON
ITEM 304 - 6" AGGREGATE BASE ON
ITEM 204 - SUBGRADE COMPACTION



PROPOSED BUILDING

PROVISION LIVING
CITY OF PATASKALA
DEVELOPMENT PLAN

REVISIONS:

FILE NAME

DIMENSION

DRAWN BY

JLH

CHECKED BY

MLS

PROJECT No.

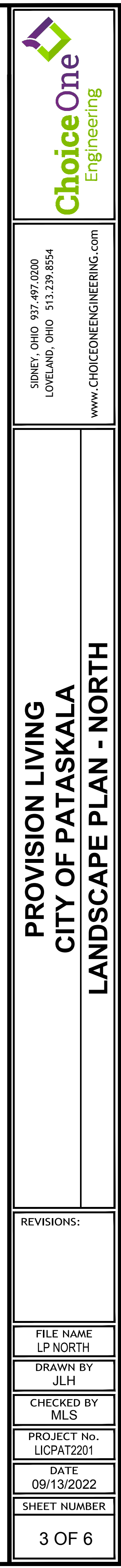
LICPAT2201

DATE

09/13/2022

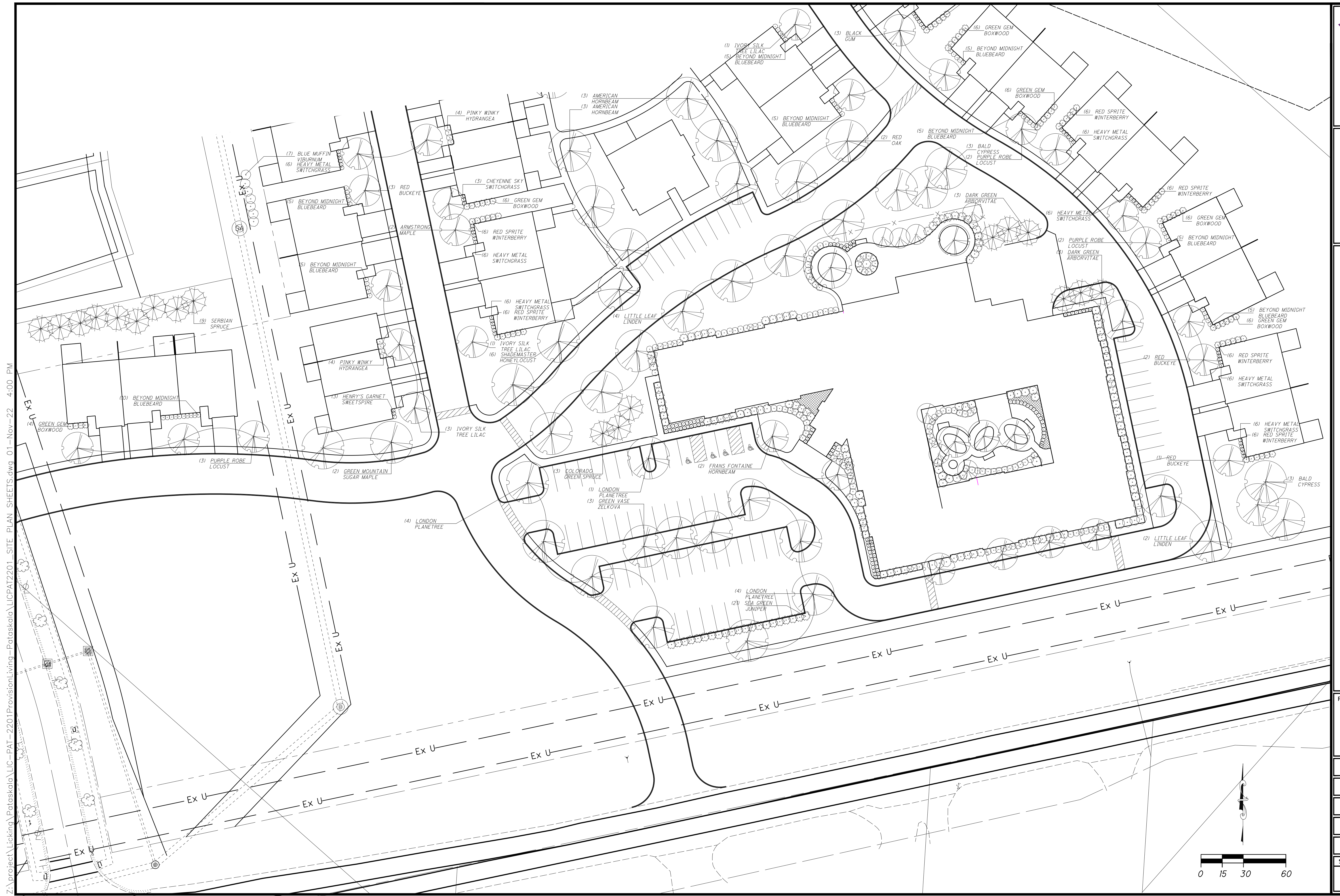
SHEET NUMBER

2 OF 6

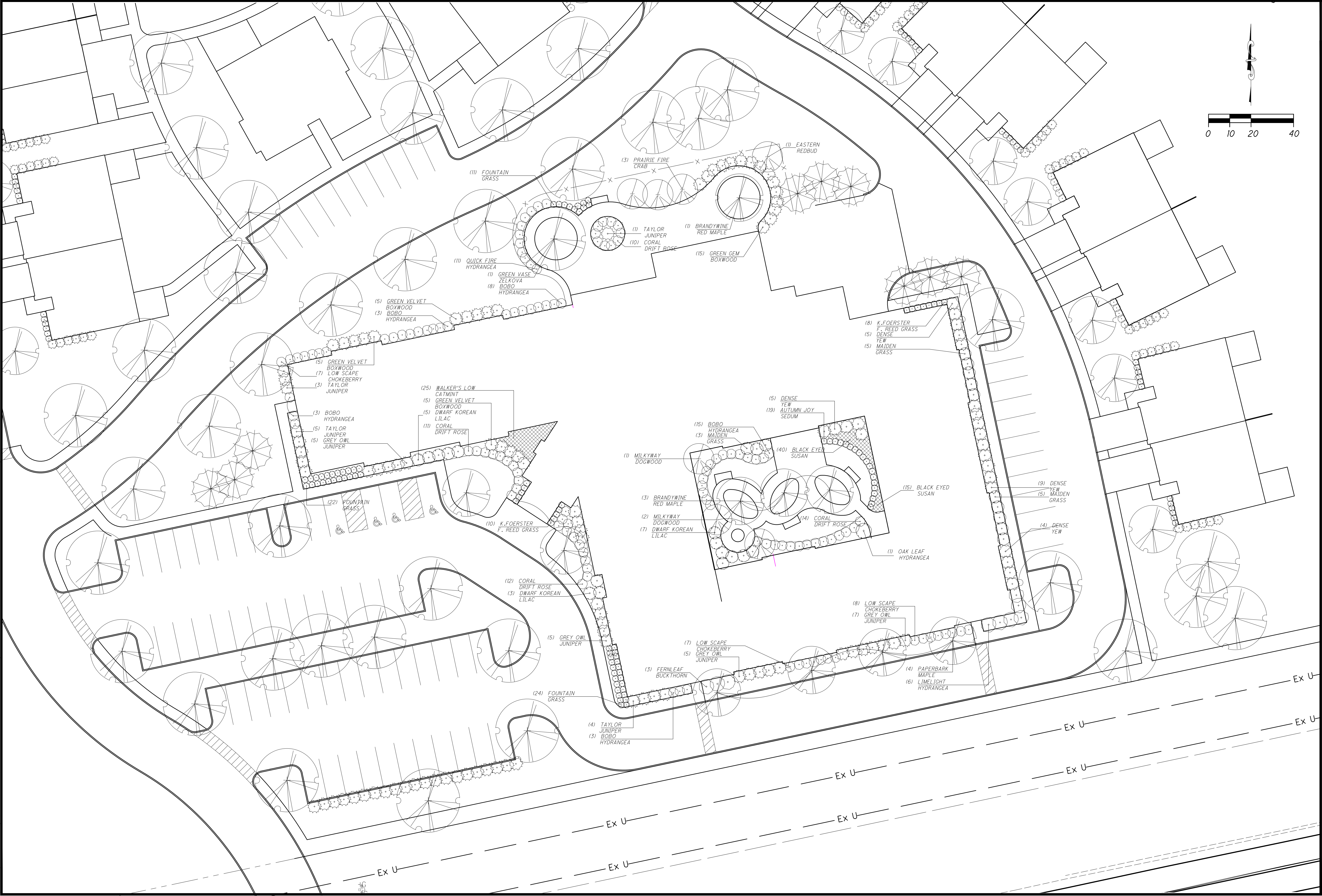



**PROVISION LIVING
CITY OF PATASKALA
LANDSCAPE PLAN - SOUTH**

REVISIONS:
FILE NAME LP SOUTH
DRAWN BY JLH
CHECKED BY MLS
PROJECT No. LICPAT2201
DATE 09/13/2022
SHEET NUMBER 4 OF 6



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SIDNEY, OHIO 937.497.0000
LOVELAND, OHIO 513.239.8554
WWW.CHOICEONEENGINEERING.COM

**PROVISION LIVING
CITY OF PATASKALA
LANDSCAPE PLAN - BLDG**

REVISIONS:
FILE NAME LP BLDG
DRAWN BY JLH
CHECKED BY MLS
PROJECT No. LICPAT2201
DATE 09/13/2022
SHEET NUMBER 5 OF 6

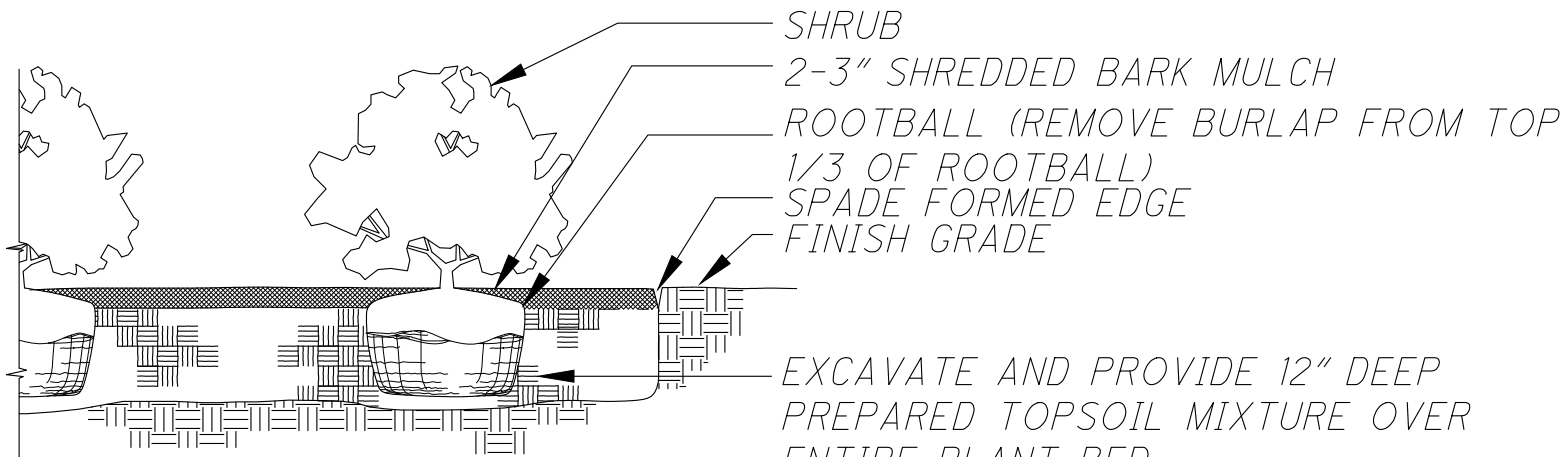
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PLANTING SCHEDULE

QTY.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT
TREES				
5	NORWAY SPRUCE	PICEA ABIES	7' HGT.	B&B
9	SERBIAN SPRUCE	PICEA OMORIKA	7' HGT.	B&B
2	AUTUMN BRILLIANCE SERVICEBERRY	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	2" CAL.	B&B
6	AMERICAN HORNBEAM	CARPINUS CAROLINIANA	2" CAL.	B&B
3	CHINKAPIN OAK	QERCUS MUEHLENBERGII	2" CAL.	B&B
10	RED BUCKEYE	AESCULUS PAVIA	2" CAL.	B&B
11	LITTLE LEAF LINDEN	TILIA CORDATA	2" CAL.	B&B
6	DARK GREEN ARBORVITAE	THUJA O. 'NIGRA'	7' HGT.	B&B
12	ALLEGHENY SERVICEBERRY	AMELANCHIER LAEVIS	12' HGT.	B&B
6	SHADEMASTER HONEYLOCUST	GLEDITSIA T. I. 'SHADEMASTER'	2" CAL.	B&B
5	WHITE FIR	ABIES CONCOLOR	7' HGT.	B&B
11	PURPLE ROBE LOCUST	ROBINIA P. 'PURPLE ROBE'	2" CAL.	B&B
3	EASTERN WHITE PINE	PINUS STROBUS	7' HGT.	B&B
6	AMSTRONG MAPLE	ACER RUBRUM 'ARMSTRONG'	2" CAL.	B&B
9	BALD CYPRESS	TAXODIUM DISTICHUM	2" CAL.	B&B
10	IVORY SILK TREE LILAC	SYRINGA RETICULATA	7' HGT.	B&B
8	KATSURA TREE	CERCIDIPHYLLUM JAPONICUM	2" CAL.	B&B
6	BLACK GUM	NYSSA SYLVATICA	2" CAL.	B&B
6	AUTUMN BLAZE RED MAPLE	ACER RUBRUM 'AUTUMN BLAZE'	2" CAL.	B&B
9	LONDON PLANETREE	PLATANUS ACERIFOLIA	2" CAL.	B&B
2	FRANS FONTAINE HORNBEAM	CARPINUS BETULUS 'FRANS FONTAINE'	2" CAL.	B&B
3	GREEN VASE ZELKOVA	ZELKOVA 'GREEN VASE'	2" CAL.	B&B
3	COLORADO GREEN SPRUCE	PICEA PUNGENS	7' HGT.	B&B
2	GREEN MOUNTAIN SUGAR MAPLE	ACER SACCHARUM 'GREEN MOUNTAIN'	2" CAL.	B&B
2	RED OAK	QUERCUS RUBRA	2" CAL.	B&B
SHRUBS				
5	LIMELIGHT HYDRANGEA	HYDRANGEA P. LIMELIGHT'	24" SPR.	NO. 7 CONT.
28	PINKY WINKY HYDRANGEA	HYDRANGEA P. 'PINKY WINKY'	24" SPR.	NO. 7 CONT.
62	RED SPRITE WINTERBERRY	ILEX VERTICILLATA 'RED SPRITE'	18" SPR.	NO. 5 CONT.
74	GREEN GEM BOXWOOD	BUXUS 'GREEN GEM'	24" SPR.	B&B
12	VIKING CHOKEBERRY	ARONIA MELANOCARPA 'VIKING'	48" SPR.	B&B
14	BLUE MUFFIN VIBURNUM	VIBURNUM DENTATUM 'CHRISTOM'	48" SPR.	B&B
21	SEA GREEN JUNIPER	JUNIPERUS CH. 'SEA GREEN'	24" SPR.	B&B
80	BEYOND MIDNIGHT CARYOPTERIS	CARYOPTERIS X CLANDONENSIS	18" Spr.	B&B
12	HENRY'S GARNET SWEETSPIRE	ITEA VIRGINICA	18" SPR.	NO. 3 CONT.
GROUNDCOVER / GRASSES				
96	HEAVY METAL SWITCHGRASS	PANICUM VIRGATUM 'HEAVY METAL'	CLUMP	NO. 3 CONT.
6	CHEYENNE SKY SWITCHGRASS	PANICUM VIRGATUM 'CHEYENNE SKY'	CLUMP	NO. 3 CONT.

PLANTING SCHEDULE- BUILDING

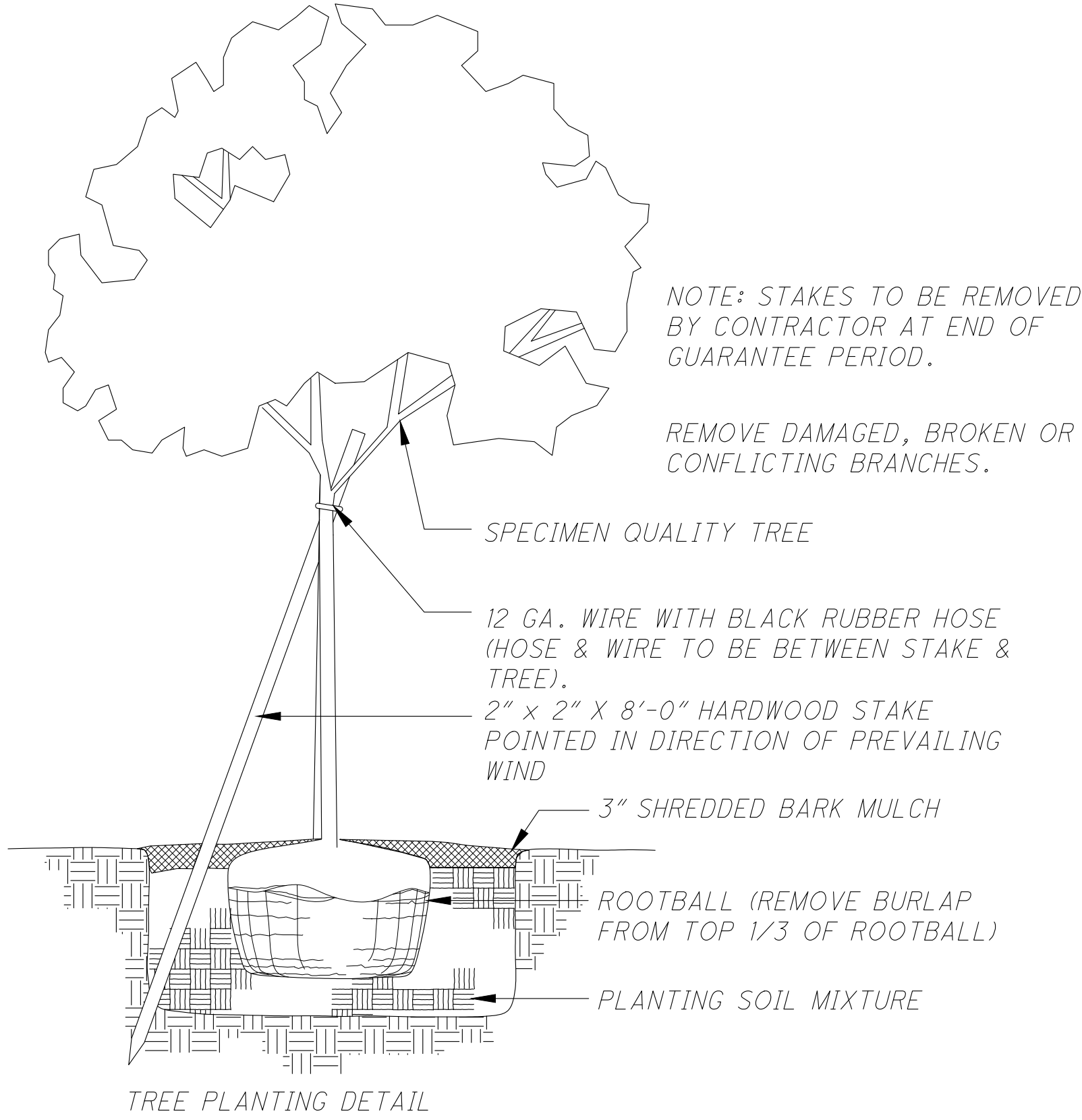
QTY.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT
TREES				
1	EASTERN REDBUD	CERCIS CANADENSIS	2" CAL.	B&B
4	BRANDYWINE RED MAPLE	ACER RUBRUM 'BRANDYWINE'	2" CAL.	B&B
3	PRAIRIE FIRE CRAB	MALUS 'PRAIRIE FIRE'	2" CAL.	B&B
1	GREEN VASE ZELKOVA	ZELKOVA SERRATA 'GREEN VASE'	2" CAL.	B&B
4	PAPERBARK MAPLE	ACER GRISEUM	2" CAL.	B&B
3	MILKYWAY DOGWOOD	CORNUS KOUSA	2" CAL.	B&B
SHRUBS				
6	LIMELIGHT HYDRANGEA	HYDRANGEA P. LIMELIGHT'	24" SPR.	NO. 7 CONT.
9	TAYLOR JUNIPER	JUNIPERUS V. 'TAYLOR'	6' HGT.	B&B
47	CORAL DRIFT ROSE	ROSA 'MEIDRIFORA'	18" SPR.	NO. 3 CONT.
15	GREEN GEM BOXWOOD	BUXUS 'GREEN GEM'	24" SPR.	B&B
11	QUICK FIRE HYDRANGEA	HYDRANGEA P. 'QUICK FIRE'	24" SPR.	NO. 5 CONT.
32	BOBO HYDRANGEA	HYDRANGEA P. 'BOBO'	24" SPR.	NO. 5 CONT.
15	GREEN VELVET BOXWOOD	BUXUS X 'GREEN VELVET'	24" SPR.	B&B
29	LOWSCAPE CHOKEBERRY	ARONIA MELANOCARPA 'UCONNAMI65'	18" Spr.	NO. 3 CONT.
22	GREY OWL JUNIPER	JUNIPERUS V. 'GREY OWL'	18" SPR.	NO. 3 CONT.
15	DWARF KOREAN LILAC	SYRINGA MEYERI 'PALIBIN'	24" SPR.	NO. 5 CONT.
3	FERNLEAF BUCKTHORN	RHAMNUS FRANGULA 'ASPLENIFOLIA'	3' HGT.	NO. 5 CONT.
1	OAKLEAF HYDRANGEA	HYDRANGEA QUERCIFOLIA	24" SPR.	B&B
23	DENSE YEW	TAXUS DENSIFORMIS	18" Spr.	NO. 3 CONT.
GROUNDCOVER / GRASSES				
57	FOUNTAIN GRASS	PENNISETUM ALOPECUROIDES	CLUMP	NO. 3 CONT.
18	KARL FOERSTER FEATHER REED GRASS	CALAMAGROSTIS ACUTIFLORA	CLUMP	NO. 3 CONT.
13	MAIDEN GRASS	MISCANTHUS	CLUMP	NO. 3 CONT.
25	WALKER'S LOW CATMINT	NEPETA X FAASENII 'WALKER'S LOW'	CLUMP	NO. 1 CONT.
55	BLACK EYED SUSAN	RUDBECKIA	CLUMP	NO. 1 CONT.
19	AUTUMN JOY SEDUM	SEDUM 'AUTUMN JOY'	CLUMP	NO. 1 CONT.



NOTE: MULCH ENTIRE PLANT BED. SEE PLANS FOR LIMITS OF PLANT BEDS

REMOVE DAMAGED, BROKEN OR CONFLICTING BRANCHES.

SHRUB PLANTING DETAIL



INSTALLATION NOTES

- IF NOT READILY APPARENT, LOCATE ROOT FLARE BY REMOVING TWINE, BURLAP, AND EXCESS SOIL.
- DIG TREE HOLE AT LEAST TWO TIMES WIDER THAN THE TREE BALL, WITH SIDES SLOPED TO AN UNEXCAVATED OR FIRM BASE. DIG HOLE TO A DEPTH SO THE LOCATED ROOT FLARE, AT THE FIRST ORDER LATERAL ROOT, WILL BE AT FINISHED GRADE.
- LIFT ONLY FROM THE BOTTOM OF THE ROOT BALL, POSITION TREE ON FIRM PAD SO THAT IT IS STRAIGHT AND TOP OF ROOT FLARE IS LEVEL WITH THE SURROUNDING SOIL.
- REMOVE ALL TWINE FROM THE ROOT BALL. IF PRESENT, REMOVE AND DISCARD AT LEAST THE TOP ONE HALF OF THE WIRE BASKET. BURLAP SHALL BE REMOVED FROM THE TOP TO A POINT HALFWAY DOWN THE ROOT BALL AND DISCARDED.
- WITH CLEAN, SHARP PRUNING TOOLS, PRUNE OFF ANY SECONDARY/ADVENTITIOUS, GIRDLING, AND POTENTIAL GIRDLING ROOTS.
- MULCH THE ENTIRE PLANTING SURFACE WITH MULCH APPLIED NO LESS THAN TWO INCHES DEEP AND NO MORE THAN THREE INCHES DEEP, LEAVING THREE INCHES ADJACENT TO THE TREE TRUNK FREE OF MULCH.
- SPECIES AND SIZE IDENTIFIED IN PLANT SCHEDULE, GROWN IN CLIMATIC CONDITIONS SIMILAR TO THOSE IN LOCALITY OF THE WORK.
- PROVIDE HEALTHY, SOUND, VIGOROUS PLANT MATERIALS, FREE FROM PLANT DISEASES, INSPECT PESTS, HEALTHY WELL-DEVELOPED ROOT SYSTEMS, FRESHLY DUG, NURSERY GROWN, WELL-BRANCHED, DENSELY FOLIATED WHEN IN LEAF AND WELL-PROPORTIONED, PARTICULARLY WITH RESPECT TO THE WIDTH-HEIGHT RELATIONSHIP.
- DAMAGED OR BROKEN BRANCHES, BROKEN BALL AND LOOSE TOP BALL ARE.
- SET PLANTS IN CENTER OF HOLE, PLUMB AND STRAIGHT. REMOVE 1/3 TOP OF BURLAP (IF APPLICABLE).
- SATURATE SOIL WITH WATER WHEN THE HOLE IS HALF FULL OF TOPSOIL AND AGAIN WHEN FULL.
- DO NOT INSTALL PLANT LIFE WHEN AMBIENT TEMPERATURES MAY DROP BELOW 35 DEGREES F OR RISE ABOVE 90 DEGREES F.

GENERAL NOTES

- PRIOR TO INSTALLATION, THE LANDSCAPE CONTRACTOR SHALL INSPECT THE GENERAL SITE CONDITIONS AND VERIFY THE SUBGRADE, ELEVATIONS, UTILITY LOCATIONS AND TOPSOIL PROVIDED BY GENERAL CONTRACTOR. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY UNSATISFACTORY CONDITIONS AND WORK SHALL NOT PROCEED UNTIL SUCH CONDITIONS HAVE BEEN CORRECTED AND ARE ACCEPTABLE TO THE LANDSCAPE CONTRACTOR.
- SUBSTITUTIONS SHALL BE PERMITTED WITH NOTIFICATION AND WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT. SUBSTITUTED MATERIAL SHALL BE EQUIVALENT OR GREATER IN SIZE THAN THE SPECIFIED PLANT. SUBSTITUTED PLANTS SHALL HAVE THE SAME ESSENTIAL CHARACTERISTICS AND GROWTH HABIT OF THE SPECIFIED PLANT.
- CONFIRM LOCATION OF ALL UTILITIES AND SUBSURFACE DRAIN LINES PRIOR TO PLANT INSTALLATION.
- CONTRACTOR MAY SLIGHTLY FIELD ADJUST PLANT LOCATIONS AS NECESSARY TO AVOID UTILITIES. FINISHED PLANTING BEDS SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE.
- CONTRACTOR SHALL REPAIR ALL LAWN AREAS DISTURBED DURING CONSTRUCTION WITH SEED AND WARRANT A HEALTHY, WEED FREE LAWN PRIOR TO PROJECT ACCEPTANCE.
- SEED ALL AREAS WITHIN CONTRACT LIMITS THAT ARE NOT COVERED BY PAVING, BUILDINGS OR PLANTING BEDS UNLESS OTHERWISE NOTED. SEEDING SHALL NOT BEGIN UNTIL AREA HAS RECEIVED TOPSOIL AND FINISHED GRADE.
- MULCH PLANTING BEDS WITH SHREDDED HARDWOOD MULCH OF UNIFORM DARK BROWN COLOR. IT SHALL BE FREE OF TWIGS, LEAVES DISEASE, PEST OR OTHER MATERIAL UNSIGHTLY OR INJURIOUS TO PLANTS. AVERAGE APPLIED THICKNESS SHALL BE 3" DEPTH. MULCH HEDGES IN A CONTINUOUS BED.
- BED EDGE SHALL BE SMOOTH, CONSISTENT, HAND TRENCHED 6" DEEP AND "V" SHAPED UNLESS OTHERWISE NOTED. ALL EXCAVATED MATERIAL SHALL BE REMOVED FROM THE BED EDGE AND PLANTING BED.
- ALL PLANTING BED EDGES TO BE SMOOTH FLOWING ARCS OR STRAIGHT LINES AS SHOWN ON PLAN.
- INSTALL ALL PLANTS IN ACCORDANCE WITH PLANING DETAILS AND SPECIFICATIONS.
- PARKING LOT AND STREET TREES SHALL HAVE A CLEAR CANOPY HEIGHT OF 6' MIN.
- TREE SHALL BE PLACED A MINIMUM OF 3' FROM SIDEWALKS AND CURBS.
- LAWN AREAS TO BE BACKFILLED WITH TOPSOIL TO A MINIMUM SETTLED THICKNESS OF 6 INCHES.
- CONTRACTOR TO DETERMINE PLANT LIST QUANTITIES FROM THE PLAN. GRAPHIC REPRESENTATION ON PLAN SUPERSEDES IN CASE OF DISCREPANCY WITH QUANTITIES ON SCHEDULE.
- CONTRACTOR SHALL THOROUGHLY WATER ALL PLANTS AT TIME OF INSTALLATION AND AS NEEDED UNTIL PROJECT ACCEPTANCE BY OWNER. CONTRACTOR SHALL GUARANTEE ALL PLANTS INSTALLED FOR ONE FULL YEAR FROM DATE OF ACCEPTANCE BY THE OWNER. ALL PLANTS SHALL BE ALIVE AND AT A VIGOROUS RATE OF GROWTH AT THE END OF GUARANTEE PERIOD.



SIDNEY, OHIO 937.497.0200
LOVELAND, OHIO 513.299.8554
WWW.CHOICEONEENGINEERING.COM

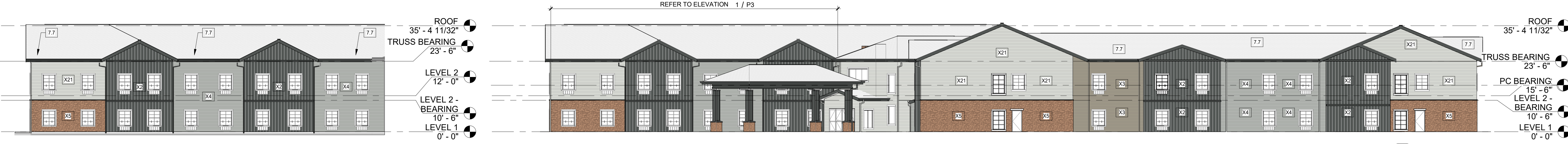
PROVISION LIVING
CITY OF PATASKALA
LANDSCAPE PLAN - NOTES

REVISIONS:

FILE NAME
LP NOTES
DRAWN BY
JLH
CHECKED BY
MLS
PROJECT No.
LICPAT2201
DATE
09/13/2022
SHEET NUMBER
6 OF 6

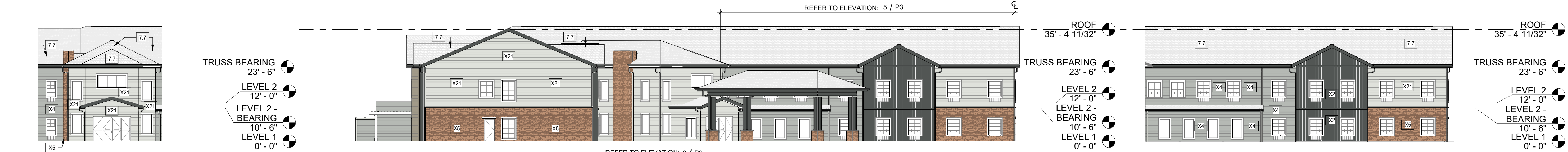
PROVISION LIVING PATASKALA | PATASKALA, OHIO 43062

PROJECT NUMBER: GAP1042 DATE: 10.31.2022



1 EXTERIOR ELEVATION - WING 'B'

2 EXTERIOR ELEVATION - SOUTH



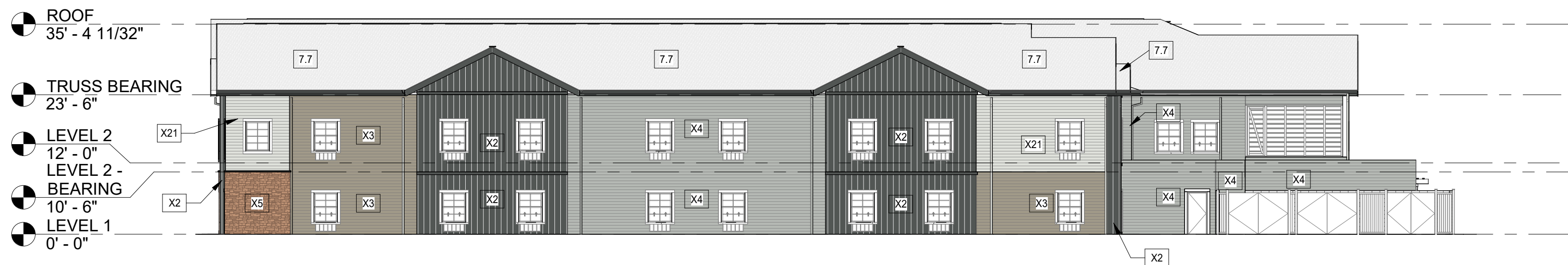
3 EXT. ELEV. @ ENTRY

4 EXTERIOR ELEVATION - WEST

5 EXT. ELEV. @ WING 'C'

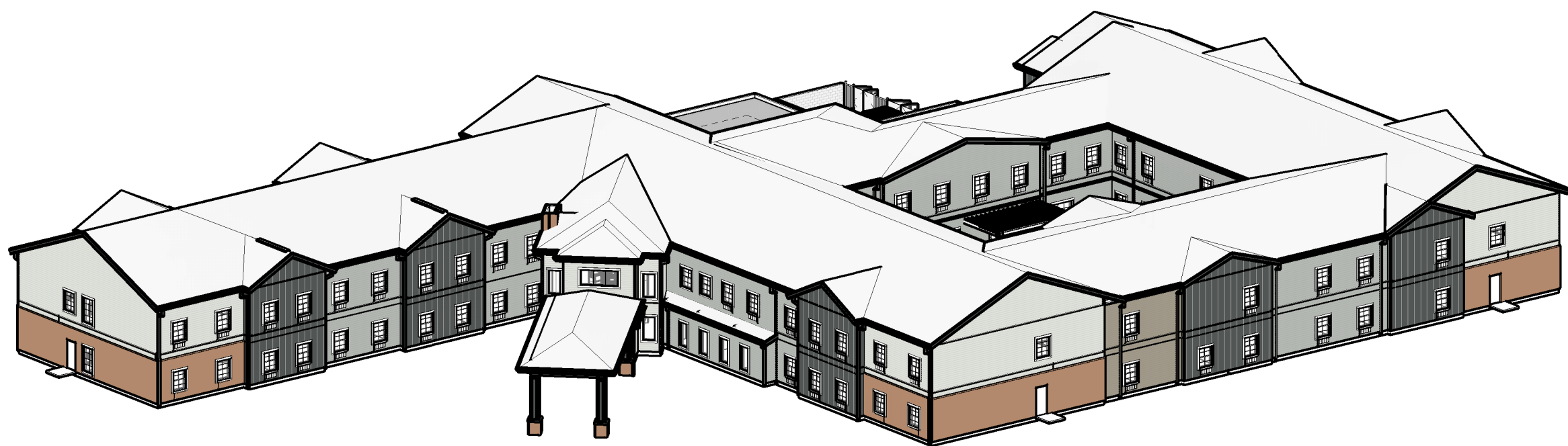


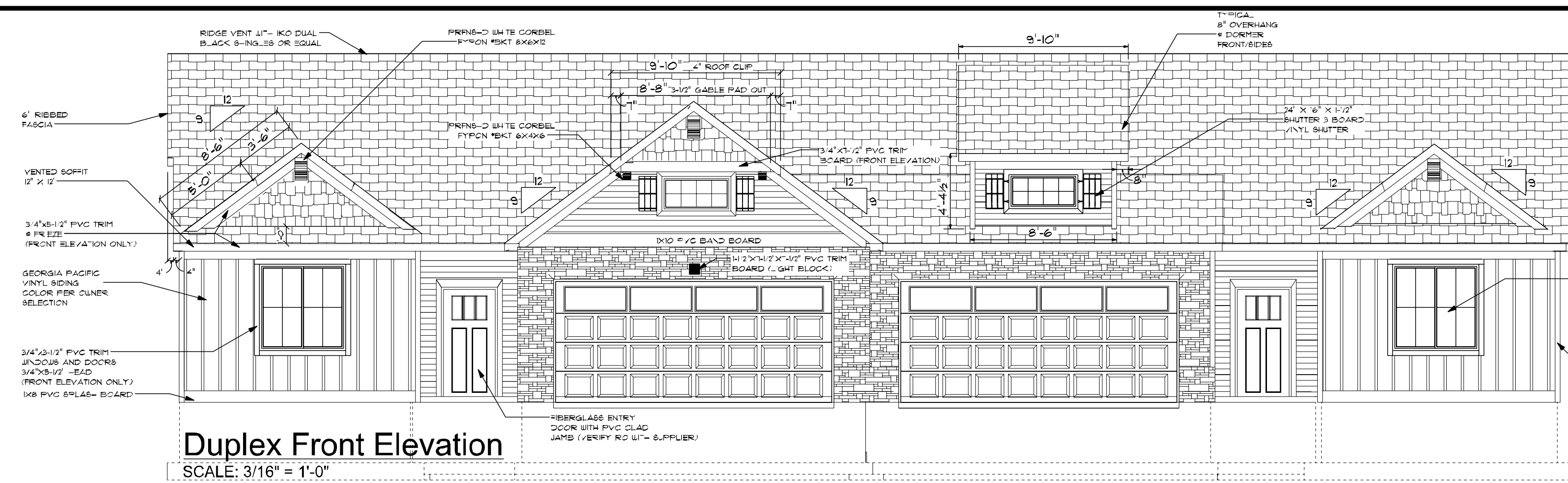
6 EXTERIOR ELEVATION - NORTH



7 EXTERIOR ELEVATION - EAST

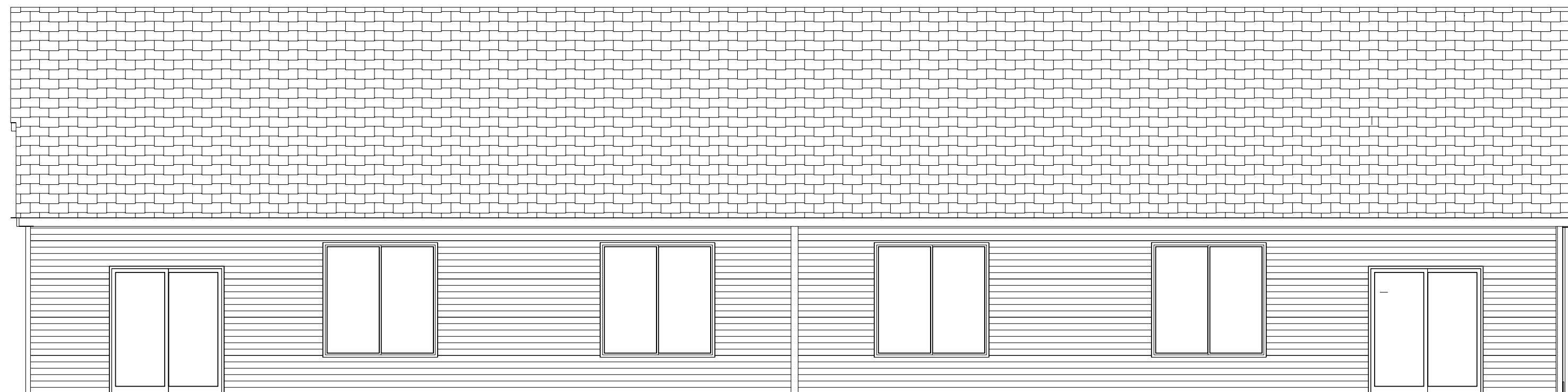
#	KEY NOTES
7.7	ARCHITECTURAL ASPHALT SHINGLES OVER ROOFING UNDERLAYMENT ON ROOF SHEATHING
X2	BOARD AND BATTEN 12" O.C. (DARK) - MANU: JAMES HARDIE / COLOR: IRON GRAY, TEXTURE: SMOOTH
X3	7" HORIZONTAL LAP FIBER CEMENT SIDING - MANU: JAMES HARDIE / COLOR: MONTEREY TAUPE, TEXTURE: CEDARMILL
X4	7" HORIZONTAL LAP FIBER CEMENT SIDING (LIGHT) - MANU: JAMES HARDIE / COLOR: LIGHT MIST, TEXTURE: CEDARMILL
X5	STONE VENEER - MANU: ESTONE WORKS / TYPE: CUTSTONE, CONESTOGA
X21	7" HORIZONTAL LAP FIBER CEMENT SIDING - MANU: JAMES HARDIE / COLOR: ARCTIC WHITE, TEXTURE: CEDARMILL





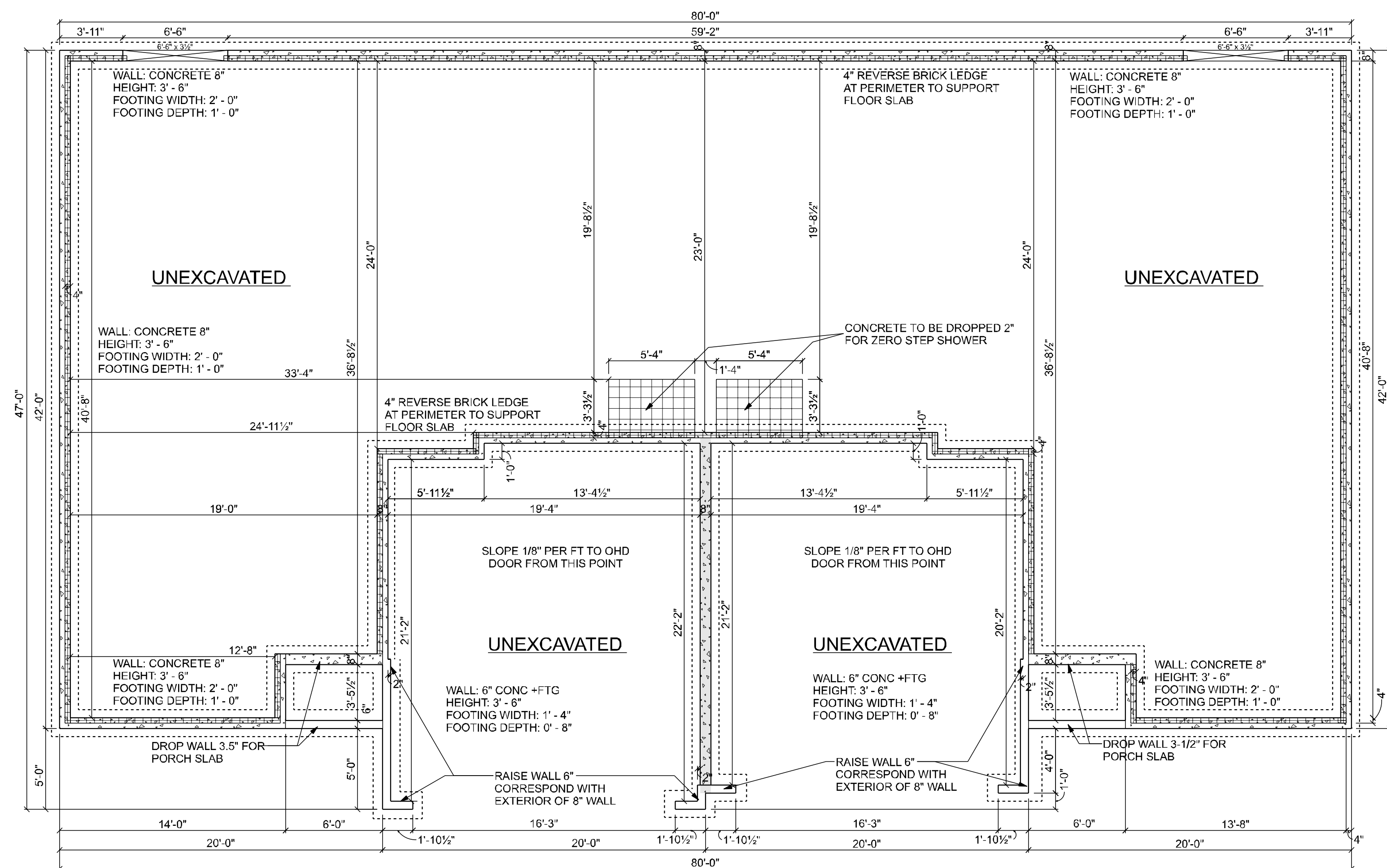
Duplex Front Elevation

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



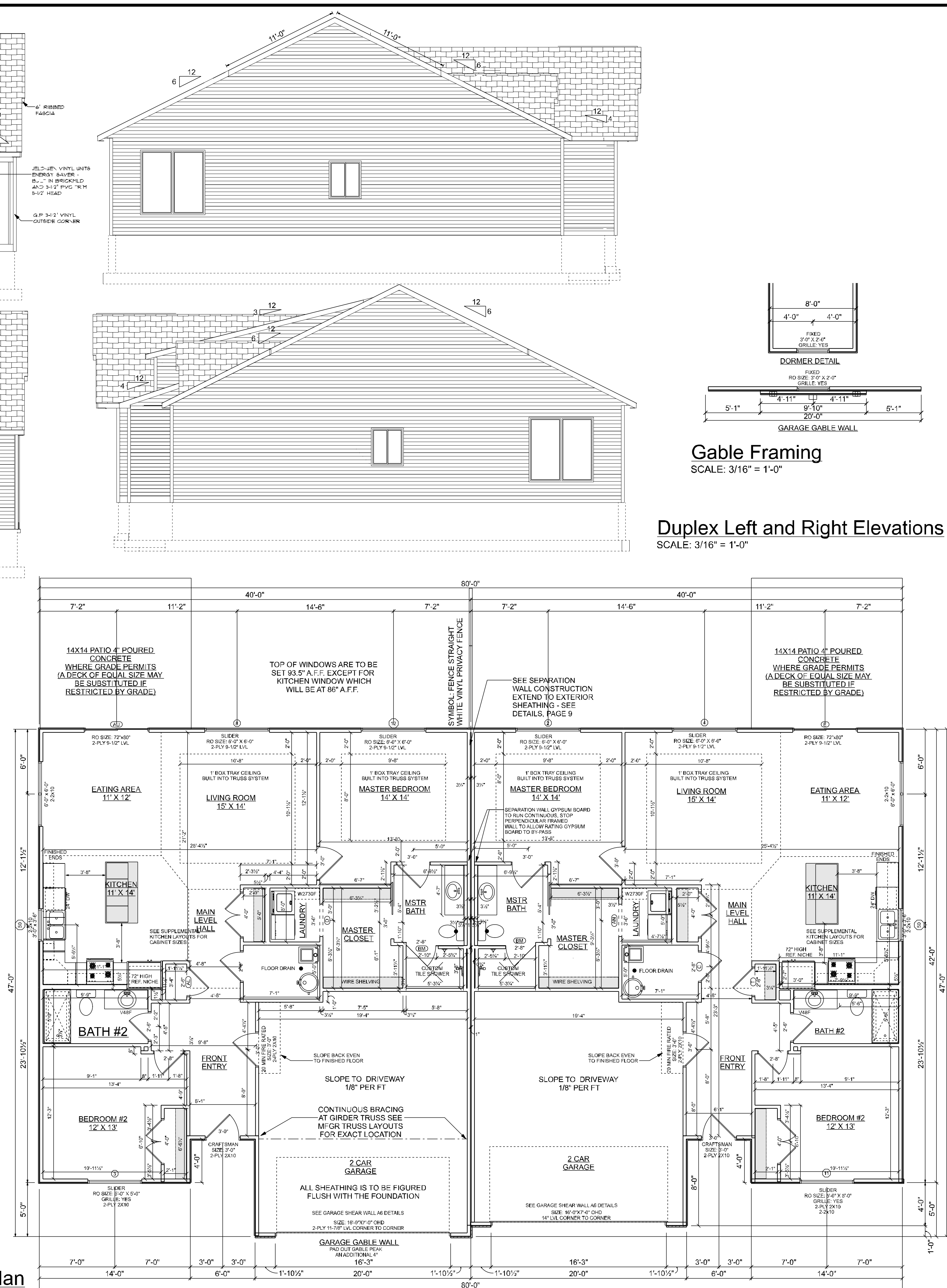
Duplex Rear Elevation

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



Duplex Foundation Plan

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



Duplex Main Floor Plan

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

Meridian Concepts LLC has made every attempt in the preparation of these drawings to be as accurate as possible, however we cannot accept liability against human error and faulty construction practices. The contractor and subcontractors are responsible for all dimensions and other details in the construction of this project. The contractor must conform to all local and state codes. All footings shown must rest on undisturbed stable soil. All dimensions are figured as rough. Example 2x4 being 1-1/2"x3-1/2". All dimensions rule over scale of this drawing.



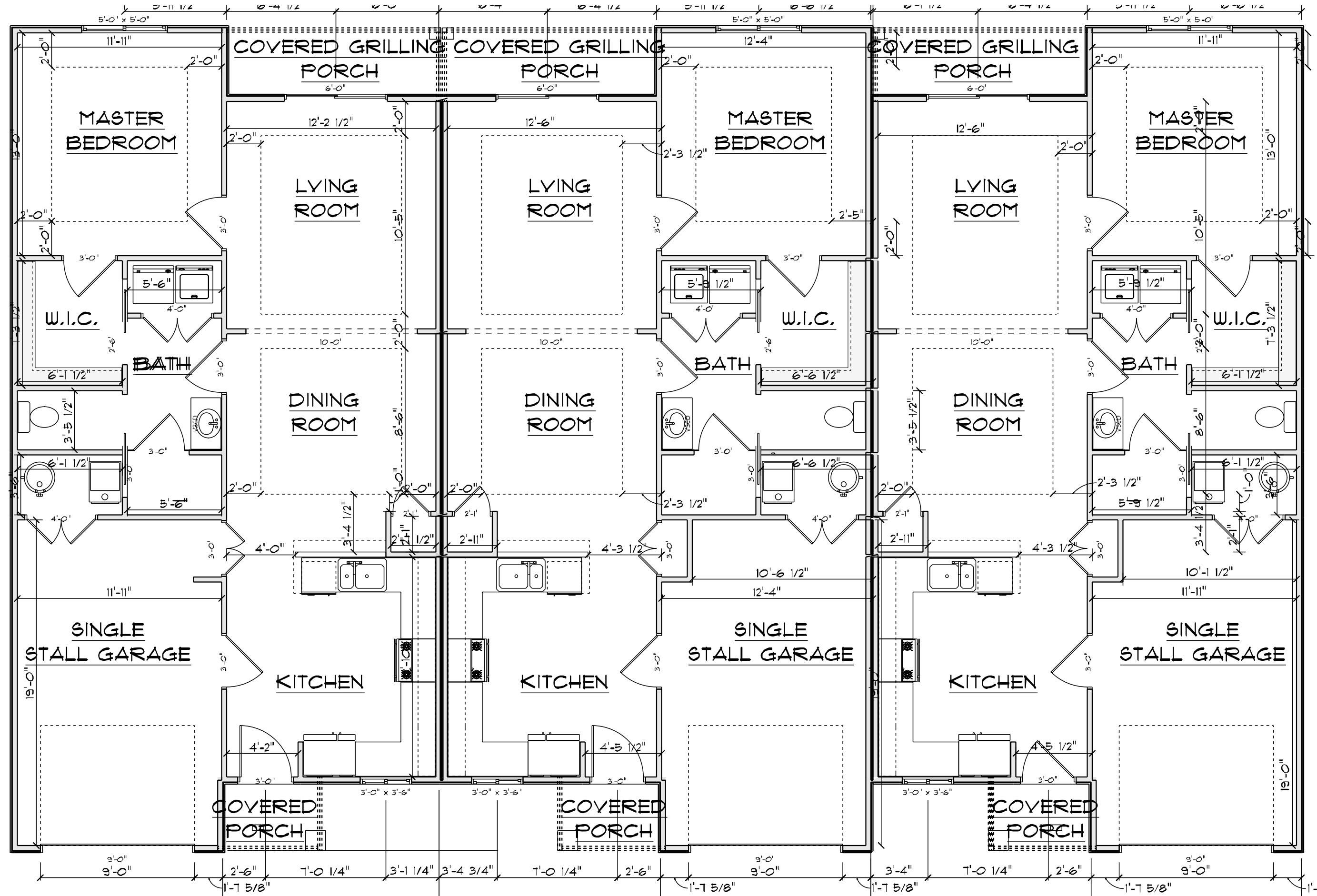
FRONT ELEVATION

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



FRONT ELEVATION

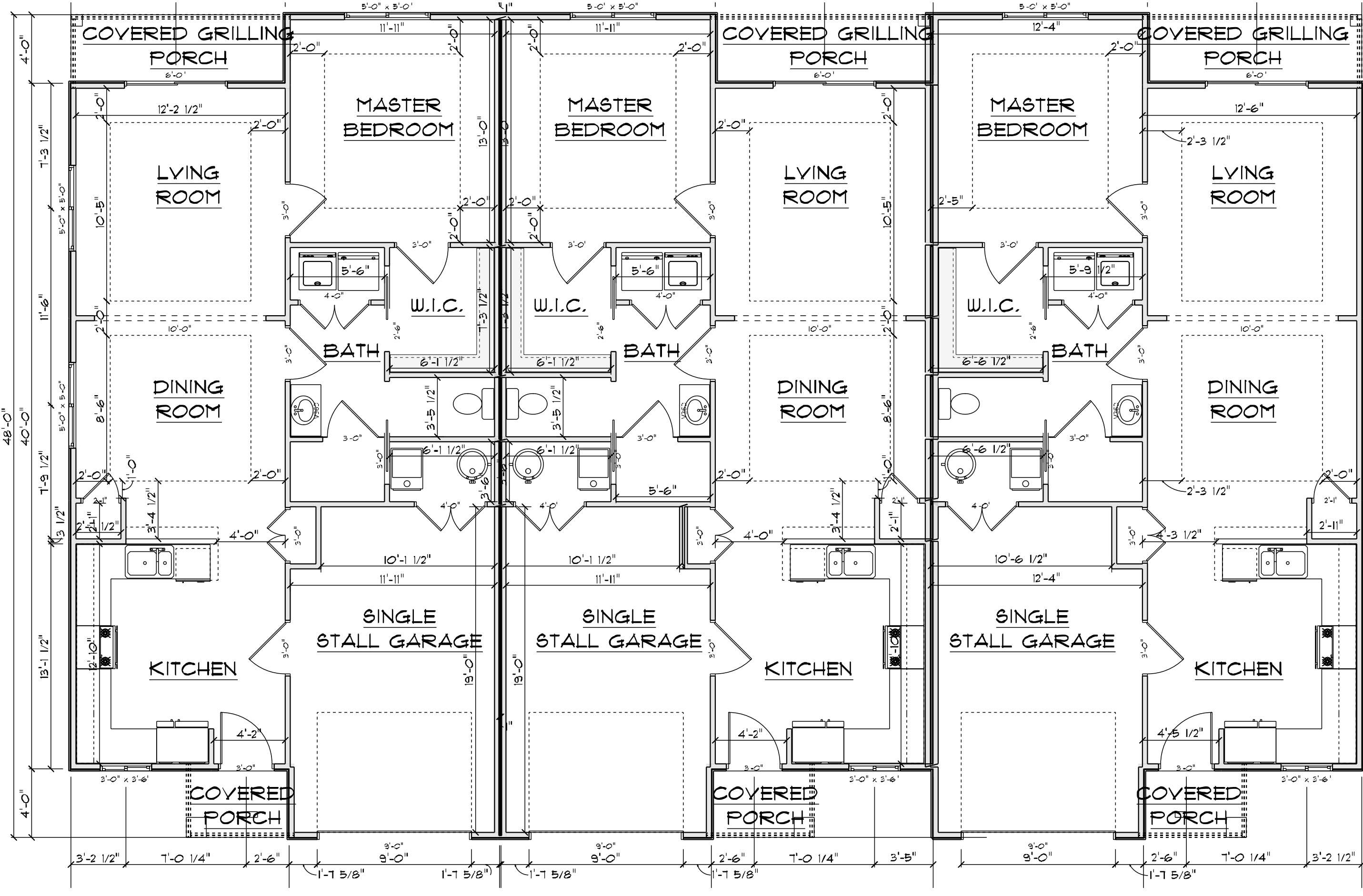
SCALE: 3/16" = 1'-0"



SINGLE BED TRIPLEX

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

USE THIS OPTION WITH FOUNDATION
GRADE STEPS



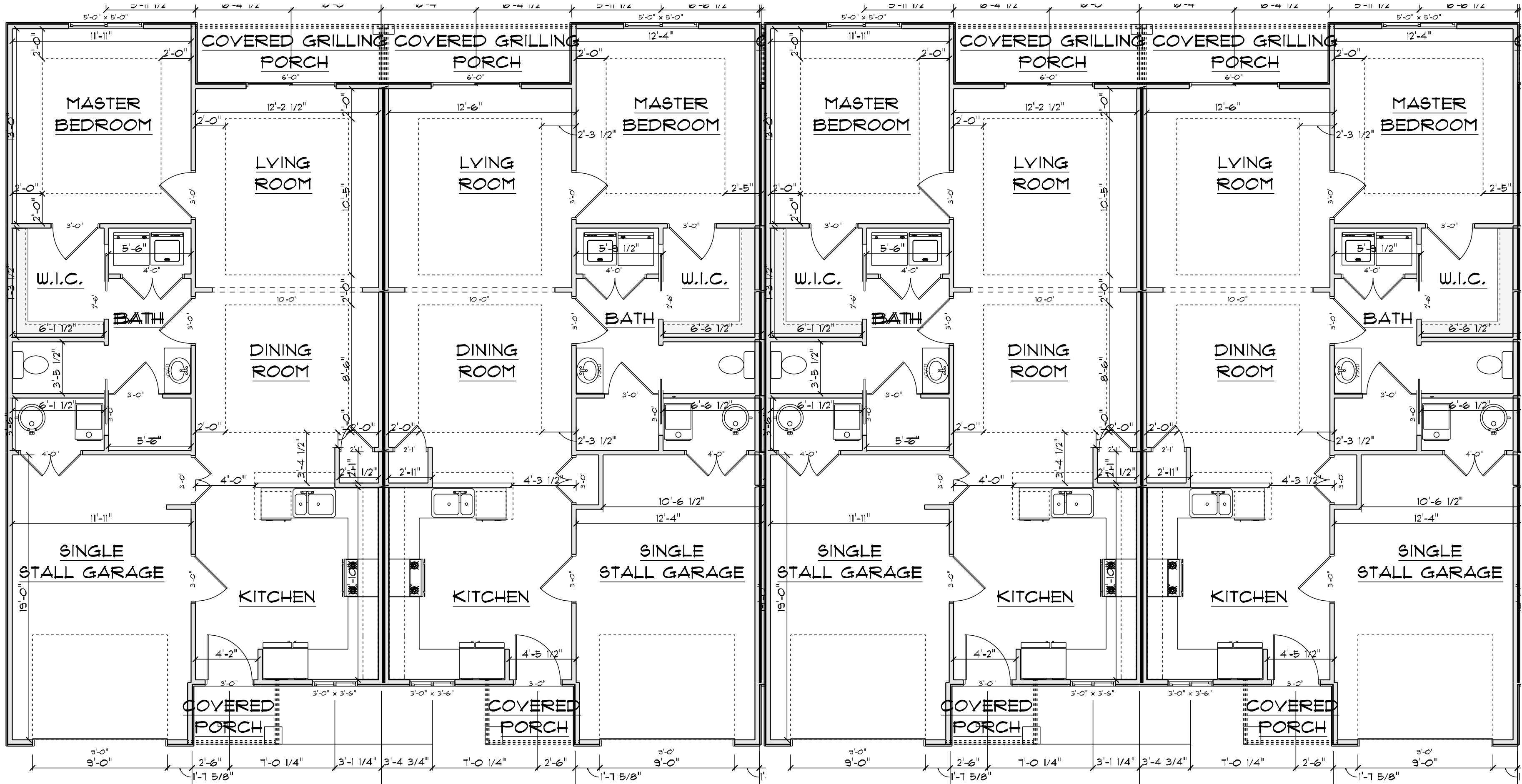
SINGLE BED TRIPLEX OPTION 2

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

Meridian Concepts LLC has made every attempt in the preparation of these drawings to be as accurate as possible, however we cannot accept liability against human error and faulty construction practices. The contractor and subcontractors are responsible for all dimensions and other details in the construction of this project. The contractor must conform to all local and state codes.
All footings shown must rest on undisturbed stable soil.
All dimensions are figured as rough. Example 2x4 being 1-1/2"x3-1/2".
All dimensions rule over scale of this drawing.



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



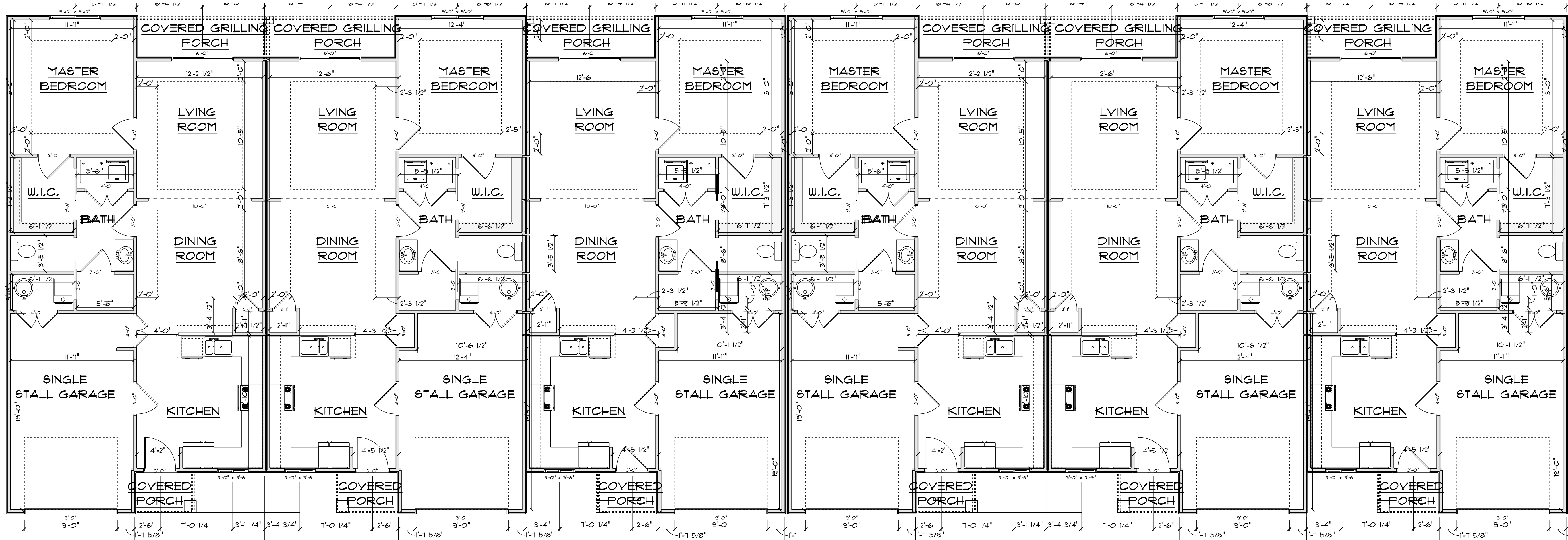
SINGLE BED QUADPLEX
SCALE: 3/16" = 1'-0"

Meridian Concepts LLC has made every attempt in the preparation of these drawings to be as accurate as possible, however we cannot accept liability against human error and faulty construction practices. The contractor and subcontractors are responsible for all dimensions and other details in the construction of this project. The contractor must conform to all local and state codes.
All footings shown must rest on undisturbed stable soil.
All dimensions are figured as rough. Example 2x4 being 1-1/2"x3-1/2".
All dimensions rule over scale of this drawing.



FRONT ELEVATION

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



SINGLE BED TRIPLEX

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

Meridian Concepts LLC has made every attempt in the preparation of these drawings to be as accurate as possible, however we cannot accept liability against human error and faulty construction practices. The contractor and subcontractors are responsible for all dimensions and other details in the construction of this project. The contractor must conform to all local and state codes.

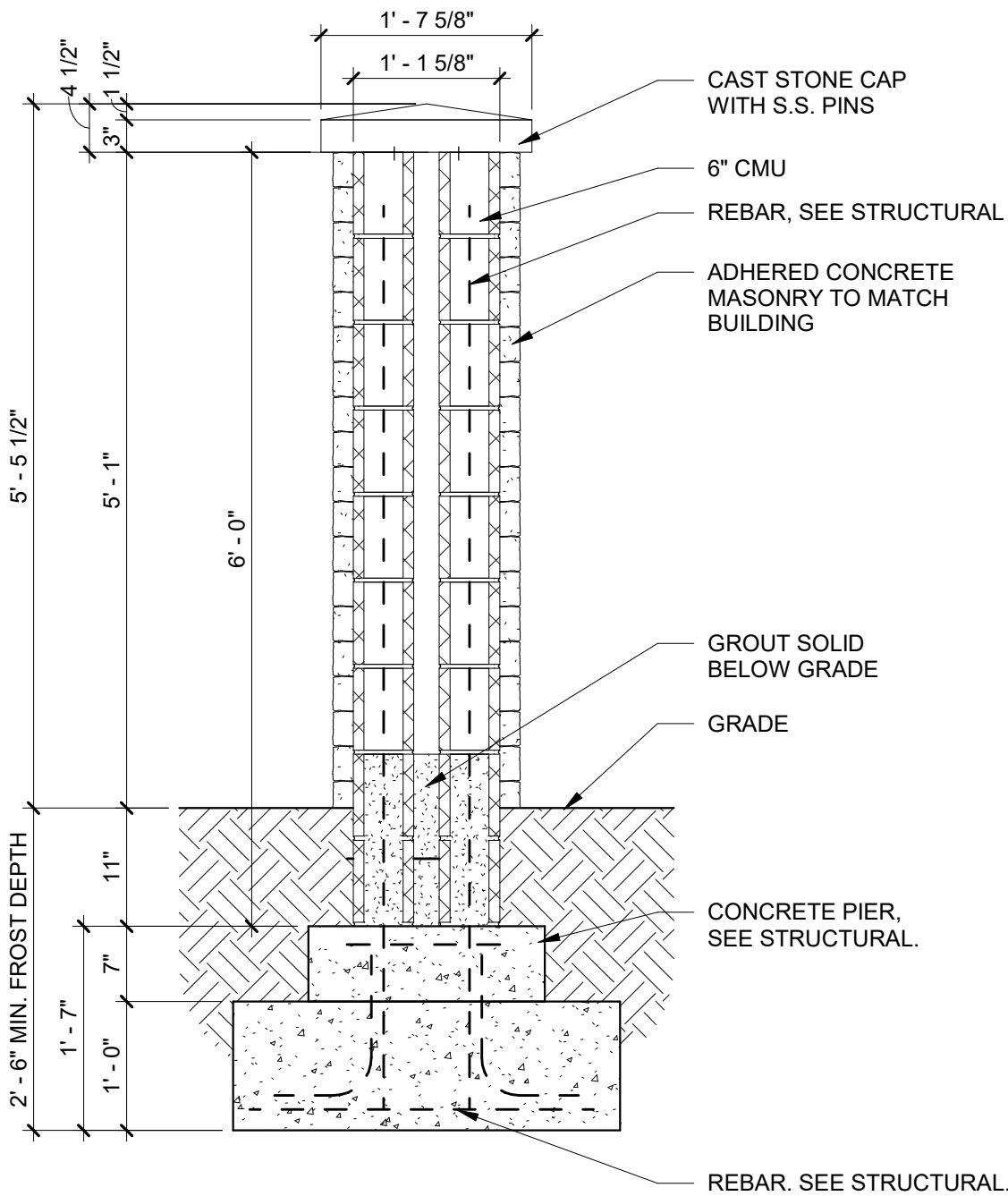
All footings shown must rest on undisturbed stable soil.

All dimensions are figured as rough. Example 2x4 being 1-1/2"x3-1/2".

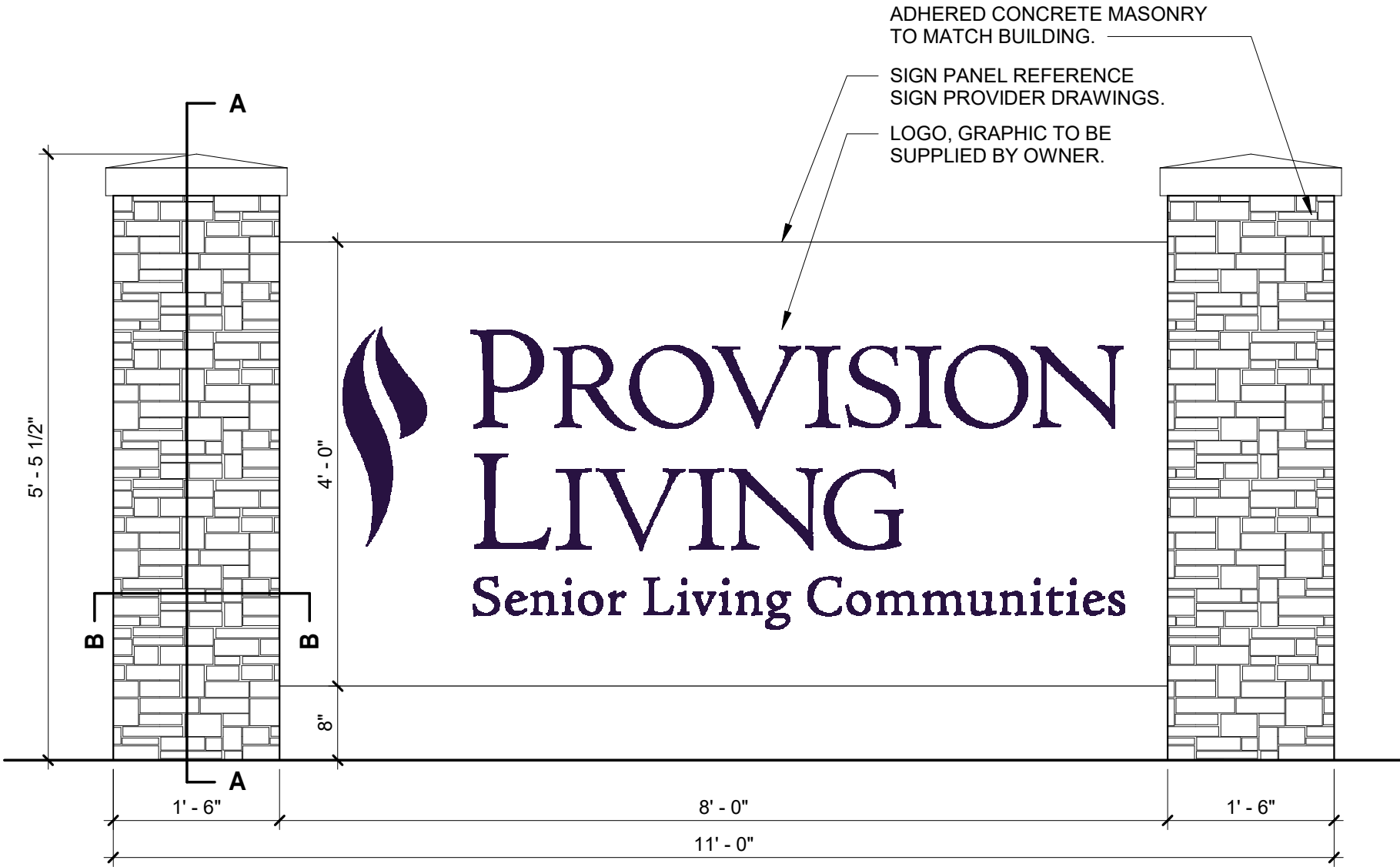
All dimensions rule over scale of this drawing.

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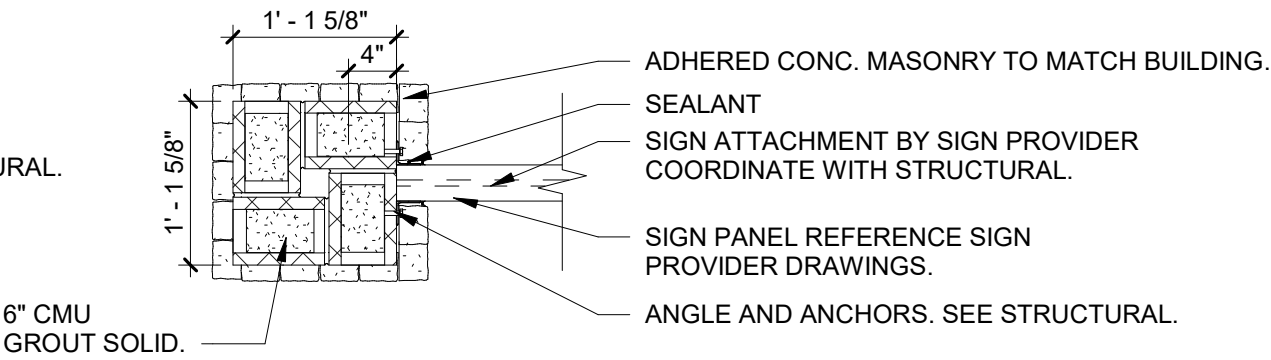
PROJECT NUMBER : GAP1042 DATE : 10.31.2022



SECTION A-A



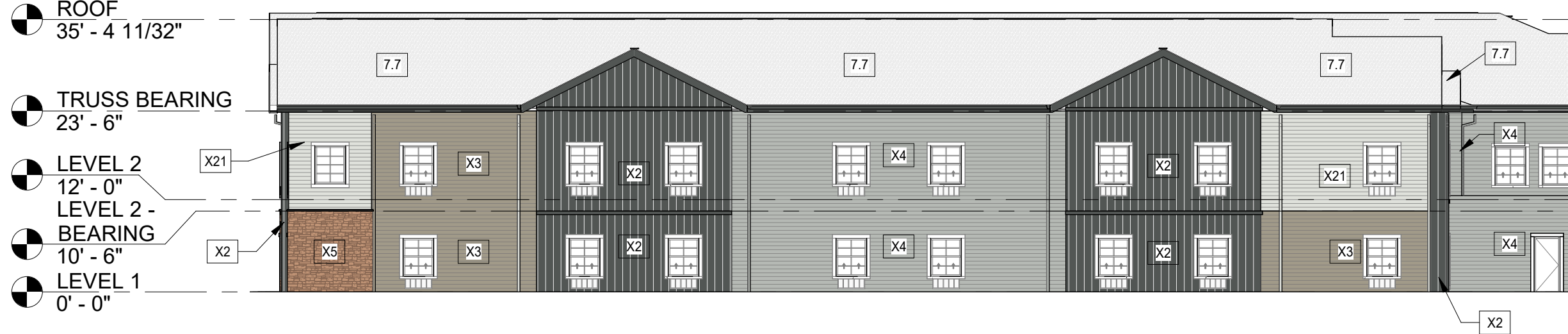
ELEVATION - DOUBLE SIDED SIGN



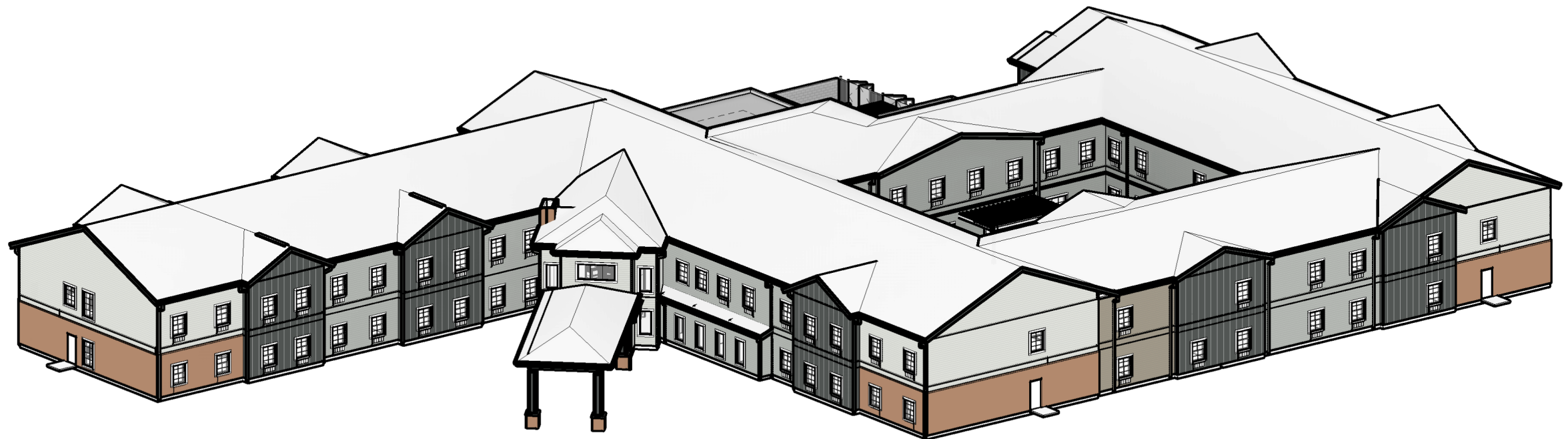
PLAN DETAIL B-B

A0

MONUMENT SIGN
SCALE: 3/4" = 1'-0"



7 EXTERIOR ELEVATION - EAST
P3 1/16" = 1'-0"





City of Pataskala, Ohio

Provision Living Traffic Access Study

November 2022

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Table of Contents

Traffic Access Study	2
Analysis Snapshot	2
Study Area	3
Existing Conditions	3
Traffic Counts	3
Existing Subdivision Counts	3
Proposed Access Points	3
Trip Generation	4
Directional Distribution	4
Growth Rate	4
2023 Opening Year Build Traffic Volumes	4
2033 Design Year Build Traffic Volumes	5
Capacity Analysis	5
Turn Lane Analysis	7
Recommendations	8
APPENDIX	9
APPENDIX A	10
APPENDIX B	11
APPENDIX C	12
APPENDIX D	13
APPENDIX E	14
APPENDIX F	15
APPENDIX G	16
APPENDIX H	17

Traffic Access Study

Analysis Snapshot

This document details the following items prepared for the proposed Provision Living Development located on the northeast corner of Broad Street & Heron Avenue in the City of Pataskala, Licking County, Ohio. The proposed site includes the construction of approximately sixty-one (61) Single Family Adult Housing Units and a 66,000 square foot nursing home facility. The proposed site plan is attached in [Appendix B](#).

This volume submittal includes Study Area, Existing Conditions, Traffic Counts, Proposed Access Points, Trip Generation, Directional Distribution, Growth Rate, 2023 Opening Year Build Traffic Volumes, and 2033 Design Year Build Traffic Volumes.

This study focused on evaluating the operation and capacity of Broad Street, Heron Avenue, and the proposed site drives. The purpose of this study is to identify the traffic-related impacts of the proposed development during typical weekday AM and PM roadway and school peak hours.

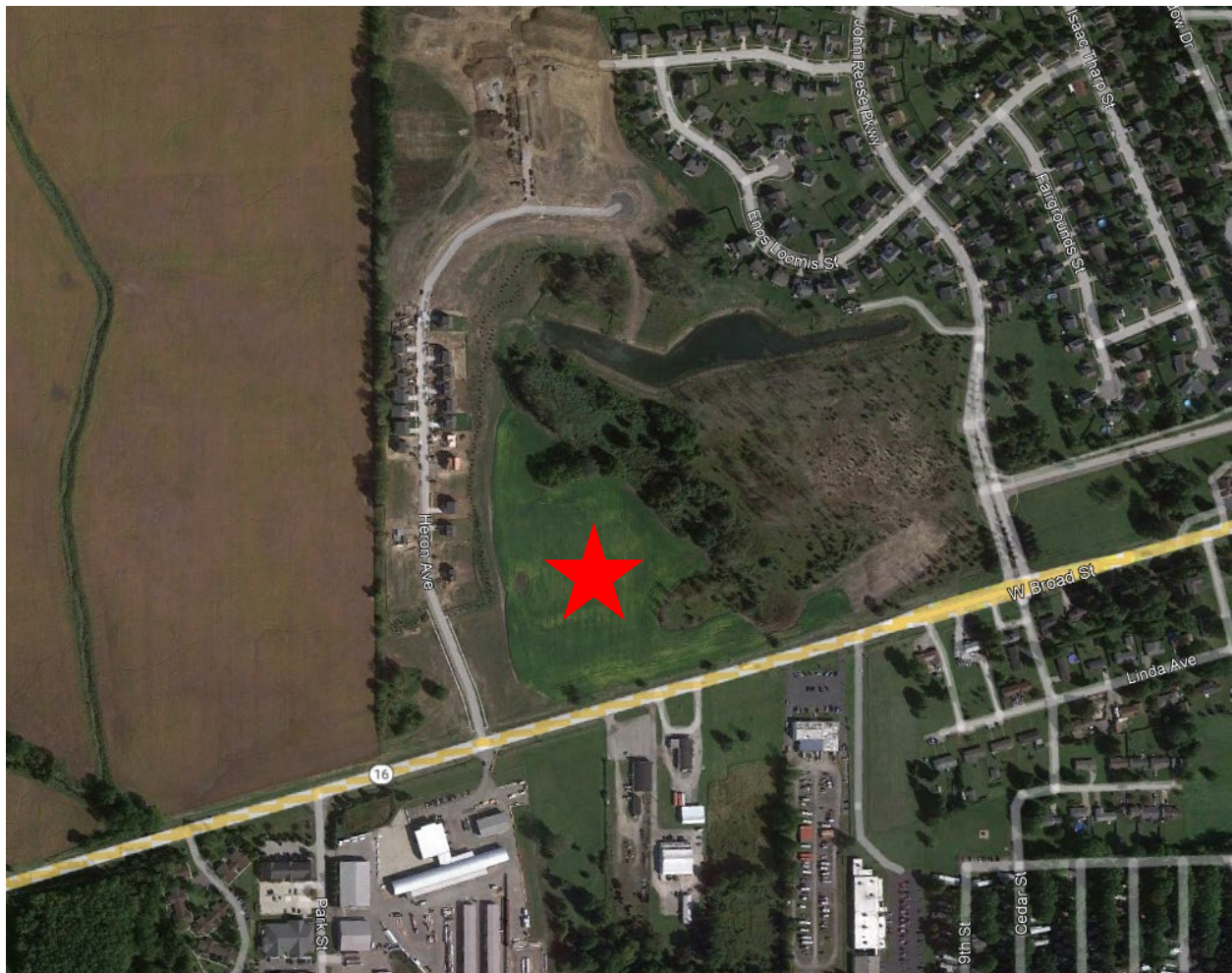


Figure 1: Project Location

Study Area

The studied intersections for the proposed development are listed below. The number notation shown below is the notation used throughout the study.

1. Broad Street & Heron Avenue
2. Heron Avenue & Proposed Drive
3. Broad Street & Proposed Right-In/Right-Out.

Existing Conditions

Broad Street is currently a two-lane roadway and is classified in ODOT's Function Classification System as an "Principal Arterial." The average daily traffic (ADT) of Broad Street is 14,572. The speed limit on Broad Street is 35 MPH.

Heron Avenue is currently a two-lane roadway and is classified as a "Local Road." The speed limit on Heron Avenue is 25 MPH. Heron Avenue serves a single-family housing development that is currently being constructed. At the time of this study, approximately 50% of the homes have been constructed. At full build out, this development is anticipated to have 153 single-family homes.

Traffic Counts

Peak hour turning movement count data was collected at the study intersection of Broad Street & Heron Avenue by Choice One Engineering Corporation (COEC) on Wednesday October 19, 2022. The peak hours of the intersection were found to be from 7:15-8:15 AM, 11:00 AM-12:00 PM (mid-day peak) and 4:30-5:30 PM. Existing Traffic is attached in [Appendix A](#).

Additionally, ADT counts from ODOT's Transportation Data Management System (TDMS) were obtained for use in this study. These ADT counts are attached in [Appendix A](#).

Existing Subdivision Counts

When the counts for this study were completed on October 19, 2022, the Heron Manor Subdivision along Heron Avenue was still being completed. Based on a field visit, approximately 50% of the homes had been built and occupied. Since this subdivision is not yet at full build out, and Heron Avenue only serves this subdivision, all the trips along Heron Avenue that were counted with this study were removed. Then, the trips from the Traffic Access Study for the Heron Manor Subdivision (dated October 29, 2018) completed by Carpenter Marty Transportation were added back into Heron Avenue. By doing this, the trips for full build out of the proposed subdivision are accounted for in this study in the Opening Year 2023 and Design Year 2033. The Traffic Access Study for the subdivision is attached in [Appendix B](#).

Proposed Access Points

The proposed site has two (2) access points. One full access point will be located along Heron Avenue, approximately 315 feet north of Broad Street, and one right-in/right-out access point along Broad Street approximately 435 feet east of Heron Avenue. The proposed site plan is attached in [Appendix C](#).

Trip Generation

Trips for the proposed site were generated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition, using land use 620 Nursing Home and land use 251 Senior Adult Housing—Single Family.

According to ITE *Trip Generation Manual*, 11th Edition, the proposed development is estimated to generate 835 weekday trips, 63 vehicular trips during the Weekday AM Peak Hour (37 inbound and 26 outbound) and 66 vehicular trips during the PM Peak Hour (46 inbound and 20 outbound). The trips are summarized in the tables below and attached in [Appendix E](#).

To determine the peak hours studied with this Traffic Access Study, the ITE Trip Generation Manual typical weekday, AM Peak, and PM Peak periods were evaluated. To determine the number of Mid-Day peak hour trips the proposed development will generate, the ADT hourly count breakdown was evaluated. Between the hours of 11:00 AM-12:00 PM, the existing counts along Broad Street make up 6.5% of the total ADT, as shown by the TDMS counts in [Appendix A](#). Applying this percentage to the 835 proposed weekday trips, the proposed development is anticipated to generate 54 trips between the mid-day peak hour of 11:00 AM-12:00 PM. Therefore, it was determined to study the hours of 7:15-8:15 AM and 4:30-5:30 PM, since the *ITE Trip Generation Manual* forecasts the AM (63 trips) and PM (66 trips) are higher than the proposed mid-day peaks. Additionally, these hours are anticipated to have most trips due to the staff entering and exiting the nursing home site. Lastly, the users of the single-family housing development portion of the proposed site are not anticipated to be families, therefore trips during the school peak hour are anticipated to be minimal.

Directional Distribution

COEC analyzed the existing traffic volumes and population density to formulate the directional distribution. The directional distribution calculations are attached in [Appendix E](#), and a synopsis is below.

Figure 2: Directional Distributions

Route	Approach/Departure Distribution
To/From the east on Broad Street	50% / 50%
To/From the west on Broad Street	50% / 50%
Total	100% / 100%

Growth Rate

Growth rates for the study area were obtained from the City of Pataskala. Per the City, Broad Street has a growth rate of 0.70%. The growth rate correspondence is attached in [Appendix D](#).

2023 Opening Year Build Traffic Volumes

The 2023 Opening Year Build Traffic Volumes were calculated using the 2022 Existing Volumes increased by the annual growth rate for one year and adding in the proposed trips to each of the entering and exiting movements. The 2023 Opening Year Build Traffic Volumes are attached in [Appendix E](#).

2033 Design Year Build Traffic Volumes

The 2033 Opening Year Build Traffic Volumes were calculated using the 2022 Existing Volumes increased by the annual growth rate for 11 years and adding in the proposed trips to each of the entering and exiting movements. The 2033 Design Year Build Traffic Volumes are attached in [Appendix E](#).

Capacity Analysis

Utilizing the Peak Hour Volumes, capacity calculations were performed for the studied intersections. The calculations employed procedures documented in the Highway Capacity Manual (Transportation Research Board, Seventh Edition, Updated 2022). The capacity of an intersection (signalized or un-signalized) can best be described by its corresponding Level of Service (LOS). The LOS of an intersection is a qualitative measure of the various attributes of an intersection. There are six LOS ranging from “ideal” free flow conditions at LOS “A,” to forced or “breakdown” conditions at LOS “F.” The LOS for un-signalized intersections is based upon total delay. Total delay is defined in the Highway Capacity Manual 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.

Capacity calculations were performed in Synchro 11 for the studied intersections analyzing the 2023 Opening Year No-Build, 2022 Opening Year Housing Development Only, 2023 Opening Year Build, 2033 Design Year No-Build, 2033 Design Year Housing Development Only, and 2033 Design Year Build Traffic Volumes. The tables below show a summary of the AM and PM Peak Hour Capacity Analysis. The 2023 Opening Year Capacity Analysis is attached in [Appendix F](#). The 2033 Design Year Capacity Analysis is attached in [Appendix G](#).

AM Peak Hour

	Opening Year No Build		Opening Year Housing Dev. Only		Opening Year Build		Design Year No Build		Design Year Housing Dev. Only		Design Year Build	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1-Broad Street & Heron Avenue												
EB	A	0	A	0	A	1	A	0	A	0	A	1
WB	A	0	A	0	A	0	A	0	A	0	A	0
NB	B	12	B	12	B	12	B	13	B	12	B	13
SB	C	18	C	20	C	24	C	20	C	22	D	28
Overall Int.	A	1	A	2	A	3	A	1	A	2	A	3
2-Heron Avenue & Proposed Drive												
WB	-	-	-	-	A	9	-	-	-	-	A	9
NB	-	-	-	-	A	0	-	-	-	-	A	0
SB	-	-	-	-	A	0	-	-	-	-	A	0
Overall Int.	-	-	-	-	A	1	-	-	-	-	A	1
3-Broad Street & Proposed RI/RO												
EB	-	-	-	-	A	0	-	-	-	-	A	0
WB	-	-	-	-	A	0	-	-	-	-	A	0
SB	-	-	-	-	B	11	-	-	-	-	B	11
Overall Int.	-	-	-	-	A	0	-	-	-	-	A	0

PM Peak Hour

	Opening Year No Build		Opening Year Housing Dev. Only		Opening Year Build		Design Year No Build		Design Year Housing Dev. Only		Design Year Build	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1-Broad Street & Heron Avenue												
EB	A	0	A	0	A	1	A	0	A	0	A	1
WB	A	0	A	0	A	0	A	0	A	0	A	0
NB	C	18	C	19	C	20	C	18	C	20	C	21
SB	C	21	D	32	F	54	C	21	E	37	F	67
Overall Int.	A	1	A	2	A	3	A	1	A	2	A	4
2-Heron Avenue & Proposed Drive												
WB	-	-	-	-	A	9	-	-	-	-	A	9
NB	-	-	-	-	A	0	-	-	-	-	A	0
SB	-	-	-	-	A	0	-	-	-	-	A	0
Overall Int.	-	-	-	-	A	1	-	-	-	-	A	1
3-Broad Street & Proposed RI/RO												
EB	-	-	-	-	A	0	-	-	-	-	A	0
WB	-	-	-	-	A	0	-	-	-	-	A	0
SB	-	-	-	-	B	12	-	-	-	-	B	12
Overall Int.	-	-	-	-	A	0	-	-	-	-	A	0

During the PM Peak Hour, Opening Year Build, Design Year Housing Development, and Design Year Build Scenarios, the southbound approach of Heron Avenue at Broad Street has unacceptable levels of service. The following level of service mitigation options were considered for the intersection:

- Additional lane in the southbound direction.
 - Choice One does not recommend this as a mitigation option, as adding multiple lanes to a stop-controlled approach can lead to sight distance issues and drivers misjudging gaps on the mainline road. Additionally, by adding a southbound lane, this approach still has a level of service of F.
- Installation of a traffic signal.
 - Due to the low volume of the minor street approach (Heron Avenue), a traffic signal is not anticipated to be warranted. It is typical for minor street approaches to have unacceptable levels of service when the intersection has high mainline volumes, and the intersection does not meet signal warrants. While the installation of a traffic signal would reduce the delay to the southbound approach, it would increase delay for the mainline (Broad Street) and disrupt the progressive traffic flow which carries a significant volume of traffic. Additionally, crashes typically increase with the addition of a traffic signal. Based on the relatively small size of the development, typical crash trends, and signal warrant analysis Choice One does not recommend that a traffic signal be installed at this time.
- Safety.
 - Crashes were pulled for the intersection to the east, Broad Street & John Reese Parkway. John Reese Parkway is anticipated to function similarly to Heron Avenue being stop controlled in the southbound direction. Crashes were pulled for the previous three (3) years, 2019-2021. During these three years, there were four crashes at the intersection. None of the four crashes involved southbound vehicles. Therefore, vehicles are finding adequate gaps in mainline traffic to make turning movements and are anticipated to do so on Heron Avenue.

Turn Lane Analysis

Turn Lane Analysis were completed for the free flow movements along Carolina Trace Road using the 2022 Opening Year Build Traffic Volumes and 2032 Design Year Build Traffic Volumes. Turn lane warrants were checked against the 2-Lane Highway Left (or Right) Turn Lane Warrants figures for a ≤ 40 MPH roadway in the ODOT Access Management Manual. The following turn lane is warranted as a result of the analysis: **a 125 foot (including 50-foot taper) eastbound left turn at the intersection of Broad Street and Heron Drive (Intersection 1)**. Currently, there is an existing 125-foot turn lane. Therefore, no changes to the existing conditions are recommended.

The turn lane analyses are attached in [Appendix H](#).

Recommendations

Based on the results of the analysis, the following recommendations are made for the surrounding roadway network:

Broad Street & Heron Avenue

- No improvements warranted.

Heron Avenue & Proposed Drive

- Install a full access drive approximately 315 feet north of Broad Street.

Broad Street & Proposed Drive

- Install the right-in/right-out drive approximately 435 feet east of Heron Avenue.

The following included attachments detail the findings of Choice One:

- A. [Turning Movement Counts](#)
- B. [Concept Plan](#)
- C. [Build Traffic Volumes](#)
- D. [Growth Rate Correspondence](#)
- E. [2023 Opening Year Capacity Analysis](#)
- F. [2033 Design Year Capacity Analysis](#)
- G. [Turn Lane Analysis](#)
- H. [Queuing Analysis](#)

APPENDIX

APPENDIX A

Turning Movement Counts

**EXISTING 2022 COUNTS PEAK
HOUR HEAT MAP**

Time	1-Broad Street & Heron Avenue	
6:00 AM	111	
6:15 AM	139	
6:30 AM	170	
6:45 AM	204	
7:00 AM	186	
7:15 AM	243	AM Peak
7:30 AM	196	
7:45 AM	218	
8:00 AM	197	
8:15 AM	224	
8:30 AM	194	
8:45 AM	188	
9:00 AM	186	
9:15 AM	186	
9:30 AM	217	
9:45 AM	214	
10:00 AM	196	
10:15 AM	200	
10:30 AM	197	
10:45 AM	221	
11:00 AM	235	Mid-Day Peak
11:15 AM	230	
11:30 AM	245	
11:45 AM	225	
12:00 PM	216	
12:15 PM	233	
12:30 PM	229	
12:45 PM	206	
1:00 PM	208	
1:15 PM	215	
1:30 PM	208	
1:45 PM	227	
2:00 PM	232	
2:15 PM	239	
2:30 PM	246	
2:45 PM	258	
3:00 PM	232	
3:15 PM	248	
3:30 PM	269	
3:45 PM	255	
4:00 PM	290	
4:15 PM	276	
4:30 PM	324	PM Peak
4:45 PM	281	
5:00 PM	283	
5:15 PM	292	
5:30 PM	293	
5:45 PM	252	
6:00 PM	232	
6:15 PM	204	
6:30 PM	179	
6:45 PM	183	

Study Name Broad Street & Heron Avenue
Start Date Wednesday, October 19, 2022 6:00 AM
End Date Wednesday, October 19, 2022 7:00 PM
Site Code

Report Summary

Time Period	Class.	Southbound						Westbound						Northbound						Eastbound						Total
		R	T	L	U	I	O	R	T	L	U	I	O	R	T	L	U	I	O	R	T	L	U	I	O	
Peak 1	Lights	6	0	10	0	16	24	12	375	8	0	395	447	15	0	1	0	16	13	5	422	12	0	439	382	866
Specified Period	%	67%	0%	91%	0%	80%	86%	86%	92%	80%	0%	91%	95%	94%	0%	100%	0%	94%	76%	71%	95%	86%	0%	94%	91%	93%
6:00 AM - 12:00 PM	Other Vehicle	3	0	1	0	4	4	2	34	2	0	38	24	1	0	0	0	1	4	2	22	2	0	26	37	69
One Hour Peak	%	33%	0%	9%	0%	20%	14%	14%	8%	20%	0%	9%	5%	6%	0%	0%	0%	6%	24%	29%	5%	14%	0%	6%	9%	7%
11:00 AM - 12:00 PM	Total	9	0	11	0	20	28	14	409	10	0	433	471	16	0	1	0	17	17	7	444	14	0	465	419	935
	PHF	0.56	0	0.69	0	0.71	0.88	0.7	0.9	0.5	0	0.93	0.97	0.5	0	0.25	0	0.53	0.47	0.44	0.95	0.5	0	0.95	0.92	0.95
	Approach %					2%	3%					46%	50%					2%	2%					50%	45%	
Peak 2	Lights	8	0	6	0	14	15	9	424	0	1	434	701	9	0	2	0	11	1	1	685	6	0	692	434	1151
Specified Period	%	100%	0%	100%	0%	100%	100%	100%	97%	0%	100%	97%	98%	100%	0%	100%	0%	100%	50%	100%	98%	100%	0%	98%	97%	98%
12:00 PM - 7:00 PM	Other Vehicle	0	0	0	0	0	0	0	13	1	0	14	15	0	0	0	0	0	1	0	15	0	0	15	13	29
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	3%	100%	0%	3%	2%	0%	0%	0%	0%	0%	50%	0%	2%	0%	0%	2%	3%	2%
4:30 PM - 5:30 PM	Total	8	0	6	0	14	15	9	437	1	1	448	716	9	0	2	0	11	2	1	700	6	0	707	447	1180
	PHF	0.4	0	0.5	0	0.44	0.62	0.56	0.93	0.25	0.25	0.94	0.89	0.56	0	0.5	0	0.69	0.5	0.25	0.89	0.5	0	0.89	0.95	0.91
	Approach %					1%	1%					38%	61%					1%	0%					60%	38%	

Study Name	Broad Street & Heron Avenue
Start Date	Wednesday, October 15, 2023 6:00 AM
End Date	Wednesday, October 15, 2023 7:00 PM
Site Code	

Road Volumes																																		
Interval	THW	Movement				Southbound T1				Westbound				Westbound T1				Northbound				Northbound T1				Eastbound				Eastbound T1				Grand Total
		R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U					
10/19/2022 6:00	Other Vehicles	2	0	0	0	2	0	0	0	77	3	0	0	80	0	0	0	0	0	0	0	0	28	1	0	0	29	111						
10/19/2022 6:00	Lights	2	0	0	0	2	0	0	0	76	3	0	0	79	0	0	0	0	0	0	0	0	24	0	0	0	24	105						
10/19/2022 6:00	Other Vehicles	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	4	1	0	0	5	6						
10/19/2022 6:15	Other Vehicles	1	0	0	0	1	0	0	0	100	4	0	0	104	0	0	0	0	0	0	0	1	32	1	0	0	34	139						
10/19/2022 6:15	Lights	0	0	0	0	0	0	0	0	95	4	0	0	99	0	0	0	0	0	0	0	1	28	1	0	0	30	129						
10/19/2022 6:15	Other Vehicles	1	0	0	0	1	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	4	0	0	0	4	10						
10/19/2022 6:30	Other Vehicles	0	0	0	0	0	0	0	0	1	0	0	0	132	0	0	0	1	0	0	1	2	35	0	0	0	37	170						
10/19/2022 6:30	Lights	0	0	0	0	0	0	0	0	1	0	0	0	130	0	0	0	0	0	0	1	2	33	0	0	0	35	166						
10/19/2022 6:30	Other Vehicles	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	2	4						
10/19/2022 6:45	Other Vehicles	1	0	1	0	2	2	148	2	0	0	0	0	152	1	0	0	0	0	0	45	1	0	0	0	49	204							
10/19/2022 6:45	Lights	1	0	0	0	1	1	145	2	0	0	0	0	148	0	0	0	0	0	0	0	3	43	0	0	0	47	196						
10/19/2022 6:45	Other Vehicles	0	0	1	0	1	1	3	0	0	0	0	0	4	1	0	0	0	1	0	2	0	0	0	0	2	8							
10/19/2022 7:00	Other Vehicles	2	0	0	0	2	0	121	1	0	0	0	0	122	1	0	0	0	0	1	2	99	0	0	0	0	61	186						
10/19/2022 7:00	Lights	2	0	0	0	2	0	113	1	0	0	0	0	114	1	0	0	0	0	1	2	43	0	0	0	0	45	162						
10/19/2022 7:00	Other Vehicles	0	0	0	0	0	0	8	0	0	0	0	0	8	0	0	0	0	0	0	0	16	0	0	0	0	16	24						
10/19/2022 7:15	Other Vehicles	3	0	1	0	4	1	158	4	0	0	0	0	163	1	0	0	0	1	2	71	2	0	0	0	75	243							
10/19/2022 7:15	Lights	3	0	1	0	4	1	153	4	0	0	0	0	158	1	0	0	0	1	2	62	2	0	0	0	66	229							
10/19/2022 7:15	Other Vehicles	0	0	0	0	0	0	5	0	0	0	0	0	5	0	0	0	0	0	0	0	9	0	0	0	0	9	14						
10/19/2022 7:30	Other Vehicles	0	0	2	0	2	1	112	3	0	0	0	0	116	2	0	0	0	2	0	76	0	0	0	0	76	196							
10/19/2022 7:30	Lights	0	0	2	0	2	1	109	2	0	0	0	0	112	0	0	0	0	0	0	65	0	0	0	0	65	179							
10/19/2022 7:30	Other Vehicles	0	0	0	0	0	0	3	1	0	0	0	0	4	2	0	0	0	2	0	11	0	0	0	0	11	17							
10/19/2022 7:45	Other Vehicles	3	0	3	0	2	2	125	2	0	0	0	0	129	2	0	0	1	0	3	1	80	2	0	0	0	83	218						
10/19/2022 7:45	Lights	3	0	0	0	3	2	117	2	0	0	0	0	121	0	0	0	0	0	4	0	67	1	0	0	0	70	194						
10/19/2022 7:45	Other Vehicles	0	0	0	0	0	0	8	0	0	0	0	0	8	2	0	1	0	3	0	13	0	0	0	0	13	24							
10/19/2022 8:00	Other Vehicles	1	0	2	0	3	6	111	3	0	0	0	0	120	1	0	2	0	3	0	68	3	0	0	0	71	197							
10/19/2022 8:00	Lights	1	0	1	0	2	4	108	3	0	0	0	0	115	1	0	2	0	3	0	62	2	0	0	0	64	184							
10/19/2022 8:00	Other Vehicles	0	0	1	0	1	2	3	0	0	0	0	0	5	0	0	0	0	0	0	6	1	0	0	0	7	13							
10/19/2022 8:15	Other Vehicles	2	0	4	0	6	2	126	4	0	0	0	0	132	2	0	0	0	2	0	83	1	0	0	0	84	224							
10/19/2022 8:15	Lights	1	0	3	0	4	1	119	3	0	0	0	0	123	1	0	0	0	1	0	73	0	0	0	0	74	202							
10/19/2022 8:15	Other Vehicles	0	0	1	0	2	1	7	1	0	0	0	0	9	1	0	0	0	0	0	10	0	0	0	0	10	22							
10/19/2022 8:30	Other Vehicles	1	0	0	0	1	3	105	2	0	0	0	0	110	3	0	1	0	4	0	75	4	0	0	0	79	194							
10/19/2022 8:30	Lights	1	0	0	0	1	3	97	1	0	0	0	0	101	3	0	0	0	3	0	74	0	0	0	0	74	179							
10/19/2022 8:30	Other Vehicles	0	0	0	0	0	0	8	1	0	0	0	0	9	0	0	0	1	0	5	0	0	0	0	0	5	15							
10/19/2022 8:45	Other Vehicles	2	0	1	0	3	2	107	1	0	0	0	0	110	1	0	1	0	2	4	69	0	0	0	0	73	188							
10/19/2022 8:45	Lights	2	0	1	0	3	2	101	0	0	0	0	0	104	0	0	0	0	1	3	64	0	0	0	0	67	175							
10/19/2022 8:45	Other Vehicles	0	0	0	0	0	0	6	0	0	0	0	0	6	1	0	0	0	0	1	5	0	0	0	0	6	13							
10/19/2022 9:00	Other Vehicles	0	0	2	0	2	0	105	0	0	0	0	0	105	3	0	0	0	3	0	76	0	0	0	0	76	186							
10/19/2022 9:00	Lights	0	0	2	0	2	0	100	0	0	0	0	0	100	2	0	0	0	2	0	64	0	0	0	0	64	168							
10/19/2022 9:00	Other Vehicles	0	0	0	0	0	0	5	2	0	0	0	0	5	0	0	0	0	12	1	12	0	0	0	0	12	19							
10/19/2022 9:15	Other Vehicles	2	0	1	0	3	1	95	2	0	0	0	0	98	1	0	0	0	1	0	83	1	0	0	0	84	186							
10/19/2022 9:15	Lights	2	0	1	0	3	1	92	0	0	0	0	0	93	1	0	0	0	1	0	70	0	0	0	0	70	167							
10/19/2022 9:15	Other Vehicles	0	0	0	0	0	0	3	2	0	0	0	0	5	0	0	0	0	0	0	13	1	0	0	0	14	19							
10/19/2022 9:30	Other Vehicles	4	0	0	0	4	2	112	4	0	0	0	0	116	2	0	0	0	2	0	93	0	0	0	0	93	217							
10/19/2022 9:30	Lights	3	0	0	0	3	1	106	3	0	0	0	0	110	0	0	0	0	1	0	84	0	0	0	0	84	196							
10/19/2022 9:30	Other Vehicles	1	0	0	0	1	1	6	1	0	0	0	0	8	1	0	0	0	0	1	9	0	0	0	0	9	19							
10/19/2022 9:45	Other Vehicles	2	0	2	0	4	0	113	1	0	0	0	0	114	0	0	0	1	0	3	45	2	0	0	0	46	214							
10/19/2022 9:45	Lights	2	0	2	0	4	0	107	0	0	0	0	0	108	0	0	0	0	1	2	83	2	0	0	0	87	200							
10/19/2022 9:45	Other Vehicles	0	0	0	0	0	0	6	0	0	0	0	0	6	0	0	0	0	0	0	1	7	0	0	0	8	14							
10/19/2022 10:00	Other Vehicles	2	0	1	0	3	2	96	0	0	0	0	0	98	2	0	0	0	2	0	89	2	0	0	0	92	196							
10/19/2022 10:00	Lights	1	0	1	0	2	2	87	0	0	0	0	0	89	1	0	0	0	2	1	84	2	0	0	0	87	180							
10/19/2022 10:00	Other Vehicles	1	0	0	0	1	0	9	0	0	0	0	0	9	1	0	0	0	1	0	5	0	0	0	0	5	16							
10/19/2022 10:15	Other Vehicles	2	0	3	0	5	0	92	1	0	0	0	0	93	3	0	0	0	2	0	94	0	0	0	0	97	200							
10/19/2022 10:15	Lights	2	0	2	0	4	0	86	1	0	0	0	0	87	1	0	0	0	2	1	88	2	0	0	0	91</								

Location Info						Count Data Info	
Location ID	10545					Start Date	7/20/2021
Type	I-SECTION					End Date	7/21/2021
Functional Class	3					Start Time	12:00 AM
Located On	BROAD ST					End Time	12:00 AM
	SR16-310 W OF SR310, IN PATASKALA					Direction	
Direction	2-WAY					Notes	odot
Community	PATASKALA					Count Source	105453271
MPO_ID						File Name	
HPMS ID						Weather	
Agency	Ohio Department of Transportation					Study	
						Owner	southerntraffic
						QC Status	Accepted
Interval: 15 mins							
Time	15 Min				Hourly Count	Hourly Percentage	
	1st	2nd	3rd	4th			
00:00 - 01:00	33	38	27	41	139	0.6%	
01:00 - 02:00	34	22	22	21	99	0.4%	
02:00 - 03:00	32	18	24	20	94	0.4%	
03:00 - 04:00	19	28	24	22	93	0.4%	
04:00 - 05:00	39	40	51	50	180	0.8%	
05:00 - 06:00	99	124	133	136	492	2.1%	
06:00 - 07:00	190	231	261	274	956	4.0%	
07:00 - 08:00	286	305	317	336	1244	5.2%	
08:00 - 09:00	318	313	305	346	1282	5.3%	
09:00 - 10:00	316	302	335	331	1284	5.4%	
10:00 - 11:00	332	325	300	348	1305	5.4%	
11:00 - 12:00	364	422	379	391	1556	6.5%	
12:00 - 13:00	420	415	425	398	1658	6.9%	
13:00 - 14:00	376	378	403	408	1565	6.5%	
14:00 - 15:00	373	402	389	394	1558	6.5%	
15:00 - 16:00	412	449	466	424	1751	7.3%	
16:00 - 17:00	487	484	473	504	1948	8.1%	
17:00 - 18:00	498	437	444	474	1853	7.7%	
18:00 - 19:00	427	426	348	346	1547	6.5%	
19:00 - 20:00	331	338	275	254	1198	5.0%	
20:00 - 21:00	270	237	234	207	948	4.0%	
21:00 - 22:00	209	170	152	123	654	2.7%	
22:00 - 23:00	123	96	87	59	365	1.5%	
23:00 - 24:00	56	62	43	52	213	0.9%	
TOTAL					23982	100.0%	

APPENDIX B

Heron Manor Traffic Access Study

October 29, 2018

Alan Haines, P.E.
Public Services Director
City of Pataskala
621 W. Broad Street
Pataskala, OH 43062

RE: Results of the Traffic Access Study for the Proposed Expansion of the Settlement at Pataskala development on W. Broad Street.

Mr. Haines:

We have completed the traffic access study for the proposed Fischer Homes expansion of the Settlement at Pataskala on W. Broad Street. The methods and results of this analysis are shown below.

Background

The proposed site is located on the north side of W. Broad Street, connected to the existing Settlement at Pataskala. Figure 1 shows the approximate location of the proposed site.

Figure 1 – Location of Proposed Site (Yellow)



The existing site is undeveloped. The site is proposed to include 153 single-family homes. One full-access site drive is proposed along W. Broad Street. The site will also be connected to two existing streets, Isaac Tharp Street and Alonzo Palmer Street, within the Settlement at Pataskala that will give access to a second full access drive (John Reese Parkway). The proposed New Road will be west of the existing Settlement at Pataskala full access drive (John Reese Parkway). The proposed development will connect first to W. Broad Street and will connect to the existing Isaac Tharp Street and Alonzo Palmer Street at a future phase of the development. A draft of the proposed development site plan can be found in **Attachment A**.

Projected Traffic

In order to conduct the analysis of both access points, AM and PM peak hour count data was collected at the intersection of W. Broad Street and John Reese Parkway/Linden Avenue. The data was collected from 7-9 AM and 4-6 PM on a Tuesday, Wednesday, or Thursday while school was in session by Carpenter Marty Transportation in April of 2018. These counts can be found in **Attachment B**. Count data was projected to the Opening (2019) and Horizon (2039) Years using a linear, annual growth rates provided by Mid-Ohio Regional Planning Commission (MORPC). The growth rates are shown below in Table 1. MORPC correspondence can be seen in **Attachment B**. These projections created Background Traffic, or No Build Traffic, for said Opening and Horizon Years.

Table 1 – MORPC Growth Rates

Location	Linear Annual Growth Rate
W. Broad Street east of John Reese Parkway	0.75 %
John Reese Parkway north of W. Broad Street	1.25 %
W. Broad Street west of John Reese Parkway	0.50 %
Linden Avenue south of W. Broad Street	0.90 %

Trips for the proposed site were generated using the Institute of Transportation Engineers' (ITE) OTISS software which uses the latest data (Volume 10 of *Trip Generation* and the 3rd Edition of *Trip Generation Handbook*). Land Use Code 210 – Single-Family Detached Housing was used to generate site traffic. A summary of the site trip generation can be seen below in Table 2. The full trip generation can be found in **Attachment C**.

Table 2 – Trip Generation Summary

Land Use	Size	AM Peak		PM Peak	
		Entry	Exit	Entry	Exit
210 – Single-Family Detached Housing	153 Dwelling units	28	85	96	57
Non-Pass-By		28	85	96	57
TOTAL		28	85	96	57
Non-Pass-By		28	85	96	57

Trips were distributed based on count data, local knowledge of traffic patterns, and engineering judgement. The proposed site traffic was added to the No Build traffic to produce Build traffic volumes. The full traffic volumes and their calculations can be seen in **Attachment D**.

The Opening Year Build scenario assumes the full build out of the proposed development and all proposed connections being in place. However, the proposed development will not connect to Isaac Tharp Street and Alonzo Palmer Street until future phases. Therefore, the use of the W. Broad Street & John Reese Parkway/Linden Avenue intersection will not actually occur until the future phases of the development.

Analysis

Planning-level, 8th highest hour signal warrant analyses were conducted for the intersections of W. Broad Street & John Reese Parkway/Linden Avenue and W. Broad Street & New Road. Peak hour Build volumes and ODOT's Hourly Percentages by Vehicle Type graphs were utilized to calculate an 8th highest hour volume. If warranted, the analysis of the intersection was conducted using Synchro as if the signal was installed.

Turn lane warrant analysis was conducted at the intersection of W. Broad Street & John Reese Parkway/Linden Avenue and W. Broad Street & New Road using ODOT standard turn lane warrant graphs. The length of these turn lanes, if required, were calculated using ODOT methodology. W. Broad Street has a posted speed limit of 35 MPH. Therefore, a design speed of 40 MPH was used in all turn lane warrant analyses.

Capacity was analyzed at both drives using the HCM Module of Synchro Version 10 software. A minimum Level of Service (LOS) of D for the intersection and each individual movement was considered acceptable. If an intersection fell below this criterion, mitigation strategies were developed to bring the intersection back to an acceptable LOS.

Results

The signal warrant analysis shows that signals are not warranted at either intersection. The full signal warrant analysis can be seen in **Attachment E**.

The turn lane warrant analysis shows that a 125' eastbound left turn lane, inclusive of a 50' diverging taper, is warranted at the New Road intersection with W. Broad Street in the Opening Year Build scenario. A right turn lane is not warranted in any scenario. The intersection of W. Broad Street & John Reese Parkway/Linden Avenue already has a 285' eastbound left turn lane and a 285' westbound right turn lane installed¹. The turn lane warrant/length analysis shows that these existing turn lanes are sufficiently long. The full turn lane warrant analysis can be seen in **Attachment E**.

Table 3 shows the results of the capacity analysis for the Opening and Horizon Year No Build and Build conditions.

¹ Estimated based on aerial imagery.

Table 3 – Summary of Capacity Analysis Results (LOS/delay in seconds)

Intersection	Approach	Opening Year				Horizon Year			
		AM No Build	AM Build	PM No Build	PM Build	AM No Build	AM Build	PM No Build	PM Build
W. Broad Street & John Reese Parkway/ Linden Avenue	Eastbound	A/0.2	A/0.2	A/0.5	A/0.6	A/0.2	A/0.2	A/0.5	A/0.6
	Westbound	A/0.0	A/0.0	A/0.2	A/0.2	A/0.0	A/0.0	A/0.2	A/0.2
	Northbound	B/13.5	B/14.2	B/14.6	C/15.0	B/14.3	C/15.2	C/15.8	C/16.2
	Southbound	C/18.2	C/19.7	D/29.5	E/36.2	C/22.1	C/24.6	E/43.6	F/59.1
W. Broad Street & New Road	Eastbound	-	A/0.3	-	A/0.3	-	A/0.3	-	A/0.3
	Westbound	-	A/0.0	-	A/0.0	-	A/0.0	-	A/0.0
	Southbound	-	C/19.3	-	D/26.5	-	C/23.1	-	D/33.2

As seen in Table 3, the southbound approach of the W. Broad Street & John Reese Parkway/Linden Avenue intersection falls below acceptable LOS in the Opening Year PM Build scenario and the Horizon Year PM No Build and Build scenarios. No mitigation is proposed for the W. Broad Street & John Reese Parkway/Linden Avenue intersection for the following reasons:

- 1) The southbound approach is only unacceptable by about 1.2 seconds in the Opening Year.
- 2) The southbound approach pavement is approximately 26 feet wide and acts as a de facto two-lane approach for left and right turning vehicles, so adding a second southbound approach lane is not an option.
- 3) The intersection does not meet signal warrants in the Opening Year or the Horizon Year. It is typical for minor street approaches to have unacceptable LOS when mainline volumes are high and the intersection does not meet signal warrants.
- 4) It is anticipated that future development, likely commercial, along W. Broad Street between the New Road and John Reese Parkway will generate substantially more traffic that could lead to signalization at W. Broad Street and John Reese Parkway/Linden Avenue.

The full capacity analysis can be seen in **Attachment F**.

Conclusions & Recommendations

Based on the results of the turn lane warrant analysis, it is recommended that a 125' eastbound left turn lane, inclusive of a 50' diverging taper, be installed along W. Broad Street at the New Road concurrently with the proposed development. No additional turn lanes are warranted or need lengthened.

Based on the results of the results of the capacity analysis, no additional improvements are required at the W. Broad Street & New Road intersection, and thus, none are recommended. The intersection does not meet signal warrants and has acceptable LOS/delay in stop-controlled conditions.

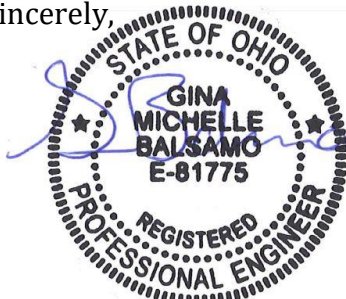
It is recommended that no improvements be required at the intersection of W. Broad Street & John Reese Parkway/Linden Avenue. The southbound approach of the intersection has

unacceptable LOS/delay in the Opening Year PM Build condition and the Horizon Year PM No Build and Build conditions. However, the southbound approach features two de facto turn lanes, an eastbound left turn lane is installed, and a westbound right turn lane is installed. The only feasible solution to the unacceptable delay is signalization. The analysis shows that this intersection does not produce enough minor street traffic to warrant a traffic signal. It is recommended that signalization be reevaluated upon further development of the area north of W. Broad Street between the New Road and John Reese Parkway.

The construction of the New Road connection to W. Broad Street should take significant pressure off the W. Broad Street & John Reese Parkway/Linden Avenue intersection. It is anticipated that a small percentage of existing traffic in the neighborhood will utilize the New Road access point. The analysis does not account for this in order to produce more conservative results. Without construction of the New Road, delays would be significantly higher at the intersection. The construction of the New Road will spread out the distribution of traffic for the existing and future development of the property. This will be extremely beneficial as the area continues to develop.

If I can help in any way, do not hesitate to contact me at gbalsamo@cmtran.com or 614.656.2429 anytime.

Sincerely,



Gina Balsamo, PE
Project Engineer
Carpenter Marty Transportation

Attachment A Site Plan





Homesite Types	Total Homesites	Legend
Maple Street (55' x 125')	153 homesites	100.00%
Total Homesites	153 homesites	3.17 units per acre

Land Use	Acreage	Legend
Rights-of-Way - Internal	6.43 acres	14.10%
Open Space	11.25 acres	24.69%
Residential Lots	27.91 acres	61.22%
Total Site Acreage	45.59 acres	100.00%

*Clustering Calculation:
Total acreage less ROW acreage = 39.16 developable acres = 3.98 units per acre

** Total Site Area includes approximately 3.65 acres currently owned by GCL.



Grand Communities, LLC.
P+G Pataskala (STP Extension) City of Pataskala, Licking County, Ohio
Concept Plan (R-10 Cluster Zoning)

September 20, 2018

Attachment B Count Data and Growth Rate Correspondence



Settlement at Pataskala - TMC

Tue Apr 10, 2018

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

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

All Movements

ID: 510182, Location: 40.00198, -82.681962

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	W Broad St Eastbound				W Broad St Westbound				Linden Ave Northbound				John Reese Pkwy Southbound			
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2018-04-10 4:00PM	10	173	0	0	183	2	95	7	0	104	0	1	3	0	4	303
4:15PM	9	158	3	0	170	2	111	15	0	128	2	0	4	0	6	314
4:30PM	11	169	6	0	186	0	103	12	0	115	5	0	3	0	8	321
4:45PM	6	195	2	0	203	1	87	12	0	100	0	0	2	0	2	322
Hourly Total	36	695	11	0	742	5	396	46	0	447	7	1	12	0	20	1260
5:00PM	11	180	1	1	193	5	112	16	0	133	0	0	3	0	3	334
5:15PM	17	186	3	0	206	2	92	23	0	117	0	0	2	0	2	341
5:30PM	13	166	5	0	184	3	119	27	0	149	0	0	2	0	2	349
5:45PM	21	145	2	0	168	0	111	21	0	132	1	0	1	0	2	321
Hourly Total	62	677	11	1	751	10	434	87	0	531	1	0	8	0	9	1345
6:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2018-04-11 7:00AM	0	52	0	0	52	0	132	3	0	135	3	0	2	0	5	211
7:15AM	0	74	0	1	75	1	138	9	0	148	0	1	4	0	5	247
7:30AM	3	86	0	0	89	0	109	3	0	112	0	0	0	0	0	217
7:45AM	0	72	2	0	74	1	160	4	0	165	2	0	2	0	4	260
Hourly Total	3	284	2	1	290	2	539	19	0	560	5	1	8	0	14	935
8:00AM	3	75	0	0	78	1	139	4	0	144	0	1	4	0	5	247
8:15AM	1	66	0	0	67	1	137	8	0	146	1	0	6	0	7	235
8:30AM	2	84	1	0	87	0	98	0	0	98	3	0	2	0	5	210
8:45AM	2	76	0	0	78	1	131	0	0	132	2	0	1	0	3	226
Hourly Total	8	301	1	0	310	3	505	12	0	520	6	1	13	0	20	918
9:00AM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	2
Hourly Total	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	2
Total	109	1957	25	2	2093	20	1875	164	0	2059	19	3	42	0	64	4460
% Approach	5.2%	93.5%	1.2%	0.1%	-	1.0%	91.1%	8.0%	0%	-	29.7%	4.7%	65.6%	0%	-	-
% Total	2.4%	43.9%	0.6%	0%	46.9%	0.4%	42.0%	3.7%	0%	46.2%	0.4%	0.1%	0.9%	0%	1.4%	-
Lights	105	1891	24	2	2022	20	1812	160	0	1992	19	2	40	0	61	4310
% Lights	96.3%	96.6%	96.0%	100%	96.6%	100%	96.6%	97.6%	0%	96.7%	100%	66.7%	95.2%	0%	95.3%	96.6%
Articulated Trucks	0	18	0	0	18	0	24	0	0	24	0	0	0	0	0	44
% Articulated Trucks	0%	0.9%	0%	0%	0.9%	0%	1.3%	0%	0%	1.2%	0%	0%	0%	0%	0%	1.0%
Buses and Single-Unit Trucks	4	48	1	0	53	0	39	4	0	43	0	1	2	0	3	106
% Buses and Single-Unit Trucks	3.7%	2.5%	4.0%	0%	2.5%	0%	2.1%	2.4%	0%	2.1%	0%	33.3%	4.8%	0%	4.7%	2.4%

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

Settlement at Pataskala - TMC

Tue Apr 10, 2018

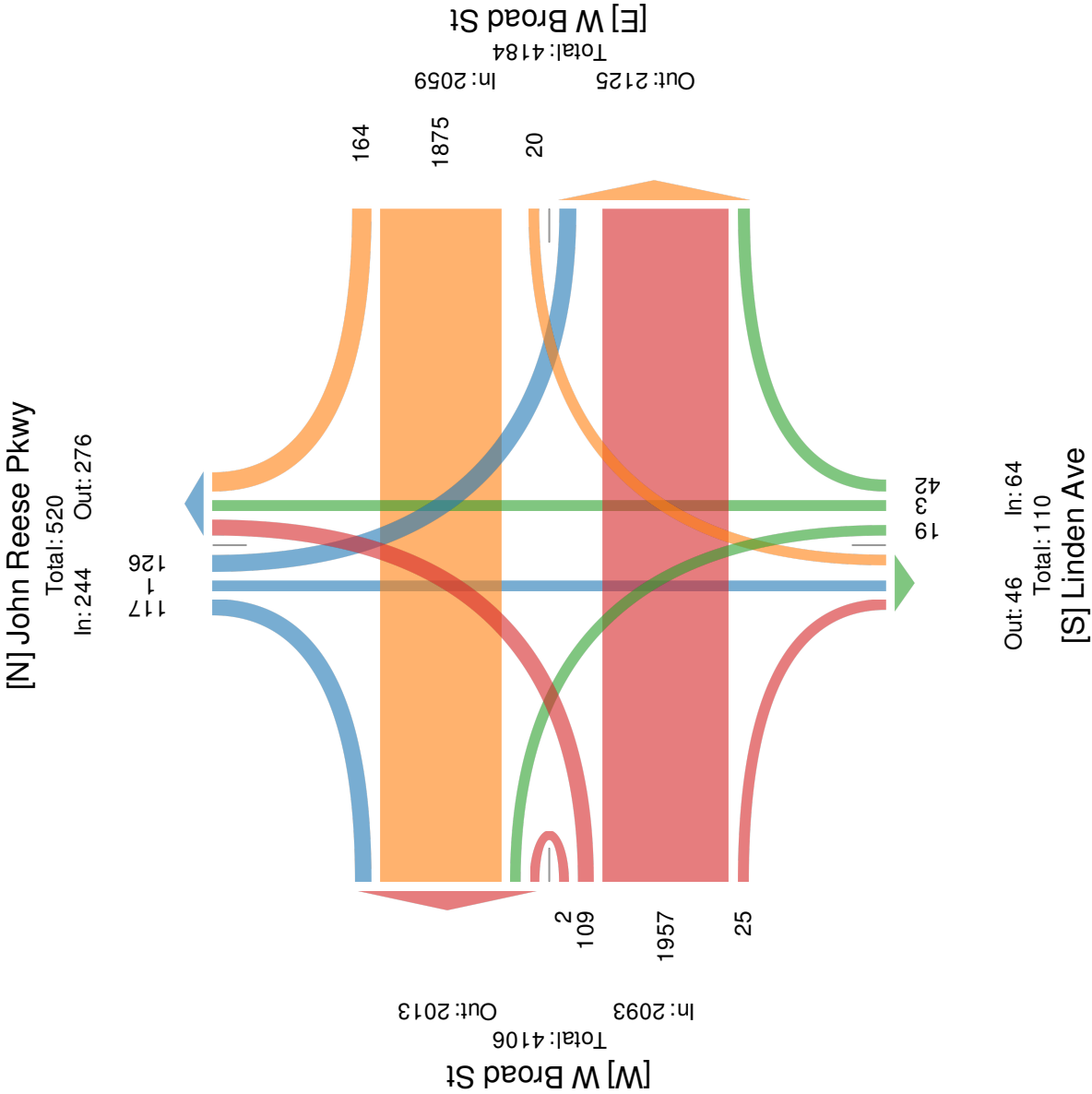
Full Length (4PM-6PM, 7AM-9AM)

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

All Movements

ID: 510182, Location: 40.00198, -82.681962

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



Settlement at Pataskala - TMC

Tue Apr 10, 2018

PM Peak (Apr 10 2018 4:45PM - 5:45PM) - Overall Peak Hour

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

All Movements

ID: 510182, Location: 40.00198, -82.681962

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US

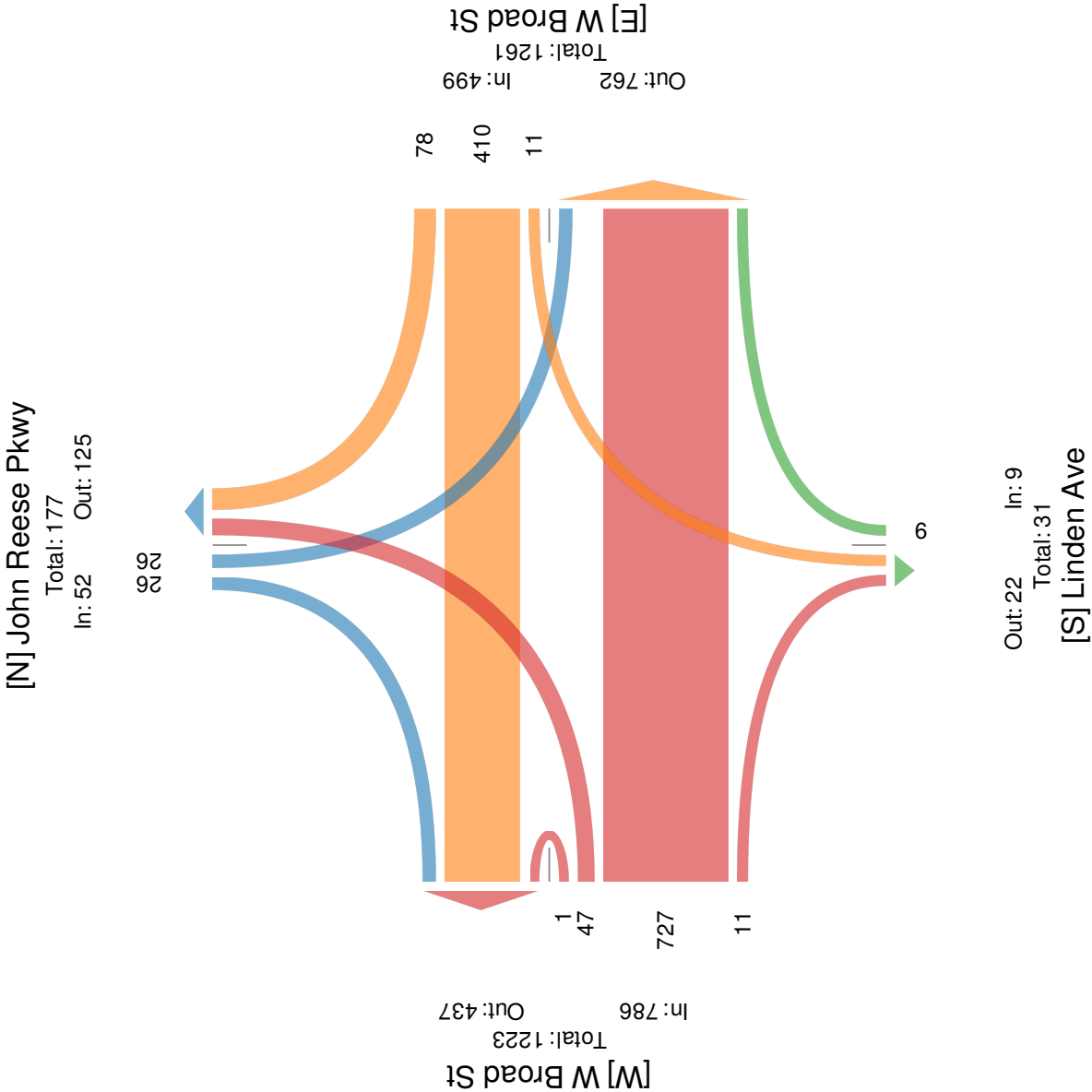
Leg Direction	W Broad St Eastbound				W Broad St Westbound				Linden Ave Northbound				John Reese Pkwy Southbound			
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2018-04-10 4:45PM	6	195	2	0	203	1	87	12	0	100	0	0	2	0	2	322
5:00PM	11	180	1	1	193	5	112	16	0	133	0	0	3	0	3	334
5:15PM	17	186	3	0	206	2	92	23	0	117	0	0	2	0	2	341
5:30PM	13	166	5	0	184	3	119	27	0	149	0	0	2	0	2	349
Total	47	727	11	1	786	11	410	78	0	499	0	0	9	0	9	1346
% Approach	6.0%	92.5%	1.4%	0.1%	-	2.2%	82.2%	15.6%	0%	-	0%	0%	100%	0%	-	-
% Total	3.5%	54.0%	0.8%	0.1%	58.4%	0.8%	30.5%	5.8%	0%	37.1%	0%	0%	0.7%	0%	0.7%	3.9%
PHF	0.691	0.932	0.550	0.250	0.954	0.550	0.861	0.722	-	0.837	-	-	0.750	-	0.722	0.964
Lights	47	721	11	1	780	11	403	75	0	489	0	0	9	0	9	1328
% Lights	100%	99.2%	100%	100%	99.2%	100%	98.3%	96.2%	0%	98.0%	0%	0%	100%	0%	96.2%	98.7%
Articulated Trucks	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	3
% Articulated Trucks	0%	0.1%	0%	0%	0.1%	0%	0.5%	0%	0%	0.4%	0%	0%	0%	0%	0%	0.2%
Buses and Single-Unit Trucks	0	5	0	0	5	0	5	3	0	8	0	0	0	0	0	15
% Buses and Single-Unit Trucks	0%	0.7%	0%	0%	0.6%	0%	1.2%	3.8%	0%	1.6%	0%	0%	0%	0%	3.8%	1.1%

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

Settlement at Pataskala - TMC

Tue Apr 10, 2018
PM Peak (Apr 10 2018 4:45PM - 5:45PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 510182, Location: 40.00198, -82.681962

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



Settlement at Pataskala - TMC

Wed Apr 11, 2018

AM Peak (Apr 11 2018 7:15AM - 8:15AM)

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

All Movements

ID: 510182, Location: 40.00198, -82.681962

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US

Leg Direction	W Broad St Eastbound				W Broad St Westbound				Linden Ave Northbound				John Reese Pkwy Southbound			
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2018-04-11 7:15AM	0	74	0	1	75	1	138	9	0	148	0	1	4	0	5	247
7:30AM	3	86	0	0	89	0	109	3	0	112	0	0	0	0	0	217
7:45AM	0	72	2	0	74	1	160	4	0	165	2	0	2	0	4	260
8:00AM	3	75	0	0	78	1	139	4	0	144	0	1	4	0	5	247
Total	6	307	2	1	316	3	546	20	0	569	2	2	10	0	14	971
% Approach	1.9%	97.2%	0.6%	0.3%	-	0.5%	96.0%	3.5%	0%	-	14.3%	14.3%	71.4%	0%	-	-
% Total	0.6%	31.6%	0.2%	0.1%	32.5%	0.3%	56.2%	2.1%	0%	58.6%	0.2%	0.2%	1.0%	0%	1.4%	-
PHF	0.500	0.892	0.250	0.250	0.888	0.750	0.853	0.556	-	0.862	0.250	0.500	0.625	-	0.700	0.934
Lights	5	281	1	1	288	3	521	20	0	544	2	1	9	0	12	916
% Lights	83.3%	91.5%	50.0%	100%	91.1%	100%	95.4%	100%	0%	95.6%	100%	50.0%	90.0%	0%	85.7%	94.3%
Articulated Trucks	0	9	0	0	9	0	11	0	0	11	0	0	0	0	0	20
% Articulated Trucks	0%	2.9%	0%	0%	2.8%	0%	2.0%	0%	0%	1.9%	0%	0%	0%	0%	0%	2.1%
Buses and Single-Unit Trucks	1	17	1	0	19	0	14	0	0	14	0	1	1	0	2	35
% Buses and Single-Unit Trucks	16.7%	5.5%	50.0%	0%	6.0%	0%	2.6%	0%	0%	2.5%	0%	50.0%	10.0%	0%	14.3%	3.6%

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

Settlement at Pataskala - TMC

Wed Apr 11, 2018

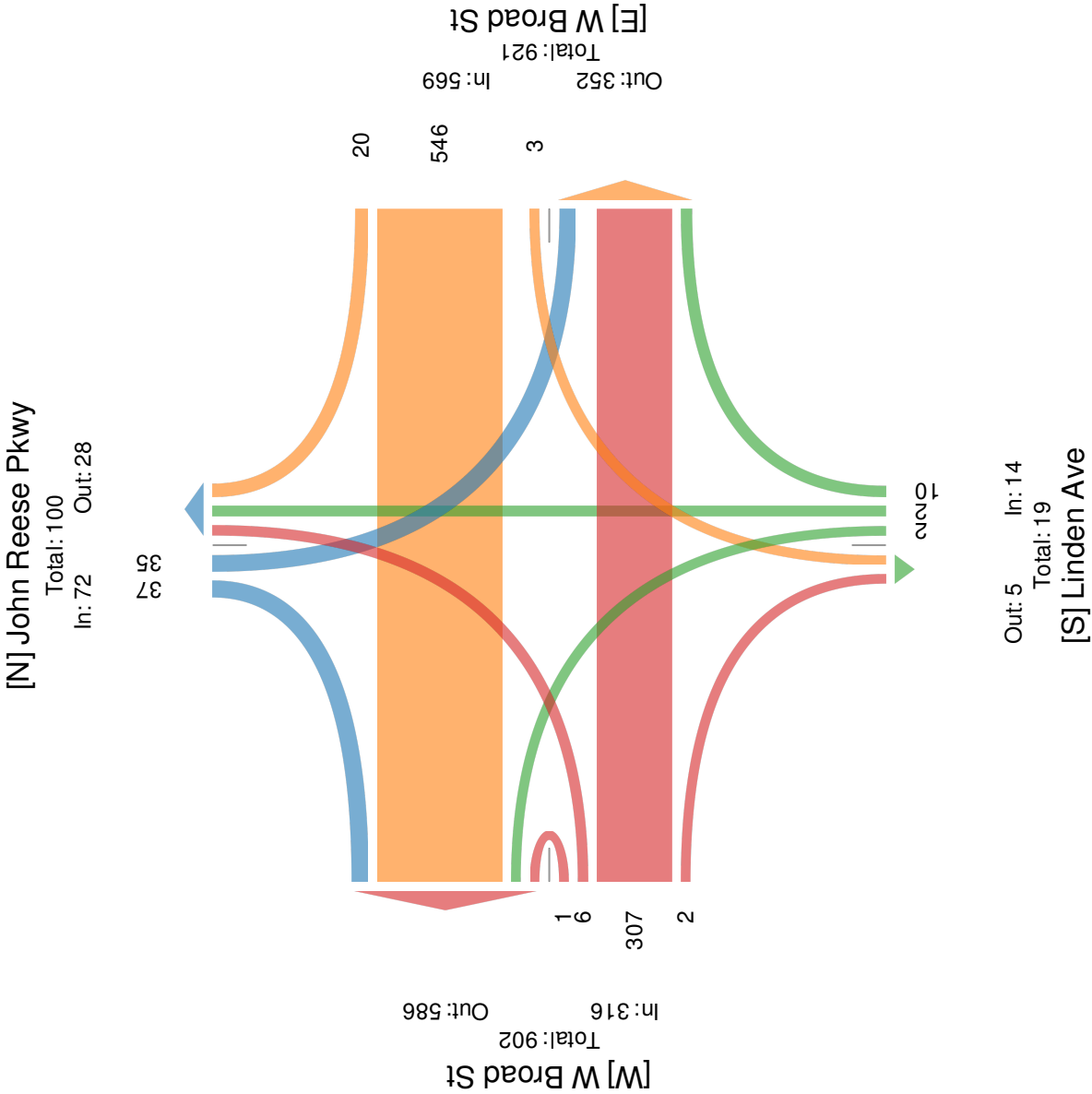
AM Peak (Apr 11 2018 7:15AM - 8:15AM)

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

All Movements

ID: 510182, Location: 40.00198, -82.681962

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



Greg Sprungle

From: Hwashik Jang <hjang@morpc.org>
Sent: Tuesday, May 01, 2018 2:17 PM
To: Greg Sprungle
Cc: Drew Laurent; Gina Balsamo; Zhuojun Jiang; Nick Gill
Subject: RE: Growth Rate Request for Pataskala

Greg,

We have completed processing growth rate request on the intersection of John Reese Pkwy and W Broad St in Pataskala.

Please use linear annual growth rates as summarized below.

<u>Location</u>	<u>Linear Annual Growth Rate</u>
Broad St e/o John Reese Pkwy	0.75%
John Reese Pkwy n/o Broad St	1.25%
Broad St w/o John Reese Pkwy	0.50%
Linden Ave s/o Broad St	0.90%

Note: This is planning level analysis based on MORPC regional travel demand model.

If you have any other questions, please let me know.

Thanks,

Hwashik

Hwashik Jang | hjang@morpc.org | MORPC
Tel 614.233.4145 | Fax 614.233.4245

From: Greg Sprungle [mailto:gsprungle@cmtran.com]
Sent: Monday, April 16, 2018 3:26 PM
To: Hwashik Jang <hjang@morpc.org>; Zhuojun Jiang <zjiang@morpc.org>; Nick Gill <ngill@morpc.org>
Cc: Drew Laurent <dlaurent@cmtran.com>; Gina Balsamo <gbalsamo@cmtran.com>
Subject: Growth Rate Request for Pataskala

All,

We would like to request a growth rate for the intersection of John Reese Pkwy and W Broad St in Pataskala. An additional 131 single-family homes is proposed to be added to the existing development on the north side of the street. The study will be reviewed by the City of Pataskala. Opening day will be 2019 with a 20 year horizon. I have attached recent count data for your reference. Let me know if you have any questions.

Thanks for the help,

Greg Sprungle

Greg Sprungle

Project Engineer



6612 Singletree Drive | Columbus, Ohio 43229
614.656.2419 | www.cmtran.com

Attachment C Trip Generation



Scenario - 1

Scenario Name: AM Peak
Dev. phase: 1
Analyst Note:

User Group:
Horizon Year: 2018

Warning:

VEHICLE TRIPS BEFORE REDUCTION												
Land Use & Data Source		Location	IV	Size	Time Period	Method	Entry	Exit	Total			
210 - Single-Family Detached Housing		General Urban/Suburban	Dwelling Units	153	Weekday, Peak Hour of Adjacent Street Traffic,	Rate/Equation	Split%	Split%				
Data Source: ITE-TGM 10th Edition						Best Fit (UN)	28	85				
						$T = 0.71(X) + 4.80$	25%	75%				

VEHICLE TO PERSON TRIP CONVERSION									
BASELINE SITE VEHICLE CHARACTERISTICS:									
Land Use		Baseline Site Vehicle Mode Share			Baseline Site Vehicle Occupancy			Baseline Site Vehicle Directional Split	
210 - Single-Family Detached Housing		Entry (%)	Exit (%)		Entry	Exit		Entry (%)	Exit (%)
		100	100		1	1		25	75

ESTIMATED BASELINE SITE PERSON TRIPS:									
Land Use		Person Trips by Vehicle			Person Trips by Other Modes			Total Baseline Site Person Trips	
210 - Single-Family Detached Housing		Entry	Exit		Entry	Exit		Entry	Exit
		28	85		0	0		28	85
		113			0			113	

NEW VEHICLE TRIPS									
Land Use								New Vehicle Trips	
210 - Single-Family Detached Housing								Entry	Total
								28	113

RESULTS									
Site Totals									
Vehicle Trips Before Reduction					Entry	Exit	Total		
					28	85	113		
External Vehicle Trips					28	85	113		
New Vehicle Trips					28	85	113		

Scenario - 2

Scenario Name: PM Peak

User Group:

Dev. phase: 1

Horizon Year: 2018

Analyst Note:

Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method		Entry		Exit		Total
					Rate/Equation	Best Fit (LOG)	Split%	Split%	Split%	Split%	
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	153	Weekday, Peak Hour of Adjacent Street Traffic,	$\ln(T) = 0.96\ln(X) + 0.20$		96		57		153
Data Source: ITE-TGM 10th Edition							63%		37%		

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	63	37

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	96	57	0	0	96	57
	153		0		153	

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips	
	Entry	Exit
210 - Single-Family Detached Housing	96	57

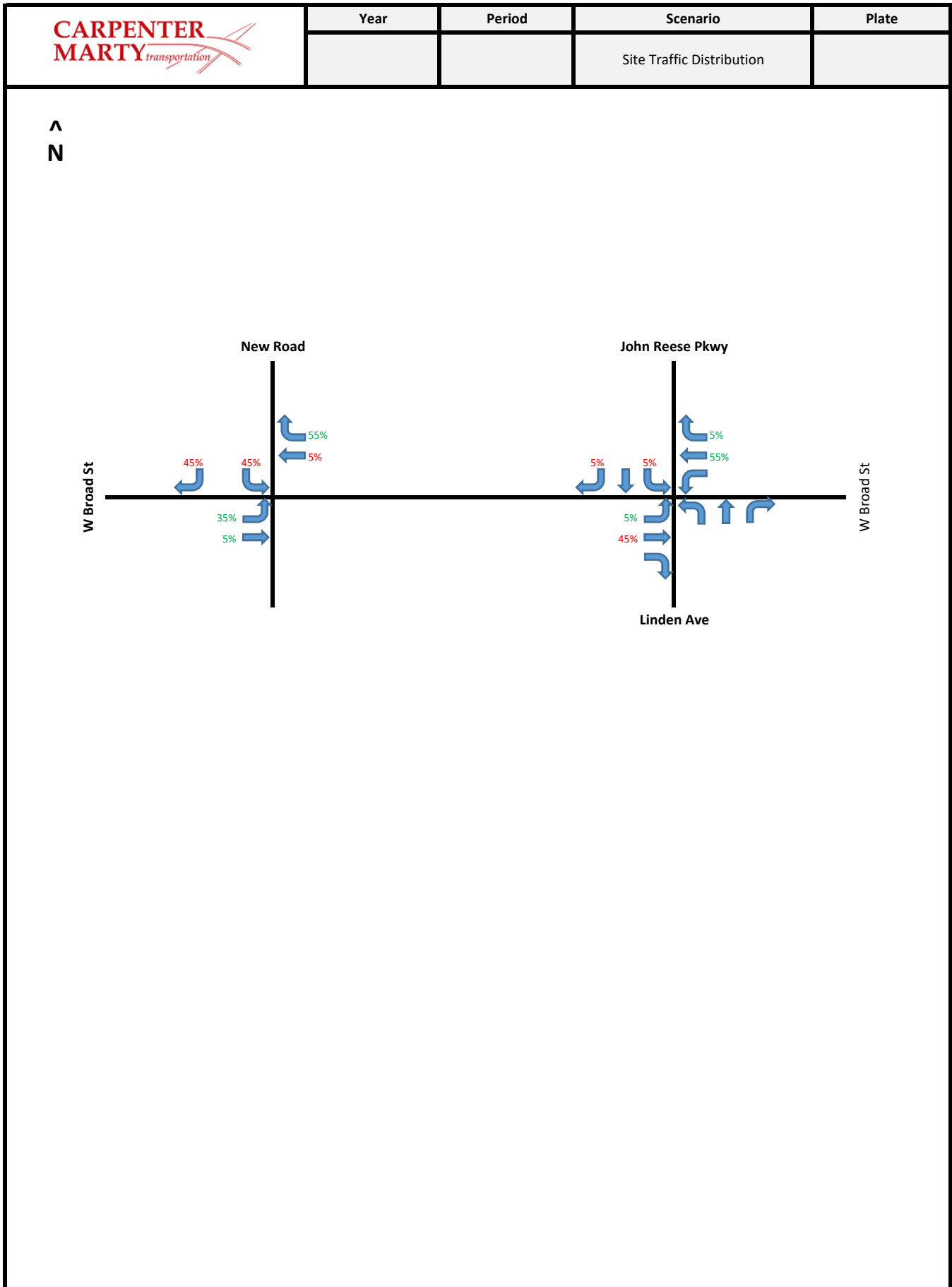
RESULTS

Site Totals		Entry	Exit	Total
Vehicle Trips Before Reduction		96	57	153
External Vehicle Trips		96	57	153
New Vehicle Trips		96	57	153

Attachment D Volume Calculations



Settlement at Pataskala
Traffic Volume Calculations



Settlement at Pataskala
Traffic Volume Calculations



Year

Period

Scenario

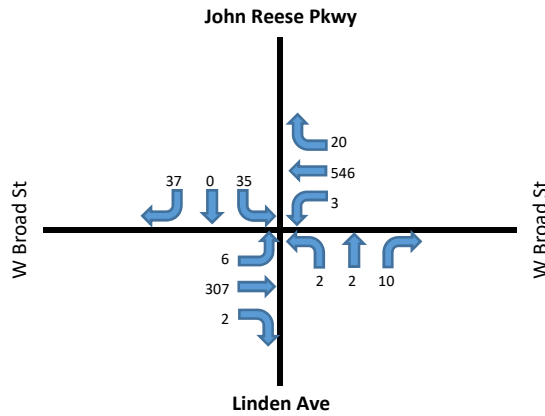
Plate

2018

AM

Count

^
N



Settlement at Pataskala
Traffic Volume Calculations



Year

Period

Scenario

Plate

2019

AM

Background

A

^
N

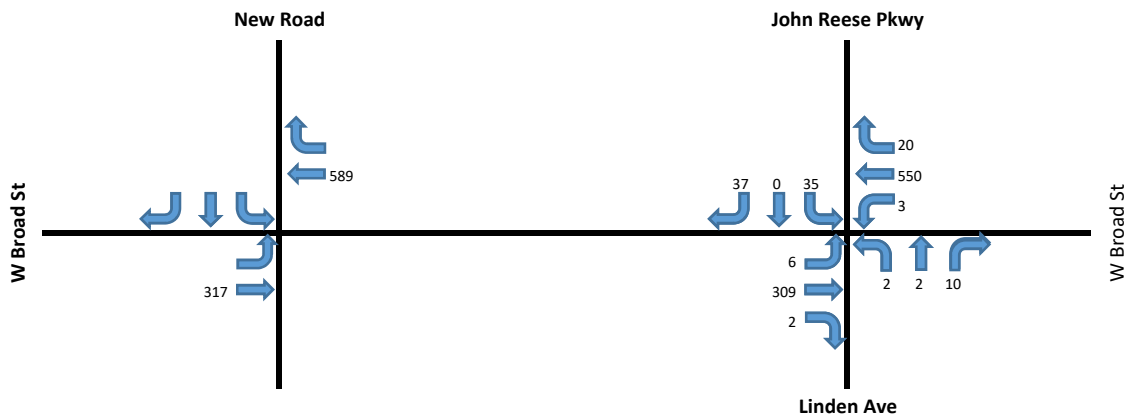
Growth Rates

Broad St e/o John Reese Pkwy 0.75%

John Reese Pkwy n/o Broad St 1.25%

Broad St w/o John Reese Pkwy 0.50%

Linden Ave s/o Broad St 0.90%



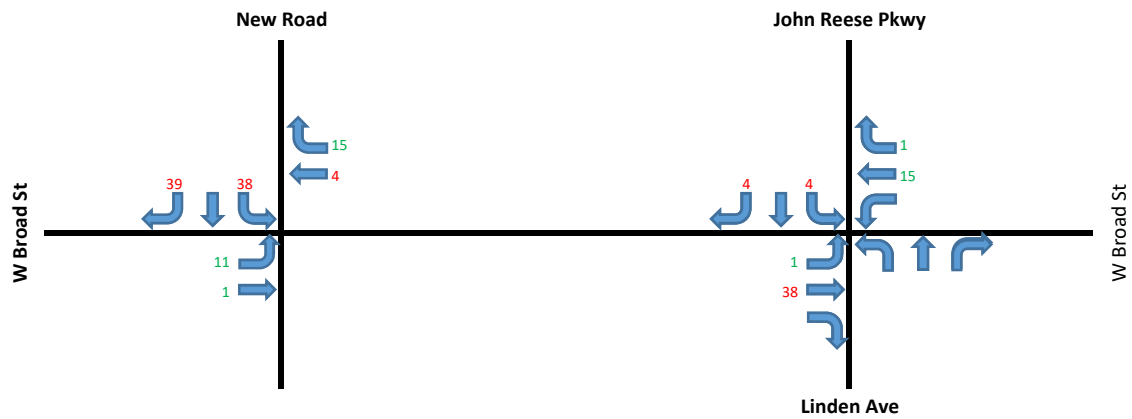
Settlement at Pataskala
Traffic Volume Calculations



Year	Period	Scenario	Plate
	AM	Non Pass By	B

^
N

Enter Exit
28 85



Settlement at Pataskala
Traffic Volume Calculations



Year

Period

Scenario

Plate

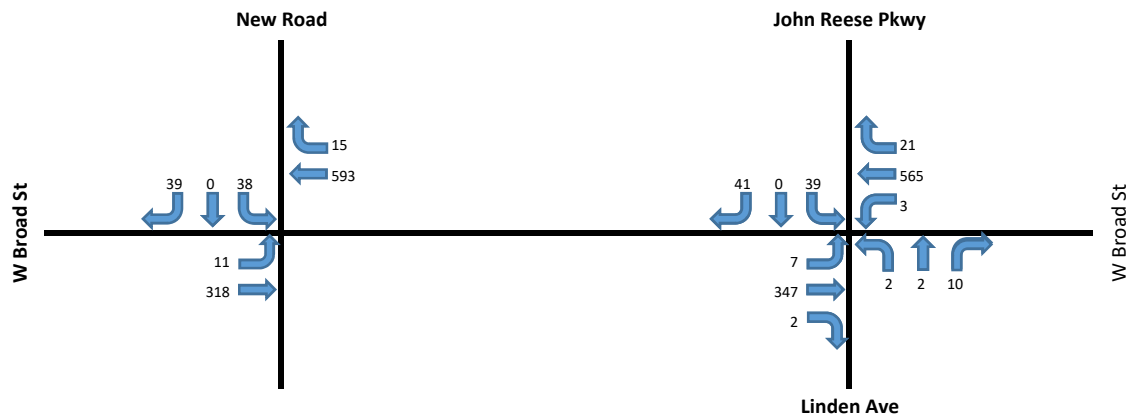
2019

AM

Build

$C = A + B$

^
N



Settlement at Pataskala
Traffic Volume Calculations



Year

Period

Scenario

Plate

2039

AM

Background

D

^
N

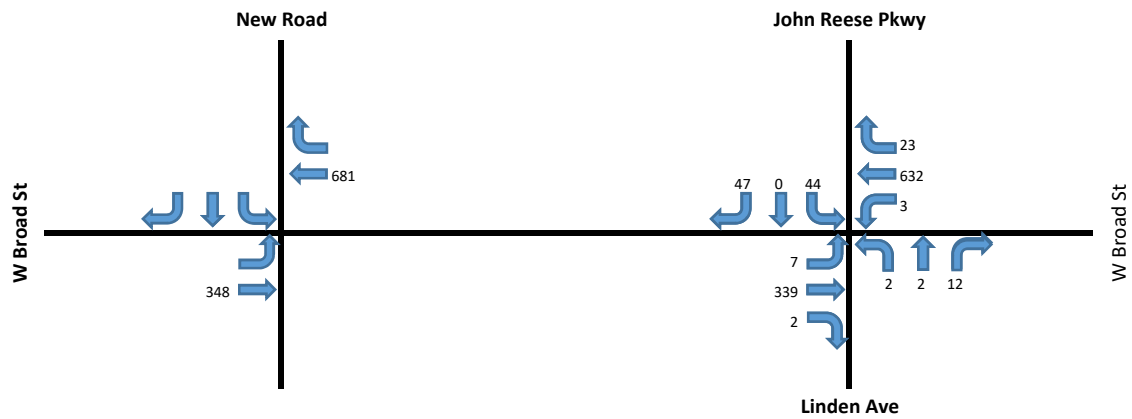
Growth Rates

Broad St e/o John Reese Pkwy 0.75%


John Reese Pkwy n/o Broad St 1.25%

Broad St w/o John Reese Pkwy 0.50%

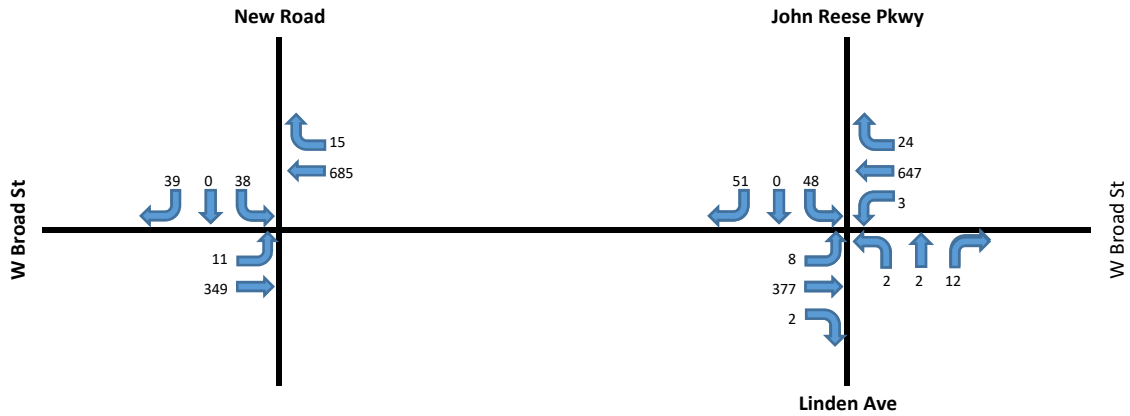
Linden Ave s/o Broad St 0.90%



Settlement at Pataskala
Traffic Volume Calculations

	Year	Period	Scenario	Plate
	2039	AM	Build	E = B + D

^
N



Settlement at Pataskala
Traffic Volume Calculations



Year

Period

Scenario

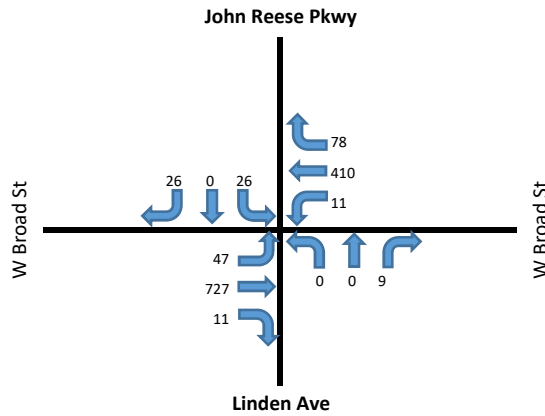
Plate

2018

PM

Count

^
N



Settlement at Pataskala Traffic Volume Calculations



Year

Period

Scenario

Plate

2019

PM

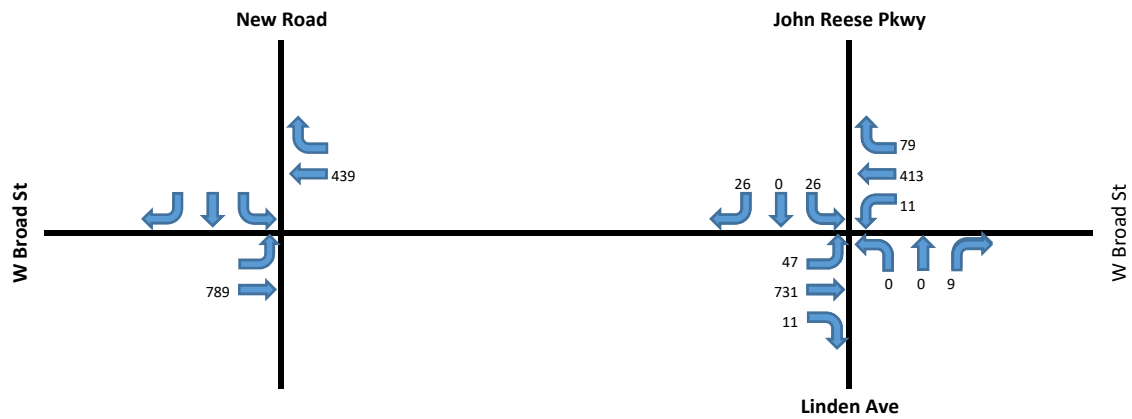
Background

A

^
N

Growth Rates

Broad St e/o John Reese Pkwy	0.75%
John Reese Pkwy n/o Broad St	1.25%
Broad St w/o John Reese Pkwy	0.50%
Linden Ave s/o Broad St	0.90%



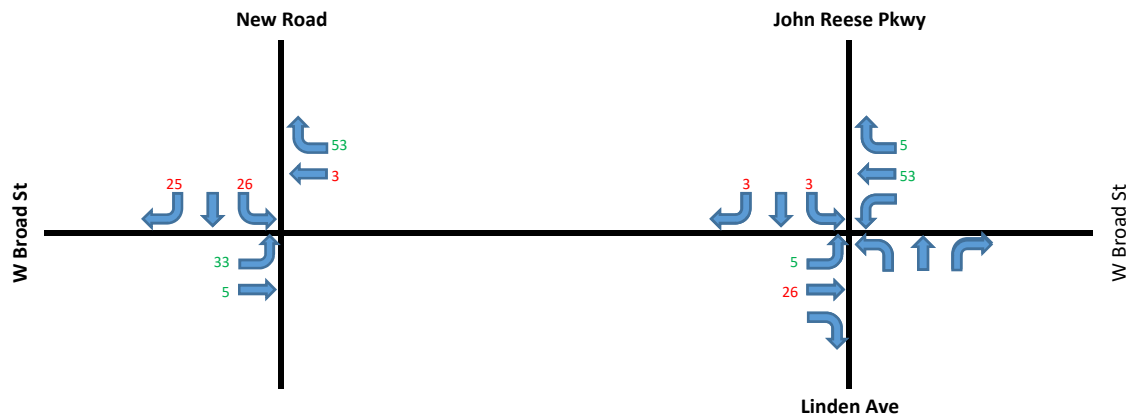
Settlement at Pataskala
Traffic Volume Calculations



Year	Period	Scenario	Plate
	PM	Non Pass By	B

^
N

Enter Exit
96 57



Settlement at Pataskala
Traffic Volume Calculations



Year

Period

Scenario

Plate

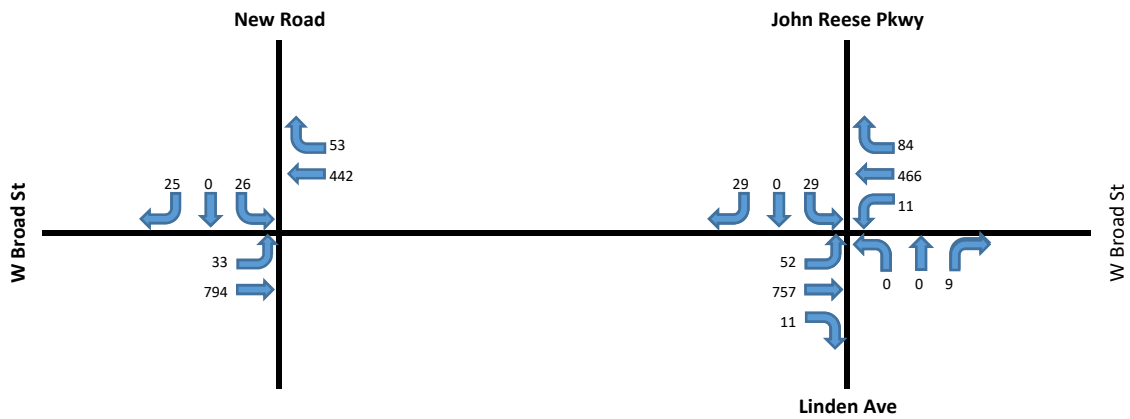
2019

PM

Build

C = A + B

^
N



Settlement at Pataskala Traffic Volume Calculations



Year

Period

Scenario

Plate

2039

PM

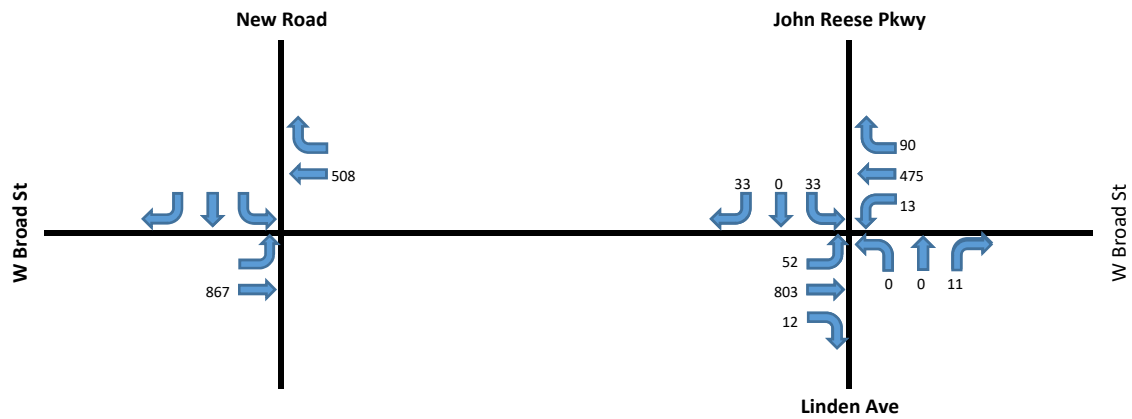
Background

D


^
N

Growth Rates

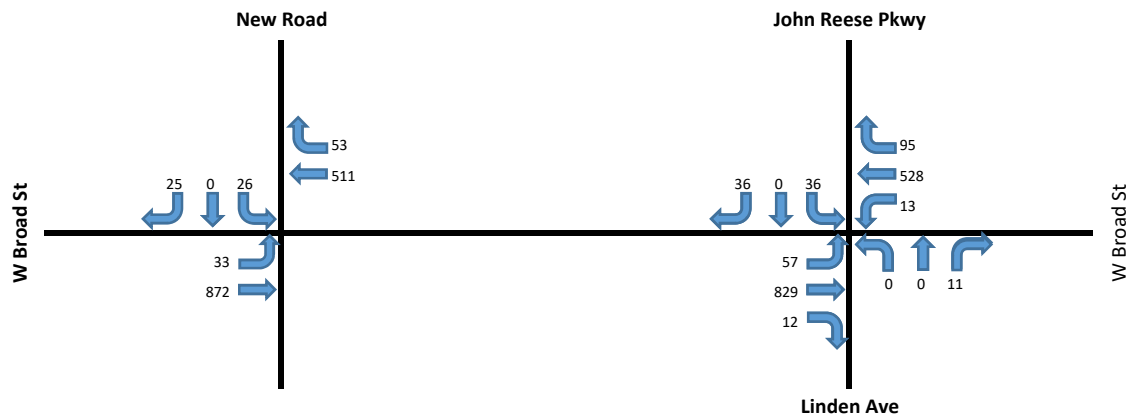
Broad St e/o John Reese Pkwy	0.75%
John Reese Pkwy n/o Broad St	1.25%
Broad St w/o John Reese Pkwy	0.50%
Linden Ave s/o Broad St	0.90%



Settlement at Pataskala
Traffic Volume Calculations

	Year	Period	Scenario	Plate
	2039	PM	Build	E = B + D

^
N



Attachment E Signal Warrants and Turn Lane Warrants



Major Roadway	W Broad St
Minor Roadway	John Reese Pkwy
Functional Class	Urban Principal Arterial - FC14
Major Road Direction	East/West
Minor Road Direction	North/South

W Broad St	
PM EB	898
PM WB	636
Total PM EB/WB	1534
PM ADT EB/WB	18707
AM EB	387
AM WB	674
Total AM EB/WB	1061
AM ADT EB/WB	16323
Average EB/WB ADT	17515

John Reese Pkwy	
Rights Discounted 50%	
PM NB	6
PM SB	54
Greater of PM NB/SB	54
PM ADT NB/SB	659
AM NB	10
AM SB	74
Greater of AM NB/SB	74
AM ADT NB/SB	1138
Average NB/SB ADT	898

Results	
EB/WB 8th Hour	1051
Meets Condition A (>500)	YES
Meets Condition B (>750)	YES
NB/SB 8th Hour	54
Meets Condition A (>200)	NO
Meets Condition B (>100)	NO
EB/WB 4th Hour	1156
NB/SB 4th Hour	59

Hourly % of ADT	
Hour of Day	% Total
Mid-1A	0.7%
1A-2A	0.4%
2A-3A	0.3%
3A	0.4%
4A	0.7%
5A	1.8%
6A	4.1%
7A	6.5%
8A	6.1%
9A	5.2%
10A	5.1%
11A-Noon	5.7%
Noon	6.0%
1P-2P	6.0%
2P-3P	6.6%
3P	7.5%
4P	8.1%
5P	8.2%
6P	6.1%
7P	4.6%
8P	3.8%
9P	2.8%
10P-11P	1.9%
11P-Mid	1.3%

AM Peak % of ADT=	6.5%
PM Peak % of ADT=	8.2%
8th Hour % of ADT=	6.0%
4th Hour % of ADT=	6.6%

Signal Not Warranted

**CARPENTER
MARTY** *transportation*

Major Roadway	W Broad St
Minor Roadway	New Road
Functional Class	Urban Principal Arterial - FC14
Major Road Direction	East/West
Minor Road Direction	North/South

W Broad St	
PM EB	905
PM WB	564
Total PM EB/WB	1469
PM ADT EB/WB	17915
AM EB	360
AM WB	700
Total AM EB/WB	1060
AM ADT EB/WB	16308
Average EB/WB ADT	17111

New Road	
Rights Discounted 50%	
PM NB	0
PM SB	39
Greater of PM NB/SB	39
PM ADT NB/SB	476
AM NB	0
AM SB	58
Greater of AM NB/SB	58
AM ADT NB/SB	892
Average NB/SB ADT	684

Results	
EB/WB 8th Hour	1027
Meets Condition A (>500)	YES
Meets Condition B (>750)	YES
NB/SB 8th Hour	41
Meets Condition A (>200)	NO
Meets Condition B (>100)	NO
EB/WB 4th Hour	1129
NB/SB 4th Hour	45

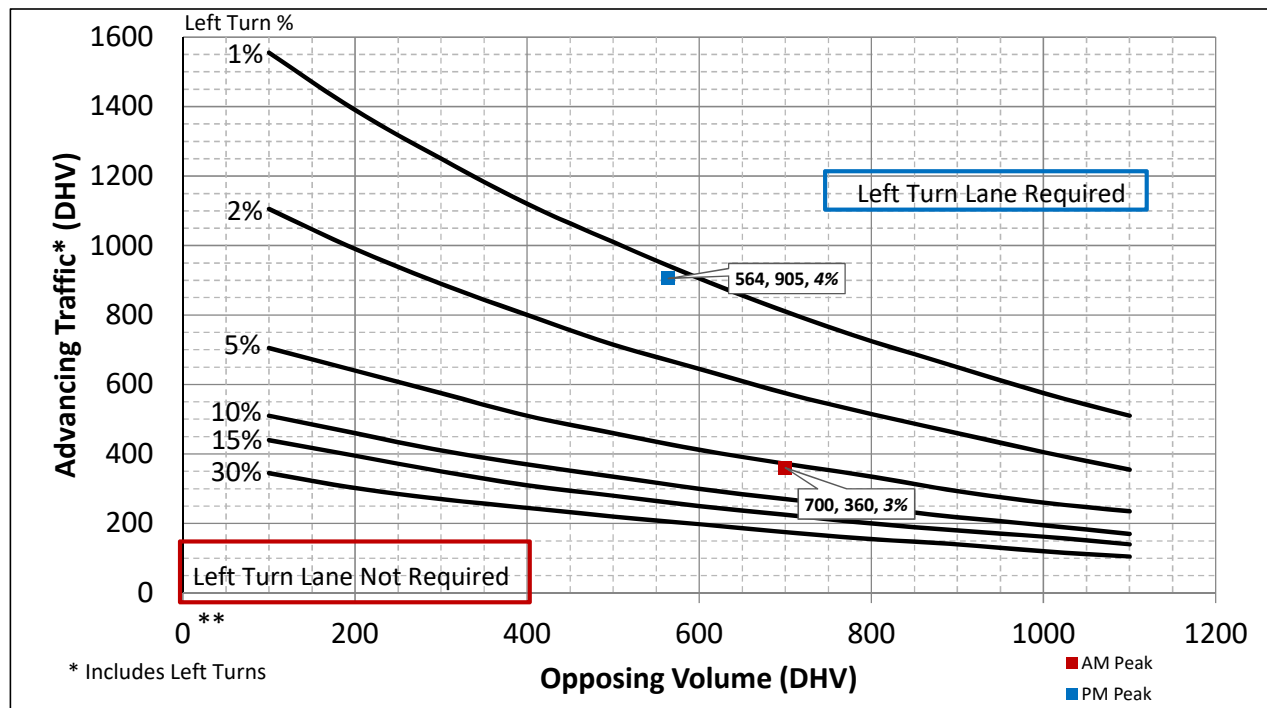
Hourly % of ADT	
Hour of Day	% Total
Mid-1A	0.7%
1A-2A	0.4%
2A-3A	0.3%
3A	0.4%
4A	0.7%
5A	1.8%
6A	4.1%
7A	6.5%
8A	6.1%
9A	5.2%
10A	5.1%
11A-Noon	5.7%
Noon	6.0%
1P-2P	6.0%
2P-3P	6.6%
3P	7.5%
4P	8.1%
5P	8.2%
6P	6.1%
7P	4.6%
8P	3.8%
9P	2.8%
10P-11P	1.9%
11P-Mid	1.3%

AM Peak % of ADT=	6.5%
PM Peak % of ADT=	8.2%
8th Hour % of ADT=	6.0%
4th Hour % of ADT=	6.6%

Signal Not Warranted

**CARPENTER
MARTY** *transportation*

2-Lane Highway Left Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



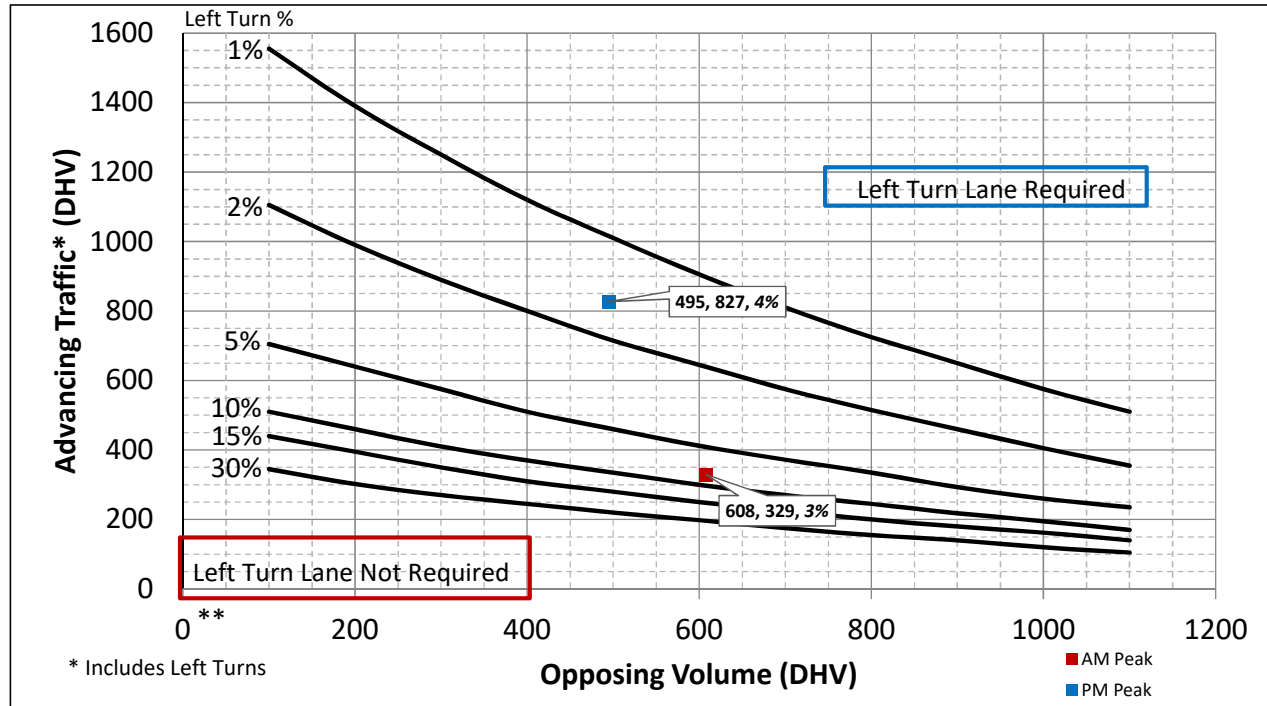
Turn Lane Length Calculations

AM Peak	Design Speed	40	mph
	Traffic Control	Unsignalized	
	Cycle Length	Unsignalized	
	Cycles Per Hour	60	Assume 60
	Turn Lane Volume	11	VPH
	Advancing Traffic	360	VPH
	Opposing Volume	700	VPH
	Left Turn Percentage	3%	
	Location Type	Through Road	
	Condition	B	
	Vehicles/Cycle	1	
	Turn Lane Length	125	
	Offset Width	12	
	Approach Taper	320	
PM Peak	Design Speed	40	mph
	Traffic Control	Unsignalized	
	Cycle Length	Unsignalized	
	Cycles Per Hour	60	Assume 60
	Turn Lane Volume	33	VPH
	Advancing Traffic	905	VPH
	Opposing Volume	564	VPH
	Left Turn Percentage	4%	
	Location Type	Through Road	
	Condition	B	
	Vehicles/Cycle	1	
	Turn Lane Length	125	
	Offset Width	12	
	Approach Taper	320	
Is Left Turn Warrant Met		Yes	See Above

* Turn Lane Length
includes 50 ft diverging
taper

* Turn Lane Length
includes 50 ft diverging
taper

2-Lane Highway Left Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



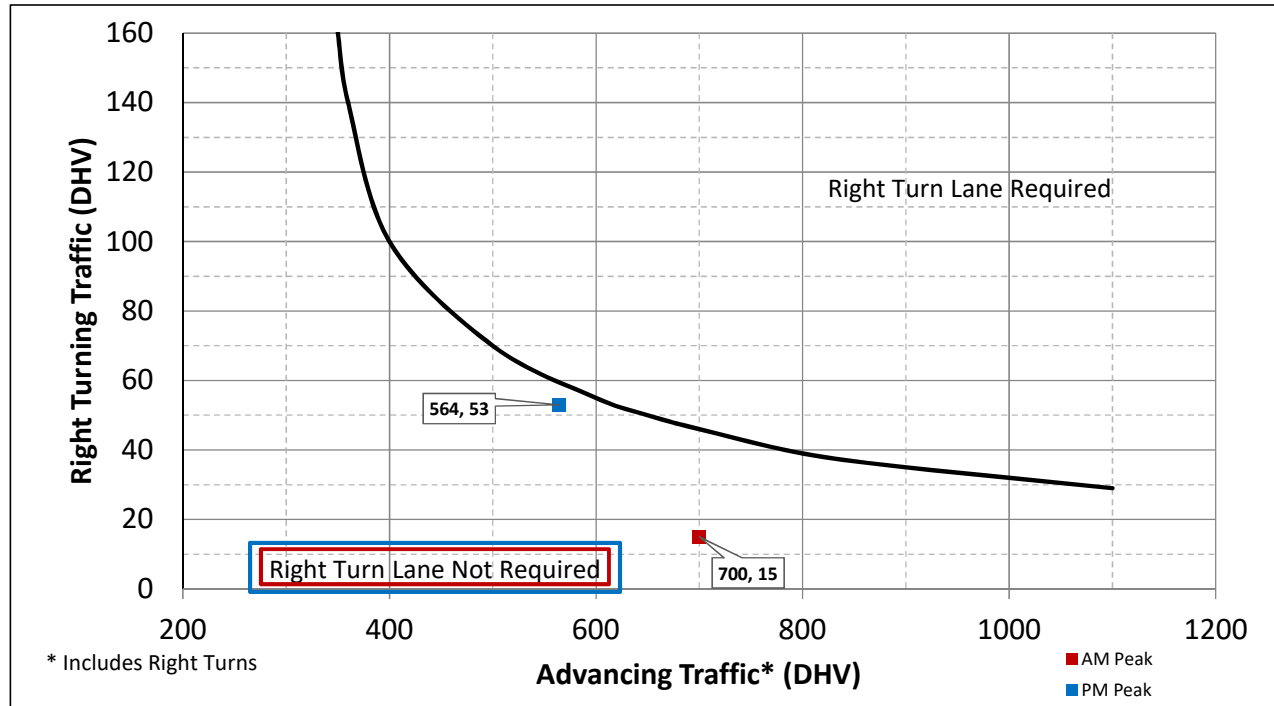
Turn Lane Length Calculations

AM Peak	Design Speed	40	mph
	Traffic Control	Unsignalized	
	Cycle Length	Unsignalized	
	Cycles Per Hour	60	Assume 60
	Turn Lane Volume	11	VPH
	Advancing Traffic	329	VPH
	Opposing Volume	608	VPH
	Left Turn Percentage	3%	
	Location Type	Through Road	
	Condition	B	
	Vehicles/Cycle	1	
	Turn Lane Length	125	
	Offset Width	12	
	Approach Taper	320	
PM Peak	Design Speed	40	mph
	Traffic Control	Unsignalized	
	Cycle Length	Unsignalized	
	Cycles Per Hour	60	Assume 60
	Turn Lane Volume	33	VPH
	Advancing Traffic	827	VPH
	Opposing Volume	495	VPH
	Left Turn Percentage	4%	
	Location Type	Through Road	
	Condition	B	
	Vehicles/Cycle	1	
	Turn Lane Length	125	
	Offset Width	12	
	Approach Taper	320	
Is Left Turn Warrant Met		Yes	See Above

* Turn Lane Length includes 50 ft diverging taper

* Turn Lane Length includes 50 ft diverging taper

2-Lane Highway Right Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



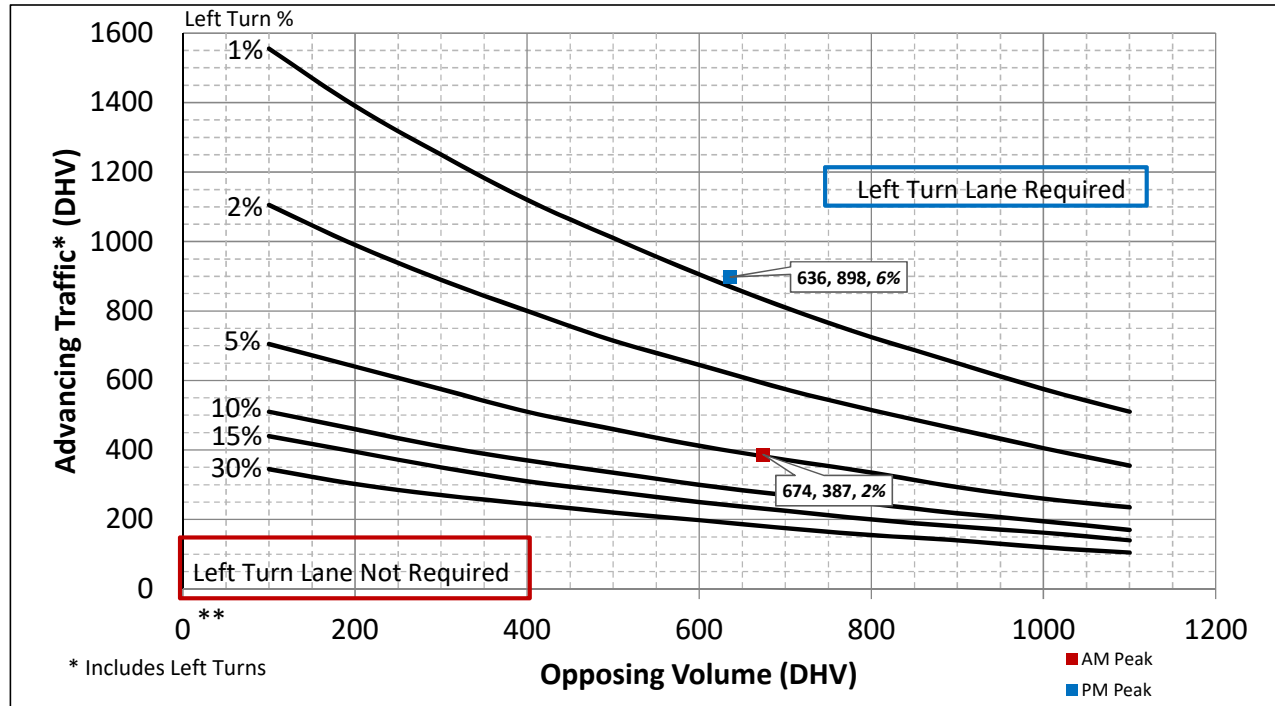
Turn Lane Length Calculations

AM Peak	Design Speed	40	mph
	Traffic Control	Unsignalized	
	Cycle Length	Unsignalized	
	Cycles Per Hour	60	Assume 60
	Turn Lane Volume	15	VPH
	Advancing Traffic	700	VPH
	Right Turn Percentage	2%	
	Location Type	Through Road	
	Condition	B	
	Vehicles/Cycle	1	
	Turn Lane Length	125	
PM Peak	Design Speed	40	mph
	Traffic Control	Unsignalized	
	Cycle Length	Unsignalized	
	Cycles Per Hour	60	Assume 60
	Turn Lane Volume	53	VPH
	Advancing Traffic	564	VPH
	Right Turn Percentage	9%	
	Location Type	Through Road	
	Condition	B	
	Vehicles/Cycle	1	
	Turn Lane Length	125	
Is Right Turn Warrant Met		No	No Right Turn Lane Required

* Turn Lane Length includes 50 ft diverging taper

* Turn Lane Length includes 50 ft diverging taper

2-Lane Highway Left Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



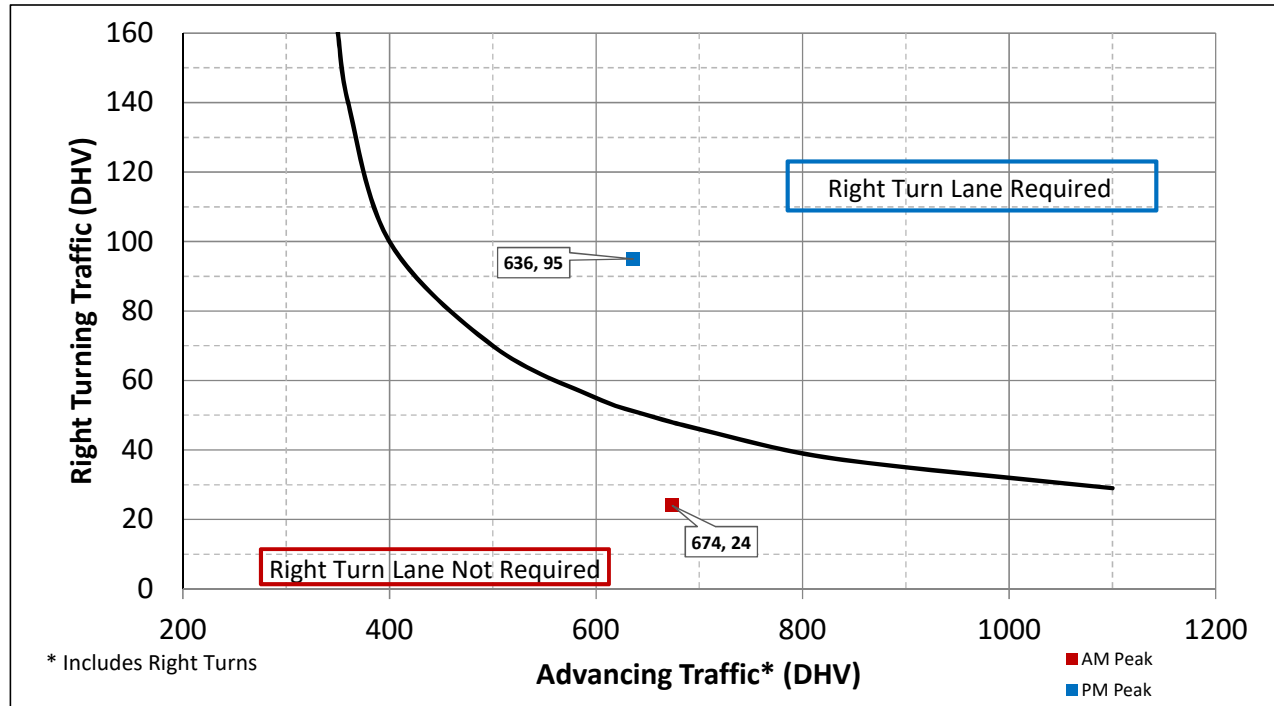
Turn Lane Length Calculations

AM Peak	Design Speed	40	mph
	Traffic Control	Unsignalized	
	Cycle Length	Unsignalized	
	Cycles Per Hour	60	Assume 60
	Turn Lane Volume	8	VPH
	Advancing Traffic	387	VPH
	Opposing Volume	674	VPH
	Left Turn Percentage	2%	
	Location Type	Through Road	
	Condition	B	
	Vehicles/Cycle	1	
	Turn Lane Length	125	
	Offset Width	12	
	Approach Taper	320	
PM Peak	Design Speed	40	mph
	Traffic Control	Unsignalized	
	Cycle Length	Unsignalized	
	Cycles Per Hour	60	Assume 60
	Turn Lane Volume	57	VPH
	Advancing Traffic	898	VPH
	Opposing Volume	636	VPH
	Left Turn Percentage	6%	
	Location Type	Through Road	
	Condition	B	
	Vehicles/Cycle	1	
	Turn Lane Length	125	
	Offset Width	12	
	Approach Taper	320	
Is Left Turn Warrant Met		Yes	See Above

** Turn Lane Length includes 50 ft diverging taper*

** Turn Lane Length includes 50 ft diverging taper*

2-Lane Highway Right Turn Lane Warrant
(= < 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations









AM Peak	Design Speed	40	mph
	Traffic Control	Unsignalized	
	Cycle Length	Unsignalized	
	Cycles Per Hour	60	Assume 60
	Turn Lane Volume	24	VPH
	Advancing Traffic	674	VPH
	Right Turn Percentage	4%	
	Location Type	Through Road	
	Condition	B	
	Vehicles/Cycle	1	
PM Peak	Turn Lane Length	125	
	Design Speed	40	mph
	Traffic Control	Unsignalized	
	Cycle Length	Unsignalized	
	Cycles Per Hour	60	Assume 60
	Turn Lane Volume	95	VPH
	Advancing Traffic	636	VPH
	Right Turn Percentage	15%	
	Location Type	Through Road	
	Condition	C	
	Vehicles/Cycle	2	
	Turn Lane Length	215	
Is Right Turn Warrant Met		Yes	See Above









* Turn Lane Length includes 50 ft diverging taper

* Turn Lane Length includes 50 ft diverging taper

Attachment F Capacity Analysis



Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	309	2	3	550	20	2	2	10	35	0	37
Future Vol, veh/h	6	309	2	3	550	20	2	2	10	35	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	336	2	3	598	22	2	2	11	38	0	40
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	620	0	0	338	0	0	986	977	337	962	956	598
Stage 1	-	-	-	-	-	-	351	351	-	604	604	-
Stage 2	-	-	-	-	-	-	635	626	-	358	352	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	960	-	-	1221	-	-	227	251	705	235	258	502
Stage 1	-	-	-	-	-	-	666	632	-	485	488	-
Stage 2	-	-	-	-	-	-	467	477	-	660	632	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	960	-	-	1221	-	-	207	248	705	228	255	502
Mov Cap-2 Maneuver	-	-	-	-	-	-	207	248	-	228	255	-
Stage 1	-	-	-	-	-	-	661	628	-	482	486	-
Stage 2	-	-	-	-	-	-	428	475	-	643	628	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0			13.5			18.2		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	439	960	-	-	1221	-	-	228	502			
HCM Lane V/C Ratio	0.035	0.007	-	-	0.003	-	-	0.167	0.08			
HCM Control Delay (s)	13.5	8.8	-	-	8	0	-	23.9	12.8			
HCM Lane LOS	B	A	-	-	A	A	-	C	B			
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.6	0.3			

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	347	2	3	565	21	2	2	10	39	0	41
Future Vol, veh/h	7	347	2	3	565	21	2	2	10	39	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	377	2	3	614	23	2	2	11	42	0	45





Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	637	0	0	379	0	0	1048	1037	378	1021	1015	614
Stage 1	-	-	-	-	-	-	394	394	-	620	620	-
Stage 2	-	-	-	-	-	-	654	643	-	401	395	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	947	-	-	1179	-	-	206	231	669	215	238	492
Stage 1	-	-	-	-	-	-	631	605	-	476	480	-
Stage 2	-	-	-	-	-	-	456	468	-	626	605	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	947	-	-	1179	-	-	186	228	669	208	235	492
Mov Cap-2 Maneuver	-	-	-	-	-	-	186	228	-	208	235	-
Stage 1	-	-	-	-	-	-	626	600	-	472	478	-
Stage 2	-	-	-	-	-	-	413	466	-	608	600	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	14.2	19.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	406	947	-	-	1179	-	-	208	492
HCM Lane V/C Ratio	0.037	0.008	-	-	0.003	-	-	0.204	0.091
HCM Control Delay (s)	14.2	8.8	-	-	8.1	0	-	26.7	13
HCM Lane LOS	B	A	-	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.7	0.3

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	318	593	15	38	39
Future Vol, veh/h	11	318	593	15	38	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	346	645	16	41	42









Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	661	0	0 1023 653
Stage 1	-	-	- 653 -
Stage 2	-	-	- 370 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	927	-	- 261 467
Stage 1	-	-	- 518 -
Stage 2	-	-	- 699 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	927	-	- 258 467
Mov Cap-2 Maneuver	-	-	- 258 -
Stage 1	-	-	- 511 -
Stage 2	-	-	- 699 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	927	-	-	-	334
HCM Lane V/C Ratio	0.013	-	-	-	0.251
HCM Control Delay (s)	8.9	0	-	-	19.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1

Intersection









Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	731	11	11	413	79	0	0	9	26	0	26
Future Vol, veh/h	47	731	11	11	413	79	0	0	9	26	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	795	12	12	449	86	0	0	10	28	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	535	0	0	807	0	0	1433	1462	801	1381	1382	449
Stage 1	-	-	-	-	-	-	903	903	-	473	473	-
Stage 2	-	-	-	-	-	-	530	559	-	908	909	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1033	-	-	818	-	-	112	129	384	121	144	610
Stage 1	-	-	-	-	-	-	332	356	-	572	558	-
Stage 2	-	-	-	-	-	-	533	511	-	330	354	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1033	-	-	818	-	-	101	120	384	112	134	610
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	120	-	112	134	-
Stage 1	-	-	-	-	-	-	316	339	-	544	546	-
Stage 2	-	-	-	-	-	-	498	500	-	306	337	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.2			14.6			29.5		
HCM LOS							B			D		





Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	384	1033	-	-	818	-	-	112	610
HCM Lane V/C Ratio	0.025	0.049	-	-	0.015	-	-	0.252	0.046
HCM Control Delay (s)	14.6	8.7	-	-	9.5	0	-	47.7	11.2
HCM Lane LOS	B	A	-	-	A	A	-	E	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	0.9	0.1









Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	757	11	11	466	84	0	0	9	29	0	29
Future Vol, veh/h	52	757	11	11	466	84	0	0	9	29	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	823	12	12	507	91	0	0	10	32	0	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	598	0	0	835	0	0	1536	1565	829	1479	1480	507
Stage 1	-	-	-	-	-	-	943	943	-	531	531	-
Stage 2	-	-	-	-	-	-	593	622	-	948	949	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	979	-	-	798	-	-	95	111	370	104	125	566
Stage 1	-	-	-	-	-	-	315	341	-	532	526	-
Stage 2	-	-	-	-	-	-	492	479	-	313	339	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	979	-	-	798	-	-	84	102	370	95	115	566
Mov Cap-2 Maneuver	-	-	-	-	-	-	84	102	-	95	115	-
Stage 1	-	-	-	-	-	-	297	321	-	501	514	-
Stage 2	-	-	-	-	-	-	454	468	-	287	319	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.2			15			36.2		
HCM LOS							C			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	370	979	-	-	798	-	-	95	566
HCM Lane V/C Ratio	0.026	0.058	-	-	0.015	-	-	0.332	0.056
HCM Control Delay (s)	15	8.9	-	-	9.6	0	-	60.7	11.7
HCM Lane LOS	C	A	-	-	A	A	-	F	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	1.3	0.2









Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	794	442	53	26	25
Future Vol, veh/h	33	794	442	53	26	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	863	480	58	28	27
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	538	0	-	0	1444	509
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	935	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1030	-	-	-	145	564
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	382	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1030	-	-	-	140	564
Mov Cap-2 Maneuver	-	-	-	-	140	-
Stage 1	-	-	-	-	583	-
Stage 2	-	-	-	-	382	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		26.5		
HCM LOS				D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1030	-	-	-	222	
HCM Lane V/C Ratio	0.035	-	-	-	0.25	
HCM Control Delay (s)	8.6	-	-	-	26.5	
HCM Lane LOS	A	-	-	-	D	
HCM 95th %tile Q(veh)	0.1	-	-	-	1	

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	339	2	3	632	23	2	2	12	44	0	47
Future Vol, veh/h	7	339	2	3	632	23	2	2	12	44	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	368	2	3	687	25	2	2	13	48	0	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	712	0	0	370	0	0	1116	1103	369	1086	1079	687
Stage 1	-	-	-	-	-	-	385	385	-	693	693	-
Stage 2	-	-	-	-	-	-	731	718	-	393	386	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	888	-	-	1189	-	-	185	211	677	194	218	447
Stage 1	-	-	-	-	-	-	638	611	-	434	445	-
Stage 2	-	-	-	-	-	-	413	433	-	632	610	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	888	-	-	1189	-	-	162	208	677	187	215	447
Mov Cap-2 Maneuver	-	-	-	-	-	-	162	208	-	187	215	-
Stage 1	-	-	-	-	-	-	632	606	-	430	443	-
Stage 2	-	-	-	-	-	-	364	431	-	612	605	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	14.3	22.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	403	888	-	-	1189	-	-	187	447
HCM Lane V/C Ratio	0.043	0.009	-	-	0.003	-	-	0.256	0.114
HCM Control Delay (s)	14.3	9.1	-	-	8	0	-	30.7	14.1
HCM Lane LOS	B	A	-	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	1	0.4

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	377	2	3	647	24	2	2	12	48	0	51
Future Vol, veh/h	8	377	2	3	647	24	2	2	12	48	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	410	2	3	703	26	2	2	13	52	0	55





Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	729	0	0	412	0	0	1179	1164	411	1146	1139	703
Stage 1	-	-	-	-	-	-	429	429	-	709	709	-
Stage 2	-	-	-	-	-	-	750	735	-	437	430	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	875	-	-	1147	-	-	167	194	641	176	201	438
Stage 1	-	-	-	-	-	-	604	584	-	425	437	-
Stage 2	-	-	-	-	-	-	403	425	-	598	583	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	875	-	-	1147	-	-	144	191	641	169	198	438
Mov Cap-2 Maneuver	-	-	-	-	-	-	144	191	-	169	198	-
Stage 1	-	-	-	-	-	-	598	578	-	421	435	-
Stage 2	-	-	-	-	-	-	351	423	-	578	577	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0			15.2			24.6		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	371	875	-	-	1147	-	-	169	438
HCM Lane V/C Ratio	0.047	0.01	-	-	0.003	-	-	0.309	0.127
HCM Control Delay (s)	15.2	9.2	-	-	8.1	0	-	35.5	14.4
HCM Lane LOS	C	A	-	-	A	A	-	E	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	1.2	0.4

Intersection









Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	349	685	15	38	39
Future Vol, veh/h	11	349	685	15	38	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	379	745	16	41	42

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	761	0	0 1156 753
Stage 1	-	-	- 753 -
Stage 2	-	-	- 403 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	851	-	- 217 410
Stage 1	-	-	- 465 -
Stage 2	-	-	- 675 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	851	-	- 214 410
Mov Cap-2 Maneuver	-	-	- 214 -
Stage 1	-	-	- 458 -
Stage 2	-	-	- 675 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	23.1
HCM LOS			C








Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	851	-	-	-	282
HCM Lane V/C Ratio	0.014	-	-	-	0.297
HCM Control Delay (s)	9.3	-	-	-	23.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.2

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	803	12	13	475	90	0	0	11	33	0	33
Future Vol, veh/h	52	803	12	13	475	90	0	0	11	33	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	873	13	14	516	98	0	0	12	36	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	614	0	0	886	0	0	1605	1636	880	1544	1544	516
Stage 1	-	-	-	-	-	-	994	994	-	544	544	-
Stage 2	-	-	-	-	-	-	611	642	-	1000	1000	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	965	-	-	764	-	-	85	101	346	94	115	559
Stage 1	-	-	-	-	-	-	295	323	-	523	519	-
Stage 2	-	-	-	-	-	-	481	469	-	293	321	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	965	-	-	764	-	-	74	92	346	85	105	559
Mov Cap-2 Maneuver	-	-	-	-	-	-	74	92	-	85	105	-
Stage 1	-	-	-	-	-	-	278	304	-	492	504	-
Stage 2	-	-	-	-	-	-	438	456	-	266	302	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.2			15.8			43.6		
HCM LOS							C			E		





Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	346	965	-	-	764	-	-	85	559
HCM Lane V/C Ratio	0.035	0.059	-	-	0.018	-	-	0.422	0.064
HCM Control Delay (s)	15.8	9	-	-	9.8	0	-	75.3	11.9
HCM Lane LOS	C	A	-	-	A	A	-	F	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.1	-	-	1.7	0.2

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	829	12	13	528	95	0	0	11	36	0	36
Future Vol, veh/h	57	829	12	13	528	95	0	0	11	36	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	180	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	901	13	14	574	103	0	0	12	39	0	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	677	0	0	914	0	0	1705	1737	908	1640	1640	574
Stage 1	-	-	-	-	-	-	1032	1032	-	602	602	-
Stage 2	-	-	-	-	-	-	673	705	-	1038	1038	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	915	-	-	746	-	-	72	87	334	80	100	518
Stage 1	-	-	-	-	-	-	281	310	-	486	489	-
Stage 2	-	-	-	-	-	-	445	439	-	279	308	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	915	-	-	746	-	-	62	79	334	71	90	518
Mov Cap-2 Maneuver	-	-	-	-	-	-	62	79	-	71	90	-
Stage 1	-	-	-	-	-	-	262	289	-	453	474	-
Stage 2	-	-	-	-	-	-	399	425	-	251	287	-

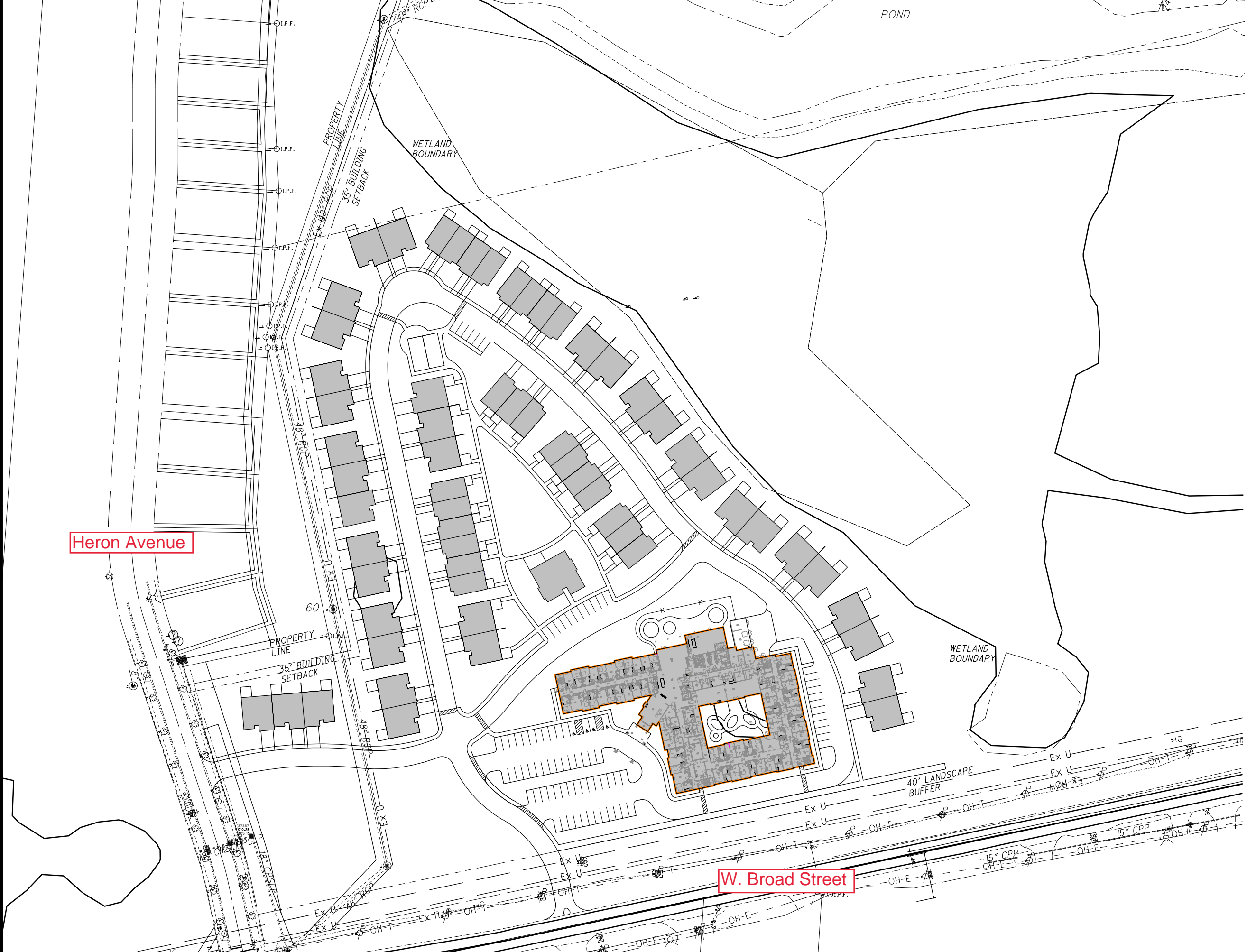
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.2			16.2			59.1		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	334	915	-	-	746	-	-	71	518
HCM Lane V/C Ratio	0.036	0.068	-	-	0.019	-	-	0.551	0.076
HCM Control Delay (s)	16.2	9.2	-	-	9.9	0	-	105.6	12.5
HCM Lane LOS	C	A	-	-	A	A	-	F	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.1	-	-	2.3	0.2

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	872	511	53	26	25
Future Vol, veh/h	33	872	511	53	26	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	948	555	58	28	27
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	613	0	-	0	1604	584
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	1020	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	966	-	-	-	116	512
Stage 1	-	-	-	-	557	-
Stage 2	-	-	-	-	348	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	966	-	-	-	112	512
Mov Cap-2 Maneuver	-	-	-	-	112	-
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	348	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		33.2		
HCM LOS				D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	966	-	-	-	182	
HCM Lane V/C Ratio	0.037	-	-	-	0.305	
HCM Control Delay (s)	8.9	-	-	-	33.2	
HCM Lane LOS	A	-	-	-	D	
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2	

APPENDIX C

Concept Plan



Heron Avenue

W. Broad Street

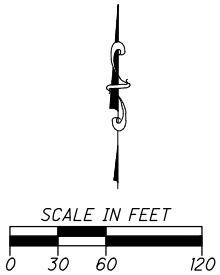
SITE DATA:
TOTAL SITE: XX Ac.

AL/MC BUILDING: 66,000 SF
75 UNITS

IL VILLAS:
(37) 1,770 SF - 2 BR VILLAS
(24) 1,190 SF - 1 BR VILLAS
TOTAL: 61 UNITS

IL VILLA AMENITIES:
(1) 2,715 SF CLUBHOUSE
(2) PICKLEBALL COURTS

PARKING: 75 SPACES
INCLUDING 4 ADA





SIDNEY, OHIO 937.497.0200
LOVELAND, OHIO 513.239.8554
WWW.CHOICEONEENGINEERING.COM

**PROVISION LIVING
CITY OF PATASKALA
SCHEMATIC PLAN**

REVISIONS:

FILE NAME	SCHEMATIC
DRAWN BY	JLH
CHECKED BY	MLS
PROJECT No.	LICPAT2201
DATE	09/13/2022
SHEET NUMBER	1 OF 1

APPENDIX D

Growth Rate

Adam D. Gill

From: Seaman, Scott <sseaman@gpdgroup.com>
Sent: Tuesday, October 18, 2022 4:30 PM
To: Adam D. Gill
Cc: Michael Seeger; Alan Haines - (ahaines@ci.pataskala.oh.us)
Subject: RE: Provision Living Site Plan
Attachments: Growth Rates.pdf; Appendix A.pdf

Hi Adam,

I wanted to provide you some information from a recent study prior to our discussion tomorrow morning. The city had an Intersection Capacity and Safety Evaluation conducted about 3 years ago and attached are some 2019 traffic counts for reference along with growth rates from MORPC. The link below has the entire study and appendix.

- Download Link: [INTERSECTION CAPACITY AND SAFETY EVALUATION for the City of Pataskala January 2020](#)

The following are the basic requirements for the TAS study, and we can discuss any questions tomorrow morning. For the Senior Living development, the city is requesting a Traffic Access Study that will include the Broad Street and Heron Avenue and the development access drives. Per our conversation yesterday, the main access will be off Heron Avenue and there is a proposed RI/RO access on Broad Street. The appropriate growth rate for Broad Street is a 0.70% linear annual growth, per MORPC's model.

We'll have three volume exhibits for Background Traffic, Opening Day and a 10-year Horizon Full Build scenario. The full residential development from Fischer Homes on Heron Avenue will be included in the Full Build year. Account for any connections to the existing residential subdivision to the east off John Reese Parkway. For the Trip Distribution, please submit this for approval so we are on the same page prior to the completion of the study.

Capacity analysis shall use Synchro software and the reports shall be the HCM version. Please provide the Synchro files with the study submission. Perform turn lane warrants for the Broad Street Drive Access and determine if a deceleration lane is warranted. Provide a queuing analysis, as needed, or include the maximum turning volumes per hour to show queuing isn't an issue.

Senior Living facilities don't typically have a "peak" hour so look at the AM, PM and the school dismissal time periods and a maximum trip generation timeframe if significantly different than these other three analysis hours. Schools are on Summit, north of Broad, and on Cable Road, east of Summit Road.

Thank you and I look forward to our Teams meeting in the morning.

Regards,

Scott Seaman, PE
Project Manager/Traffic Engineer
Licensed in OH

GPD GROUP
ARCHITECTS • ENGINEERS • PLANNERS
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1801 Watermark Drive, Suite 210, Columbus, OH 43215
gpdgroup.com

APPENDIX E

Build Traffic Volumes

PROVISION LIVING-PATASKALA
CITY OF PATASKALA, LICKING COUNTY, OHIO

Proposed Development Trips

Land Use Description	ITE Code	Size	Unit	Weekday				AM Peak Hour				PM Peak Hour			
				Total Trips	Primary Trips			Total Trips	Primary Trips			Total Trips	Primary Trips		
					Total	Entering	Exiting		Total	Entering	Exiting		Total	Entering	Exiting
Nursing Home	620	66,000	Sq. Ft. GFA	446	446	223	223	36	36	28	8	39	39	16	23
<i>Directional Distributions</i>						50%	50%			77%	23%			41%	59%
Senior Adult Housing-Single-Family	251	61	Dwelling Units	389	389	195	194	27	27	9	18	30	30	18	12
<i>Directional Distributions</i>						50%	50%			33%	67%			61%	39%
Totals				835	835	418	417	63	63	37	26	69	69	34	35

TRIP ASSIGNMENT ROUTINGS

ORIGIN		TRIP ROUTINGS O-D PERCENT		ROUTE SPLIT		AFFECTED MOVEMENTS BY TRIPS		AM TRIPS	PM TRIPS
<u>Entering Trips</u>									
Broad Street (East)	2	50%	100%	1EBL	2NBR			19	17
Broad Street (West)	3	50%	100%	3WBR				19	17
TOTAL ENTERING TRIPS								38	34
<u>Exiting Trips</u>									
2	Broad Street (East)	50%	100%	2WBL	1SBL			13	18
2	Broad Street (West)	50%	5%	2WBL	1SBR			1	1
3	Broad Street (West)	50%	95%	3SBR	1WBT			12	17
TOTAL EXITING TRIPS								26	36

Intersection Legend
1-Broad Street & Heron Avenue
2-Heron Avenue & Proposed Drive
3-Broad Street & Proposed RI/RO

TRAFFIC PROJECTIONS - AM PEAK HOUR

Int. #	Movement		2022	2023	Housing Development Trips		2023	Trips		2023	2033	2033	2033
		Annual Growth Rate	Existing Counts	Opening Year No-Build Volumes	Remove 2022 Counted Housing Trips	Housing Development Trips (from previous study)	Housing Development Only	Primary Trips IN	Primary Trips OUT	Opening Year Build Volumes	Design Year No-Build Volumes	Housing Development Only	Design Year Build Volumes
1	EBL	0.70%	14	14	-14	11	11	19		30	15	12	31
1	EBT	0.70%	444	447		1	448			448	478	479	479
1	EBR	0.70%	7	7			7			7	8	8	8
1	WBL	0.70%	10	10			10			10	11	11	11
1	WBT	0.70%	409	412		4	416		12	428	440	444	456
1	WBR	0.70%	14	14	-14	15	15			15	15	16	16
1	NBL	0.70%	1	1			1			1	1	1	1
1	NBT	0.70%	0	0			0			0	0	0	0
1	NBR	0.70%	16	16			16			16	17	17	17
1	SDL	0.70%	11	11	-11	38	38		13	51	12	39	52
1	SDT	0.70%	0	0	0		0			0	0	0	0
1	SBR	0.70%	9	9	-9	39	39		1	40	10	40	41
2	WBL	0.00%	0	0			0		14	14	0	0	14
2	WBR	0.00%	0	0			0			0	0	0	0
2	NBT	0.00%	28	28	-28	26	26			26	28	26	26
2	NBR	0.00%	0	0			0	19		19	0	0	19
2	SDL	0.00%	0	0			0			0	0	0	0
2	SDT	0.00%	20	20	-20	77	77			77	20	77	77
3	EBT	0.70%	471	474	-11	38	501			501	507	534	534
3	WBT	0.70%	433	436	-14	11	433			433	466	463	463
3	WBR	0.00%	0	0			0	19		19	0	0	19
3	SBR	0.00%	0	0			0		12	12	0	0	12

Intersection Legend

- 1-Broad Street & Heron Avenue
- 2-Heron Avenue & Proposed Drive
- 3-Broad Street & Proposed R/I/O

TRAFFIC PROJECTIONS - PM PEAK HOUR






Int. #	Movement	Annual Growth Rate	2022	2021	2023	Housing Development Trips		2023	Trips		2023	2033	Housing	2033
			Existing Counts	Design Hourly Volumes	Opening Year No-Build Volumes	Remove 2022 Counted Housing Trips	Housing Development Trips (from previous study)	Housing Development Only	Primary Trips IN	Primary Trips OUT	Opening Year Build Volumes	Design Year No-Build Volumes	Development Only	Design Year Build Volumes
1	EBL	0.70%	6	6	6	-6	33	33	17		50	6	33	50
1	EBT	0.70%	700	700	710		5	715			715	754	759	759
1	EBR	0.70%	1	1	1			1			1	1	1	1
1	WBL	0.70%	1	1	1			1			1	1	1	1
1	WBT	0.70%	437	437	443		3	446		17	463	471	474	491
1	WBR	0.70%	9	9	9	-9		53			53	10	54	54
1	NBL	0.70%	2	2	2			2			2	2	2	2
1	NBT	0.70%	0	0	0			0			0	0	0	0
1	NBR	0.70%	9	9	9			9			9	10	10	10
1	SBL	0.70%	6	6	6	-6	26	26		18	44	6	26	44
1	SBT	0.70%	0	0	0	0		0			0	0	0	0
1	SBR	0.70%	8	8	8	-8	25	25		1	26	9	26	27
2	WBL	0.00%	0	0	0			0		19	19	0	0	19
2	WBR	0.00%	0	0	0			0			0	0	0	0
2	NBT	0.00%	15	15	15	-15	86	86			86	15	86	86
2	NBR	0.00%	0	0	0			0	17		17	0	0	17
2	SBL	0.00%	0	0	0			0			0	0	0	0
2	SBT	0.00%	14	14	14	-14	51	51			51	14	51	51
3	EBT	0.70%	715	715	725	-6	26	745			745	770	790	790
3	WBT	0.70%	447	447	453	-6	33	480			480	481	508	508
3	WBR	0.00%	0	0	0			0	17		17	0	0	17
3	SBR	0.00%	0	0	0			0		17	17	0	0	17






Intersection Legend

- 1-Broad Street & Heron Avenue
- 2-Heron Avenue & Proposed Drive
- 3-Broad Street & Proposed RI/RO

APPENDIX F

2023 Opening Year Capacity Analysis






Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	447	7	10	412	14	1	0	16	11	0	9
Future Vol, veh/h	14	447	7	10	412	14	1	0	16	11	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	471	7	11	434	15	1	0	17	12	0	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	449	0	0	478	0	0	973	976	475	977	972	442
Stage 1	-	-	-	-	-	-	505	505	-	464	464	-
Stage 2	-	-	-	-	-	-	468	471	-	513	508	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1111	-	-	1084	-	-	231	251	590	230	252	615
Stage 1	-	-	-	-	-	-	549	540	-	578	564	-
Stage 2	-	-	-	-	-	-	575	560	-	544	539	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1111	-	-	1084	-	-	223	244	590	219	245	615
Mov Cap-2 Maneuver	-	-	-	-	-	-	223	244	-	219	245	-
Stage 1	-	-	-	-	-	-	541	532	-	570	556	-
Stage 2	-	-	-	-	-	-	558	552	-	521	531	-
Approach	EB		WB				NB		SB			
HCM Control Delay, s	0.2		0.2				11.9		17.5			
HCM LOS							B		C			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	538	1111	-	-	1084	-	-	308				
HCM Lane V/C Ratio	0.033	0.013	-	-	0.01	-	-	0.068				
HCM Control Delay (s)	11.9	8.3	-	-	8.4	0	-	17.5				
HCM Lane LOS	B	A	-	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2				

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	448	7	10	416	15	1	0	16	38	0	39
Future Vol, veh/h	11	448	7	10	416	15	1	0	16	38	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	472	7	11	438	16	1	0	17	40	0	41
Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	454	0	0	479	0	0	989	976	476	976	971	446
Stage 1	-	-	-	-	-	-	500	500	-	468	468	-
Stage 2	-	-	-	-	-	-	489	476	-	508	503	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1107	-	-	1083	-	-	226	251	589	230	253	612
Stage 1	-	-	-	-	-	-	553	543	-	575	561	-
Stage 2	-	-	-	-	-	-	561	557	-	547	541	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1107	-	-	1083	-	-	207	245	589	219	247	612
Mov Cap-2 Maneuver	-	-	-	-	-	-	207	245	-	219	247	-
Stage 1	-	-	-	-	-	-	547	537	-	569	553	-
Stage 2	-	-	-	-	-	-	516	549	-	526	535	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	0.2		0.2		12		19.7					
HCM LOS					B		C					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	531	1107	-	-	1083	-	-	325				
HCM Lane V/C Ratio	0.034	0.01	-	-	0.01	-	-	0.249				
HCM Control Delay (s)	12	8.3	-	-	8.4	0	-	19.7				
HCM Lane LOS	B	A	-	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	1				

HCM 6th TWSC

1: Private Drive/Heron Avenue & Broad Street




11/01/2022

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	448	7	10	428	15	1	0	16	51	0	40
Future Vol, veh/h	30	448	7	10	428	15	1	0	16	51	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	472	7	11	451	16	1	0	17	54	0	42
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	467	0	0	479	0	0	1042	1029	476	1029	1024	459
Stage 1	-	-	-	-	-	-	540	540	-	481	481	-
Stage 2	-	-	-	-	-	-	502	489	-	548	543	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1094	-	-	1083	-	-	208	234	589	212	235	602
Stage 1	-	-	-	-	-	-	526	521	-	566	554	-
Stage 2	-	-	-	-	-	-	552	549	-	521	520	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1094	-	-	1083	-	-	187	224	589	199	225	602
Mov Cap-2 Maneuver	-	-	-	-	-	-	187	224	-	199	225	-
Stage 1	-	-	-	-	-	-	511	506	-	550	546	-
Stage 2	-	-	-	-	-	-	506	541	-	491	505	-
Approach	EB		WB				NB		SB			
HCM Control Delay, s	0.5		0.2				12.1		24.2			
HCM LOS							B		C			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	523	1094	-	-	1083	-	-	282				
HCM Lane V/C Ratio	0.034	0.029	-	-	0.01	-	-	0.34				
HCM Control Delay (s)	12.1	8.4	-	-	8.4	0	-	24.2				
HCM Lane LOS	B	A	-	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	1.5				

HCM 6th TWSC

2: Heron Avenue & Proposed Drive

11/01/2022

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	0	26	19	0	77
Future Vol, veh/h	14	0	26	19	0	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	0	27	20	0	81
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	118	37	0	0	47	0
Stage 1	37	-	-	-	-	-
Stage 2	81	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	878	1035	-	-	1560	-
Stage 1	985	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	878	1035	-	-	1560	-
Mov Cap-2 Maneuver	878	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.2	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	878		1560	-	
HCM Lane V/C Ratio	-	0.017		-	-	
HCM Control Delay (s)	-	9.2		0	-	
HCM Lane LOS	-	A		A	-	
HCM 95th %tile Q(veh)	-	0.1		0	-	

HCM 6th TWSC

3: Broad Street & Proposed Drive

11/01/2022

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	501	433	19	0	12
Future Vol, veh/h	0	501	433	19	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	527	456	20	0	13

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 466
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.22
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.318
Pot Cap-1 Maneuver	0	-	- 0 597
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 597
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -






Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	597
HCM Lane V/C Ratio	-	-	-	0.021
HCM Control Delay (s)	-	-	-	11.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

HCM 6th TWSC

1: Private Drive/Heron Avenue & Broad Street






11/01/2022

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	710	1	1	443	9	2	0	9	6	0	8
Future Vol, veh/h	6	710	1	1	443	9	2	0	9	6	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	780	1	1	487	10	2	0	10	7	0	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	497	0	0	781	0	0	1294	1294	781	1294	1289	492
Stage 1	-	-	-	-	-	-	795	795	-	494	494	-
Stage 2	-	-	-	-	-	-	499	499	-	800	795	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1067	-	-	837	-	-	139	163	395	139	164	577
Stage 1	-	-	-	-	-	-	381	399	-	557	546	-
Stage 2	-	-	-	-	-	-	554	544	-	379	399	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1067	-	-	837	-	-	136	162	395	135	163	577
Mov Cap-2 Maneuver	-	-	-	-	-	-	136	162	-	135	163	-
Stage 1	-	-	-	-	-	-	378	396	-	553	545	-
Stage 2	-	-	-	-	-	-	544	543	-	367	396	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0			17.8			21		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	293	1067	-	-	837	-	-	240				
HCM Lane V/C Ratio	0.041	0.006	-	-	0.001	-	-	0.064				
HCM Control Delay (s)	17.8	8.4	-	-	9.3	0	-	21				
HCM Lane LOS	C	A	-	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2				

HCM 6th TWSC

1: Private Drive/Heron Avenue & Broad Street






11/01/2022

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	715	1	1	446	53	2	0	9	26	0	25
Future Vol, veh/h	33	715	1	1	446	53	2	0	9	26	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	786	1	1	490	58	2	0	10	29	0	27
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	548	0	0	787	0	0	1394	1409	787	1385	1380	519
Stage 1	-	-	-	-	-	-	859	859	-	521	521	-
Stage 2	-	-	-	-	-	-	535	550	-	864	859	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1021	-	-	832	-	-	119	139	392	121	144	557
Stage 1	-	-	-	-	-	-	351	373	-	539	532	-
Stage 2	-	-	-	-	-	-	529	516	-	349	373	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1021	-	-	832	-	-	110	134	392	115	139	557
Mov Cap-2 Maneuver	-	-	-	-	-	-	110	134	-	115	139	-
Stage 1	-	-	-	-	-	-	339	360	-	520	531	-
Stage 2	-	-	-	-	-	-	502	515	-	328	360	-
Approach	EB		WB				NB			SB		
HCM Control Delay, s	0.4		0				19.1			32.1		
HCM LOS							C			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	267	1021	-	-	832	-	-	188				
HCM Lane V/C Ratio	0.045	0.036	-	-	0.001	-	-	0.298				
HCM Control Delay (s)	19.1	8.7	-	-	9.3	0	-	32.1				
HCM Lane LOS	C	A	-	-	A	A	-	D				
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	1.2				

HCM 6th TWSC

1: Private Drive/Heron Avenue & Broad Street

11/01/2022

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	715	1	1	463	53	2	0	9	44	0	26
Future Vol, veh/h	50	715	1	1	463	53	2	0	9	44	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	786	1	1	509	58	2	0	10	48	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	567	0	0	787	0	0	1452	1466	787	1442	1437	538
Stage 1	-	-	-	-	-	-	897	897	-	540	540	-
Stage 2	-	-	-	-	-	-	555	569	-	902	897	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1005	-	-	832	-	-	108	128	392	110	133	543
Stage 1	-	-	-	-	-	-	334	358	-	526	521	-
Stage 2	-	-	-	-	-	-	516	506	-	332	358	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1005	-	-	832	-	-	98	121	392	103	125	543
Mov Cap-2 Maneuver	-	-	-	-	-	-	98	121	-	103	125	-
Stage 1	-	-	-	-	-	-	316	338	-	497	520	-
Stage 2	-	-	-	-	-	-	488	505	-	306	338	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	19.9	53.7
HCM LOS			C	F




Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	254	1005	-	-	832	-	-	147
HCM Lane V/C Ratio	0.048	0.055	-	-	0.001	-	-	0.523
HCM Control Delay (s)	19.9	8.8	-	-	9.3	0	-	53.7
HCM Lane LOS	C	A	-	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	2.5

HCM 6th TWSC
2: Heron Avenue & Proposed Drive

11/01/2022

Intersection

Int Delay, s/veh 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	0	86	17	0	51
Future Vol, veh/h	19	0	86	17	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	95	19	0	56

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	161	105	0
Stage 1	105	-	-
Stage 2	56	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	830	949	-
Stage 1	919	-	-
Stage 2	967	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	830	949	-
Mov Cap-2 Maneuver	830	-	-
Stage 1	919	-	-
Stage 2	967	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	830	1475
HCM Lane V/C Ratio	-	-	0.025	-
HCM Control Delay (s)	-	-	9.4	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0






HCM 6th TWSC
3: Broad Street & Proposed Drive

11/01/2022

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↗
Traffic Vol, veh/h	0	745	480	17	0	17
Future Vol, veh/h	0	745	480	17	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	819	527	19	0	19
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	537
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	544
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	544
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		11.9		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	544		
HCM Lane V/C Ratio	-	-	-	0.034		
HCM Control Delay (s)	-	-	-	11.9		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.1		

APPENDIX G






2033 Opening Year Capacity Analysis

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	478	8	11	440	15	1	0	17	12	0	10
Future Vol, veh/h	15	478	8	11	440	15	1	0	17	12	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	525	9	12	484	16	1	0	19	13	0	11
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	500	0	0	534	0	0	1084	1086	530	1087	1082	492
Stage 1	-	-	-	-	-	-	562	562	-	516	516	-
Stage 2	-	-	-	-	-	-	522	524	-	571	566	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1064	-	-	1034	-	-	194	216	549	194	217	577
Stage 1	-	-	-	-	-	-	512	510	-	542	534	-
Stage 2	-	-	-	-	-	-	538	530	-	506	507	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1064	-	-	1034	-	-	186	209	549	183	210	577
Mov Cap-2 Maneuver	-	-	-	-	-	-	186	209	-	183	210	-
Stage 1	-	-	-	-	-	-	504	502	-	534	525	-
Stage 2	-	-	-	-	-	-	519	522	-	481	499	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.2			12.6			19.9		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	495	1064	-	-	1034	-	-	265				
HCM Lane V/C Ratio	0.04	0.015	-	-	0.012	-	-	0.091				
HCM Control Delay (s)	12.6	8.4	-	-	8.5	0	-	19.9				
HCM Lane LOS	B	A	-	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3				

HCM 6th TWSC

1: Private Drive/Heron Avenue & Broad Street






11/01/2022

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	479	8	11	444	16	1	0	17	39	0	40
Future Vol, veh/h	12	479	8	11	444	16	1	0	17	39	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	504	8	12	467	17	1	0	18	41	0	42
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	484	0	0	512	0	0	1055	1042	508	1043	1038	476
Stage 1	-	-	-	-	-	-	534	534	-	500	500	-
Stage 2	-	-	-	-	-	-	521	508	-	543	538	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1079	-	-	1053	-	-	204	230	565	207	231	589
Stage 1	-	-	-	-	-	-	530	524	-	553	543	-
Stage 2	-	-	-	-	-	-	539	539	-	524	522	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1079	-	-	1053	-	-	185	224	565	196	225	589
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	224	-	196	225	-
Stage 1	-	-	-	-	-	-	524	518	-	546	534	-
Stage 2	-	-	-	-	-	-	492	530	-	501	516	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0.2		0.2			12.4			21.8			
HCM LOS						B			C			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	507	1079	-	-	1053	-	-	296				
HCM Lane V/C Ratio	0.037	0.012	-	-	0.011	-	-	0.281				
HCM Control Delay (s)	12.4	8.4	-	-	8.5	0	-	21.8				
HCM Lane LOS	B	A	-	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	1.1				

HCM 6th TWSC

1: Private Drive/Heron Avenue & Broad Street

11/01/2022

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	479	8	11	456	16	1	0	17	52	0	41
Future Vol, veh/h	31	479	8	11	456	16	1	0	17	52	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	504	8	12	480	17	1	0	18	55	0	43
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	497	0	0	512	0	0	1108	1095	508	1096	1091	489
Stage 1	-	-	-	-	-	-	574	574	-	513	513	-
Stage 2	-	-	-	-	-	-	534	521	-	583	578	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1067	-	-	1053	-	-	187	214	565	191	215	579
Stage 1	-	-	-	-	-	-	504	503	-	544	536	-
Stage 2	-	-	-	-	-	-	530	532	-	498	501	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1067	-	-	1053	-	-	167	204	565	178	205	579
Mov Cap-2 Maneuver	-	-	-	-	-	-	167	204	-	178	205	-
Stage 1	-	-	-	-	-	-	488	487	-	527	527	-
Stage 2	-	-	-	-	-	-	483	523	-	467	485	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.2			12.5			27.5		
HCM LOS							B			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	499	1067	-	-	1053	-	-	256				
HCM Lane V/C Ratio	0.038	0.031	-	-	0.011	-	-	0.382				
HCM Control Delay (s)	12.5	8.5	-	-	8.5	0	-	27.5				
HCM Lane LOS	B	A	-	-	A	A	-	D				
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	1.7				




HCM 6th TWSC

2: Heron Avenue & Proposed Drive

11/01/2022

Intersection

Int Delay, s/veh 0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	0	26	19	0	77
Future Vol, veh/h	14	0	26	19	0	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	0	27	20	0	81

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	118	37	0
Stage 1	37	-	-
Stage 2	81	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	878	1035	-
Stage 1	985	-	-
Stage 2	942	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	878	1035	-
Mov Cap-2 Maneuver	878	-	-
Stage 1	985	-	-
Stage 2	942	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	878	1560
HCM Lane V/C Ratio	-	-	0.017	-
HCM Control Delay (s)	-	-	9.2	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
3: Broad Street & Proposed Drive

11/01/2022

Intersection






Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	534	463	19	0	12
Future Vol, veh/h	0	534	463	19	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	562	487	20	0	13

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 497
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.22
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.318
Pot Cap-1 Maneuver	0	-	- 0 573
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 573
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B






Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	573
HCM Lane V/C Ratio	-	-	-	0.022
HCM Control Delay (s)	-	-	-	11.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	754	1	1	471	10	2	0	10	6	0	9
Future Vol, veh/h	6	754	1	1	471	10	2	0	10	6	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	794	1	1	496	11	2	0	11	6	0	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	507	0	0	795	0	0	1315	1316	795	1316	1311	502
Stage 1	-	-	-	-	-	-	807	807	-	504	504	-
Stage 2	-	-	-	-	-	-	508	509	-	812	807	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1058	-	-	826	-	-	135	158	388	135	159	569
Stage 1	-	-	-	-	-	-	375	394	-	550	541	-
Stage 2	-	-	-	-	-	-	547	538	-	373	394	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1058	-	-	826	-	-	132	157	388	131	158	569
Mov Cap-2 Maneuver	-	-	-	-	-	-	132	157	-	131	158	-
Stage 1	-	-	-	-	-	-	373	392	-	547	540	-
Stage 2	-	-	-	-	-	-	537	537	-	361	392	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0			17.8			20.8		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	293	1058	-	-	826	-	-	243				
HCM Lane V/C Ratio	0.043	0.006	-	-	0.001	-	-	0.065				
HCM Control Delay (s)	17.8	8.4	-	-	9.4	0	-	20.8				
HCM Lane LOS	C	A	-	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2				

HCM 6th TWSC

1: Private Drive/Heron Avenue & Broad Street

11/01/2022

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	759	1	1	474	54	2	0	10	26	0	26
Future Vol, veh/h	33	759	1	1	474	54	2	0	10	26	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	834	1	1	521	59	2	0	11	29	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	580	0	0	835	0	0	1474	1489	835	1465	1460	551
Stage 1	-	-	-	-	-	-	907	907	-	553	553	-
Stage 2	-	-	-	-	-	-	567	582	-	912	907	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	994	-	-	798	-	-	105	124	368	106	129	534
Stage 1	-	-	-	-	-	-	330	355	-	517	514	-
Stage 2	-	-	-	-	-	-	508	499	-	328	355	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	994	-	-	798	-	-	96	119	368	100	124	534
Mov Cap-2 Maneuver	-	-	-	-	-	-	96	119	-	100	124	-
Stage 1	-	-	-	-	-	-	318	342	-	498	513	-
Stage 2	-	-	-	-	-	-	480	498	-	307	342	-






Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	20.2	37.1
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	250	994	-	-	798	-	-	168
HCM Lane V/C Ratio	0.053	0.036	-	-	0.001	-	-	0.34
HCM Control Delay (s)	20.2	8.8	-	-	9.5	0	-	37.1
HCM Lane LOS	C	A	-	-	A	A	-	E
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	1.4

HCM 6th TWSC

1: Private Drive/Heron Avenue & Broad Street

11/01/2022

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	759	1	1	491	54	2	0	10	44	0	27
Future Vol, veh/h	50	759	1	1	491	54	2	0	10	44	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	834	1	1	540	59	2	0	11	48	0	30
Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	599	0	0	835	0	0	1532	1546	835	1522	1517	570
Stage 1	-	-	-	-	-	-	945	945	-	572	572	-
Stage 2	-	-	-	-	-	-	587	601	-	950	945	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	978	-	-	798	-	-	95	114	368	97	119	521
Stage 1	-	-	-	-	-	-	314	340	-	505	504	-
Stage 2	-	-	-	-	-	-	496	489	-	312	340	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	978	-	-	798	-	-	86	107	368	90	112	521
Mov Cap-2 Maneuver	-	-	-	-	-	-	86	107	-	90	112	-
Stage 1	-	-	-	-	-	-	296	321	-	477	503	-
Stage 2	-	-	-	-	-	-	467	488	-	286	321	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	0.5		0		21		66.6					
HCM LOS					C		F					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	238	978	-	-	798	-	-	131				
HCM Lane V/C Ratio	0.055	0.056	-	-	0.001	-	-	0.596				
HCM Control Delay (s)	21	8.9	-	-	9.5	0	-	66.6				
HCM Lane LOS	C	A	-	-	A	A	-	F				
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	3				




HCM 6th TWSC

2: Heron Avenue & Proposed Drive

11/01/2022

Intersection

Int Delay, s/veh 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	0	86	17	0	51
Future Vol, veh/h	19	0	86	17	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	95	19	0	56

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	161	105	0
Stage 1	105	-	-
Stage 2	56	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	830	949	-
Stage 1	919	-	-
Stage 2	967	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	830	949	-
Mov Cap-2 Maneuver	830	-	-
Stage 1	919	-	-
Stage 2	967	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	830	1475
HCM Lane V/C Ratio	-	-	0.025	-
HCM Control Delay (s)	-	-	9.4	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC

3: Broad Street & Proposed Drive

11/01/2022

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	790	508	17	0	17
Future Vol, veh/h	0	790	508	17	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	868	558	19	0	19

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 568
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.22
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.318
Pot Cap-1 Maneuver	0	-	- 0 522
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 522
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	522
HCM Lane V/C Ratio	-	-	-	0.036
HCM Control Delay (s)	-	-	-	12.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

APPENDIX H

Turn Lane Analysis

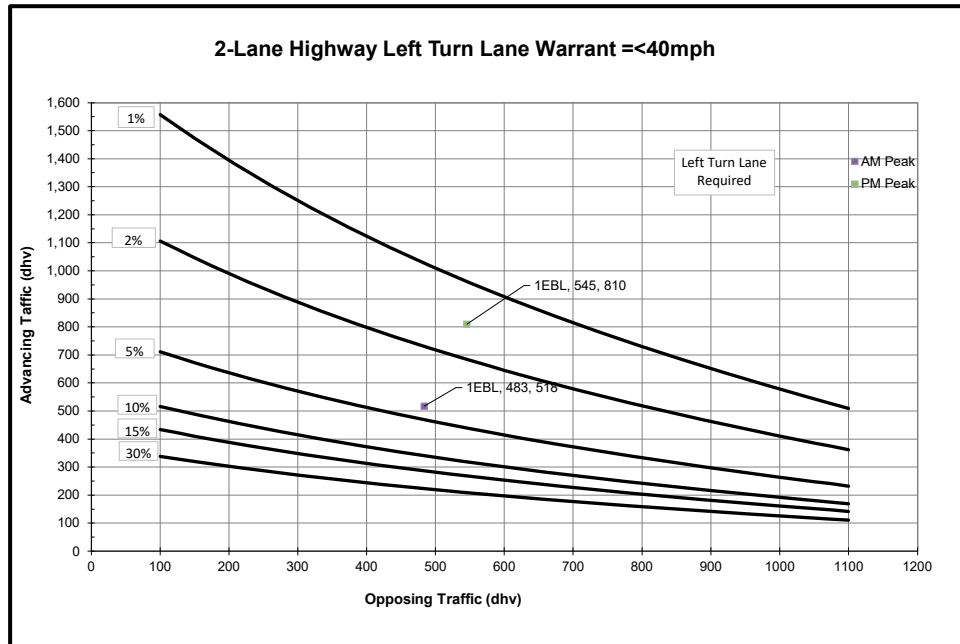
Left Turn Lane Warrant				
Opening Year Build Volumes				
PM Peak Hour				
Intersection	Left Turning Vol	Advancing Vol	Opposing Vol	Left Turn %
1EBL	50	766	517	7%
AM Peak Hour				
Intersection	Left Turning Vol	Advancing Vol	Opposing Vol	Left Turn %
1EBL	30	485	453	6%



Intersection Legend

- 1-Broad Street & Heron Avenue
- 2-Heron Avenue & Proposed Drive
- 3-Broad Street & Proposed RI/RO

Left Turn Lane Warrant				
Design Year Build Volumes				
PM Peak Hour				
Intersection	Left Turning Vol	Advancing Vol	Opposing Vol	Left Turn %
1EBL	50	810	545	6%
AM Peak Hour				
Intersection	Left Turning Vol	Advancing Vol	Opposing Vol	Left Turn %
1EBL	31	518	483	6%

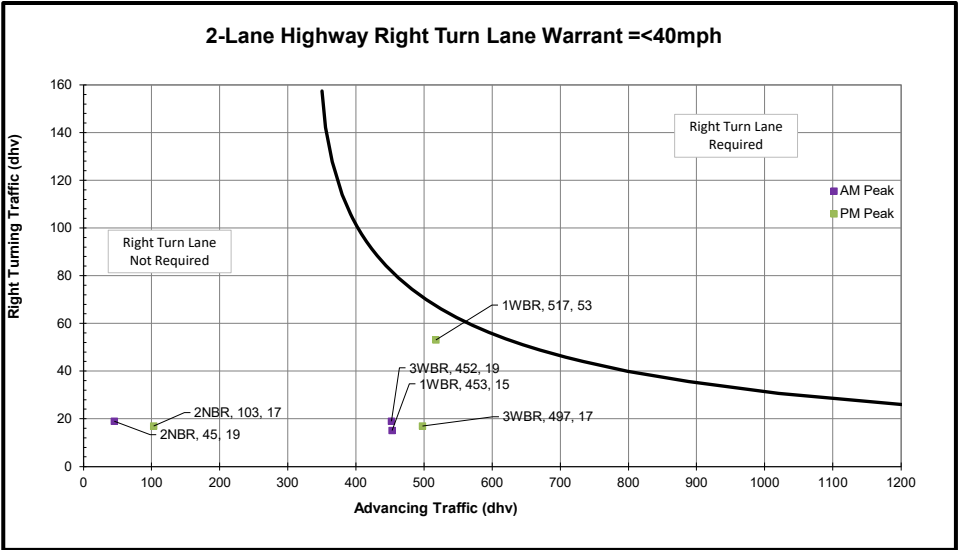


Intersection Legend

- 1-Broad Street & Heron Avenue
- 2-Heron Avenue & Proposed Drive
- 3-Broad Street & Proposed RI/RO

Right Turn Lane Warrant		
Opening Year Build Volumes		
PM Peak Hour		
Intersection	Right Turning Vol	Advancing Vol
1WBR	53	517
2NBR	17	103
3WBR	17	497

AM Peak Hour		
Intersection	Right Turning Vol	Advancing Vol
1WBR	15	453
2NBR	19	45
3WBR	19	452

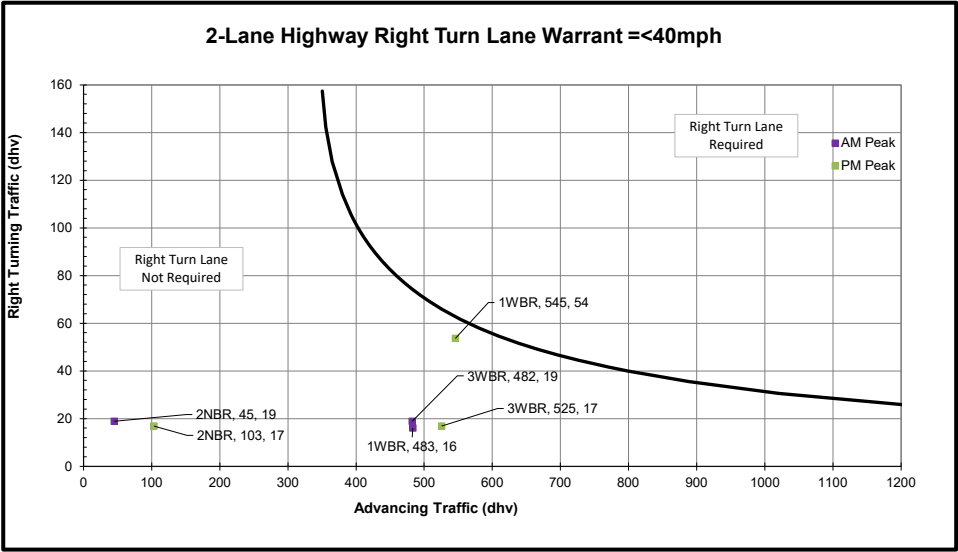


Intersection Legend
1-Broad Street & Heron Avenue
2-Heron Avenue & Proposed Drive
3-Broad Street & Proposed RI/RO

Right Turn Lane Warrant		
Design Year Build Volumes		

PM Peak Hour		
Intersection	Right Turning Vol	Advancing Vol
1WBR	54	545
2NBR	17	103
3WBR	17	525

AM Peak Hour		
Intersection	Right Turning Vol	Advancing Vol
1WBR	16	483
2NBR	19	45
3WBR	19	482



Intersection Legend
 1-Broad Street & Heron Avenue
 2-Heron Avenue & Proposed Drive
 3-Broad Street & Proposed RI/RO

Turn Lane Lengths

Movement	Scenario	Turning Vol. (AM)	Turning Vol. (PM)	Cycles/ Hour	Veh/Hr (AM)	Veh/Hr (PM)	Avg. Veh/Hour	Condition "B"	Total Length
1EBL	2033 Build	30	57	60	0.500	0.950	1.0	125	125

Know All By These Presents

That J. Gilbert Reese and Louella H. Reese, Husband and Wife, and John D. Lewis and Phoebe R. Lewis, Husband and Wife, for valuable consideration paid, do Remise, Release and Forever Quit-Claim to P & G Pataskala, Ltd., an Ohio Limited Liability Company the following real property:

Situated in the State of Ohio, County of Licking and Township of Lima:

Being part of the 4th Quarter of the 1st Township, 15th Range, U.S. Military Lands, being part of the William Hollar and Eva L. Hollar tracts as described in two deeds of record in Deed Book 456, pages 505 and 507, in the Licking County Recorder's Office, and being more particularly described as follows:

Beginning at a point in the southeasterly corner of the said William Hollar and Eva L. Hollar tract of land, the southwesterly corner of the Nellie S. Gilchrist tract of land as described in Deed Book 478, page 566, Licking County Recorder's Office, said point being also in the centerline of State Route 16; thence S. 78 degrees 09' W. and with the said centerline of State Route 16, the southerly line of the said Hollar tract, a distance of 299.47 feet to a point (PK nail); thence N. 11 degrees 51' W. leaving the centerline of said State Route 16, a distance of 208.71 feet to an iron pin; thence S. 78 degrees 09' W. a distance of 208.71 feet to an iron pin; thence S. 11 degrees 51' E. a distance of 208.71 feet to a spike in the centerline of said State Route 16, the southerly line of the said Hollar tract; thence S. 78 degrees 09' W. with the centerline of said State Route 16, the southerly line of the said Hollar tract, a distance of 2592.10 feet to an angle point in the centerline of said State Route 16; thence S. 78 degrees 04'30" W. continuing with the centerline of said State Route 16, the southerly line of the said Hollar tract of land, a distance of 215.67 feet to a point (PK nail) in the southwesterly corner of said William Hollar and Eva L. Hollar tract of land; thence N. 4 degrees 04'30" E. with the westerly line of the said Hollar tract, a distance of 3347.82 feet to an iron pin in the northwesterly corner of said Hollar tract; thence S. 86 degrees 24'15" E. with the northerly line of the said Hollar tract of land, a distance of 2180.05 feet to an iron pin in the northeasterly corner of said Hollar tract, the northwesterly corner of said Nellie S. Gilchrist tract of land, passing an iron pin at 907.49 feet on the northerly line of said Hollar tract; thence S. 18 degrees 55'45" E. with the easterly line of the said Hollar tract, the westerly line of said Gilchrist tract, a distance of 1309.89 feet to an iron pin in an angle point in the said easterly line of the Hollar tract; thence S. 17 degrees 35'45" E. continuing with the easterly line of said Hollar tract, a distance of 1345.00 feet to the place of beginning and containing 183.658 acres of land, more or less.

EXCEPTING THEREFROM the following described real estate:

Situated in the State of Ohio, County of Licking and Village of Pataskala:

Beginning at a point in the centerline of State Route No. 16, said point being South 78 degrees 09'00" West 198.87 feet from the southwest corner of the James M. Kennedy property, (Deed References: Deed Book 665, Page 501 and Deed Book 810, Page 481 of the Licking County Deed Records); thence, continuing along the said centerline of State Route No. 16, South 78 degrees 09'00" W., 150.00 feet to a point; thence, leaving the said centerline of State Route No. 16, North 11 degrees 51'00" West, passing an iron pin set in the northerly right-of-way line of State Route No. 16 at 41.51 feet, a total distance of 215.19 feet to an iron pin set; thence, North 78 degrees 09'00" East, 150.00 feet to an iron pin set; thence, South 11 degrees 51'00" East, passing an iron pin set in the northerly right-of-way line of State Route No. 16 at a distance of 170.00 feet, a total distance of 215.19 feet to the point of beginning. Containing 0.74 acres of land, more or less, of which the present road occupies 0.15 of an acre.

Being the same premises conveyed to Grantor(s) by documents recorded in Deed Volume 769 at page 765 and Official Record Volume 140 at page 383, Licking County Recorder's Office.

IN WITNESS WHEREOF, the grantor who releases all right and expectancy of dower in said premises has executed this instrument this 13th day of December, in the year Nineteen Hundred and Ninety-five.

SIGNED AND ACKNOWLEDGED
IN THE PRESENCE OF:

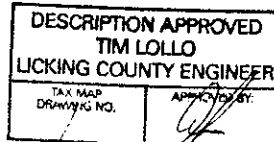
Joyce H. McCreary
witness signature (As to 1 and 2)
JOYCE H. MCCREARY
print witness name

Margaret A. Hallam
witness signature (As to 1 and 2)
Margaret A. Hallam
print witness name

SEC. 319.202 COMPLIED WITH
GEORGE D. BUCHANAN, AUDITOR
BY km km

J. Gilbert Reese
1. J. Gilbert Reese

Louella H. Reese
2. Louella H. Reese



TRANSFERRED

THIS INSTRUMENT PREPARED BY

Date January 2 19 96

LAW OFFICES

George D. Buchanan
Licking County Auditor

REESE, PYLE, DRAKE & MEYER
36 NORTH SECOND STREET — P.O. Box 919
NEWARK, OHIO 43058-0919

Judith K. Hesloff
witness signature (As to 3 and 4)
Judith K. Hesloff
print witness name
Nicole Gardner
witness signature (As to 3 and 4)
NICOLE GARDNER
print witness name

John D. Lewis 645
3. John D. Lewis
Phoebe R. Lewis
4. Phoebe R. Lewis

STATE OF OHIO, COUNTY OF LICKING: SS:

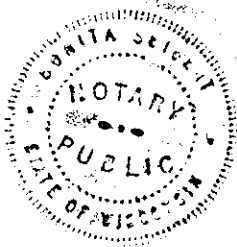
The foregoing instrument was acknowledged before me this 13th day of December, 1995, by
John D. Lewis and Louella H. Reese.



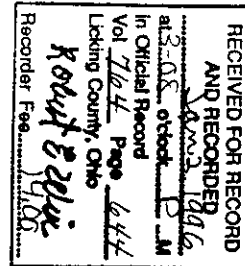
Joyce H. McCreary
Notary Public
JOYCE H. McCREARY
Notary Public, State of Ohio
My Commission Exp. 9-27-97

STATE OF Wisconsin, COUNTY OF Milwaukee: SS:

The foregoing instrument was acknowledged before me this 15 day of December, 1995, by
John D. Lewis and Phoebe R. Lewis.



Bonita Seibert
Notary Public



53373

Property Report

Address		
N/A P & G PATASKALA LTD -- E BROAD ST		
Engineer's Pin	Owner	Auditor's PIN
0115PA00700000001000	N/A P & G PATASKALA LTD	064-307692-00.000
Tax Acreage	Deed Acreage	Official Record
140.906	183.658	764-644