



## City of Vandalia Planning Commission

---

Regular Meeting Agenda

October 28, 2025, 6:00 p.m.

Council Chambers, Vandalia Municipal Building

[View this meeting online via Zoom](#)

1. Call to Order
2. Attendance
  - a. Welcome New Members
3. Approval of Minutes
  - a. Planning Commission Minutes: September 23, 2025
4. Swearing in of attendees wishing to speak before the Commission
5. Old Business
6. New Business
  - a. **PC 25-0014 – PUD Final Plan – Riverdale Section 1**
7. Communications
  - a. 37<sup>th</sup> Annual Miami Valley Planning & Zoning Workshop, December 5<sup>th</sup> 2025
8. Adjournment

*\*Please note revised Zoom link and update your bookmarks\**

Next Scheduled Meeting – Tuesday, November 11, 2025, 6:00 p.m.

Minutes of the City of Vandalia Planning Commission  
**September 23, 2025**

|                         |                                                                                                                                                         |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Members Present:</b> | Ms. Kristin Cox, Mr. Lucious Plant, Mr. Bob Hussong                                                                                                     |
| <b>Members Absent:</b>  | None                                                                                                                                                    |
| <b>Staff Present:</b>   | Michael Hammes, City Planner<br>Ben Graham, Zoning & Planning Coordinator<br>Ben Borton, Director of Public Service<br>Rob Cron, Assistant City Manager |
| <b>Others Present:</b>  | Greg Berling, Leon Mable, Sharon Mable, Alex Gonter-Dray,<br>Russell Muntz, Rick Ford                                                                   |

**Call to Order**

Ms. Cox called the meeting to order at 6:01 p.m.

**Attendance**

Ms. Cox noted that three members were present. She added that the remaining two seats were vacant, so there was no need to excuse an absent member.

**Approval of Minutes of the Planning Commission**

Mr. Plant made a motion to approve the August 26th, 2025, minutes. Mr. Hussong seconded the motion. The motion carried 3-0.

**Swearing in of Attendees Wishing to Speak at Meeting**

The attendees were sworn in.

**Old Business**

Mr. Hammes confirmed that there was no Old Business on the agenda.

**New Business – PC 25-0013 – Rezoning – Foxfire Section 8 – 770 Bolton Abbey Lane**

Mr. Hammes introduced Case PC 25-0013. Greg Berling, on behalf of Campbell Berling Huber Heights LLC, requests a change of zoning as previously established by the Zoning Ordinance of the City of Vandalia. The request involves one parcel totaling 15.485 acres +/-, located at 770 Bolton Abbey Lane in the City of Vandalia. As proposed, the subject property would be rezoned from the RSF-2 Residential Single-Family district to the RSF-4 Residential Single-Family and A - Agriculture districts.

Mr. Hammes explained that the application involved 15.485 acres in Section 8 of the Foxfire development. The applicant wishes to rezone the bulk of the property to the RSF-4 district, which would match Section 9 to the south. A small area at the northeast end of the site would be zoned A – Agriculture to match adjacent properties.

Mr. Hammes discussed surrounding zoning districts. With the exception of Section 9 (RSF-4) and a portion of Section 7 (RTF), the Foxfire development is mostly in the RSF-2 district. The development is bordered to the west by Highway Business and I-75, to the north by Agriculture parcels along Poplar Creek, and to the south by Office/Industrial Park parcels along Little York Road. The Riverdale Subdivision is located to the east, in a Planned Unit Development district.

Mr. Hammes discussed the proposed Agriculture area at the northeast end of the site. He noted that the narrow strip of land is not usable as RSF-2, so the proposed A – Agriculture zoning would be reasonable given the surrounding Agriculture parcels located on either side of that area.

Mr. Hammes discussed the proposed layout for Section 8. He noted that the layout is provided to demonstrate that the development would meet the standards of the proposed RSF-4 district. He added that the current proposal has several open space lots not present in previous proposed layouts.

Mr. Hammes discussed the proposed additional landscaping within Section 8. He also discussed the redesigned retention areas.

Mr. Hammes reported that the 2020 Comprehensive Plan designates this parcel as Low Density Residential, a designation shared with the entire Foxfire development. He added that Staff believes that the proposed rezoning is consistent with that designation.

Mr. Hussong asked about a property at the corner of Bolton Abbey Lane and Cheviot Hills Lane. Mr. Hammes replied that that parcel was previously set aside as a public park, and is zoned PF – Public Facilities as a result. The City does not have ownership control of the parcel, but the plan remains to convert that parcel into a park.

Hearing no further questions from the Commission, Ms. Cox invited the applicant to the podium.

**Mr. Greg Berling, of Campbell Berling**, addressed the Commission. He thanked the Commission for considering the application. He added that construction was proceeding well in Section 9, and he looked forward to continuing that progress in Section 8.

Mr. Berling provided some background about the Foxfire subdivision. He noted that the original plan for the subdivision included a buffer area along the west side of the development along the Highway Business area. This buffer included Section 9 and part of Section 8. A rezoning application was filed in 2020 to create this RSF-4 buffer area on part of Section 8, but that application was denied.

Mr. Berling discussed the proposed layout for Section 8. He explained that his company had worked with nearby residents and City Staff to come up with a revised layout.

Mr. Berling pointed out that the 2020 proposal featured 65-foot lots, which took up the entire area of Section 8. He noted that residents had expressed a desire for buffers between the existing homes and any narrower lots.

Mr. Berling discussed specific changes to various lots, noting that several parcels have increased setbacks and other changes to accommodate additional landscaping. In most cases, these changes would not be feasible under the existing RSF-2 zoning.

Mr. Berling reported that Fischer Homes is doing well in Section 9, with projected home prices increasing from \$350,000 to an average sale price of \$398,000. The homebuilder has committed to requiring elevations with masonry in Section 8.

Mr. Berling discussed the park at Cheviot Hills and Bolton Abbey. He explained that customers in Section 9 had requested a playground or park. The property would be maintained by the Homeowners' Association.

Mr. Berling reported that the Section 8 lots would all be 58-foot lots.

Mr. Berling discussed the landscaping plan for the development, pointing out that the design was intended to create visual enhancements throughout Section 8. As with the park, this landscaping would be maintained by the HOA.

Mr. Berling confirmed that the flag area at the northeast would eventually be deeded over to the property owners adjacent to that parcel. The parcel does not have any use for the Foxfire development, so deeding that parcel over makes sense.

Mr. Plant asked about the benefit of the RSF-4 zoning compared to the current RSF-2 zoning. Mr. Berling replied that the RSF-4 zoning allows for 35 lots with additional open space, compared to 29 lots and no open space under RSF-2.

Mr. Plant asked about the proposed masonry elevations. Mr. Berling replied that Fischer Homes had committed to masonry on all new homes in Section 8, with no all-siding homes.

Mr. Plant discussed concerns about grading in Section 9, and asked how that would impact Section 8. Mr. Berling replied that Section 8 has more variation in grading, which allows for more flexibility with regard to walk-out lots.

Ms. Cox asked how many lots in Section 9 had been sold so far. Mr. Berling replied that 18 of the 29 lots were under contract, with an additional 5 or 6 lots planned for market homes. He added that Fischer Homes expected to be out of lots by the end of 2025.

Mr. Plant asked about the Low Density designation. Mr. Hammes replied that the entire Foxfire development is designated as Low Density. The proposed RSF-4 zoning would allow a slightly higher density than the RSF-2, but would still be considered Low Density. Medium Density areas are reserved for denser developments such as apartments, townhomes, and similar multi-family structures.

Hearing no further questions, Ms. Cox opened the public portion of the meeting.

### **Public Comments**

**Mr. Leon Mable, of 778 Foxfire Trail**, asked about the original zoning for the Section 8 and 9 area. Mr. Hammes replied that he did not know the original zoning. Mr. Mable believed that the zoning then was the same as the zoning now, and suggested that there is no reason to change that zoning. He noted that there is no landscaping in Section 9.



Mr. Mable argued that the proposed playground is unneeded, and that it should be used as a park instead.

Mr. Mable argued that the proposed rezoning would cheapen the neighborhood. He asked the Commission to keep the current zoning.

**Mr. Alex Gonter-Dray, of 751 Foxfire Trail**, discussed a meeting between residents and the developer in May 2024, noting that the developer had claimed that there would be landscaping to create separation between the old section and the new section.

Mr. Gonter-Dray argued that the developer had described stormwater arrangements for the previous layout that are not reflected in the current proposal.

Mr. Gonter-Dray argued that the homes under construction in Section 9 are built with improper shingles and dormers. He argued that additional smaller-lot homes would take away from the property values in Foxfire.

Mr. Gonter-Dray asked for clarification as to the masonry proposed for the new homes. He added that homes in Shaker Run between Lebanon and Monroe would be a useful template for these homes.

Mr. Gonter-Dray asked if sidewalks would continue over the proposed culverts.

Mr. Gonter-Dray suggested that the community does not want to be like other cities with narrower homes.

Ms. Cox noted that the applicant would return to the podium to answer all questions at once.

**Mr. Russell Muntz, of 825 Deerhurst Drive**, suggested that more homes would bring in more traffic. Referring to the zoning map, Mr. Muntz argued that the additional homes would be too dense, and would result in cars parking on the street.

Mr. Muntz argued that 6 additional lots would generate 12 additional cars coming down the street per day, which could create problems for traffic.

Mr. Muntz asked the Commission to consider the wishes of the residents and reject the wishes of the developer.

**Mr. Rick Ford, of 1616 Ashworth Drive**, who identified himself as a candidate for City Council, expressed an interest in preserving the homes that are already there for the residents who have invested in those homes. Citing a Berkshire-Hathaway study of the current housing market, it is difficult for young families to purchase homes, especially when baby boomers are looking to downsize at the same time.

Mr. Ford noted that the City of Vandalia was an aspirational place where people wanted to migrate north. He argued that families were now moving further north to Troy and Tipp City. He does not have a good answer as to why that is the case. He reiterated that he has talked to residents about this issue as a candidate for City Council.

**Mr. Greg Berling** returned to the podium. He thanked the residents for expressing their concerns in a courteous and professional manner.

Mr. Berling pointed out that the new buyers in Section 9 have children and want to be part of the Vandalia-Butler School District. With kids moving into the neighborhood, a playground would be a useful amenity.

Mr. Berling pointed out that his firm had one their research before committing to the development. He compared this proposal to Carriage Trail, where the average home price is \$385,000. With a better school district and a better location, values in this development could range from \$310,000 up to \$419,000. Customers have many options that could increase home values, and Fischer has an interest in increasing those values.

Mr. Berling pointed out that the smaller lots in Sections 7 and 9 make sense as smaller lots to buffer the adjacent business areas. He pointed out that some of the business parcels to the west were cleared after Section 9 went under construction.

Mr. Berling clarified that Fischer Homes would only allow front elevations that feature masonry. This allows the customer to upgrade the elevation to a full-brick front or a partial brick front, as an example.

Mr. Berling confirmed that the culverts would have sidewalks, as required by the City.

Mr. Berling pointed out that 12 more cars coming down Deerhurst would not leave at the same time every day, all at once.

Mr. Berling added that adding the additional 6 lots allows for amenities such as the open space and landscaping that would not be possible otherwise.

Mr. Berling agreed with Mr. Ford regarding the difficulty of getting new families into homes. He argued that Fischer offers a number of programs that help. He added that the school district made this a very attractive area for new homes.

Ms. Cox asked if there were any further comments.

**Mr. Russell Muntz** returned to the podium. He pointed out that there are 12 houses in Section 9 with “Available” signs. He argued that having completed homes unsold does not suggest that buyers are eager to move into the neighborhood, and that the assertion that the neighborhood was selling well may be untrue.

Mr. Hussong asked for clarification, noting that for sale signs are generally not removed until the home is sold. Mr. Berling replied that he has no reason to believe that Fischer Homes was being dishonest.

**Mr. Leon Mable** asked Mr. Hammes if he had set foot in the development over the past 45 days. Mr. Hammes replied that he had performed several zoning inspections during the previous week. He then asked the members of the Commission the same question. He asked the members of the Commission to picture that street with 12 additional cars, and suggested that it would be a challenge for emergency access, moving trucks, and traffic in general.

Hearing no further comments, Ms. Cox closed the public portion of the meeting.

### **Review Criteria**

Ms. Cox stated that the main duty of the Planning Commission is to review the application and consider how the Zoning Code applies to the request. In this case, the question is to review how the RSF-4 zoning would compare to the current RSF-2 zoning, in light of the requirements of the Zoning Code.

Mr. Plant asked if there was an alternative plan that would be viable if the rezoning is denied. Mr. Berling replied that there is an existing plan approved for Section 8 under RSF-2. That plan would not allow for the additional landscaping or open space.

Mr. Plant asked if the previous plan is available for review. Mr. Hammes replied that the previous proposal was not included in the packet, but could confirm that the lot and road layout was similar.

Ms. Cox asked about the house sizes and whether they would change with larger lots. Mr. Berling replied that the same homes (with the same widths) would be built regardless of lot size, so the wider lots would not result in wider homes.

Ms. Cox moved on to the Review Criteria.

Recommendations and decisions on zoning map amendment applications shall be based on consideration of the following review criteria. Not all criteria may be applicable in each case, and each case shall be determined on its own facts.

1. The proposed amendment will further the purposes of this overall code;

**Staff Comment:** Staff feels that the proposed rezoning furthers the purposes of the code.

Mr. Hussong and Ms. Cox agreed with the staff comment. Mr. Plant disagreed. The Planning Commission agreed with the staff comment by a vote of 2-1.

2. The proposed amendment and proposed uses are consistent with the City's adopted plans, goals and policies;

**Staff Comment:** Staff feels that the proposed rezoning is consistent with the City's goals and policies, and particularly that it is consistent with the Comprehensive Plan.

Mr. Hussong and Ms. Cox agreed with the staff comment. Mr. Plant disagreed. The Planning Commission agreed with the staff comment by a vote of 2-1.

### Review Criteria (Cont'd)

3. The proposed amendment is necessary or desirable because of changing conditions, new planning concepts, or other social or economic conditions;

**Staff Comment:** Based on the history of the site, Staff feels that the proposed rezoning is necessary due to changing conditions.

Mr. Hussong and Ms. Cox agreed with the staff comment. Mr. Plant disagreed. The Planning Commission agreed with the staff comment by a vote of 2-1.

4. The public facilities such as transportation, utilities, and other required public services will be adequate to serve the proposed use;

**Staff Comment:** Staff feels that the site has adequate access to transportation, utilities, and other required public services to serve the proposed single-family residential development.

The Planning Commission agreed with the staff comment by a vote of 3-0.

5. The proposed rezoning will not adversely affect the economic viability of existing developed and vacant land within the City;

**Staff Comment:** Staff feels that the proposed rezoning complies with this review criteria.

Mr. Hussong and Ms. Cox agreed with the staff comment. Mr. Plant disagreed. The Planning Commission agreed with the staff comment by a vote of 2-1.

6. The proposed amendment is not likely to result in significant adverse impacts upon the natural environment, including air, water, noise, storm water management, wildlife, and vegetation, or such impacts will be substantially mitigated;

**Staff Comment:** Staff feels that the proposed rezoning complies with this review criteria.

Ms. Cox agreed with the staff comment. Mr. Plant and Mr. Hussong disagreed. The Planning Commission **disagreed** with the staff comment by a vote of 1-2.

7. The proposed amendment will not constitute an instance where special treatment is given to a particular property or property owner that would not be applicable to a similar property, under the same circumstances;

**Staff Comment:** Staff feels that the proposed zoning is justified on the merits, and does not constitute special treatment.

The Planning Commission agreed with the staff comment by a vote of 3-0.

### **Review Criteria (Cont'd)**

8. The proposed amendment would correct an error in the application of this Planning and Zoning Code as applied to the subject property.

**Staff Comment:** Staff feels that this criterion does not apply.

The Planning Commission agreed with the staff comment by a vote of 3-0.

### **Recommendation**

Ms. Cox noted that the Commission disagreed on some of the review criteria, and asked that the members explain their positions before the vote.

Ms. Cox noted that Staff recommended approval of the proposed rezoning.

Mr. Plant expressed concern about the consistency of Section 8 as compared to the majority of parcels in Foxfire. He noted that the majority of lots are RSF-2. Section 8 can be developed without the rezoning, even if doing so would result in fewer new homes.

Mr. Plant expressed concern about adverse impacts on stormwater management. He stated that he would need to hear more about the proposed stormwater management.

Mr. Hussong echoed concerns about stormwater management and the possible impact on wildlife, referencing Criteria 6. Any construction had the potential to disrupt wildlife, which could result in adverse impacts.

Mr. Hussong praised the inclusion of open space lots which would bring more value to the area.

Hearing no further comments, Mr. Hussong made a motion to approve the rezoning of Foxfire Section 8 as proposed. Mr. Plant seconded the motion on a procedural basis.

Ms. Cox and Mr. Hussong voted in favor of the motion. Mr. Plant voted against. The motion was carried by a vote of 2-1.

Ms. Cox noted that the recommendations of the Commission would be reviewed at the Council Study Session on Monday, October 6<sup>th</sup>, 2025.

### **Communications**

Mr. Hammes reported that long-time Planning Commission member and outgoing Vice Chair Dave Arnold had resigned due to health concerns. Mr. Hammes thanked Mr. Arnold for his support and assistance over the years, and wished him the best.

Mr. Hammes reported that Mr. Plant, having been selected as Second Vice Chair, would now serve as Vice Chair.

Ms. Cox echoed the comments regarding Mr. Arnold and Mr. Plant, and thanked them for their service.

### **Adjournment**

Ms. Cox asked for a motion to adjourn. Mr. Hussong made the motion. Mr. Plant seconded the motion. The vote passed 3-0.

Ms. Cox adjourned the meeting at 7:14 p.m.

---

*Chairperson*

# MEMORANDUM

**TO:** Planning Commission  
**FROM:** Michael Hammes, AICP, City Planner  
**DATE:** October 24th, 2025  
**SUBJECT:** PC 25-0014 – Final PUD Plan – Section 1 – Riverdale Subdivision

## General Information

**Owner(s):** Jamie N. Spencer  
7848 S. Brown School Road  
Vandalia, Ohio 45377  
Richard A & Kimberly K Ware  
8880 Buckeye Lane  
Versailles, Ohio 45380

**Applicant:** Addison Properties  
3401 Enterprise Pkwy, Suite 410  
Beachwood, Ohio 44122

**Existing Zoning:** Planned Unit Development

**Location:** 7848 S. Brown School Road

**Parcels:** B02 01202 0045  
B02 01202 0087  
B02 01202 0064

**Acreage:** 84.7577 acres +/- (Overall Project)  
26.321 acres +/- (Section 1)

**Related Case(s):** PC 25-0001

**Requested Action:** Recommendation of Approval – Final Development Plan  
Recommendation of Approval – Record Plan (Riverdale Section 1)

**Exhibits:** 1 – Application Materials  
2 – Proposed Final Development Plan (Section 1)  
3 – Proposed Record Plan (Section 1)  
4 – Approved Preliminary Development Plan  
5 – Deviation Letter  
6 – Traffic Impact Study and Analysis

## Application Background

Eddie Hunt, of Addison Properties, requests the approval of a Final Development Plan and associated Record Plan for Section 1 of the Riverdale Subdivision. The request involves 26.321 acres across three parcels located at 7848 S. Brown School Road in the City of Vandalia, 3.519 acres of which would be dedicated as public right-of-way.

Section 1 of the Riverdale Subdivision consists of 58 building lots and 4 reserve lots totaling 22.802 acres +/- . An additional 3.519 acres +/- is dedicated as public right-of-way across portions of four new streets.

The site is part of a Planned Unit Development approved in March 2025. A copy of the approved preliminary plan for the development is attached. By rule, the proposed final plan must conform to the design and standards approved as part of the March 2025 preliminary plan.<sup>1</sup>

The proposed final plan also includes a proposed record plan creating new parcels and dedicating right-of-way. At the request of the applicant, this record plan is being reviewed in conjunction with the final plan.<sup>2</sup>

### **Final Plan Analysis**

The building and reserve lots proposed for section 1 meet the development standards of the preliminary plan, in so far as minimum area and frontage are concerned. Frontage widths along cul-de-sac lots also meet these standards, when measured at the setback line.

Roadway widths and designs are consistent with the preliminary plan and meet all relevant design standards set forth by the Zoning Code.

Street names have been assigned to the various proposed roadways in section 1. These names comply with typical naming standards, and are unique within Montgomery County.<sup>3</sup>

Reserve areas are provided as shown, and are consistent with the preliminary plan. Signs will be placed on Reserve Areas C and D as indicated.

### **Deviations from Preliminary Plan**

The applicant has provided a letter detailing all changes from the preliminary plan to the final plan. These changes include adjustments to the project area for section 1, realignment of lot numbers to reflect the revised project area for section 1, and slightly adjusted placement of some amenities. The letter also discusses roadway improvements planned along South Brown School Road, which will be completed as part of section 1 for the south end of the development and section 4 for the north end of the development.

It is Staff's determination that the changes listed in the deviation letter are incidental in nature, and do not meet any of the standards that would require major or minor amendments to the preliminary plan.

---

<sup>1</sup> Vandalia Zoning Code, Section 1214.08(d)(2) – Planned Unit Development Final Development Plans

<sup>2</sup> See also Sections 1214.02 and 1214.08. For the purposes of this application, the Preliminary Plan serves as the equivalent of the required Preliminary Plat.

<sup>3</sup> Staff notes that the street names of Deerhurst Drive and Foxfire Trail are not continued into this development in order to reduce confusion and aid navigation.



### **Subdivision Review and Analysis**

As part of the review of this application, Staff has received construction drawings for the project area. The design of the subdivision, including roadway design and stormwater management, is consistent with the preliminary plan.

Staff notes that the design of water and sanitary utilities is subject to review and approval by Montgomery County Environmental Services, and is not part of this approval.

### **Traffic Impact Study**

The development standards for the Riverdale Planned Unit Development require that a Traffic Impact Study (TIS) be completed prior to the approval of any final plan, with the recommendations of the TIS being implemented as part of the final plan.<sup>4</sup>

The Traffic Impact Study indicates that deficiencies currently exist at the intersection of Little York Road and South Brown School Road, south of the project area. The study indicates that the development of the Riverdale Subdivision will worsen these conditions.

Choice One Engineering, the City's third-party engineering firm of record, recommends that the applicant enter into an agreement with the City to pay a fee in lieu of improvements. This fee would be calculated based on the proportional impact the development will have on the deficiencies to be addressed.

The City, in turn, would include the project in its capital improvement plan, coordinate design and installation of any improvements, and manage the project budget. Road projects of this scale are managed by the City or the Ohio Department of Transportation, not by private developers, so this approach would be in keeping with long-held procedures.

As a first step, the applicant will provide a preliminary schematic of the intersection based on the findings of the TIS, from which a project scope and cost estimate will be drafted. The project scope and estimate will be used to determine the amount for the proposed fee-in-lieu.

After reviewing the TIS and the recommendations of Choice One Engineering, it is Staff's position that the proposed fee-in-lieu agreement would satisfy the requirements of the preliminary plan and design standards for this development.

A copy of the Traffic Impact Study is attached.

---

<sup>4</sup> Ordinance 25-02, Exhibit B, Section 4e., in relevant part: "Prior to the approval of any Final Development Plan, an independent traffic Study meeting the requirements of the City Code shall be completed, with any recommendations of the traffic study being addressed as part of the Final Plan to the extent approved by the City's traffic engineering consulting firm."

## **Review and Recommendation**

### **Planned Unit Development Final Plan Review Criteria**

Prior to Planning Commission recommending in favor of or City Council approving a final development plan for a planned unit development each body shall find that:<sup>5</sup>

- A. The final development plan conforms to and is consistent with the approved preliminary plan;

**Staff Comment:** Staff feels that the proposed Final Development Plan is consistent with the approved preliminary plan. Staff adds that all deviations from the approved preliminary plan are incidental in nature and have been approved administratively.

- B. The final development plan complies with any and all conditions that may have been imposed in the approval of the preliminary plan;

**Staff Comment:** Staff feels that all relevant conditions imposed upon this development have been met. Staff notes that standards relating to structures will be evaluated as part of the building permit process.

- C. The final development plan complies with the requirements of Section 1214.08 and Chapter 1222 – Planned Unit Developments.

**Staff Comment:** Staff feels that the proposed final development plan complies with the relevant provisions of the Zoning Code.

### **Major Subdivision (Final Plat) Review Criteria**

In reviewing and making recommendations and decisions on final plats, the Planning Commission and City Council shall take into consideration the following criteria:

- A. That the proposed subdivision complies with the preliminary plat review criteria established in Section 1214.09(d)(1);

**Staff Comment:** Staff feels that the proposed record plan meets this criterion.

- B. That the final plat complies with all applicable provisions of this code;

**Staff Comment:** Staff feels that the proposed record plan meets this criterion.

---

<sup>5</sup> Vandalia Zoning Code, Section 1214.08(d) – Planned Unit Development Review Criteria

### Major Subdivision (Final Plat) Review Criteria (Cont'd)

- C. That the final plat and construction drawings substantially complies with all specific requirements, the purposes, intent and basic objectives of the preliminary plat, and any commitments made or conditions agreed to with approval of the preliminary plat, and any applicable regulations in this code.

**Staff Comment:** Staff feels that the proposed record plan meets this criterion.

- D. That applicable review agencies have no objections that cannot be resolved by the applicant; and

**Staff Comment:** Staff notes that the proposed record plan has been reviewed and approved by the Montgomery County Engineer, Montgomery County Environmental Services, and the Vandalia Director of Public Service. Staff has no evidence that the applicable review agencies have any unresolvable objections to the proposed record plan.

- E. That the final plat is in full compliance with the approved preliminary plat, where applicable.

**Staff Comment:** Staff feels that the proposed record plan meets this criterion.

### Recommendation

Having reviewed the proposed Final Development Plan and Record Plan, the approved Preliminary Plan, construction documents, the Traffic Impact Study, and related documents, staff finds that the application meets the relevant criteria for approval.

Accordingly, staff recommends that Planning Commission issue a recommendation of **approval** for the Final Development Plan for Section 1 of the Riverdale Subdivision.

Staff also recommends that Planning Commission issue a recommendation of **approval** for the associated Record Plan for Section 1 of the Riverdale Subdivision.

The recommendation of the Planning Commission on both items will be forwarded to the November 17<sup>th</sup>, 2025 Study Session for Council review.

**Addison Properties**  
3401 Enterprise Pkwy, Suite 410  
Beachwood, Ohio 44122

**Development Statement**

**Compatibility With Surroundings**

The subject property is located in a residential neighborhood that is primarily surrounded by various types of residential zoning districts. The districts are shown on the city's official zoning map and include Agriculture (N, W, S), RSF-1 (N, S), RSF-2 (W), RSF-4 (W), and a residential Planned Unit Development District (S). Directly to the east of the subject property on the other side of the railroad tracks, is primarily zoned Industrial and Highway Business.

The City of Vandalia 2020 Comprehensive Plan designates all the land on either side of S Brown School Road, between Interstate 70 (N) and Little York Road (S), as Low Density Residential in the Future Land Use Plan. Low Density Residential is further defined as providing a variety of single-family homes (detached and attached) of various house and lot sizes. Neighborhoods should provide housing options for those of all ages and family types with access to nearby parks and commercial amenities. (Pg 55 and 56; Comprehensive Plan)

The proposed residential development is compatible with the existing use of the surrounding area and aligns with the long-term goals of the city's comprehensive plan. The proposed development will provide an alternative housing option that does not currently exist along S. Brown School Road, South of I-70. The homes will be constructed of quality materials, aesthetically pleasing, and designed to satisfy the needs of new home buyers. Homeowners will be within walking distance of the City's existing parks and commercial districts.

**Access**

Addison Properties is working in cooperation with the Vandalia Planning and Zoning Department to ensure that adequate improvements are made to the existing roadway infrastructure to help minimize the impact of additional traffic that will result from the proposed development. The development plan includes improvements on S. Brown School Road that mirror the improvements that exist west of the roadway centerline. A public sidewalk will run along the east side of S Brown School Road connecting the north and south end of the proposed development to each other and to the Foxfire Subdivision across the street. All improvements will comply with the City of Vandalia zoning codes and require final approval from the building and engineering departments.

Three new access points are proposed along the east side of S Brown School Road. All three access points will coordinate with existing roads and will comply with the City's access management guidelines. Final design and approvals will be obtained through the City of Vandalia.

Multiple points of ingress/egress serve as a positive safety and traffic management design feature. From a safety perspective, they provide emergency personnel with more than one point of entry when responding to calls from within the subdivision. From a traffic management perspective, multiple entry points help disburse traffic that is entering or exiting the subdivision from or onto S Brown School Road. The length of the cul de sac has been designed in accordance with the City's guidelines to minimize safety concerns.

# Addison Properties

3401 Enterprise Pkwy, Suite 410  
Beachwood, Ohio 44122

## Public Utilities Provided & Services

The proposed development will not impose an undue burden on public services such as utilities, fire, school, and police protection.

Addison Properties has coordinated with the Montgomery County Department of Environmental Services regarding water and sanitary sewer service to the site. The County has completed a preliminary review of our plans and provided a letter of support showing they have adequate capacity for the proposed project. They note public water and sanitary sewer mains are available along the west side of S Brown School Road.

Addison Properties was able to obtain a letter from the Vandalia-Butler City Schools District to the City of Vandalia Council, dated October 21, 2024, showing support for the proposed project. In summary, the School District believes that the proposed residential growth will lead to positive outcomes for the District. They note that the benefits of residential growth outweigh the challenges.

Addison Properties has coordinated with City staff in the design of the proposed plans to ensure safety forces are taken into consideration as well. Multiple entrances have been designed for the southern half of the proposed neighborhood to allow an alternative means of ingress/egress in the event of an emergency. In addition, the length of the cul de sac has been designed to meet the City's design standards as they pertain to safety forces. Waterline lines and fire hydrants will be incorporated into the plans as well to ensure that fire protection is available to every home.

## Ownership

Jamie N. Spencer is the current owner of the proposed development site. Addison Properties is in contract to purchase the property from Mr. Spencer and his partners; however, closing on the property is subject to Addison Properties getting full plan approval from the City of Vandalia and the Montgomery County Environmental Services. Once approved, Addison Properties will immediately close on the land and begin developing the proposed residential subdivision.

There are four phases to the proposed development, each of which will be purchased by Arbor Homes upon completion. Once purchased, Arbor Homes plans to construct new homes on each lot and sell the newly developed lot to a homeowner. In the end, all the proposed lots will be owned by individual homeowners and the common areas will be owned and maintained by a professional Homeowners Association (HOA) that will be established by the developer and transferred to the builder.

## Access & provisions for maintenance of common areas

The proposed residential subdivision will have 39.68-acres of open space common area that will be owned and maintained by a professionally managed Homeowners Association (HOA). Approximately sixty-three percent (63 %) of the proposed common area will be preserved in its natural wooded state while the remaining thirty-seven percent (37%) is planned to be maintained as open green space.

# Addison Properties

3401 Enterprise Pkwy, Suite 410  
Beachwood, Ohio 44122

Access to all common areas will be provided so the HOA can maintain the stormwater detention ponds, walking trails, signage, trees, and grass areas. Areas that are not directly adjacent to the public right-of-way will be accessed via paths that connect the green space to the public right-of-way between the homes at the ends of each cul de sac. Additional access will be provided to the southeast corner of the development via a path between homes on the outside of the proposed road. All stormwater features will be maintained in accordance with the approved Stormwater Management Plan, which is incorporated into the Declaration of Covenants, Conditions, Easements, and Restrictions for the proposed subdivision.

**Addison Properties**  
3401 Enterprise Pkwy, Suite 410  
Beachwood, Ohio 44122

**Letter of Justification**

The City of Vandalia's Comprehensive Plan envisions a community that defines and enhances its identity locally and regionally. Key goals include promoting diverse housing options, enhancing existing landmarks and corridors, improving connectivity between neighborhoods and parks, and preserving green space. We believe the proposed residential development (Riverdale) aligns with these objectives and brings Vandalia closer to achieving them.

The Comprehensive Plan designates the future land use for both sides of S Brown School Road as "Low Density Residential" which is further defined as an area with a variety of single-family homes, both detached and attached, with various house and lot sizes. Proposed residential subdivisions are envisioned as having homes with a variety of architectural features using quality materials, a site design that preserves environmentally sensitive areas, and connectivity for safe and comfortable walking, biking, and driving across all ages and abilities.

Planned Unit Development standards provide the City with a zoning mechanism that defines details for the proposed development. The Riverdale PUD, when combined with the surrounding neighborhoods, embodies the City's future land use plan along S Brown School Road. Diverse housing options with various house and lot sizes, the enhancement of corridors, connectivity between neighborhoods and parks, and the preservation of green space are all components of the proposed plan when combined with the surrounding neighborhoods. This PUD is the missing component of the existing land use along S Brown School Road and creates a community that fits both the desires of the City Comprehensive Plan and the neighboring developments.

The builder for Riverdale, Arbor Homes, is committed to constructing homes that uphold the value and integrity of the surrounding neighborhoods and meet the needs of the modern-day home buyer. Arbor has agreed to enforcing "Anti-Monotony Language" in the proposed subdivision and has incorporated a list of "Community Specific Features", that highlights their commitment to providing homes with quality building materials, design features, and landscaping, in the Declaration of Covenants, Conditions, Easements, and Restrictions. The homes that will be built within the proposed subdivision will incorporate the features outlined in their commitment as minimum design standards.

The houses that Arbor Homes will construct, when combined with the lots that are proposed, will provide modern-day home buyers with housing options that do not currently exist within the City of Vandalia. Riverdale will provide existing Vandalia residents, as well as new potential residents, high quality options in a new neighborhood. The PUD provides detailed restrictions and guidelines including lot sizes, site density, and home finishes. The development will be a positive addition to the community while complying with the City Comprehensive Plan.



3401 Enterprise Pkwy, Suite 410  
Beachwood, Ohio 44122

---

October 23, 2025

Attn: Michael J. Hammes, AICP, City Planner  
City of Vandalia  
333 James E. Bohanan Drive  
Vandalia, OH 45377

### **Final Development Plan (Phase I) - Deviation Letter**

Mr. Hammes,

This letter has been written in support of our proposed Final Development Plan (FDP) to help city staff and council identify areas of the FDP (Phase I) that deviate from the approved Preliminary Development Plan (PDP). In general, the proposed FDP (Phase I) is compliant with the approved PDP; however, there are a few minor areas where the FDP (Phase I) deviates as submitted. The deviations are as follows:

- The phase lines for phases I have changed due to our engineering analysis of the sanitary sewer service for the site. The proposed FDP (Phase I) boundary now encompasses a total of 58 lots, two detention ponds on the north end of phase I, and a vacant strip of land to the east of lot 41 to accommodate a sanitary sewer lift station.
- Lots 106 – 115 and 138 – 145 on the approved PDP have been eliminated from Phase I in the proposed FDP (Phase I). Lots 45 – 60, 75 – 79, & 167 on the approved PDP have been included in the proposed FDP (Phase I). The new lots have been renumbered as lots 1 – 58 as shown in the proposed FDP (Phase I). The two storm basins shown in phase I on the approved PDP have been eliminated from Phase I in the proposed FDP (Phase I).
- Lots 4 – 16 on the proposed FDP (Phase I) have a minimum lot width of 80' as approved in the PDP. Lots 1 – 3 and lots 17 – 58 on the proposed FDP (Phase I) have a minimum lot width of 55' as approved in the PDP.
- The access and walking path located at the end of Montana Place as shown in the proposed FDP (Phase I) has been relocated so that it sits between lots 33 and 34. It was originally located between lots 32 and 33. This change was made to provide a more direct access to the detention pond behind lot 34.





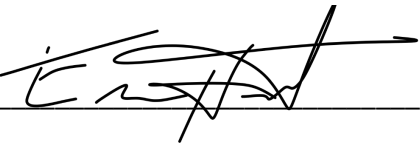
3401 Enterprise Pkwy, Suite 410  
Beachwood, Ohio 44122

---

- The roadway improvements along S Brown School Road are proposed to be done in two phases, the southern phase and the northern phase. The break line for the two phases generally aligns with the northern end of the southbound center turn lane that will be installed at the intersection of the northern entrance to phase I of the site plan. The southern phase will be constructed with phase I of the site plan and the northern phase will be constructed in phase 4 of the site plan.

Please let us know if you would like to discuss any of these items in detail upon the completion of your review. We appreciate the opportunity to continue to work with the City of Vandalia and look forward to a successful residential development.

Sincerely,



---

Eddie Hunt, Vice President of Acquisitions and Development

# the aspen II

## ELEVATION OPTIONS

ELEVATION A



SHOWN WITH BRICK OPTION A

ELEVATION B



SHOWN WITH BRICK OPTION B

ELEVATION C



SHOWN WITH BRICK OPTION C



ELEVATION D



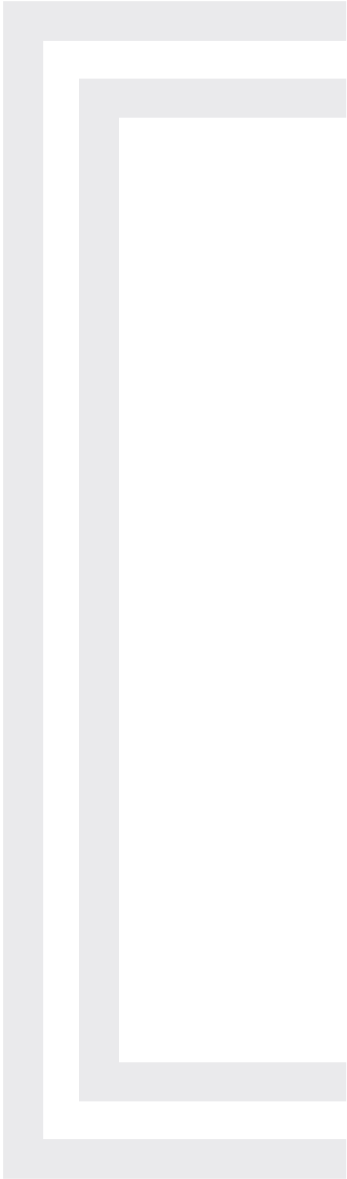
SHOWN WITH BRICK OPTION A

ELEVATION E



SHOWN WITH BRICK OPTION B

2,176+ sq.ft.  
2 STORY  
4 BEDROOMS  
2.5 BATHS  
2 CAR GARAGE



ELEVATION OPTIONS

ELEVATION A



SHOWN WITH BRICK OPTION A

ELEVATION B



SHOWN WITH BRICK OPTION A

ELEVATION C



SHOWN WITH BRICK OPTION A

ELEVATION D



SHOWN WITH BRICK OPTION A

ELEVATION E



SHOWN WITH BRICK OPTION A

the **cooper**



2,813+ sq.ft.  
2 STORY  
4 BEDROOMS  
2.5 BATHS  
2 CAR GARAGE



ELEVATION OPTIONS

CRAFTSMAN



TRADITIONAL



TUDOR



ELEVATION A



ELEVATION A



ELEVATION B



ELEVATION B

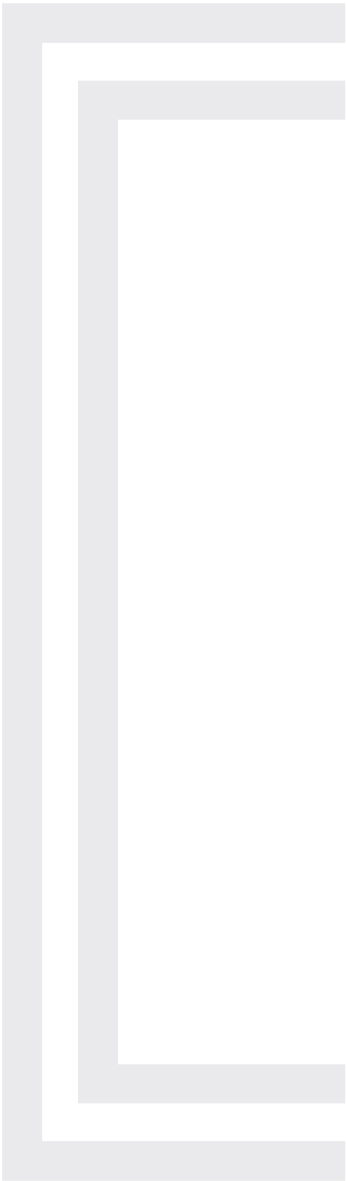


SHOWN WITH BRICK OPTION B

the **cottonwood**



2,324+ sq.ft.  
2 STORY  
3 BEDROOMS  
2.5 BATHS  
2 CAR GARAGE





ELEVATION OPTIONS

CRAFTSMAN



TRADITIONAL



TUDOR



ELEVATION A



ELEVATION A



SHOWN WITH BRICK OPTION A

ELEVATION B



SHOWN WITH BRICK OPTION B

ELEVATION B



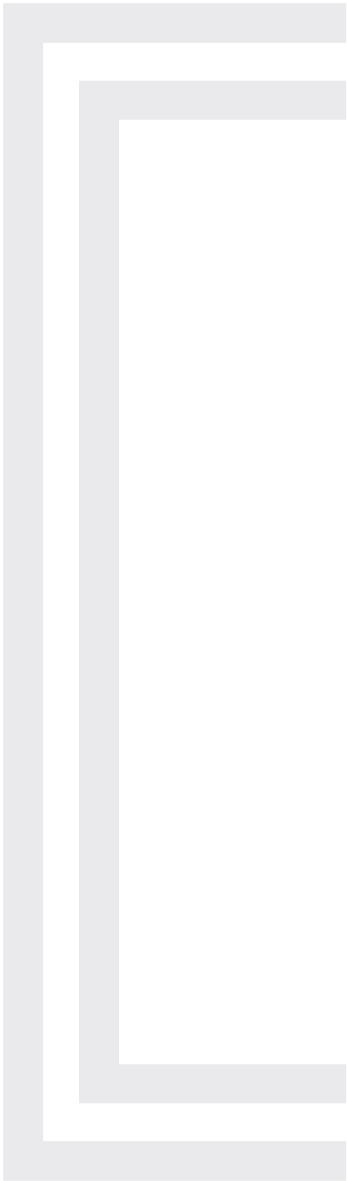
ELEVATION C



SHOWN WITH BRICK OPTION C



3,200+ sq.ft.  
2 STORY  
5 BEDROOMS  
2.5 BATHS  
2 CAR GARAGE



# the **norway**

## ELEVATION OPTIONS

ELEVATION A



SHOWN WITH BRICK OPTION A

ELEVATION B



SHOWN WITH BRICK OPTION B

ELEVATION C



SHOWN WITH BRICK OPTION C

ELEVATION D



SHOWN WITH BRICK OPTION A

ELEVATION E



SHOWN WITH BRICK OPTION B



3,029+ sq.ft.  
2 STORY  
5 BEDROOMS  
2.5 BATHS  
2 CAR GARAGE



# the spruce

## ELEVATION OPTIONS

ELEVATION A



SHOWN WITH BRICK OPTION A

ELEVATION B



SHOWN WITH BRICK OPTION B

ELEVATION C



SHOWN WITH BRICK OPTION C

ELEVATION D



SHOWN WITH BRICK OPTION A

ELEVATION E



SHOWN WITH BRICK OPTION B



2,343+ sq.ft.  
2 STORY  
4 BEDROOMS  
2.5 BATHS  
2 CAR GARAGE





ELEVATION OPTIONS

ELEVATION A



ELEVATION A



SHOWN WITH BRICK OPTION A

ELEVATION B



ELEVATION B



SHOWN WITH BRICK OPTION B

ELEVATION C



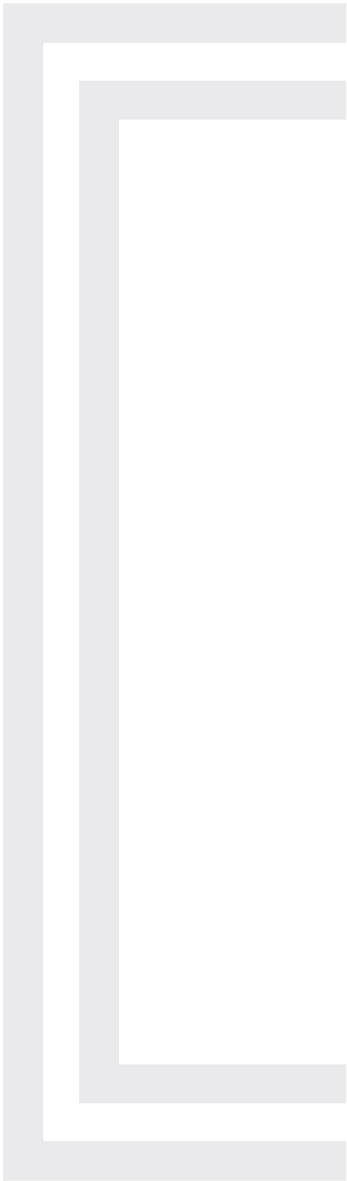
ELEVATION C



SHOWN WITH BRICK OPTION C



1,356+ sq.ft.  
RANCH  
3 BEDROOMS  
2 BATHS  
2 CAR GARAGE





ELEVATION OPTIONS

ELEVATION A



SHOWN WITH BRICK OPTION A

ELEVATION B



SHOWN WITH BRICK OPTION A

ELEVATION C



SHOWN WITH BRICK OPTION A

ELEVATION D



SHOWN WITH BRICK OPTION A

ELEVATION E



SHOWN WITH BRICK OPTION A

the **bradford**



1,611+ sq.ft.  
RANCH  
3 BEDROOMS  
2 BATHS  
2 CAR GARAGE



ELEVATION OPTIONS

ELEVATION A



SHOWN WITH BRICK OPTION A

ELEVATION B



SHOWN WITH BRICK OPTION A

ELEVATION C



SHOWN WITH BRICK OPTION A

ELEVATION D



SHOWN WITH BRICK OPTION A

ELEVATION E



SHOWN WITH BRICK OPTION A

the **chestnut**



1,801+ sq.ft.  
RANCH  
3 BEDROOMS  
2 BATHS  
2 CAR GARAGE



ELEVATION OPTIONS



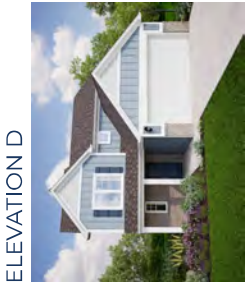
SHOWN WITH BRICK OPTION A



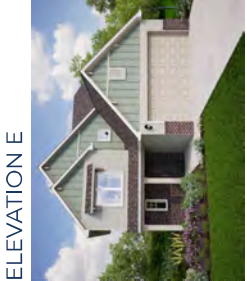
SHOWN WITH BRICK OPTION B



SHOWN WITH BRICK OPTION C



SHOWN WITH BRICK OPTION B



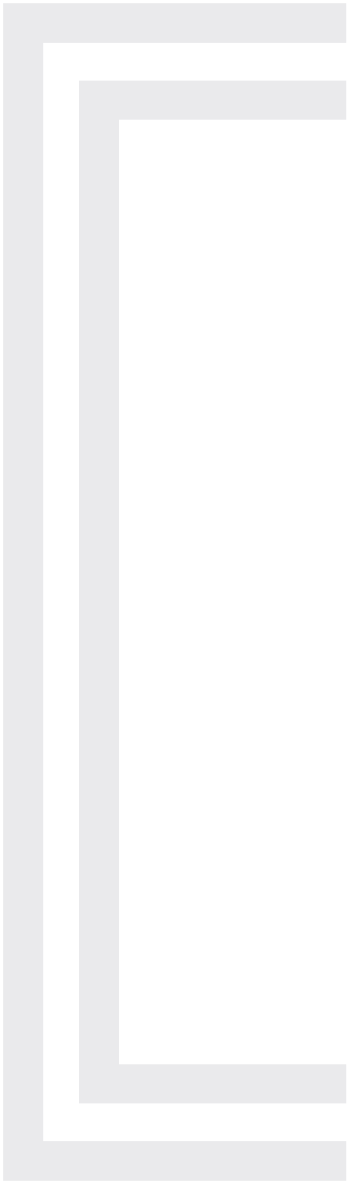
SHOWN WITH BRICK OPTION B



SHOWN WITH BRICK OPTION A



1,968+ sq.ft.  
2 STORY  
3-4 BEDROOMS  
2.5 BATHS  
2 CAR GARAGE





ELEVATION OPTIONS

ELEVATION A



SHOWN WITH BRICK OPTION A

ELEVATION B



SHOWN WITH BRICK OPTION B

ELEVATION C



SHOWN WITH BRICK OPTION C

ELEVATION D



SHOWN WITH BRICK OPTION B

ELEVATION E



SHOWN WITH EXTERIOR PORCH AND BRICK OPTION B

ELEVATION F

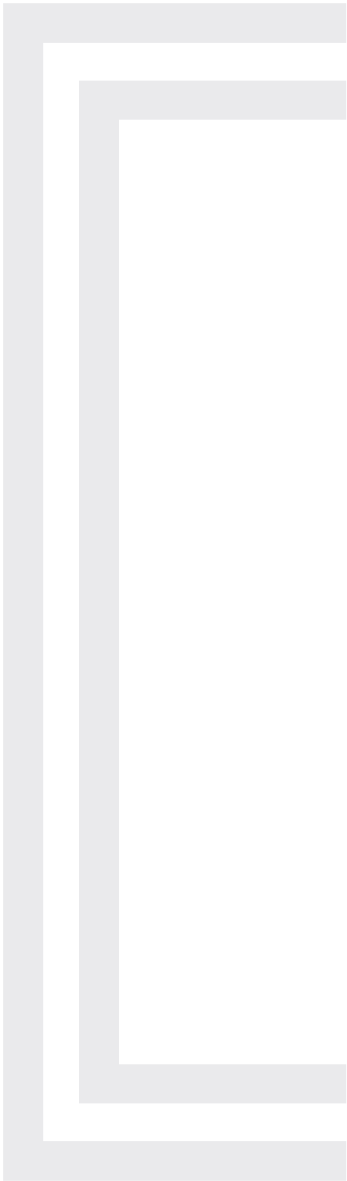


SHOWN WITH BRICK OPTION A



ELEVATION E SHOWN WITH BRICK OPTION A

- 1,760+ sq.ft.
- 2 STORY
- 3-4 BEDROOMS
- 2.5 BATHS
- 2 CAR GARAGE



# ELEVATION OPTIONS

ELEVATION A



SHOWN WITH BRICK OPTION A

ELEVATION B



SHOWN WITH BRICK OPTION B

ELEVATION C



SHOWN WITH BRICK OPTION C

ELEVATION D



SHOWN WITH EXTERIOR PORCH AND BRICK OPTION B

ELEVATION E



SHOWN WITH BRICK OPTION A

ELEVATION F



SHOWN WITH BRICK OPTION A

# the **palmetto**



2,581+ sq.ft.  
2 STORY  
4 BEDROOMS  
2.5 BATHS  
2 CAR GARAGE

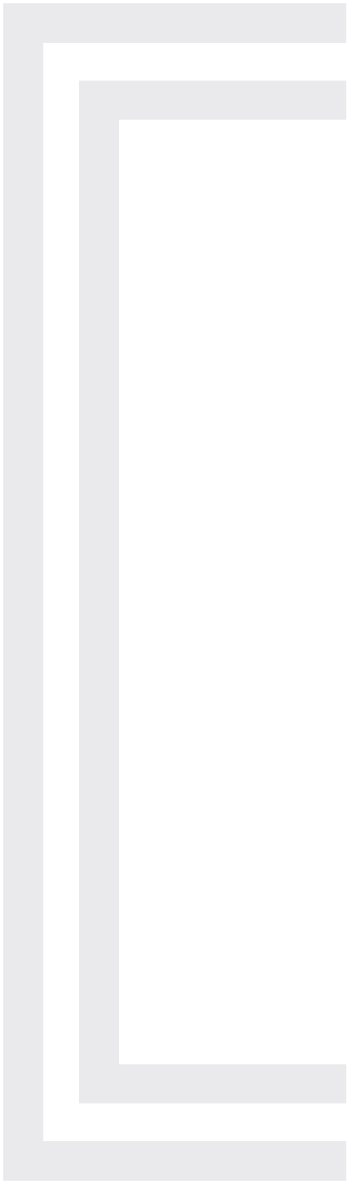




ELEVATION OPTIONS



1,228+ sq.ft.  
RANCH  
3 BEDROOMS  
2 BATHS  
2 CAR GARAGE





W:\Projects\2024\1400-1599\2401435\CAD\SURV\2401435 Vandalia Plat\_recover.dwg - Last printed 10/6/2025 4:58 PM

ACREAGE BREAKDOWN

|                                       |   |                      |
|---------------------------------------|---|----------------------|
| PROPOSED RIGHT OF WAY                 | - | 3.519 ACRES          |
| EXISTING RIGHT OF WAY                 | - | 4.492 ACRES          |
| ACREAGE IN LOTS                       | - | 18.257 ACRES         |
| RESERVE 'A'                           | - | 0.814 ACRES          |
| RESERVE 'B'                           | - | 0.040 ACRES          |
| RESERVE 'C'                           | - | 3.623 ACRES          |
| RESERVE 'D'                           | - | 0.068 ACRES          |
| PPN B02-01202-0045 REMAINDER (P.R.O.) | - | 37.215 (4.097) ACRES |
| PPN B02-01202-0064 REMAINDER (P.R.O.) | - | 7.708 (0.749) ACRES  |
| PPN B02-01202-0087 REMAINDER (P.R.O.) | - | 17.977 (0.000) ACRES |

DEDICATION:

WE, THE UNDERSIGNED, BEING THE OWNERS AND LIEN HOLDERS OF THE LANDS HEREIN PLATTED, DO HEREBY ACKNOWLEDGE THE MAKING AND SIGNING OF THIS INSTRUMENT TO BE OUR VOLUNTARY ACT AND DEED AND DO HEREBY DEDICATE THE STREET RIGHT-OF-WAYS AND RESERVE EASEMENTS SHOWN HEREON TO PUBLIC USE FOREVER.

EASEMENTS SHOWN ARE RESERVED FOR THE CONSTRUCTION, OPERATION, MAINTENANCE, REPAIR, REPLACEMENT OR REMOVAL OF WATER MAINS AND SERVICES, SANITARY SEWERS, STORM SEWERS, GAS, ELECTRIC, TELEPHONE, CABLE TELEVISION, OR OTHER UTILITY LINES OR SERVICES, AND FOR THE EXPRESS PRIVILEGE OF REMOVING ANY AND ALL TREES OR OTHER OBSTRUCTIONS TO THE FREE USE OF SAID UTILITIES AND FOR PROVIDING INGRESS TO AN EGRESS FROM THE PREMISES FOR SAID PURPOSES AND ARE TO BE MAINTAINED AS SUCH FOREVER.

THE PRIVATE DRAINAGE AND GRADING EASEMENTS AS SHOWN ARE FOR THE USE AND BENEFIT OF THE ADJOINING PROPERTY OWNERS. THE PRIVATE DRAINAGE AND GRADING EASEMENTS ON EACH LOT SHALL BE MAINTAINED BY THE PROPERTY OWNER. WITHIN THE PRIVATE DRAINAGE AND GRADING EASEMENT, NO STRUCTURE(S), LANDSCAPING OR OTHER MATERIALS SHALL BE PLACED OR PERMITTED TO REMAIN THAT WILL OBSTRUCT, RETARD, OR DIVERT THE FLOW OF STORM WATER THROUGH THE PRIVATE DRAINAGE AND GRADING EASEMENTS.

BY:

TITLE:

SIGNATURE

NAME:

PRINTED NAME (TITLE)

STATE OF OHIO  
COUNTY OF MONTGOMERY

BE IT REMEMBERED THAT ON THIS \_\_\_\_ DAY OF \_\_\_\_\_ BEFORE ME,  
THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, PERSONALLY

APPEARED \_\_\_\_\_, WHO IS THE  
(NAME) (TITLE)

OF \_\_\_\_\_ AN OHIO LIMITED LIABILITY COMPANY WHO, ON BEHALF OF  
SAID LIMITED LIATLLITY COMPANY, ACKNOWLEDGED THE SIGNING AND EXECUTION OF THIS PLAT TO BE HIS VOLUNTARY ACT AND DEED.

IN TESTIMONY WHEREOF, I HAVE SET MY HAND AND AFFIXED MY NOTARY SEAL ON THE DAY AND DATE WRITTEN ABOVE.

NOTARY PUBLIC MY COMMISSION EXPIRES

H.O.A. COVENANTS CONDITIONS AND RESTRICTIONS  
THE WITHIN SUBDIVISION WILL BE SUBJECT TO THE DECLARATION OF COVENANTS, CONDITIONS, RESTRICTIONS, ASSESSMENTS AND ARTICLES OF INCORPORATION OR BY-LAWS OF THE HOMEOWNERS ASS-A IN, ALL OF WHICH ARE RECORDED IN THE DEED RECORDS OF MONTGOMERY COUNTY, OHIO IN \_\_\_\_\_ THE HOMEOWNERS ASSOCIATION WILL BE RESPONSIBLE TO MAINTAIN ALL OPEN SPACE LOTS.

LEGEND OF EXISTING CONDITIONS

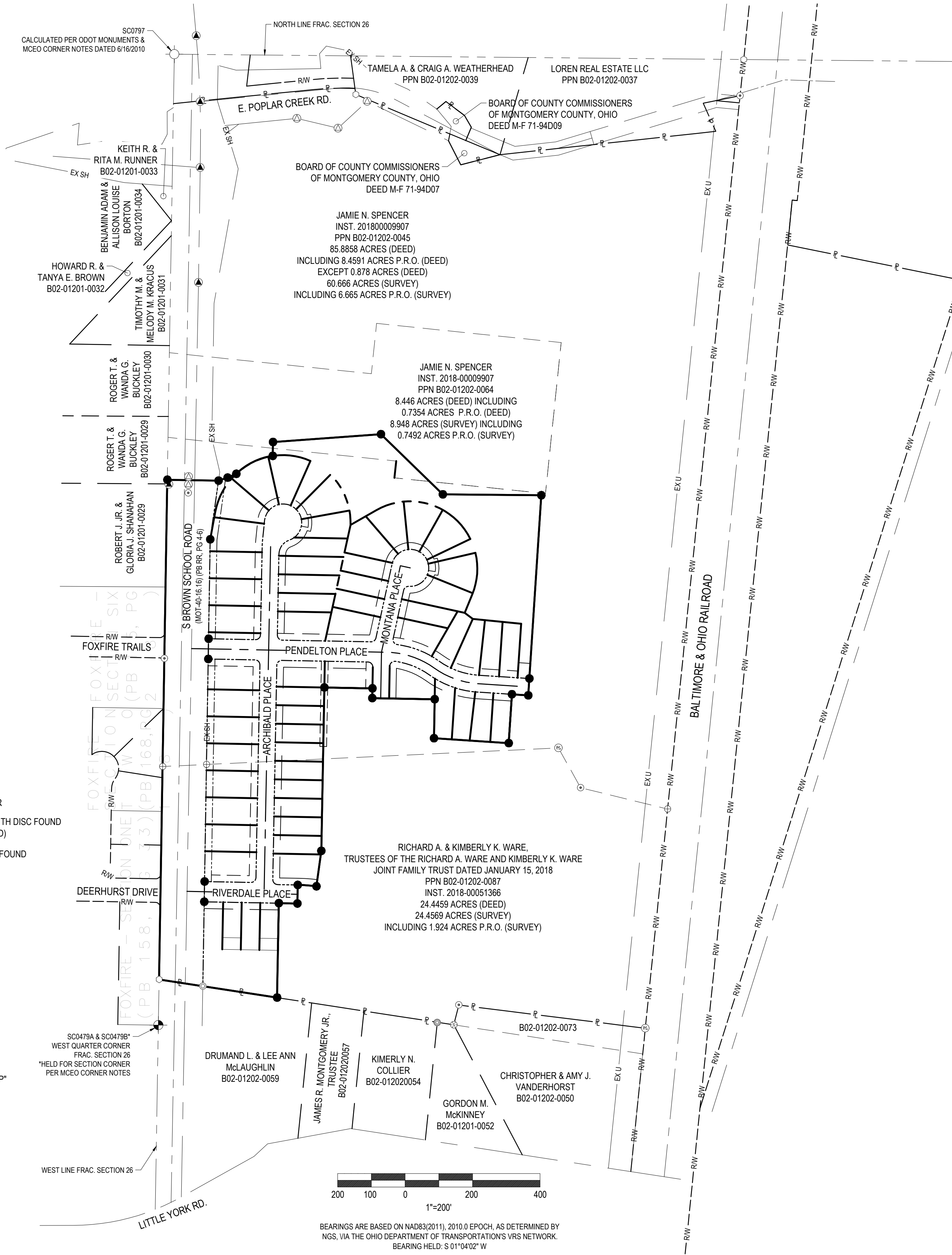
|  |                                                        |  |                                                                |
|--|--------------------------------------------------------|--|----------------------------------------------------------------|
|  | DEVELOPMENT PROPERTY LINE                              |  | SECTION CORNER                                                 |
|  | DEVELOPMENT PARCEL LINE                                |  | QUARTER SECTION CORNER                                         |
|  | SURVEY BASELINE (MOT-40-16.16)                         |  | O.D.O.T. MONUMENT BOX WITH DISC FOUND (UNLESS OTHERWISE NOTED) |
|  | CONSTRUCTION CENTERLINE (MOT-40-16.98 & MOT-75-31.842) |  | O.D.O.T. RIGHT OF WAY PIN FOUND                                |
|  | RIGHT OF WAY                                           |  | 5/8-INCH IRON PIN FOUND                                        |
|  | PROPERTY LINE                                          |  | 5/8-INCH IRON PIN FOUND - CAPPED 'MARSH 7735'                  |
|  | SECTION LINE                                           |  | 5/8-INCH IRON PIN FOUND - CAPPED 'SWD'                         |
|  | CENTERLINE OF NORTHBOUND RAIL LINE                     |  | 3/4-INCH IRON PIN FOUND                                        |
|  | STATE HIGHWAY EASEMENT                                 |  | 5/8-INCH IRON PIN FOUND - ILLEGIBLE CAP                        |
|  | DRAINAGE EASEMENT                                      |  | 3/4-INCH IRON PIPE FOUND                                       |
|  | UTILITY EASEMENT                                       |  | 5/8-INCH IRON PIN FOUND - CAPPED 'N.B.P.'                      |
|  | SUBDIVISION BOUNDARY                                   |  | 5/8" IRON REBAR SET WITH CAP STAMPED "MANNIK AND SMITH GROUP"  |

LEGEND OF PROPOSED CONDITIONS

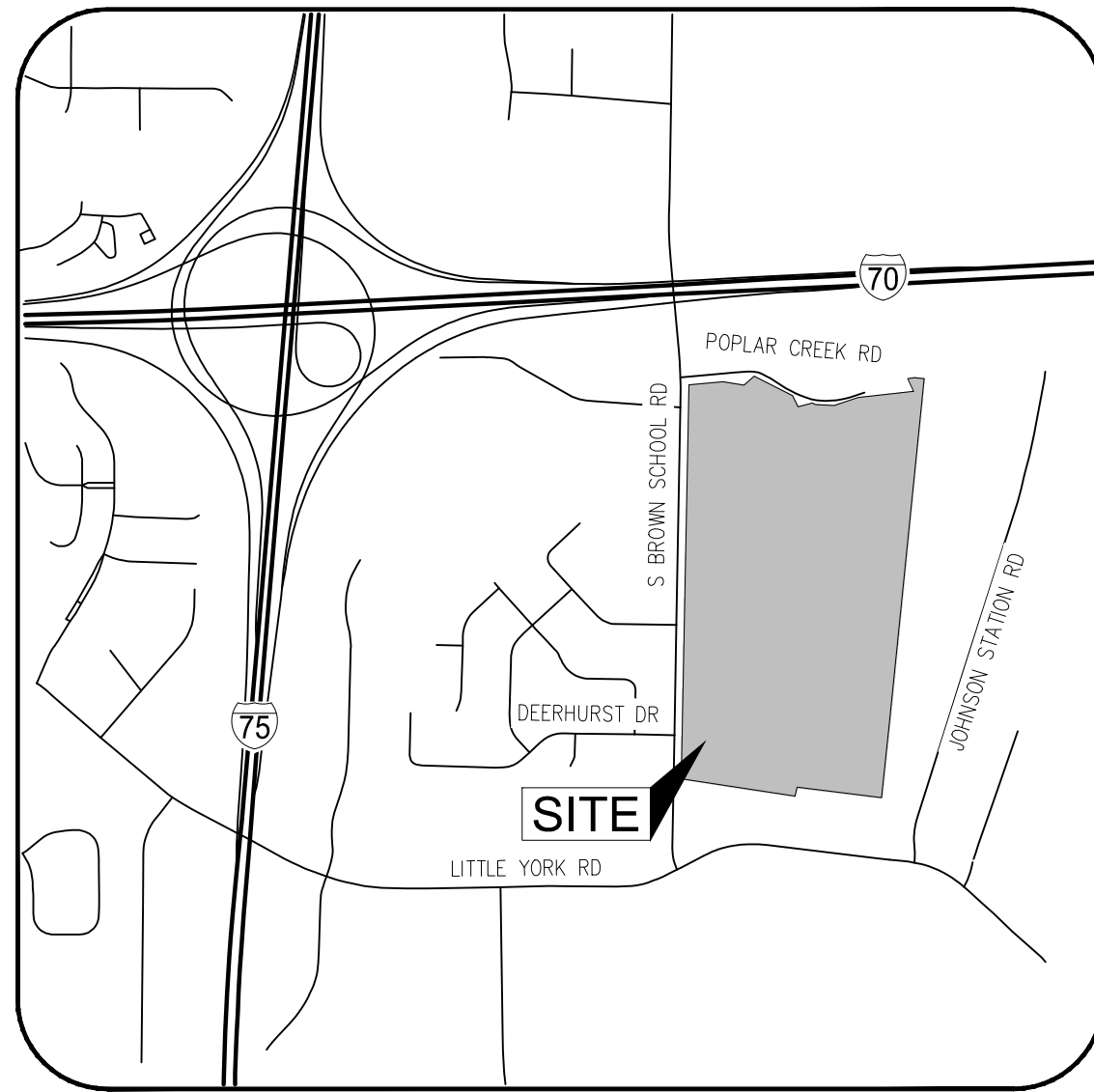
|  |                                  |
|--|----------------------------------|
|  | PHASE LINE                       |
|  | LOT LINE                         |
|  | BUILDING SETBACK                 |
|  | CENTERLINE OF RIGHT OF WAY       |
|  | RIGHT OF WAY                     |
|  | PUBLIC UTILITY EASEMENT (P.U.E.) |
|  | SANITARY SEWER EASEMENT (S.S.E.) |
|  | PRIVATE DRAINAGE EASEMENT        |
|  | LANDSCAPE EASEMENT               |

RIVERDALE PLACE SUBDIVISION  
SECTION 1

SITUATED IN SECTION 26, TOWNSHIP 3 NORTH, RANGE 6 EAST, CITY OF VANDALIA, COUNTY OF MONTGOMERY, STATE OF OHIO



SUPERIMPOSED AREA MAP



MONTGOMERY COUNTY ENGINEER  
APPROVED FOR DESCRIPTION

DATE: \_\_\_\_\_ 20\_\_

JOB# 2401435

AUTHORIZED REPRESENTATIVE

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

MONTGOMERY COUNTY ENVIROMENTAL SERVICES

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED BY THE CITY OF VANDALIA

THIS \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_

PLANNING COMMISSION CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

MAYOR \_\_\_\_\_ DATE \_\_\_\_\_

CLERK OF COUNCIL \_\_\_\_\_ DATE \_\_\_\_\_

CERTIFICATION / DESCRIPTION

THE WITHIN PLAT IS A SUBDIVISION CONTAINING 16.7834 ACRES BEING:

0.501 ACRES OUT OF A 8.446 ACRE TRACT (PPN B02-01202-0064)  
19.354 ACRES OUT OF A 60.666 ACRE TRACT (PPN B02-01202-0045)  
BOTH AS CONVEYED TO JAMIE N. SPENCER BY DEED RECORDED IN I.R. DEED # 2018-00009907;

6.480 ACRES OUT OF A 24.4459 ACRE TRACT (PPN 02-01202-0087)  
AS CONVEYED TO WARE RICHARD A AND KIMBERLY K. WARE, TRUSTEES OF THE RICHARD A. WARE AND KIMBERLY K. WARE JOINT FAMILY TRUST DATED JANUARY 15, 2018 BY DEED RECORDED IN I.R. DEED # 2018-00051366 IN THE DEED RECORDS OF MONTGOMERY COUNTY, OHIO.

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH OHIO ADMINISTRATIVE CODE CHAPTER 4733.37 STANDARDS FOR SURVEYS AND ALSO CONFORMS TO THE OHIO REVISED CODE CHAPTER 711 FOR RECORD PLANS AND WAS CONDUCTED UNDER MY SUPERVISION BASED ON FIELD WORK IN JUNE OF 2025. ALL MEASUREMENTS ARE CORRECT AND MONUMENTS ARE TO BE SET ON ALL LOT CORNERS AS SHOWN.

NICHOLAS J. DEL VALLE, P.S. #8822

DATE

|                                                                                       |                                                |
|---------------------------------------------------------------------------------------|------------------------------------------------|
| 1                                                                                     | 3                                              |
| TITLE SHEET                                                                           | RIVERDALE PLACE SUBDIVISION SECTION 1          |
| PREPARED FOR:                                                                         | ADDISON PROPERTIES                             |
| 4301 ENTERPRISE PARKWAY, SUITE 410, BEACHWOOD, OHIO 44122                             | 7848 S BROWN SCHOOL ROAD, VANDALIA, OHIO 45377 |
| TECHNICAL SKILL: CREATIVE SPIRIT.                                                     | Mannik Smith Group                             |
| 1160 DUBLIN ROAD, SUITE 100, COLUMBUS, OH 43215, TEL: 614.441.4222, FAX: 688.488.7340 | www.MannikSmithGroup.com                       |
| NO. 1                                                                                 | DESCRIPTION: REMOVED LOTS 49-54 PER CLIENT     |
| DATE: 09/12/2025                                                                      | BY: F.J.L.                                     |
| PROJECT DATE: 09/09/2025                                                              | PROJECT NO.: 2401435                           |
| DRAWN BY: F.J.L.                                                                      | CHECKED BY: N.J.D.                             |



ION TWO FOXFIRE SECTION SIX  
G 1 8 (P B T 9 3 5 P G 2 8 )

FOXFIRE TRAILS  
(50' WIDE)

S BROWN SCHOOL ROAD  
(MOT-40-16.16) (PB RR, PG 4-6)

REMAINDER P.R.O.  
PPN B02-01202-0064  
3.092 ACRES

PARTIAL REMAINDER P.R.O.  
PPN B02-01202-00450  
0.401 ACRES

PARTIAL REMAINDER  
PPN B02-01202-00450  
0.253 ACRES

REMAINDER  
PPN B02-01202-0064  
7.708 ACRES

PARTIAL REMAINDER  
PPN B02-01202-00450  
36.962 ACRES INCLUDING  
2.692 ACRES P.R.O.

JAMIE N. SPENCER  
INST. 2018-00009907  
PPN B02-01202-0045  
88.858 ACRES (DEED)  
INCLUDING 8.4591 ACRES P.R.O. (DEED)  
EXCEPT 0.878 ACRES (DEED)  
60.666 ACRES (SURVEY)  
INCLUDING 6.665 ACRES P.R.O. (SURVEY)

| Curve Table |        |        |                 |              |            |
|-------------|--------|--------|-----------------|--------------|------------|
| Curve #     | Length | Radius | Chord Direction | Chord Length | Delta      |
| C1          | 23.56  | 15.00  | S 46°04'02" W   | 21.21        | 090°00'00" |
| C2          | 23.56  | 15.00  | N 43°55'58" W   | 21.21        | 090°00'00" |
| C3          | 23.56  | 15.00  | N 46°04'02" E   | 21.21        | 090°00'00" |
| C4          | 17.37  | 211.25 | N 03°25'22" E   | 17.37        | 004°42'40" |
| C5          | 130.81 | 204.00 | S 28°54'25" W   | 128.58       | 036°44'21" |
| C6          | 19.17  | 204.00 | S 44°35'05" W   | 19.16        | 005°23'00" |
| C7          | 108.78 | 200.00 | S 61°47'54" W   | 107.44       | 031°09'48" |
| C8          | 127.81 | 200.00 | N 84°18'41" W   | 125.65       | 036°36'59" |
| C9          | 122.22 | 200.00 | N 27°50'52" W   | 120.33       | 035°00'51" |
| C10         | 43.06  | 200.00 | S 04°10'22" E   | 42.98        | 012°20'11" |
| C11         | 33.67  | 55.25  | N 23°14'04" E   | 33.15        | 034°54'43" |
| C12         | 35.30  | 55.25  | N 58°59'38" E   | 34.70        | 036°36'25" |
| C13         | 35.30  | 55.25  | N 84°23'57" W   | 34.70        | 036°36'25" |
| C14         | 33.76  | 55.25  | N 27°50'52" W   | 33.24        | 035°00'51" |
| C15         | 61.14  | 55.25  | N 21°21'33" E   | 58.06        | 063°23'59" |

| Curve Table |        |        |                 |              |            |
|-------------|--------|--------|-----------------|--------------|------------|
| Curve #     | Length | Radius | Chord Direction | Chord Length | Delta      |
| C17         | 54.95  | 45.00  | N 36°03'03" E   | 51.60        | 069°58'03" |
| C18         | 23.56  | 15.00  | N 43°55'58" W   | 21.21        | 090°00'00" |
| C19         | 23.56  | 15.00  | N 46°04'02" E   | 21.21        | 090°00'00" |
| C20         | 23.56  | 15.00  | N 43°55'58" W   | 21.21        | 090°00'00" |
| C21         | 20.62  | 15.00  | N 51°40'41" E   | 19.04        | 078°46'42" |
| C22         | 85.33  | 200.00 | S 72°28'13" W   | 84.68        | 024°26'43" |
| C23         | 120.52 | 200.00 | N 78°02'36" W   | 118.71       | 034°31'38" |
| C24         | 120.63 | 200.00 | N 43°30'03" W   | 118.81       | 034°33'30" |
| C25         | 0.26   | 55.00  | S 15°23'16" W   | 0.26         | 000°16'01" |
| C26         | 32.40  | 55.00  | S 32°23'59" W   | 31.94        | 033°45'24" |
| C27         | 33.61  | 55.00  | S 66°47'06" W   | 33.09        | 035°00'51" |
| C28         | 33.61  | 55.00  | N 78°12'03" W   | 33.09        | 035°00'51" |
| C29         | 33.61  | 55.00  | N 43°11'12" W   | 33.09        | 035°00'51" |
| C30         | 33.61  | 55.00  | S 04°33'35" E   | 33.09        | 035°00'51" |
| C31         | 69.07  | 55.00  | N 58°02'27" E   | 64.62        | 071°56'53" |

| Curve Table |        |        |                 |              |            |
|-------------|--------|--------|-----------------|--------------|------------|
| Curve #     | Length | Radius | Chord Direction | Chord Length | Delta      |
| C33         | 3.03   | 200.00 | S 21°40'29" W   | 3.03         | 000°52'04" |
| C34         | 21.40  | 15.00  | N 53°09'07" E   | 19.63        | 081°43'33" |
| C35         | 24.78  | 15.00  | N 35°02'43" W   | 22.06        | 094°40'07" |
| C36         | 134.58 | 275.00 | S 68°21'34" E   | 133.25       | 028°02'25" |
| C37         | 134.58 | 275.00 | S 68°21'34" E   | 133.25       | 028°02'25" |
| C38         | 39.95  | 225.00 | N 59°25'34" W   | 39.90        | 010°10'26" |
| C39         | 85.42  | 225.00 | N 75°23'19" W   | 84.90        | 021°45'03" |
| C40         | 6.32   | 275.00 | S 85°36'22" E   | 6.32         | 001°18'57" |
| C41         | 60.88  | 275.00 | S 78°36'22" E   | 60.75        | 012°41'02" |
| C42         | 65.82  | 275.00 | S 65°24'27" E   | 65.66        | 013°42'48" |
| C43         | 20.21  | 275.00 | S 56°26'42" E   | 20.21        | 004°12'42" |
| C44         | 109.24 | 225.00 | S 68°14'54" E   | 108.17       | 027°49'05" |
| C45         | 25.34  | 15.00  | S 49°26'31" W   | 22.43        | 096°48'06" |
| C46         | 23.56  | 15.00  | N 43°56'45" W   | 21.21        | 089°58'26" |

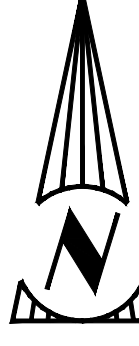
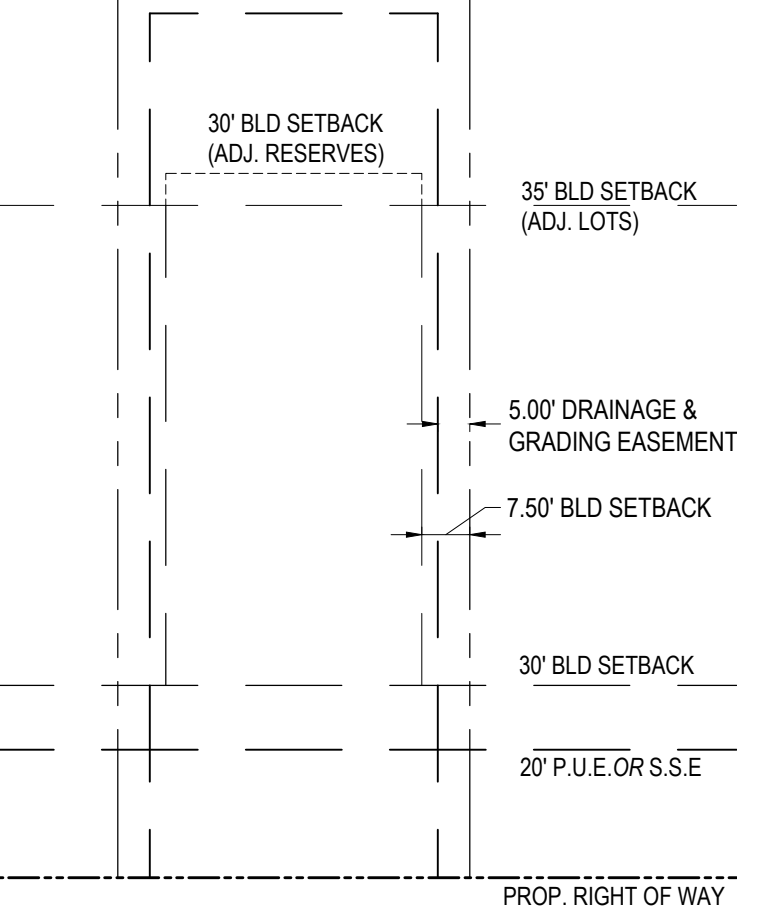
SURVEY NOTES

SURVEY BASED ON FIELD EVIDENCE AND DEEDS & PLATS OF RECORD NOTED  
HEREON. MONUMENTS GENERALLY IN GOOD CONDITION UNLESS NOTED  
OTHERWISE.

OCCUPATION IN GENERAL FITS SURVEY EXCEPT AS SHOWN.

ALL LOT PINS WILL BE SET POST-CONSTRUCTION AND PRIOR TO THE SALE OF LOTS.

TYPICAL LOT LAYOUT



PREPARED FOR:

ADDISON  
PROPERTIES

RIVERDALE SUBDIVISION  
SECTION 1

PLAT

237 NORTH MAIN STREET  
VANDALIA, OHIO 45377  
TEL: 517.263.4515  
FAX: 517.263.4535  
PROJECT DATE: 09/08/2025  
PROJECT NO.: 2401435  
DRAWN BY: F.L.  
CHECKED BY: N.J.D.



DESCRIPTION:

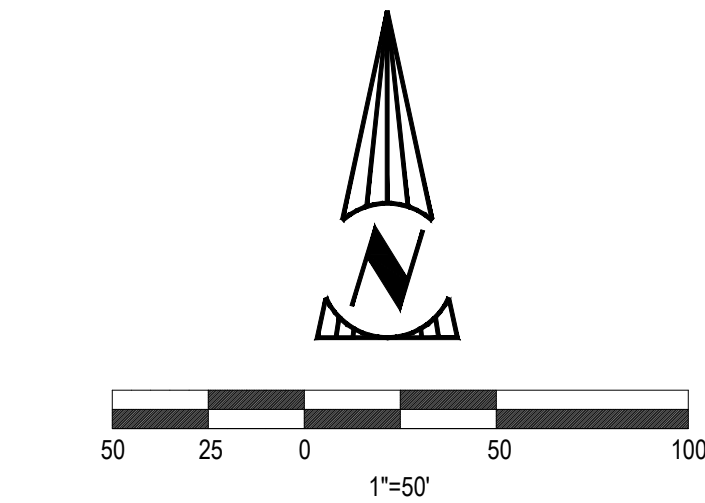
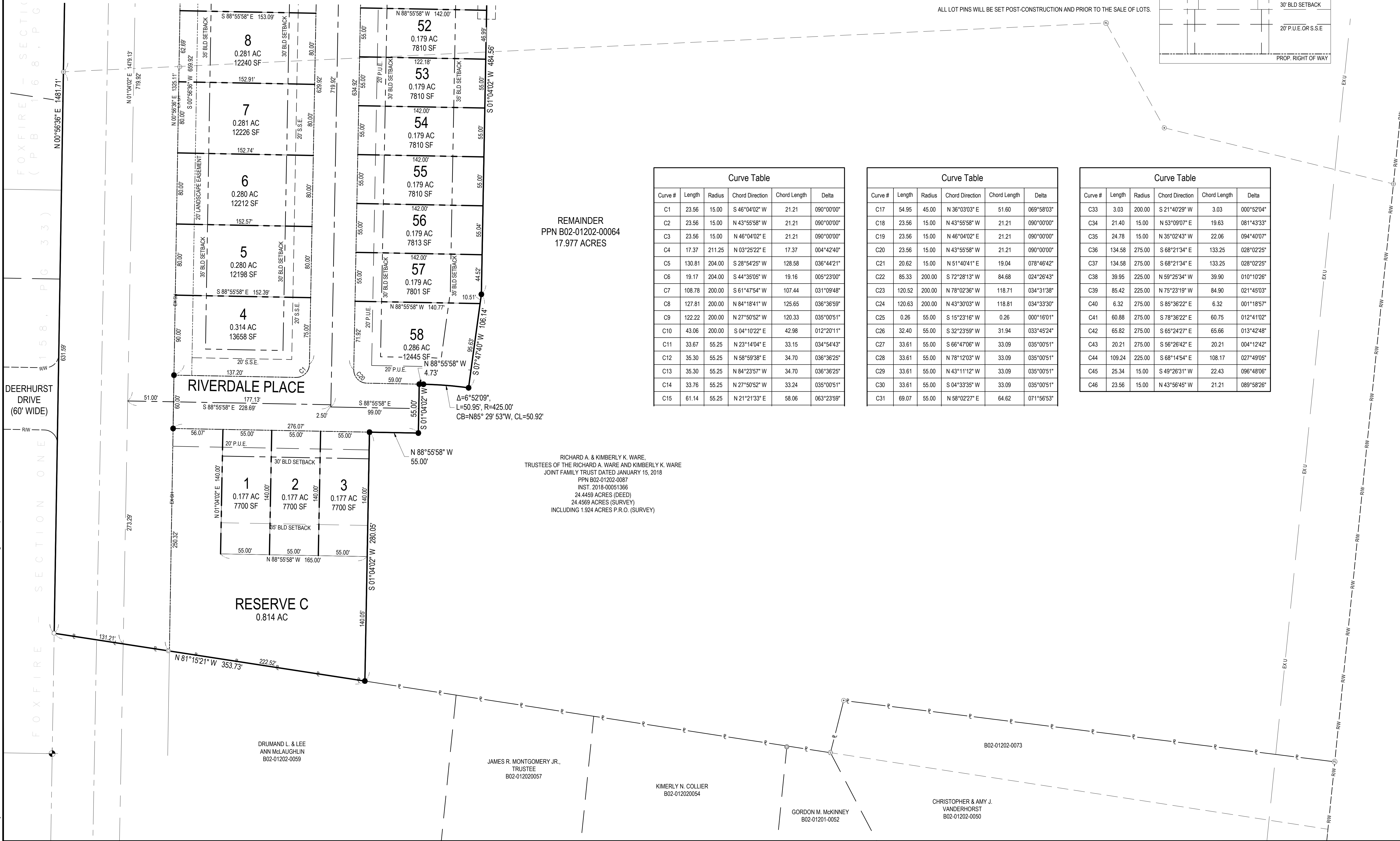
REMOVED LOTS 49-54 PER CLIENT

BY: F.L.

DATE: 09/12/2025

NO. 1



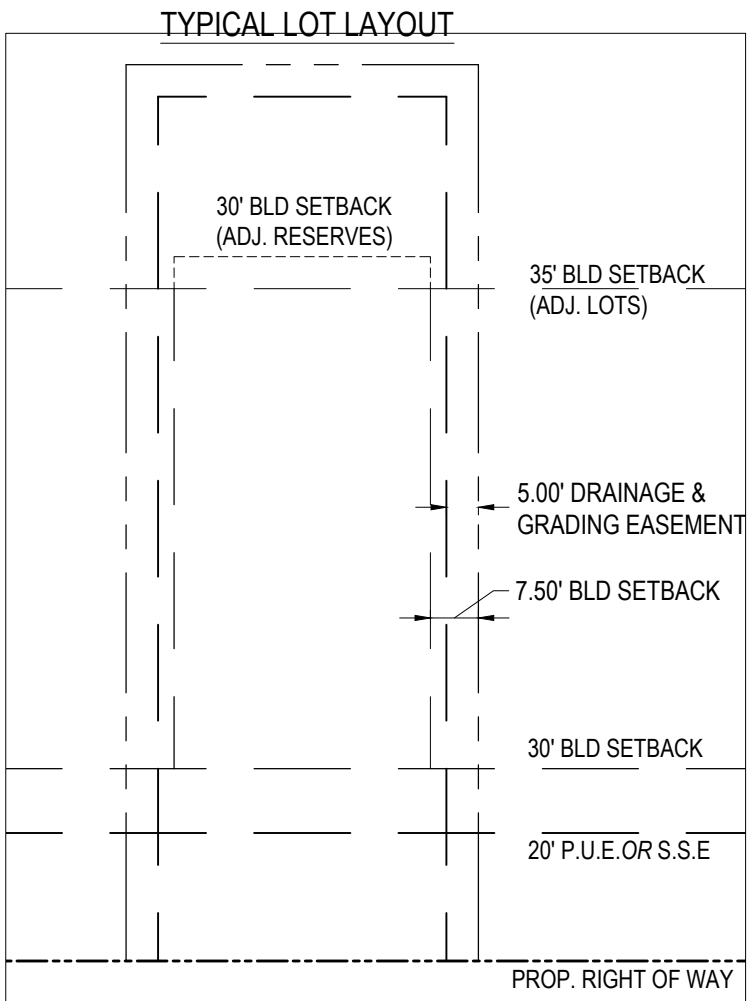


**SURVEY NOTES**

SURVEY BASED ON FIELD EVIDENCE AND DEEDS & PLATS OF RECORD NOTED HEREON. MONUMENTS GENERALLY IN GOOD CONDITION UNLESS NOTED OTHERWISE.

OCCUPATION IN GENERAL FITS SURVEY EXCEPT AS SHOWN.

ALL LOT PINS WILL BE SET POST-CONSTRUCTION AND PRIOR TO THE SALE OF LOTS.



| Curve Table |        |        |                 |              |            |
|-------------|--------|--------|-----------------|--------------|------------|
| Curve #     | Length | Radius | Chord Direction | Chord Length | Delta      |
| C1          | 23.56  | 15.00  | S 46°04'02" W   | 21.21        | 090°00'00" |
| C2          | 23.56  | 15.00  | N 43°55'58" W   | 21.21        | 090°00'00" |
| C3          | 23.56  | 15.00  | N 46°04'02" E   | 21.21        | 090°00'00" |
| C4          | 17.37  | 211.25 | N 03°25'22" E   | 17.37        | 004°42'40" |
| C5          | 130.81 | 204.00 | S 28°54'25" W   | 128.58       | 036°44'21" |
| C6          | 19.17  | 204.00 | S 44°35'05" W   | 19.16        | 005°23'00" |
| C7          | 108.78 | 200.00 | S 61°47'54" W   | 107.44       | 031°09'48" |
| C8          | 127.81 | 200.00 | N 84°18'41" W   | 125.65       | 036°36'59" |
| C9          | 122.22 | 200.00 | N 27°50'52" W   | 120.33       | 035°00'51" |
| C10         | 43.06  | 200.00 | S 04°10'22" E   | 42.98        | 012°20'11" |
| C11         | 33.67  | 55.25  | N 23°14'04" E   | 33.15        | 034°54'43" |
| C12         | 35.30  | 55.25  | N 58°59'38" E   | 34.70        | 036°36'25" |
| C13         | 35.30  | 55.25  | N 84°23'57" W   | 34.70        | 036°36'25" |
| C14         | 33.76  | 55.25  | N 27°50'52" W   | 33.24        | 035°00'51" |
| C15         | 61.14  | 55.25  | N 21°21'33" E   | 58.06        | 063°23'59" |

| Curve Table |        |        |                 |              |            |
|-------------|--------|--------|-----------------|--------------|------------|
| Curve #     | Length | Radius | Chord Direction | Chord Length | Delta      |
| C17         | 54.95  | 45.00  | N 36°03'03" E   | 51.60        | 069°58'03" |
| C18         | 23.56  | 15.00  | N 43°55'58" W   | 21.21        | 090°00'00" |
| C19         | 23.56  | 15.00  | N 46°04'02" E   | 21.21        | 090°00'00" |
| C20         | 23.56  | 15.00  | N 43°55'58" W   | 21.21        | 090°00'00" |
| C21         | 20.62  | 15.00  | N 51°40'41" E   | 19.04        | 078°46'42" |
| C22         | 85.33  | 200.00 | S 72°28'13" W   | 84.68        | 024°26'43" |
| C23         | 120.52 | 200.00 | N 78°02'36" W   | 118.71       | 034°31'38" |
| C24         | 120.63 | 200.00 | N 43°30'03" W   | 118.81       | 034°33'30" |
| C25         | 0.26   | 55.00  | S 15°23'16" W   | 0.26         | 000°16'01" |
| C26         | 32.40  | 55.00  | S 32°23'59" W   | 31.94        | 033°45'24" |
| C27         | 33.61  | 55.00  | S 66°47'06" W   | 33.09        | 035°00'51" |
| C28         | 33.61  | 55.00  | N 78°12'03" W   | 33.09        | 035°00'51" |
| C29         | 33.61  | 55.00  | N 43°11'12" W   | 33.09        | 035°00'51" |
| C30         | 33.61  | 55.00  | S 04°33'35" W   | 33.09        | 035°00'51" |
| C31         | 69.07  | 55.00  | N 58°02'27" E   | 64.62        | 071°56'53" |

| Curve Table |        |        |                 |              |            |
|-------------|--------|--------|-----------------|--------------|------------|
| Curve #     | Length | Radius | Chord Direction | Chord Length | Delta      |
| C33         | 3.03   | 200.00 | S 21°40'29" W   | 3.03         | 000°52'04" |
| C34         | 21.40  | 15.00  | N 53°09'07" E   | 19.63        | 081°43'33" |
| C35         | 24.78  | 15.00  | N 35°02'43" W   | 22.06        | 094°40'07" |
| C36         | 134.58 | 275.00 | S 68°21'34" E   | 133.25       | 028°02'25" |
| C37         | 134.58 | 275.00 | S 68°21'34" E   | 133.25       | 028°02'25" |
| C38         | 39.95  | 225.00 | N 59°25'34" W   | 39.90        | 010°10'26" |
| C39         | 85.42  | 225.00 | N 75°23'19" W   | 84.90        | 021°45'03" |
| C40         | 6.32   | 275.00 | S 85°36'22" E   | 6.32         | 001°18'57" |
| C41         | 60.88  | 275.00 | S 78°36'22" E   | 60.75        | 012°41'02" |
| C42         | 65.82  | 275.00 | S 65°24'27" E   | 65.66        | 013°42'48" |
| C43         | 20.21  | 275.00 | S 56°26'42" E   | 20.21        | 004°12'42" |
| C44         | 109.24 | 225.00 | S 68°14'54" E   | 108.17       | 027°49'05" |
| C45         | 25.34  | 15.00  | S 49°26'31" W   | 22.43        | 096°48'06" |
| C46         | 23.56  | 15.00  | N 43°56'45" W   | 21.21        | 089°58'26" |

|                                                |      |                                    |                       |               |                                                                                               |                                                                                         |       |                 |           |                                              |
|------------------------------------------------|------|------------------------------------|-----------------------|---------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------|-----------------|-----------|----------------------------------------------|
| 3                                              | PLAT | RIVERDALE SUBDIVISION<br>SECTION 1 | ADDISON<br>PROPERTIES | PREPARED FOR: | TECHNICAL SKILL:<br><b>Mannik Smith GROUP</b><br>CREATIVE SPIRIT.<br>www.MannikSmithGroup.com | 237 NORTH MAIN STREET<br>VANDALIA, OHIO 45377<br>TEL: 517.263.4515<br>FAX: 517.263.4535 | NO. 1 | DATE 09/12/2025 | BY F.J.L. | DESCRIPTION<br>REMOVED LOTS 49-54 PER CLIENT |
|                                                |      |                                    |                       |               |                                                                                               |                                                                                         |       |                 |           |                                              |
|                                                |      |                                    |                       |               |                                                                                               |                                                                                         |       |                 |           |                                              |
| 7848 S BROWN SCHOOL ROAD, VANDALIA, OHIO 45377 |      |                                    |                       |               | PROJECT DATE: 09/09/2025<br>PROJECT NO.: 2401435<br>DRAWN BY: F.J.L.<br>CHECKED BY: N.J.D.    |                                                                                         |       |                 |           |                                              |



FINAL DEVELOPMENT PLAN FOR

# RIVERDALE PLACE SECTION 1

## 7848 S BROWN SCHOOL ROAD

## VANDALIA, OH 45377

PROJECT DESCRIPTION

DEVELOPMENT OF A 58 LOT RESIDENTIAL SUBDIVISION WITH ASSOCIATED DETENTION, UTILITIES, AND LANDSCAPING.

BENCH MARKS

ALL BENCH MARKS AND ELEVATIONS SHOWN UPON THIS PLAN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88). HORIZONTAL CONTROLS ARE TIED TO GPS OBSERVATIONS USING THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION VRS SYSTEM, BASED ON THE STATE PLANE COORDINATE SYSTEM, OHIO SOUTH ZONE, NORTH AMERICAN DATUM OF 1983, ALSO KNOWN AS NAD83.

B.M. #1  
NUT PAINTED ORANGE WITH ARROW  
ELEV: 866.74

B.M. #2  
E NUT ON FH PAINTED YELLOW  
ELEV: 862.75

UTILITY CONTACTS

WATER  
MONTGOMERY COUNTY ENVIRONMENTAL  
CONTACT: JENNIFER HINCH  
SENIOR PROJECT COORDINATOR  
1850 SPAULDING ROAD  
KETTERING, OHIO 45432  
937-781-2634  
WWW.MCOHIO.ORG/WATER

STORMWATER  
VANDALIA PUBLIC WORKS DEPARTMENT  
333 JAMES E BOHANNAN DRIVE  
VANDALIA, OHIO 45377  
937-898-5868

INTERNET  
AT&T  
9192 N MAIN ST  
ENGLEWOOD, OHIO 45415  
937-314-8600

CATV & DATA  
SPECTRUM (CHARTER)  
CONTACT: ROBERT W. COCHRAN  
ROBERT.COCHRAN@CHARTER.COM  
614-563-5649

STREET LIGHTS  
MIAMI VALLEY LIGHTING  
CONTACT: NAOMI SAURO  
NAOMI.SAURO@AES.COM  
(INDEPENDENT COMPANY OWNED BY AES)

|                                   |                     |
|-----------------------------------|---------------------|
| SITE ACREAGE:                     | ±85.05 ACRES        |
| PROPOSED ZONING:                  | PUD                 |
| DWELLING PARCELS:                 | 58                  |
| 55'-WIDE LOTS (TYPE A):           | 46                  |
| 80'-WIDE LOTS (TYPE B):           | 12                  |
| GROSS DENSITY OF DWELLING UNITS:  | ±0.68 DU/AC         |
| GROSS OPEN SPACE:                 | ±4.51 AC / 21%      |
| WOODED OPEN SPACE:                | ±1.90 AC / 9%       |
| OPEN GREEN SPACE:                 | ±2.61 AC / 12%      |
| TOTAL DEVELOPMENT AREA (COLORED): | ±21.84 AC           |
| NET DENSITY OF DWELLING UNITS:    | ±2.66 DU/AC         |
| TOTAL PUBLIC ROAD LENGTH:         | 2,747 LF            |
| TOTAL SIDEWALK LENGTH:            | 6,695 LF            |
| TOTAL MULCH TRAIL LENGTH:         | 1,340 LF            |
| TOTAL DETENTION AREA:             | 44,436 SF / 1.02 AC |

SANITARY SEWER  
MONTGOMERY COUNTY ENVIRONMENTAL  
CONTACT: JENNIFER HINCH  
SENIOR PROJECT COORDINATOR  
1850 SPAULDING ROAD  
KETTERING, OHIO 45432  
937-781-2634  
WWW.MCOHIO.ORG/WATER

GAS  
CENTERPOINT ENERGY (VECTREN)  
CONTACT: RANDY CECI  
RANDY.CECI@CENTERPOINTENERGY.COM  
937-440-1830

ELECTRIC  
AES  
CONTACT: KELLIE HEIRONIMUS  
KELLIE.HEIRONIMUS@AES.COM  
937-604-6663

DATA & PHONE  
METRONET  
CONTACT: BRANDON KNIGHT  
BRANDON.KNIGHT@METRONET.COM  
937-369-4507

ADJACENT PROPERTY OWNERS

- 1

ID: B02 01202 0037  
OWNER: LOREN REAL ESTATE LLC  
ZONING: RSF-1
- 2

ID: B02 01202 0039  
OWNER: WEATHERHEAD CRAIG AND TAMELA  
ZONING: RSF-1
- 3

ID: B02 01202 0038  
OWNER: FLANNERY MICHAEL  
ZONING: AGRICULTURE
- 4

ID: B02 01201 0034  
OWNER: BORTON BENJAMIN & ALLISON  
ZONING: AGRICULTURE
- 5

ID: B02 01201 0031  
OWNER: KRACUS TIMOTHY & MELODY  
ZONING: AGRICULTURE
- 6

ID: B02 01201 0030  
OWNER: BUCKLEY ROGER T & WANDA G  
ZONING: AGRICULTURE
- 7

ID: B02 01201 0029  
OWNER: BUCKLEY ROGER T & WANDA G  
ZONING: AGRICULTURE
- 8

ID: B02 01201 0028  
OWNER: SHANAHAN ROBERT JR & GLORIA  
ZONING: AGRICULTURE
- 9

ID: B02 01502 0015  
OWNER: ISAACS JAMES & DAWN  
ZONING: RSF-2
- 10

ID: B02 01502 0001  
OWNER: MORTON TED R  
ZONING: RSF-2
- 11

ID: B02 01404 0010  
OWNER: MALLOY SCOTT & HANNAH  
ZONING: RSF-2
- 12

ID: B02 01404 0011  
OWNER: KAMM RICHARD J  
ZONING: RSF-2
- 13

ID: B02 01404 0012  
OWNER: MELISSA KLINE  
ZONING: RSF-2
- 14

ID: B02 01311 0001  
OWNER: YOUNG JOHN & JUDITH  
ZONING: RSF-2
- 15

ID: B02 01311 0002  
OWNER: ABDALLAH RAMZI & TAHANI  
ZONING: RSF-2
- 16

ID: B02 01202 0029  
OWNER: BUCKLEY ROGER T & WANDA G  
ZONING: AGRICULTURE
- 17

ID: B02 01202 0057  
OWNER: MONTGOMERY JAMES R JR  
ZONING: AGRICULTURE
- 18

ID: B02 01202 0054  
OWNER: COLLIER KIMBERLY N  
ZONING: AGRICULTURE
- 19

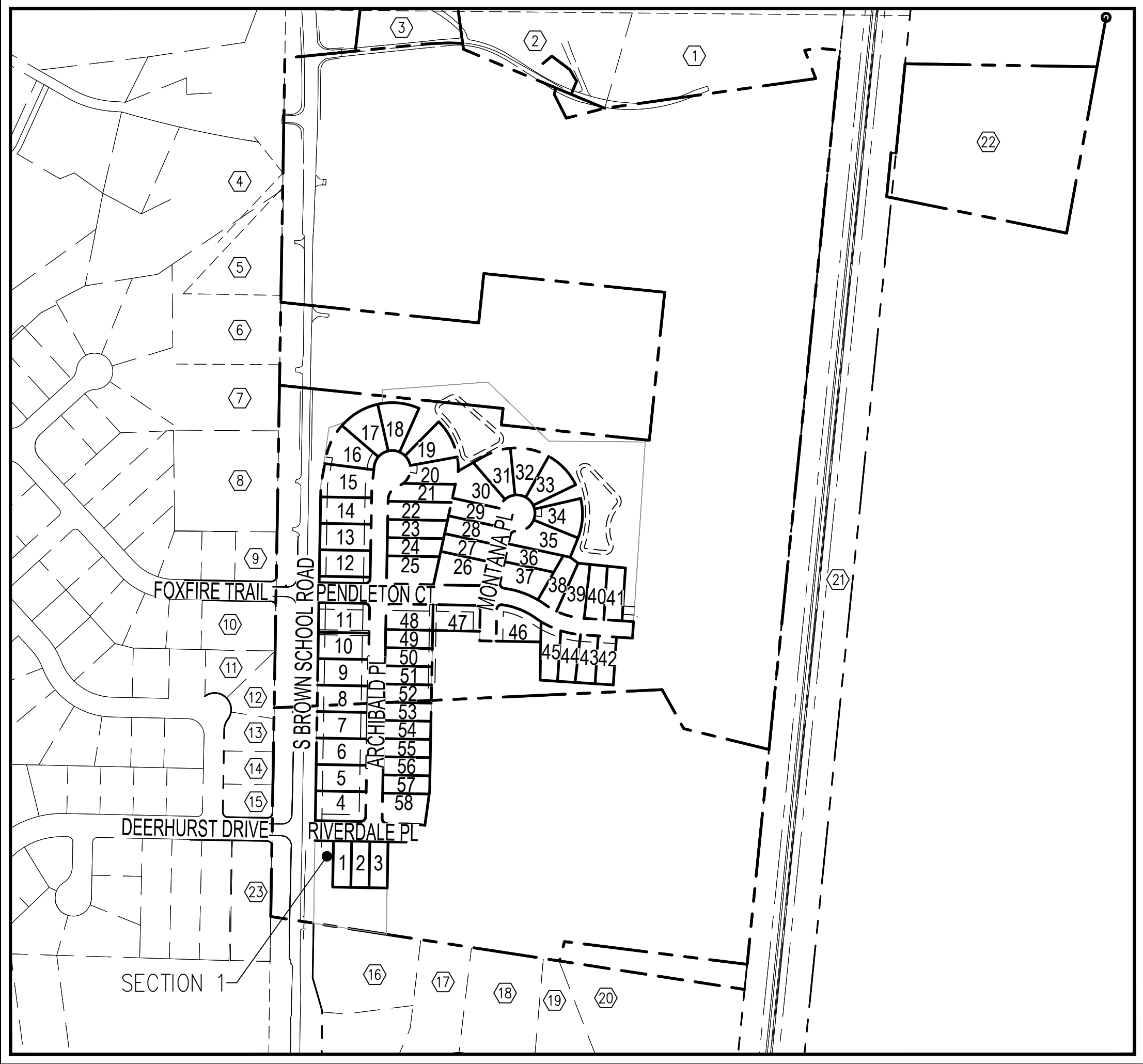
ID: B02 01202 0052  
OWNER: MCKINNEY GORDON M  
ZONING: AGRICULTURE
- 20

ID: B02 01202 0050  
OWNER: VANDERHORST CHRISTOPHER AND AMY  
ZONING: AGRICULTURE
- 21

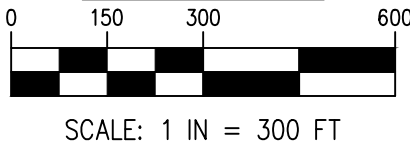
ID: B02 01201 0036  
OWNER: VB&O RAILROAD
- 22

ID: B02 01202 0086  
OWNER: POPULAR CREEK SOUTH LLC  
ZONING: COMMERCIAL
- 23

ID: B02 01311 0003  
OWNER: BREISCH JAMES E  
ZONING: RSF-2

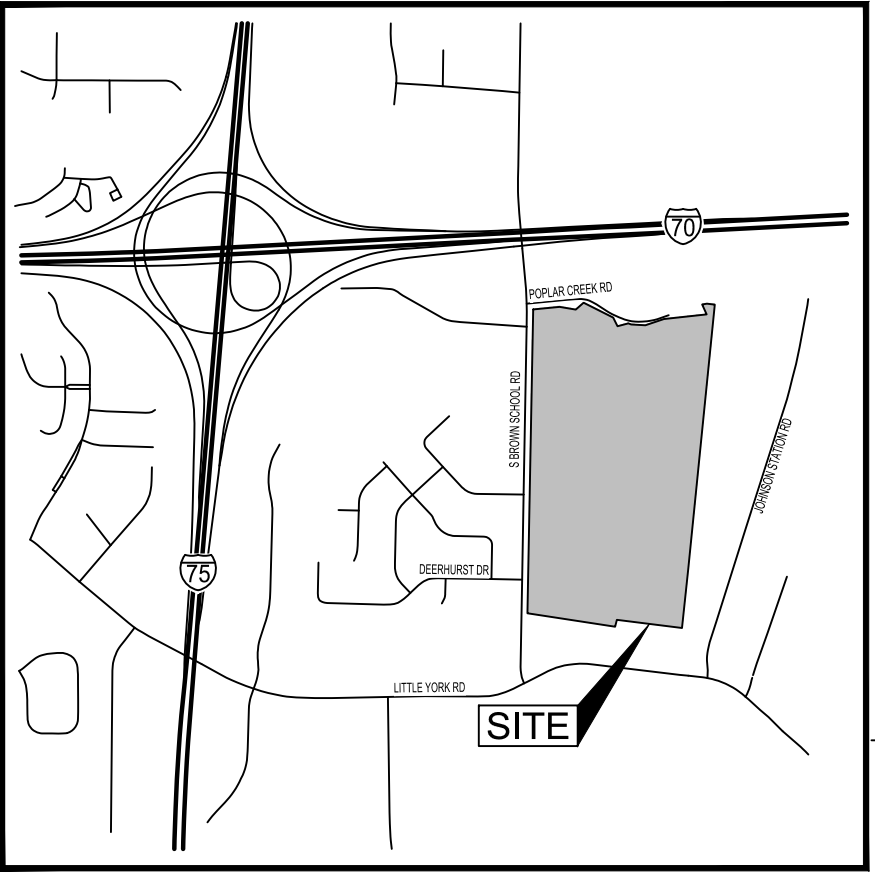


INDEX MAP



INDEX OF SHEETS

|                                       |      |
|---------------------------------------|------|
| TITLE SHEET                           | 1    |
| EXISTING CONDITIONS & DEMOLITION PLAN | 2    |
| OVERALL SITE PLAN                     | 3    |
| SITE PLAN                             | 4-7  |
| OVERALL LANDSCAPE PLAN                | 8    |
| LANDSCAPE PLAN                        | 9-12 |
| ENTRY FEATURE ARRANGEMENTS            | 13   |
| RENDERED COLOR PLAN                   | 14   |



VICINITY MAP

NOT TO SCALE

APPROVALS

SIGNATURES BELOW SIGNIFY CONCURRENCE WITH THE GENERAL PURPOSE AND LOCATION OF THE PROPOSED PROJECT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE DESIGN ENGINEER PREPARING THE PLANS.

TITLE \_\_\_\_\_ DATE \_\_\_\_\_

TITLE \_\_\_\_\_ DATE \_\_\_\_\_

TITLE \_\_\_\_\_ DATE \_\_\_\_\_

TITLE \_\_\_\_\_ DATE \_\_\_\_\_

TITLE \_\_\_\_\_ DATE \_\_\_\_\_

TITLE \_\_\_\_\_ DATE \_\_\_\_\_

ENGINEER OF RECORD



CONTACT: DANIEL J. JOHANNI  
ADDRESS: 1160 DUBLIN ROAD, SUITE 100  
COLUMBUS, OH 43215  
PHONE: 614.441.4222  
EMAIL: DJJOHANNI@MANNIKSMITHGROUP.COM

DANIEL J. JOHANNI, PE  
REGISTERED PROFESSIONAL ENGINEER

| KEY NO. | DATE | REVISION DESCRIPTION | APPROVAL / DATE | PROJECT DATE: 10/6/25    |
|---------|------|----------------------|-----------------|--------------------------|
|         |      |                      |                 | PROJECT NO.: 401.2401435 |
|         |      |                      |                 | 1 / 14                   |

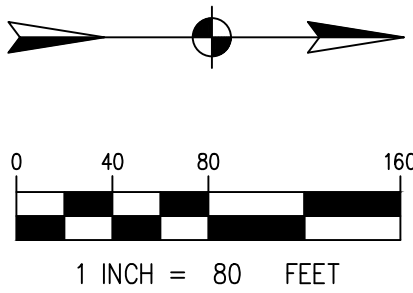




V:\Projects\2024\1400-1590\401-155\CAD\SHS\Development\Plan\EXISTING CONDITIONS AND DEMO PLAN.dwg Last saved: 10/2/2025 6:43 PM by: Bradley, plotted: 10/6/2025 6:38 PM



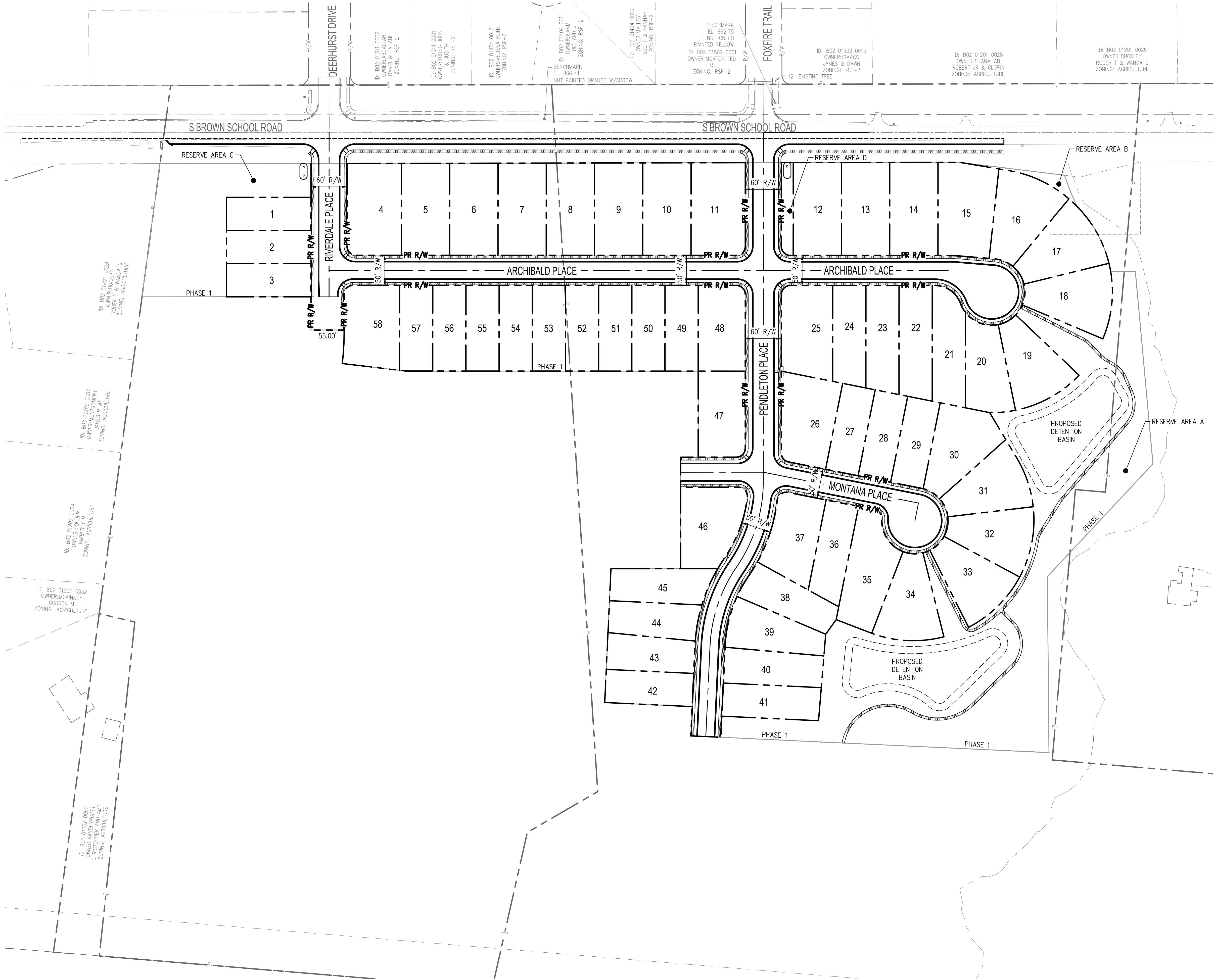
- LEGEND (EX=EXISTING) PR=PROPOSED)
- EX R/W
  - EX RIGHT OF WAY
  - PROPERTY LINE
  - ADJACENT PROPERTY LINE
  - ROAD CENTERLINE
  - MAJOR CONTOUR
  - MINOR CONTOUR
  - EX TREE CANOPY
  - SAWCUT
  - EX PAVEMENT TO BE REMOVED
  - EX TREES TO BE CLEARED



|    |                                                  |                                                                                                                            |                                                                                                                |                                                                                                                                                                                                                   |                                                                                               |  |     |      |    |             |
|----|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--|-----|------|----|-------------|
| 2  | EXISTING<br>CONDITIONS AND<br>DEMOLITION<br>PLAN | FINAL DEVELOPMENT PLAN FOR<br>RIVERDALE PLACE<br>SUBDIVISION<br>SECTION 1<br><br>7848 S BROWN SCHOOL RD, VANDALIA OH 45377 | PREPARED FOR:<br><br>ADDISON<br>PROPERTIES<br><br>3401 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | <br><b>TECHNICAL SKILL,<br/>CREATIVE SPIRIT.</b><br><br><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a> | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 888.488.7340 |  | NO. | DATE | BY | DESCRIPTION |
|    |                                                  |                                                                                                                            |                                                                                                                |                                                                                                                                                                                                                   | PROJECT DATE: 10/6/2025<br>PROJECT NO: 2401435<br>DRAWN BY: DJJ<br>CHECKED BY: MSG            |  |     |      |    |             |
| 14 |                                                  |                                                                                                                            |                                                                                                                |                                                                                                                                                                                                                   |                                                                                               |  |     |      |    |             |



V:\Projects\2024\1400-1599\2401-155 CAD\STS\Development\Plan\Site Plan.dwg Last saved 10/6/2025 6:33 PM by CBradley, plotted 10/6/2025 6:36 PM

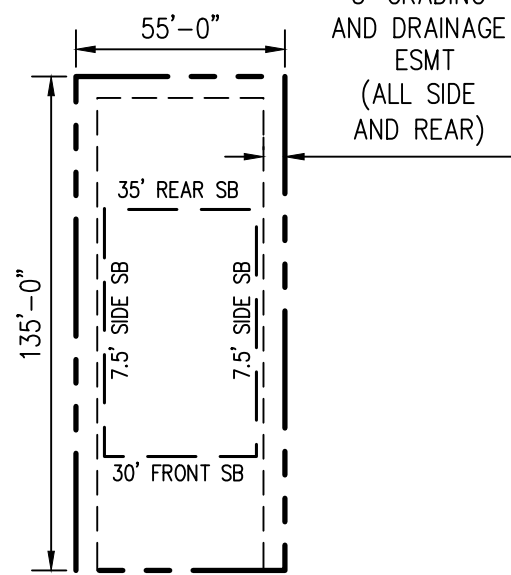


MAILBOX CBU -16

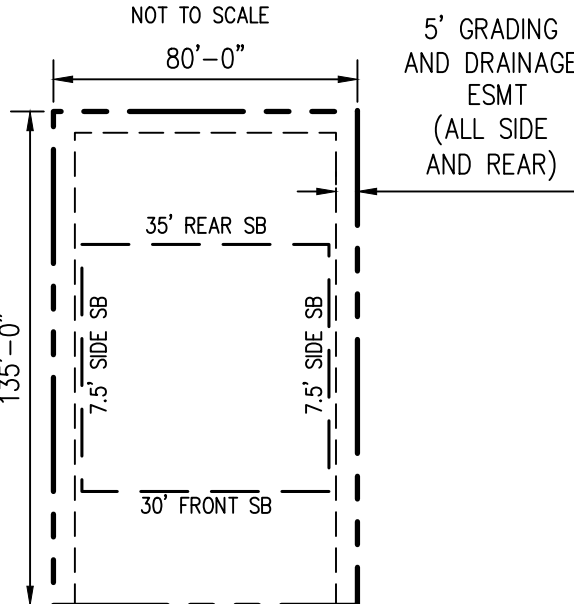
THE CBU SHOWN IS FOR REFERENCE. THE OWNER SHALL SELECT SIMILAR CBU AND COLOR. PLAN REQUIRES (4) IDENTICAL BOXES, MOUNTED TO THE SLAB PER MANUFACTURERS RECOMMENDATIONS.

SITE DATA

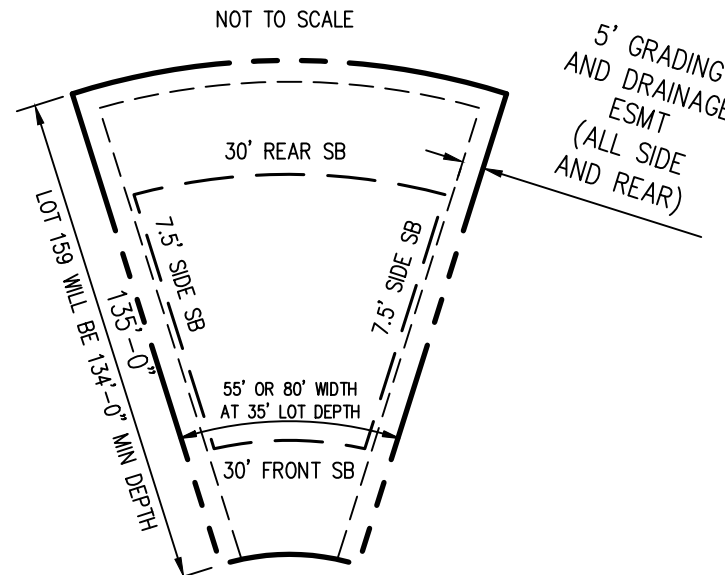
|                         |              |
|-------------------------|--------------|
| SITE ACREAGE:           | ±21.84 ACRES |
| PROPOSED ZONING:        | PUD          |
| DWELLING PARCELS:       | 58           |
| 55'-WIDE LOTS (TYPE A): | 46           |
| 80'-WIDE LOTS (TYPE B): | 12           |



MINIMUM LOT SIZE - TYPE A



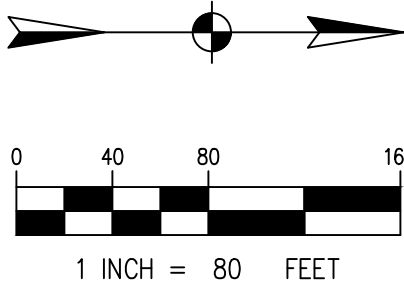
MINIMUM LOT SIZE - TYPE B



MINIMUM LOT SIZE - CURVED R/W

NOTE

- ALL PAVEMENT DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED

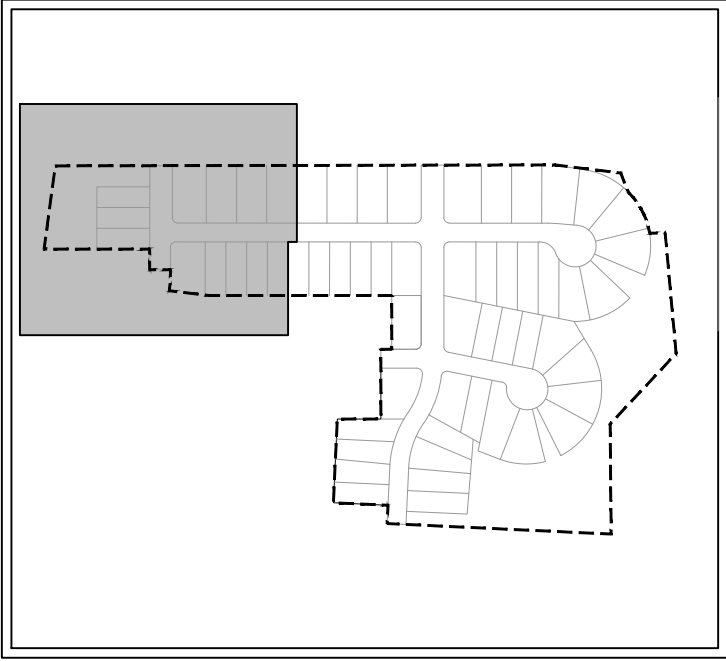
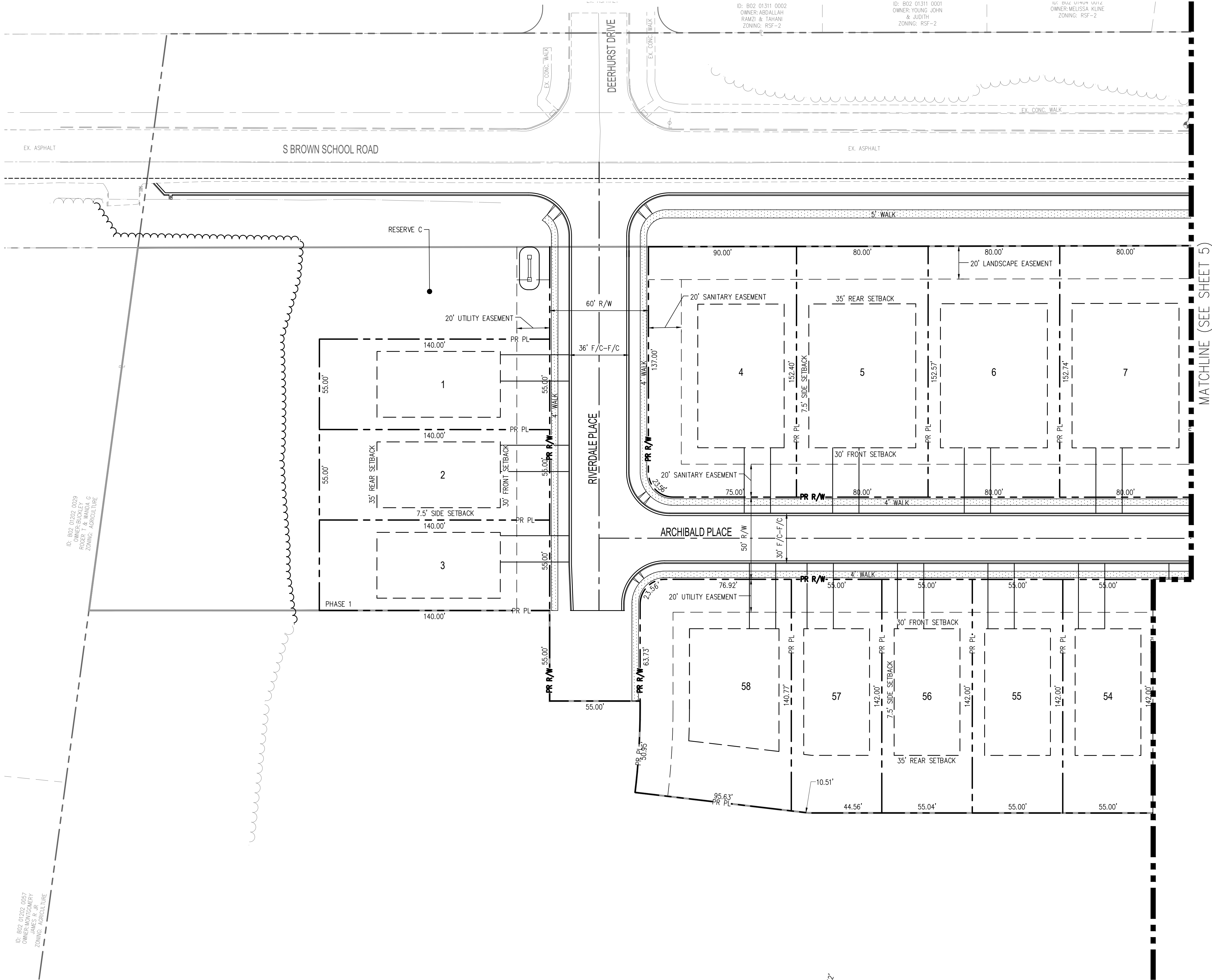


| DESCRIPTION                                                                                                          |  | NO. | DATE | BY |
|----------------------------------------------------------------------------------------------------------------------|--|-----|------|----|
| 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS OH 43215<br>TEL: 614.441.4222<br>FAX: 688.488.7340                         |  |     |      |    |
| PROJECT NO: 2401435<br>PROJECT DATE: 10/6/2025<br>DRAWN BY: DJJ<br>CHECKED BY: MSG                                   |  |     |      |    |
| TECHNICAL SKILL:<br>CREATIVE SPIRIT.                                                                                 |  |     |      |    |
| Mannik Smith Group<br>www.MannikSmithGroup.com                                                                       |  |     |      |    |
| PREPARED FOR:<br>ADDISON PROPERTIES<br>3401 ENTERPRISE PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122                     |  |     |      |    |
| FINAL DEVELOPMENT PLAN FOR<br>RIVERDALE PLACE SUBDIVISION<br>SECTION 1<br>7848 S BROWN SCHOOL RD., VANDALIA OH 45377 |  |     |      |    |
| OVERALL SITE PLAN                                                                                                    |  |     |      |    |
| 3 / 14                                                                                                               |  |     |      |    |

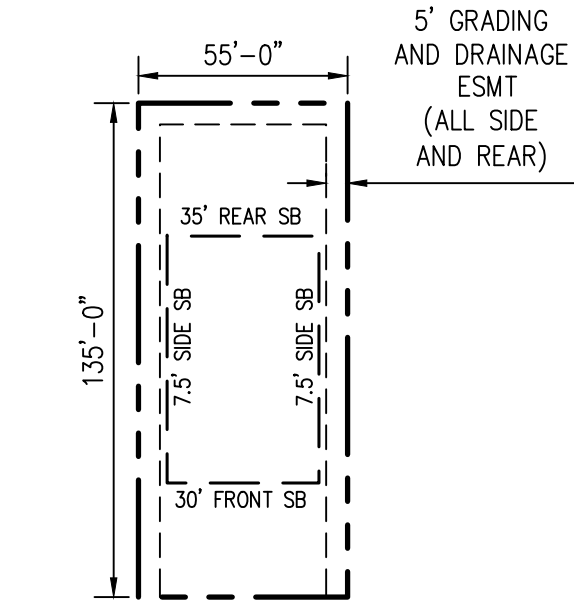


ID: B02 01202 0057  
OWNER: JAMES TOMMERY  
PROJECT: RIVERDALE PLACE  
ZONING: AGRICULTURE

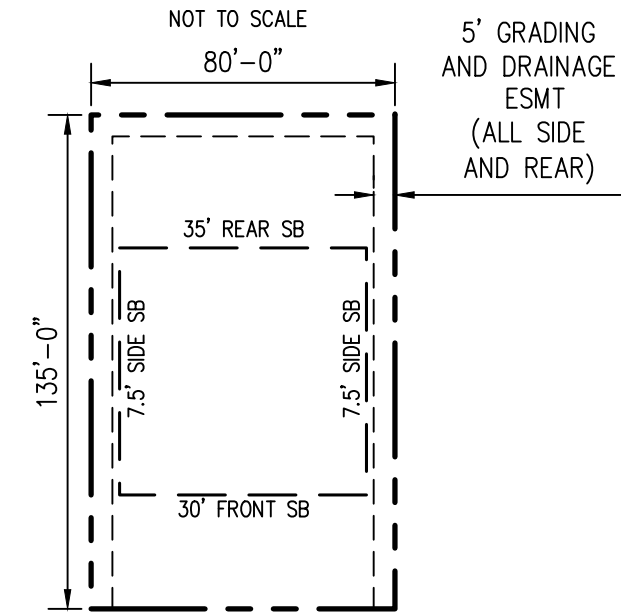
ID: B02 01202 0029  
OWNER: ROBERT T & KIMLEY  
PROJECT: RIVERDALE PLACE  
ZONING: AGRICULTURE



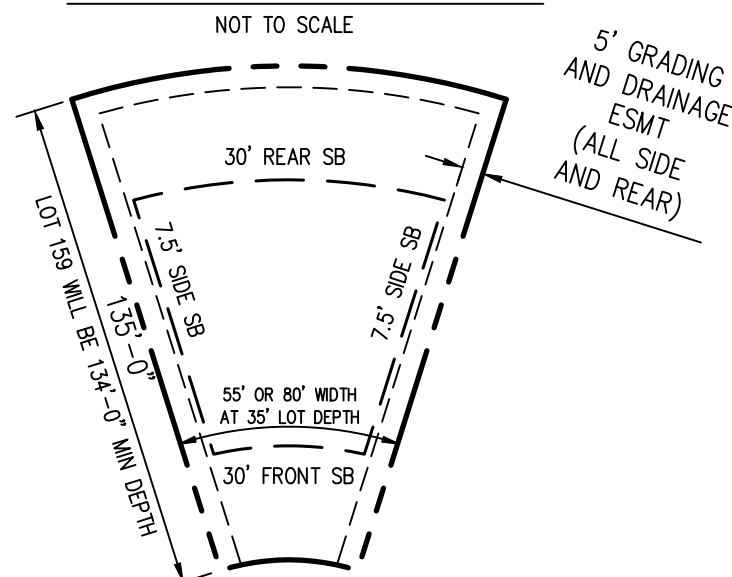
KEY MAP  
NOT TO SCALE



MINIMUM LOT SIZE - TYPE A



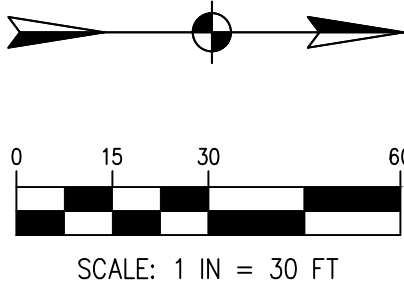
MINIMUM LOT SIZE - TYPE B



MINIMUM LOT SIZE - CURVED R/W

NOTE

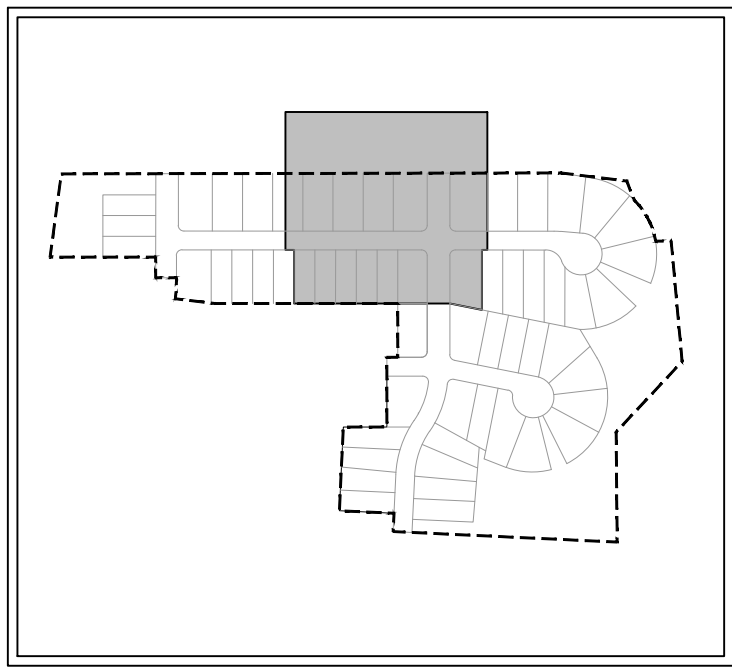
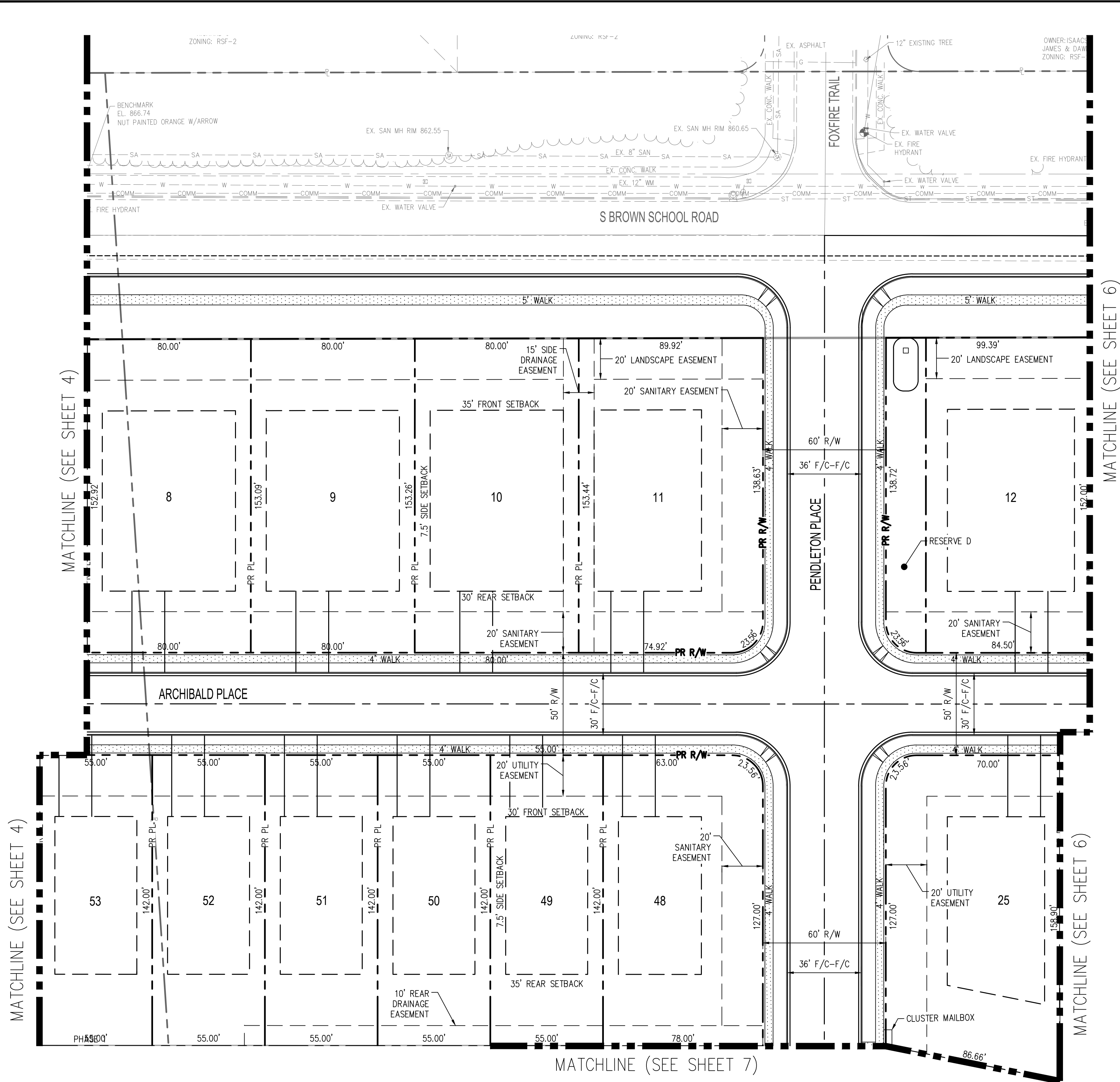
1. ALL PAVEMENT DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED



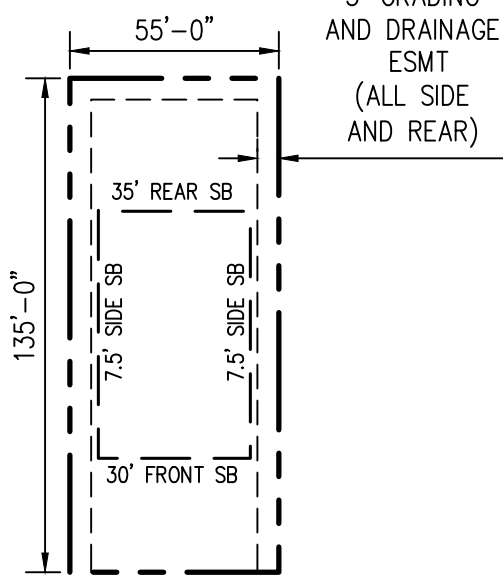
|    |           |                                                                                                                            |                                                                                                                          |                                                                                                                                                                                                                       |                                                                                                                                                                                                                |     |      |    |             |
|----|-----------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|----|-------------|
| 4  | SITE PLAN | FINAL DEVELOPMENT PLAN FOR<br>RIVERDALE PLACE<br>SUBDIVISION<br>SECTION 1<br><br>7848 S BROWN SCHOOL RD, VANDALIA OH 45377 | <p>PREPARED FOR:</p> <p>ADDISON<br/>PROPERTIES</p> <p>3401 ENTERPRISE<br/>PARKWAY, SUITE 410<br/>BEACHWOOD, OH 44122</p> |  <p><b>TECHNICAL SKILL,<br/>CREATIVE SPIRIT.</b></p> <p><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a></p> | <p>1160 DUBLIN ROAD<br/>SUITE 100<br/>COLUMBUS, OH 43215<br/>TEL: 614.441.4222<br/>FAX: 888.488.7340</p> <p>PROJECT DATE: 10/6/2025</p> <p>PROJECT NO: 2401435</p> <p>DRAWN BY: DJJ</p> <p>CHECKED BY: MSG</p> | NO. | DATE | BY | DESCRIPTION |
|    |           |                                                                                                                            |                                                                                                                          |                                                                                                                                                                                                                       |                                                                                                                                                                                                                |     |      |    |             |
| 14 |           |                                                                                                                            |                                                                                                                          |                                                                                                                                                                                                                       |                                                                                                                                                                                                                |     |      |    |             |



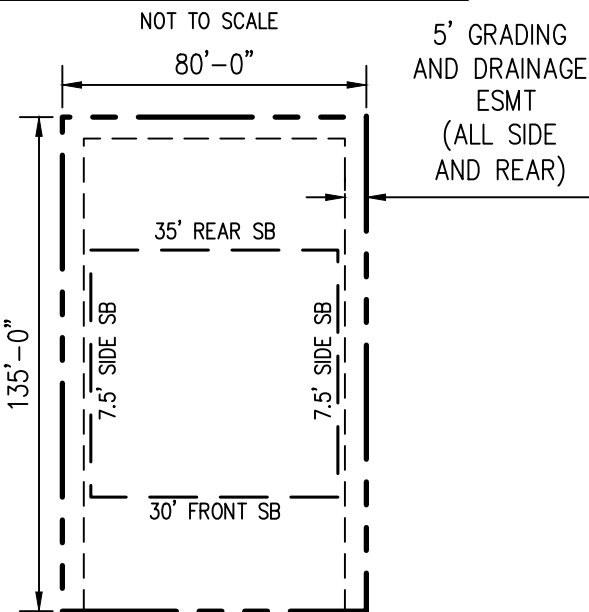
V:\Projects\2024\1400-1590\2401-155\CAD\STS\Development\Plan\Site Plan.dwg Last saved: 10/6/2025 6:33 PM by CBradley, plotted: 10/6/2025 6:36 PM



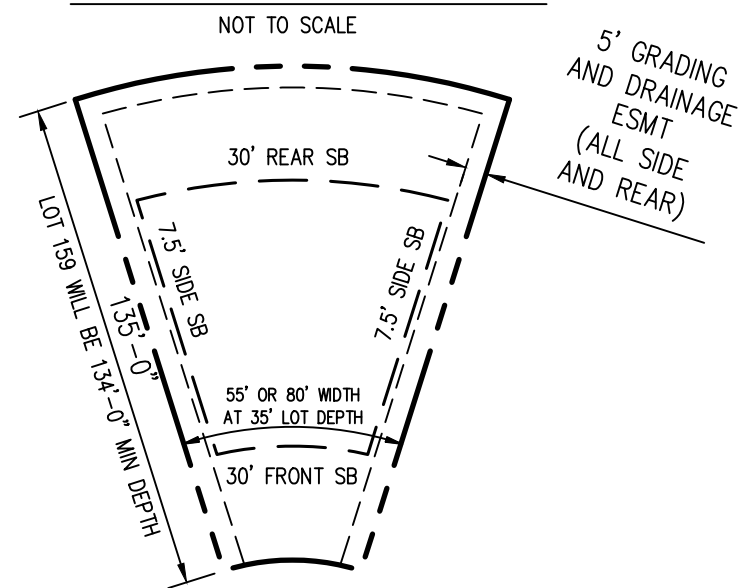
KEY MAP  
NOT TO SCALE



MINIMUM LOT SIZE - TYPE A



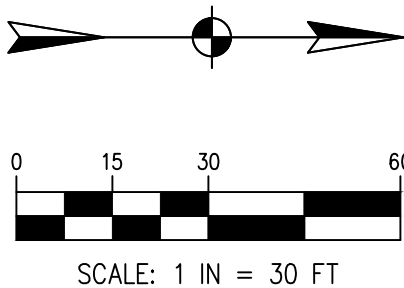
MINIMUM LOT SIZE - TYPE B



MINIMUM LOT SIZE - CURVED R/W  
NOT TO SCALE

NOTE

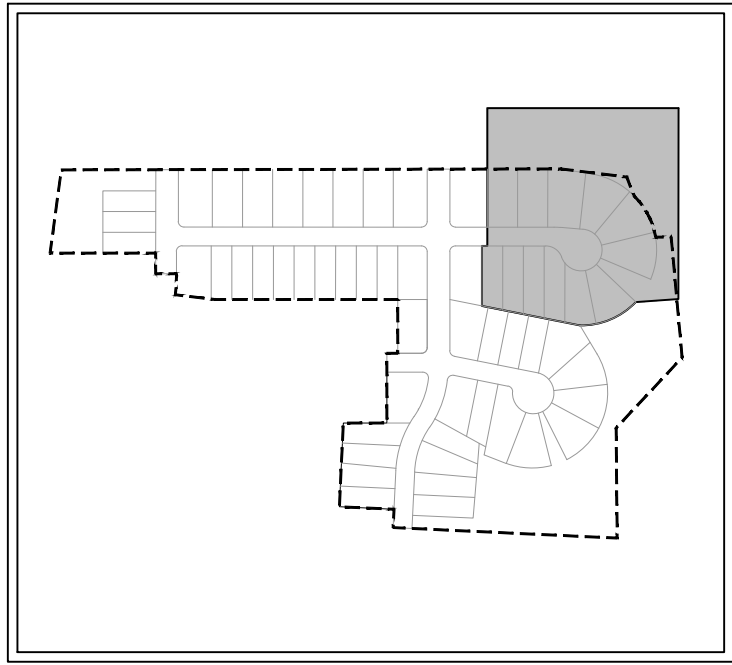
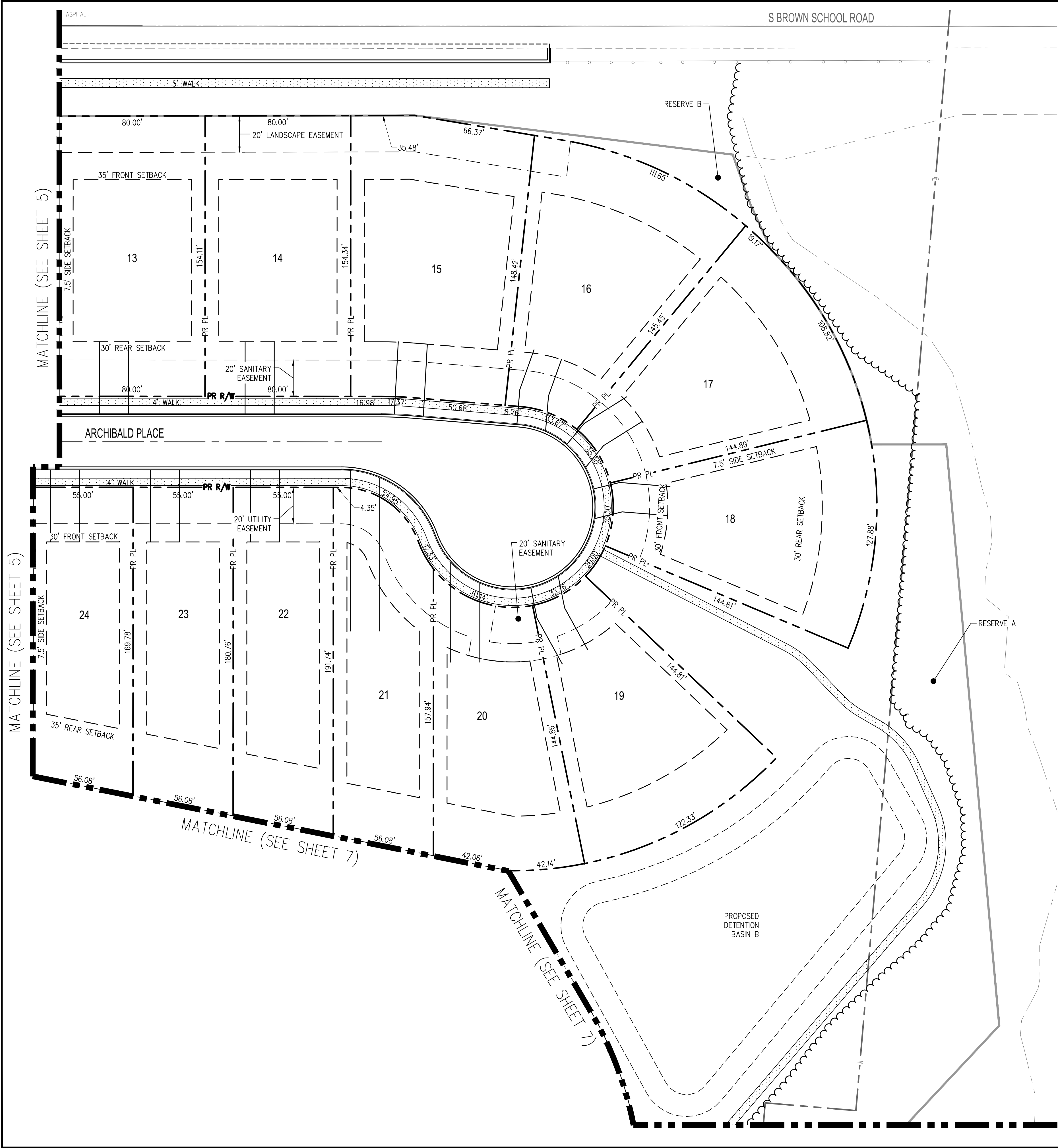
1. ALL PAVEMENT DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED



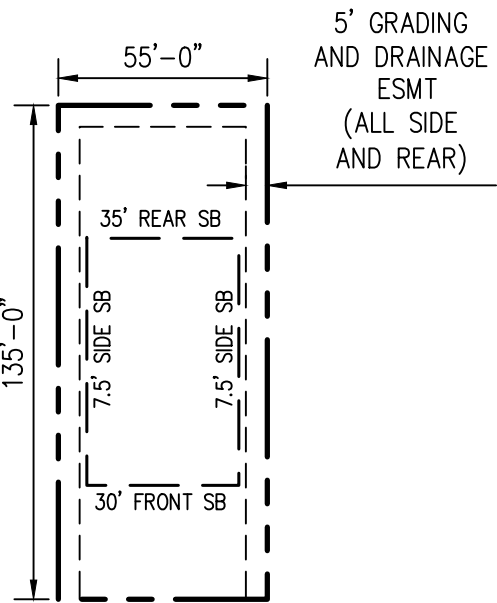
|   |           |                                                                           |                                            |                                                                                                                                                                                                                                                                        |                         |                                                                                        |                                                                                               |               |                 |    |             |
|---|-----------|---------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------|-----------------|----|-------------|
| 5 | SITE PLAN | FINAL DEVELOPMENT PLAN FOR<br>RIVERDALE PLACE<br>SUBDIVISION<br>SECTION 1 | 7848 S BROWN SCHOOL RD., VANDALIA OH 45377 | <div><p><b>TECHNICAL SKILL.<br/>CREATIVE SPIRIT.</b></p><p><b>Mannik<br/>Smith<br/>GROUP</b></p><p><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a></p></div> | PREPARED FOR:           | ADDITION<br>PROPERTIES<br>3401 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 888.488.7340 | NO.           | DATE            | BY | DESCRIPTION |
|   |           |                                                                           |                                            |                                                                                                                                                                                                                                                                        | PROJECT DATE: 10/6/2025 | PROJECT NO: 2401435                                                                    | PROJECT BY: DJJ                                                                               | DRAWN BY: DJJ | CHECKED BY: MGS |    |             |



W:\Projects\2024\1400-1599\0401435\CAD\STS\Development\Plan\Site Plan.dwg Last saved 10/6/2025 6:33 PM by CBradley, plotted 10/6/2025 6:36 PM



KEY MAP  
NOT TO SCALE



MINIMUM LOT SIZE - TYPE A

NOT TO SCALE

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

135'-0"

30' FRONT SB

7.5' SIDE SB

35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

80'-0"

30' FRONT SB

7.5' SIDE SB

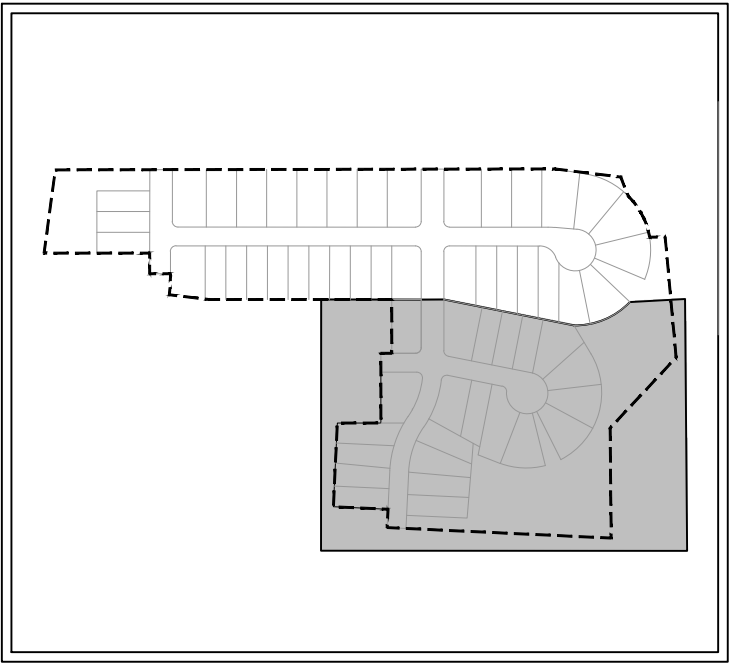
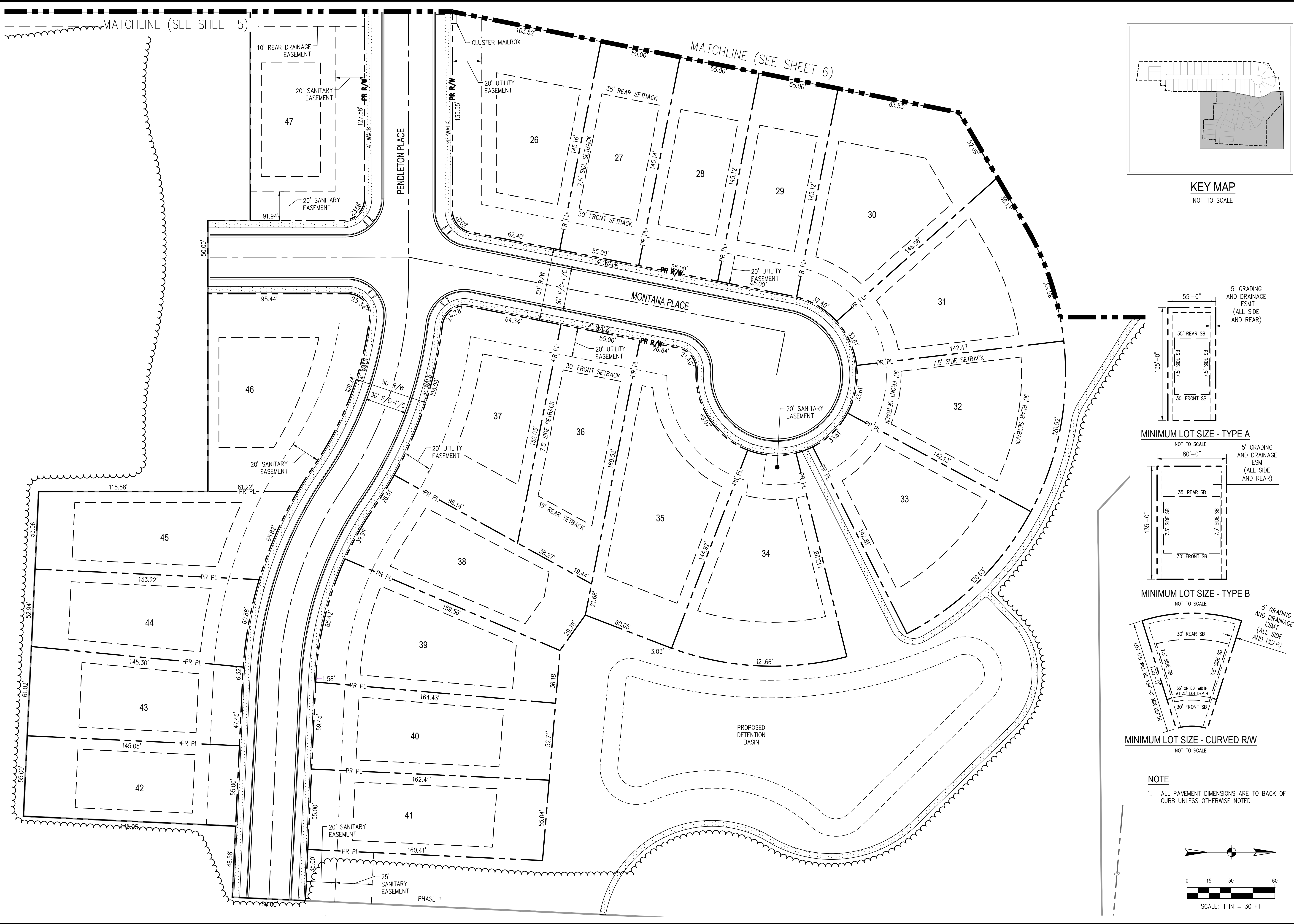
35' REAR SB

5' GRADING AND DRAINAGE ESMT (ALL SIDE AND REAR)

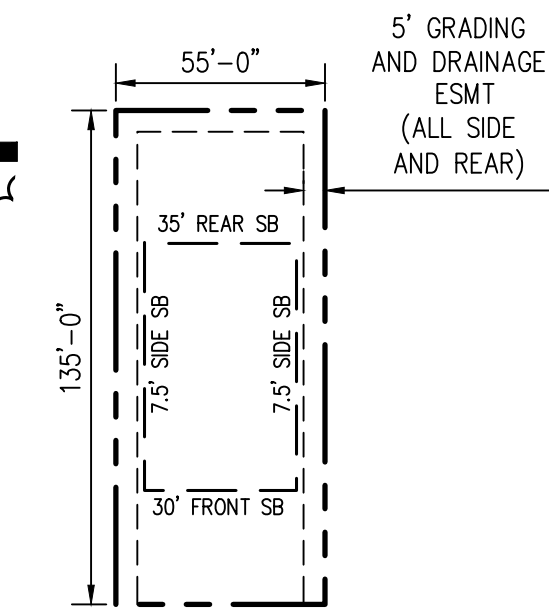
135'-0"



V:\Projects\2024\1400-1590\0401455 CAD\SHS Development\Plan\Site Plan.dwg Last saved 10/6/2025 6:33 PM by CBradley, plotted 10/6/2025 6:36 PM

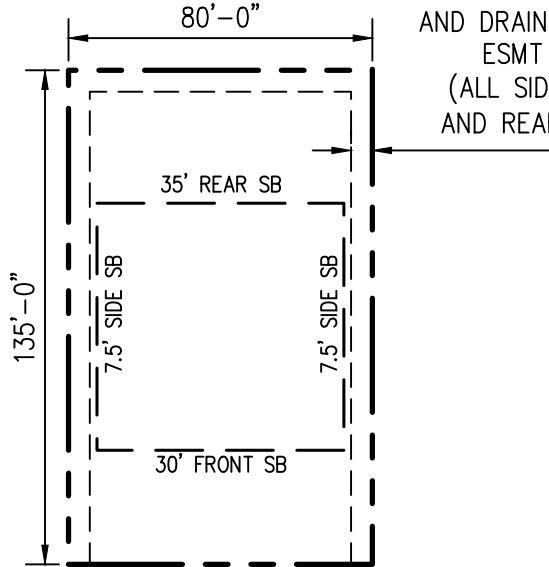


KEY MAP  
NOT TO SCALE



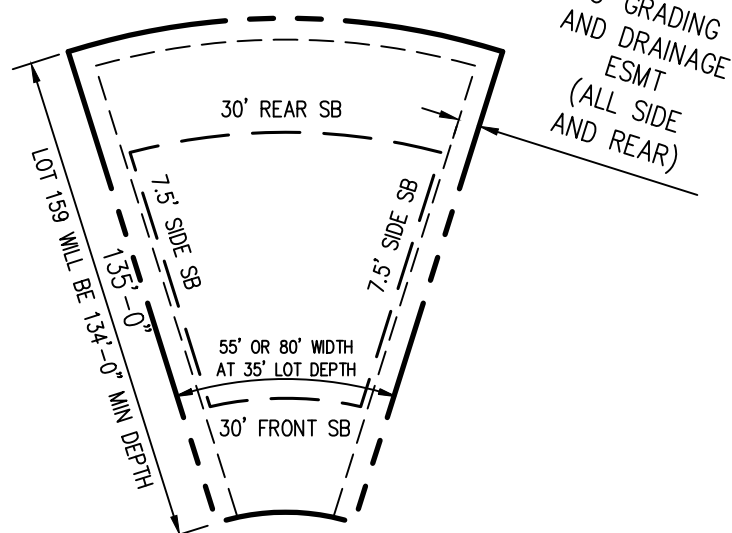
MINIMUM LOT SIZE - TYPE A

NOT TO SCALE



MINIMUM LOT SIZE - TYPE B

NOT TO SCALE

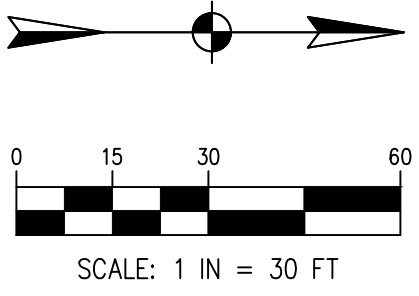


MINIMUM LOT SIZE - CURVED R/W

NOT TO SCALE

NOTE

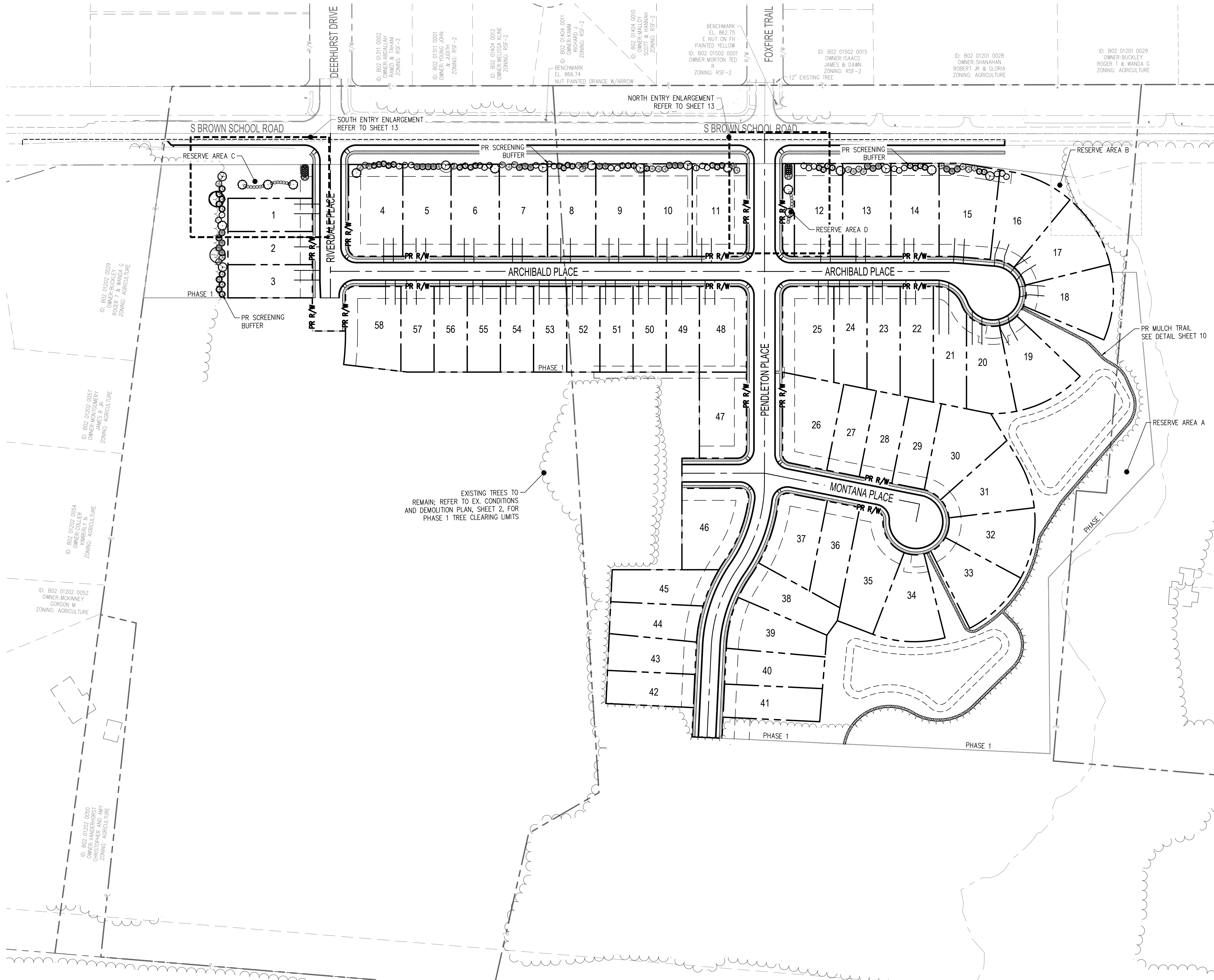
1. ALL PAVEMENT DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED



|    |           |                                                                                                                             |                                                                                            |                                                                                                                                                                                                                   |                                                                                                |     |      |    |             |
|----|-----------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----|------|----|-------------|
| 7  | SITE PLAN | FINAL DEVELOPMENT PLAN FOR<br>RIVERDALE PLACE<br>SUBDIVISION<br>SECTION 1<br><br>7848 S BROWN SCHOOL RD., VANDALIA OH 45377 | ADDITION<br>PROPERTIES<br><br>3401 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | <br><b>TECHNICAL SKILL,<br/>CREATIVE SPIRIT.</b><br><br><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a> | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 888.488.7340  | NO. | DATE | BY | DESCRIPTION |
|    |           |                                                                                                                             |                                                                                            |                                                                                                                                                                                                                   |                                                                                                |     |      |    |             |
| 14 |           |                                                                                                                             |                                                                                            |                                                                                                                                                                                                                   | PROJECT DATE: 10/6/2025<br><br>PROJECT NO: 2401435<br><br>DRAWN BY: DJJ<br><br>CHECKED BY: MGS |     |      |    |             |
|    |           |                                                                                                                             |                                                                                            |                                                                                                                                                                                                                   |                                                                                                |     |      |    |             |
|    |           |                                                                                                                             |                                                                                            |                                                                                                                                                                                                                   |                                                                                                |     |      |    |             |
|    |           |                                                                                                                             |                                                                                            |                                                                                                                                                                                                                   |                                                                                                |     |      |    |             |



V:\Projects\2024\1400-1590\401-155 CAD\STS\Development\Plan\LANDSCAPE PLAN.dwg Last saved: 10/6/2025 6:32 PM by CBradley, plotted: 10/6/2025 6:38 PM

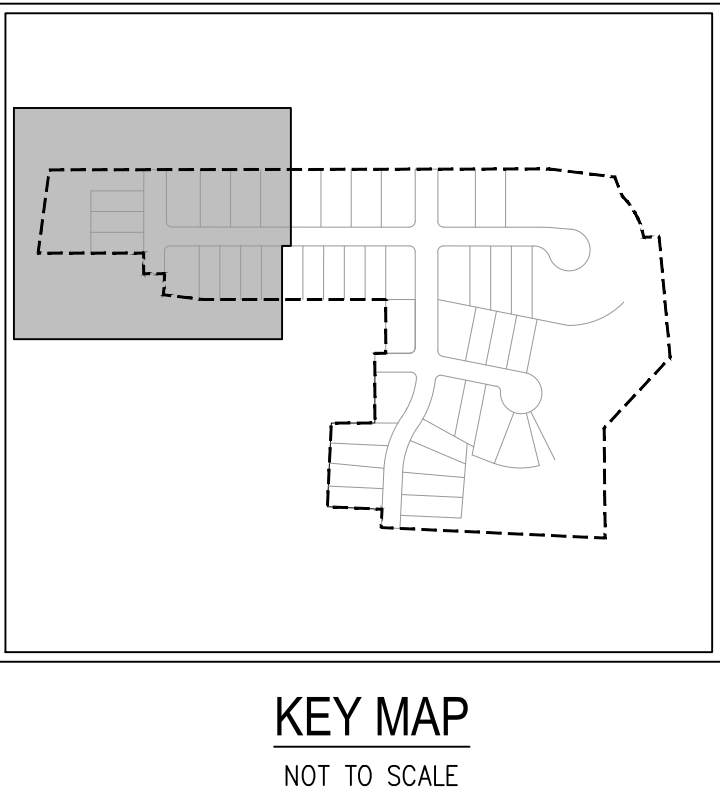
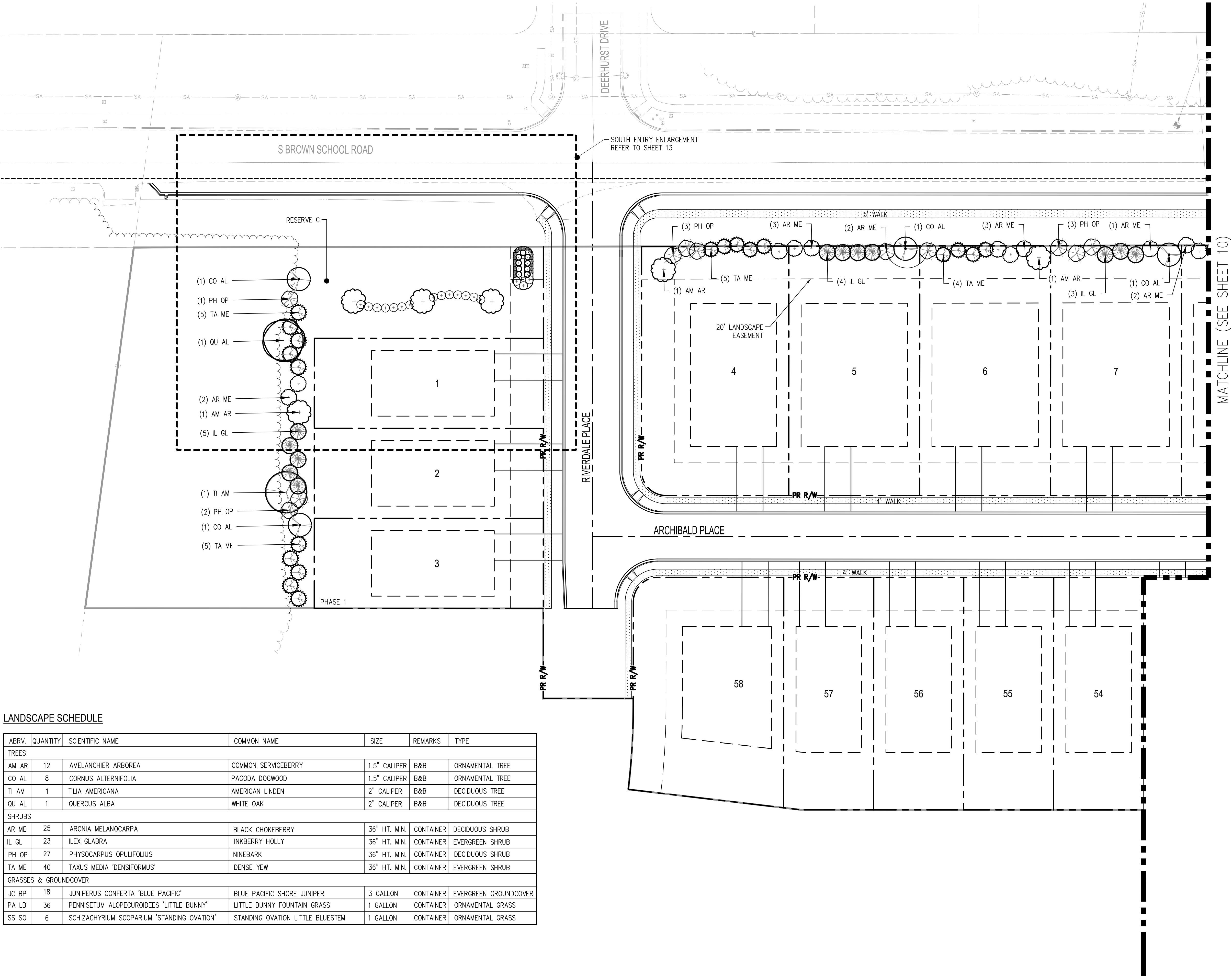




W:\Projects\2024\1400-1590\0401-155\CAD\SHS\Development\Plan\Landscape\Plan\Landscape Plan.dwg Last saved: 10/6/2025 6:32 PM by: CBeasley, plotted: 10/6/2025 6:38 PM

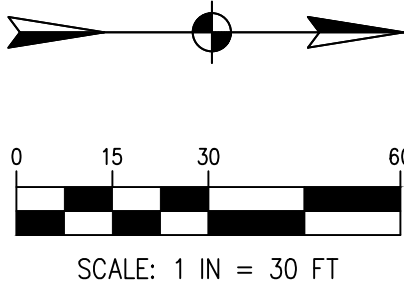
LANDSCAPE SCHEDULE

| ABRV.                 | QUANTITY | SCIENTIFIC NAME                            | COMMON NAME                      | SIZE         | REMARKS   | TYPE                  |
|-----------------------|----------|--------------------------------------------|----------------------------------|--------------|-----------|-----------------------|
| TREES                 |          |                                            |                                  |              |           |                       |
| AM AR                 | 12       | AMELANCHIER ARBOREA                        | COMMON SERVICEBERRY              | 1.5" CALIPER | B&B       | ORNAMENTAL TREE       |
| CO AL                 | 8        | CORNUS ALTERNIFOLIA                        | PAGODA DOGWOOD                   | 1.5" CALIPER | B&B       | ORNAMENTAL TREE       |
| TI AM                 | 1        | TILIA AMERICANA                            | AMERICAN LINDEN                  | 2" CALIPER   | B&B       | DECIDUOUS TREE        |
| QU AL                 | 1        | QUERCUS ALBA                               | WHITE OAK                        | 2" CALIPER   | B&B       | DECIDUOUS TREE        |
| SHRUBS                |          |                                            |                                  |              |           |                       |
| AR ME                 | 25       | ARONIA MELANOCARPA                         | BLACK CHOKEBERRY                 | 36" HT. MIN. | CONTAINER | DECIDUOUS SHRUB       |
| IL GL                 | 23       | ILEX GLABRA                                | INKBERRY HOLLY                   | 36" HT. MIN. | CONTAINER | EVERGREEN SHRUB       |
| PH OP                 | 27       | PHYSOCARPUS OPULIFOLIUS                    | NINEBARK                         | 36" HT. MIN. | CONTAINER | DECIDUOUS SHRUB       |
| TA ME                 | 40       | TAXUS MEDIA 'DENSIFORMUS'                  | DENSE YEW                        | 36" HT. MIN. | CONTAINER | EVERGREEN SHRUB       |
| GRASSES & GROUNDCOVER |          |                                            |                                  |              |           |                       |
| JC BP                 | 18       | JUNIPERUS CONFERTA 'BLUE PACIFIC'          | BLUE PACIFIC SHORE JUNIPER       | 3 GALLON     | CONTAINER | EVERGREEN GROUNDCOVER |
| PA LB                 | 36       | PENNISETUM ALOPECUROIDES 'LITTLE BUNNY'    | LITTLE BUNNY FOUNTAIN GRASS      | 1 GALLON     | CONTAINER | ORNAMENTAL GRASS      |
| SS SO                 | 6        | SCHIZACHYRIUM SCOPARIUM 'STANDING OVATION' | STANDING OVATION LITTLE BLUESTEM | 1 GALLON     | CONTAINER | ORNAMENTAL GRASS      |



GENERAL NOTES

- SEE SHEET 9 FOR LANDSCAPE SCHEDULE.
- SEE SHEET 10 FOR LANDSCAPE DETAILS.
- SEE SHEET 11 FOR LANDSCAPE NOTES.

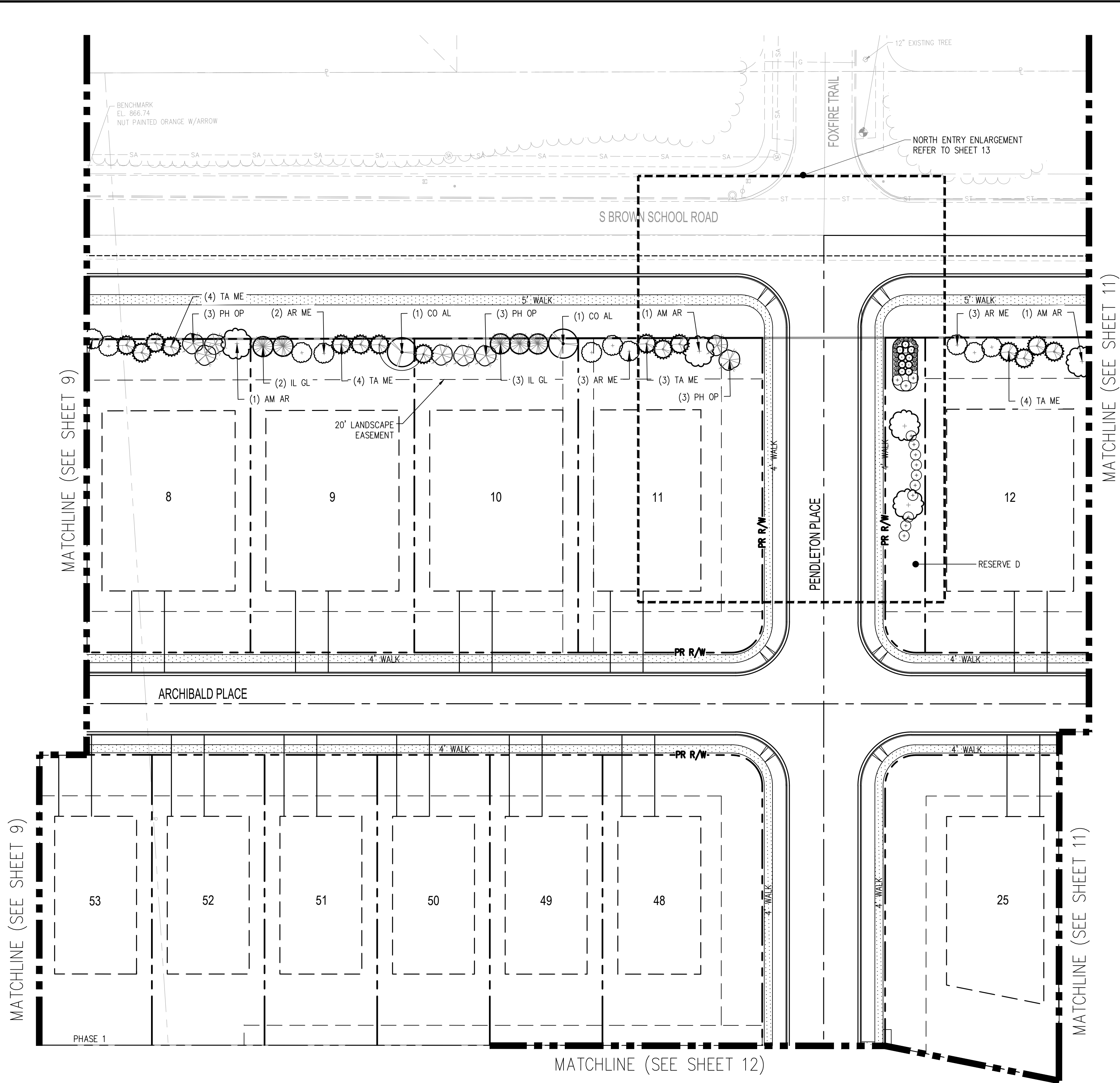


MATCHLINE (SEE SHEET 10)

|                |   |    |                                                                                                                        |                                                                                                         |                              |                                      |                                                                                               |                         |                     |               |                 |
|----------------|---|----|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------|---------------------|---------------|-----------------|
| LANDSCAPE PLAN | 9 | 14 | FINAL DEVELOPMENT PLAN FOR<br>RIVERDALE PLACE<br>SUBDIVISION<br>SECTION 1<br>7848 S BROWN SCHOOL RD, VANDALIA OH 45377 | PREPARED FOR:<br><b>ADDISON PROPERTIES</b><br>3401 ENTERPRISE PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | <br>www.MannikSmithGroup.com | TECHNICAL SKILL:<br>CREATIVE SPIRIT. | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 688.488.7340 | PROJECT DATE: 10/6/2025 | PROJECT NO: 2401435 | DRAWN BY: DJJ | CHECKED BY: MSG |
|                |   |    |                                                                                                                        |                                                                                                         |                              |                                      | NO.                                                                                           | DATE                    | BY                  | DESCRIPTION   |                 |
|                |   |    |                                                                                                                        |                                                                                                         |                              |                                      |                                                                                               |                         |                     |               |                 |
|                |   |    |                                                                                                                        |                                                                                                         |                              |                                      |                                                                                               |                         |                     |               |                 |

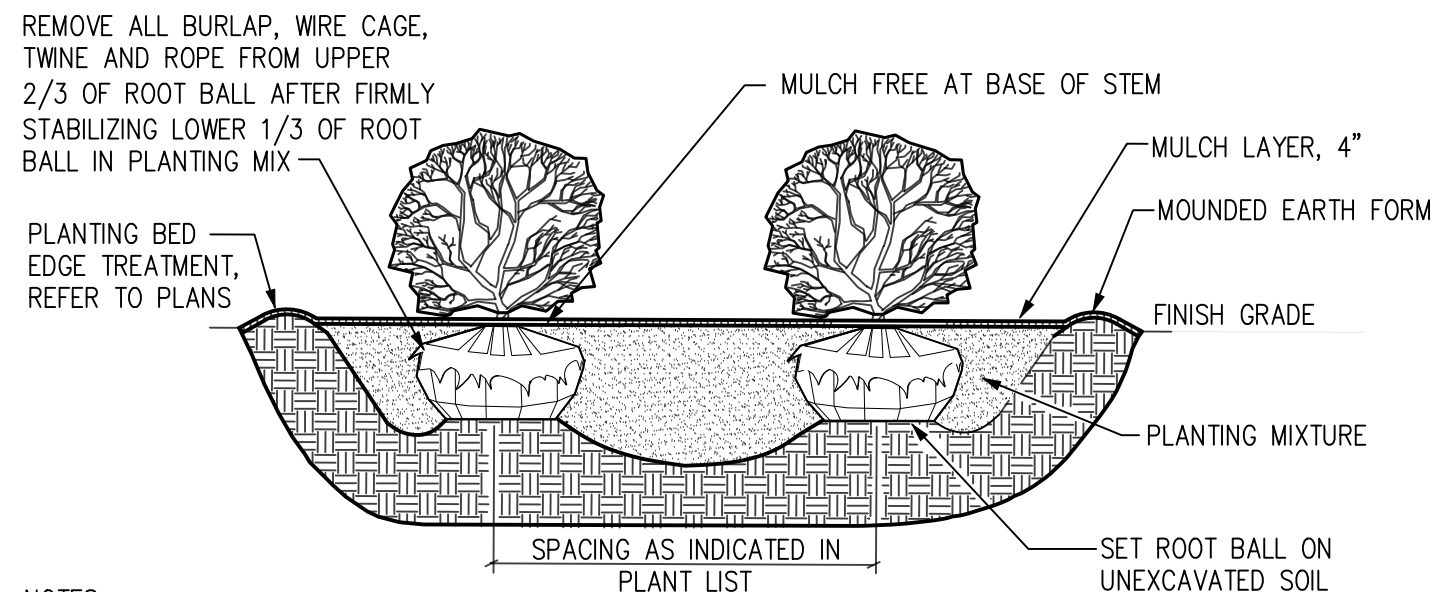
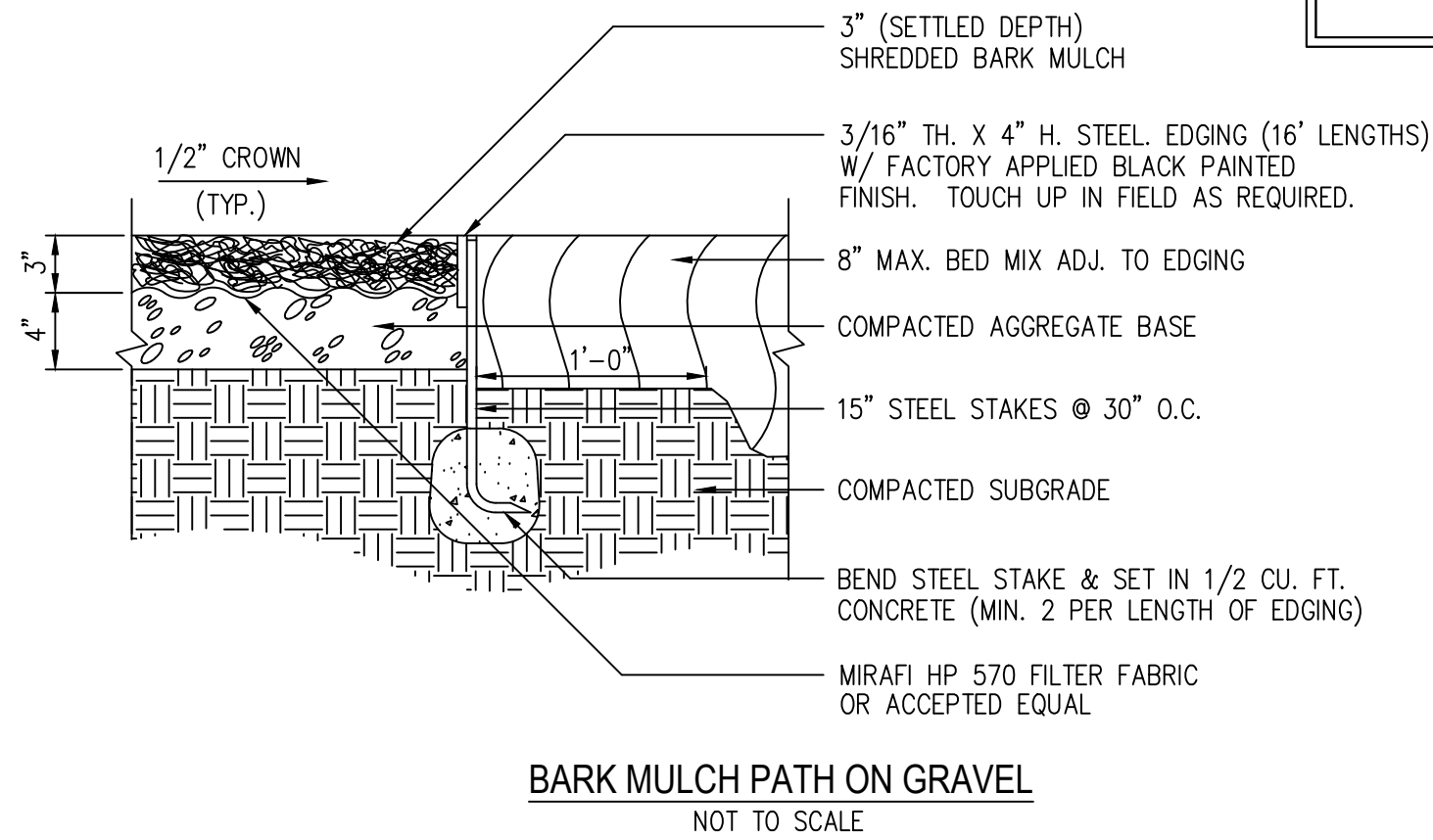


V:\Projects\2024\1400-1590\0401-155 CAD\STS\Development\Plan\Landscape PLAN.dwg Last saved: 10/6/2025 6:32 PM by: CBeasley, plotted: 10/6/2025 6:38 PM



#### GENERAL NOTES

- SEE SHEET 9 FOR LANDSCAPE SCHEDULE.
- SEE SHEET 10 FOR LANDSCAPE DETAILS.
- SEE SHEET 11 FOR LANDSCAPE NOTES.



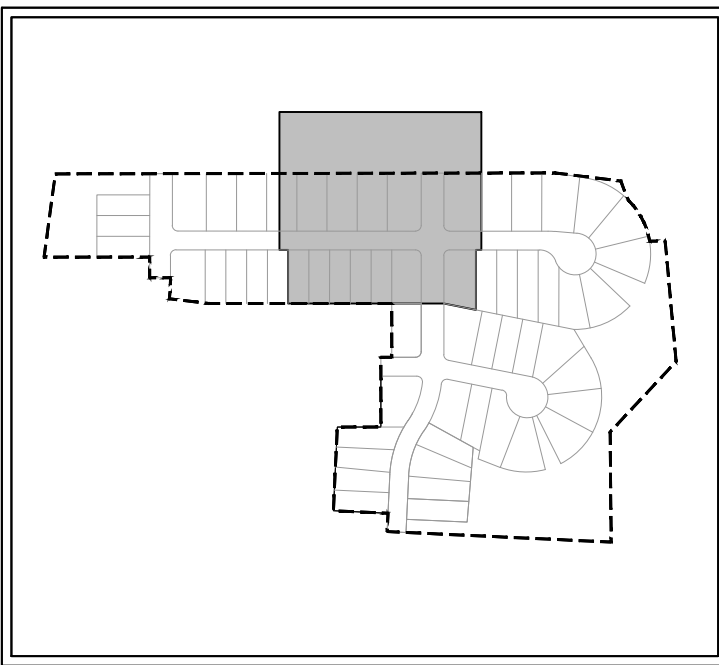
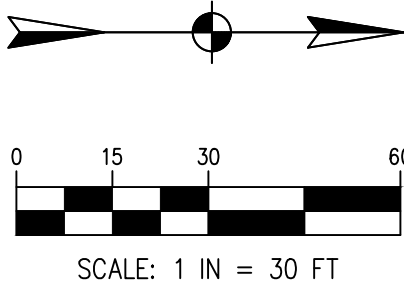
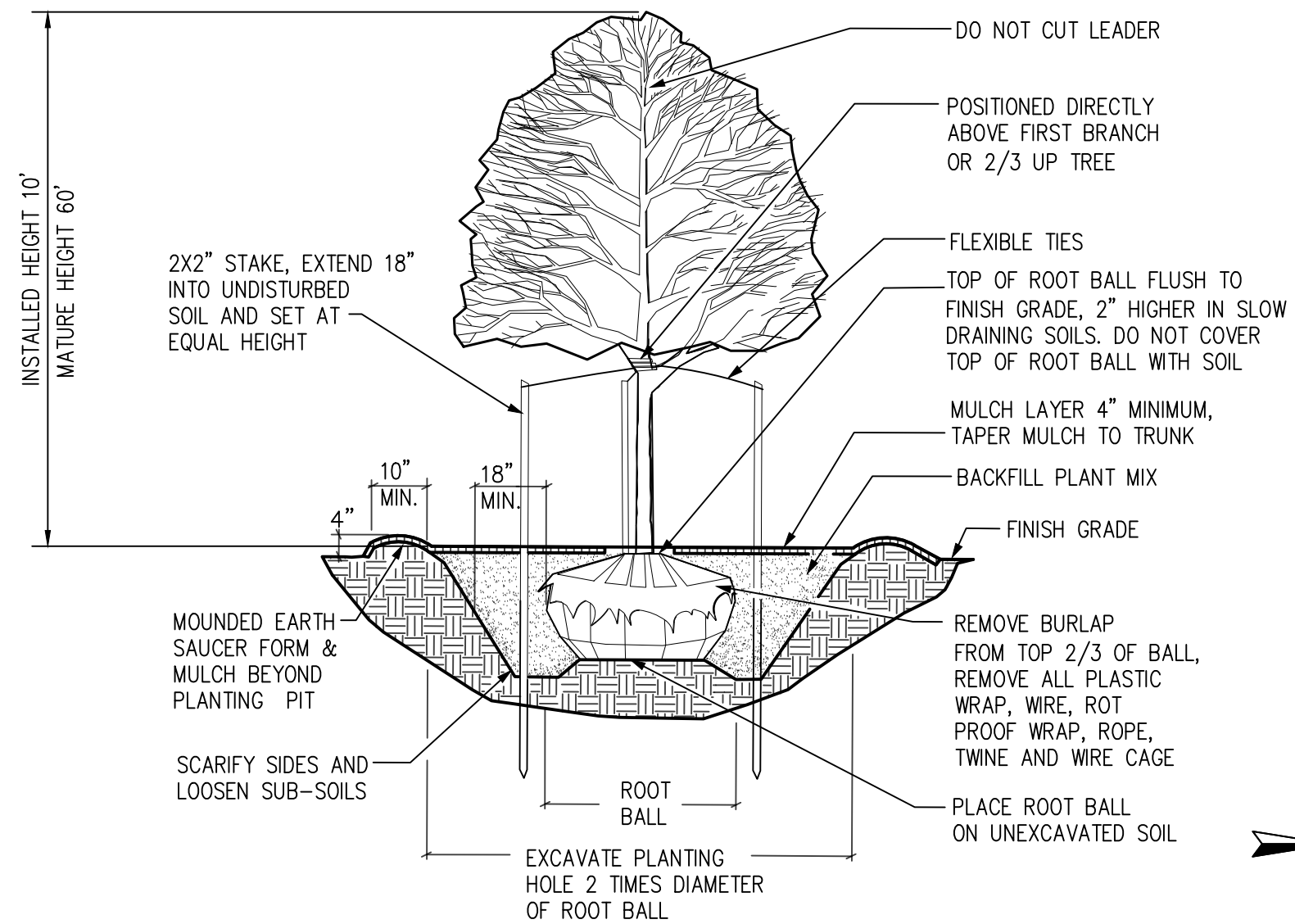
#### NOTES:

ALL SHRUBS PLANTED IN ROWS OR MASSES SHALL BE MATCHED IN SIZE AND FORM.

SHRUBS SHALL BEAR SAME RELATION TO FINISH GRADE AS THEY BORE TO EXISTING GRADE IN THE PREVIOUSLY PLANTED CONDITION.

#### MASS SHRUB PLANTING DETAIL (B&B OR CONTAINER)

NO SCALE



**KEY MAP**  
NOT TO SCALE

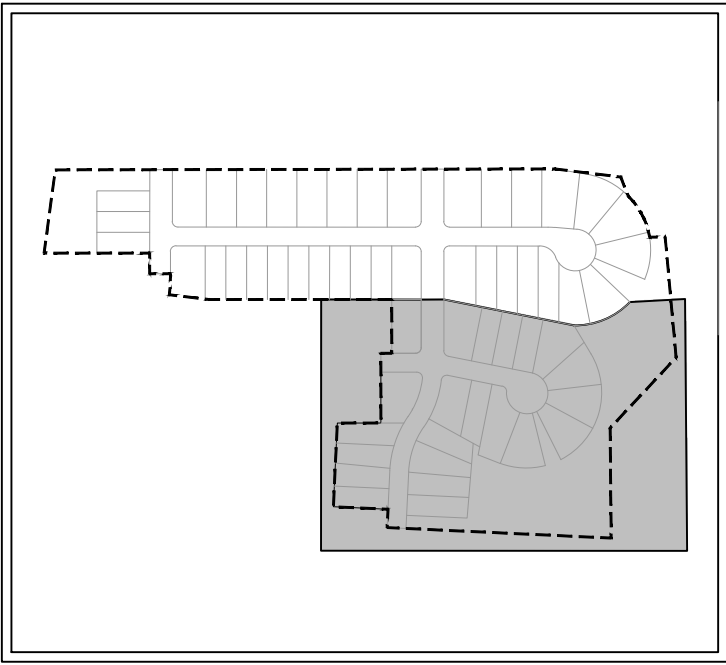
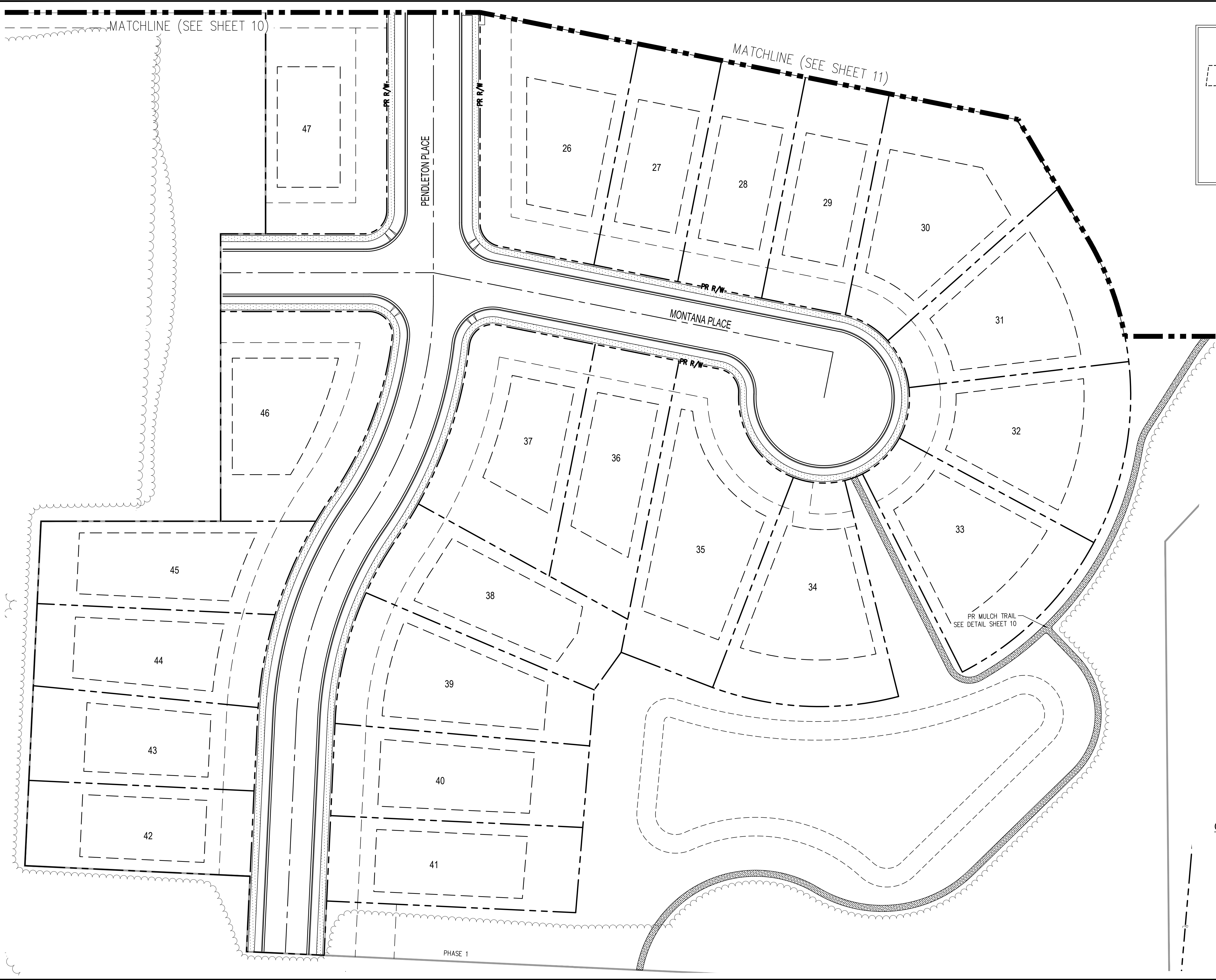
| DESCRIPTION                                                                                                            |    | NO. | DATE | BY |
|------------------------------------------------------------------------------------------------------------------------|----|-----|------|----|
| 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS OH 43215<br>TEL: 614.441.4222<br>FAX: 688.488.7340                           |    |     |      |    |
| PROJECT NO: 106/2025                                                                                                   |    |     |      |    |
| PROJECT NO: 2401435                                                                                                    |    |     |      |    |
| DRAWN BY: DJJ                                                                                                          |    |     |      |    |
| CHECKED BY: MSG                                                                                                        |    |     |      |    |
| TECHNICAL SKILL:<br>CREATIVE SPIRIT.                                                                                   |    |     |      |    |
| Mannik Smith GROUP<br>www.MannikSmithGroup.com                                                                         |    |     |      |    |
| PREPARED FOR:<br>ADDISON PROPERTIES<br>3401 ENTERPRISE PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122                       |    |     |      |    |
| FINAL DEVELOPMENT PLAN FOR<br>RIVERDALE PLACE<br>SUBDIVISION<br>SECTION 1<br>7848 S BROWN SCHOOL RD, VANDALIA OH 45377 |    |     |      |    |
| LANDSCAPE PLAN                                                                                                         |    |     |      |    |
| 10                                                                                                                     | 14 |     |      |    |







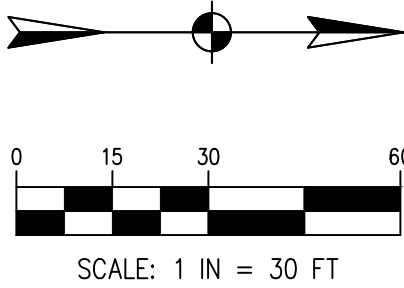
\\projects\2024\1400-1590\401435\CAD\STS\Development\Plan\Landscape Plan.dwg Last saved: 10/6/2025 6:32 PM by: CBeasley, plotted: 10/6/2025 6:38 PM



KEY MAP  
NOT TO SCALE

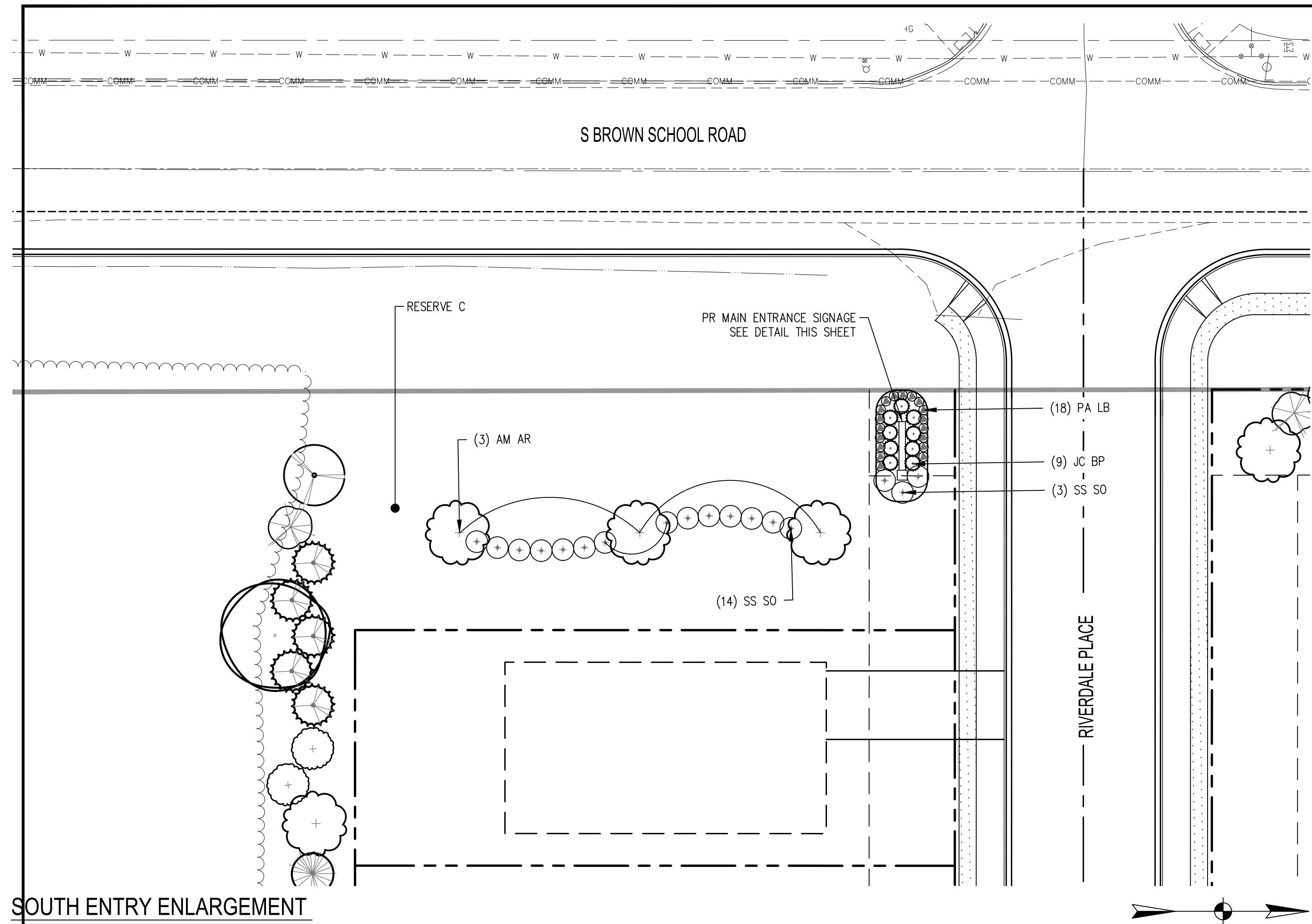
GENERAL NOTES

1. SEE SHEET 9 FOR LANDSCAPE SCHEDULE.
2. SEE SHEET 10 FOR LANDSCAPE DETAILS.
3. SEE SHEET 11 FOR LANDSCAPE NOTES.

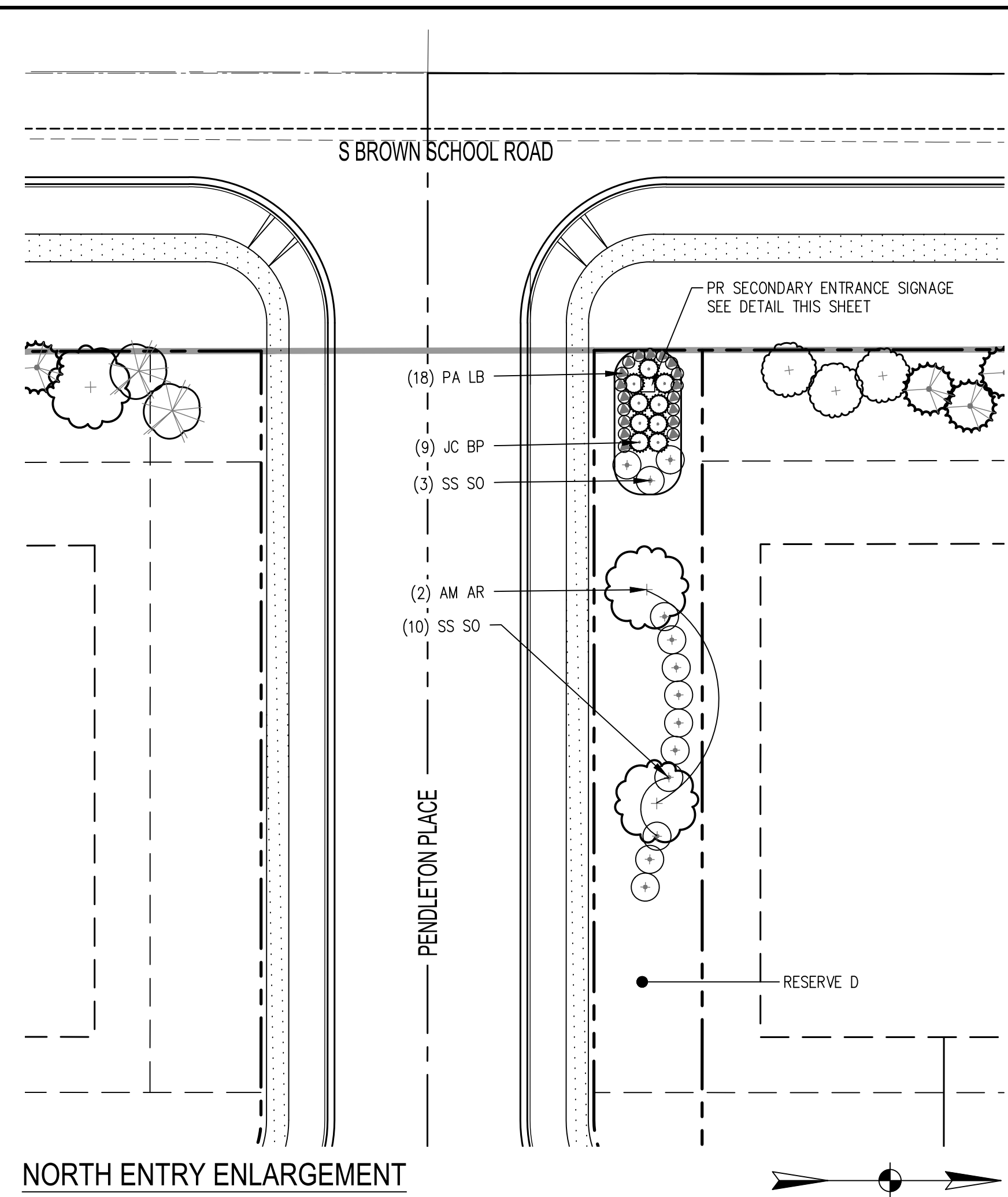


|    |                |                                                                           |                                                                                                                |                                                                                                                                                                                                                   |                                                                                               |  |  |  |  |  |  |  |
|----|----------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| 12 | LANDSCAPE PLAN | FINAL DEVELOPMENT PLAN FOR<br>RIVERDALE PLACE<br>SUBDIVISION<br>SECTION 1 | PREPARED FOR:<br><br>ADDISON<br>PROPERTIES<br><br>3401 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | <br><b>TECHNICAL SKILL,<br/>CREATIVE SPIRIT.</b><br><br><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a> | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 888.488.7340 |  |  |  |  |  |  |  |
|    |                |                                                                           |                                                                                                                |                                                                                                                                                                                                                   | PROJECT DATE: 10/6/2025                                                                       |  |  |  |  |  |  |  |
| 14 |                |                                                                           |                                                                                                                |                                                                                                                                                                                                                   | PROJECT NO: 2401435                                                                           |  |  |  |  |  |  |  |
|    |                |                                                                           |                                                                                                                |                                                                                                                                                                                                                   | DRAWN BY: DJJ                                                                                 |  |  |  |  |  |  |  |
|    |                |                                                                           |                                                                                                                |                                                                                                                                                                                                                   | CHECKED BY: MSG                                                                               |  |  |  |  |  |  |  |

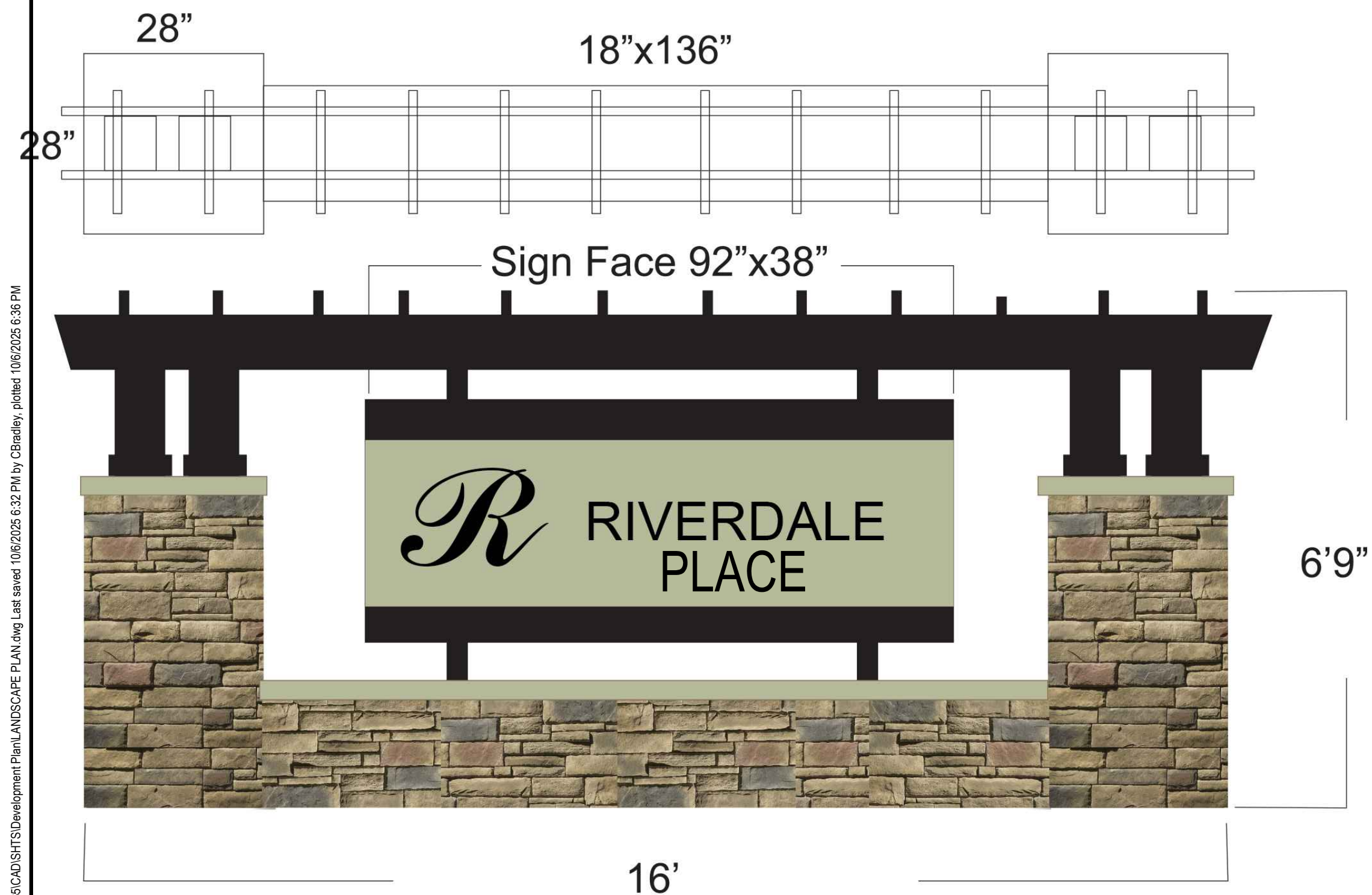




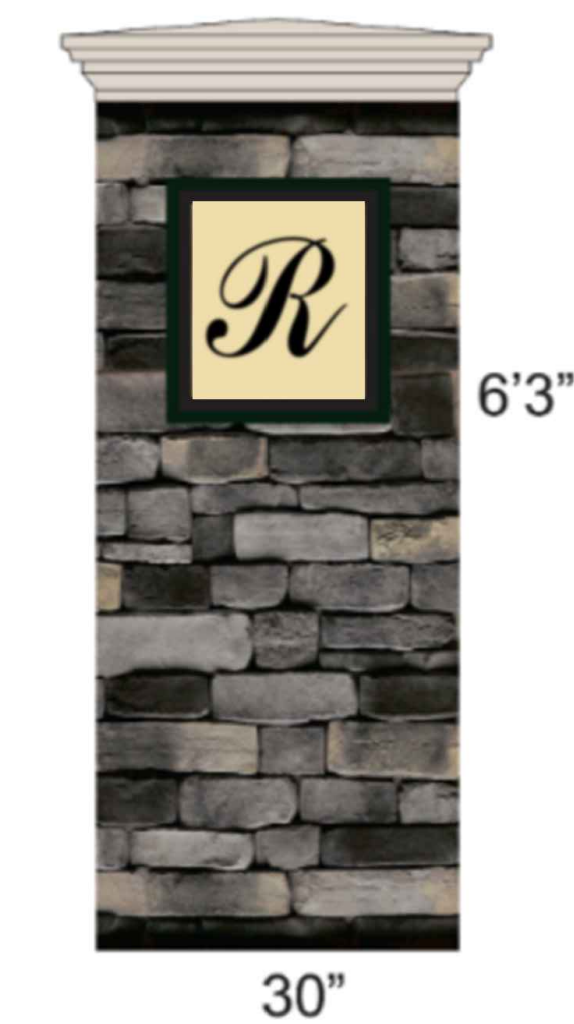
SOUTH ENTRY ENLARGEMENT  
SCALE: 1 = 20'-0"



NORTH ENTRY ENLARGEMENT  
SCALE: 1 = 20'-0"



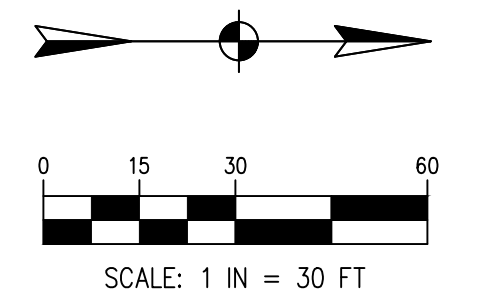
EXAMPLE SOUTH ENTRANCE SIGNAGE  
NO SCALE, CONCEPTUAL ONLY - DESIGN MAY VARY



EXAMPLE NORTH ENTRANCE SIGNAGE  
NO SCALE, CONCEPTUAL ONLY - DESIGN MAY VARY

GENERAL NOTES

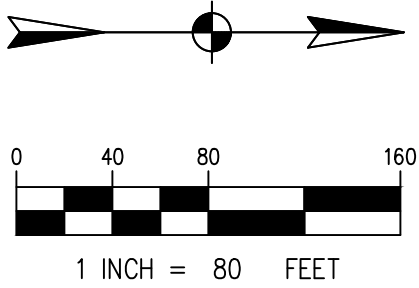
1. SEE SHEET 9 FOR LANDSCAPE SCHEDULE.
2. SEE SHEET 10 FOR LANDSCAPE DETAILS.
3. SEE SHEET 11 FOR LANDSCAPE NOTES.



|                               |                                                                                                                       |                                                                                                       |                                                                                               |                                                                                               |                                                                 |             |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------|
| ENTRY FEATURE<br>ENLARGEMENTS | FINAL DEVELOPMENT PLAN FOR<br>RIVERDALE PLACE<br>SUBDIVISION<br>SECTION 1<br>7848 S BROWN SCHOOL RD VANDALIA OH 45377 | PREPARED FOR:<br>ADDISON<br>PROPERTIES<br>3401 ENTERPRISE<br>PARKWAY, SUITE 410<br>COLUMBUS, OH 43260 | TECHNICAL SKILL:<br>CREATIVE SPIRIT:<br><b>Mannik Smith GROUP</b><br>www.MannikSmithGroup.com | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4272<br>FAX: 888.488.7340 | PROJECT DATE: 10/6/2025<br>PROJECT NO: 2407435<br>DRAWN BY: DJJ | DESCRIPTION |
|                               |                                                                                                                       |                                                                                                       |                                                                                               | NO.                                                                                           | DATE                                                            | BY          |



V:\Projects\2024\1400-1599\0401-135 CAD\SHS Development\Plan\LANDSCAPE PLAN.dwg Last saved: 10/6/2025 6:32 PM by: CBrady, plotter: 10/6/2025 6:38 PM



|    |                        |                                                                                                                            |                                                                                                            |                                                                                                                                                                                                                   |                                                                                               |                     |               |                 |     |      |    |             |
|----|------------------------|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------|---------------|-----------------|-----|------|----|-------------|
| 14 | RENDERED<br>COLOR PLAN | FINAL DEVELOPMENT PLAN FOR<br>RIVERDALE PLACE<br>SUBDIVISION<br>SECTION 1<br><br>7848 S BROWN SCHOOL RD, VANDALIA OH 45377 | PREPARED FOR:<br><br>ADDISON<br>PROPERTIES<br>3401 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | <br><b>TECHNICAL SKILL,<br/>CREATIVE SPIRIT.</b><br><br><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a> | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 888.488.7340 |                     |               |                 | NO. | DATE | BY | DESCRIPTION |
|    |                        |                                                                                                                            |                                                                                                            |                                                                                                                                                                                                                   | PROJECT DATE: 10/6/2025                                                                       | PROJECT NO: 2401435 | DRAWN BY: DJJ | CHECKED BY: MSG |     |      |    |             |
| 14 |                        |                                                                                                                            |                                                                                                            |                                                                                                                                                                                                                   |                                                                                               |                     |               |                 |     |      |    |             |



## Michael Hammes

---

**From:** Michael Goettemoeller <mkg@choiceneengineering.com>  
**Sent:** Friday, October 17, 2025 12:45 PM  
**To:** Rob Cron  
**Cc:** Ben Borton; Michael Hammes; Mitch Thobe  
**Subject:** RE: Riverdale TIS

Rob,

As previously discussed with the City, the traffic impact study confirms existing deficiencies at the intersection of Brown School Road & Little York Road under current conditions. The study further indicates that the proposed development will worsen these issues.

To address the development's proportional impact, we recommend that the developer contribute a fee-in-lieu. This approach recognizes that the existing deficiencies are not solely attributable to the proposed development but acknowledges its contribution to the need for future improvements. The fee-in-lieu would allow the City to allocate funds toward long term intersection improvements.

As next steps, we recommend that the developer prepare a conceptual layout for the 2047 Horizon Year improvements for the intersection, including:

- 479 feet of storage for the eastbound left turn lane
- 276 feet of storage for the southbound left turn lane

The City should have the opportunity to review and provide feedback on this layout. Following approval, the developer should prepare a preliminary construction cost estimate to serve as the basis for determining their proportionate share of costs.

Please let us know if you would like to schedule a meeting to discuss these recommendations or review next steps with the City and the developer. We are available to assist with reviewing the conceptual layout and determining the proportionate cost share.

Thank you,

**Michael Goettemoeller, PE, PTOE**

Project Manager for **Choice One Engineering**  
937.497.0200 **Office** | 937.251.5573 **Cell**

---

# TRAFFIC IMPACT STUDY RIVERDALE SUBDIVISION

VANDALIA, OHIO

SEPTEMBER 29, 2025

PREPARED FOR:

**ADDISON PROPERTIES**

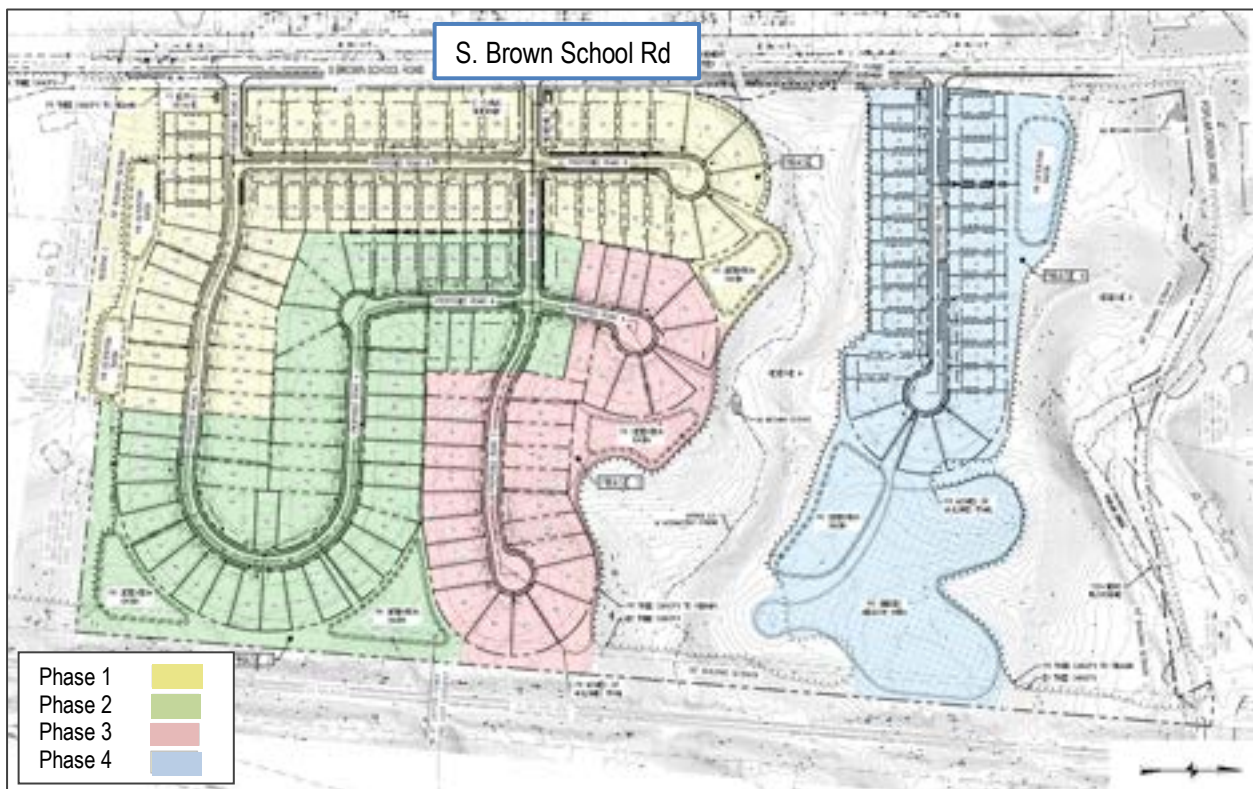
3401 ENTERPRISE PARKWAY, SUITE 410

BEACHWOOD, OHIO 44122



## **EXECUTIVE SUMMARY**

The Mannik & Smith Group (MSG) completed this Traffic Impact Study (TIS) for a proposed 167-lot residential development along and to the east of S. Brown School Road in Vandalia, Ohio. The residential development is planned to have four (4) phases, as shown in the site plan below. There are 137 lots included within Phases 1, 2, and 3 which will access S. Brown School Road by means of the proposed Road A, Road B and Road C. Proposed Road A will align with Deerhurst Drive and proposed Road C will align with Foxfire Trail which are located on the west side of S. Brown School Road and provide access to the Foxfire Residential Subdivision. Phase 4 will include the remaining 30 lots which will access S. Brown School Road by means of a proposed cul-de-sac Road D. To be comprehensive, the study also includes projected trips expected from the remaining residential development phases in the Foxfire Subdivision adjacent to and directly west of this site. The remaining phases include a total of 58 lots.



**Figure A: Proposed Site Plan**

### **Study Area Characteristics**

The residential development is located within the City of Vandalia corporation limits. Traffic counts were conducted on Tuesday, June 17th, 2025 and Tuesday, June 24th, 2025 at the following three (3) locations.

#### **Intersection Locations:**

1. S. Brown School Road & Foxfire Trail
2. S. Brown School Road & Deerhurst Drive
3. S. Brown School Road & Little York Road





**Figure B: Traffic Count Locations**

### **Trip Generation & Trip Distribution**

Site traffic was generated based on ITE's Trip Generation Manual 11<sup>th</sup> Edition land use code (LUC) 210- Single Family Detached Housing. Directional distributions associated with traffic counts collected at the two access roads to the Foxfire residential subdivision immediately to the west were used to determine a to/from the north and south distribution along S. Brown School Road. The new trips generated by the proposed site were assigned to ingress/egress in a similar pattern based on this information.

### **Traffic Operations Analysis**

The study area was analyzed for the ten scenarios listed below, with the Opening Year and Horizon Year for the build conditions in 2027 and 2047, respectively.

#### **Weekday AM and PM Peak Hour – 10 Scenarios**

1. No Build Opening Year 2027 (AM and PM peak hours)
2. No Build Horizon Year 2047 (AM and PM peak hours)
3. Build Opening Year 2027 (AM and PM peak hours)
4. Build Horizon Year 2047 (AM and PM peak hours)
5. Build Horizon Year Mitigated 2047 (AM and PM peak hours)

Operational criteria for intersection analyses were established as level of service (LOS) D or better for overall intersection and LOS E or better for individual approach movements. Criteria is based on the ODOT Analysis and Traffic Simulation (OATS) Manual guidance for sites located within a Metropolitan Planning Organization (MPO) area.

## Summary & Conclusions

Study of the proposed residential subdivision indicates the following impacts.

**S. Brown School Road & Little York Road:** Analysis indicates the westbound approach fails at a LOS F for the 2027/2047 Build PM peak periods. Also, vehicle queues for the eastbound and southbound approaches exceed the available turn lane storage. Deficient storage capacity is identified in the No Build scenario.

***Optimizing the traffic signal timings may provide improved level of service operations for the overall intersection and indicate the unacceptable failing operation can be eliminated by modifying the current signal timings. Optimized signal timings do have a positive effect on overall vehicle delay. Signal timing modifications would be the responsibility of the maintaining agency.***

On the north approach, the existing vehicle queues and potential through lane blocking are resulting from the current geometrics and lack of pavement width to provide an adequate dedicated left turn lane. This is prevalent in both Opening and Horizon Year No Build AM and PM peak hour conditions without the proposed development.

On the west approach, vehicle queues causing potential through lane blocking due to inadequate storage capacity are prevalent in the Opening and Horizon Year No Build PM peak hour conditions without the proposed development. Eastbound left turning vehicle volumes are projected to exceed the threshold of 300 vehicles per hour under these conditions as well. According to the ODOT Location & Design Manual, double left turn lanes should be considered at any signalized intersection with left turn demands of 300 vehicles per hour or more. The actual need shall be determined by performing a signalized intersection capacity analysis.

Queue analysis under current signal timing operations indicate 459 feet of storage is needed for the eastbound dedicated left turn lane and 222 feet of storage is needed for the southbound dedicated left turn lane. When signal timings are optimized, the 95<sup>th</sup> percentile queue length for these left turn movements increase from 459 feet to 479 feet for the eastbound dedicated left turn lane and from 222 feet to 276 feet for the southbound dedicated left turn lane. ***Deficient storage capacity is identified in the No Build scenario and it should not be a responsible mitigating consequence of the additional traffic associated with the proposed development.***

**S. Brown School Road & Deerhurst Drive/Proposed Road A:** The traffic volume warranting the northbound left turn lane onto Deerhurst Drive into Foxfire Subdivision is associated with existing left turn traffic and projected additional trips from the 58 additional lots in Foxfire Subdivision and not the proposed development. ***A northbound left turn on S. Brown School Road at Deerhurst Drive/Proposed Road A meets warrant and should be constructed by others. The developer of this proposed residential subdivision should not be responsible for this improvement.***

## **TABLE OF CONTENTS**

| <b><u>SECTION:</u></b>                                               | <b><u>PAGE NO.:</u></b> |
|----------------------------------------------------------------------|-------------------------|
| <b>EXECUTIVE SUMMARY .....</b>                                       | <b>i</b>                |
| <b>1.0 INTRODUCTION.....</b>                                         | <b>1</b>                |
| 1.1 General.....                                                     | 1                       |
| 1.2 Study Area Characteristics.....                                  | 3                       |
| 1.3 Traffic Counts.....                                              | 3                       |
| 1.4 Background Traffic Volume Development.....                       | 4                       |
| 1.5 Analysis Methodology.....                                        | 4                       |
| <b>2.0 PROPOSED CONDITIONS .....</b>                                 | <b>5</b>                |
| 2.1 Trip Generation .....                                            | 5                       |
| 2.2 Network Trip Distribution.....                                   | 5                       |
| 2.3 Traffic Operations Analysis .....                                | 6                       |
| 2.4 Roadway Network Queue Analysis .....                             | 7                       |
| 2.5 Turn Lane Warrant Analysis.....                                  | 9                       |
| <b>3.0 SUMMARY &amp; CONCLUSIONS .....</b>                           | <b>10</b>               |
| <br><b><u>FIGURES</u></b>                                            |                         |
| FIGURE 1.1 SITE LOCATION .....                                       | 1                       |
| FIGURE 1.2 SITE PLAN PHASING .....                                   | 2                       |
| FIGURE 1.3 SITE MAP .....                                            | 2                       |
| FIGURE 1.4 TRAFFIC COUNTS LOCATIONS .....                            | 3                       |
| <br><b><u>TABLES</u></b>                                             |                         |
| TABLE 1.1 ROADWAY CHARACTERISTICS .....                              | 3                       |
| TABLE 1.2 ADDITIONAL BACKGROUND TRIPS FROM FOXFIRE SUBDIVISION ..... | 4                       |
| TABLE 2.1 ITE TRIP GENERATION SUMMARY .....                          | 5                       |
| TABLE 2.2 TRAFFIC COUNT VEHICLE DIRECTION .....                      | 5                       |
| TABLE 2.3 NEW ACCESS ROADS TRIP ASSIGNMENTS .....                    | 6                       |
| TABLE 2.4 LEVEL OF SERVICE DEFINITIONS AND CRITERIA .....            | 6                       |
| TABLE 2.5 LEVEL OF SERVICE OPERATIONAL RESULTS.....                  | 7                       |
| TABLE 2.6 95 <sup>TH</sup> % QUEUE RESULTS .....                     | 7                       |
| TABLE 2.7 MITIGATION COMPARISON.....                                 | 8                       |
| <br><b><u>APPENDICES</u></b>                                         |                         |
| APPENDIX A TURNING MOVEMENT COUNT DATA                               |                         |
| APPENDIX B GROWTH RATE AND TRAFFIC FIGURES                           |                         |
| APPENDIX C ITE LAND USE DATA                                         |                         |
| APPENDIX D HCS REPORTS                                               |                         |
| APPENDIX E TURN LANE WARRANTS                                        |                         |



## 1.0 INTRODUCTION

### 1.1 General

The Mannik & Smith Group (MSG) completed this Traffic Impact Study (TIS) for a proposed 167-lot residential development along and to the east of S. Brown School Road in Vandalia, Ohio (see **Figure 1.1**).



**Figure 1.1 Site Location**

The residential development is planned to have four (4) phases as shown in **Figure 1.2** and **Figure 1.3** below. There are 137 lots included within Phases 1, 2, and 3 which will access S. Brown School Road by means of the proposed Road A, Road B and Road C. Proposed Road A will align with Deerhurst Drive and proposed Road C will align with Foxfire Trail which are located on the west side of S. Brown School Road and provide access to the Foxfire Residential Subdivision. Phase 4 will include the remaining 30 lots which will access S. Brown School Road by means of a proposed cul-de-sac Road D. Proposed Road D is located approximately 980 feet to the north of Foxfire Trail and approximately 460 feet to the south of Poplar Creek Road (west leg).

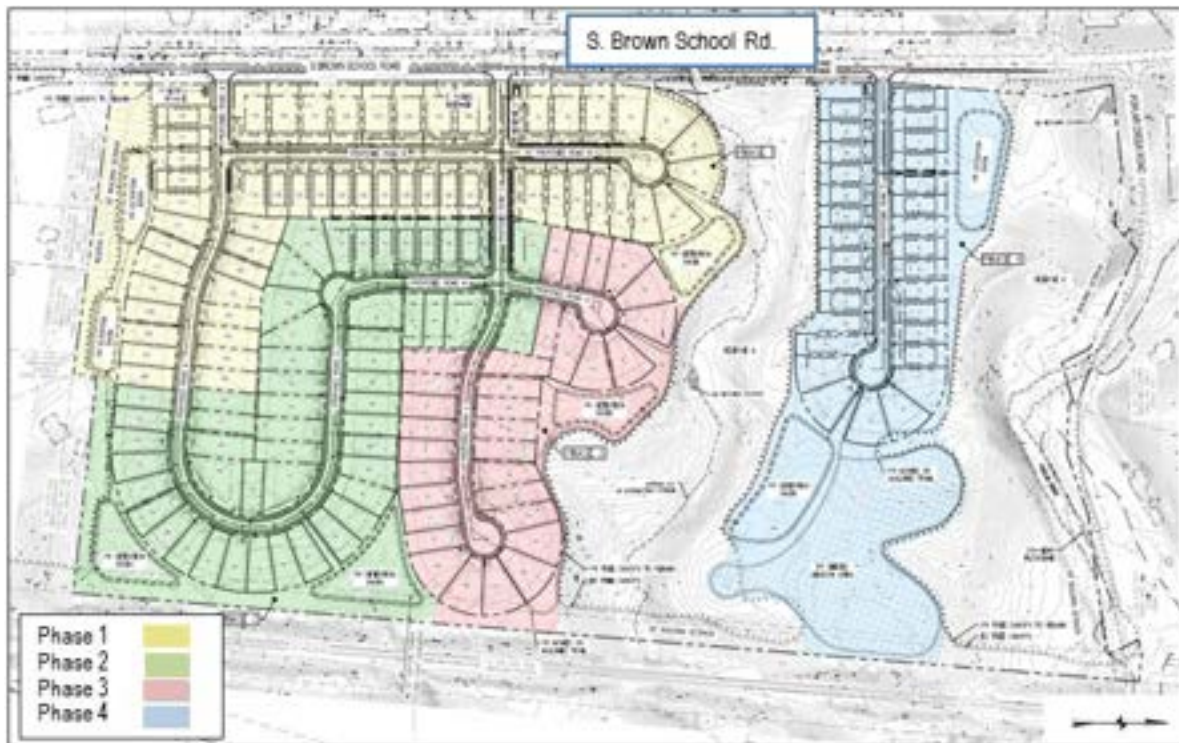


Figure 1.2 Site Plan Phasing



Figure 1.3 Site Map



## 1.2 Study Area Characteristics

The residential development is located within the City of Vandalia corporation limits. **Table 1.1** presents the roadway functional classification, responsible public agency having jurisdiction, posted speed limit and general lane description for each of the study area roadways.

**Table 1.1 Roadway Characteristics**

| Characteristic            | Study Roadway                          |                  |
|---------------------------|----------------------------------------|------------------|
|                           | S. Brown School Road                   | Little York Road |
| Functional Classification | Major Collector                        | Minor Arterial   |
| Roadway Direction         | North-South                            | East-West        |
| Public Agency             | City of Vandalia                       | City of Vandalia |
| Lane Description          | 2 Lanes                                | 2 Lanes          |
| Posted Speed Limit        | 40 mph*<br>*(No ODOT speed zone found) | 35 mph           |
| AADT (Per ODOT TIMS)      | 6,146                                  | 11,252           |

## 1.3 Traffic Counts

Traffic counts were conducted on Tuesday, June 17th, 2025 and Tuesday, June 24th, 2025 at the following three (3) locations. Turning movement count reports are included in **Appendix A** and traffic count locations shown in **Figure 1.4** are numbered to correlate with the intersection location numbers as listed below.

### Intersection Locations:

1. S. Brown School Road & Foxfire Trail
2. S. Brown School Road & Deerhurst Drive
3. S. Brown School Road & Little York Road



**Figure 1.4 Traffic Counts Locations**



## 1.4 Background Traffic Volume Development

The projected background traffic volumes for the study area network were balanced between intersections prior to applying the annual growth rates and Design Hour Volume (DHV) factors. The TIS background traffic was expanded to an Opening Day 2027 (Full Build) and 20-year Horizon Year 2047. As documented in **Appendix B**, the annual growth rates for the roadway network were received from the Miami Valley Regional Planning Commission (MVRPC). MVRPC indicated based on travel demand model runs between 2020 and 2050, the growth factor for S. Brown School Road and Little York Road is quite low at 1.05 (2050 AADT=1.05\*2020 AADT). Assuming linear growth, this equates to an annual growth rate of only 0.17% across the entire study area network. The travel demand model did not provide a growth factor for the local streets of Deerhurst Drive and Foxfire Trail, therefore no growth factor was applied to these traffic volumes.

Background traffic volumes also include projected trips expected from the remaining residential development phases in the Foxfire Subdivision adjacent to and directly west of this site. The remaining phases include a total of 58 lots. These trips were added to the network based on existing roadway patterns. Trip generation for these 58 lots was determined by ITE's Trip Generation Manual 11<sup>th</sup> Edition land use code LUC 210 – Single Family Detached Housing shown in **Table 1.2**.

**Table 1.2 Additional Background Trips from Foxfire Subdivision**

| Site Trip Generation |                   |                          |                                      |     |       |         |     |       |
|----------------------|-------------------|--------------------------|--------------------------------------|-----|-------|---------|-----|-------|
| Site                 | ITE Land Use Code | Number of Dwelling Units | Peak Hour of Adjacent Street Traffic |     |       |         |     |       |
|                      |                   |                          | Weekday Peaks                        |     |       |         |     |       |
|                      |                   |                          | AM Peak                              |     |       | PM Peak |     |       |
|                      |                   |                          | In                                   | Out | Total | In      | Out | Total |
| Foxfire Subdivision  | #210              | 58 units                 | 11                                   | 34  | 45    | 38      | 22  | 60    |

## 1.5 Analysis Methodology

Operation analyses were conducted using Highway Capacity Software (HCS). Acceptable operational criteria were established as level of service (LOS) D or better for overall intersection and individual approach movements functioning at LOS E or better. These criteria are based on ODOT Analysis and Traffic Simulation (OATS) Manual guidance for sites located within a Metropolitan Planning Organization (MPO) area. No Build scenarios consist of analyzing three (3) existing intersection locations with their current geometrics and traffic control. The Build scenarios consist of analyzing four (4) intersections with their current traffic control such that proposed Road A aligns with Deerhurst Drive, proposed Road C aligns with Foxfire Trail and a new intersection of proposed cul-de-sac Road D with S. Brown School Road analyzed as a side street stop control.

The following ten (10) scenarios representing the Weekday AM and PM peak hour conditions were analyzed at each study area location. No Build and Build conditions for Opening Year 2027 and Horizon Year 2047 document changes in traffic operations without and with the proposed residential development. Mitigated Build scenarios are completed to address intersections that require improvement for the Horizon Year 2047 to assess the effectiveness of implementing recommended improvements to offset identified impacts.

1. No Build Opening Year 2027 (AM and PM peak hours)
2. No Build Horizon Year 2047 (AM and PM peak hours)
3. Build Opening Year 2027 (AM and PM peak hours)
4. Build Horizon Year 2047 (AM and PM peak hours)
5. Build Horizon Year Mitigated 2047 (AM and PM peak hours)

## 2.0 PROPOSED CONDITIONS

### 2.1 Trip Generation

Site traffic was generated based on ITE's Trip Generation Manual 11<sup>th</sup> Edition land use code (LUC) 210-Single Family Detached Housing. This land use code specifies the number of dwelling units as its independent variable from which estimated trips are generated. Shown in **Table 2.1** is the anticipated new trips based for the proposed residential development isolated by access points. Phase 1, 2 and 3 will be assigned to ingress/egress proposed Road A and proposed Road C while Phase 4 will be assigned to exclusively ingress/egress proposed cul-de-sac Road D.

**Table 2.1 ITE Trip Generation Summary**

| Site Trip Generation |                   |                          |                                      |     |       |         |     |       |
|----------------------|-------------------|--------------------------|--------------------------------------|-----|-------|---------|-----|-------|
| Site                 | ITE Land Use Code | Number of Dwelling Units | Peak Hour of Adjacent Street Traffic |     |       |         |     |       |
|                      |                   |                          | Weekday Peaks                        |     |       |         |     |       |
|                      |                   |                          | AM Peak                              |     |       | PM Peak |     |       |
|                      |                   |                          | In                                   | Out | Total | In      | Out | Total |
| Phase 1, 2 & 3       | #210              | 137 units                | 25                                   | 74  | 99    | 84      | 50  | 134   |
| Phase 4              | #210              | 30 units                 | 6                                    | 19  | 25    | 20      | 12  | 32    |
| Totals               |                   | 167 units                | 31                                   | 93  | 124   | 104     | 62  | 166   |

Included in **Appendix C** are the ITE LUC #210 data plots and graphs used to predict the expected number of trips based on the number of dwelling units for both the AM and PM peak hours. The fitted curve data plots were used to determine the trip generation rates.

### 2.2 Network Trip Distribution

Directional distributions associated with traffic counts collected at the two access roads to the Foxfire residential subdivision immediately to the west were used to determine a to/from the north and south distribution along S. Brown School Road. The new trips generated by the proposed site were assigned to ingress/egress in a similar pattern based on this information. **Table 2.2** indicates these respective directional distributions relative to the AM and PM peak hour traffic volumes. The Traffic Figures show the AM and PM peak hour data for 2025 Raw traffic counts, Opening Year 2027 and Horizon Year 2047 No Build traffic, Trip Distribution, and Opening Year 2027 and Horizon Year 2047 Build traffic are shown in **Appendix B**.

**Table 2.2 Traffic Count Vehicle Direction**

| Direction     | AM Peak Hour |            | PM Peak Hour |            |
|---------------|--------------|------------|--------------|------------|
|               | Volume       | Percentage | Volume       | Percentage |
| To/From North | 42           | 71%        | 66           | 78%        |
| To/From South | 17           | 29%        | 19           | 22%        |
| Total         | 59           | 100%       | 85           | 100%       |

The new development proposes three (3) access roads connecting the site to S. Brown School Road. Lot development is split into four (4) phases. Trips associated with the number of lots per phase were assigned based on their proximity to a specific access road. **Table 2.3** indicates how the Phase 1, 2 and 3 trips were assigned to proposed intersections Deerhurst Drive/Road A and Foxfire Trail/Road C. Phase 4 is a separate

area on the north side of the site and does not connect to the other phases, so all trips associated with Phase 4 are assigned only to use proposed cul-de-sac Road D.

**Table 2.3 New Access Roads Trip Assignments**

| Phase   | # of Lots | % of total | Foxfire Trail/Road C | Deerhurst Drive/Road A |
|---------|-----------|------------|----------------------|------------------------|
| Phase 1 | 54        | 39%        | 50%                  | 50%                    |
| Phase 2 | 51        | 37%        | 50%                  | 50%                    |
| Phase 3 | 32        | 23%        | 100%                 | 0%                     |
| Total   | 137       | 100%       |                      |                        |

## 2.3 Traffic Operations Analysis

To appropriately analyze each of the study intersections, Highway Capacity Software (HCS) was used to determine Level-of-Service (LOS) during the AM and PM peak hour periods. LOS is measured by a letter grade that describes traffic operations based on the amount of delay experienced by vehicles at an intersection, along an intersection approach (e.g., eastbound, westbound), or in a specific lane group (e.g., eastbound right turn, eastbound through-left). In this study, LOS for the stop-controlled intersections was reported by approach.

LOS can range from A to F with LOS A, representing the conditions in which vehicles experience the least amount of delay (LOS A), and LOS F representing the conditions in which vehicles experience the most delay. **Table 2.4** provides information regarding the delay thresholds for LOS. It may be noted that in tables throughout this report, when intersections, approaches, and lane groups have LOS D, it will be shown in yellow, LOS E shown in orange, and LOS F shown in red. For this study, LOS threshold values stipulate the overall intersection to be LOS D or better with individual approach movements to be LOS E or better. These criteria are based on the ODOT Analysis and Traffic Simulation (OATS) Manual guidance for sites located within a Metropolitan Planning Organization (MPO) area.

**Table 2.4 Level of Service Definitions and Criteria**

| Level-of-Service (LOS) | Un-Signalized Intersections Delay* (seconds) | Signalized Intersections Delay (seconds) |
|------------------------|----------------------------------------------|------------------------------------------|
| A                      | < 10.0                                       | < 10.0                                   |
| B                      | 10.1 – 15.0                                  | 10.1 – 20.0                              |
| C                      | 15.1 – 25.0                                  | 20.1 – 35.0                              |
| D                      | 25.1 – 35.0                                  | 35.1 – 55.0                              |
| E                      | 35.1 – 50.0                                  | 55.1 – 80.0                              |
| F                      | > 50.0                                       | > 80.0                                   |

\* From Highway Capacity Manual 6<sup>th</sup> Edition

MSG analyzed each of the study area intersections. Intersection performance for the No Build and Build scenarios is detailed in **Table 2.5**. All HCS reports are provided in **Appendix D**. The free flow movements are not shown as they experience zero seconds of delay.



**Table 2.5 Level of Service Operational Results**

| Intersection                                       | Approach             | Lane Group | 2027     |          |          |          | 2047     |          |          |          |
|----------------------------------------------------|----------------------|------------|----------|----------|----------|----------|----------|----------|----------|----------|
|                                                    |                      |            | No Build |          | Build    |          | No Build |          | Build    |          |
|                                                    |                      |            | AM       | PM       | AM       | PM       | AM       | PM       | AM       | PM       |
| S. Brown School Rd & Proposed Road D               | Westbound            | Approach   |          |          | B (12.1) | C (15.5) |          |          | B (12.2) | C (15.9) |
|                                                    | Southbound           | Left       |          |          | A (7.8)  | A (8.3)  |          |          | A (7.8)  | A (8.3)  |
| S. Brown School Rd & Foxfire Trail/Proposed Road C | Eastbound            | Approach   | B (12.9) | B (13.3) | B (14.7) | C (15.7) | B (13.3) | B (13.6) | C (15.0) | C (16.1) |
|                                                    | Westbound            | Approach   |          |          | B (14.5) | C (19.7) |          |          | B (14.8) | C (20.4) |
|                                                    | Northbound           | Left       | A (8.0)  | A (8.2)  | A (8.1)  | A (8.2)  | A (8.1)  | A (8.2)  | A (8.1)  | A (8.2)  |
|                                                    | Southbound           | Left       |          |          | A (7.8)  | A (8.4)  |          |          | A (7.8)  | A (8.4)  |
| S. Brown School Rd & Deerhurst Dr/Proposed Road A  | Eastbound            | Approach   | B (11.1) | B (11.3) | B (11.9) | B (12.0) | B (11.2) | B (11.4) | B (12.0) | B (12.1) |
|                                                    | Westbound            | Approach   |          |          | C (16.0) | D (26.0) |          |          | C (16.3) | D (27.2) |
|                                                    | Northbound           | Left       | A (8.1)  | A (8.3)  | A (8.2)  | A (8.4)  | A (8.1)  | A (8.4)  | A (8.3)  | A (8.5)  |
|                                                    | Southbound           | Left       |          |          | A (7.8)  | A (8.5)  |          |          | A (7.8)  | A (8.5)  |
| S. Brown School Rd & Little York Rd                | Eastbound            | Left       | B (11.4) | C (27.4) | B (12.9) | D (45.0) | B (11.9) | C (33.2) | B (13.4) | D (46.4) |
|                                                    |                      | Through    | A (6.4)  | A (7.0)  | A (7.2)  | A (6.0)  | A (6.5)  | A (6.7)  | A (7.3)  | A (6.2)  |
|                                                    |                      | Approach   | A (8.2)  | B (14.3) | A (9.4)  | B (21.4) | A (8.5)  | B (16.2) | A (9.7)  | C (22.0) |
|                                                    | Westbound            | Approach   | B (17.1) | D (42.5) | B (19.1) | F (66.9) | B (17.6) | D (48.6) | B (19.7) | F (80.4) |
|                                                    |                      | Left       | B (17.2) | D (35.7) | B (18.1) | D (50.2) | B (17.9) | D (40.8) | B (18.8) | D (53.3) |
|                                                    | Southbound           | Right      | B (16.8) | C (24.4) | C (20.4) | C (25.6) | B (17.9) | C (26.0) | C (21.9) | C (25.6) |
|                                                    |                      | Approach   | B (16.9) | C (28.3) | B (19.8) | C (34.2) | B (17.9) | C (31.2) | B (21.0) | D (35.3) |
|                                                    | Intersection Overall |            | B (14.2) | C (26.5) | B (16.4) | D (38.7) | B (14.8) | C (29.9) | B (17.0) | D (43.6) |

Given LOS threshold values stipulate the overall intersection must operate at LOS D or better and individual approach movements must operate at LOS E or better, analyses indicate that existing and proposed study area intersection and approach movements will operate at a satisfactory LOS in both the Opening Year 2027 and Horizon Year 2047 No Build and Build conditions in nearly all cases. The westbound approach of S. Brown School Road & Little York Road indicates failing operations for the 2027/2047 Build PM peak periods.

## 2.4 Roadway Network Queue Analysis

To analyze operational effectiveness of existing turn lanes, dedicated turn lane storage lengths are compared with their respective 95<sup>th</sup> percentile queue lengths and reported in **Table 2.6** below for all analysis scenarios.

**Table 2.6 95<sup>th</sup>% Queue Results**

| Intersection                                       | Approach   | Lane Group | Storage Length | 2027     |        |        |        | 2047     |        |        |        |
|----------------------------------------------------|------------|------------|----------------|----------|--------|--------|--------|----------|--------|--------|--------|
|                                                    |            |            |                | No Build |        | Build  |        | No Build |        | Build  |        |
|                                                    |            |            |                | AM       | PM     | AM     | PM     | AM       | PM     | AM     | PM     |
| S. Brown School Rd & Proposed Drive D              | Westbound  | Approach   | #              |          |        | 3 ft   | 3 ft   |          |        | 3 ft   | 3 ft   |
|                                                    | Southbound | Left       | #              |          |        | 0 ft   | 0 ft   |          |        | 0 ft   | 0 ft   |
| S. Brown School Rd & Foxfire Trail/Proposed Road C | Eastbound  | Approach   | #              | 6 ft     | 3 ft   | 6 ft   | 5 ft   | 6 ft     | 3 ft   | 6 ft   | 5 ft   |
|                                                    | Westbound  | Approach   | #              |          |        | 10 ft  | 10 ft  |          |        | 13 ft  | 10 ft  |
|                                                    | Northbound | Left       | #              | 0 ft     | 0 ft   | 0 ft   | 0 ft   | 0 ft     | 0 ft   | 0 ft   | 0 ft   |
|                                                    | Southbound | Left       | #              |          |        | 0 ft   | 0 ft   |          |        | 0 ft   | 0 ft   |
| S. Brown School Rd & Deerhurst Dr/Proposed Road A  | Eastbound  | Approach   | #              | 8 ft     | 5 ft   | 10 ft  | 5 ft   | 8 ft     | 5 ft   | 10 ft  | 8 ft   |
|                                                    | Westbound  | Approach   | #              |          |        | 8 ft   | 8 ft   |          |        | 8 ft   | 10 ft  |
|                                                    | Northbound | Left       | #              | 3 ft     | 5 ft   | 2 ft   | 4 ft   | 3 ft     | 5 ft   | 2 ft   | 4 ft   |
|                                                    | Southbound | Left       | #              |          |        | 0 ft   | 0 ft   |          |        | 0 ft   | 0 ft   |
| S. Brown School Rd & Little York Rd                | Eastbound  | Left       | 180 ft         | 36 ft    | 308 ft | 47 ft  | 442 ft | 39 ft    | 345 ft | 50 ft  | 459 ft |
|                                                    |            | Through    | #              | 52 ft    | 213 ft | 63 ft  | 212 ft | 57 ft    | 223 ft | 69 ft  | 222 ft |
|                                                    | Westbound  | Approach   | #              | 221 ft   | 611 ft | 254 ft | 839 ft | 237 ft   | 695 ft | 272 ft | 946 ft |
|                                                    | Southbound | Left       | 25 ft          | 43 ft    | 145 ft | 58 ft  | 210 ft | 47 ft    | 169 ft | 63 ft  | 222 ft |
|                                                    |            | Right      | #              | 123 ft   | 215 ft | 184 ft | 258 ft | 137 ft   | 234 ft | 201 ft | 265 ft |

(# - denotes no dedicated turn lane present)

Analysis indicates vehicle queues for the eastbound and southbound approaches at S. Brown School Road & Little York Road intersection are a potential concern as they exceed the available turn lane storage. This deficient storage capacity is identified in the No Build scenarios.

- On the southbound approach, the vehicle queues and potential through lane blocking are resulting from the current geometrics and lack of pavement width to provide an adequate dedicated left turn lane. This is prevalent in both Opening and Horizon Year No Build AM and PM peak hour conditions without the proposed development.
- On the eastbound approach, the vehicle queues causing potential through lane blocking due to inadequate storage capacity are prevalent in the Opening and Horizon Year No Build PM peak hour conditions without the proposed development. Eastbound left turning vehicle volumes are projected to exceed the threshold of 300 vehicles per hour under these conditions as well. According to the ODOT Location & Design Manual, double left turn lanes should be considered at any signalized intersection with left turn demands of 300 vehicles per hour or more. The actual need shall be determined by performing a signalized intersection capacity analysis.

A mitigated scenario was run for the S. Brown School Road & Little York Road intersection to assess the effects of signal timing optimizations on the level of service. A comparison of the 2047 Build scenario with and without mitigation are shown in **Table 2.7** below. Results indicate the unacceptable failing operation can be eliminated by modifying the current signal timings. Optimized signal timings do have a positive effect on overall vehicle delay. The HCS reports for the mitigated signal operation is included in **Appendix D**.

While accommodating the additional required turn lanes storage does not directly affect the LOS, it does reduce the potential for vehicles to get blocked from proceeding through the intersection. At the intersection of S. Brown School Road & Little York Road, queue analysis under current signal timing operations shown previously in **Table 2.6** indicate 459 feet of storage is needed for the eastbound dedicated left turn lane and 222 feet of storage is needed for the southbound dedicated left turn lane. When signal timings are optimized, the 95<sup>th</sup> percentile queue length for these left turn movements increase from 459 feet to 479 feet for the eastbound dedicated left turn lane and from 222 feet to 276 feet for the southbound dedicated left turn lane.

**Table 2.7 Mitigation Comparison**

| Intersection                        | Approach             | Lane Group | 2047     |          |                 |          |
|-------------------------------------|----------------------|------------|----------|----------|-----------------|----------|
|                                     |                      |            | Build    |          | Mitigated Build |          |
|                                     |                      |            | AM       | PM       | AM              | PM       |
| S. Brown School Rd & Little York Rd | Eastbound            | Left       | B (13.4) | D (46.4) | A (12.9)        | D (42.7) |
|                                     |                      | Through    | A (7.3)  | A (6.2)  | A (7.2)         | A (5.4)  |
|                                     |                      | Approach   | A (9.7)  | C (22.0) | A (9.3)         | C (20.0) |
|                                     | Westbound            | Approach   | B (19.7) | F (80.4) | B (19.0)        | D (48.4) |
|                                     | Southbound           | Left       | B (18.8) | D (53.3) | B (18.3)        | E (75.7) |
|                                     |                      | Right      | C (21.9) | C (25.6) | C (20.6)        | C (32.0) |
|                                     |                      | Approach   | B (21.0) | D (35.3) | C (20.0)        | D (47.4) |
|                                     | Intersection Overall |            | B (17.0) | D (43.6) | B (16.3)        | D (35.0) |

## **2.5 Turn Lane Warrant Analysis**

Included in **Appendix E** are the various turn lane warrants evaluated at the study area intersections. Utilizing various graphs published in the ODOT Location & Design Manual, traffic volumes plotted on these graphs indicate whether dedicated left or right turn lanes are warranted for consideration at any of the proposed site drive intersection locations.

S. Brown School Road at Deerhurst Drive/Proposed Road A: The resulting 2047 Build PM Peak Hour data plot suggests the intersection of S. Brown School Road at Deerhurst Drive/Proposed Road A satisfies the warrant for a northbound left turn lane and should be considered. Note vehicles requiring the northbound left turn lane are associated with existing left turn traffic and projected additional trips from the 58 additional lots in Foxfire Subdivision and not the proposed development.



### **3.0 SUMMARY & CONCLUSIONS**

This study of the proposed residential subdivision evaluated anticipated traffic operations for No Build and Build scenarios for Opening Year 2027 & Horizon Year 2047. Storage capacity of existing dedicated turn lanes was evaluated based on vehicle queue lengths. Finally, warrants for dedicated left or right turn lanes at the proposed site drive intersections were analyzed. The associated impacts are noted below.

**S. Brown School Road & Little York Road:** Analysis indicates the westbound approach fails at a LOS F for the 2027/2047 Build PM peak periods. Also, vehicle queues for the eastbound and southbound approaches exceed the available turn lane storage. Deficient storage capacity is identified in the No Build scenario.

***Optimizing the traffic signal timings may provide improved level of service operations for the overall intersection and indicate the unacceptable failing operation can be eliminated by modifying the current signal timings. Optimized signal timings do have a positive effect on overall vehicle delay. Signal timing modifications would be the responsibility of the maintaining agency.***

On the north approach, the existing vehicle queues and potential through lane blocking are resulting from the current geometrics and lack of pavement width to provide an adequate dedicated left turn lane. This is prevalent in both Opening and Horizon Year No Build AM and PM peak hour conditions without the proposed development.

On the west approach, vehicle queues causing potential through lane blocking due to inadequate storage capacity are prevalent in the Opening and Horizon Year No Build PM peak hour conditions without the proposed development. Eastbound left turning vehicle volumes are projected to exceed the threshold of 300 vehicles per hour under these conditions as well. According to the ODOT Location & Design Manual, double left turn lanes should be considered at any signalized intersection with left turn demands of 300 vehicles per hour or more. The actual need shall be determined by performing a signalized intersection capacity analysis.

Queue analysis under current signal timing operations indicate 459 feet of storage is needed for the eastbound dedicated left turn lane and 222 feet of storage is needed for the southbound dedicated left turn lane. When signal timings are optimized, the 95<sup>th</sup> percentile queue length for these left turn movements increase from 459 feet to 479 feet for the eastbound dedicated left turn lane and from 222 feet to 276 feet for the southbound dedicated left turn lane. ***Deficient storage capacity is identified in the No Build scenario and it should not be a responsible mitigating consequence of the additional traffic associated with the proposed development.***

**S. Brown School Road & Deerhurst Drive/Proposed Road A:** The traffic volume warranting the northbound left turn lane onto Deerhurst Drive into Foxfire Subdivision is associated with existing left turn traffic and projected additional trips from the 58 additional lots in Foxfire Subdivision and not the proposed development. ***A northbound left turn on S. Brown School Road at Deerhurst Drive/Proposed Road A meets warrant and should be constructed by others. The developer of this proposed residential subdivision should not be responsible for this improvement.***

APPENDIX A  
TURNING MOVEMENT COUNT DATA





Mannik & Smith Group (OH)  
1800 Indian Wood Circle  
Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Deerhurst Dr  
Site Code:  
Start Date: 06/17/2025  
Page No: 1

## Turning Movement Data

| Start Time    | Southbound Approach<br>Southbound |      |        |            | Northbound Approach<br>Northbound |      |        |            | Eastbound Approach<br>Eastbound |      |        |            | Int. Total |
|---------------|-----------------------------------|------|--------|------------|-----------------------------------|------|--------|------------|---------------------------------|------|--------|------------|------------|
|               | Right                             | Thru | U-Turn | App. Total | Thru                              | Left | U-Turn | App. Total | Right                           | Left | U-Turn | App. Total |            |
| 6:00 AM       | 0                                 | 11   | 0      | 11         | 13                                | 1    | 0      | 14         | 3                               | 0    | 0      | 3          | 28         |
| 6:15 AM       | 0                                 | 28   | 0      | 28         | 17                                | 1    | 0      | 18         | 0                               | 0    | 0      | 0          | 46         |
| 6:30 AM       | 0                                 | 41   | 0      | 41         | 24                                | 0    | 0      | 24         | 5                               | 1    | 0      | 6          | 71         |
| 6:45 AM       | 0                                 | 45   | 0      | 45         | 51                                | 1    | 0      | 52         | 2                               | 0    | 0      | 2          | 99         |
| Hourly Total  | 0                                 | 125  | 0      | 125        | 105                               | 3    | 0      | 108        | 10                              | 1    | 0      | 11         | 244        |
| 7:00 AM       | 0                                 | 50   | 0      | 50         | 21                                | 0    | 0      | 21         | 6                               | 0    | 0      | 6          | 77         |
| 7:15 AM       | 0                                 | 57   | 0      | 57         | 30                                | 2    | 0      | 32         | 7                               | 2    | 0      | 9          | 98         |
| 7:30 AM       | 1                                 | 58   | 0      | 59         | 39                                | 1    | 0      | 40         | 9                               | 2    | 0      | 11         | 110        |
| 7:45 AM       | 0                                 | 70   | 0      | 70         | 50                                | 3    | 0      | 53         | 3                               | 3    | 0      | 6          | 129        |
| Hourly Total  | 1                                 | 235  | 0      | 236        | 140                               | 6    | 0      | 146        | 25                              | 7    | 0      | 32         | 414        |
| 8:00 AM       | 1                                 | 49   | 0      | 50         | 35                                | 4    | 0      | 39         | 3                               | 0    | 0      | 3          | 92         |
| 8:15 AM       | 0                                 | 44   | 0      | 44         | 45                                | 3    | 0      | 48         | 8                               | 1    | 0      | 9          | 101        |
| 8:30 AM       | 1                                 | 37   | 0      | 38         | 28                                | 5    | 0      | 33         | 8                               | 1    | 0      | 9          | 80         |
| 8:45 AM       | 3                                 | 48   | 0      | 51         | 35                                | 0    | 0      | 35         | 5                               | 1    | 0      | 6          | 92         |
| Hourly Total  | 5                                 | 178  | 0      | 183        | 143                               | 12   | 0      | 155        | 24                              | 3    | 0      | 27         | 365        |
| 9:00 AM       | 1                                 | 32   | 0      | 33         | 27                                | 3    | 0      | 30         | 7                               | 1    | 0      | 8          | 71         |
| 9:15 AM       | 1                                 | 32   | 0      | 33         | 28                                | 6    | 0      | 34         | 6                               | 0    | 0      | 6          | 73         |
| 9:30 AM       | 1                                 | 30   | 0      | 31         | 32                                | 2    | 0      | 34         | 7                               | 0    | 0      | 7          | 72         |
| 9:45 AM       | 1                                 | 40   | 0      | 41         | 34                                | 3    | 0      | 37         | 6                               | 1    | 0      | 7          | 85         |
| Hourly Total  | 4                                 | 134  | 0      | 138        | 121                               | 14   | 0      | 135        | 26                              | 2    | 0      | 28         | 301        |
| *** BREAK *** | -                                 | -    | -      | -          | -                                 | -    | -      | -          | -                               | -    | -      | -          | -          |
| 3:00 PM       | 2                                 | 59   | 0      | 61         | 87                                | 4    | 0      | 91         | 9                               | 2    | 0      | 11         | 163        |
| 3:15 PM       | 1                                 | 70   | 0      | 71         | 56                                | 7    | 0      | 63         | 1                               | 1    | 0      | 2          | 136        |
| 3:30 PM       | 1                                 | 103  | 0      | 104        | 75                                | 5    | 0      | 80         | 1                               | 3    | 0      | 4          | 188        |
| 3:45 PM       | 3                                 | 70   | 0      | 73         | 87                                | 6    | 0      | 93         | 4                               | 0    | 0      | 4          | 170        |
| Hourly Total  | 7                                 | 302  | 0      | 309        | 305                               | 22   | 0      | 327        | 15                              | 6    | 0      | 21         | 657        |
| 4:00 PM       | 0                                 | 76   | 0      | 76         | 91                                | 4    | 0      | 95         | 2                               | 0    | 0      | 2          | 173        |
| 4:15 PM       | 0                                 | 72   | 0      | 72         | 71                                | 6    | 0      | 77         | 6                               | 1    | 0      | 7          | 156        |
| 4:30 PM       | 1                                 | 101  | 0      | 102        | 71                                | 8    | 0      | 79         | 10                              | 1    | 0      | 11         | 192        |
| 4:45 PM       | 2                                 | 68   | 0      | 70         | 89                                | 6    | 0      | 95         | 2                               | 0    | 0      | 2          | 167        |
| Hourly Total  | 3                                 | 317  | 0      | 320        | 322                               | 24   | 0      | 346        | 20                              | 2    | 0      | 22         | 688        |
| 5:00 PM       | 0                                 | 74   | 0      | 74         | 102                               | 7    | 0      | 109        | 5                               | 1    | 0      | 6          | 189        |
| 5:15 PM       | 2                                 | 73   | 0      | 75         | 85                                | 7    | 0      | 92         | 4                               | 0    | 0      | 4          | 171        |
| 5:30 PM       | 3                                 | 64   | 0      | 67         | 60                                | 6    | 0      | 66         | 5                               | 1    | 0      | 6          | 139        |
| 5:45 PM       | 2                                 | 70   | 0      | 72         | 54                                | 2    | 0      | 56         | 9                               | 0    | 0      | 9          | 137        |
| Hourly Total  | 7                                 | 281  | 0      | 288        | 301                               | 22   | 0      | 323        | 23                              | 2    | 0      | 25         | 636        |



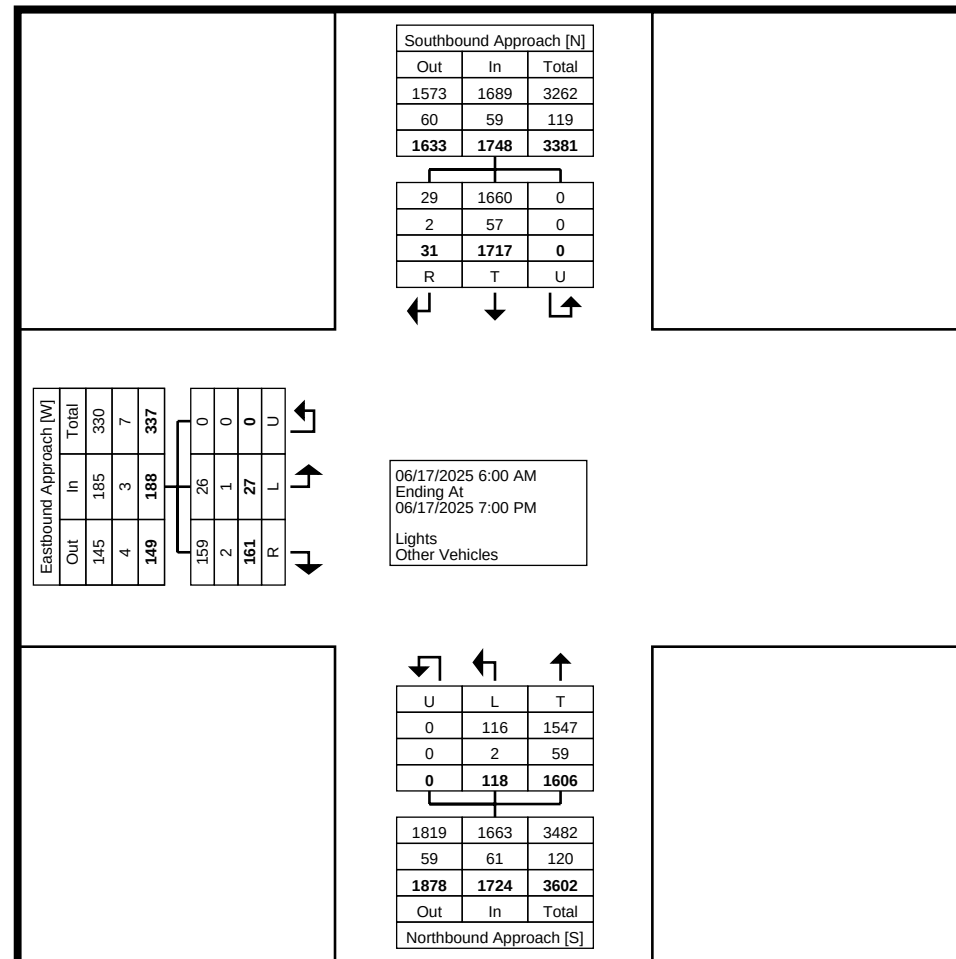
|                  |      |      |     |      |      |      |     |      |      |      |     |      |      |
|------------------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|
| 6:00 PM          | 1    | 43   | 0   | 44   | 51   | 1    | 0   | 52   | 5    | 0    | 0   | 5    | 101  |
| 6:15 PM          | 1    | 33   | 0   | 34   | 44   | 4    | 0   | 48   | 2    | 3    | 0   | 5    | 87   |
| 6:30 PM          | 0    | 33   | 0   | 33   | 42   | 5    | 0   | 47   | 8    | 1    | 0   | 9    | 89   |
| 6:45 PM          | 2    | 36   | 0   | 38   | 32   | 5    | 0   | 37   | 3    | 0    | 0   | 3    | 78   |
| Hourly Total     | 4    | 145  | 0   | 149  | 169  | 15   | 0   | 184  | 18   | 4    | 0   | 22   | 355  |
| Grand Total      | 31   | 1717 | 0   | 1748 | 1606 | 118  | 0   | 1724 | 161  | 27   | 0   | 188  | 3660 |
| Approach %       | 1.8  | 98.2 | 0.0 | -    | 93.2 | 6.8  | 0.0 | -    | 85.6 | 14.4 | 0.0 | -    | -    |
| Total %          | 0.8  | 46.9 | 0.0 | 47.8 | 43.9 | 3.2  | 0.0 | 47.1 | 4.4  | 0.7  | 0.0 | 5.1  | -    |
| Lights           | 29   | 1660 | 0   | 1689 | 1547 | 116  | 0   | 1663 | 159  | 26   | 0   | 185  | 3537 |
| % Lights         | 93.5 | 96.7 | -   | 96.6 | 96.3 | 98.3 | -   | 96.5 | 98.8 | 96.3 | -   | 98.4 | 96.6 |
| Other Vehicles   | 2    | 57   | 0   | 59   | 59   | 2    | 0   | 61   | 2    | 1    | 0   | 3    | 123  |
| % Other Vehicles | 6.5  | 3.3  | -   | 3.4  | 3.7  | 1.7  | -   | 3.5  | 1.2  | 3.7  | -   | 1.6  | 3.4  |



Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Deerhurst  
Dr  
Site Code:  
Start Date: 06/17/2025  
Page No: 3



Turning Movement Data Plot



Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Deerhurst  
Dr  
Site Code:  
Start Date: 06/17/2025  
Page No: 4

### Turning Movement Peak Hour Data (7:30 AM)

| Start Time       | Southbound Approach<br>Southbound |       |        |            | Northbound Approach<br>Northbound |       |        |            | Eastbound Approach<br>Eastbound |       |        |            | Int. Total |
|------------------|-----------------------------------|-------|--------|------------|-----------------------------------|-------|--------|------------|---------------------------------|-------|--------|------------|------------|
|                  | Right                             | Thru  | U-Turn | App. Total | Thru                              | Left  | U-Turn | App. Total | Right                           | Left  | U-Turn | App. Total |            |
| 7:30 AM          | 1                                 | 58    | 0      | 59         | 39                                | 1     | 0      | 40         | 9                               | 2     | 0      | 11         | 110        |
| 7:45 AM          | 0                                 | 70    | 0      | 70         | 50                                | 3     | 0      | 53         | 3                               | 3     | 0      | 6          | 129        |
| 8:00 AM          | 1                                 | 49    | 0      | 50         | 35                                | 4     | 0      | 39         | 3                               | 0     | 0      | 3          | 92         |
| 8:15 AM          | 0                                 | 44    | 0      | 44         | 45                                | 3     | 0      | 48         | 8                               | 1     | 0      | 9          | 101        |
| Total            | 2                                 | 221   | 0      | 223        | 169                               | 11    | 0      | 180        | 23                              | 6     | 0      | 29         | 432        |
| Approach %       | 0.9                               | 99.1  | 0.0    | -          | 93.9                              | 6.1   | 0.0    | -          | 79.3                            | 20.7  | 0.0    | -          | -          |
| Total %          | 0.5                               | 51.2  | 0.0    | 51.6       | 39.1                              | 2.5   | 0.0    | 41.7       | 5.3                             | 1.4   | 0.0    | 6.7        | -          |
| PHF              | 0.500                             | 0.789 | 0.000  | 0.796      | 0.845                             | 0.688 | 0.000  | 0.849      | 0.639                           | 0.500 | 0.000  | 0.659      | 0.837      |
| Lights           | 1                                 | 209   | 0      | 210        | 160                               | 10    | 0      | 170        | 22                              | 6     | 0      | 28         | 408        |
| % Lights         | 50.0                              | 94.6  | -      | 94.2       | 94.7                              | 90.9  | -      | 94.4       | 95.7                            | 100.0 | -      | 96.6       | 94.4       |
| Other Vehicles   | 1                                 | 12    | 0      | 13         | 9                                 | 1     | 0      | 10         | 1                               | 0     | 0      | 1          | 24         |
| % Other Vehicles | 50.0                              | 5.4   | -      | 5.8        | 5.3                               | 9.1   | -      | 5.6        | 4.3                             | 0.0   | -      | 3.4        | 5.6        |

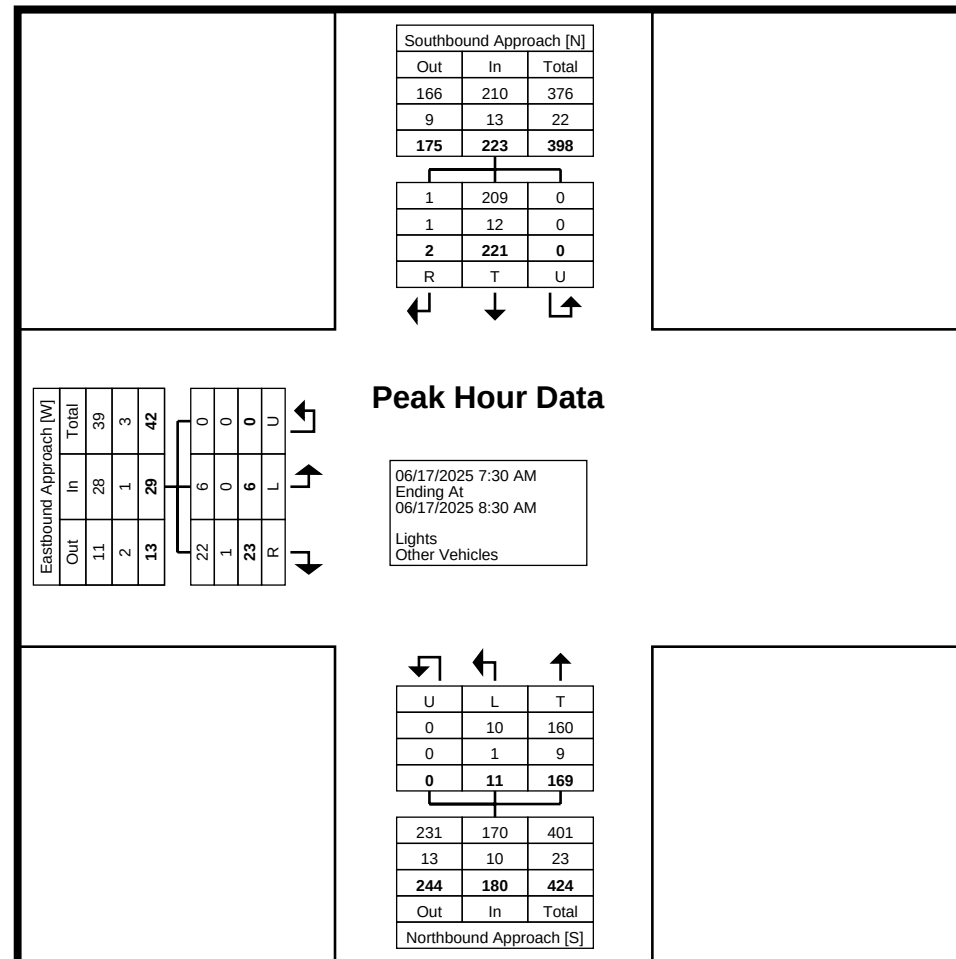




Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@mannaiksmithgroup.com

Count Name: S. Brown School Rd & Deerhurst  
Dr  
Site Code:  
Start Date: 06/17/2025  
Page No: 5



Turning Movement Peak Hour Data Plot (7:30 AM)



Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Deerhurst  
Dr  
Site Code:  
Start Date: 06/17/2025  
Page No: 6

### Turning Movement Peak Hour Data (4:30 PM)

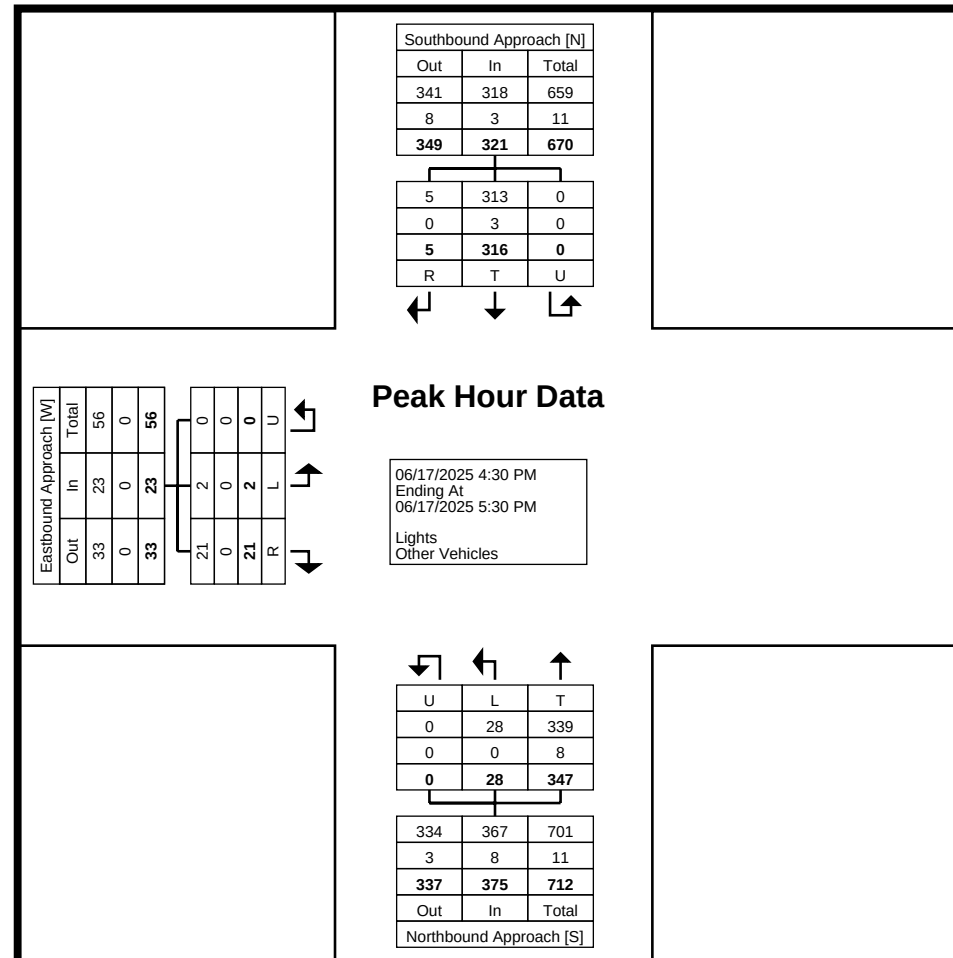
| Start Time       | Southbound Approach<br>Southbound |       |        |            | Northbound Approach<br>Northbound |       |        |            | Eastbound Approach<br>Eastbound |       |        |            | Int. Total |
|------------------|-----------------------------------|-------|--------|------------|-----------------------------------|-------|--------|------------|---------------------------------|-------|--------|------------|------------|
|                  | Right                             | Thru  | U-Turn | App. Total | Thru                              | Left  | U-Turn | App. Total | Right                           | Left  | U-Turn | App. Total |            |
| 4:30 PM          | 1                                 | 101   | 0      | 102        | 71                                | 8     | 0      | 79         | 10                              | 1     | 0      | 11         | 192        |
| 4:45 PM          | 2                                 | 68    | 0      | 70         | 89                                | 6     | 0      | 95         | 2                               | 0     | 0      | 2          | 167        |
| 5:00 PM          | 0                                 | 74    | 0      | 74         | 102                               | 7     | 0      | 109        | 5                               | 1     | 0      | 6          | 189        |
| 5:15 PM          | 2                                 | 73    | 0      | 75         | 85                                | 7     | 0      | 92         | 4                               | 0     | 0      | 4          | 171        |
| Total            | 5                                 | 316   | 0      | 321        | 347                               | 28    | 0      | 375        | 21                              | 2     | 0      | 23         | 719        |
| Approach %       | 1.6                               | 98.4  | 0.0    | -          | 92.5                              | 7.5   | 0.0    | -          | 91.3                            | 8.7   | 0.0    | -          | -          |
| Total %          | 0.7                               | 43.9  | 0.0    | 44.6       | 48.3                              | 3.9   | 0.0    | 52.2       | 2.9                             | 0.3   | 0.0    | 3.2        | -          |
| PHF              | 0.625                             | 0.782 | 0.000  | 0.787      | 0.850                             | 0.875 | 0.000  | 0.860      | 0.525                           | 0.500 | 0.000  | 0.523      | 0.936      |
| Lights           | 5                                 | 313   | 0      | 318        | 339                               | 28    | 0      | 367        | 21                              | 2     | 0      | 23         | 708        |
| % Lights         | 100.0                             | 99.1  | -      | 99.1       | 97.7                              | 100.0 | -      | 97.9       | 100.0                           | 100.0 | -      | 100.0      | 98.5       |
| Other Vehicles   | 0                                 | 3     | 0      | 3          | 8                                 | 0     | 0      | 8          | 0                               | 0     | 0      | 0          | 11         |
| % Other Vehicles | 0.0                               | 0.9   | -      | 0.9        | 2.3                               | 0.0   | -      | 2.1        | 0.0                             | 0.0   | -      | 0.0        | 1.5        |



Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@mannaiksmithgroup.com

Count Name: S. Brown School Rd & Deerhurst  
Dr  
Site Code:  
Start Date: 06/17/2025  
Page No: 7



Turning Movement Peak Hour Data Plot (4:30 PM)





Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Foxfire Trail  
Site Code:  
Start Date: 06/17/2025  
Page No: 1

## Turning Movement Data

| Start Time    | Southbound Approach<br>Southbound |      |        |            | Northbound Approach<br>Northbound |      |        |            | Eastbound Approach<br>Eastbound |      |        |            | Int. Total |
|---------------|-----------------------------------|------|--------|------------|-----------------------------------|------|--------|------------|---------------------------------|------|--------|------------|------------|
|               | Right                             | Thru | U-Turn | App. Total | Thru                              | Left | U-Turn | App. Total | Right                           | Left | U-Turn | App. Total |            |
| 6:00 AM       | 0                                 | 11   | 0      | 11         | 12                                | 0    | 0      | 12         | 0                               | 0    | 0      | 0          | 23         |
| 6:15 AM       | 0                                 | 27   | 0      | 27         | 18                                | 0    | 0      | 18         | 1                               | 0    | 0      | 1          | 46         |
| 6:30 AM       | 0                                 | 41   | 0      | 41         | 23                                | 0    | 0      | 23         | 1                               | 0    | 0      | 1          | 65         |
| 6:45 AM       | 1                                 | 46   | 0      | 47         | 53                                | 0    | 0      | 53         | 1                               | 3    | 0      | 4          | 104        |
| Hourly Total  | 1                                 | 125  | 0      | 126        | 106                               | 0    | 0      | 106        | 3                               | 3    | 0      | 6          | 238        |
| 7:00 AM       | 0                                 | 49   | 0      | 49         | 21                                | 0    | 0      | 21         | 0                               | 0    | 0      | 0          | 70         |
| 7:15 AM       | 2                                 | 57   | 0      | 59         | 31                                | 1    | 0      | 32         | 0                               | 2    | 0      | 2          | 93         |
| 7:30 AM       | 1                                 | 55   | 0      | 56         | 42                                | 0    | 0      | 42         | 4                               | 2    | 0      | 6          | 104        |
| 7:45 AM       | 0                                 | 70   | 0      | 70         | 53                                | 1    | 0      | 54         | 2                               | 1    | 0      | 3          | 127        |
| Hourly Total  | 3                                 | 231  | 0      | 234        | 147                               | 2    | 0      | 149        | 6                               | 5    | 0      | 11         | 394        |
| 8:00 AM       | 0                                 | 50   | 0      | 50         | 34                                | 0    | 0      | 34         | 0                               | 1    | 0      | 1          | 85         |
| 8:15 AM       | 0                                 | 43   | 0      | 43         | 45                                | 0    | 0      | 45         | 2                               | 3    | 0      | 5          | 93         |
| 8:30 AM       | 0                                 | 36   | 0      | 36         | 30                                | 0    | 0      | 30         | 1                               | 0    | 0      | 1          | 67         |
| 8:45 AM       | 0                                 | 48   | 0      | 48         | 34                                | 0    | 0      | 34         | 3                               | 1    | 0      | 4          | 86         |
| Hourly Total  | 0                                 | 177  | 0      | 177        | 143                               | 0    | 0      | 143        | 6                               | 5    | 0      | 11         | 331        |
| 9:00 AM       | 0                                 | 30   | 0      | 30         | 30                                | 0    | 0      | 30         | 3                               | 1    | 0      | 4          | 64         |
| 9:15 AM       | 0                                 | 32   | 0      | 32         | 27                                | 0    | 0      | 27         | 0                               | 2    | 0      | 2          | 61         |
| 9:30 AM       | 1                                 | 30   | 0      | 31         | 29                                | 3    | 0      | 32         | 1                               | 0    | 0      | 1          | 64         |
| 9:45 AM       | 0                                 | 41   | 0      | 41         | 33                                | 1    | 1      | 35         | 1                               | 1    | 0      | 2          | 78         |
| Hourly Total  | 1                                 | 133  | 0      | 134        | 119                               | 4    | 1      | 124        | 5                               | 4    | 0      | 9          | 267        |
| *** BREAK *** | -                                 | -    | -      | -          | -                                 | -    | -      | -          | -                               | -    | -      | -          | -          |
| 3:00 PM       | 2                                 | 58   | 0      | 60         | 85                                | 5    | 0      | 90         | 2                               | 0    | 0      | 2          | 152        |
| 3:15 PM       | 2                                 | 72   | 0      | 74         | 55                                | 2    | 0      | 57         | 1                               | 1    | 0      | 2          | 133        |
| 3:30 PM       | 1                                 | 101  | 0      | 102        | 76                                | 1    | 0      | 77         | 1                               | 2    | 0      | 3          | 182        |
| 3:45 PM       | 2                                 | 72   | 0      | 74         | 85                                | 1    | 0      | 86         | 1                               | 2    | 0      | 3          | 163        |
| Hourly Total  | 7                                 | 303  | 0      | 310        | 301                               | 9    | 0      | 310        | 5                               | 5    | 0      | 10         | 630        |
| 4:00 PM       | 0                                 | 76   | 0      | 76         | 89                                | 2    | 0      | 91         | 1                               | 0    | 0      | 1          | 168        |
| 4:15 PM       | 0                                 | 71   | 0      | 71         | 69                                | 3    | 0      | 72         | 1                               | 1    | 0      | 2          | 145        |
| 4:30 PM       | 1                                 | 97   | 0      | 98         | 72                                | 1    | 0      | 73         | 3                               | 0    | 0      | 3          | 174        |
| 4:45 PM       | 2                                 | 69   | 0      | 71         | 86                                | 2    | 0      | 88         | 1                               | 0    | 0      | 1          | 160        |
| Hourly Total  | 3                                 | 313  | 0      | 316        | 316                               | 8    | 0      | 324        | 6                               | 1    | 0      | 7          | 647        |
| 5:00 PM       | 3                                 | 71   | 0      | 74         | 99                                | 2    | 0      | 101        | 3                               | 1    | 0      | 4          | 179        |
| 5:15 PM       | 3                                 | 74   | 0      | 77         | 77                                | 4    | 0      | 81         | 1                               | 2    | 0      | 3          | 161        |
| 5:30 PM       | 1                                 | 65   | 0      | 66         | 57                                | 5    | 0      | 62         | 3                               | 2    | 0      | 5          | 133        |
| 5:45 PM       | 1                                 | 71   | 0      | 72         | 55                                | 0    | 0      | 55         | 2                               | 1    | 0      | 3          | 130        |
| Hourly Total  | 8                                 | 281  | 0      | 289        | 288                               | 11   | 0      | 299        | 9                               | 6    | 0      | 15         | 603        |

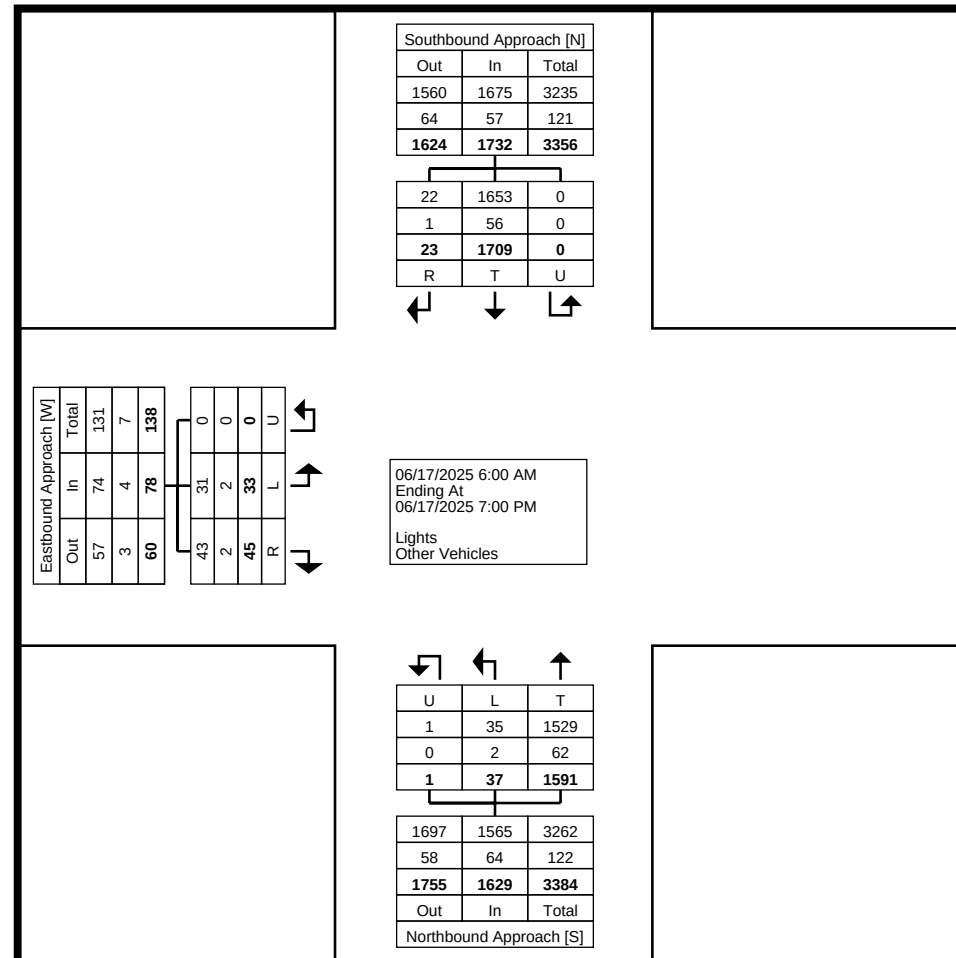
|                  |      |      |     |      |      |      |       |      |      |      |     |      |      |
|------------------|------|------|-----|------|------|------|-------|------|------|------|-----|------|------|
| 6:00 PM          | 0    | 42   | 0   | 42   | 51   | 0    | 0     | 51   | 2    | 0    | 0   | 2    | 95   |
| 6:15 PM          | 0    | 33   | 0   | 33   | 48   | 0    | 0     | 48   | 1    | 0    | 0   | 1    | 82   |
| 6:30 PM          | 0    | 32   | 0   | 32   | 41   | 2    | 0     | 43   | 1    | 4    | 0   | 5    | 80   |
| 6:45 PM          | 0    | 39   | 0   | 39   | 31   | 1    | 0     | 32   | 1    | 0    | 0   | 1    | 72   |
| Hourly Total     | 0    | 146  | 0   | 146  | 171  | 3    | 0     | 174  | 5    | 4    | 0   | 9    | 329  |
| Grand Total      | 23   | 1709 | 0   | 1732 | 1591 | 37   | 1     | 1629 | 45   | 33   | 0   | 78   | 3439 |
| Approach %       | 1.3  | 98.7 | 0.0 | -    | 97.7 | 2.3  | 0.1   | -    | 57.7 | 42.3 | 0.0 | -    | -    |
| Total %          | 0.7  | 49.7 | 0.0 | 50.4 | 46.3 | 1.1  | 0.0   | 47.4 | 1.3  | 1.0  | 0.0 | 2.3  | -    |
| Lights           | 22   | 1653 | 0   | 1675 | 1529 | 35   | 1     | 1565 | 43   | 31   | 0   | 74   | 3314 |
| % Lights         | 95.7 | 96.7 | -   | 96.7 | 96.1 | 94.6 | 100.0 | 96.1 | 95.6 | 93.9 | -   | 94.9 | 96.4 |
| Other Vehicles   | 1    | 56   | 0   | 57   | 62   | 2    | 0     | 64   | 2    | 2    | 0   | 4    | 125  |
| % Other Vehicles | 4.3  | 3.3  | -   | 3.3  | 3.9  | 5.4  | 0.0   | 3.9  | 4.4  | 6.1  | -   | 5.1  | 3.6  |



Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Foxfire Trail  
Site Code:  
Start Date: 06/17/2025  
Page No: 3



Turning Movement Data Plot





Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Foxfire Trail  
Site Code:  
Start Date: 06/17/2025  
Page No: 4

### Turning Movement Peak Hour Data (7:15 AM)

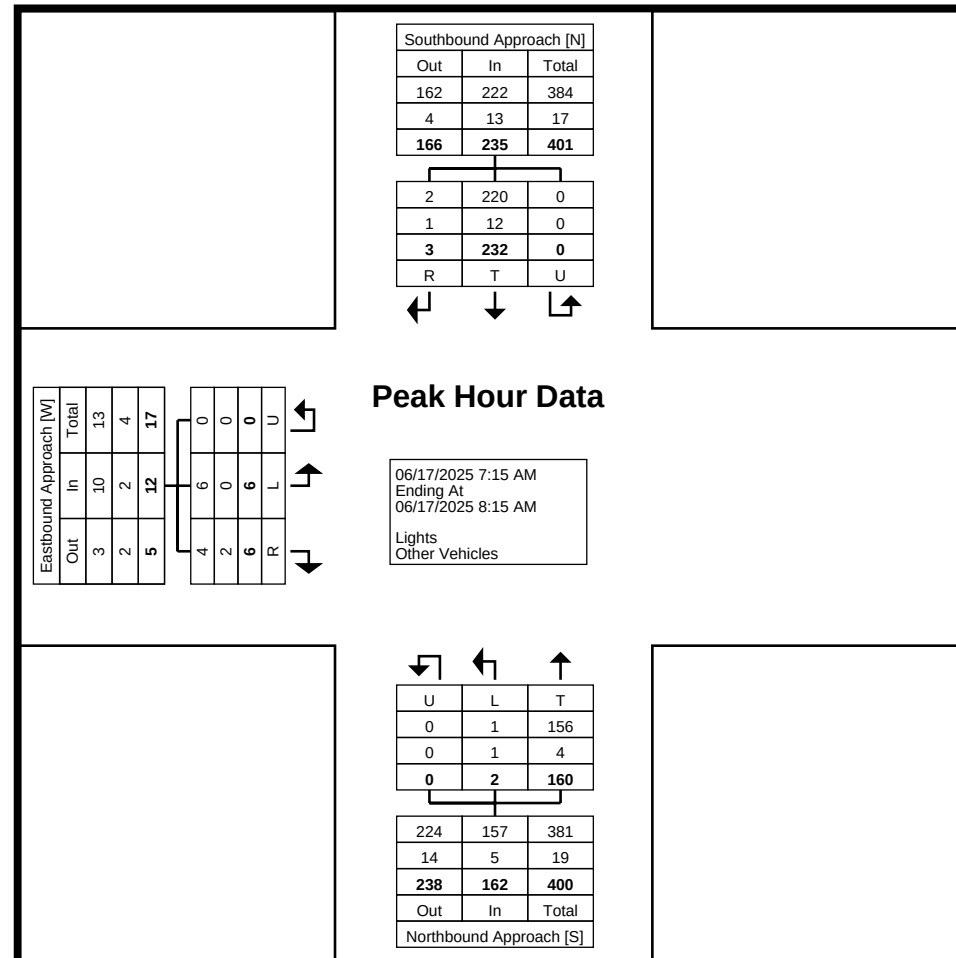
| Start Time       | Southbound Approach<br>Southbound |       |        |            | Northbound Approach<br>Northbound |       |        |            | Eastbound Approach<br>Eastbound |       |        |            | Int. Total |
|------------------|-----------------------------------|-------|--------|------------|-----------------------------------|-------|--------|------------|---------------------------------|-------|--------|------------|------------|
|                  | Right                             | Thru  | U-Turn | App. Total | Thru                              | Left  | U-Turn | App. Total | Right                           | Left  | U-Turn | App. Total |            |
| 7:15 AM          | 2                                 | 57    | 0      | 59         | 31                                | 1     | 0      | 32         | 0                               | 2     | 0      | 2          | 93         |
| 7:30 AM          | 1                                 | 55    | 0      | 56         | 42                                | 0     | 0      | 42         | 4                               | 2     | 0      | 6          | 104        |
| 7:45 AM          | 0                                 | 70    | 0      | 70         | 53                                | 1     | 0      | 54         | 2                               | 1     | 0      | 3          | 127        |
| 8:00 AM          | 0                                 | 50    | 0      | 50         | 34                                | 0     | 0      | 34         | 0                               | 1     | 0      | 1          | 85         |
| Total            | 3                                 | 232   | 0      | 235        | 160                               | 2     | 0      | 162        | 6                               | 6     | 0      | 12         | 409        |
| Approach %       | 1.3                               | 98.7  | 0.0    | -          | 98.8                              | 1.2   | 0.0    | -          | 50.0                            | 50.0  | 0.0    | -          | -          |
| Total %          | 0.7                               | 56.7  | 0.0    | 57.5       | 39.1                              | 0.5   | 0.0    | 39.6       | 1.5                             | 1.5   | 0.0    | 2.9        | -          |
| PHF              | 0.375                             | 0.829 | 0.000  | 0.839      | 0.755                             | 0.500 | 0.000  | 0.750      | 0.375                           | 0.750 | 0.000  | 0.500      | 0.805      |
| Lights           | 2                                 | 220   | 0      | 222        | 156                               | 1     | 0      | 157        | 4                               | 6     | 0      | 10         | 389        |
| % Lights         | 66.7                              | 94.8  | -      | 94.5       | 97.5                              | 50.0  | -      | 96.9       | 66.7                            | 100.0 | -      | 83.3       | 95.1       |
| Other Vehicles   | 1                                 | 12    | 0      | 13         | 4                                 | 1     | 0      | 5          | 2                               | 0     | 0      | 2          | 20         |
| % Other Vehicles | 33.3                              | 5.2   | -      | 5.5        | 2.5                               | 50.0  | -      | 3.1        | 33.3                            | 0.0   | -      | 16.7       | 4.9        |



Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@mannaiksmithgroup.com

Count Name: S. Brown School Rd & Foxfire Trail  
Site Code:  
Start Date: 06/17/2025  
Page No: 5



Turning Movement Peak Hour Data Plot (7:15 AM)



Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Foxfire Trail  
Site Code:  
Start Date: 06/17/2025  
Page No: 6

### Turning Movement Peak Hour Data (4:30 PM)

| Start Time       | Southbound Approach<br>Southbound |       |        |            | Northbound Approach<br>Northbound |       |        |            | Eastbound Approach<br>Eastbound |       |        |            | Int. Total |
|------------------|-----------------------------------|-------|--------|------------|-----------------------------------|-------|--------|------------|---------------------------------|-------|--------|------------|------------|
|                  | Right                             | Thru  | U-Turn | App. Total | Thru                              | Left  | U-Turn | App. Total | Right                           | Left  | U-Turn | App. Total |            |
| 4:30 PM          | 1                                 | 97    | 0      | 98         | 72                                | 1     | 0      | 73         | 3                               | 0     | 0      | 3          | 174        |
| 4:45 PM          | 2                                 | 69    | 0      | 71         | 86                                | 2     | 0      | 88         | 1                               | 0     | 0      | 1          | 160        |
| 5:00 PM          | 3                                 | 71    | 0      | 74         | 99                                | 2     | 0      | 101        | 3                               | 1     | 0      | 4          | 179        |
| 5:15 PM          | 3                                 | 74    | 0      | 77         | 77                                | 4     | 0      | 81         | 1                               | 2     | 0      | 3          | 161        |
| Total            | 9                                 | 311   | 0      | 320        | 334                               | 9     | 0      | 343        | 8                               | 3     | 0      | 11         | 674        |
| Approach %       | 2.8                               | 97.2  | 0.0    | -          | 97.4                              | 2.6   | 0.0    | -          | 72.7                            | 27.3  | 0.0    | -          | -          |
| Total %          | 1.3                               | 46.1  | 0.0    | 47.5       | 49.6                              | 1.3   | 0.0    | 50.9       | 1.2                             | 0.4   | 0.0    | 1.6        | -          |
| PHF              | 0.750                             | 0.802 | 0.000  | 0.816      | 0.843                             | 0.563 | 0.000  | 0.849      | 0.667                           | 0.375 | 0.000  | 0.688      | 0.941      |
| Lights           | 9                                 | 308   | 0      | 317        | 325                               | 9     | 0      | 334        | 8                               | 3     | 0      | 11         | 662        |
| % Lights         | 100.0                             | 99.0  | -      | 99.1       | 97.3                              | 100.0 | -      | 97.4       | 100.0                           | 100.0 | -      | 100.0      | 98.2       |
| Other Vehicles   | 0                                 | 3     | 0      | 3          | 9                                 | 0     | 0      | 9          | 0                               | 0     | 0      | 0          | 12         |
| % Other Vehicles | 0.0                               | 1.0   | -      | 0.9        | 2.7                               | 0.0   | -      | 2.6        | 0.0                             | 0.0   | -      | 0.0        | 1.8        |

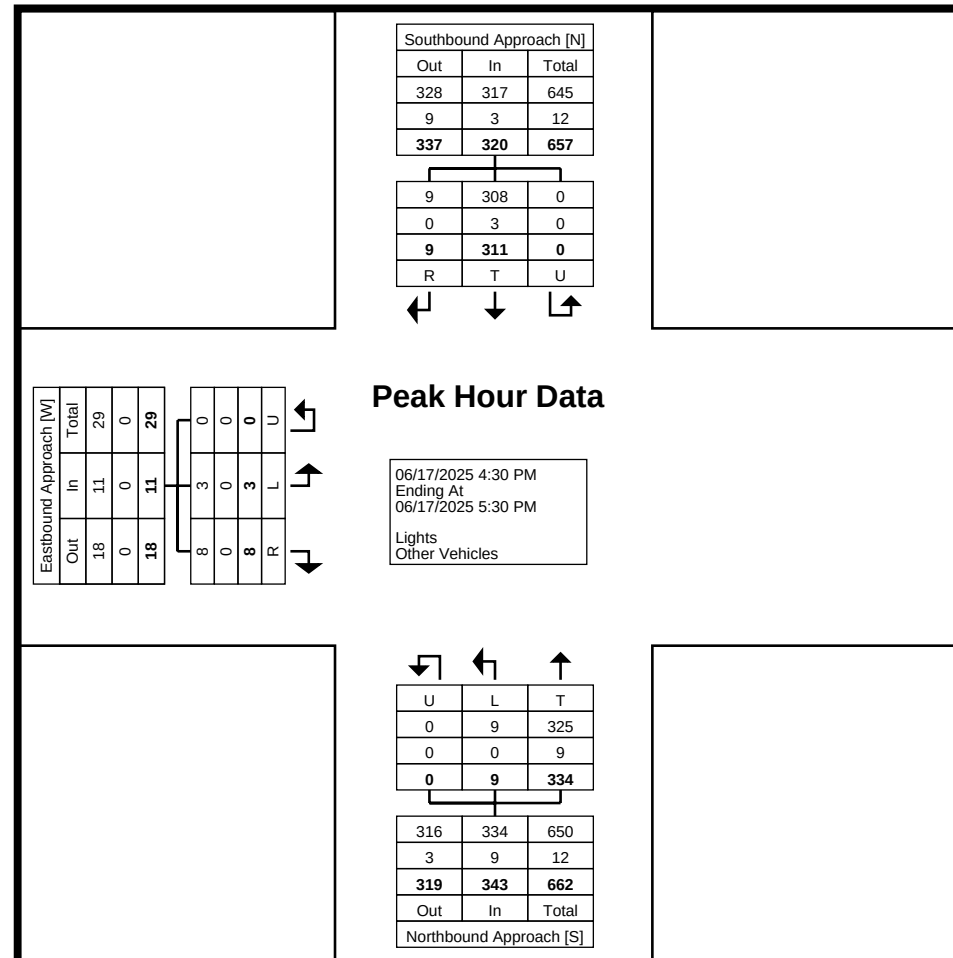




Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@mannaiksmithgroup.com

Count Name: S. Brown School Rd & Foxfire Trail  
Site Code:  
Start Date: 06/17/2025  
Page No: 7



Turning Movement Peak Hour Data Plot (4:30 PM)



Mannik & Smith Group (OH)  
1800 Indian Wood Circle  
Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Little York Rd  
Site Code:  
Start Date: 06/24/2025  
Page No: 1

## Turning Movement Data

| Start Time    | Southbound St.<br>Southbound |      |        |            | Westbound St.<br>Westbound |      |        |            | Eastbound St.<br>Eastbound |      |        |            | Int. Total |
|---------------|------------------------------|------|--------|------------|----------------------------|------|--------|------------|----------------------------|------|--------|------------|------------|
|               | Right                        | Left | U-Turn | App. Total | Right                      | Thru | U-Turn | App. Total | Thru                       | Left | U-Turn | App. Total |            |
| 6:00 AM       | 12                           | 6    | 0      | 18         | 9                          | 29   | 0      | 38         | 20                         | 8    | 0      | 28         | 84         |
| 6:15 AM       | 31                           | 6    | 0      | 37         | 12                         | 43   | 0      | 55         | 27                         | 12   | 0      | 39         | 131        |
| 6:30 AM       | 37                           | 14   | 0      | 51         | 12                         | 75   | 0      | 87         | 33                         | 12   | 0      | 45         | 183        |
| 6:45 AM       | 51                           | 11   | 0      | 62         | 26                         | 67   | 0      | 93         | 31                         | 28   | 0      | 59         | 214        |
| Hourly Total  | 131                          | 37   | 0      | 168        | 59                         | 214  | 0      | 273        | 111                        | 60   | 0      | 171        | 612        |
| 7:00 AM       | 32                           | 11   | 0      | 43         | 14                         | 59   | 0      | 73         | 42                         | 13   | 0      | 55         | 171        |
| 7:15 AM       | 51                           | 21   | 0      | 72         | 12                         | 79   | 0      | 91         | 38                         | 26   | 0      | 64         | 227        |
| 7:30 AM       | 55                           | 17   | 0      | 72         | 17                         | 75   | 0      | 92         | 58                         | 24   | 0      | 82         | 246        |
| 7:45 AM       | 48                           | 18   | 0      | 66         | 18                         | 103  | 0      | 121        | 59                         | 32   | 0      | 91         | 278        |
| Hourly Total  | 186                          | 67   | 0      | 253        | 61                         | 316  | 0      | 377        | 197                        | 95   | 0      | 292        | 922        |
| 8:00 AM       | 46                           | 17   | 0      | 63         | 9                          | 68   | 0      | 77         | 49                         | 15   | 0      | 64         | 204        |
| 8:15 AM       | 48                           | 19   | 0      | 67         | 16                         | 61   | 0      | 77         | 40                         | 26   | 0      | 66         | 210        |
| 8:30 AM       | 39                           | 13   | 0      | 52         | 16                         | 82   | 0      | 98         | 50                         | 20   | 0      | 70         | 220        |
| 8:45 AM       | 37                           | 13   | 0      | 50         | 11                         | 70   | 0      | 81         | 49                         | 25   | 0      | 74         | 205        |
| Hourly Total  | 170                          | 62   | 0      | 232        | 52                         | 281  | 0      | 333        | 188                        | 86   | 0      | 274        | 839        |
| 9:00 AM       | 42                           | 10   | 0      | 52         | 18                         | 52   | 0      | 70         | 63                         | 20   | 0      | 83         | 205        |
| 9:15 AM       | 29                           | 14   | 0      | 43         | 9                          | 63   | 0      | 72         | 57                         | 22   | 0      | 79         | 194        |
| 9:30 AM       | 33                           | 15   | 0      | 48         | 8                          | 54   | 0      | 62         | 51                         | 35   | 0      | 86         | 196        |
| 9:45 AM       | 36                           | 12   | 0      | 48         | 16                         | 53   | 0      | 69         | 57                         | 32   | 0      | 89         | 206        |
| Hourly Total  | 140                          | 51   | 0      | 191        | 51                         | 222  | 0      | 273        | 228                        | 109  | 0      | 337        | 801        |
| *** BREAK *** | -                            | -    | -      | -          | -                          | -    | -      | -          | -                          | -    | -      | -          | -          |
| 3:00 PM       | 51                           | 21   | 0      | 72         | 22                         | 87   | 0      | 109        | 129                        | 59   | 0      | 188        | 369        |
| 3:15 PM       | 43                           | 27   | 0      | 70         | 32                         | 89   | 0      | 121        | 96                         | 36   | 0      | 132        | 323        |
| 3:30 PM       | 68                           | 44   | 0      | 112        | 24                         | 89   | 0      | 113        | 130                        | 68   | 0      | 198        | 423        |
| 3:45 PM       | 60                           | 30   | 0      | 90         | 22                         | 93   | 0      | 115        | 115                        | 60   | 0      | 175        | 380        |
| Hourly Total  | 222                          | 122  | 0      | 344        | 100                        | 358  | 0      | 458        | 470                        | 223  | 0      | 693        | 1495       |
| 4:00 PM       | 50                           | 34   | 0      | 84         | 22                         | 105  | 0      | 127        | 129                        | 75   | 0      | 204        | 415        |
| 4:15 PM       | 51                           | 26   | 0      | 77         | 23                         | 108  | 0      | 131        | 103                        | 49   | 0      | 152        | 360        |
| 4:30 PM       | 71                           | 28   | 0      | 99         | 28                         | 113  | 0      | 141        | 128                        | 59   | 0      | 187        | 427        |
| 4:45 PM       | 36                           | 30   | 0      | 66         | 30                         | 104  | 0      | 134        | 123                        | 64   | 0      | 187        | 387        |
| Hourly Total  | 208                          | 118  | 0      | 326        | 103                        | 430  | 0      | 533        | 483                        | 247  | 0      | 730        | 1589       |
| 5:00 PM       | 59                           | 23   | 0      | 82         | 24                         | 120  | 0      | 144        | 159                        | 83   | 0      | 242        | 468        |
| 5:15 PM       | 46                           | 34   | 0      | 80         | 29                         | 110  | 0      | 139        | 106                        | 62   | 0      | 168        | 387        |
| 5:30 PM       | 43                           | 26   | 0      | 69         | 27                         | 111  | 0      | 138        | 99                         | 57   | 0      | 156        | 363        |
| 5:45 PM       | 48                           | 36   | 0      | 84         | 21                         | 98   | 0      | 119        | 115                        | 39   | 0      | 154        | 357        |
| Hourly Total  | 196                          | 119  | 0      | 315        | 101                        | 439  | 0      | 540        | 479                        | 241  | 0      | 720        | 1575       |

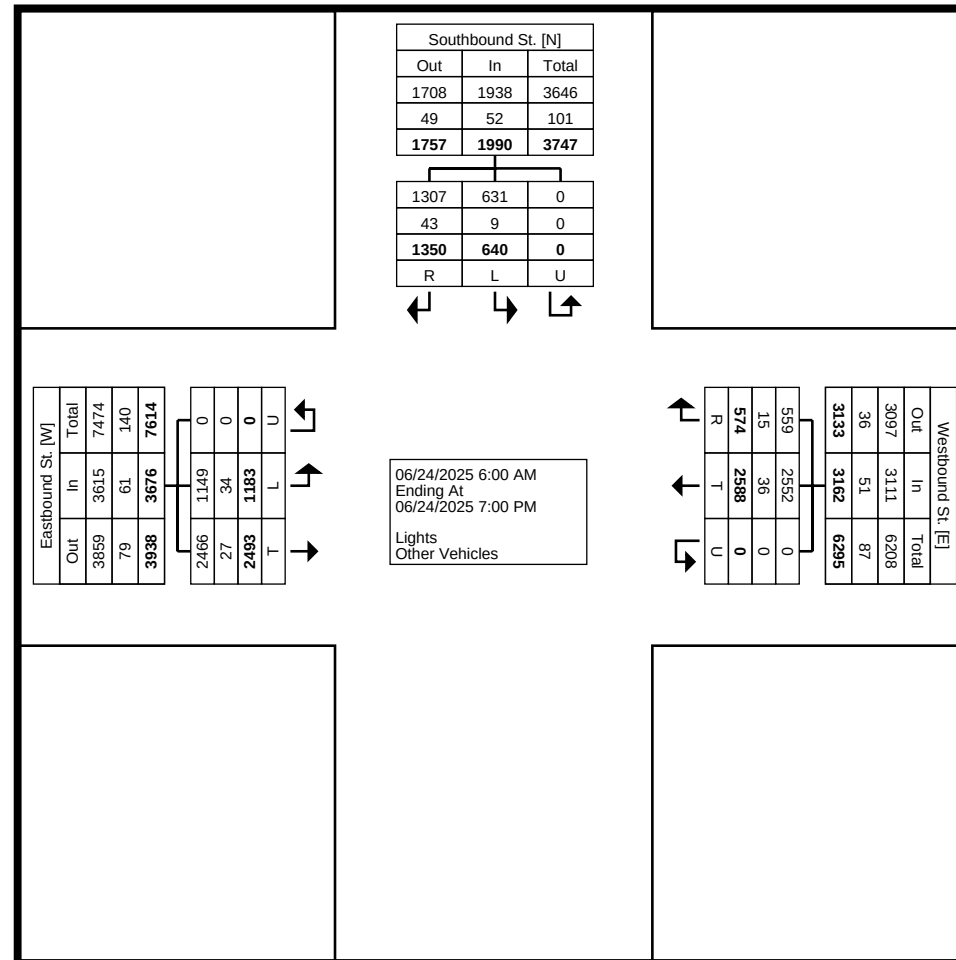
|                  |      |      |     |      |      |      |     |      |      |      |     |      |      |
|------------------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|
| 6:00 PM          | 26   | 18   | 0   | 44   | 8    | 82   | 0   | 90   | 87   | 33   | 0   | 120  | 254  |
| 6:15 PM          | 21   | 13   | 0   | 34   | 11   | 89   | 0   | 100  | 89   | 31   | 0   | 120  | 254  |
| 6:30 PM          | 26   | 17   | 0   | 43   | 19   | 86   | 0   | 105  | 92   | 30   | 0   | 122  | 270  |
| 6:45 PM          | 24   | 16   | 0   | 40   | 9    | 71   | 0   | 80   | 69   | 28   | 0   | 97   | 217  |
| Hourly Total     | 97   | 64   | 0   | 161  | 47   | 328  | 0   | 375  | 337  | 122  | 0   | 459  | 995  |
| Grand Total      | 1350 | 640  | 0   | 1990 | 574  | 2588 | 0   | 3162 | 2493 | 1183 | 0   | 3676 | 8828 |
| Approach %       | 67.8 | 32.2 | 0.0 | -    | 18.2 | 81.8 | 0.0 | -    | 67.8 | 32.2 | 0.0 | -    | -    |
| Total %          | 15.3 | 7.2  | 0.0 | 22.5 | 6.5  | 29.3 | 0.0 | 35.8 | 28.2 | 13.4 | 0.0 | 41.6 | -    |
| Lights           | 1307 | 631  | 0   | 1938 | 559  | 2552 | 0   | 3111 | 2466 | 1149 | 0   | 3615 | 8664 |
| % Lights         | 96.8 | 98.6 | -   | 97.4 | 97.4 | 98.6 | -   | 98.4 | 98.9 | 97.1 | -   | 98.3 | 98.1 |
| Other Vehicles   | 43   | 9    | 0   | 52   | 15   | 36   | 0   | 51   | 27   | 34   | 0   | 61   | 164  |
| % Other Vehicles | 3.2  | 1.4  | -   | 2.6  | 2.6  | 1.4  | -   | 1.6  | 1.1  | 2.9  | -   | 1.7  | 1.9  |



Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Little York Rd  
Site Code:  
Start Date: 06/24/2025  
Page No: 3



Turning Movement Data Plot





Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Little York Rd  
Site Code:  
Start Date: 06/24/2025  
Page No: 4

### Turning Movement Peak Hour Data (7:15 AM)

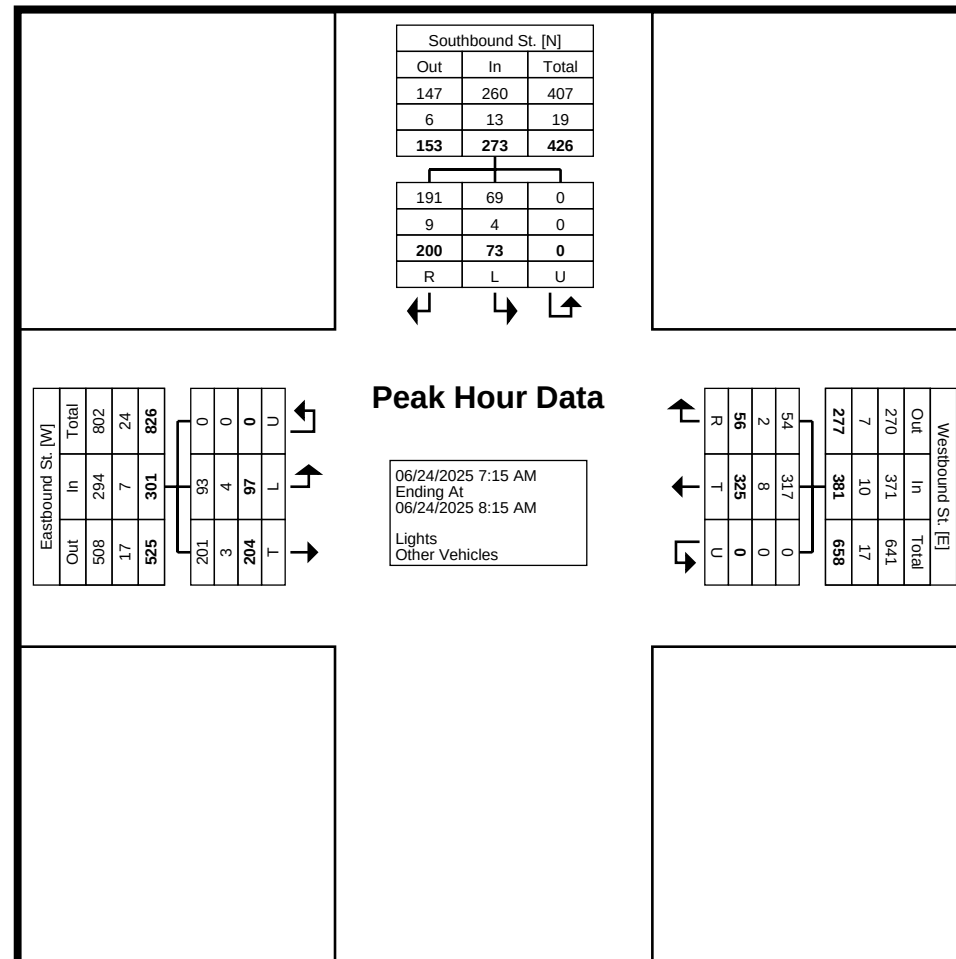
| Start Time       | Southbound St.<br>Southbound |       |        |            | Westbound St.<br>Westbound |       |        |            | Eastbound St.<br>Eastbound |       |        |            | Int. Total |
|------------------|------------------------------|-------|--------|------------|----------------------------|-------|--------|------------|----------------------------|-------|--------|------------|------------|
|                  | Right                        | Left  | U-Turn | App. Total | Right                      | Thru  | U-Turn | App. Total | Thru                       | Left  | U-Turn | App. Total |            |
| 7:15 AM          | 51                           | 21    | 0      | 72         | 12                         | 79    | 0      | 91         | 38                         | 26    | 0      | 64         | 227        |
| 7:30 AM          | 55                           | 17    | 0      | 72         | 17                         | 75    | 0      | 92         | 58                         | 24    | 0      | 82         | 246        |
| 7:45 AM          | 48                           | 18    | 0      | 66         | 18                         | 103   | 0      | 121        | 59                         | 32    | 0      | 91         | 278        |
| 8:00 AM          | 46                           | 17    | 0      | 63         | 9                          | 68    | 0      | 77         | 49                         | 15    | 0      | 64         | 204        |
| Total            | 200                          | 73    | 0      | 273        | 56                         | 325   | 0      | 381        | 204                        | 97    | 0      | 301        | 955        |
| Approach %       | 73.3                         | 26.7  | 0.0    | -          | 14.7                       | 85.3  | 0.0    | -          | 67.8                       | 32.2  | 0.0    | -          | -          |
| Total %          | 20.9                         | 7.6   | 0.0    | 28.6       | 5.9                        | 34.0  | 0.0    | 39.9       | 21.4                       | 10.2  | 0.0    | 31.5       | -          |
| PHF              | 0.909                        | 0.869 | 0.000  | 0.948      | 0.778                      | 0.789 | 0.000  | 0.787      | 0.864                      | 0.758 | 0.000  | 0.827      | 0.859      |
| Lights           | 191                          | 69    | 0      | 260        | 54                         | 317   | 0      | 371        | 201                        | 93    | 0      | 294        | 925        |
| % Lights         | 95.5                         | 94.5  | -      | 95.2       | 96.4                       | 97.5  | -      | 97.4       | 98.5                       | 95.9  | -      | 97.7       | 96.9       |
| Other Vehicles   | 9                            | 4     | 0      | 13         | 2                          | 8     | 0      | 10         | 3                          | 4     | 0      | 7          | 30         |
| % Other Vehicles | 4.5                          | 5.5   | -      | 4.8        | 3.6                        | 2.5   | -      | 2.6        | 1.5                        | 4.1   | -      | 2.3        | 3.1        |



Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Little York Rd  
Site Code:  
Start Date: 06/24/2025  
Page No: 5



Turning Movement Peak Hour Data Plot (7:15 AM)



Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Little York Rd  
Site Code:  
Start Date: 06/24/2025  
Page No: 6

### Turning Movement Peak Hour Data (4:30 PM)

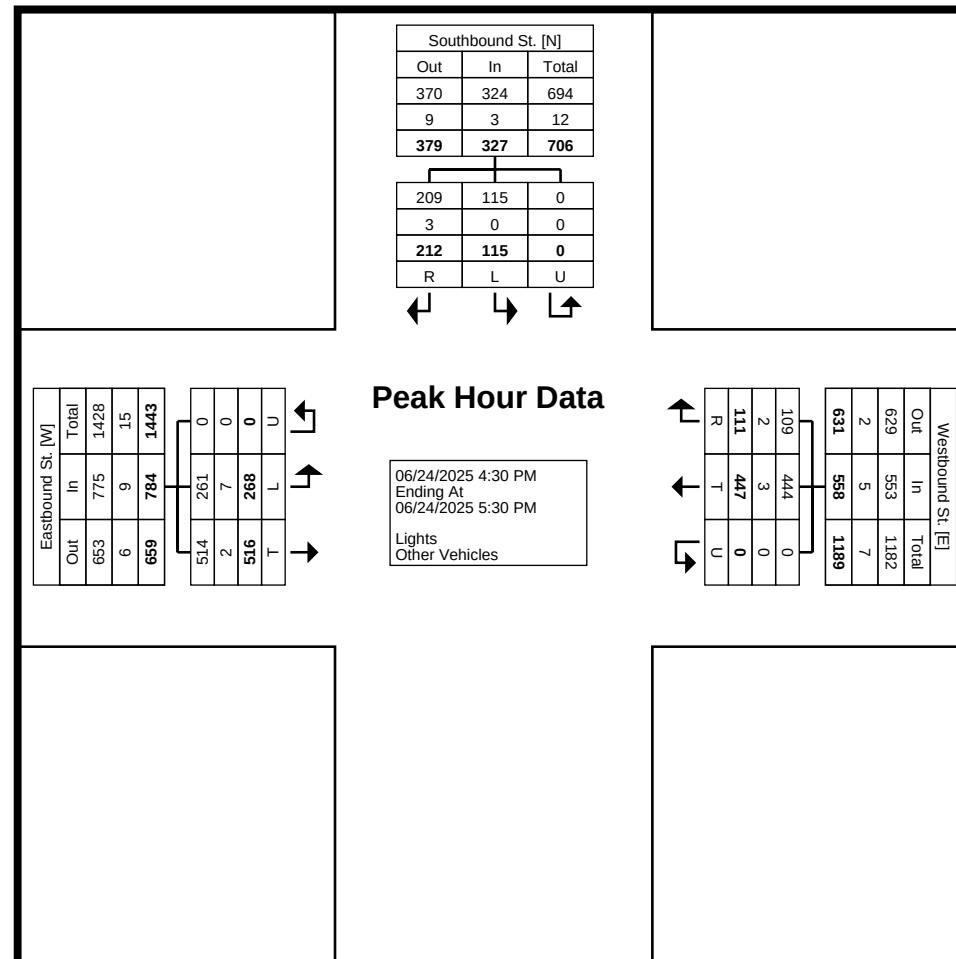
| Start Time       | Southbound St.<br>Southbound |       |        |            | Westbound St.<br>Westbound |       |        |            | Eastbound St.<br>Eastbound |       |        |            | Int. Total |
|------------------|------------------------------|-------|--------|------------|----------------------------|-------|--------|------------|----------------------------|-------|--------|------------|------------|
|                  | Right                        | Left  | U-Turn | App. Total | Right                      | Thru  | U-Turn | App. Total | Thru                       | Left  | U-Turn | App. Total |            |
| 4:30 PM          | 71                           | 28    | 0      | 99         | 28                         | 113   | 0      | 141        | 128                        | 59    | 0      | 187        | 427        |
| 4:45 PM          | 36                           | 30    | 0      | 66         | 30                         | 104   | 0      | 134        | 123                        | 64    | 0      | 187        | 387        |
| 5:00 PM          | 59                           | 23    | 0      | 82         | 24                         | 120   | 0      | 144        | 159                        | 83    | 0      | 242        | 468        |
| 5:15 PM          | 46                           | 34    | 0      | 80         | 29                         | 110   | 0      | 139        | 106                        | 62    | 0      | 168        | 387        |
| Total            | 212                          | 115   | 0      | 327        | 111                        | 447   | 0      | 558        | 516                        | 268   | 0      | 784        | 1669       |
| Approach %       | 64.8                         | 35.2  | 0.0    | -          | 19.9                       | 80.1  | 0.0    | -          | 65.8                       | 34.2  | 0.0    | -          | -          |
| Total %          | 12.7                         | 6.9   | 0.0    | 19.6       | 6.7                        | 26.8  | 0.0    | 33.4       | 30.9                       | 16.1  | 0.0    | 47.0       | -          |
| PHF              | 0.746                        | 0.846 | 0.000  | 0.826      | 0.925                      | 0.931 | 0.000  | 0.969      | 0.811                      | 0.807 | 0.000  | 0.810      | 0.892      |
| Lights           | 209                          | 115   | 0      | 324        | 109                        | 444   | 0      | 553        | 514                        | 261   | 0      | 775        | 1652       |
| % Lights         | 98.6                         | 100.0 | -      | 99.1       | 98.2                       | 99.3  | -      | 99.1       | 99.6                       | 97.4  | -      | 98.9       | 99.0       |
| Other Vehicles   | 3                            | 0     | 0      | 3          | 2                          | 3     | 0      | 5          | 2                          | 7     | 0      | 9          | 17         |
| % Other Vehicles | 1.4                          | 0.0   | -      | 0.9        | 1.8                        | 0.7   | -      | 0.9        | 0.4                        | 2.6   | -      | 1.1        | 1.0        |



Mannik & Smith Group (OH)  
1800 Indian Wood Circle

Maumee, Ohio, United States 43537  
(419) 891-2222 kball@manniksmithgroup.com

Count Name: S. Brown School Rd & Little York Rd  
Site Code:  
Start Date: 06/24/2025  
Page No: 7



Turning Movement Peak Hour Data Plot (4:30 PM)



APPENDIX B  
GROWTH RATE AND TRAFFIC FIGURES



**From:** [Ramirez, Ana](#)  
**To:** [Eric Pfenning](#)  
**Cc:** [Kris D. Ball](#); [Benjamin Branham](#)  
**Subject:** RE: Request for background traffic growth rate ~ South Brown School Road, Vandalia Ohio  
**Date:** Monday, June 16, 2025 2:45:42 PM  
**Attachments:** [image002.png](#)  
[image003.png](#)

---

**This Message is from an external sender.**

---



Hi Eric,

I did not see the intersections earlier but after reviewing you can also use 1.05 for Little York and National Roads. The other 2 local streets are not included in our model network.

Ana

---

**From:** Eric Pfenning <epfenning@manniksmithgroup.com>  
**Sent:** Monday, June 16, 2025 1:59 PM  
**To:** Ramirez, Ana <ARamirez@mvrpc.org>  
**Cc:** Kris D. Ball <KBall@manniksmithgroup.com>; Benjamin Branham <BBranham@manniksmithgroup.com>  
**Subject:** RE: Request for background traffic growth rate ~ South Brown School Road, Vandalia Ohio

Ana,

Thank you for this information. As you can see in the study area snapshot of Google Earth I provided below, there are a total of 4 intersection traffic count locations we plan to count and study. Would there be growth rates for the side streets as well? That would be on the sides streets of South Brown School Road and: 1) US 40, 2) Foxfire Trail, 3) Deerhurst Drive and 4) Little York Road

Thank you in advance.

Respectfully,  
Eric R. Pfenning, P.E., P.S.  
Senior Traffic & Planning Engineer

**The Mannik & Smith Group, Inc.**  
567-356-7192 (cell)



---

**From:** Ramirez, Ana <[ARamirez@mvrpc.org](mailto:ARamirez@mvrpc.org)>  
**Sent:** Monday, June 16, 2025 10:55 AM  
**To:** Eric Pfenning <[epfenning@manniksmithgroup.com](mailto:epfenning@manniksmithgroup.com)>  
**Cc:** Kris D. Ball <[KBall@manniksmithgroup.com](mailto:KBall@manniksmithgroup.com)>; Benjamin Branham <[BBranham@manniksmithgroup.com](mailto:BBranham@manniksmithgroup.com)>  
**Subject:** RE: Request for background traffic growth rate ~ South Brown School Road, Vandalia Ohio

**This Message is from an external sender.**

---

Eric,

Based on travel demand model runs between 2020 and 2050, the growth factor for Brown School Road is quite low at 1.05; 2050 AADT=1.05\* 2020 AADT. You can interpolate any other year using a linear growth assumption.

Hope this helps and let me know if you need anything else,

Ana

---

**From:** Eric Pfenning <[epfenning@manniksmithgroup.com](mailto:epfenning@manniksmithgroup.com)>  
**Sent:** Friday, June 13, 2025 11:26 AM  
**To:** Ramirez, Ana <[ARamirez@mvrpc.org](mailto:ARamirez@mvrpc.org)>  
**Cc:** Kris D. Ball <[KBall@manniksmithgroup.com](mailto:KBall@manniksmithgroup.com)>; Benjamin Branham <[BBranham@manniksmithgroup.com](mailto:BBranham@manniksmithgroup.com)>  
**Subject:** RE: Request for background traffic growth rate ~ South Brown School Road, Vandalia Ohio

Thank you Ana, we will most certainly provided you with the traffic counts once we collect and process. Please then consider this as our formal request for a background traffic growth rate for the subject development site. Assuming as you indicated a request of this nature takes approximately 2 to 3 days to process through your office, can we look forward to a response sometime next week?

Respectfully,  
Eric R. Pfenning, P.E., P.S.  
Senior Traffic & Planning Engineer

**The Mannik & Smith Group, Inc.**  
567-356-7192 (cell)

[www.MannikSmithGroup.com](http://www.MannikSmithGroup.com)



---

**From:** Ramirez, Ana <[ARamirez@mvrpc.org](mailto:ARamirez@mvrpc.org)>  
**Sent:** Friday, June 13, 2025 10:39 AM  
**To:** Eric Pfenning <[epfenning@manniksmithgroup.com](mailto:epfenning@manniksmithgroup.com)>  
**Cc:** Kris D. Ball <[KBall@manniksmithgroup.com](mailto:KBall@manniksmithgroup.com)>; Benjamin Branham <[BBranham@manniksmithgroup.com](mailto:BBranham@manniksmithgroup.com)>  
**Subject:** RE: Request for background traffic growth rate ~ South Brown School Road, Vandalia Ohio

**This Message is from an external sender.**

---

Hi Eric,

Thanks for the additional information. For clarification, we do not require traffic counts to provide background traffic but it is nice to have when available, you can provide counts in any format.

Ana

---

**From:** Eric Pfenning <[epfenning@manniksmithgroup.com](mailto:epfenning@manniksmithgroup.com)>  
**Sent:** Friday, June 13, 2025 10:32 AM  
**To:** Ramirez, Ana <[ARamirez@mvrpc.org](mailto:ARamirez@mvrpc.org)>  
**Cc:** Kris D. Ball <[KBall@manniksmithgroup.com](mailto:KBall@manniksmithgroup.com)>; Benjamin Branham <[BBranham@manniksmithgroup.com](mailto:BBranham@manniksmithgroup.com)>  
**Subject:** Request for background traffic growth rate ~ South Brown School Road, Vandalia Ohio

Good morning Ms. Ana Ramirez,

Thank you for returning my call yesterday regarding our need to request a background



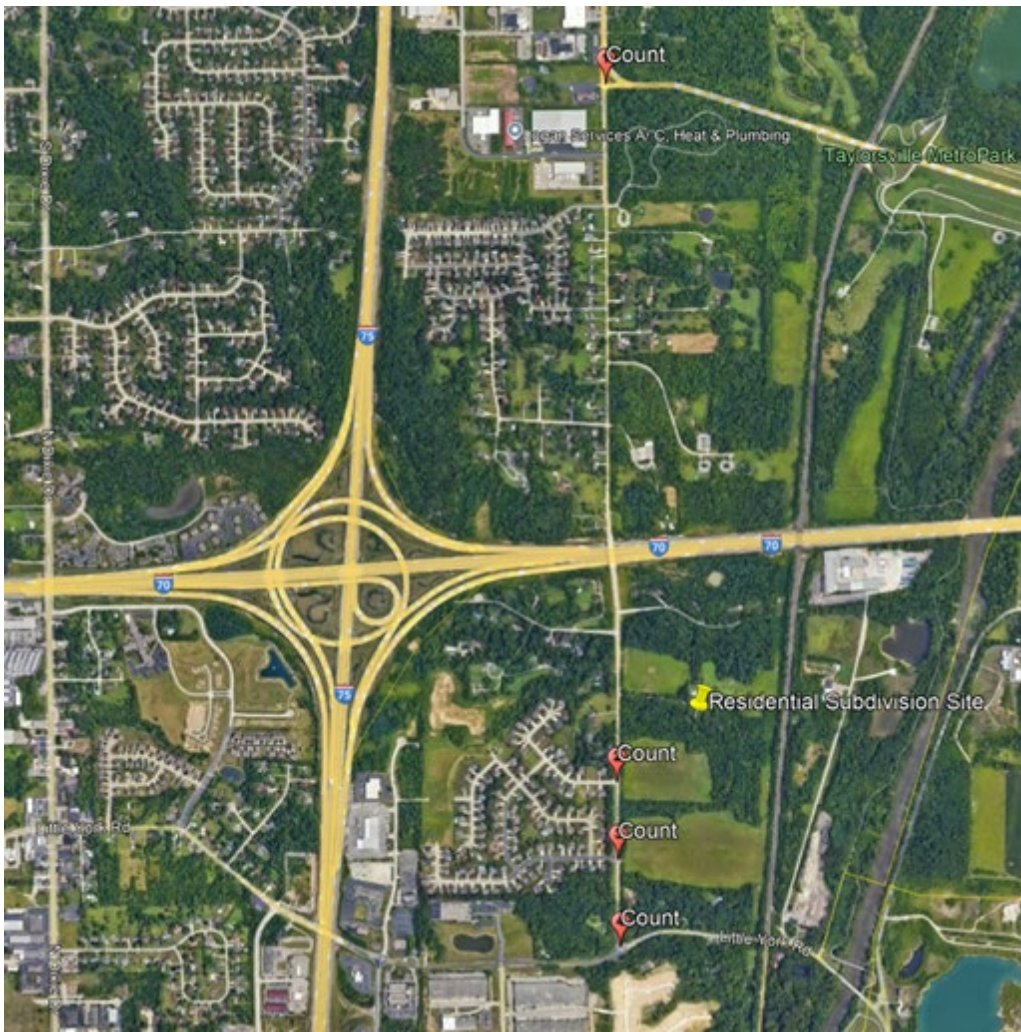
traffic growth rate for a proposed development in the City of Vandalia Ohio. I wanted to send you this preliminary information and follow up questions.

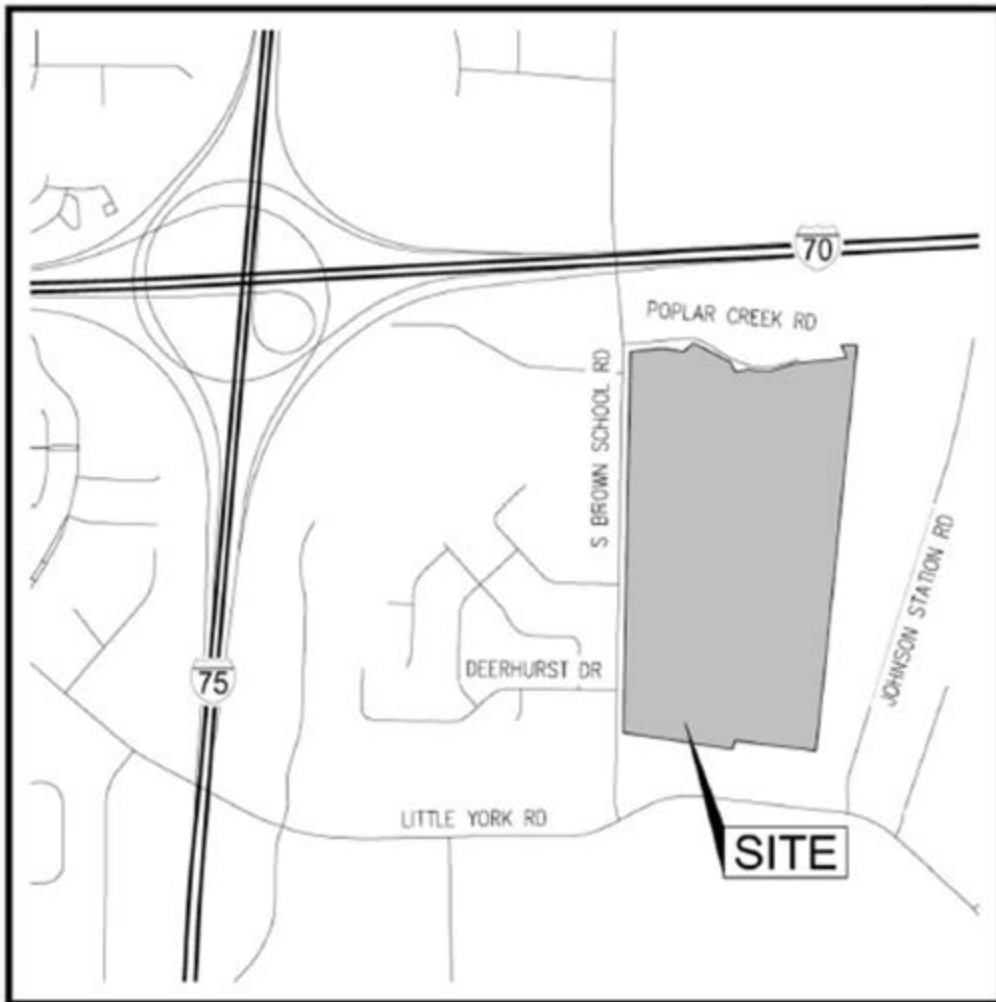
The proposed development is a 167 lot Single Family detached housing residential subdivision located near 7848 South Brown School Road on the east side of the roadway. We plan to collect turning movement traffic counts at four (4) intersection locations next week. Our turning movement traffic counts would be conducted to isolate an AM peak period between the hours of 6:00am–10:00am and a PM peak period between the hours of 3:00pm–7:00pm.

In addition to the information provided herein, you mentioned including traffic counts with our growth rate request so that is where I have the following questions based on our intended approach.

1. Does our request for a background traffic growth rate on South Brown School Road require a specific number of hours to be counted at these intersections?
2. How should the traffic counts be formatted (Excel, PDF or other)?

Thank you in advance for your response.





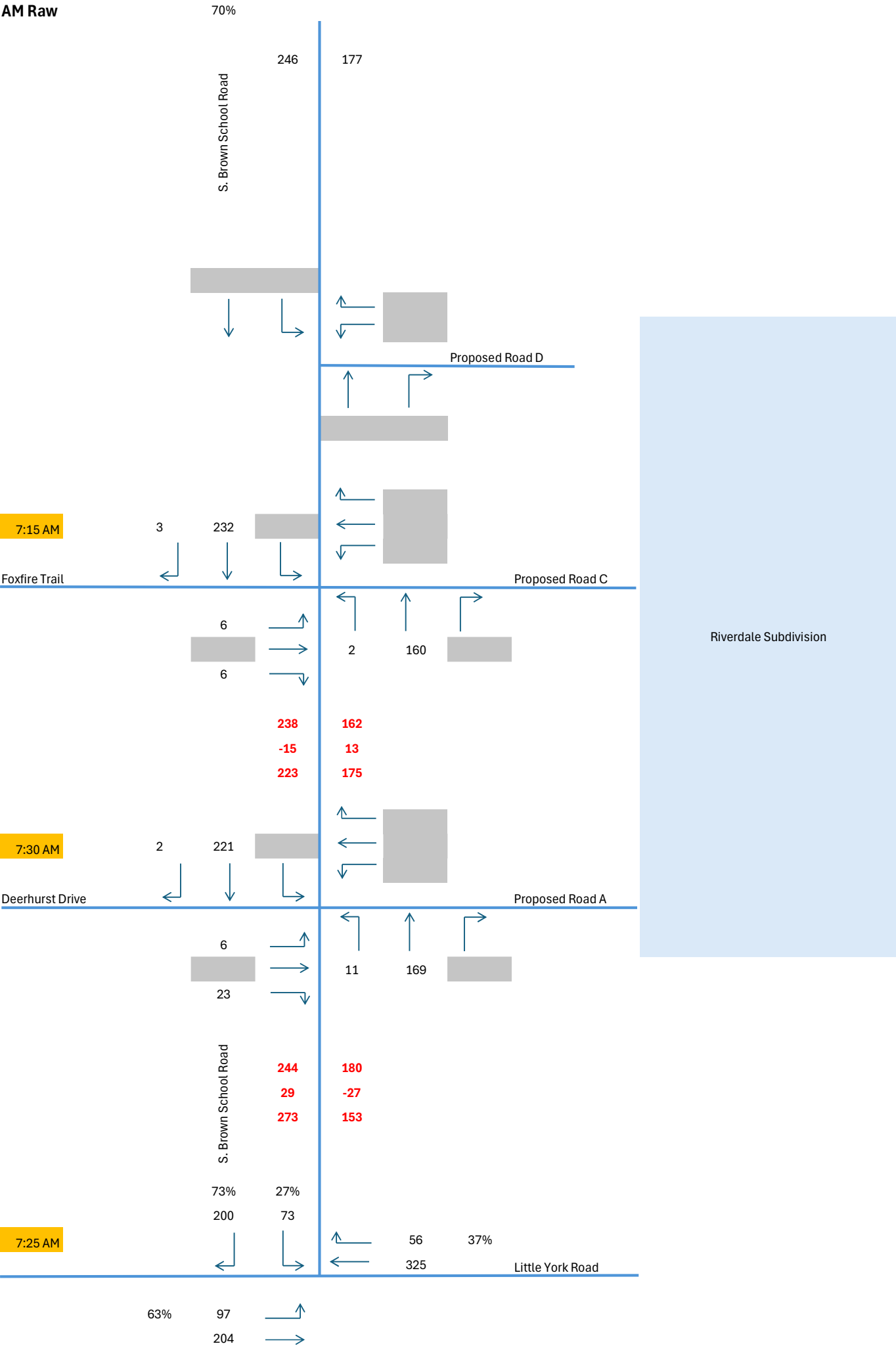
Respectfully,  
Eric R. Pfenning, P.E., P.S.  
Senior Traffic & Planning Engineer

**The Mannik & Smith Group, Inc.**

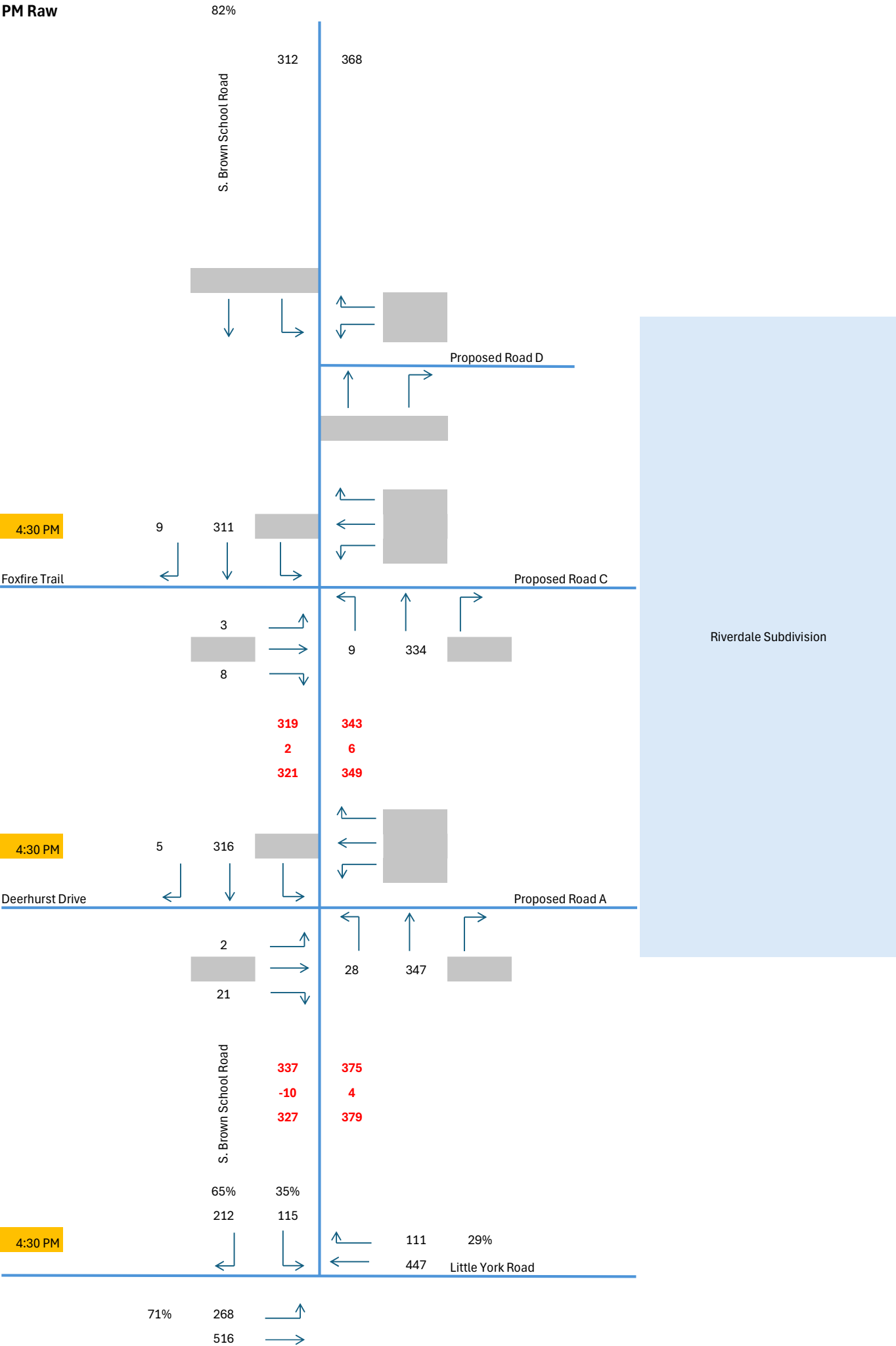
567-356-7192 (cell)

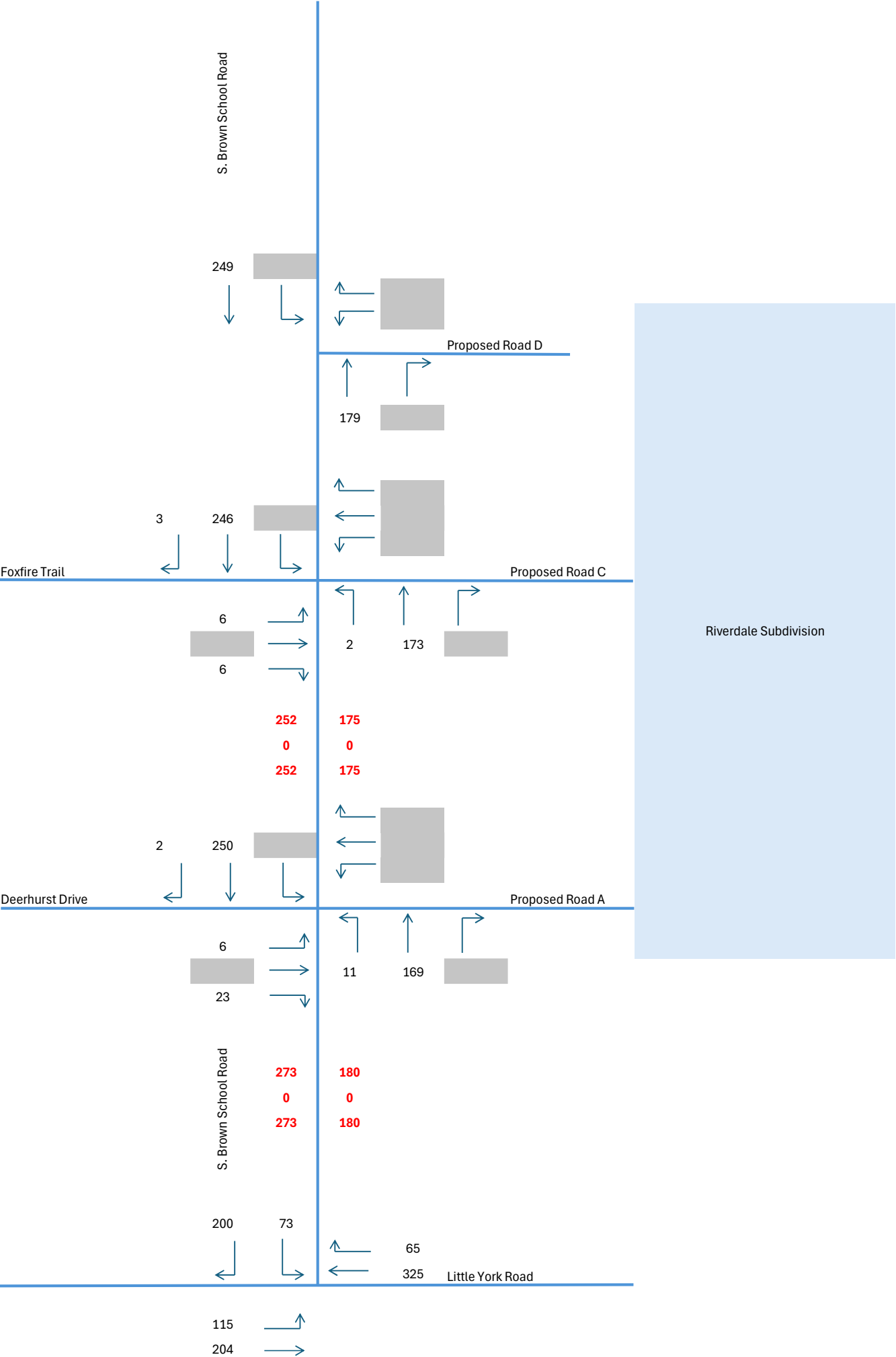
[www.MannikSmithGroup.com](http://www.MannikSmithGroup.com)

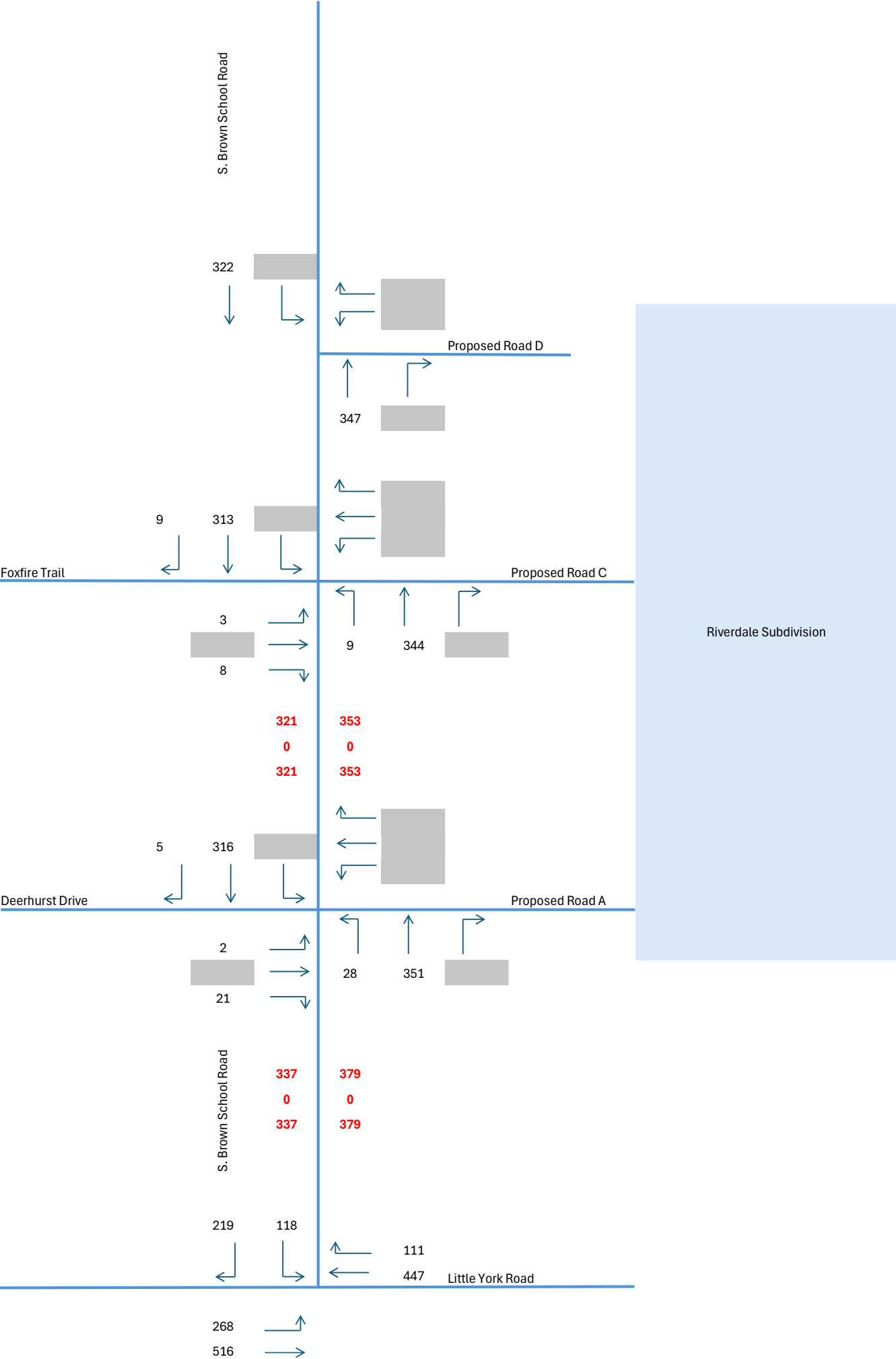


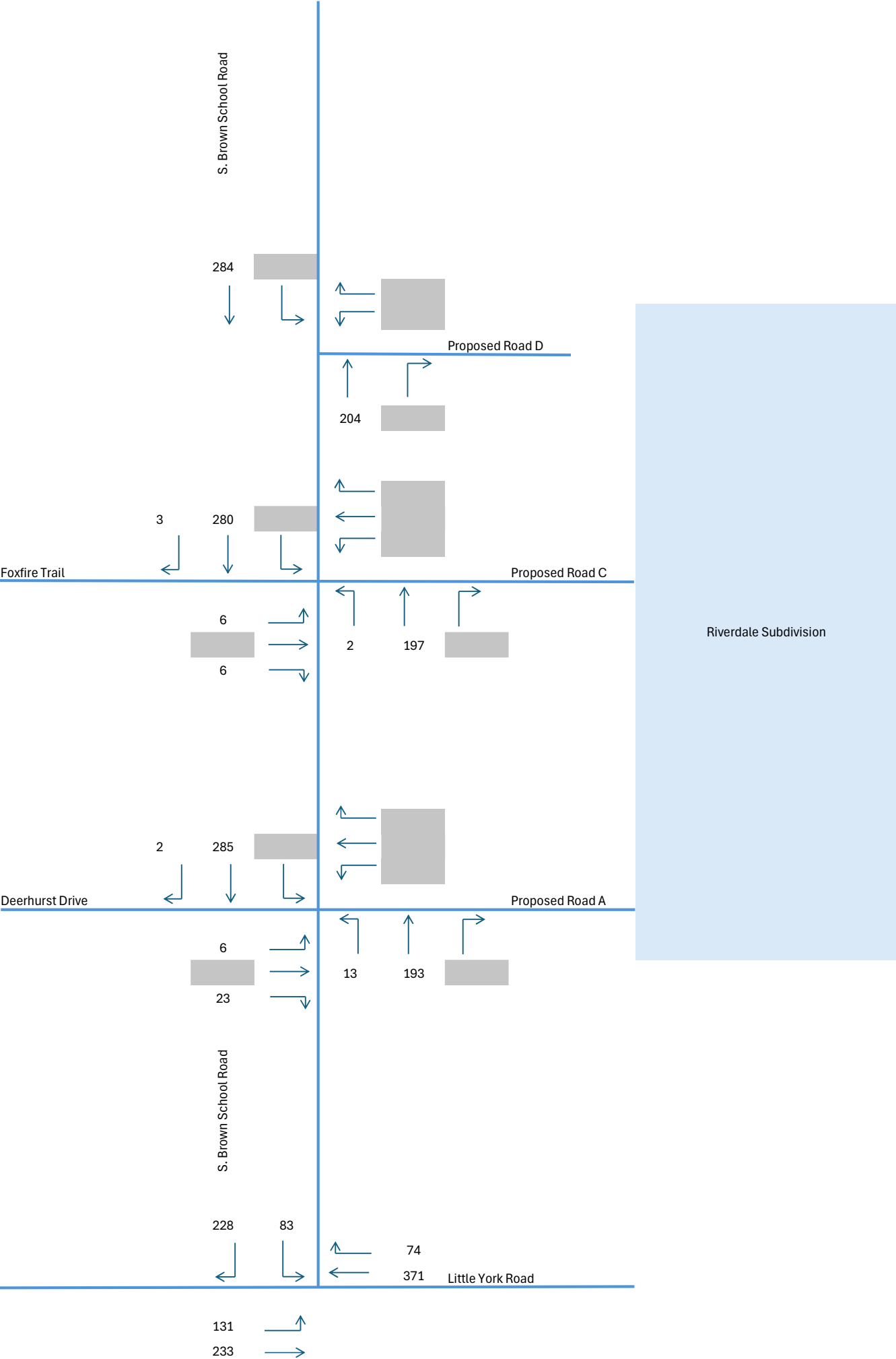




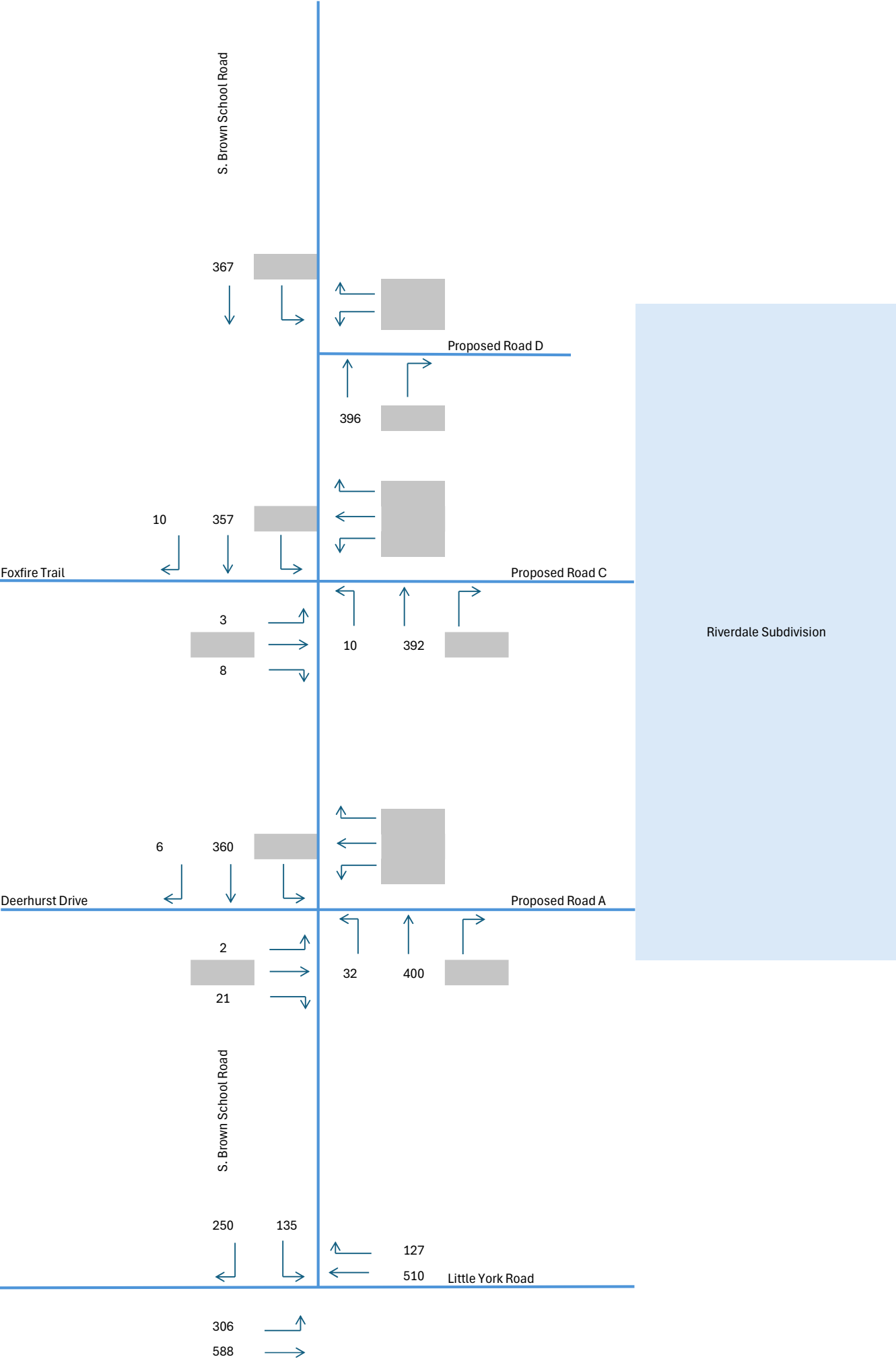


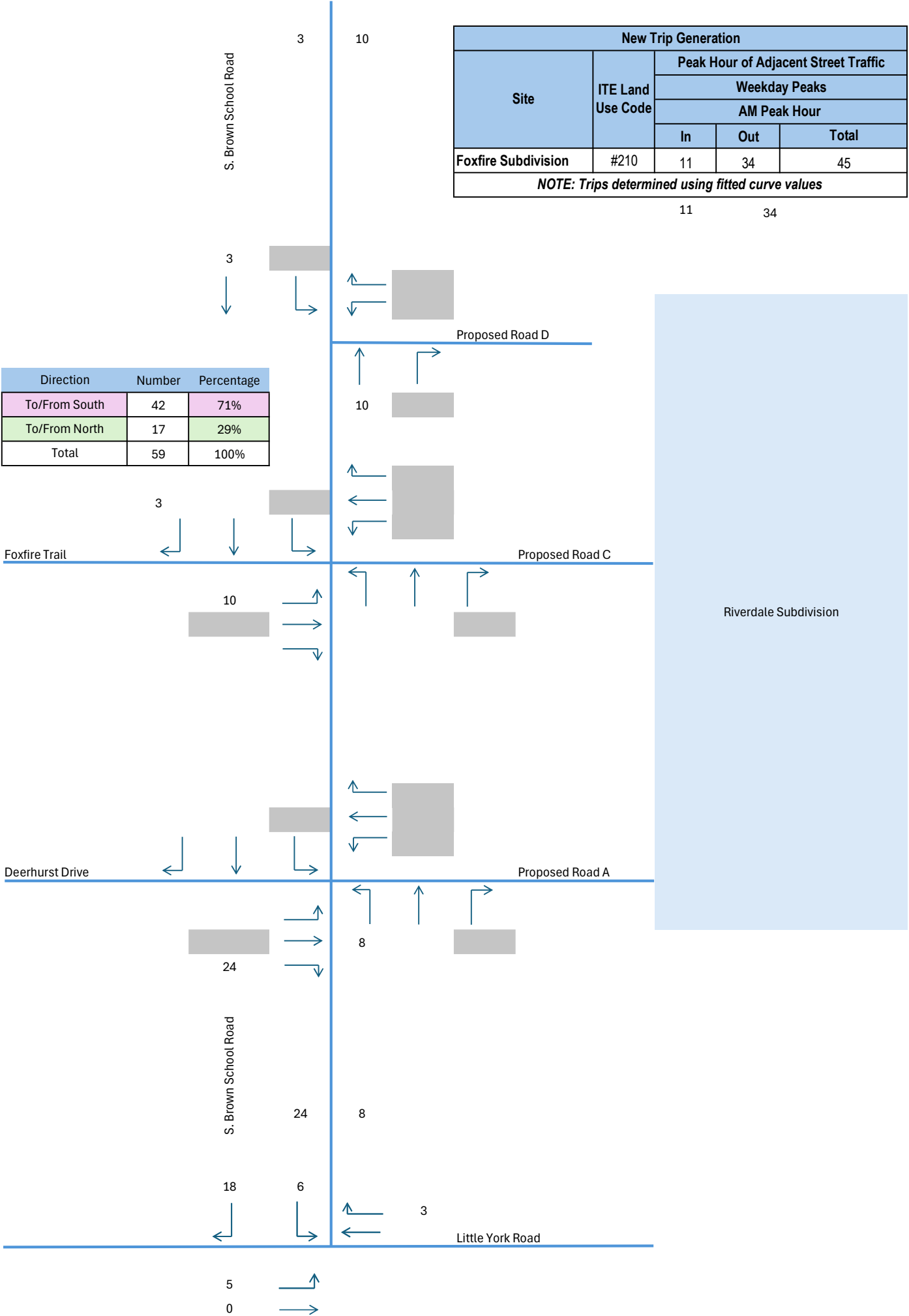










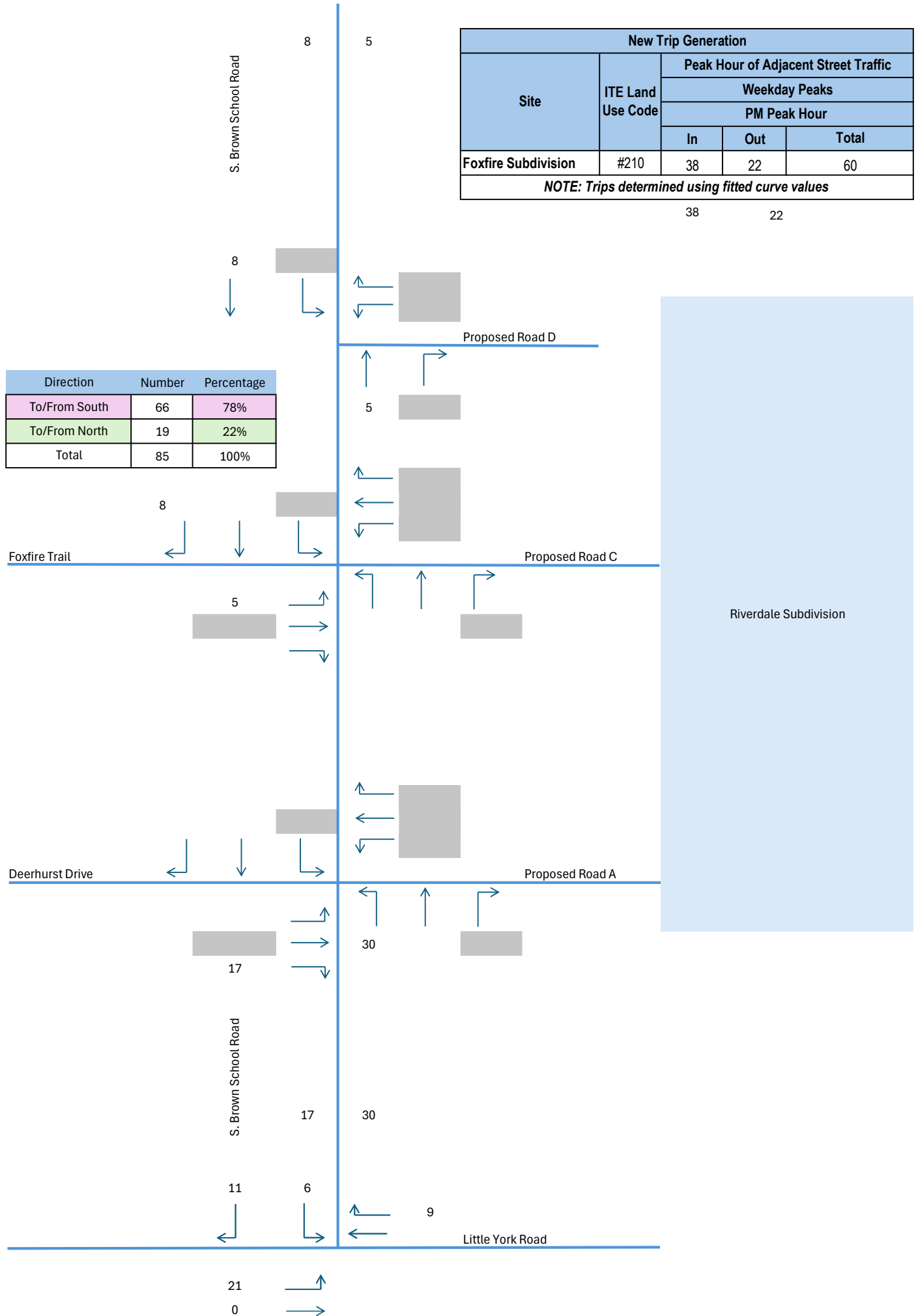


## PM Foxfire

| New Trip Generation                                     |                   |                                      |     |       |
|---------------------------------------------------------|-------------------|--------------------------------------|-----|-------|
| Site                                                    | ITE Land Use Code | Peak Hour of Adjacent Street Traffic |     |       |
|                                                         |                   | Weekday Peaks                        |     |       |
|                                                         |                   | PM Peak Hour                         |     |       |
|                                                         |                   | In                                   | Out | Total |
| Foxfire Subdivision                                     | #210              | 38                                   | 22  | 60    |
| <b>NOTE: Trips determined using fitted curve values</b> |                   |                                      |     |       |

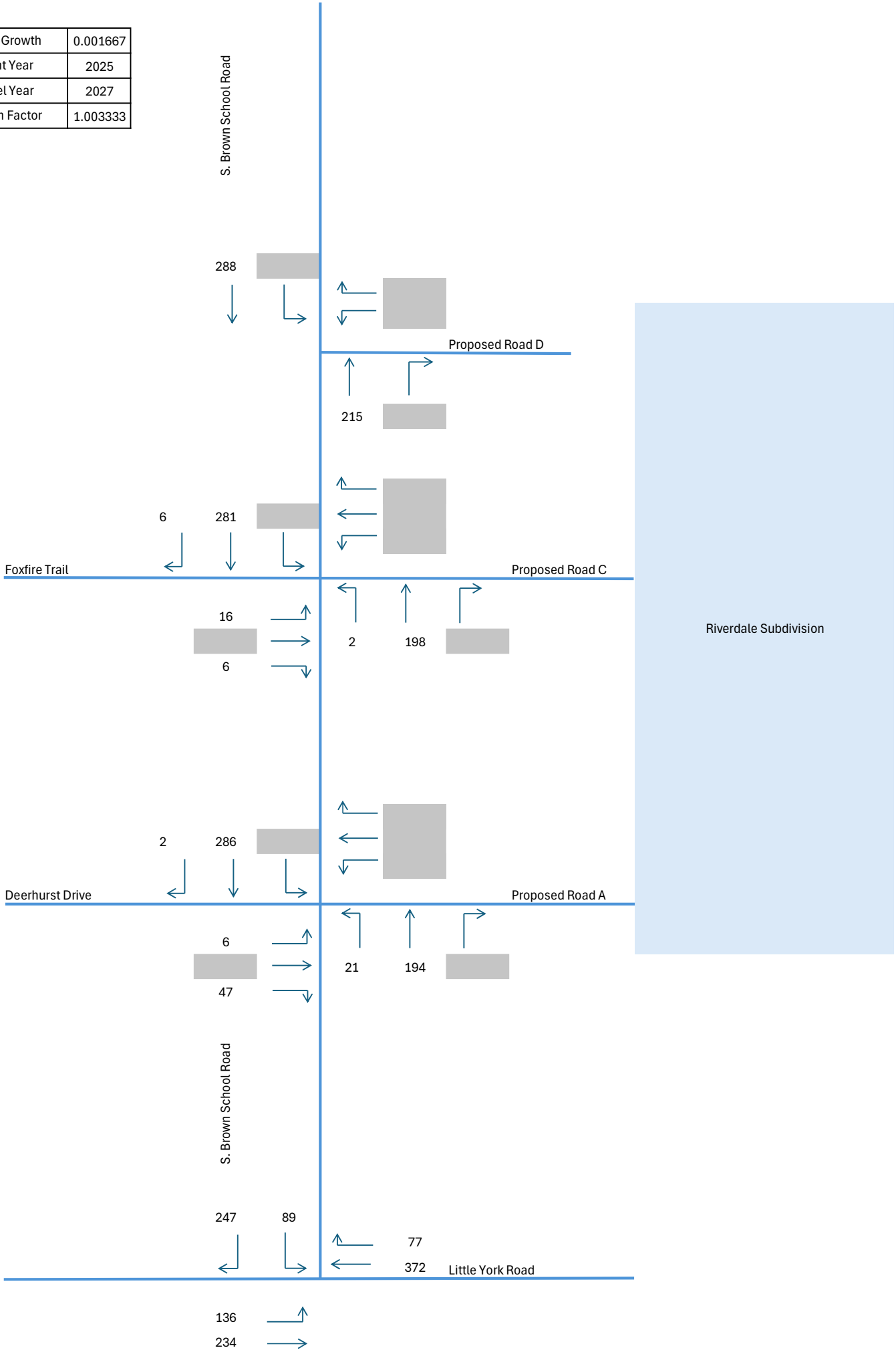
38 22

| Direction     | Number | Percentage |
|---------------|--------|------------|
| To/From South | 66     | 78%        |
| To/From North | 19     | 22%        |
| Total         | 85     | 100%       |



AM NB 2027

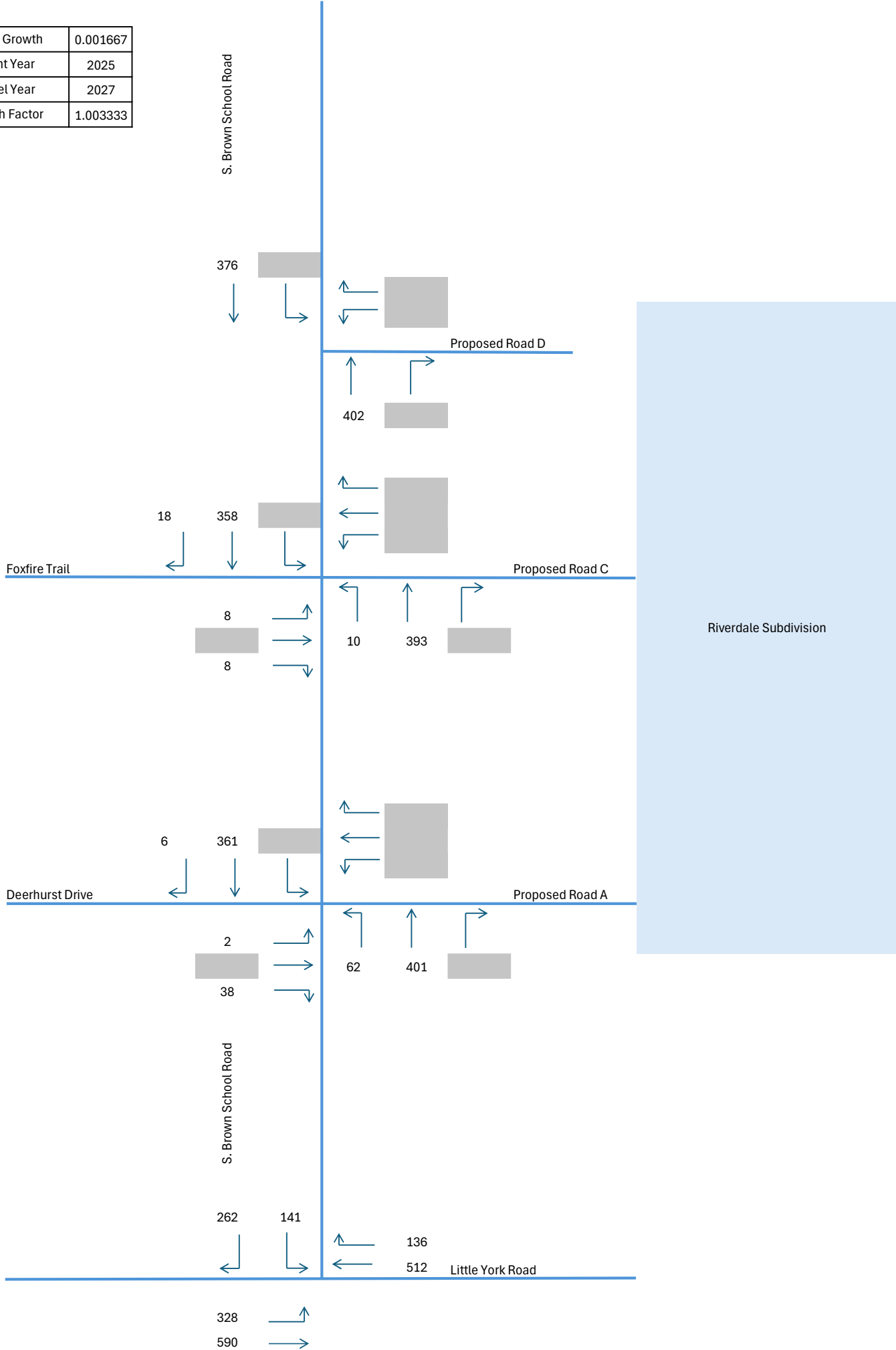
|               |          |
|---------------|----------|
| Yearly Growth | 0.001667 |
| Count Year    | 2025     |
| Model Year    | 2027     |
| Growth Factor | 1.003333 |





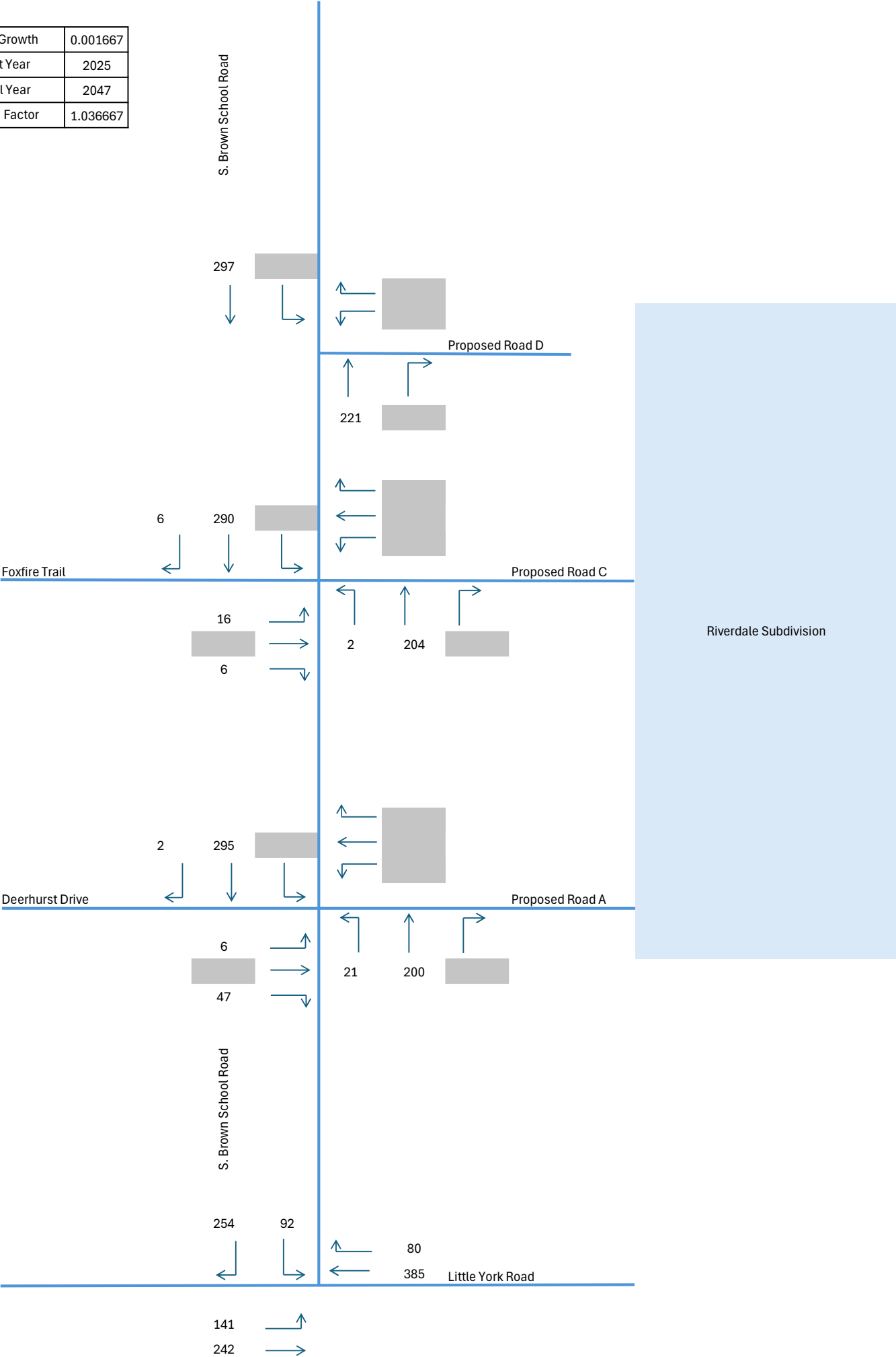
PM NB 2027

|               |          |
|---------------|----------|
| Yearly Growth | 0.001667 |
| Count Year    | 2025     |
| Model Year    | 2027     |
| Growth Factor | 1.003333 |



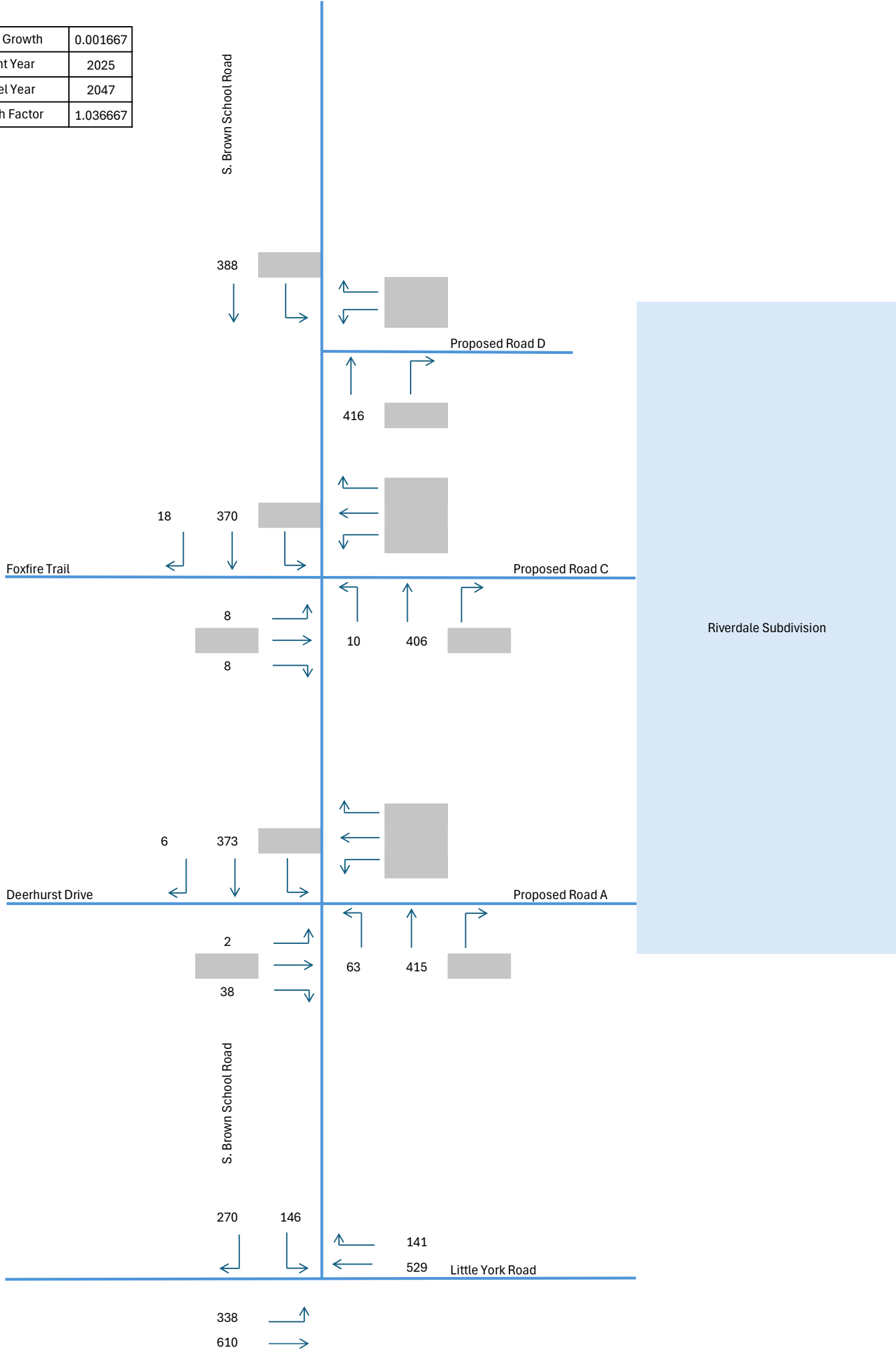
AM NB 2047

|               |          |
|---------------|----------|
| Yearly Growth | 0.001667 |
| Count Year    | 2025     |
| Model Year    | 2047     |
| Growth Factor | 1.036667 |

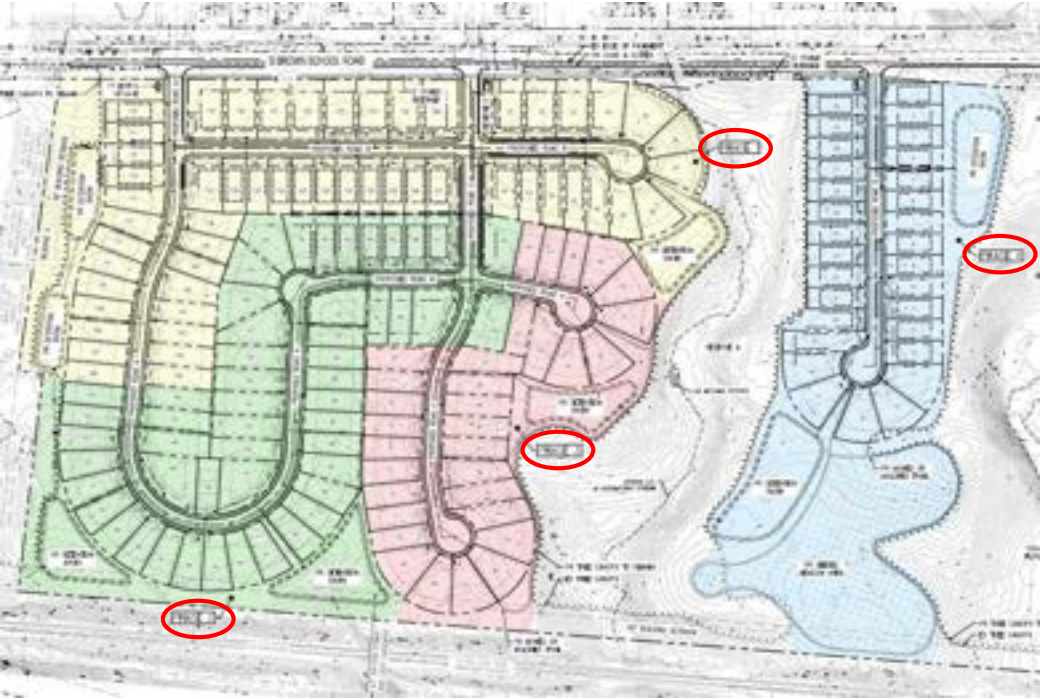


PM NB 2047

|               |          |
|---------------|----------|
| Yearly Growth | 0.001667 |
| Count Year    | 2025     |
| Model Year    | 2047     |
| Growth Factor | 1.036667 |



| New Trip Generation                              |                   |                                               |                                      |     |       |                         |     |       |
|--------------------------------------------------|-------------------|-----------------------------------------------|--------------------------------------|-----|-------|-------------------------|-----|-------|
| Site                                             | ITE Land Use Code | Independent Variable<br>(# of Dwelling Units) | Peak Hour of Adjacent Street Traffic |     |       |                         |     |       |
|                                                  |                   |                                               | Weekday Peaks                        |     |       |                         |     |       |
|                                                  |                   |                                               | AM Peak Hour Between 7am-9am         |     |       | PM Peak Between 4pm-6pm |     |       |
|                                                  |                   |                                               | In                                   | Out | Total | In                      | Out | Total |
| Phase 1, 2 & 3                                   | #210              | 137                                           | 25                                   | 74  | 99    | 84                      | 50  | 134   |
| Phase 4                                          | #210              | 30                                            | 6                                    | 19  | 25    | 20                      | 12  | 32    |
| Totals                                           |                   | 167                                           | 31                                   | 93  | 124   | 104                     | 62  | 166   |
| NOTE: Trips determined using fitted curve values |                   |                                               |                                      |     |       |                         |     |       |



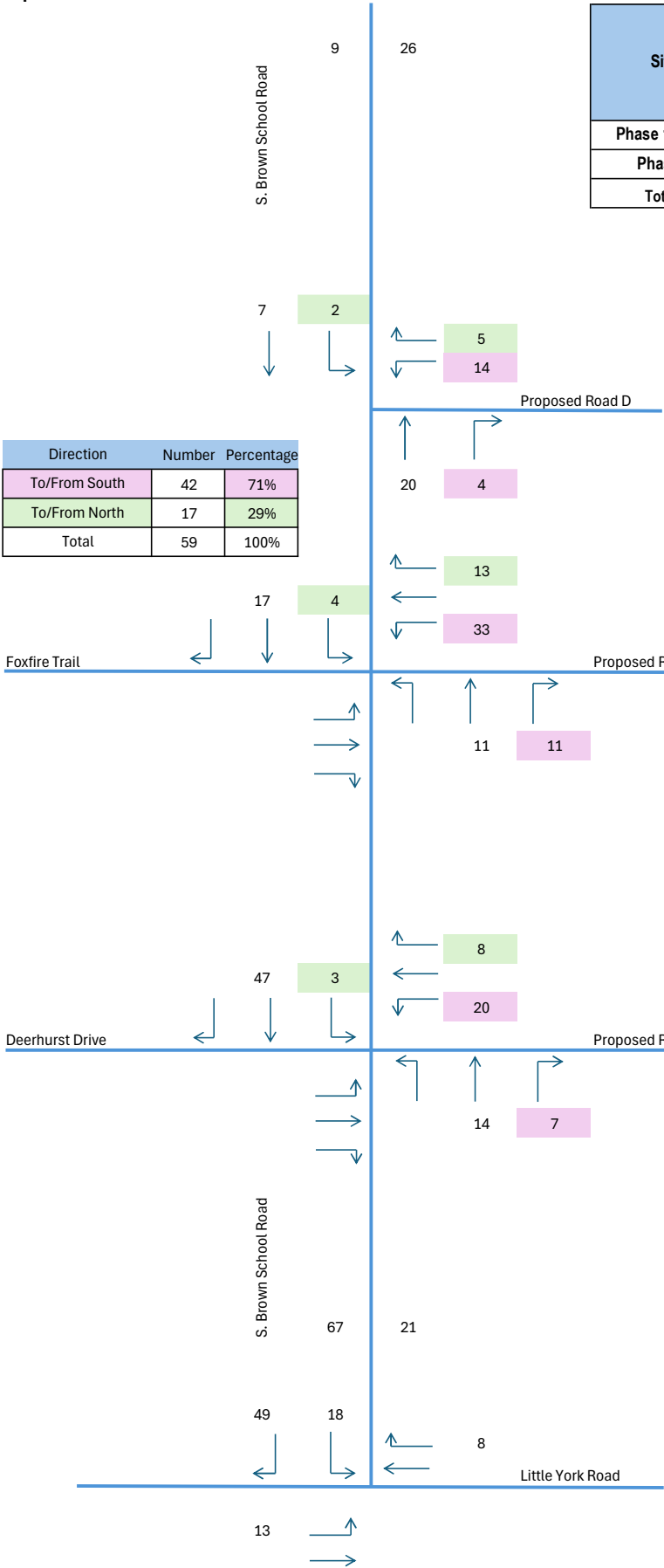
| New Trip Generation                              |                   |                                               |                                      |     |       |                         |     |       |
|--------------------------------------------------|-------------------|-----------------------------------------------|--------------------------------------|-----|-------|-------------------------|-----|-------|
| Site                                             | ITE Land Use Code | Independent Variable<br>(# of Dwelling Units) | Peak Hour of Adjacent Street Traffic |     |       |                         |     |       |
|                                                  |                   |                                               | Weekday Peaks                        |     |       |                         |     |       |
|                                                  |                   |                                               | AM Peak Hour Between 7am-9am         |     |       | PM Peak Between 4pm-6pm |     |       |
|                                                  |                   |                                               | In                                   | Out | Total | In                      | Out | Total |
| Foxfire Subdivision                              | #210              | 58                                            | 11                                   | 34  | 45    | 38                      | 22  | 60    |
| NOTE: Trips determined using fitted curve values |                   |                                               |                                      |     |       |                         |     |       |

Foxfire Subdivision -- 58 buildable lots with only direct access to Bolton Abbey Lane

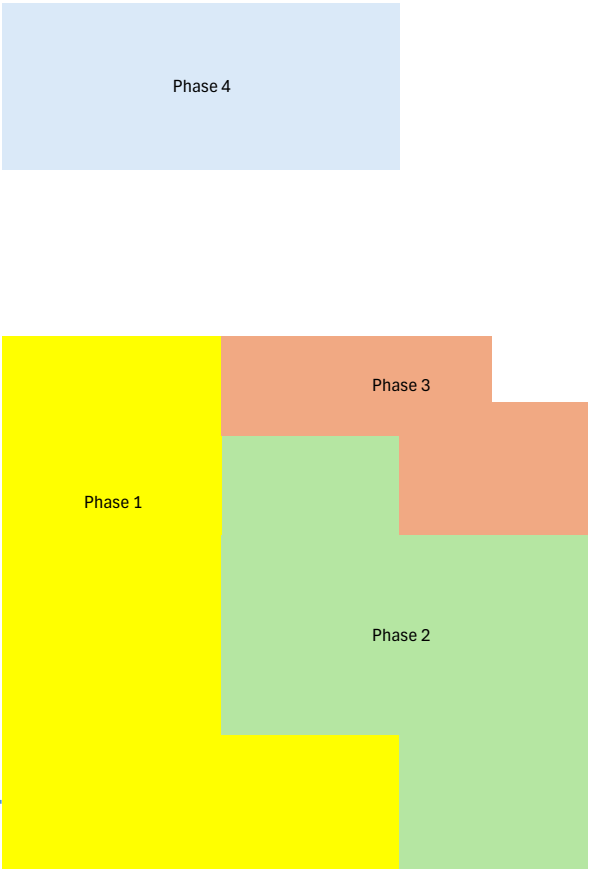




AM New Trips Distribution

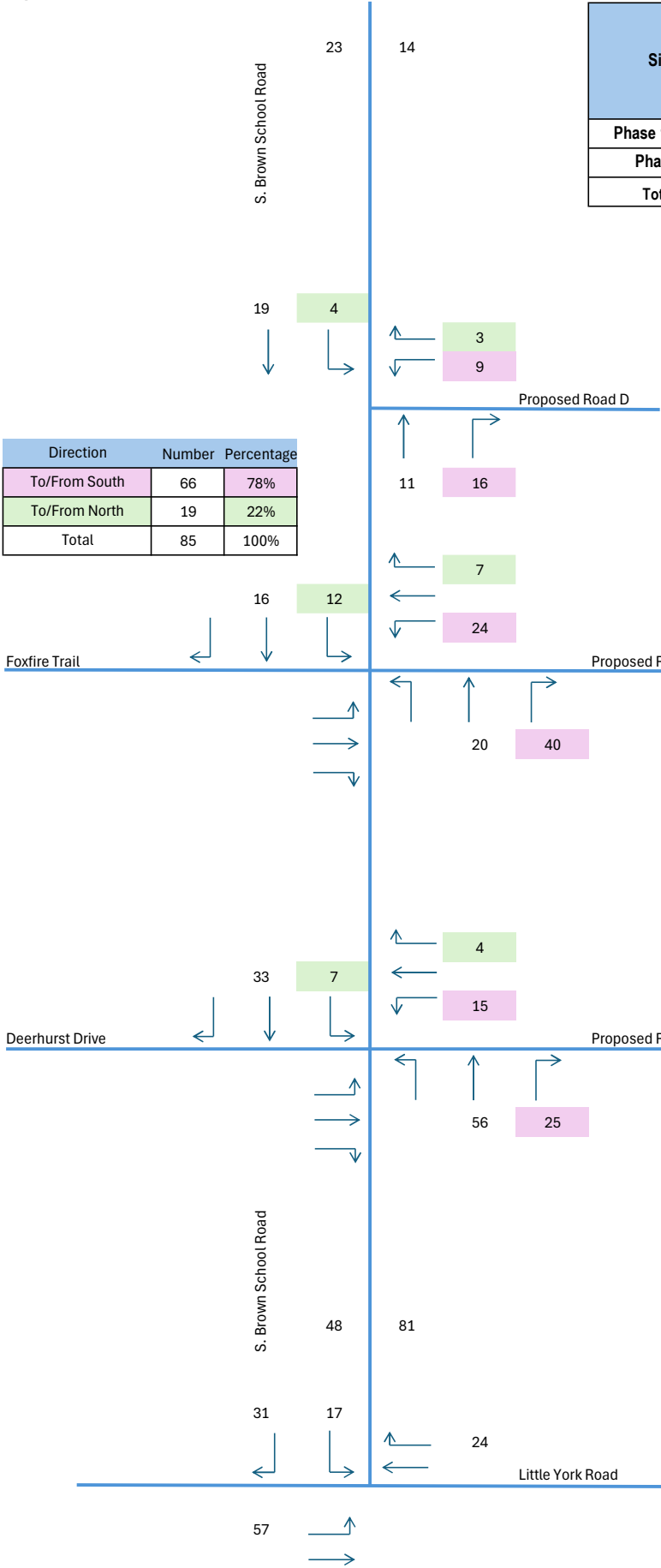


| Site           | Independent Variable<br>(# of Dwelling Units) | Peak Hour of Adjacent Street Traffic |     |       |
|----------------|-----------------------------------------------|--------------------------------------|-----|-------|
|                |                                               | Weekday Peaks                        |     |       |
|                |                                               | AM Peak Hour                         |     |       |
|                |                                               | In                                   | Out | Total |
| Phase 1, 2 & 3 | 137                                           | 25                                   | 74  | 99    |
| Phase 4        | 30                                            | 6                                    | 19  | 25    |
| Totals         | 167                                           | 31                                   | 93  | 124   |



| Phase   | # of Lots | % of total | Road C % | Road A % |
|---------|-----------|------------|----------|----------|
| Phase 1 | 54        | 39%        | 50%      | 50%      |
| Phase 2 | 51        | 37%        | 50%      | 50%      |
| Phase 3 | 32        | 23%        | 100%     | 0%       |
| Total   | 137       | 100%       |          |          |

PM New Trips Distribution



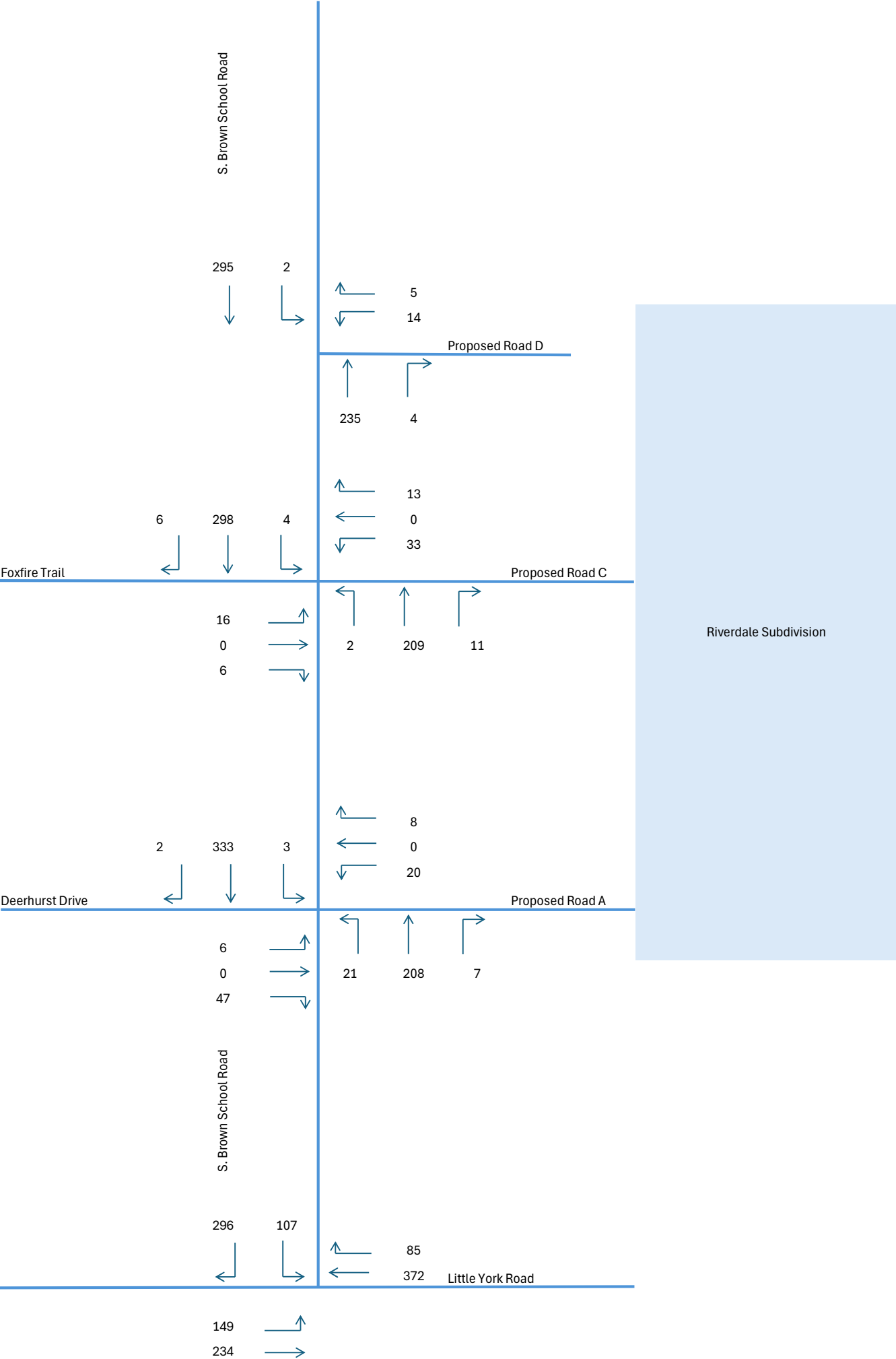
| Site           | Independent Variable<br>(# of Dwelling Units) | Peak Hour of Adjacent Street Traffic |     |       |
|----------------|-----------------------------------------------|--------------------------------------|-----|-------|
|                |                                               | Weekday Peaks                        |     |       |
|                |                                               | PM Peak Hour                         |     |       |
|                |                                               | In                                   | Out | Total |
| Phase 1, 2 & 3 | 137                                           | 84                                   | 50  | 134   |
| Phase 4        | 30                                            | 20                                   | 12  | 32    |
| Totals         | 167                                           | 104                                  | 62  | 166   |

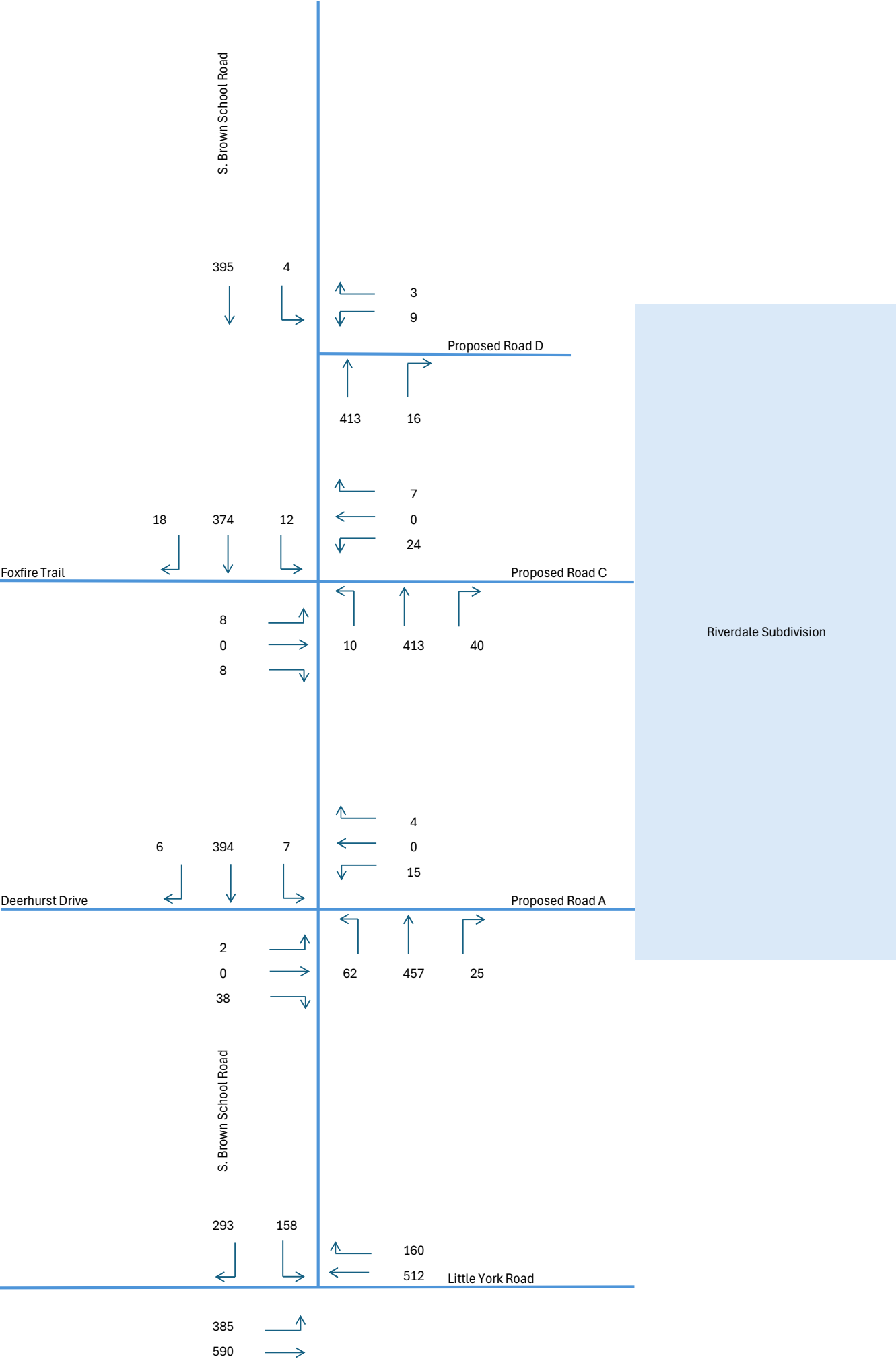
104

62

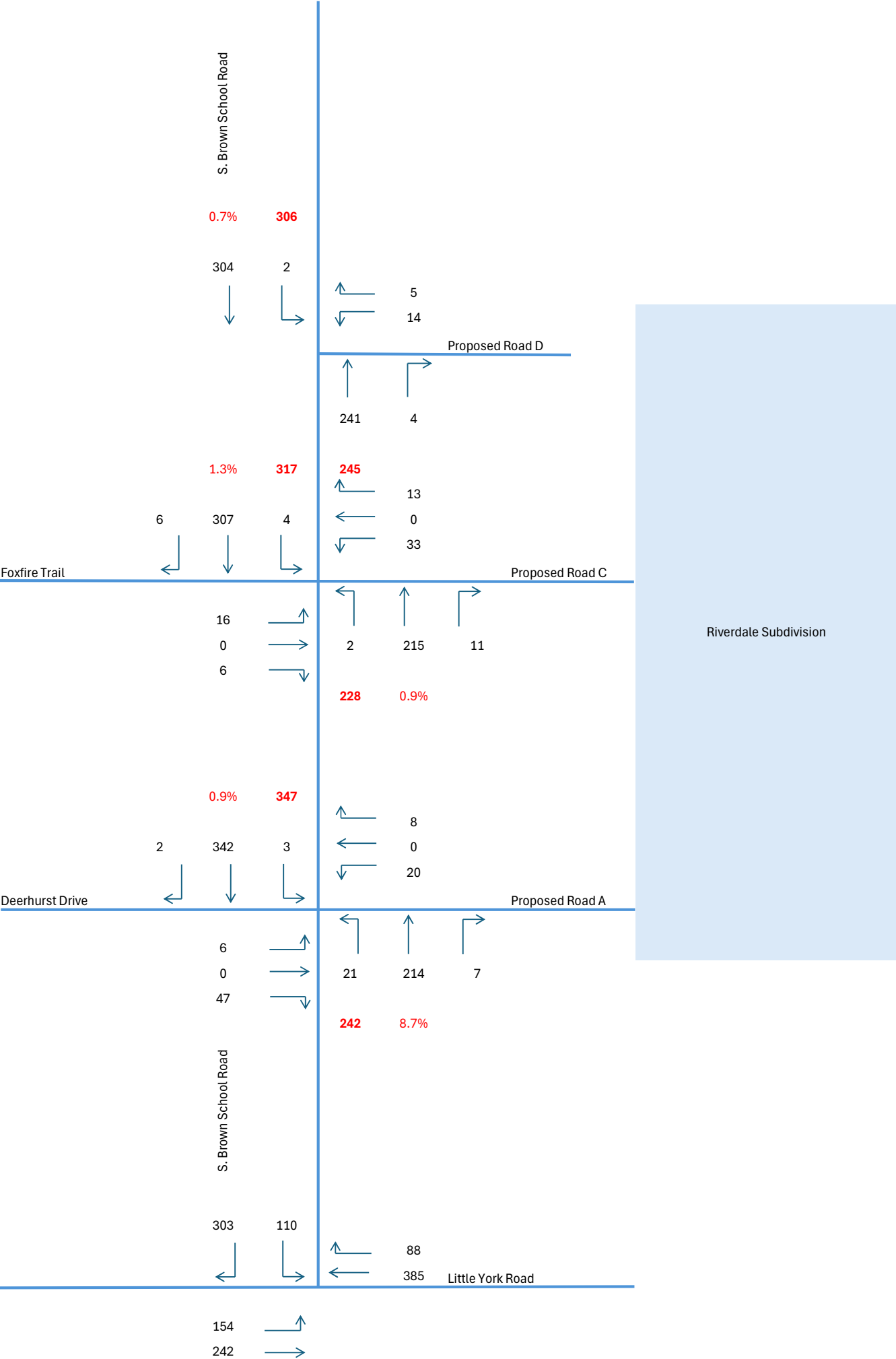


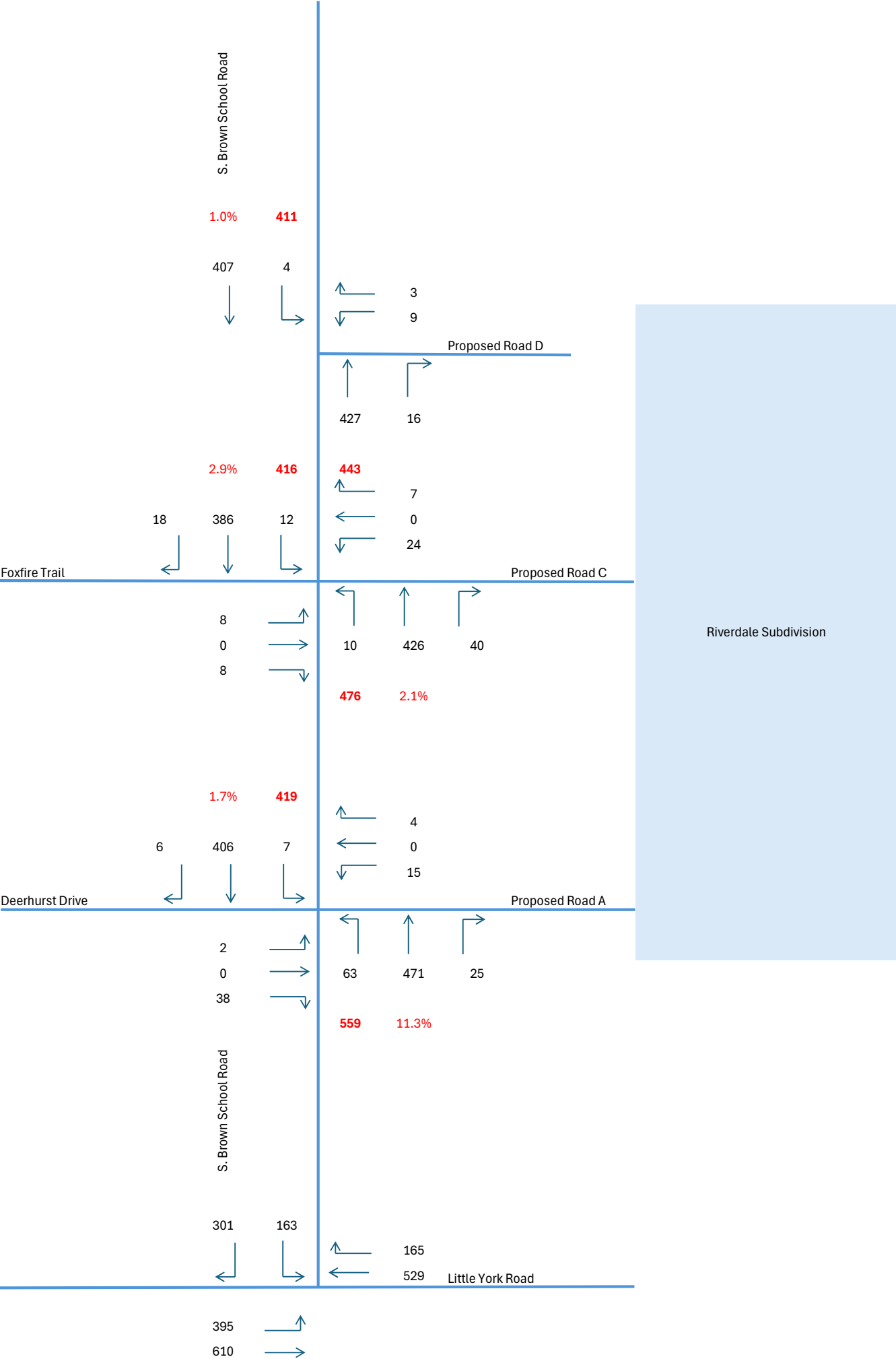
| Phase   | # of Lots | % of total | Road C % | Road A % |
|---------|-----------|------------|----------|----------|
| Phase 1 | 54        | 39%        | 50%      | 50%      |
| Phase 2 | 51        | 37%        | 50%      | 50%      |
| Phase 3 | 32        | 23%        | 100%     | 0%       |
| Total   | 137       | 100%       |          |          |











APPENDIX C  
ITE LAND USE DATA



# Land Use: 210

## Single-Family Detached Housing

---

### Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

### Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates based on a small sample of sites are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 251), and higher than those for senior adult housing -- single-family (Land Use 251). Further analysis of this housing type will be conducted in a future edition of *Trip Generation Manual*.

### Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

For 30 of the study sites, data on the number of residents and number of household vehicles are available. The overall averages for the 30 sites are 3.6 residents per dwelling unit and 1.5 vehicles per dwelling unit.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Arizona, California, Connecticut, Delaware, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Jersey, North Carolina, Ohio, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, Virginia, and West Virginia.

### Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077, 1078, 1079

# Single-Family Detached Housing (210)

## Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 192

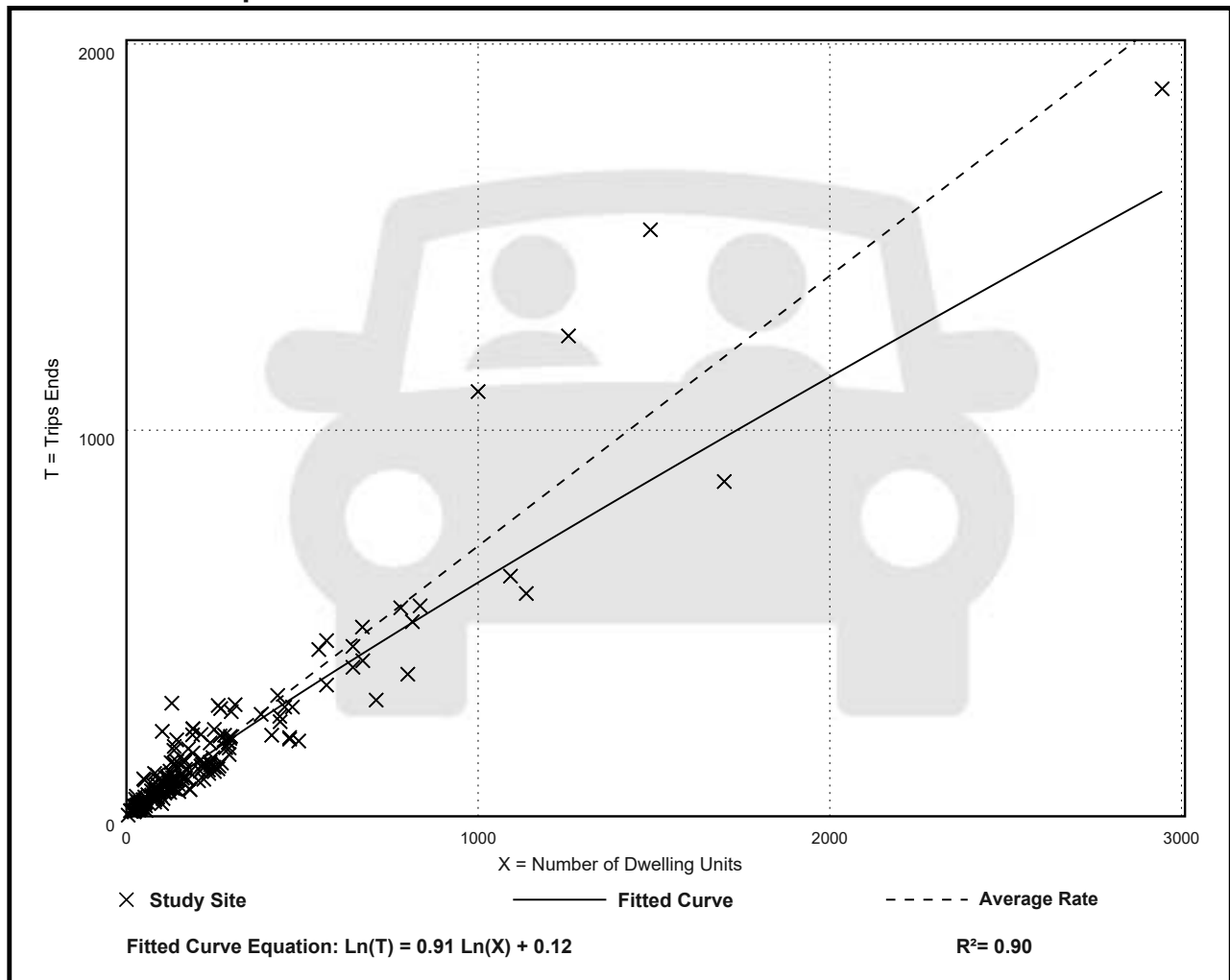
Avg. Num. of Dwelling Units: 226

Directional Distribution: 26% entering, 74% exiting

## Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.70         | 0.27 - 2.27    | 0.24               |

## Data Plot and Equation





# Single-Family Detached Housing (210)

## Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 208

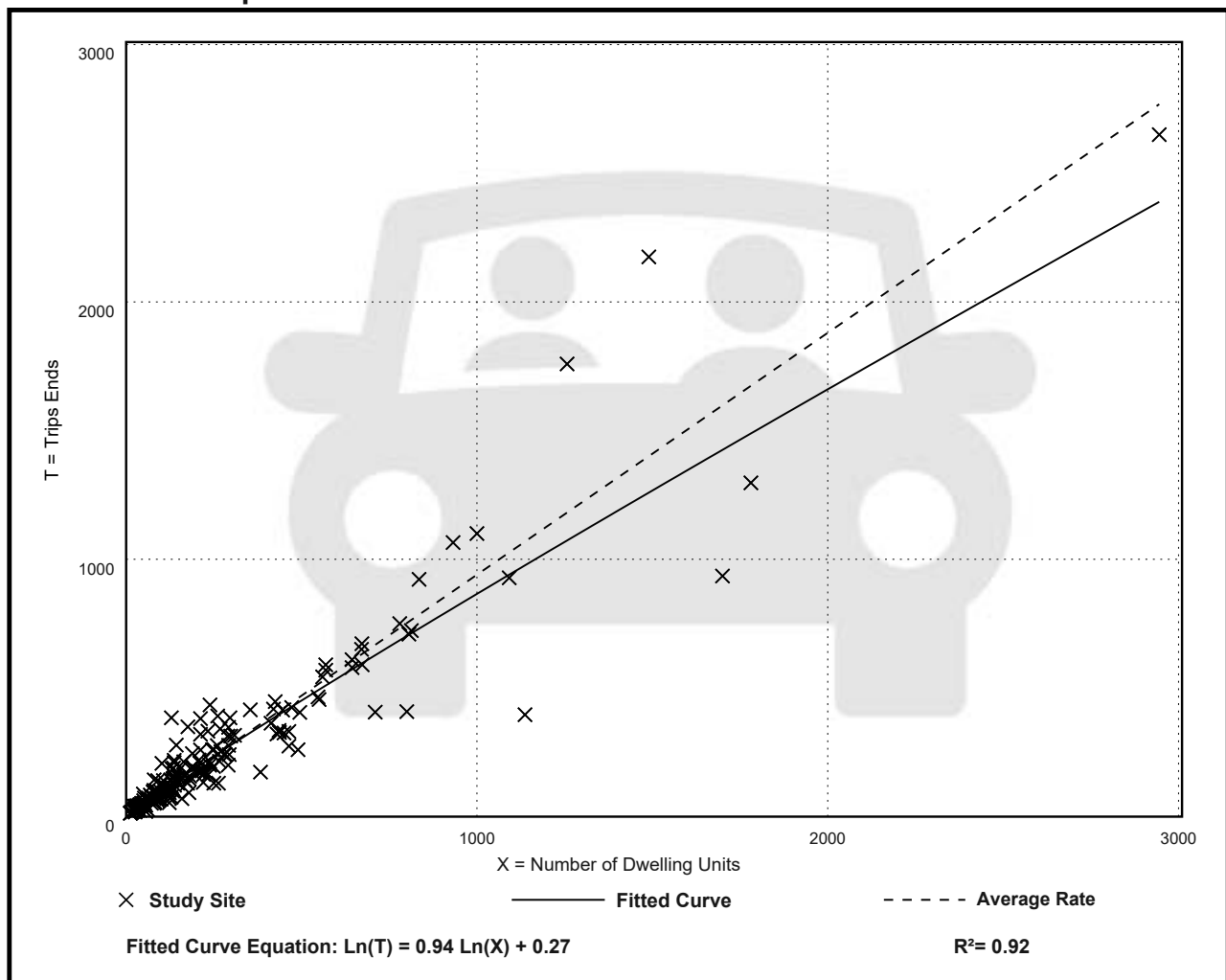
Avg. Num. of Dwelling Units: 248

Directional Distribution: 63% entering, 37% exiting

## Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.94         | 0.35 - 2.98    | 0.31               |

## Data Plot and Equation



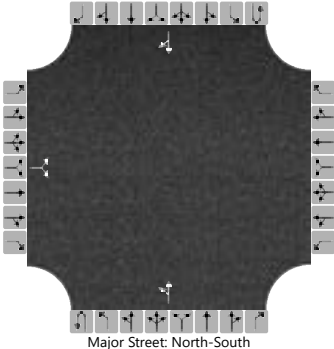
APPENDIX D  
HCS REPORTS



HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                  |
|--------------------------|--------------------|----------------------------|----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Foxfire Trl & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                  |
| Date Performed           | 7/14/2025          | East/West Street           | Foxfire Trl                      |
| Analysis Year            | 2027               | North/South Street         | S. Brown School Rd               |
| Time Analyzed            | AM Peak No Build   | Peak Hour Factor           | 0.81                             |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                             |
| Project Description      |                    |                            |                                  |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | LT |     |   |            |   |     | TR |
| Volume (veh/h)                  |           | 16 |    | 6  |           |   |   |   |            | 2  | 198 |   |            |   | 281 | 6  |
| Percent Heavy Vehicles (%)      |           | 17 |    | 17 |           |   |   |   |            | 3  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

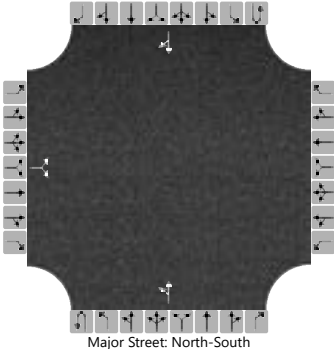
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.57 |  | 6.37 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.65 |  | 3.45 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 27   |  |  |  |  |  |     | 2    |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 483  |  |  |  |  |  |     | 1199 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.06 |  |  |  |  |  |     | 0.00 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.2  |  |  |  |  |  |     | 0.0  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 5.7  |  |  |  |  |  |     | 0.0  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 12.9 |  |  |  |  |  |     | 8.0  | 0.0 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 12.9 |  |      |  |  |  |  |  | 0.1 |      |     |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                   |
|--------------------------|--------------------|----------------------------|-----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Deerhurst Dr & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                   |
| Date Performed           | 7/14/2025          | East/West Street           | Deerhurst Dr                      |
| Analysis Year            | 2027               | North/South Street         | S. Brown School Rd                |
| Time Analyzed            | AM Peak No Build   | Peak Hour Factor           | 0.84                              |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                              |
| Project Description      |                    |                            |                                   |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | LT |     |   |            |   |     | TR |
| Volume (veh/h)                  |           | 6  |    | 47 |           |   |   |   |            | 21 | 194 |   |            |   | 286 | 2  |
| Percent Heavy Vehicles (%)      |           | 3  |    | 3  |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 63   |  |  |  |  |  |     | 25   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 654  |  |  |  |  |  |     | 1194 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.10 |  |  |  |  |  |     | 0.02 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.3  |  |  |  |  |  |     | 0.1  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 7.7  |  |  |  |  |  |     | 2.6  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 11.1 |  |  |  |  |  |     | 8.1  | 0.2 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 11.1 |  |      |  |  |  |  |  | 1.0 |      |     |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

# HCS Signalized Intersection Results Summary

| General Information |                              |               |                                                   |                 | Intersection Information |       |  |
|---------------------|------------------------------|---------------|---------------------------------------------------|-----------------|--------------------------|-------|--|
| Agency              |                              |               |                                                   |                 | Duration, h              | 0.250 |  |
| Analyst             |                              | Analysis Date | 7/15/2025                                         | Area Type       | Other                    |       |  |
| Jurisdiction        |                              | Time Period   |                                                   | PHF             | 0.86                     |       |  |
| Urban Street        | Little York Rd               | Analysis Year | 2025                                              | Analysis Period | 1> 7:00                  |       |  |
| Intersection        | Little York Rd and S. Bro... | File Name     | AM NB 2027 Little York Rd & S Brown School Rd.... |                 |                          |       |  |
| Project Description | 2027 AM NB                   |               |                                                   |                 |                          |       |  |

| Demand Information    | EB  |     |   | WB |     |    | NB |   |   | SB |   |     |
|-----------------------|-----|-----|---|----|-----|----|----|---|---|----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R  | L  | T | R | L  | T | R   |
| Demand ( $v$ ), veh/h | 136 | 234 |   |    | 372 | 77 |    |   |   | 89 |   | 247 |

| Signal Information |       |                 |     |        |     |      |      |     |     |     |  |
|--------------------|-------|-----------------|-----|--------|-----|------|------|-----|-----|-----|--|
| Cycle, s           | 52.3  | Reference Phase | 2   |        |     |      |      |     |     |     |  |
| Offset, s          | 0     | Reference Point | End |        |     |      |      |     |     |     |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  | Green  | 4.6 | 19.0 | 11.5 | 0.0 | 0.0 | 0.0 |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  | Yellow | 3.6 | 4.9  | 4.0  | 0.0 | 0.0 | 0.0 |  |
|                    |       |                 |     | Red    | 1.5 | 1.5  | 1.7  | 0.0 | 0.0 | 0.0 |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|-----|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     |     |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 8.3  |     |     |     | 9.0  |
| Phase Duration, s                 | 9.7  | 35.1 |     | 25.4 |     |     |     | 17.2 |
| Change Period, ( $Y+R_c$ ), s     | 5.1  | 6.4  |     | 6.4  |     |     |     | 5.7  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     |     |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 4.9  | 6.4  |     | 17.4 |     |     |     | 11.1 |
| Green Extension Time ( $g_e$ ), s | 0.3  | 1.6  |     | 1.6  |     |     |     | 0.4  |
| Phase Call Probability            | 0.90 | 1.00 |     | 1.00 |     |     |     | 1.00 |
| Max Out Probability               | 0.00 | 0.00 |     | 0.00 |     |     |     | 0.71 |

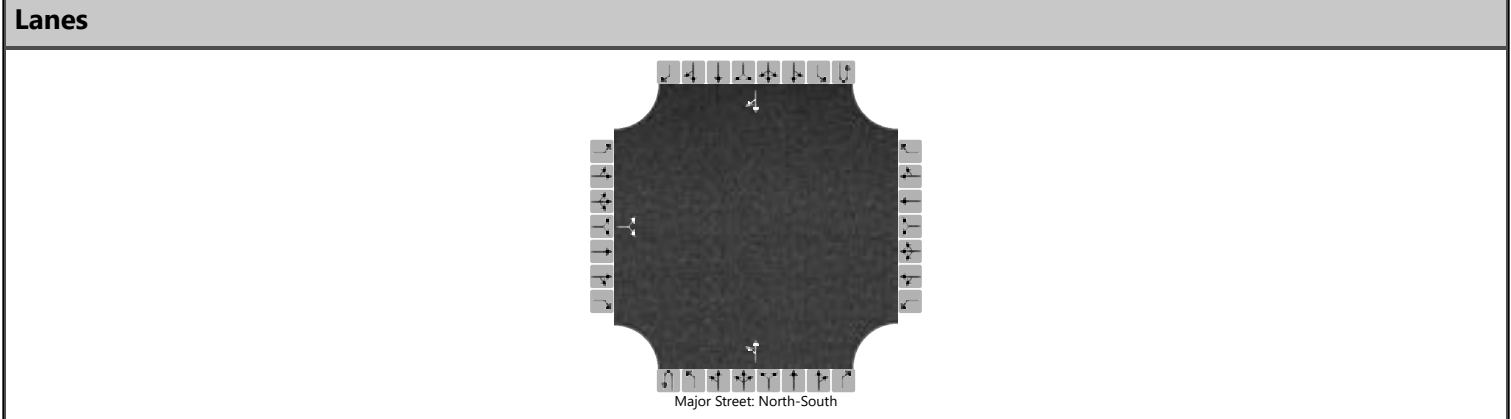
| Movement Group Results                            | EB    |       |   | WB |       |    | NB |   |     | SB    |      |       |   |
|---------------------------------------------------|-------|-------|---|----|-------|----|----|---|-----|-------|------|-------|---|
| Approach Movement                                 | L     | T     | R | L  | T     | R  | L  | T | R   | L     | T    | R     |   |
| Assigned Movement                                 | 5     | 2     |   |    | 6     | 16 |    |   |     | 7     |      | 14    |   |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 158   | 272   |   |    | 522   |    |    |   |     | 103   |      | 287   |   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1641  | 1723  |   |    | 1658  |    |    |   |     | 1602  |      | 1425  |   |
| Queue Service Time ( $g_s$ ), s                   | 2.9   | 4.4   |   |    | 15.4  |    |    |   |     | 2.8   |      | 9.1   |   |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 2.9   | 4.4   |   |    | 15.4  |    |    |   |     | 2.8   |      | 9.1   |   |
| Green Ratio ( $g/C$ )                             | 0.49  | 0.55  |   |    | 0.36  |    |    |   |     | 0.22  |      | 0.31  |   |
| Capacity ( $c$ ), veh/h                           | 345   | 946   |   |    | 602   |    |    |   |     | 353   |      | 440   |   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.459 | 0.288 |   |    | 0.868 |    |    |   |     | 0.293 |      | 0.652 |   |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 36    | 52    |   |    | 221   |    |    |   |     | 43    |      | 123   |   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 1.4   | 2.0   |   |    | 8.6   |    |    |   |     | 1.7   |      | 4.7   |   |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 0.19  | 0.00  |   |    | 0.00  |    |    |   |     | 0.00  |      | 0.00  |   |
| Uniform Delay ( $d_1$ ), s/veh                    | 11.0  | 6.3   |   |    | 15.5  |    |    |   |     | 17.0  |      | 15.7  |   |
| Incremental Delay ( $d_2$ ), s/veh                | 0.4   | 0.1   |   |    | 1.5   |    |    |   |     | 0.2   |      | 1.1   |   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |   |    | 0.0   |    |    |   |     | 0.0   |      | 0.0   |   |
| Control Delay ( $d$ ), s/veh                      | 11.4  | 6.4   |   |    | 17.1  |    |    |   |     | 17.2  |      | 16.8  |   |
| Level of Service (LOS)                            | B     | A     |   |    | B     |    |    |   |     | B     |      | B     |   |
| Approach Delay, s/veh / LOS                       | 8.2   |       | A |    | 17.1  |    | B  |   | 0.0 |       | 16.9 |       | B |
| Intersection Delay, s/veh / LOS                   | 14.2  |       |   |    |       |    | B  |   |     |       |      |       |   |

| Multimodal Results         | EB   |  |   | WB   |  |   | NB   |  |   | SB   |  |   |
|----------------------------|------|--|---|------|--|---|------|--|---|------|--|---|
| Pedestrian LOS Score / LOS | 0.67 |  | A | 1.89 |  | B | 1.70 |  | B | 1.93 |  | B |
| Bicycle LOS Score / LOS    | 1.20 |  | A | 1.35 |  | A |      |  |   |      |  | F |



HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                  |
|--------------------------|--------------------|----------------------------|----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Foxfire Trl & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                  |
| Date Performed           | 7/14/2025          | East/West Street           | Foxfire Trl                      |
| Analysis Year            | 2027               | North/South Street         | S. Brown School Rd               |
| Time Analyzed            | PM Peak No Build   | Peak Hour Factor           | 0.94                             |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                             |
| Project Description      |                    |                            |                                  |



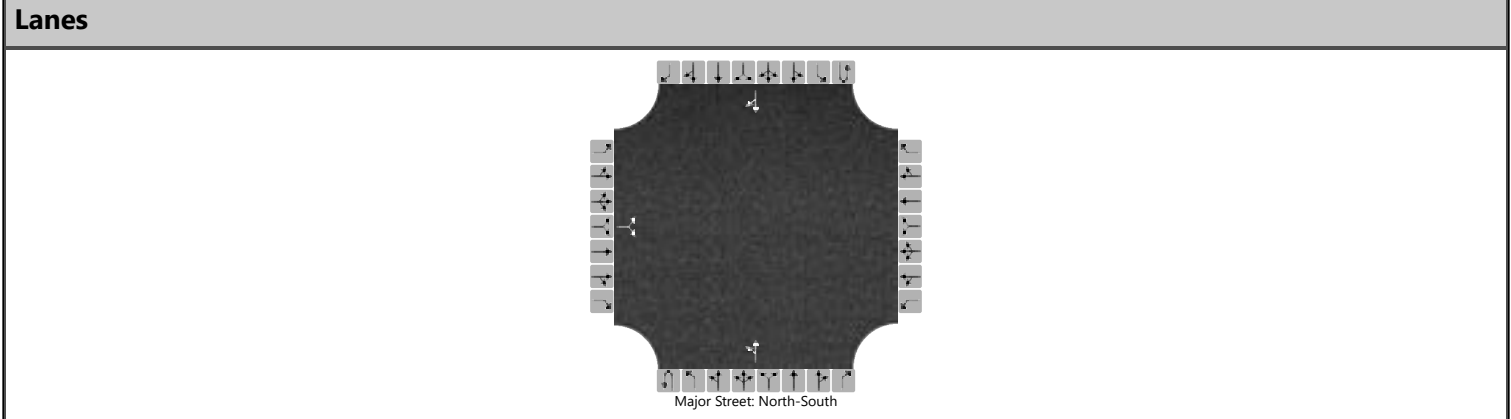
| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | LT |     |   |            |   |     | TR |
| Volume (veh/h)                  |           | 8  |    | 8  |           |   |   |   |            | 10 | 393 |   |            |   | 358 | 18 |
| Percent Heavy Vehicles (%)      |           | 0  |    | 0  |           |   |   |   |            | 3  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.40 |  | 6.20 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 |  | 3.30 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 17   |  |  |  |  |  |     | 11   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 448  |  |  |  |  |  |     | 1153 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.04 |  |  |  |  |  |     | 0.01 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.1  |  |  |  |  |  |     | 0.0  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 2.5  |  |  |  |  |  |     | 0.0  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 13.3 |  |  |  |  |  |     | 8.2  | 0.1 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 13.3 |  |      |  |  |  |  |  | 0.3 |      |     |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                   |
|--------------------------|--------------------|----------------------------|-----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Deerhurst Dr & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                   |
| Date Performed           | 7/14/2025          | East/West Street           | Deerhurst Dr                      |
| Analysis Year            | 2027               | North/South Street         | S. Brown School Rd                |
| Time Analyzed            | PM Peak No Build   | Peak Hour Factor           | 0.94                              |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                              |
| Project Description      |                    |                            |                                   |

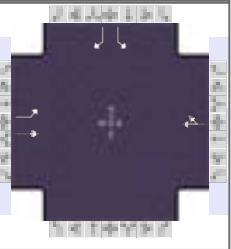


| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | LT |     |   |            |   |     | TR |
| Volume (veh/h)                  |           | 2  |    | 38 |           |   |   |   |            | 62 | 401 |   |            |   | 361 | 6  |
| Percent Heavy Vehicles (%)      |           | 3  |    | 3  |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 43   |  |  |  |  |  |     | 66   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 614  |  |  |  |  |  |     | 1147 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.07 |  |  |  |  |  |     | 0.06 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.2  |  |  |  |  |  |     | 0.2  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 5.1  |  |  |  |  |  |     | 5.2  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 11.3 |  |  |  |  |  |     | 8.3  | 0.6 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 11.3 |  |      |  |  |  |  |  | 1.7 |      |     |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

# HCS Signalized Intersection Results Summary

| General Information |                              |               |                                                   |                 | Intersection Information |       |  |
|---------------------|------------------------------|---------------|---------------------------------------------------|-----------------|--------------------------|-------|-------------------------------------------------------------------------------------|
| Agency              |                              |               |                                                   |                 | Duration, h              | 0.250 |                                                                                     |
| Analyst             |                              | Analysis Date | 7/15/2025                                         | Area Type       | Other                    |       |                                                                                     |
| Jurisdiction        |                              | Time Period   |                                                   | PHF             | 0.89                     |       |                                                                                     |
| Urban Street        | Little York Rd               | Analysis Year | 2025                                              | Analysis Period | 1> 7:00                  |       |                                                                                     |
| Intersection        | Little York Rd and S. Bro... | File Name     | PM NB 2027 Little York Rd & S Brown School Rd.... |                 |                          |       |                                                                                     |
| Project Description | 2027 PM NB                   |               |                                                   |                 |                          |       |                                                                                     |

| Demand Information    | EB  |     |   | WB |     |     | NB |   |   | SB  |   |     |
|-----------------------|-----|-----|---|----|-----|-----|----|---|---|-----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R   | L  | T | R | L   | T | R   |
| Demand ( $v$ ), veh/h | 328 | 590 |   |    | 512 | 136 |    |   |   | 141 |   | 262 |

| Signal Information |       |                 |     |        |      |      |      |     |     |     |  |
|--------------------|-------|-----------------|-----|--------|------|------|------|-----|-----|-----|--|
| Cycle, s           | 88.8  | Reference Phase | 2   |        |      |      |      |     |     |     |  |
| Offset, s          | 0     | Reference Point | End |        |      |      |      |     |     |     |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  | Green  | 16.2 | 40.4 | 15.0 | 0.0 | 0.0 | 0.0 |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  | Yellow | 3.6  | 4.9  | 4.0  | 0.0 | 0.0 | 0.0 |  |
|                    |       |                 |     | Red    | 1.5  | 1.5  | 1.7  | 0.0 | 0.0 | 0.0 |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|-----|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     |     |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 8.3  |     |     |     | 9.0  |
| Phase Duration, s                 | 21.3 | 68.1 |     | 46.8 |     |     |     | 20.7 |
| Change Period, ( $Y+R_c$ ), s     | 5.1  | 6.4  |     | 6.4  |     |     |     | 5.7  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     |     |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 15.5 | 18.7 |     | 39.3 |     |     |     | 16.4 |
| Green Extension Time ( $g_e$ ), s | 0.7  | 3.2  |     | 1.0  |     |     |     | 0.0  |
| Phase Call Probability            | 1.00 | 1.00 |     | 1.00 |     |     |     | 1.00 |
| Max Out Probability               | 0.00 | 0.01 |     | 0.56 |     |     |     | 1.00 |

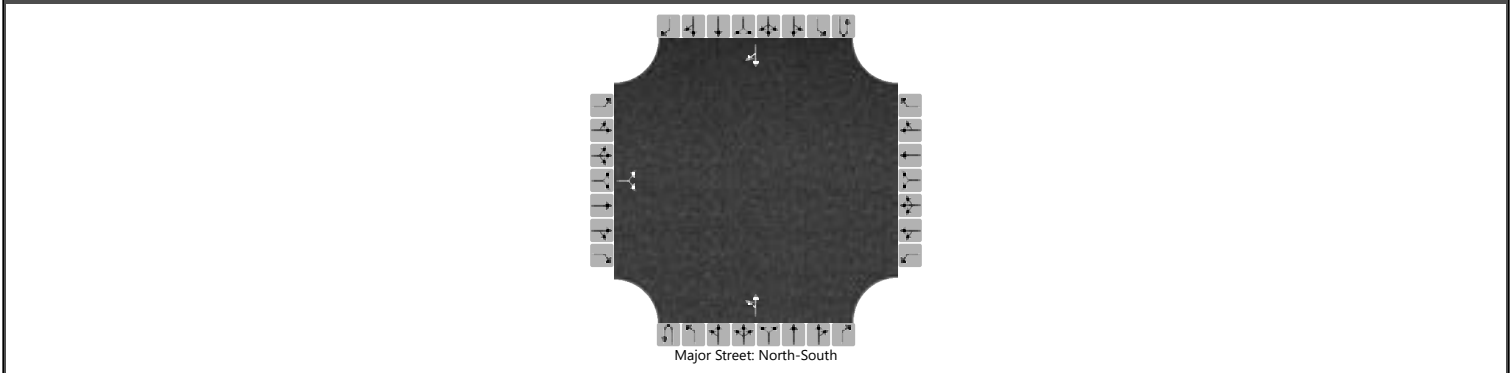
| Movement Group Results                            | EB    |       |   | WB   |       |    | NB  |   |   | SB    |   |       |
|---------------------------------------------------|-------|-------|---|------|-------|----|-----|---|---|-------|---|-------|
| Approach Movement                                 | L     | T     | R | L    | T     | R  | L   | T | R | L     | T | R     |
| Assigned Movement                                 | 5     | 2     |   |      | 6     | 16 |     |   |   | 7     |   | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 369   | 663   |   |      | 728   |    |     |   |   | 158   |   | 294   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1654  | 1736  |   |      | 1673  |    |     |   |   | 1654  |   | 1471  |
| Queue Service Time ( $g_s$ ), s                   | 13.5  | 16.7  |   |      | 37.3  |    |     |   |   | 7.8   |   | 14.4  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 13.5  | 16.7  |   |      | 37.3  |    |     |   |   | 7.8   |   | 14.4  |
| Green Ratio ( $g/C$ )                             | 0.66  | 0.69  |   |      | 0.46  |    |     |   |   | 0.17  |   | 0.35  |
| Capacity ( $c$ ), veh/h                           | 409   | 1207  |   |      | 762   |    |     |   |   | 279   |   | 517   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.901 | 0.549 |   |      | 0.955 |    |     |   |   | 0.568 |   | 0.570 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 308   | 213   |   |      | 611   |    |     |   |   | 145   |   | 215   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 12.2  | 8.5   |   |      | 24.3  |    |     |   |   | 5.7   |   | 8.5   |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 1.67  | 0.00  |   |      | 0.00  |    |     |   |   | 0.00  |   | 0.00  |
| Uniform Delay ( $d_1$ ), s/veh                    | 24.4  | 6.7   |   |      | 23.3  |    |     |   |   | 34.0  |   | 23.4  |
| Incremental Delay ( $d_2$ ), s/veh                | 3.0   | 0.3   |   |      | 19.2  |    |     |   |   | 1.7   |   | 1.0   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |   |      | 0.0   |    |     |   |   | 0.0   |   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 27.4  | 7.0   |   |      | 42.5  |    |     |   |   | 35.7  |   | 24.4  |
| Level of Service (LOS)                            | C     | A     |   |      | D     |    |     |   |   | D     |   | C     |
| Approach Delay, s/veh / LOS                       | 14.3  | B     |   | 42.5 | D     |    | 0.0 |   |   | 28.3  |   | C     |
| Intersection Delay, s/veh / LOS                   | 26.5  |       |   |      |       |    | C   |   |   |       |   |       |

| Multimodal Results         | EB   |   | WB   |   | NB   |   | SB   |   |
|----------------------------|------|---|------|---|------|---|------|---|
| Pedestrian LOS Score / LOS | 0.66 | A | 1.90 | B | 1.72 | B | 1.95 | B |
| Bicycle LOS Score / LOS    | 2.19 | B | 1.69 | B |      |   |      | F |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                  |
|--------------------------|--------------------|----------------------------|----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Foxfire Trl & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                  |
| Date Performed           | 7/14/2025          | East/West Street           | Foxfire Trl                      |
| Analysis Year            | 2047               | North/South Street         | S. Brown School Rd               |
| Time Analyzed            | AM Peak No Build   | Peak Hour Factor           | 0.81                             |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                             |
| Project Description      |                    |                            |                                  |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
|----------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Movement                   | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes            |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration              |           |    | LR |    |           |   |   |   |            | LT |     |   |            |   |     | TR |
| Volume (veh/h)             |           | 16 |    | 6  |           |   |   |   |            | 2  | 204 |   |            |   | 290 | 6  |
| Percent Heavy Vehicles (%) |           | 17 |    | 17 |           |   |   |   |            | 3  |     |   |            |   |     |    |
| Proportion Time Blocked    |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)          | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized     |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage      | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

Critical and Follow-up Headways

|                              |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)       |  | 6.57 |  | 6.37 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)      |  | 3.65 |  | 3.45 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

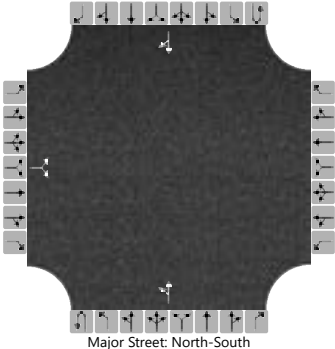
Delay, Queue Length, and Level of Service

|                                         |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-----------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    |      |  | 27   |  |  |  |  |  |     | 2    |     |  |  |  |  |  |
| Capacity, c (veh/h)                     |      |  | 472  |  |  |  |  |  |     | 1188 |     |  |  |  |  |  |
| v/c Ratio                               |      |  | 0.06 |  |  |  |  |  |     | 0.00 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      |  | 0.2  |  |  |  |  |  |     | 0.0  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      |  | 5.7  |  |  |  |  |  |     | 0.0  |     |  |  |  |  |  |
| Control Delay (s/veh)                   |      |  | 13.1 |  |  |  |  |  |     | 8.0  | 0.0 |  |  |  |  |  |
| Level of Service (LOS)                  |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 13.1 |  |      |  |  |  |  |  | 0.1 |      |     |  |  |  |  |  |
| Approach LOS                            | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                   |
|--------------------------|--------------------|----------------------------|-----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Deerhurst Dr & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                   |
| Date Performed           | 7/14/2025          | East/West Street           | Deerhurst Dr                      |
| Analysis Year            | 2047               | North/South Street         | S. Brown School Rd                |
| Time Analyzed            | AM Peak No Build   | Peak Hour Factor           | 0.84                              |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                              |
| Project Description      |                    |                            |                                   |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | LT |     |   |            |   |     | TR |
| Volume (veh/h)                  |           | 6  |    | 47 |           |   |   |   |            | 21 | 200 |   |            |   | 295 | 2  |
| Percent Heavy Vehicles (%)      |           | 3  |    | 3  |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 63   |  |  |  |  |  |     | 25   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 644  |  |  |  |  |  |     | 1183 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.10 |  |  |  |  |  |     | 0.02 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.3  |  |  |  |  |  |     | 0.1  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 7.7  |  |  |  |  |  |     | 2.6  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 11.2 |  |  |  |  |  |     | 8.1  | 0.2 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 11.2 |  |      |  |  |  |  |  | 0.9 |      |     |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |



# HCS Signalized Intersection Results Summary

| General Information |                              |               |                                                   |                 | Intersection Information |       |  |
|---------------------|------------------------------|---------------|---------------------------------------------------|-----------------|--------------------------|-------|--|
| Agency              |                              |               |                                                   |                 | Duration, h              | 0.250 |  |
| Analyst             |                              | Analysis Date | 7/15/2025                                         | Area Type       | Other                    |       |  |
| Jurisdiction        |                              | Time Period   |                                                   | PHF             | 0.86                     |       |  |
| Urban Street        | Little York Rd               | Analysis Year | 2025                                              | Analysis Period | 1> 7:00                  |       |  |
| Intersection        | Little York Rd and S. Bro... | File Name     | AM NB 2047 Little York Rd & S Brown School Rd.... |                 |                          |       |  |
| Project Description | 2047 AM NB                   |               |                                                   |                 |                          |       |  |

| Demand Information    | EB  |     |   | WB |     |    | NB |   |   | SB |   |     |
|-----------------------|-----|-----|---|----|-----|----|----|---|---|----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R  | L  | T | R | L  | T | R   |
| Demand ( $v$ ), veh/h | 141 | 242 |   |    | 385 | 80 |    |   |   | 92 |   | 254 |

| Signal Information |       |                 |     |        |     |      |      |     |     |     |  |  |
|--------------------|-------|-----------------|-----|--------|-----|------|------|-----|-----|-----|--|--|
| Cycle, s           | 54.6  | Reference Phase | 2   |        |     |      |      |     |     |     |  |  |
| Offset, s          | 0     | Reference Point | End |        |     |      |      |     |     |     |  |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  |        |     |      |      |     |     |     |  |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  |        |     |      |      |     |     |     |  |  |
|                    |       |                 |     | Green  | 4.9 | 20.3 | 12.2 | 0.0 | 0.0 | 0.0 |  |  |
|                    |       |                 |     | Yellow | 3.6 | 4.9  | 4.0  | 0.0 | 0.0 | 0.0 |  |  |
|                    |       |                 |     | Red    | 1.5 | 1.5  | 1.7  | 0.0 | 0.0 | 0.0 |  |  |

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

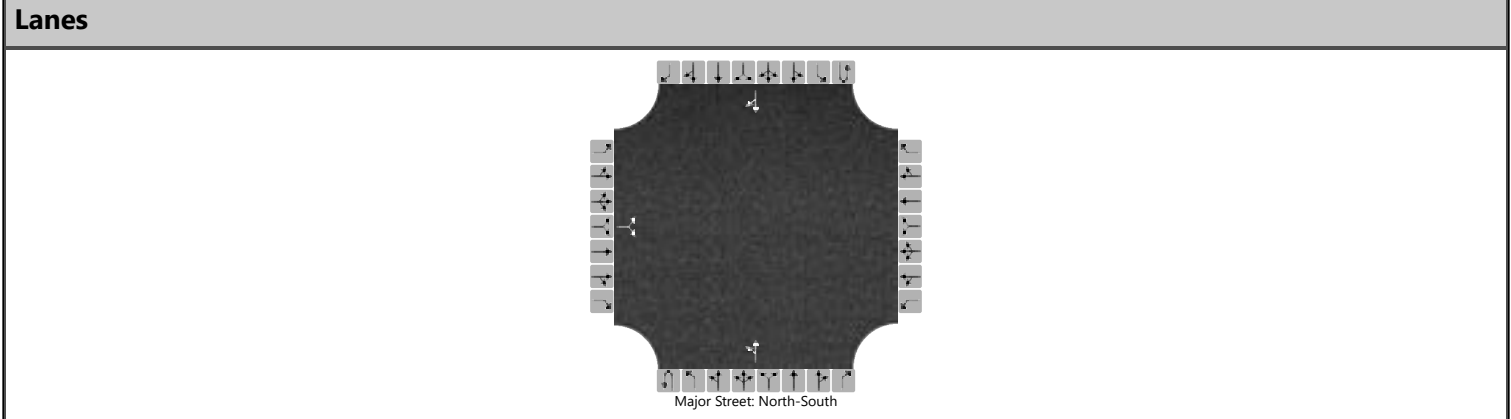
| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|-----|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     |     |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 8.3  |     |     |     | 9.0  |
| Phase Duration, s                 | 10.0 | 36.7 |     | 26.7 |     |     |     | 17.9 |
| Change Period, ( $Y+R_c$ ), s     | 5.1  | 6.4  |     | 6.4  |     |     |     | 5.7  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     |     |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 5.0  | 6.7  |     | 18.6 |     |     |     | 11.8 |
| Green Extension Time ( $g_e$ ), s | 0.3  | 1.6  |     | 1.6  |     |     |     | 0.3  |
| Phase Call Probability            | 0.92 | 1.00 |     | 1.00 |     |     |     | 1.00 |
| Max Out Probability               | 0.00 | 0.00 |     | 0.00 |     |     |     | 1.00 |

| Movement Group Results                            | EB    |       |   | WB   |       |    | NB  |   |   | SB    |   |       |
|---------------------------------------------------|-------|-------|---|------|-------|----|-----|---|---|-------|---|-------|
| Approach Movement                                 | L     | T     | R | L    | T     | R  | L   | T | R | L     | T | R     |
| Assigned Movement                                 | 5     | 2     |   |      | 6     | 16 |     |   |   | 7     |   | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 164   | 281   |   |      | 541   |    |     |   |   | 107   |   | 295   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1641  | 1723  |   |      | 1658  |    |     |   |   | 1602  |   | 1425  |
| Queue Service Time ( $g_s$ ), s                   | 3.0   | 4.7   |   |      | 16.6  |    |     |   |   | 3.0   |   | 9.8   |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 3.0   | 4.7   |   |      | 16.6  |    |     |   |   | 3.0   |   | 9.8   |
| Green Ratio ( $g/C$ )                             | 0.50  | 0.56  |   |      | 0.37  |    |     |   |   | 0.22  |   | 0.31  |
| Capacity ( $c$ ), veh/h                           | 339   | 957   |   |      | 617   |    |     |   |   | 357   |   | 446   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.484 | 0.294 |   |      | 0.876 |    |     |   |   | 0.299 |   | 0.662 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 39    | 57    |   |      | 237   |    |     |   |   | 47    |   | 137   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 1.5   | 2.2   |   |      | 9.3   |    |     |   |   | 1.8   |   | 5.3   |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 0.21  | 0.00  |   |      | 0.00  |    |     |   |   | 0.00  |   | 0.00  |
| Uniform Delay ( $d_1$ ), s/veh                    | 11.5  | 6.5   |   |      | 16.0  |    |     |   |   | 17.7  |   | 16.3  |
| Incremental Delay ( $d_2$ ), s/veh                | 0.4   | 0.1   |   |      | 1.6   |    |     |   |   | 0.2   |   | 1.6   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |   |      | 0.0   |    |     |   |   | 0.0   |   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 11.9  | 6.5   |   |      | 17.6  |    |     |   |   | 17.9  |   | 17.9  |
| Level of Service (LOS)                            | B     | A     |   |      | B     |    |     |   |   | B     |   | B     |
| Approach Delay, s/veh / LOS                       | 8.5   | A     |   | 17.6 | B     |    | 0.0 |   |   | 17.9  | B |       |
| Intersection Delay, s/veh / LOS                   | 14.8  |       |   |      |       |    | B   |   |   |       |   |       |

| Multimodal Results         | EB   |   |  | WB   |   |  | NB   |   |  | SB   |   |  |
|----------------------------|------|---|--|------|---|--|------|---|--|------|---|--|
| Pedestrian LOS Score / LOS | 0.67 | A |  | 1.89 | B |  | 1.70 | B |  | 1.93 | B |  |
| Bicycle LOS Score / LOS    | 1.22 | A |  | 1.38 | A |  |      |   |  |      | F |  |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                  |
|--------------------------|--------------------|----------------------------|----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Foxfire Trl & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                  |
| Date Performed           | 7/14/2025          | East/West Street           | Foxfire Trl                      |
| Analysis Year            | 2047               | North/South Street         | S. Brown School Rd               |
| Time Analyzed            | PM Peak No Build   | Peak Hour Factor           | 0.94                             |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                             |
| Project Description      |                    |                            |                                  |



| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | LT |     |   |            |   |     | TR |
| Volume (veh/h)                  |           | 8  |    | 8  |           |   |   |   |            | 10 | 406 |   |            |   | 370 | 18 |
| Percent Heavy Vehicles (%)      |           | 0  |    | 0  |           |   |   |   |            | 3  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

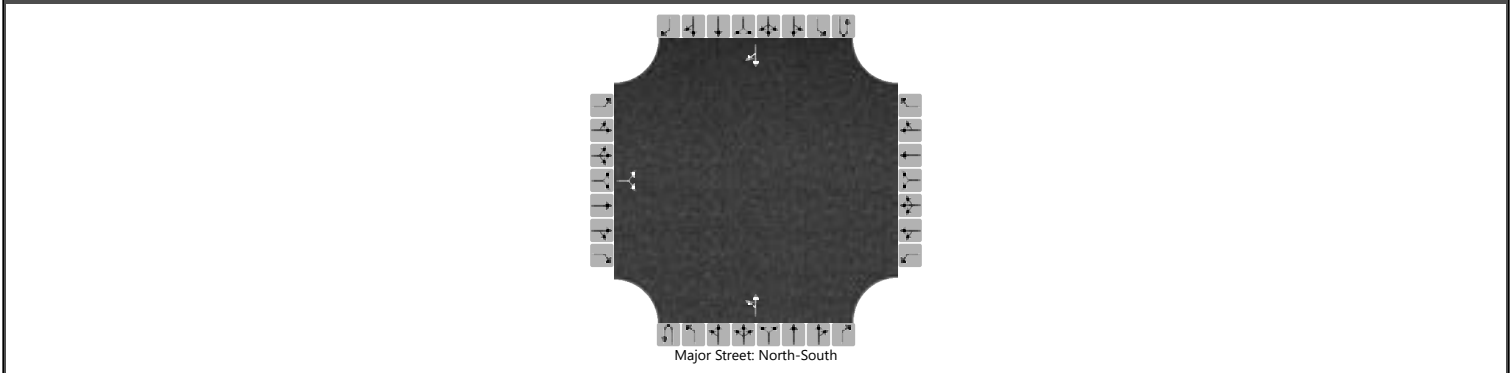
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.40 |  | 6.20 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 |  | 3.30 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 17   |  |  |  |  |  |     | 11   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 435  |  |  |  |  |  |     | 1141 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.04 |  |  |  |  |  |     | 0.01 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.1  |  |  |  |  |  |     | 0.0  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 2.5  |  |  |  |  |  |     | 0.0  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 13.6 |  |  |  |  |  |     | 8.2  | 0.1 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 13.6 |  |      |  |  |  |  |  | 0.3 |      |     |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                   |
|--------------------------|--------------------|----------------------------|-----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Deerhurst Dr & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                   |
| Date Performed           | 7/14/2025          | East/West Street           | Deerhurst Dr                      |
| Analysis Year            | 2047               | North/South Street         | S. Brown School Rd                |
| Time Analyzed            | PM Peak No Build   | Peak Hour Factor           | 0.94                              |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                              |
| Project Description      |                    |                            |                                   |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
|----------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Movement                   | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes            |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration              |           |    | LR |    |           |   |   |   |            | LT |     |   |            |   |     | TR |
| Volume (veh/h)             |           | 2  |    | 38 |           |   |   |   |            | 63 | 415 |   |            |   | 373 | 6  |
| Percent Heavy Vehicles (%) |           | 3  |    | 3  |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked    |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)          | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized     |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage      | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

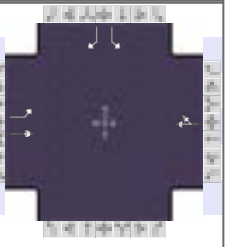
Critical and Follow-up Headways

|                              |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)       |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

Delay, Queue Length, and Level of Service

|                                         |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-----------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    |      |  | 43   |  |  |  |  |  |     | 67   |     |  |  |  |  |  |
| Capacity, c (veh/h)                     |      |  | 602  |  |  |  |  |  |     | 1134 |     |  |  |  |  |  |
| v/c Ratio                               |      |  | 0.07 |  |  |  |  |  |     | 0.06 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      |  | 0.2  |  |  |  |  |  |     | 0.2  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      |  | 5.1  |  |  |  |  |  |     | 5.2  |     |  |  |  |  |  |
| Control Delay (s/veh)                   |      |  | 11.4 |  |  |  |  |  |     | 8.4  | 0.7 |  |  |  |  |  |
| Level of Service (LOS)                  |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 11.4 |  |      |  |  |  |  |  | 1.7 |      |     |  |  |  |  |  |
| Approach LOS                            | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

# HCS Signalized Intersection Results Summary

| General Information |                              |               |                                                   |                 | Intersection Information |       |  |
|---------------------|------------------------------|---------------|---------------------------------------------------|-----------------|--------------------------|-------|-------------------------------------------------------------------------------------|
| Agency              |                              |               |                                                   |                 | Duration, h              | 0.250 |                                                                                     |
| Analyst             |                              | Analysis Date | 7/15/2025                                         | Area Type       | Other                    |       |                                                                                     |
| Jurisdiction        |                              | Time Period   |                                                   | PHF             | 0.89                     |       |                                                                                     |
| Urban Street        | Little York Rd               | Analysis Year | 2025                                              | Analysis Period | 1> 7:00                  |       |                                                                                     |
| Intersection        | Little York Rd and S. Bro... | File Name     | PM NB 2047 Little York Rd & S Brown School Rd.... |                 |                          |       |                                                                                     |
| Project Description | 2047 PM NB                   |               |                                                   |                 |                          |       |                                                                                     |

| Demand Information    | EB  |     |   | WB |     |     | NB |   |   | SB  |   |     |
|-----------------------|-----|-----|---|----|-----|-----|----|---|---|-----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R   | L  | T | R | L   | T | R   |
| Demand ( $v$ ), veh/h | 338 | 610 |   |    | 529 | 141 |    |   |   | 146 |   | 270 |

| Signal Information |       |                 |     |        |      |      |      |     |     |     |  |
|--------------------|-------|-----------------|-----|--------|------|------|------|-----|-----|-----|--|
| Cycle, s           | 94.6  | Reference Phase | 2   |        |      |      |      |     |     |     |  |
| Offset, s          | 0     | Reference Point | End |        |      |      |      |     |     |     |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  | Green  | 18.5 | 44.0 | 15.0 | 0.0 | 0.0 | 0.0 |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  | Yellow | 3.6  | 4.9  | 4.0  | 0.0 | 0.0 | 0.0 |  |
|                    |       |                 |     | Red    | 1.5  | 1.5  | 1.7  | 0.0 | 0.0 | 0.0 |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|-----|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     |     |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 8.3  |     |     |     | 9.0  |
| Phase Duration, s                 | 23.6 | 73.9 |     | 50.4 |     |     |     | 20.7 |
| Change Period, ( $Y+R_c$ ), s     | 5.1  | 6.4  |     | 6.4  |     |     |     | 5.7  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     |     |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 17.7 | 19.7 |     | 43.5 |     |     |     | 17.0 |
| Green Extension Time ( $g_e$ ), s | 0.7  | 3.3  |     | 0.4  |     |     |     | 0.0  |
| Phase Call Probability            | 1.00 | 1.00 |     | 1.00 |     |     |     | 1.00 |
| Max Out Probability               | 0.00 | 0.01 |     | 1.00 |     |     |     | 1.00 |

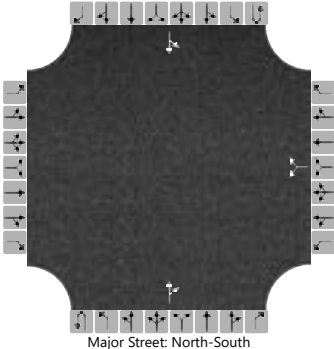
| Movement Group Results                            | EB    |       |   | WB   |       |    | NB  |   |   | SB    |   |       |
|---------------------------------------------------|-------|-------|---|------|-------|----|-----|---|---|-------|---|-------|
| Approach Movement                                 | L     | T     | R | L    | T     | R  | L   | T | R | L     | T | R     |
| Assigned Movement                                 | 5     | 2     |   |      | 6     | 16 |     |   |   | 7     |   | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 380   | 685   |   |      | 753   |    |     |   |   | 164   |   | 303   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1654  | 1736  |   |      | 1673  |    |     |   |   | 1654  |   | 1471  |
| Queue Service Time ( $g_s$ ), s                   | 15.7  | 17.7  |   |      | 41.5  |    |     |   |   | 8.8   |   | 15.0  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 15.7  | 17.7  |   |      | 41.5  |    |     |   |   | 8.8   |   | 15.0  |
| Green Ratio ( $g/C$ )                             | 0.68  | 0.71  |   |      | 0.46  |    |     |   |   | 0.16  |   | 0.35  |
| Capacity ( $c$ ), veh/h                           | 418   | 1240  |   |      | 777   |    |     |   |   | 262   |   | 521   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.909 | 0.553 |   |      | 0.968 |    |     |   |   | 0.627 |   | 0.583 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 345   | 223   |   |      | 695   |    |     |   |   | 169   |   | 234   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 13.7  | 8.9   |   |      | 27.6  |    |     |   |   | 6.7   |   | 9.3   |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 1.87  | 0.00  |   |      | 0.00  |    |     |   |   | 0.00  |   | 0.00  |
| Uniform Delay ( $d_1$ ), s/veh                    | 27.5  | 6.4   |   |      | 24.7  |    |     |   |   | 37.3  |   | 24.9  |
| Incremental Delay ( $d_2$ ), s/veh                | 5.7   | 0.3   |   |      | 23.9  |    |     |   |   | 3.5   |   | 1.1   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |   |      | 0.0   |    |     |   |   | 0.0   |   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 33.2  | 6.7   |   |      | 48.6  |    |     |   |   | 40.8  |   | 26.0  |
| Level of Service (LOS)                            | C     | A     |   |      | D     |    |     |   |   | D     |   | C     |
| Approach Delay, s/veh / LOS                       | 16.2  | B     |   | 48.6 | D     |    | 0.0 |   |   | 31.2  |   | C     |
| Intersection Delay, s/veh / LOS                   | 29.9  |       |   |      |       |    | C   |   |   |       |   |       |

| Multimodal Results         | EB   |   | WB   |   | NB   |   | SB   |   |
|----------------------------|------|---|------|---|------|---|------|---|
| Pedestrian LOS Score / LOS | 0.65 | A | 1.90 | B | 1.73 | B | 1.95 | B |
| Bicycle LOS Score / LOS    | 2.25 | B | 1.73 | B |      |   |      | F |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                       |
|--------------------------|--------------------|----------------------------|---------------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Proposed Drive D & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                       |
| Date Performed           | 7/14/2025          | East/West Street           | Proposed Drive D                      |
| Analysis Year            | 2027               | North/South Street         | S. Brown School Rd                    |
| Time Analyzed            | AM Peak Build      | Peak Hour Factor           | 0.93                                  |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                                  |
| Project Description      |                    |                            |                                       |

Lanes



| Vehicle Volumes and Adjustments |           |    |    |    |           |    |    |   |            |   |     |    |            |    |     |   |
|---------------------------------|-----------|----|----|----|-----------|----|----|---|------------|---|-----|----|------------|----|-----|---|
| Approach                        | Eastbound |    |    |    | Westbound |    |    |   | Northbound |   |     |    | Southbound |    |     |   |
| Movement                        | U         | L  | T  | R  | U         | L  | T  | R | U          | L | T   | R  | U          | L  | T   | R |
| Priority                        |           | 10 | 11 | 12 |           | 7  | 8  | 9 | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6 |
| Number of Lanes                 |           | 0  | 0  | 0  |           | 0  | 1  | 0 | 0          | 0 | 1   | 0  | 0          | 0  | 1   | 0 |
| Configuration                   |           |    |    |    |           |    | LR |   |            |   |     | TR |            | LT |     |   |
| Volume (veh/h)                  |           |    |    |    |           | 14 |    | 5 |            |   | 235 | 4  |            | 2  | 295 |   |
| Percent Heavy Vehicles (%)      |           |    |    |    |           | 3  |    | 3 |            |   |     |    |            | 3  |     |   |
| Proportion Time Blocked         |           |    |    |    |           |    |    |   |            |   |     |    |            |    |     |   |
| Percent Grade (%)               |           |    |    |    | 0         |    |    |   |            |   |     |    |            |    |     |   |
| Right Turn Channelized          |           |    |    |    |           |    |    |   |            |   |     |    |            |    |     |   |
| Median Type   Storage           | Undivided |    |    |    |           |    |    |   |            |   |     |    |            |    |     |   |

| Critical and Follow-up Headways |  |  |  |  |  |      |  |      |  |  |  |  |  |      |  |  |
|---------------------------------|--|--|--|--|--|------|--|------|--|--|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  |  |  |  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  |  |  |  |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec)    |  |  |  |  |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  |  |  |  |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |

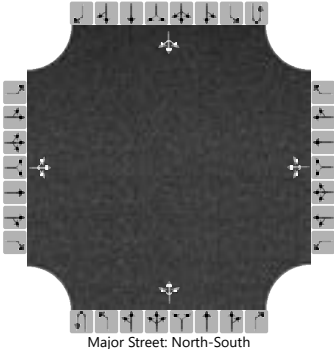
| Delay, Queue Length, and Level of Service |  |  |  |  |      |      |  |  |  |  |  |  |     |      |     |  |
|-------------------------------------------|--|--|--|--|------|------|--|--|--|--|--|--|-----|------|-----|--|
| Flow Rate, v (veh/h)                      |  |  |  |  |      | 20   |  |  |  |  |  |  |     | 2    |     |  |
| Capacity, c (veh/h)                       |  |  |  |  |      | 531  |  |  |  |  |  |  |     | 1302 |     |  |
| v/c Ratio                                 |  |  |  |  |      | 0.04 |  |  |  |  |  |  |     | 0.00 |     |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |  |  |  |  |      | 0.1  |  |  |  |  |  |  |     | 0.0  |     |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |  |  |  |  |      | 2.6  |  |  |  |  |  |  |     | 0.0  |     |  |
| Control Delay (s/veh)                     |  |  |  |  |      | 12.1 |  |  |  |  |  |  |     | 7.8  | 0.0 |  |
| Level of Service (LOS)                    |  |  |  |  |      | B    |  |  |  |  |  |  |     | A    | A   |  |
| Approach Delay (s/veh)                    |  |  |  |  | 12.1 |      |  |  |  |  |  |  | 0.1 |      |     |  |
| Approach LOS                              |  |  |  |  | B    |      |  |  |  |  |  |  | A   |      |     |  |



HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                  |
|--------------------------|--------------------|----------------------------|----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Foxfire Trl & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                  |
| Date Performed           | 7/14/2025          | East/West Street           | Foxfire Trl                      |
| Analysis Year            | 2027               | North/South Street         | S. Brown School Rd               |
| Time Analyzed            | AM Peak Build      | Peak Hour Factor           | 0.81                             |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                             |
| Project Description      |                    |                            |                                  |

Lanes



Major Street: North-South

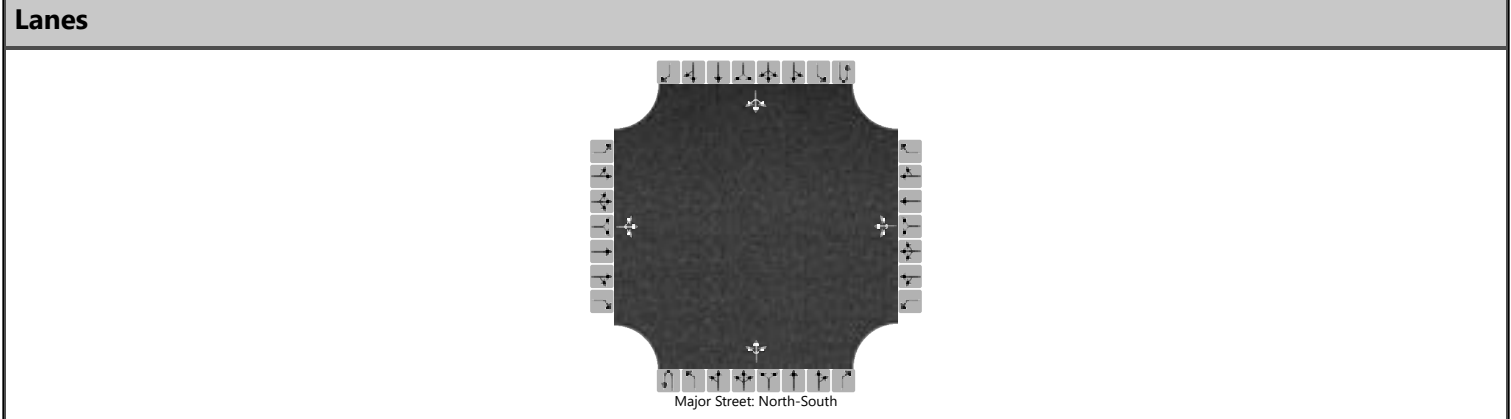
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |    |            |   |     |    |            |   |     |   |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|----|------------|---|-----|----|------------|---|-----|---|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |    | Northbound |   |     |    | Southbound |   |     |   |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R  | U          | L | T   | R  | U          | L | T   | R |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9  | 1U         | 1 | 2   | 3  | 4U         | 4 | 5   | 6 |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0  | 0          | 0 | 1   | 0  | 0          | 0 | 1   | 0 |
| Configuration                   |           |    | LTR |    |           |    | LTR |    |            |   | LTR |    |            |   | LTR |   |
| Volume (veh/h)                  |           | 16 | 0   | 6  |           | 33 | 0   | 13 |            | 2 | 209 | 11 |            | 4 | 298 | 6 |
| Percent Heavy Vehicles (%)      |           | 17 | 3   | 17 |           | 3  | 3   | 3  |            | 3 |     |    |            | 3 |     |   |
| Proportion Time Blocked         |           |    |     |    |           |    |     |    |            |   |     |    |            |   |     |   |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |    |            |   |     |    |            |   |     |   |
| Right Turn Channelized          |           |    |     |    |           |    |     |    |            |   |     |    |            |   |     |   |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |    |            |   |     |    |            |   |     |   |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.27 | 6.53 | 6.37 |  | 7.13 | 6.53 | 6.23 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.65 | 4.03 | 3.45 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |      |     |     |     |      |     |     |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|------|-----|-----|-----|------|-----|-----|
| Flow Rate, v (veh/h)                      |      |  | 27   |  |      |  | 57   |  |     | 2    |     |     |     | 5    |     |     |
| Capacity, c (veh/h)                       |      |  | 397  |  |      |  | 435  |  |     | 1178 |     |     |     | 1286 |     |     |
| v/c Ratio                                 |      |  | 0.07 |  |      |  | 0.13 |  |     | 0.00 |     |     |     | 0.00 |     |     |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.2  |  |      |  | 0.4  |  |     | 0.0  |     |     |     | 0.0  |     |     |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 5.7  |  |      |  | 10.2 |  |     |      |     |     |     |      |     |     |
| Control Delay (s/veh)                     |      |  | 14.7 |  |      |  | 14.5 |  |     | 8.1  | 0.0 | 0.0 |     | 7.8  | 0.0 | 0.0 |
| Level of Service (LOS)                    |      |  | B    |  |      |  | B    |  |     | A    | A   | A   |     | A    | A   | A   |
| Approach Delay (s/veh)                    | 14.7 |  |      |  | 14.5 |  |      |  | 0.1 |      |     |     | 0.1 |      |     |     |
| Approach LOS                              | B    |  |      |  | B    |  |      |  | A   |      |     |     | A   |      |     |     |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                   |
|--------------------------|--------------------|----------------------------|-----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Deerhurst Dr & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                   |
| Date Performed           | 7/14/2025          | East/West Street           | Deerhurst Dr                      |
| Analysis Year            | 2027               | North/South Street         | S. Brown School Rd                |
| Time Analyzed            | AM Peak Build      | Peak Hour Factor           | 0.84                              |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                              |
| Project Description      |                    |                            |                                   |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |   |            |    |     |   |            |   |     |   |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|---|------------|----|-----|---|------------|---|-----|---|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |   | Northbound |    |     |   | Southbound |   |     |   |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration                   |           |    | LTR |    |           |    | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)                  |           | 6  | 0   | 47 |           | 20 | 0   | 8 |            | 21 | 208 | 7 |            | 3 | 333 | 2 |
| Percent Heavy Vehicles (%)      |           | 3  | 3   | 3  |           | 3  | 3   | 3 |            | 6  |     |   |            | 3 |     |   |
| Proportion Time Blocked         |           |    |     |    |           |    |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized          |           |    |     |    |           |    |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |   |            |    |     |   |            |   |     |   |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.13 | 6.53 | 6.23 |  | 7.13 | 6.53 | 6.23 |  | 4.16 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.25 |  |  |  | 2.23 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |      |     |     |     |      |     |     |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|------|-----|-----|-----|------|-----|-----|
| Flow Rate, v (veh/h)                      |      |  | 63   |  |      |  | 33   |  |     | 25   |     |     |     | 4    |     |     |
| Capacity, c (veh/h)                       |      |  | 586  |  |      |  | 361  |  |     | 1138 |     |     |     | 1303 |     |     |
| v/c Ratio                                 |      |  | 0.11 |  |      |  | 0.09 |  |     | 0.02 |     |     |     | 0.00 |     |     |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |      |  | 0.3  |  |     | 0.1  |     |     |     | 0.0  |     |     |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 10.2 |  |      |  | 7.7  |  |     |      |     |     |     |      |     |     |
| Control Delay (s/veh)                     |      |  | 11.9 |  |      |  | 16.0 |  |     | 8.2  | 0.2 | 0.2 |     | 7.8  | 0.0 | 0.0 |
| Level of Service (LOS)                    |      |  | B    |  |      |  | C    |  |     | A    | A   | A   |     | A    | A   | A   |
| Approach Delay (s/veh)                    | 11.9 |  |      |  | 16.0 |  |      |  | 0.9 |      |     |     | 0.1 |      |     |     |
| Approach LOS                              | B    |  |      |  | C    |  |      |  | A   |      |     |     | A   |      |     |     |

# HCS Signalized Intersection Results Summary

| General Information |                              |               |                                                  |                 | Intersection Information |       |  |
|---------------------|------------------------------|---------------|--------------------------------------------------|-----------------|--------------------------|-------|--|
| Agency              |                              |               |                                                  |                 | Duration, h              | 0.250 |  |
| Analyst             |                              | Analysis Date | 7/15/2025                                        | Area Type       | Other                    |       |  |
| Jurisdiction        |                              | Time Period   |                                                  | PHF             | 0.86                     |       |  |
| Urban Street        | Little York Rd               | Analysis Year | 2025                                             | Analysis Period | 1 > 7:00                 |       |  |
| Intersection        | Little York Rd and S. Bro... | File Name     | AM B 2027 Little York Rd & S Brown School Rd.xus |                 |                          |       |  |
| Project Description | 2027 AM B                    |               |                                                  |                 |                          |       |  |

| Demand Information    | EB  |     |   | WB |     |    | NB |   |   | SB  |   |     |
|-----------------------|-----|-----|---|----|-----|----|----|---|---|-----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R  | L  | T | R | L   | T | R   |
| Demand ( $v$ ), veh/h | 149 | 234 |   |    | 372 | 85 |    |   |   | 107 |   | 296 |

| Signal Information |       |                 |     |        |     |      |      |     |     |     |  |
|--------------------|-------|-----------------|-----|--------|-----|------|------|-----|-----|-----|--|
| Cycle, s           | 58.2  | Reference Phase | 2   |        |     |      |      |     |     |     |  |
| Offset, s          | 0     | Reference Point | End |        |     |      |      |     |     |     |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  | Green  | 5.5 | 21.2 | 14.4 | 0.0 | 0.0 | 0.0 |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  | Yellow | 3.6 | 4.9  | 4.0  | 0.0 | 0.0 | 0.0 |  |
|                    |       |                 |     | Red    | 1.5 | 1.5  | 1.7  | 0.0 | 0.0 | 0.0 |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|-----|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     |     |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 8.3  |     |     |     | 9.0  |
| Phase Duration, s                 | 10.6 | 38.1 |     | 27.6 |     |     |     | 20.1 |
| Change Period, ( $Y+R_c$ ), s     | 5.1  | 6.4  |     | 6.4  |     |     |     | 5.7  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     |     |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 5.5  | 7.0  |     | 19.6 |     |     |     | 14.2 |
| Green Extension Time ( $g_e$ ), s | 0.3  | 1.6  |     | 1.6  |     |     |     | 0.1  |
| Phase Call Probability            | 0.94 | 1.00 |     | 1.00 |     |     |     | 1.00 |
| Max Out Probability               | 0.00 | 0.00 |     | 0.00 |     |     |     | 1.00 |

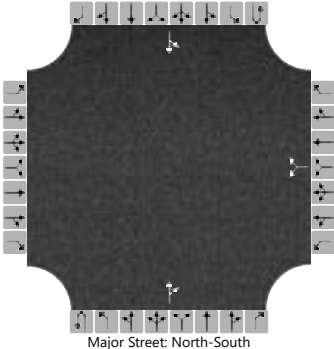
| Movement Group Results                            | EB    |       |   | WB |       |    | NB |   |     | SB    |      |       |   |
|---------------------------------------------------|-------|-------|---|----|-------|----|----|---|-----|-------|------|-------|---|
| Approach Movement                                 | L     | T     | R | L  | T     | R  | L  | T | R   | L     | T    | R     |   |
| Assigned Movement                                 | 5     | 2     |   |    | 6     | 16 |    |   |     | 7     |      | 14    |   |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 173   | 272   |   |    | 531   |    |    |   |     | 124   |      | 344   |   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1641  | 1723  |   |    | 1654  |    |    |   |     | 1602  |      | 1425  |   |
| Queue Service Time ( $g_s$ ), s                   | 3.5   | 5.0   |   |    | 17.6  |    |    |   |     | 3.7   |      | 12.2  |   |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 3.5   | 5.0   |   |    | 17.6  |    |    |   |     | 3.7   |      | 12.2  |   |
| Green Ratio ( $g/C$ )                             | 0.49  | 0.55  |   |    | 0.36  |    |    |   |     | 0.25  |      | 0.34  |   |
| Capacity ( $c$ ), veh/h                           | 332   | 939   |   |    | 602   |    |    |   |     | 396   |      | 486   |   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.521 | 0.290 |   |    | 0.883 |    |    |   |     | 0.315 |      | 0.708 |   |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 47    | 63    |   |    | 254   |    |    |   |     | 58    |      | 184   |   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 1.8   | 2.5   |   |    | 9.9   |    |    |   |     | 2.2   |      | 7.1   |   |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 0.25  | 0.00  |   |    | 0.00  |    |    |   |     | 0.00  |      | 0.00  |   |
| Uniform Delay ( $d_1$ ), s/veh                    | 12.4  | 7.2   |   |    | 17.4  |    |    |   |     | 17.9  |      | 16.7  |   |
| Incremental Delay ( $d_2$ ), s/veh                | 0.5   | 0.1   |   |    | 1.8   |    |    |   |     | 0.2   |      | 3.7   |   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |   |    | 0.0   |    |    |   |     | 0.0   |      | 0.0   |   |
| Control Delay ( $d$ ), s/veh                      | 12.9  | 7.2   |   |    | 19.1  |    |    |   |     | 18.1  |      | 20.4  |   |
| Level of Service (LOS)                            | B     | A     |   |    | B     |    |    |   |     | B     |      | C     |   |
| Approach Delay, s/veh / LOS                       | 9.4   |       | A |    | 19.1  |    | B  |   | 0.0 |       | 19.8 |       | B |
| Intersection Delay, s/veh / LOS                   | 16.4  |       |   |    |       |    | B  |   |     |       |      |       |   |

| Multimodal Results         | EB   |  |   | WB   |  |   | NB   |  |   | SB   |  |   |
|----------------------------|------|--|---|------|--|---|------|--|---|------|--|---|
| Pedestrian LOS Score / LOS | 0.67 |  | A | 1.90 |  | B | 1.71 |  | B | 1.93 |  | B |
| Bicycle LOS Score / LOS    | 1.22 |  | A | 1.36 |  | A |      |  |   |      |  | F |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                       |
|--------------------------|--------------------|----------------------------|---------------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Proposed Drive D & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                       |
| Date Performed           | 7/14/2025          | East/West Street           | Proposed Drive D                      |
| Analysis Year            | 2027               | North/South Street         | S. Brown School Rd                    |
| Time Analyzed            | PM Peak Build      | Peak Hour Factor           | 0.93                                  |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                                  |
| Project Description      |                    |                            |                                       |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
|---------------------------------|-----------|----|----|----|-----------|---|----|---|------------|---|-----|----|------------|----|-----|---|
| Approach                        | Eastbound |    |    |    | Westbound |   |    |   | Northbound |   |     |    | Southbound |    |     |   |
| Movement                        | U         | L  | T  | R  | U         | L | T  | R | U          | L | T   | R  | U          | L  | T   | R |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8  | 9 | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6 |
| Number of Lanes                 |           | 0  | 0  | 0  |           | 0 | 1  | 0 | 0          | 0 | 1   | 0  | 0          | 0  | 1   | 0 |
| Configuration                   |           |    |    |    |           |   | LR |   |            |   |     | TR |            | LT |     |   |
| Volume (veh/h)                  |           |    |    |    |           | 9 |    | 3 |            |   | 413 | 16 |            | 4  | 395 |   |
| Percent Heavy Vehicles (%)      |           |    |    |    |           | 3 |    | 3 |            |   |     |    |            | 3  |     |   |
| Proportion Time Blocked         |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
| Percent Grade (%)               |           |    |    |    | 0         |   |    |   |            |   |     |    |            |    |     |   |
| Right Turn Channelized          |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
| Median Type   Storage           | Undivided |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |

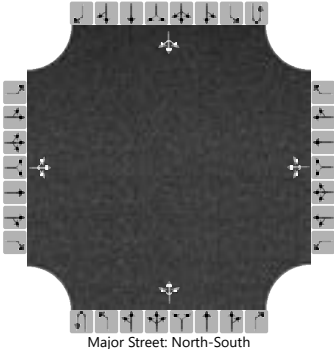
| Critical and Follow-up Headways |  |  |  |  |  |      |  |      |  |  |  |  |  |      |  |  |
|---------------------------------|--|--|--|--|--|------|--|------|--|--|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  |  |  |  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  |  |  |  |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec)    |  |  |  |  |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  |  |  |  |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |

| Delay, Queue Length, and Level of Service |  |  |  |  |      |      |  |  |  |  |  |  |     |      |     |  |
|-------------------------------------------|--|--|--|--|------|------|--|--|--|--|--|--|-----|------|-----|--|
| Flow Rate, v (veh/h)                      |  |  |  |  |      | 13   |  |  |  |  |  |  |     | 4    |     |  |
| Capacity, c (veh/h)                       |  |  |  |  |      | 355  |  |  |  |  |  |  |     | 1095 |     |  |
| v/c Ratio                                 |  |  |  |  |      | 0.04 |  |  |  |  |  |  |     | 0.00 |     |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |  |  |  |  |      | 0.1  |  |  |  |  |  |  |     | 0.0  |     |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |  |  |  |  |      | 2.6  |  |  |  |  |  |  |     | 0.0  |     |  |
| Control Delay (s/veh)                     |  |  |  |  |      | 15.5 |  |  |  |  |  |  |     | 8.3  | 0.0 |  |
| Level of Service (LOS)                    |  |  |  |  |      | C    |  |  |  |  |  |  |     | A    | A   |  |
| Approach Delay (s/veh)                    |  |  |  |  | 15.5 |      |  |  |  |  |  |  | 0.1 |      |     |  |
| Approach LOS                              |  |  |  |  | C    |      |  |  |  |  |  |  | A   |      |     |  |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                  |
|--------------------------|--------------------|----------------------------|----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Foxfire Trl & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                  |
| Date Performed           | 7/14/2025          | East/West Street           | Foxfire Trl                      |
| Analysis Year            | 2027               | North/South Street         | S. Brown School Rd               |
| Time Analyzed            | PM Peak Build      | Peak Hour Factor           | 0.94                             |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                             |
| Project Description      |                    |                            |                                  |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |   |            |    |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|---|------------|----|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |   | Northbound |    |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R | U          | L  | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9 | 1U         | 1  | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0 | 0          | 0  | 1   | 0  | 0          | 0  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |   |            |    | LTR |    |            |    | LTR |    |
| Volume (veh/h)                  |           | 8  | 0   | 8  |           | 24 | 0   | 7 |            | 10 | 413 | 40 |            | 12 | 374 | 18 |
| Percent Heavy Vehicles (%)      |           | 0  | 3   | 0  |           | 3  | 3   | 3 |            | 3  |     |    |            | 3  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |   |            |    |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |   |            |    |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |   |            |    |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |   |            |    |     |    |            |    |     |    |

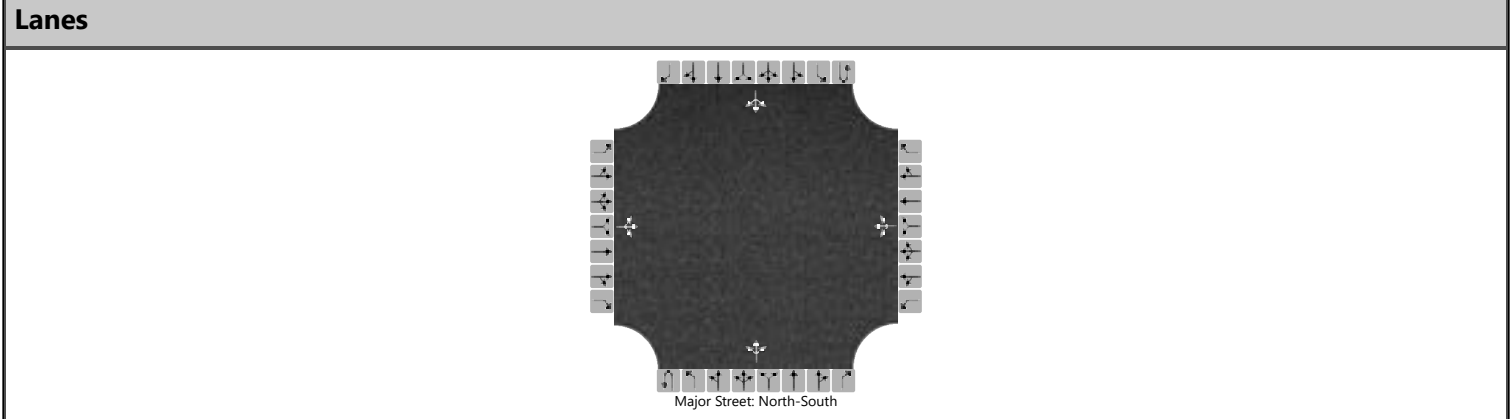
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.53 | 6.20 |  | 7.13 | 6.53 | 6.23 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.03 | 3.30 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |      |     |     |     |      |     |     |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|------|-----|-----|-----|------|-----|-----|
| Flow Rate, v (veh/h)                      |      |  | 17   |  |      |  | 33   |  |     | 11   |     |     |     | 13   |     |     |
| Capacity, c (veh/h)                       |      |  | 354  |  |      |  | 278  |  |     | 1137 |     |     |     | 1075 |     |     |
| v/c Ratio                                 |      |  | 0.05 |  |      |  | 0.12 |  |     | 0.01 |     |     |     | 0.01 |     |     |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.2  |  |      |  | 0.4  |  |     | 0.0  |     |     |     | 0.0  |     |     |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 5.0  |  |      |  | 10.2 |  |     |      |     |     |     |      |     |     |
| Control Delay (s/veh)                     |      |  | 15.7 |  |      |  | 19.7 |  |     | 8.2  | 0.1 | 0.1 |     | 8.4  | 0.1 | 0.1 |
| Level of Service (LOS)                    |      |  | C    |  |      |  | C    |  |     | A    | A   | A   |     | A    | A   | A   |
| Approach Delay (s/veh)                    | 15.7 |  |      |  | 19.7 |  |      |  | 0.3 |      |     |     | 0.4 |      |     |     |
| Approach LOS                              | C    |  |      |  | C    |  |      |  | A   |      |     |     | A   |      |     |     |



HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                   |
|--------------------------|--------------------|----------------------------|-----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Deerhurst Dr & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                   |
| Date Performed           | 7/14/2025          | East/West Street           | Deerhurst Dr                      |
| Analysis Year            | 2027               | North/South Street         | S. Brown School Rd                |
| Time Analyzed            | PM Peak Build      | Peak Hour Factor           | 0.94                              |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                              |
| Project Description      |                    |                            |                                   |

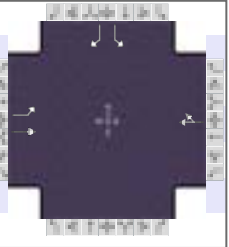


| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |   |            |    |     |    |            |   |     |   |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|---|------------|----|-----|----|------------|---|-----|---|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |   | Northbound |    |     |    | Southbound |   |     |   |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R | U          | L  | T   | R  | U          | L | T   | R |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9 | 1U         | 1  | 2   | 3  | 4U         | 4 | 5   | 6 |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0 | 0          | 0  | 1   | 0  | 0          | 0 | 1   | 0 |
| Configuration                   |           |    | LTR |    |           |    | LTR |   |            |    | LTR |    |            |   | LTR |   |
| Volume (veh/h)                  |           | 2  | 0   | 38 |           | 15 | 0   | 4 |            | 62 | 457 | 25 |            | 7 | 394 | 6 |
| Percent Heavy Vehicles (%)      |           | 3  | 3   | 3  |           | 3  | 3   | 3 |            | 6  |     |    |            | 3 |     |   |
| Proportion Time Blocked         |           |    |     |    |           |    |     |   |            |    |     |    |            |   |     |   |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |   |            |    |     |    |            |   |     |   |
| Right Turn Channelized          |           |    |     |    |           |    |     |   |            |    |     |    |            |   |     |   |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |   |            |    |     |    |            |   |     |   |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.13 | 6.53 | 6.23 |  | 7.13 | 6.53 | 6.23 |  | 4.16 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.25 |  |  |  | 2.23 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |  |      |     |     |  |      |     |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|--|------|-----|-----|--|------|-----|
| Flow Rate, v (veh/h)                      |      |  | 43   |  |      |  | 20   |  |     |  | 66   |     |     |  | 7    |     |
| Capacity, c (veh/h)                       |      |  | 558  |  |      |  | 192  |  |     |  | 1113 |     |     |  | 1048 |     |
| v/c Ratio                                 |      |  | 0.08 |  |      |  | 0.11 |  |     |  | 0.06 |     |     |  | 0.01 |     |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.2  |  |      |  | 0.3  |  |     |  | 0.2  |     |     |  | 0.0  |     |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 5.1  |  |      |  | 7.7  |  |     |  |      |     |     |  |      |     |
| Control Delay (s/veh)                     |      |  | 12.0 |  |      |  | 26.0 |  |     |  | 8.4  | 0.7 | 0.7 |  | 8.5  | 0.1 |
| Level of Service (LOS)                    |      |  | B    |  |      |  | D    |  |     |  | A    | A   | A   |  | A    | A   |
| Approach Delay (s/veh)                    | 12.0 |  |      |  | 26.0 |  |      |  | 1.6 |  |      |     | 0.2 |  |      |     |
| Approach LOS                              | B    |  |      |  | D    |  |      |  | A   |  |      |     | A   |  |      |     |

# HCS Signalized Intersection Results Summary

| General Information |                              |               |                                                  |  | Intersection Information |         |  |
|---------------------|------------------------------|---------------|--------------------------------------------------|--|--------------------------|---------|-------------------------------------------------------------------------------------|
| Agency              |                              |               |                                                  |  | Duration, h              | 0.250   |                                                                                     |
| Analyst             |                              | Analysis Date | 7/15/2025                                        |  | Area Type                | Other   |                                                                                     |
| Jurisdiction        |                              | Time Period   |                                                  |  | PHF                      | 0.89    |                                                                                     |
| Urban Street        | Little York Rd               | Analysis Year | 2025                                             |  | Analysis Period          | 1> 7:00 |                                                                                     |
| Intersection        | Little York Rd and S. Bro... | File Name     | PM B 2027 Little York Rd & S Brown School Rd.xus |  |                          |         |                                                                                     |
| Project Description | 2027 PM B                    |               |                                                  |  |                          |         |                                                                                     |

| Demand Information    | EB  |     |   | WB |     |     | NB |   |   | SB  |   |     |
|-----------------------|-----|-----|---|----|-----|-----|----|---|---|-----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R   | L  | T | R | L   | T | R   |
| Demand ( $v$ ), veh/h | 385 | 590 |   |    | 512 | 160 |    |   |   | 158 |   | 293 |

| Signal Information |       |                 |     |  |  |  |  |  |  |  |  |
|--------------------|-------|-----------------|-----|--|--|--|--|--|--|--|--|
| Cycle, s           | 101.4 | Reference Phase | 2   |  |  |  |  |  |  |  |  |
| Offset, s          | 0     | Reference Point | End |  |  |  |  |  |  |  |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  |  |  |  |  |  |  |  |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  |  |  |  |  |  |  |  |  |

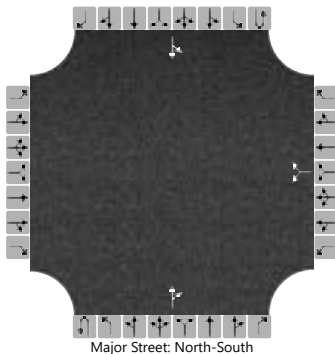
| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|-----|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     |     |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 8.3  |     |     |     | 9.0  |
| Phase Duration, s                 | 29.3 | 80.7 |     | 51.4 |     |     |     | 20.7 |
| Change Period, ( $Y+R_c$ ), s     | 5.1  | 6.4  |     | 6.4  |     |     |     | 5.7  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     |     |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 23.5 | 18.7 |     | 47.0 |     |     |     | 17.0 |
| Green Extension Time ( $g_e$ ), s | 0.7  | 3.3  |     | 0.0  |     |     |     | 0.0  |
| Phase Call Probability            | 1.00 | 1.00 |     | 1.00 |     |     |     | 1.00 |
| Max Out Probability               | 0.00 | 0.01 |     | 1.00 |     |     |     | 1.00 |

| Movement Group Results                            | EB    |       |   | WB |       |    | NB |   |     | SB    |   |       |
|---------------------------------------------------|-------|-------|---|----|-------|----|----|---|-----|-------|---|-------|
| Approach Movement                                 | L     | T     | R | L  | T     | R  | L  | T | R   | L     | T | R     |
| Assigned Movement                                 | 5     | 2     |   |    | 6     | 16 |    |   |     | 7     |   | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 433   | 663   |   |    | 755   |    |    |   |     | 178   |   | 329   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1654  | 1736  |   |    | 1665  |    |    |   |     | 1654  |   | 1471  |
| Queue Service Time ( $g_s$ ), s                   | 21.5  | 16.7  |   |    | 45.0  |    |    |   |     | 10.4  |   | 15.0  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 21.5  | 16.7  |   |    | 45.0  |    |    |   |     | 10.4  |   | 15.0  |
| Green Ratio ( $g/C$ )                             | 0.70  | 0.73  |   |    | 0.44  |    |    |   |     | 0.15  |   | 0.39  |
| Capacity ( $c$ ), veh/h                           | 465   | 1272  |   |    | 739   |    |    |   |     | 245   |   | 569   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.929 | 0.521 |   |    | 1.022 |    |    |   |     | 0.726 |   | 0.579 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 442   | 212   |   |    | 839   |    |    |   |     | 210   |   | 258   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 17.5  | 8.4   |   |    | 33.3  |    |    |   |     | 8.3   |   | 10.2  |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 2.39  | 0.00  |   |    | 0.00  |    |    |   |     | 0.00  |   | 0.00  |
| Uniform Delay ( $d_1$ ), s/veh                    | 30.8  | 5.9   |   |    | 28.2  |    |    |   |     | 41.2  |   | 24.6  |
| Incremental Delay ( $d_2$ ), s/veh                | 14.1  | 0.2   |   |    | 38.7  |    |    |   |     | 9.0   |   | 1.0   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |   |    | 0.0   |    |    |   |     | 0.0   |   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 45.0  | 6.0   |   |    | 66.9  |    |    |   |     | 50.2  |   | 25.6  |
| Level of Service (LOS)                            | D     | A     |   |    | F     |    |    |   |     | D     |   | C     |
| Approach Delay, s/veh / LOS                       | 21.4  | C     |   |    | 66.9  | E  |    |   | 0.0 |       |   | 34.2  |
| Intersection Delay, s/veh / LOS                   | 38.7  |       |   |    |       |    | D  |   |     |       |   |       |

| Multimodal Results         | EB   |   | WB   |   | NB   |   | SB   |   |
|----------------------------|------|---|------|---|------|---|------|---|
| Pedestrian LOS Score / LOS | 0.65 | A | 1.91 | B | 1.73 | B | 1.95 | B |
| Bicycle LOS Score / LOS    | 2.30 | B | 1.73 | B |      |   |      | F |

| General Information      |                    | Site Information           |                                       |
|--------------------------|--------------------|----------------------------|---------------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Proposed Drive D & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                       |
| Date Performed           | 7/14/2025          | East/West Street           | Proposed Drive D                      |
| Analysis Year            | 2047               | North/South Street         | S. Brown School Rd                    |
| Time Analyzed            | AM Peak Build      | Peak Hour Factor           | 0.93                                  |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                                  |
| Project Description      |                    |                            |                                       |

| Lanes |  |
|-------|--|
|-------|--|



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |    |    |   | Northbound |   |     |    | Southbound |    |     |   |
|----------------------------|-----------|----|----|----|-----------|----|----|---|------------|---|-----|----|------------|----|-----|---|
| Movement                   | U         | L  | T  | R  | U         | L  | T  | R | U          | L | T   | R  | U          | L  | T   | R |
| Priority                   |           | 10 | 11 | 12 |           | 7  | 8  | 9 | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6 |
| Number of Lanes            |           | 0  | 0  | 0  |           | 0  | 1  | 0 | 0          | 0 | 1   | 0  | 0          | 0  | 1   | 0 |
| Configuration              |           |    |    |    |           |    | LR |   |            |   |     | TR |            | LT |     |   |
| Volume (veh/h)             |           |    |    |    |           | 14 |    | 5 |            |   | 241 | 4  |            | 2  | 304 |   |
| Percent Heavy Vehicles (%) |           |    |    |    |           | 3  |    | 3 |            |   |     |    |            | 3  |     |   |
| Proportion Time Blocked    |           |    |    |    |           |    |    |   |            |   |     |    |            |    |     |   |
| Percent Grade (%)          |           |    |    |    | 0         |    |    |   |            |   |     |    |            |    |     |   |
| Right Turn Channelized     |           |    |    |    |           |    |    |   |            |   |     |    |            |    |     |   |
| Median Type   Storage      | Undivided |    |    |    |           |    |    |   |            |   |     |    |            |    |     |   |

### Critical and Follow-up Headways

|                              |  |  |  |  |      |  |      |  |  |  |  |  |      |  |  |
|------------------------------|--|--|--|--|------|--|------|--|--|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  |  |  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  |  |  |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  |  |  |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  |  |  |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |

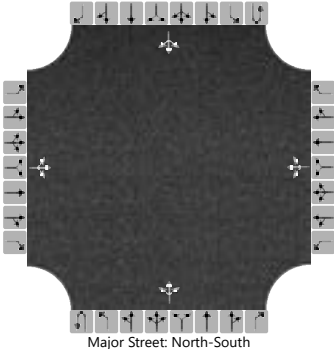
### Delay, Queue Length, and Level of Service

|                                  |  |  |  |  |  |      |  |  |  |  |  |  |      |     |  |
|----------------------------------|--|--|--|--|--|------|--|--|--|--|--|--|------|-----|--|
| Flow Rate, $v$ (veh/h)           |  |  |  |  |  | 20   |  |  |  |  |  |  | 2    |     |  |
| Capacity, $c$ (veh/h)            |  |  |  |  |  | 521  |  |  |  |  |  |  | 1295 |     |  |
| $v/c$ Ratio                      |  |  |  |  |  | 0.04 |  |  |  |  |  |  | 0.00 |     |  |
| 95% Queue Length, $Q_{95}$ (veh) |  |  |  |  |  | 0.1  |  |  |  |  |  |  | 0.0  |     |  |
| 95% Queue Length, $Q_{95}$ (ft)  |  |  |  |  |  | 2.6  |  |  |  |  |  |  | 0.0  |     |  |
| Control Delay (s/veh)            |  |  |  |  |  | 12.2 |  |  |  |  |  |  | 7.8  | 0.0 |  |
| Level of Service (LOS)           |  |  |  |  |  | B    |  |  |  |  |  |  | A    | A   |  |
| Approach Delay (s/veh)           |  |  |  |  |  | 12.2 |  |  |  |  |  |  | 0.1  |     |  |
| Approach LOS                     |  |  |  |  |  | B    |  |  |  |  |  |  | A    |     |  |

# HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                  |
|--------------------------|--------------------|----------------------------|----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Foxfire Trl & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                  |
| Date Performed           | 7/14/2025          | East/West Street           | Foxfire Trl                      |
| Analysis Year            | 2047               | North/South Street         | S. Brown School Rd               |
| Time Analyzed            | AM Peak Build      | Peak Hour Factor           | 0.81                             |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                             |
| Project Description      |                    |                            |                                  |

Lanes



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |    |            |   |     |    |            |   |     |   |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|----|------------|---|-----|----|------------|---|-----|---|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |    | Northbound |   |     |    | Southbound |   |     |   |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R  | U          | L | T   | R  | U          | L | T   | R |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9  | 1U         | 1 | 2   | 3  | 4U         | 4 | 5   | 6 |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0  | 0          | 0 | 1   | 0  | 0          | 0 | 1   | 0 |
| Configuration                   |           |    | LTR |    |           |    | LTR |    |            |   | LTR |    |            |   | LTR |   |
| Volume (veh/h)                  |           | 16 | 0   | 6  |           | 33 | 0   | 13 |            | 2 | 215 | 11 |            | 4 | 307 | 6 |
| Percent Heavy Vehicles (%)      |           | 17 | 3   | 17 |           | 3  | 3   | 3  |            | 3 |     |    |            | 3 |     |   |
| Proportion Time Blocked         |           |    |     |    |           |    |     |    |            |   |     |    |            |   |     |   |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |    |            |   |     |    |            |   |     |   |
| Right Turn Channelized          |           |    |     |    |           |    |     |    |            |   |     |    |            |   |     |   |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |    |            |   |     |    |            |   |     |   |

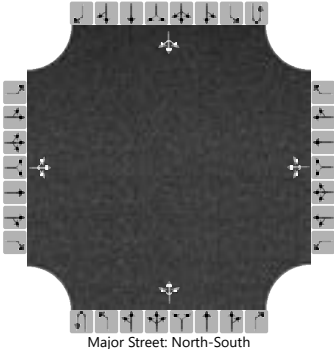
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.27 | 6.53 | 6.37 |  | 7.13 | 6.53 | 6.23 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.65 | 4.03 | 3.45 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |      |     |     |     |      |     |     |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|------|-----|-----|-----|------|-----|-----|
| Flow Rate, v (veh/h)                      |      |  | 27   |  |      |  | 57   |  |     | 2    |     |     |     | 5    |     |     |
| Capacity, c (veh/h)                       |      |  | 386  |  |      |  | 424  |  |     | 1167 |     |     |     | 1278 |     |     |
| v/c Ratio                                 |      |  | 0.07 |  |      |  | 0.13 |  |     | 0.00 |     |     |     | 0.00 |     |     |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.2  |  |      |  | 0.5  |  |     | 0.0  |     |     |     | 0.0  |     |     |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 5.7  |  |      |  | 12.8 |  |     |      |     |     |     |      |     |     |
| Control Delay (s/veh)                     |      |  | 15.0 |  |      |  | 14.8 |  |     | 8.1  | 0.0 | 0.0 |     | 7.8  | 0.0 | 0.0 |
| Level of Service (LOS)                    |      |  | C    |  |      |  | B    |  |     | A    | A   | A   |     | A    | A   | A   |
| Approach Delay (s/veh)                    | 15.0 |  |      |  | 14.8 |  |      |  | 0.1 |      |     |     | 0.1 |      |     |     |
| Approach LOS                              | C    |  |      |  | B    |  |      |  | A   |      |     |     | A   |      |     |     |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                   |
|--------------------------|--------------------|----------------------------|-----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Deerhurst Dr & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                   |
| Date Performed           | 7/14/2025          | East/West Street           | Deerhurst Dr                      |
| Analysis Year            | 2047               | North/South Street         | S. Brown School Rd                |
| Time Analyzed            | AM Peak Build      | Peak Hour Factor           | 0.84                              |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                              |
| Project Description      |                    |                            |                                   |

Lanes



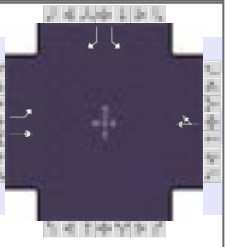
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |   |            |    |     |   |            |   |     |   |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|---|------------|----|-----|---|------------|---|-----|---|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |   | Northbound |    |     |   | Southbound |   |     |   |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration                   |           |    | LTR |    |           |    | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)                  |           | 6  | 0   | 47 |           | 20 | 0   | 8 |            | 21 | 214 | 7 |            | 3 | 342 | 2 |
| Percent Heavy Vehicles (%)      |           | 3  | 3   | 3  |           | 3  | 3   | 3 |            | 6  |     |   |            | 3 |     |   |
| Proportion Time Blocked         |           |    |     |    |           |    |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized          |           |    |     |    |           |    |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |   |            |    |     |   |            |   |     |   |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.13 | 6.53 | 6.23 |  | 7.13 | 6.53 | 6.23 |  | 4.16 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.25 |  |  |  | 2.23 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |      |     |     |     |      |     |     |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|------|-----|-----|-----|------|-----|-----|
| Flow Rate, v (veh/h)                      |      |  | 63   |  |      |  | 33   |  |     | 25   |     |     |     | 4    |     |     |
| Capacity, c (veh/h)                       |      |  | 577  |  |      |  | 351  |  |     | 1128 |     |     |     | 1295 |     |     |
| v/c Ratio                                 |      |  | 0.11 |  |      |  | 0.09 |  |     | 0.02 |     |     |     | 0.00 |     |     |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |      |  | 0.3  |  |     | 0.1  |     |     |     | 0.0  |     |     |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 10.2 |  |      |  | 7.7  |  |     |      |     |     |     |      |     |     |
| Control Delay (s/veh)                     |      |  | 12.0 |  |      |  | 16.3 |  |     | 8.3  | 0.2 | 0.2 |     | 7.8  | 0.0 | 0.0 |
| Level of Service (LOS)                    |      |  | B    |  |      |  | C    |  |     | A    | A   | A   |     | A    | A   | A   |
| Approach Delay (s/veh)                    | 12.0 |  |      |  | 16.3 |  |      |  | 0.9 |      |     |     | 0.1 |      |     |     |
| Approach LOS                              | B    |  |      |  | C    |  |      |  | A   |      |     |     | A   |      |     |     |



# HCS Signalized Intersection Results Summary

| General Information |                              |               |                                                  | Intersection Information |          |  |
|---------------------|------------------------------|---------------|--------------------------------------------------|--------------------------|----------|-------------------------------------------------------------------------------------|
| Agency              |                              |               |                                                  | Duration, h              | 0.250    |                                                                                     |
| Analyst             |                              | Analysis Date | 7/15/2025                                        | Area Type                | Other    |                                                                                     |
| Jurisdiction        |                              | Time Period   |                                                  | PHF                      | 0.86     |                                                                                     |
| Urban Street        | Little York Rd               | Analysis Year | 2025                                             | Analysis Period          | 1 > 7:00 |                                                                                     |
| Intersection        | Little York Rd and S. Bro... | File Name     | AM B 2047 Little York Rd & S Brown School Rd.xus |                          |          |                                                                                     |
| Project Description | 2047 AM B                    |               |                                                  |                          |          |                                                                                     |

| Demand Information    | EB  |     |   | WB |     |    | NB |   |   | SB  |   |     |
|-----------------------|-----|-----|---|----|-----|----|----|---|---|-----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R  | L  | T | R | L   | T | R   |
| Demand ( $v$ ), veh/h | 154 | 242 |   |    | 385 | 88 |    |   |   | 110 |   | 303 |

| Signal Information |       |                 |     |  |  |  |  |  |  |  |  |
|--------------------|-------|-----------------|-----|--|--|--|--|--|--|--|--|
| Cycle, s           | 60.5  | Reference Phase | 2   |  |  |  |  |  |  |  |  |
| Offset, s          | 0     | Reference Point | End |  |  |  |  |  |  |  |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  |  |  |  |  |  |  |  |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  |  |  |  |  |  |  |  |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|-----|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     |     |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 8.3  |     |     |     | 9.0  |
| Phase Duration, s                 | 10.8 | 39.8 |     | 29.0 |     |     |     | 20.7 |
| Change Period, ( $Y+R_c$ ), s     | 5.1  | 6.4  |     | 6.4  |     |     |     | 5.7  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     |     |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 5.7  | 7.3  |     | 20.9 |     |     |     | 15.1 |
| Green Extension Time ( $g_e$ ), s | 0.3  | 1.7  |     | 1.6  |     |     |     | 0.0  |
| Phase Call Probability            | 0.95 | 1.00 |     | 1.00 |     |     |     | 1.00 |
| Max Out Probability               | 0.00 | 0.00 |     | 0.00 |     |     |     | 1.00 |

| Movement Group Results                            | EB    |       |   | WB |       |    | NB |   |     | SB    |      |       |
|---------------------------------------------------|-------|-------|---|----|-------|----|----|---|-----|-------|------|-------|
| Approach Movement                                 | L     | T     | R | L  | T     | R  | L  | T | R   | L     | T    | R     |
| Assigned Movement                                 | 5     | 2     |   |    | 6     | 16 |    |   |     | 7     |      | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 179   | 281   |   |    | 550   |    |    |   |     | 128   |      | 352   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1641  | 1723  |   |    | 1654  |    |    |   |     | 1602  |      | 1425  |
| Queue Service Time ( $g_s$ ), s                   | 3.7   | 5.3   |   |    | 18.9  |    |    |   |     | 3.9   |      | 13.1  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 3.7   | 5.3   |   |    | 18.9  |    |    |   |     | 3.9   |      | 13.1  |
| Green Ratio ( $g/C$ )                             | 0.50  | 0.55  |   |    | 0.37  |    |    |   |     | 0.25  |      | 0.34  |
| Capacity ( $c$ ), veh/h                           | 327   | 951   |   |    | 617   |    |    |   |     | 397   |      | 488   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.548 | 0.296 |   |    | 0.892 |    |    |   |     | 0.322 |      | 0.721 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 50    | 69    |   |    | 272   |    |    |   |     | 63    |      | 201   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 2.0   | 2.7   |   |    | 10.6  |    |    |   |     | 2.4   |      | 7.7   |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 0.27  | 0.00  |   |    | 0.00  |    |    |   |     | 0.00  |      | 0.00  |
| Uniform Delay ( $d_1$ ), s/veh                    | 12.9  | 7.3   |   |    | 17.8  |    |    |   |     | 18.6  |      | 17.4  |
| Incremental Delay ( $d_2$ ), s/veh                | 0.5   | 0.1   |   |    | 1.9   |    |    |   |     | 0.2   |      | 4.5   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |   |    | 0.0   |    |    |   |     | 0.0   |      | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 13.4  | 7.3   |   |    | 19.7  |    |    |   |     | 18.8  |      | 21.9  |
| Level of Service (LOS)                            | B     | A     |   |    | B     |    |    |   |     | B     |      | C     |
| Approach Delay, s/veh / LOS                       | 9.7   |       | A |    | 19.7  |    | B  |   | 0.0 |       | 21.0 | C     |
| Intersection Delay, s/veh / LOS                   | 17.0  |       |   |    |       |    | B  |   |     |       |      |       |

| Multimodal Results         | EB   |  |   | WB   |  |   | NB   |  |   | SB   |  |   |
|----------------------------|------|--|---|------|--|---|------|--|---|------|--|---|
| Pedestrian LOS Score / LOS | 0.67 |  | A | 1.90 |  | B | 1.71 |  | B | 1.93 |  | B |
| Bicycle LOS Score / LOS    | 1.25 |  | A | 1.40 |  | A |      |  |   |      |  | F |

# HCS Signalized Intersection Results Summary

| General Information |                              |               |                                                    |                 | Intersection Information |       |  |
|---------------------|------------------------------|---------------|----------------------------------------------------|-----------------|--------------------------|-------|--|
| Agency              |                              |               |                                                    |                 | Duration, h              | 0.250 |  |
| Analyst             |                              | Analysis Date | 7/15/2025                                          | Area Type       | Other                    |       |  |
| Jurisdiction        |                              | Time Period   |                                                    | PHF             | 0.86                     |       |  |
| Urban Street        | Little York Rd               | Analysis Year | 2025                                               | Analysis Period | 1> 7:00                  |       |  |
| Intersection        | Little York Rd and S. Bro... | File Name     | Mitigated AM B 2047 Little York Rd & S Brown Sc... |                 |                          |       |  |
| Project Description | 2047 AM B Mit                |               |                                                    |                 |                          |       |  |

| Demand Information    | EB  |     |   | WB |     |    | NB |   |   | SB  |   |     |
|-----------------------|-----|-----|---|----|-----|----|----|---|---|-----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R  | L  | T | R | L   | T | R   |
| Demand ( $v$ ), veh/h | 154 | 242 |   |    | 385 | 88 |    |   |   | 110 |   | 303 |

| Signal Information |       |                 |     |        |     |      |      |     |     |     |  |
|--------------------|-------|-----------------|-----|--------|-----|------|------|-----|-----|-----|--|
| Cycle, s           | 60.5  | Reference Phase | 2   |        |     |      |      |     |     |     |  |
| Offset, s          | 0     | Reference Point | End |        |     |      |      |     |     |     |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  | Green  | 5.7 | 22.6 | 15.0 | 0.0 | 0.0 | 0.0 |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  | Yellow | 3.6 | 4.9  | 4.0  | 0.0 | 0.0 | 0.0 |  |
|                    |       |                 |     | Red    | 1.5 | 1.5  | 1.7  | 0.0 | 0.0 | 0.0 |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|-----|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     |     |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 8.3  |     |     |     | 9.0  |
| Phase Duration, s                 | 10.8 | 39.8 |     | 29.0 |     |     |     | 20.7 |
| Change Period, ( $Y+R_c$ ), s     | 5.1  | 6.4  |     | 6.4  |     |     |     | 5.7  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     |     |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 5.7  | 7.3  |     | 20.9 |     |     |     | 15.1 |
| Green Extension Time ( $g_e$ ), s | 0.3  | 1.7  |     | 1.7  |     |     |     | 0.0  |
| Phase Call Probability            | 0.95 | 1.00 |     | 1.00 |     |     |     | 1.00 |
| Max Out Probability               | 0.00 | 0.00 |     | 0.00 |     |     |     | 1.00 |

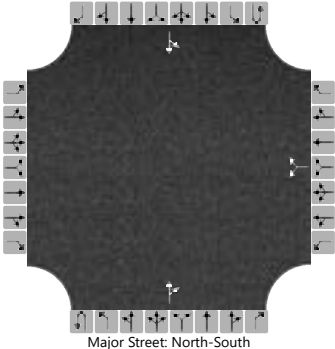
| Movement Group Results                            | EB    |       |   | WB   |       |    | NB  |   |   | SB    |   |       |
|---------------------------------------------------|-------|-------|---|------|-------|----|-----|---|---|-------|---|-------|
| Approach Movement                                 | L     | T     | R | L    | T     | R  | L   | T | R | L     | T | R     |
| Assigned Movement                                 | 5     | 2     |   |      | 6     | 16 |     |   |   | 7     |   | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 179   | 281   |   |      | 550   |    |     |   |   | 128   |   | 352   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1641  | 1723  |   |      | 1654  |    |     |   |   | 1602  |   | 1425  |
| Queue Service Time ( $g_s$ ), s                   | 3.7   | 5.3   |   |      | 18.9  |    |     |   |   | 4.0   |   | 13.1  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 3.7   | 5.3   |   |      | 18.9  |    |     |   |   | 4.0   |   | 13.1  |
| Green Ratio ( $g/C$ )                             | 0.50  | 0.55  |   |      | 0.37  |    |     |   |   | 0.25  |   | 0.34  |
| Capacity ( $c$ ), veh/h                           | 328   | 952   |   |      | 617   |    |     |   |   | 397   |   | 488   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.547 | 0.296 |   |      | 0.891 |    |     |   |   | 0.322 |   | 0.722 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 50    | 69    |   |      | 272   |    |     |   |   | 63    |   | 202   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 2.0   | 2.7   |   |      | 10.6  |    |     |   |   | 2.4   |   | 7.7   |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 0.12  | 0.00  |   |      | 0.00  |    |     |   |   | 0.28  |   | 0.00  |
| Uniform Delay ( $d_1$ ), s/veh                    | 12.9  | 7.2   |   |      | 17.8  |    |     |   |   | 18.6  |   | 17.4  |
| Incremental Delay ( $d_2$ ), s/veh                | 0.5   | 0.1   |   |      | 1.8   |    |     |   |   | 0.2   |   | 4.5   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |   |      | 0.0   |    |     |   |   | 0.0   |   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 13.4  | 7.3   |   |      | 19.7  |    |     |   |   | 18.8  |   | 21.9  |
| Level of Service (LOS)                            | B     | A     |   |      | B     |    |     |   |   | B     |   | C     |
| Approach Delay, s/veh / LOS                       | 9.7   | A     |   | 19.7 | B     |    | 0.0 |   |   | 21.1  |   | C     |
| Intersection Delay, s/veh / LOS                   | 17.0  |       |   |      |       |    | B   |   |   |       |   |       |

| Multimodal Results         | EB   |   |  | WB   |   |  | NB   |   |  | SB   |   |   |
|----------------------------|------|---|--|------|---|--|------|---|--|------|---|---|
| Pedestrian LOS Score / LOS | 0.67 | A |  | 1.90 | B |  | 1.71 | B |  | 1.93 | B |   |
| Bicycle LOS Score / LOS    | 1.25 | A |  | 1.40 | A |  |      |   |  |      |   | F |

HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                       |
|--------------------------|--------------------|----------------------------|---------------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Proposed Drive D & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                       |
| Date Performed           | 7/14/2025          | East/West Street           | Proposed Drive D                      |
| Analysis Year            | 2047               | North/South Street         | S. Brown School Rd                    |
| Time Analyzed            | PM Peak Build      | Peak Hour Factor           | 0.93                                  |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                                  |
| Project Description      |                    |                            |                                       |

Lanes



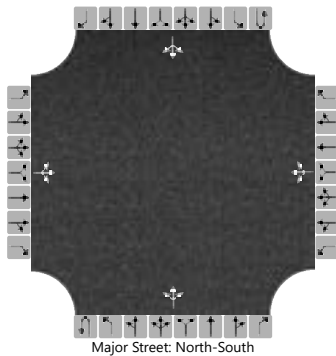
| Vehicle Volumes and Adjustments |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
|---------------------------------|-----------|----|----|----|-----------|---|----|---|------------|---|-----|----|------------|----|-----|---|
| Approach                        | Eastbound |    |    |    | Westbound |   |    |   | Northbound |   |     |    | Southbound |    |     |   |
| Movement                        | U         | L  | T  | R  | U         | L | T  | R | U          | L | T   | R  | U          | L  | T   | R |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8  | 9 | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6 |
| Number of Lanes                 |           | 0  | 0  | 0  |           | 0 | 1  | 0 | 0          | 0 | 1   | 0  | 0          | 0  | 1   | 0 |
| Configuration                   |           |    |    |    |           |   | LR |   |            |   |     | TR |            | LT |     |   |
| Volume (veh/h)                  |           |    |    |    |           | 9 |    | 3 |            |   | 427 | 16 |            | 4  | 407 |   |
| Percent Heavy Vehicles (%)      |           |    |    |    |           | 3 |    | 3 |            |   |     |    |            | 3  |     |   |
| Proportion Time Blocked         |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
| Percent Grade (%)               |           |    |    |    | 0         |   |    |   |            |   |     |    |            |    |     |   |
| Right Turn Channelized          |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
| Median Type   Storage           | Undivided |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |

| Critical and Follow-up Headways |  |  |  |  |  |      |  |      |  |  |  |  |  |      |  |  |
|---------------------------------|--|--|--|--|--|------|--|------|--|--|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  |  |  |  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  |  |  |  |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec)    |  |  |  |  |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  |  |  |  |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |

| Delay, Queue Length, and Level of Service |  |  |  |  |      |  |      |  |  |  |  |  |     |      |     |  |
|-------------------------------------------|--|--|--|--|------|--|------|--|--|--|--|--|-----|------|-----|--|
| Flow Rate, v (veh/h)                      |  |  |  |  |      |  | 13   |  |  |  |  |  |     | 4    |     |  |
| Capacity, c (veh/h)                       |  |  |  |  |      |  | 343  |  |  |  |  |  |     | 1081 |     |  |
| v/c Ratio                                 |  |  |  |  |      |  | 0.04 |  |  |  |  |  |     | 0.00 |     |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |  |  |  |  |      |  | 0.1  |  |  |  |  |  |     | 0.0  |     |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |  |  |  |  |      |  | 2.6  |  |  |  |  |  |     | 0.0  |     |  |
| Control Delay (s/veh)                     |  |  |  |  |      |  | 15.9 |  |  |  |  |  |     | 8.3  | 0.0 |  |
| Level of Service (LOS)                    |  |  |  |  |      |  | C    |  |  |  |  |  |     | A    | A   |  |
| Approach Delay (s/veh)                    |  |  |  |  | 15.9 |  |      |  |  |  |  |  | 0.1 |      |     |  |
| Approach LOS                              |  |  |  |  | C    |  |      |  |  |  |  |  | A   |      |     |  |

| General Information      |                    | Site Information           |                                  |
|--------------------------|--------------------|----------------------------|----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Foxfire Trl & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                  |
| Date Performed           | 7/14/2025          | East/West Street           | Foxfire Trl                      |
| Analysis Year            | 2047               | North/South Street         | S. Brown School Rd               |
| Time Analyzed            | PM Peak Build      | Peak Hour Factor           | 0.94                             |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                             |
| Project Description      |                    |                            |                                  |

| Lanes |     |
|-------|-----|
| 1     | 2   |
| 3     | 4   |
| 5     | 6   |
| 7     | 8   |
| 9     | 10  |
| 11    | 12  |
| 13    | 14  |
| 15    | 16  |
| 17    | 18  |
| 19    | 20  |
| 21    | 22  |
| 23    | 24  |
| 25    | 26  |
| 27    | 28  |
| 29    | 30  |
| 31    | 32  |
| 33    | 34  |
| 35    | 36  |
| 37    | 38  |
| 39    | 40  |
| 41    | 42  |
| 43    | 44  |
| 45    | 46  |
| 47    | 48  |
| 49    | 50  |
| 51    | 52  |
| 53    | 54  |
| 55    | 56  |
| 57    | 58  |
| 59    | 60  |
| 61    | 62  |
| 63    | 64  |
| 65    | 66  |
| 67    | 68  |
| 69    | 70  |
| 71    | 72  |
| 73    | 74  |
| 75    | 76  |
| 77    | 78  |
| 79    | 80  |
| 81    | 82  |
| 83    | 84  |
| 85    | 86  |
| 87    | 88  |
| 89    | 90  |
| 91    | 92  |
| 93    | 94  |
| 95    | 96  |
| 97    | 98  |
| 99    | 100 |



### Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |    |     |   | Northbound |    |     |    | Southbound |    |     |    |
|----------------------------|-----------|----|-----|----|-----------|----|-----|---|------------|----|-----|----|------------|----|-----|----|
| Movement                   | U         | L  | T   | R  | U         | L  | T   | R | U          | L  | T   | R  | U          | L  | T   | R  |
| Priority                   |           | 10 | 11  | 12 |           | 7  | 8   | 9 | 1U         | 1  | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes            |           | 0  | 1   | 0  |           | 0  | 1   | 0 | 0          | 0  | 1   | 0  | 0          | 0  | 1   | 0  |
| Configuration              |           |    | LTR |    |           |    | LTR |   |            |    | LTR |    |            |    | LTR |    |
| Volume (veh/h)             |           | 8  | 0   | 8  |           | 24 | 0   | 7 |            | 10 | 426 | 40 |            | 12 | 386 | 18 |
| Percent Heavy Vehicles (%) |           | 0  | 3   | 0  |           | 3  | 3   | 3 |            | 3  |     |    |            | 3  |     |    |
| Proportion Time Blocked    |           |    |     |    |           |    |     |   |            |    |     |    |            |    |     |    |
| Percent Grade (%)          | 0         |    |     |    | 0         |    |     |   |            |    |     |    |            |    |     |    |
| Right Turn Channelized     |           |    |     |    |           |    |     |   |            |    |     |    |            |    |     |    |
| Median Type   Storage      | Undivided |    |     |    |           |    |     |   |            |    |     |    |            |    |     |    |

### Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.10 | 6.53 | 6.20 |  | 7.13 | 6.53 | 6.23 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.50 | 4.03 | 3.30 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

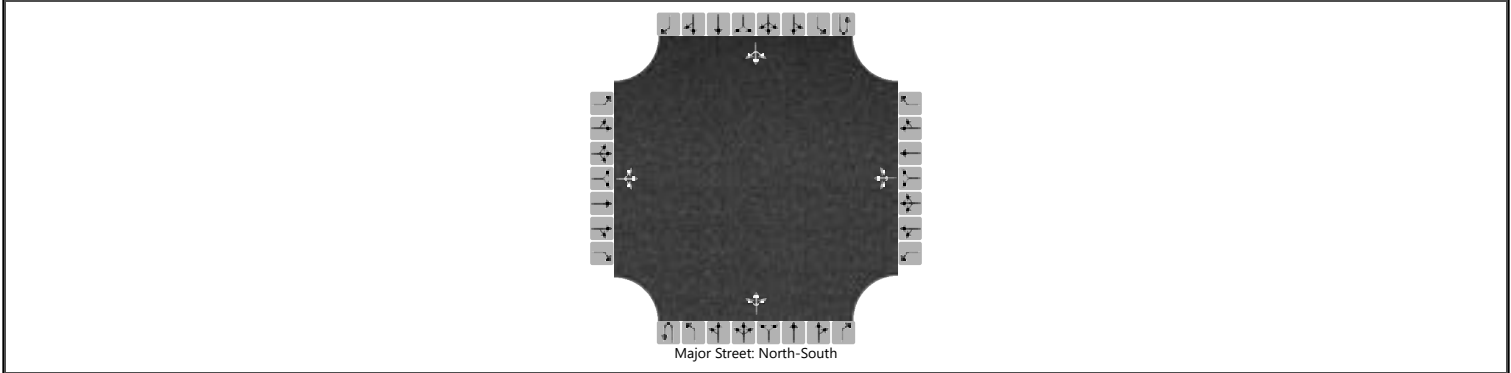
### Delay, Queue Length, and Level of Service

|                                  |      |  |      |      |  |  |      |  |  |     |      |     |     |  |      |     |     |
|----------------------------------|------|--|------|------|--|--|------|--|--|-----|------|-----|-----|--|------|-----|-----|
| Flow Rate, $v$ (veh/h)           |      |  | 17   |      |  |  | 33   |  |  |     | 11   |     |     |  | 13   |     |     |
| Capacity, $c$ (veh/h)            |      |  | 342  |      |  |  | 267  |  |  |     | 1124 |     |     |  | 1063 |     |     |
| $v/c$ Ratio                      |      |  | 0.05 |      |  |  | 0.12 |  |  |     | 0.01 |     |     |  | 0.01 |     |     |
| 95% Queue Length, $Q_{95}$ (veh) |      |  | 0.2  |      |  |  | 0.4  |  |  |     | 0.0  |     |     |  | 0.0  |     |     |
| 95% Queue Length, $Q_{95}$ (ft)  |      |  | 5.0  |      |  |  | 10.2 |  |  |     |      |     |     |  |      |     |     |
| Control Delay (s/veh)            |      |  | 16.1 |      |  |  | 20.4 |  |  |     | 8.2  | 0.1 | 0.1 |  | 8.4  | 0.1 | 0.1 |
| Level of Service (LOS)           |      |  | C    |      |  |  | C    |  |  |     | A    | A   | A   |  | A    | A   | A   |
| Approach Delay (s/veh)           | 16.1 |  |      | 20.4 |  |  | 0.3  |  |  | 0.4 |      |     |     |  |      |     |     |
| Approach LOS                     | C    |  |      | C    |  |  | A    |  |  | A   |      |     |     |  |      |     |     |

# HCS Two-Way Stop-Control Report

| General Information      |                    | Site Information           |                                   |
|--------------------------|--------------------|----------------------------|-----------------------------------|
| Analyst                  | Mannik Smith Group | Intersection               | Deerhurst Dr & S. Brown School Rd |
| Agency/Co.               |                    | Jurisdiction               |                                   |
| Date Performed           | 7/14/2025          | East/West Street           | Deerhurst Dr                      |
| Analysis Year            | 2047               | North/South Street         | S. Brown School Rd                |
| Time Analyzed            | PM Peak Build      | Peak Hour Factor           | 0.94                              |
| Intersection Orientation | North-South        | Analysis Time Period (hrs) | 0.25                              |
| Project Description      |                    |                            |                                   |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |    |     |   | Northbound |    |     |    | Southbound |   |     |   |
|----------------------------|-----------|----|-----|----|-----------|----|-----|---|------------|----|-----|----|------------|---|-----|---|
| Movement                   | U         | L  | T   | R  | U         | L  | T   | R | U          | L  | T   | R  | U          | L | T   | R |
| Priority                   |           | 10 | 11  | 12 |           | 7  | 8   | 9 | 1U         | 1  | 2   | 3  | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0  | 1   | 0  |           | 0  | 1   | 0 | 0          | 0  | 1   | 0  | 0          | 0 | 1   | 0 |
| Configuration              |           |    | LTR |    |           |    | LTR |   |            |    | LTR |    |            |   | LTR |   |
| Volume (veh/h)             |           | 2  | 0   | 38 |           | 15 | 0   | 4 |            | 63 | 471 | 25 |            | 7 | 406 | 6 |
| Percent Heavy Vehicles (%) |           | 3  | 3   | 3  |           | 3  | 3   | 3 |            | 6  |     |    |            | 3 |     |   |
| Proportion Time Blocked    |           |    |     |    |           |    |     |   |            |    |     |    |            |   |     |   |
| Percent Grade (%)          | 0         |    |     |    | 0         |    |     |   |            |    |     |    |            |   |     |   |
| Right Turn Channelized     |           |    |     |    |           |    |     |   |            |    |     |    |            |   |     |   |
| Median Type   Storage      | Undivided |    |     |    |           |    |     |   |            |    |     |    |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 7.13 | 6.53 | 6.23 |  | 4.16 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.25 |  |  |  | 2.23 |  |  |

## Delay, Queue Length, and Level of Service

|                                         |      |  |      |  |      |      |  |  |     |      |     |     |     |      |     |     |
|-----------------------------------------|------|--|------|--|------|------|--|--|-----|------|-----|-----|-----|------|-----|-----|
| Flow Rate, v (veh/h)                    |      |  | 43   |  |      | 20   |  |  |     | 67   |     |     |     | 7    |     |     |
| Capacity, c (veh/h)                     |      |  | 546  |  |      | 183  |  |  |     | 1101 |     |     |     | 1034 |     |     |
| v/c Ratio                               |      |  | 0.08 |  |      | 0.11 |  |  |     | 0.06 |     |     |     | 0.01 |     |     |
| 95% Queue Length, Q <sub>95</sub> (veh) |      |  | 0.3  |  |      | 0.4  |  |  |     | 0.2  |     |     |     | 0.0  |     |     |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      |  | 7.7  |  |      | 10.2 |  |  |     |      |     |     |     |      |     |     |
| Control Delay (s/veh)                   |      |  | 12.1 |  |      | 27.2 |  |  |     | 8.5  | 0.7 | 0.7 |     | 8.5  | 0.1 | 0.1 |
| Level of Service (LOS)                  |      |  | B    |  |      | D    |  |  |     | A    | A   | A   |     | A    | A   | A   |
| Approach Delay (s/veh)                  | 12.1 |  |      |  | 27.2 |      |  |  | 1.6 |      |     |     | 0.2 |      |     |     |
| Approach LOS                            | B    |  |      |  | D    |      |  |  | A   |      |     |     | A   |      |     |     |



# HCS Signalized Intersection Results Summary

| General Information |                              |               |                                                  |                 | Intersection Information |       |  |
|---------------------|------------------------------|---------------|--------------------------------------------------|-----------------|--------------------------|-------|--|
| Agency              |                              |               |                                                  |                 | Duration, h              | 0.250 |  |
| Analyst             |                              | Analysis Date | 7/15/2025                                        | Area Type       | Other                    |       |  |
| Jurisdiction        |                              | Time Period   |                                                  | PHF             | 0.89                     |       |  |
| Urban Street        | Little York Rd               | Analysis Year | 2025                                             | Analysis Period | 1> 7:00                  |       |  |
| Intersection        | Little York Rd and S. Bro... | File Name     | PM B 2047 Little York Rd & S Brown School Rd.xus |                 |                          |       |  |
| Project Description | 2047 PM B                    |               |                                                  |                 |                          |       |  |

| Demand Information    | EB  |     |   | WB |     |     | NB |   |   | SB  |   |     |
|-----------------------|-----|-----|---|----|-----|-----|----|---|---|-----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R   | L  | T | R | L   | T | R   |
| Demand ( $v$ ), veh/h | 395 | 610 |   |    | 529 | 165 |    |   |   | 163 |   | 301 |

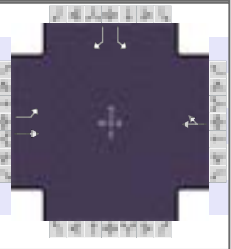
| Signal Information |       |                 |     |        |      |      |      |     |     |     |  |
|--------------------|-------|-----------------|-----|--------|------|------|------|-----|-----|-----|--|
| Cycle, s           | 102.3 | Reference Phase | 2   |        |      |      |      |     |     |     |  |
| Offset, s          | 0     | Reference Point | End |        |      |      |      |     |     |     |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  | Green  | 25.1 | 45.0 | 15.0 | 0.0 | 0.0 | 0.0 |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  | Yellow | 3.6  | 4.9  | 4.0  | 0.0 | 0.0 | 0.0 |  |
|                    |       |                 |     | Red    | 1.5  | 1.5  | 1.7  | 0.0 | 0.0 | 0.0 |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|-----|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     |     |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 8.3  |     |     |     | 9.0  |
| Phase Duration, s                 | 30.2 | 81.6 |     | 51.4 |     |     |     | 20.7 |
| Change Period, ( $Y+R_c$ ), s     | 5.1  | 6.4  |     | 6.4  |     |     |     | 5.7  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     |     |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 24.4 | 19.7 |     | 47.0 |     |     |     | 17.0 |
| Green Extension Time ( $g_e$ ), s | 0.7  | 3.5  |     | 0.0  |     |     |     | 0.0  |
| Phase Call Probability            | 1.00 | 1.00 |     | 1.00 |     |     |     | 1.00 |
| Max Out Probability               | 0.01 | 0.01 |     | 1.00 |     |     |     | 1.00 |

| Movement Group Results                            | EB    |       |   | WB   |       |    | NB  |   |   | SB    |   |       |
|---------------------------------------------------|-------|-------|---|------|-------|----|-----|---|---|-------|---|-------|
| Approach Movement                                 | L     | T     | R | L    | T     | R  | L   | T | R | L     | T | R     |
| Assigned Movement                                 | 5     | 2     |   |      | 6     | 16 |     |   |   | 7     |   | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 444   | 685   |   |      | 780   |    |     |   |   | 183   |   | 338   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1654  | 1736  |   |      | 1665  |    |     |   |   | 1654  |   | 1471  |
| Queue Service Time ( $g_s$ ), s                   | 22.4  | 17.7  |   |      | 45.0  |    |     |   |   | 10.9  |   | 15.0  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 22.4  | 17.7  |   |      | 45.0  |    |     |   |   | 10.9  |   | 15.0  |
| Green Ratio ( $g/C$ )                             | 0.70  | 0.74  |   |      | 0.44  |    |     |   |   | 0.15  |   | 0.39  |
| Capacity ( $c$ ), veh/h                           | 476   | 1276  |   |      | 732   |    |     |   |   | 242   |   | 577   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.932 | 0.537 |   |      | 1.065 |    |     |   |   | 0.755 |   | 0.586 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 459   | 222   |   |      | 946   |    |     |   |   | 222   |   | 265   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 18.2  | 8.8   |   |      | 37.6  |    |     |   |   | 8.8   |   | 10.5  |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 2.48  | 0.00  |   |      | 0.00  |    |     |   |   | 0.00  |   | 0.00  |
| Uniform Delay ( $d_1$ ), s/veh                    | 31.0  | 5.9   |   |      | 28.6  |    |     |   |   | 41.9  |   | 24.6  |
| Incremental Delay ( $d_2$ ), s/veh                | 15.4  | 0.2   |   |      | 51.8  |    |     |   |   | 11.4  |   | 1.1   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |   |      | 0.0   |    |     |   |   | 0.0   |   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 46.4  | 6.2   |   |      | 80.4  |    |     |   |   | 53.3  |   | 25.6  |
| Level of Service (LOS)                            | D     | A     |   |      | F     |    |     |   |   | D     |   | C     |
| Approach Delay, s/veh / LOS                       | 22.0  | C     |   | 80.4 | F     |    | 0.0 |   |   | 35.3  |   | D     |
| Intersection Delay, s/veh / LOS                   | 43.6  |       |   |      |       |    | D   |   |   |       |   |       |

| Multimodal Results         | EB   |   | WB   |   | NB   |   | SB   |   |
|----------------------------|------|---|------|---|------|---|------|---|
| Pedestrian LOS Score / LOS | 0.65 | A | 1.91 | B | 1.73 | B | 1.96 | B |
| Bicycle LOS Score / LOS    | 2.35 | B | 1.77 | B |      |   |      | F |

# HCS Signalized Intersection Results Summary

| General Information |                              |               |                                                    |                 | Intersection Information |       |  |
|---------------------|------------------------------|---------------|----------------------------------------------------|-----------------|--------------------------|-------|-------------------------------------------------------------------------------------|
| Agency              |                              |               |                                                    |                 | Duration, h              | 0.250 |                                                                                     |
| Analyst             |                              | Analysis Date | 7/15/2025                                          | Area Type       | Other                    |       |                                                                                     |
| Jurisdiction        |                              | Time Period   |                                                    | PHF             | 0.89                     |       |                                                                                     |
| Urban Street        | Little York Rd               | Analysis Year | 2025                                               | Analysis Period | 1> 7:00                  |       |                                                                                     |
| Intersection        | Little York Rd and S. Bro... | File Name     | Mitigated PM B 2047 Little York Rd & S Brown Sc... |                 |                          |       |                                                                                     |
| Project Description | 2047 PM B Mit                |               |                                                    |                 |                          |       |                                                                                     |

| Demand Information    | EB  |     |   | WB |     |     | NB |   |   | SB  |   |     |
|-----------------------|-----|-----|---|----|-----|-----|----|---|---|-----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R   | L  | T | R | L   | T | R   |
| Demand ( $v$ ), veh/h | 395 | 610 |   |    | 529 | 165 |    |   |   | 163 |   | 301 |

| Signal Information |       |                 |     |        |      |      |      |     |     |     |  |
|--------------------|-------|-----------------|-----|--------|------|------|------|-----|-----|-----|--|
| Cycle, s           | 115.7 | Reference Phase | 2   |        |      |      |      |     |     |     |  |
| Offset, s          | 0     | Reference Point | End |        |      |      |      |     |     |     |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  | Green  | 27.4 | 56.2 | 15.0 | 0.0 | 0.0 | 0.0 |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  | Yellow | 3.6  | 4.9  | 4.0  | 0.0 | 0.0 | 0.0 |  |
|                    |       |                 |     | Red    | 1.5  | 1.5  | 1.7  | 0.0 | 0.0 | 0.0 |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|-----|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     |     |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 8.3  |     |     |     | 9.0  |
| Phase Duration, s                 | 32.5 | 95.0 |     | 62.6 |     |     |     | 20.7 |
| Change Period, ( $Y+R_c$ ), s     | 5.1  | 6.4  |     | 6.4  |     |     |     | 5.7  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     |     |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 26.4 | 19.7 |     | 54.5 |     |     |     | 17.0 |
| Green Extension Time ( $g_e$ ), s | 0.9  | 3.5  |     | 1.5  |     |     |     | 0.0  |
| Phase Call Probability            | 1.00 | 1.00 |     | 1.00 |     |     |     | 1.00 |
| Max Out Probability               | 0.00 | 0.00 |     | 0.27 |     |     |     | 1.00 |

| Movement Group Results                            | EB    |       |   | WB   |       |    | NB  |   |   | SB    |   |       |
|---------------------------------------------------|-------|-------|---|------|-------|----|-----|---|---|-------|---|-------|
| Approach Movement                                 | L     | T     | R | L    | T     | R  | L   | T | R | L     | T | R     |
| Assigned Movement                                 | 5     | 2     |   |      | 6     | 16 |     |   |   | 7     |   | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 444   | 685   |   |      | 780   |    |     |   |   | 183   |   | 338   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1654  | 1736  |   |      | 1665  |    |     |   |   | 1654  |   | 1471  |
| Queue Service Time ( $g_s$ ), s                   | 24.4  | 17.7  |   |      | 52.5  |    |     |   |   | 12.6  |   | 15.0  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 24.4  | 17.7  |   |      | 52.5  |    |     |   |   | 12.6  |   | 15.0  |
| Green Ratio ( $g/C$ )                             | 0.74  | 0.77  |   |      | 0.49  |    |     |   |   | 0.13  |   | 0.37  |
| Capacity ( $c$ ), veh/h                           | 476   | 1331  |   |      | 809   |    |     |   |   | 214   |   | 539   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.933 | 0.515 |   |      | 0.964 |    |     |   |   | 0.856 |   | 0.628 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 479   | 221   |   |      | 812   |    |     |   |   | 276   |   | 314   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 19.0  | 8.8   |   |      | 32.2  |    |     |   |   | 10.9  |   | 12.5  |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 1.13  | 0.00  |   |      | 0.00  |    |     |   |   | 1.22  |   | 0.00  |
| Uniform Delay ( $d_1$ ), s/veh                    | 34.9  | 5.2   |   |      | 28.9  |    |     |   |   | 49.4  |   | 30.3  |
| Incremental Delay ( $d_2$ ), s/veh                | 7.7   | 0.2   |   |      | 19.6  |    |     |   |   | 26.3  |   | 1.8   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |   |      | 0.0   |    |     |   |   | 0.0   |   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 42.7  | 5.4   |   |      | 48.4  |    |     |   |   | 75.7  |   | 32.0  |
| Level of Service (LOS)                            | D     | A     |   |      | D     |    |     |   |   | E     |   | C     |
| Approach Delay, s/veh / LOS                       | 20.0  | C     |   | 48.4 | D     |    | 0.0 |   |   | 47.4  |   | D     |
| Intersection Delay, s/veh / LOS                   | 35.0  |       |   |      |       |    | D   |   |   |       |   |       |

| Multimodal Results         | EB   |   | WB   |   | NB   |   | SB   |   |
|----------------------------|------|---|------|---|------|---|------|---|
| Pedestrian LOS Score / LOS | 0.65 | A | 1.91 | B | 1.73 | B | 1.96 | B |
| Bicycle LOS Score / LOS    | 2.35 | B | 1.77 | B |      |   |      | F |

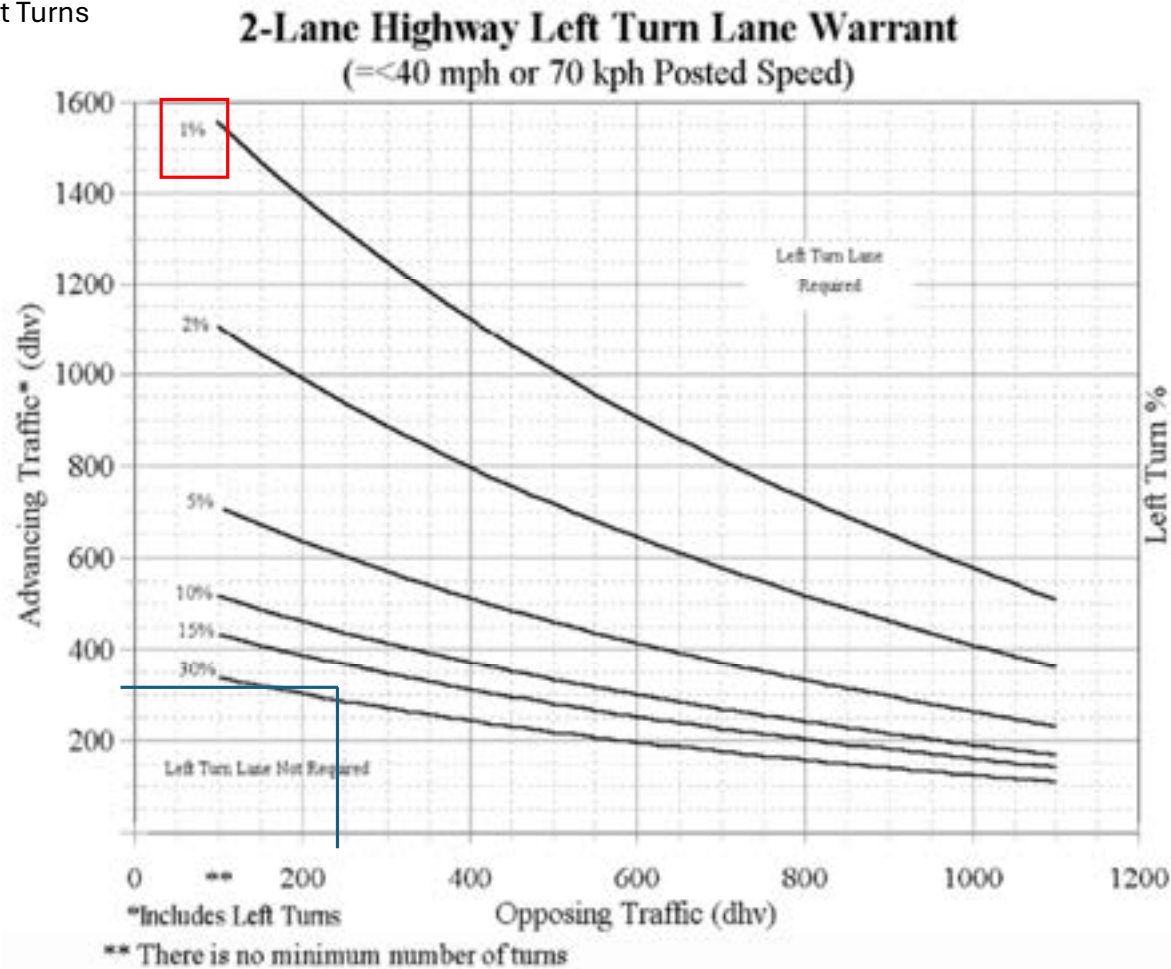
APPENDIX E  
TURN LANE WARRANTS



306 Advancing  
245 Opposing  
0.7% Left Turns

2047 Build AM Peak Hour – Road D & S. Brown School Road  
Southbound Left

October 2004



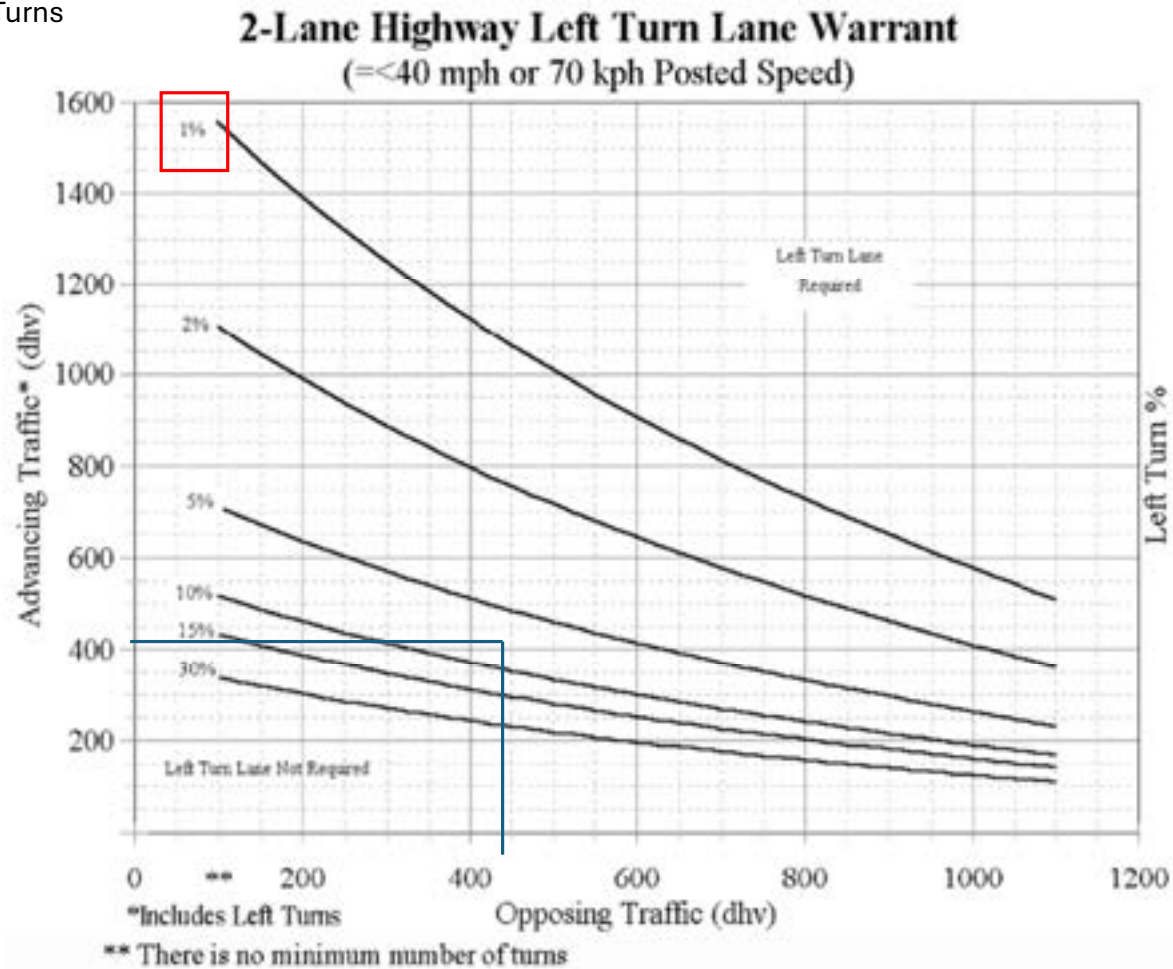
**2-LANE LEFT TURN LANE  
WARRANT (LOW SPEED)**

**401-5a**  
REFERENCE SECTION  
401.6.1

411 Advancing  
443 Opposing  
1% Left Turns

2047 Build PM Peak Hour – Road D & S. Brown School Road  
Southbound Left

October 2004



**2-LANE LEFT TURN LANE  
WARRANT (LOW SPEED)**

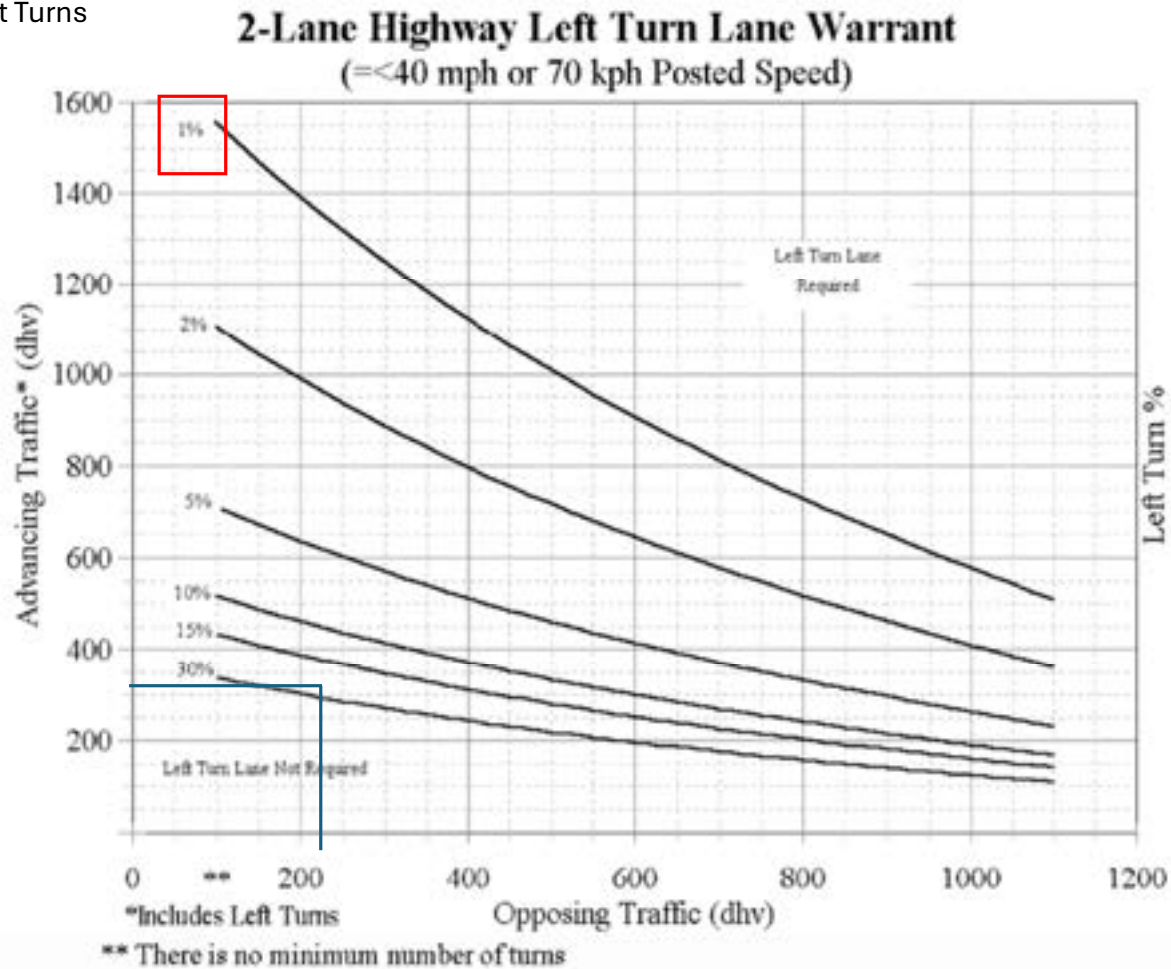
**401-5a**  
REFERENCE SECTION  
401.6.1



317 Advancing  
228 Opposing  
1.3% Left Turns

2047 Build AM Peak Hour – Foxfire Trail/Road C & S. Brown School Road  
Southbound Left

October 2004



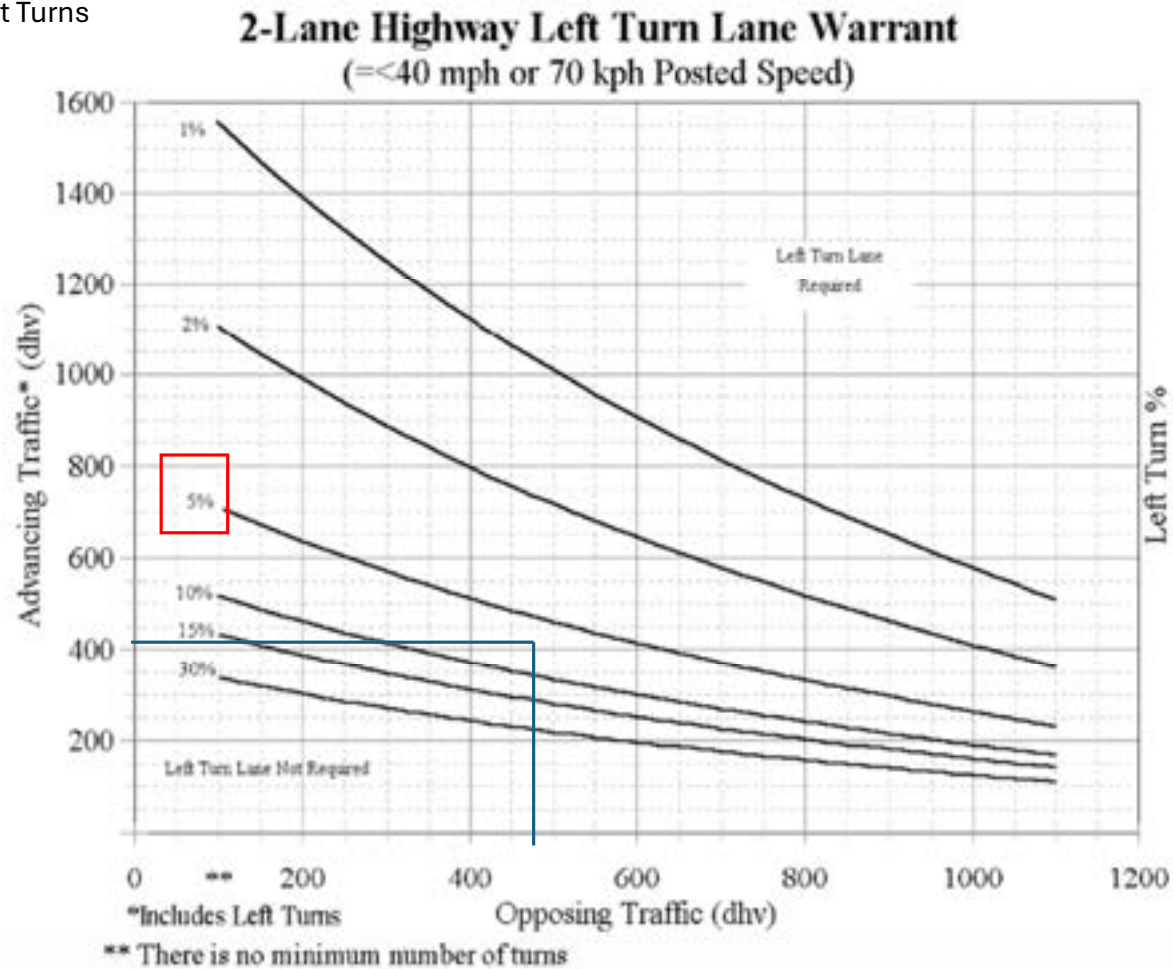
**2-LANE LEFT TURN LANE  
WARRANT (LOW SPEED)**

**401-5a**  
REFERENCE SECTION  
401.6.1

416 Advancing  
476 Opposing  
2.9% Left Turns

2047 Build PM Peak Hour – Foxfire Trail/Road C & S. Brown School Road  
Southbound Left

October 2004



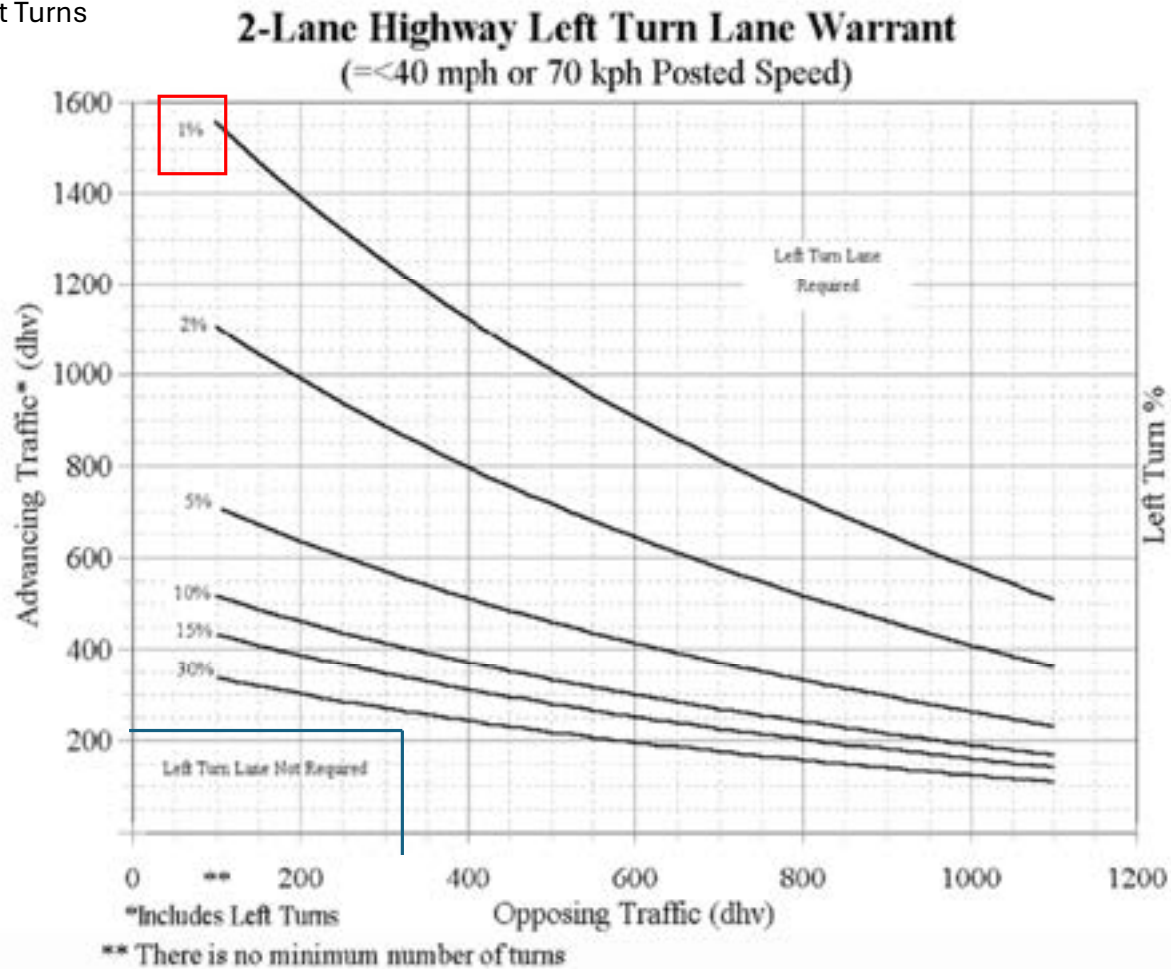
**2-LANE LEFT TURN LANE  
WARRANT (LOW SPEED)**

**401-5a**  
REFERENCE SECTION  
401.6.1

225 Advancing  
326 Opposing  
0.9% Left Turns

2047 Build AM Peak Hour – Foxfire Trail/Road C & S. Brown School Road  
Northbound Left

October 2004



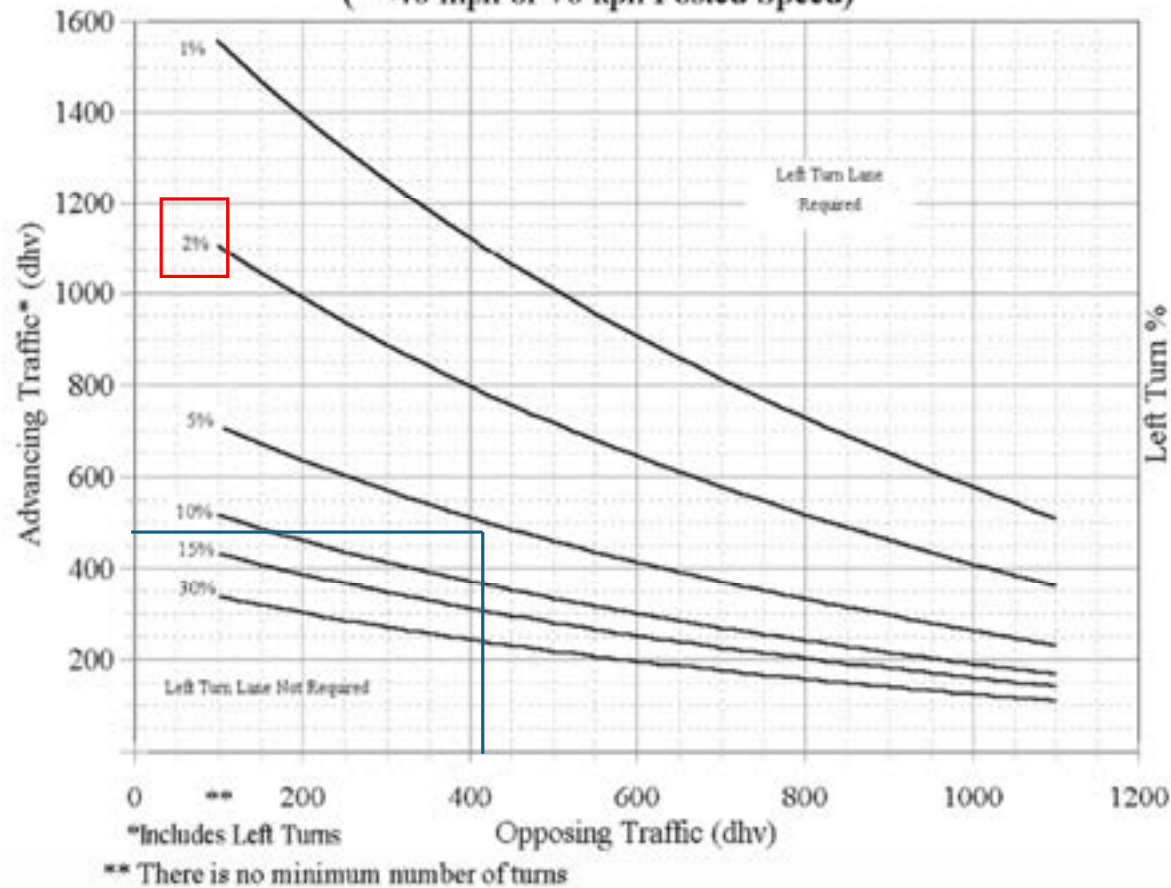
**2-LANE LEFT TURN LANE  
WARRANT (LOW SPEED)**

**401-5a**  
REFERENCE SECTION  
401.6.1

476 Advancing  
416 Opposing  
2.1% Left Turns

2047 Build PM Peak Hour – Foxfire Trail/Road C & S. Brown School Road  
Northbound Left

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



October 2004

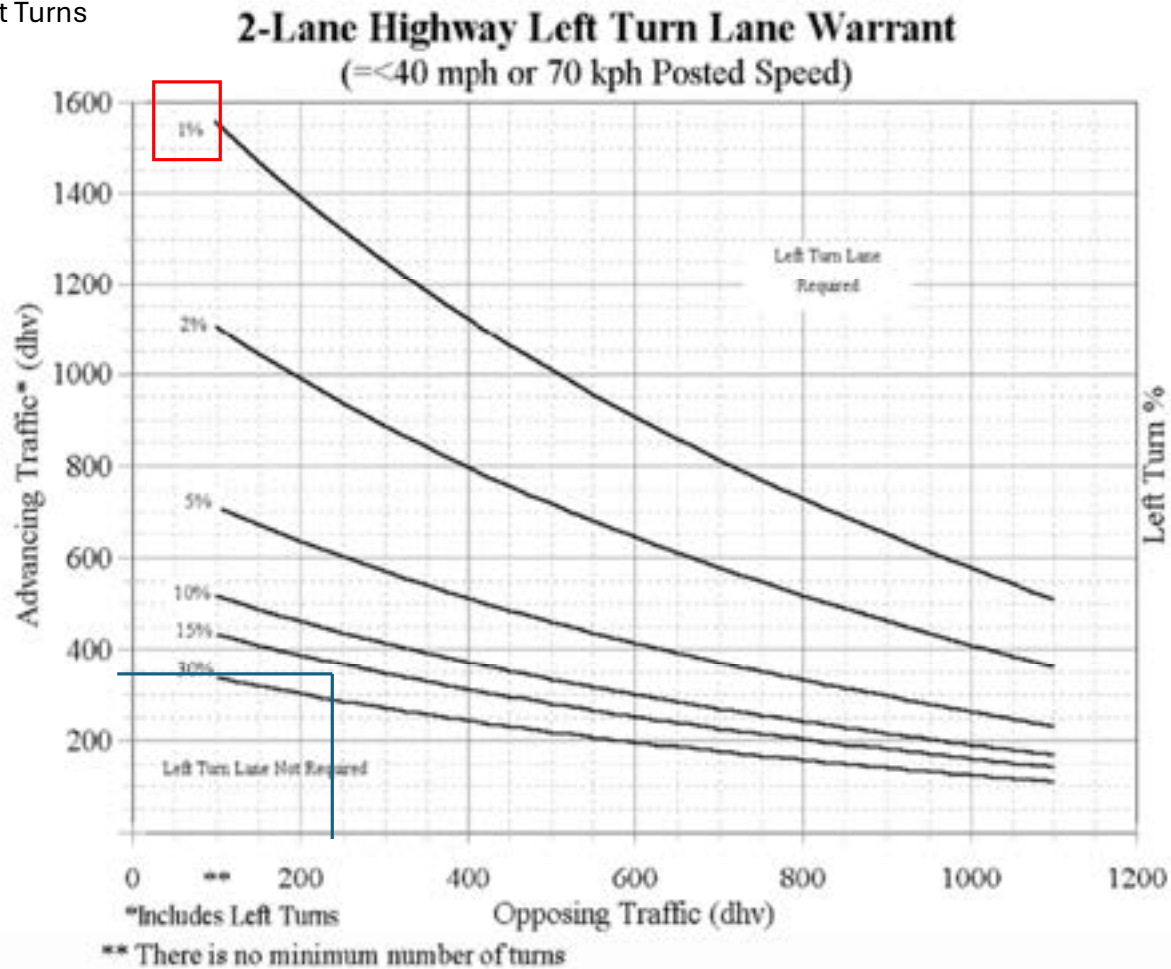
2-LANE LEFT TURN LANE  
WARRANT (LOW SPEED)

401-5a  
REFERENCE SECTION  
401.6.1

347 Advancing  
242 Opposing  
0.9% Left Turns

2047 Build AM Peak Hour – Deerhurst Drive/Road A & S. Brown School Road  
Southbound Left

October 2004



**2-LANE LEFT TURN LANE  
WARRANT (LOW SPEED)**

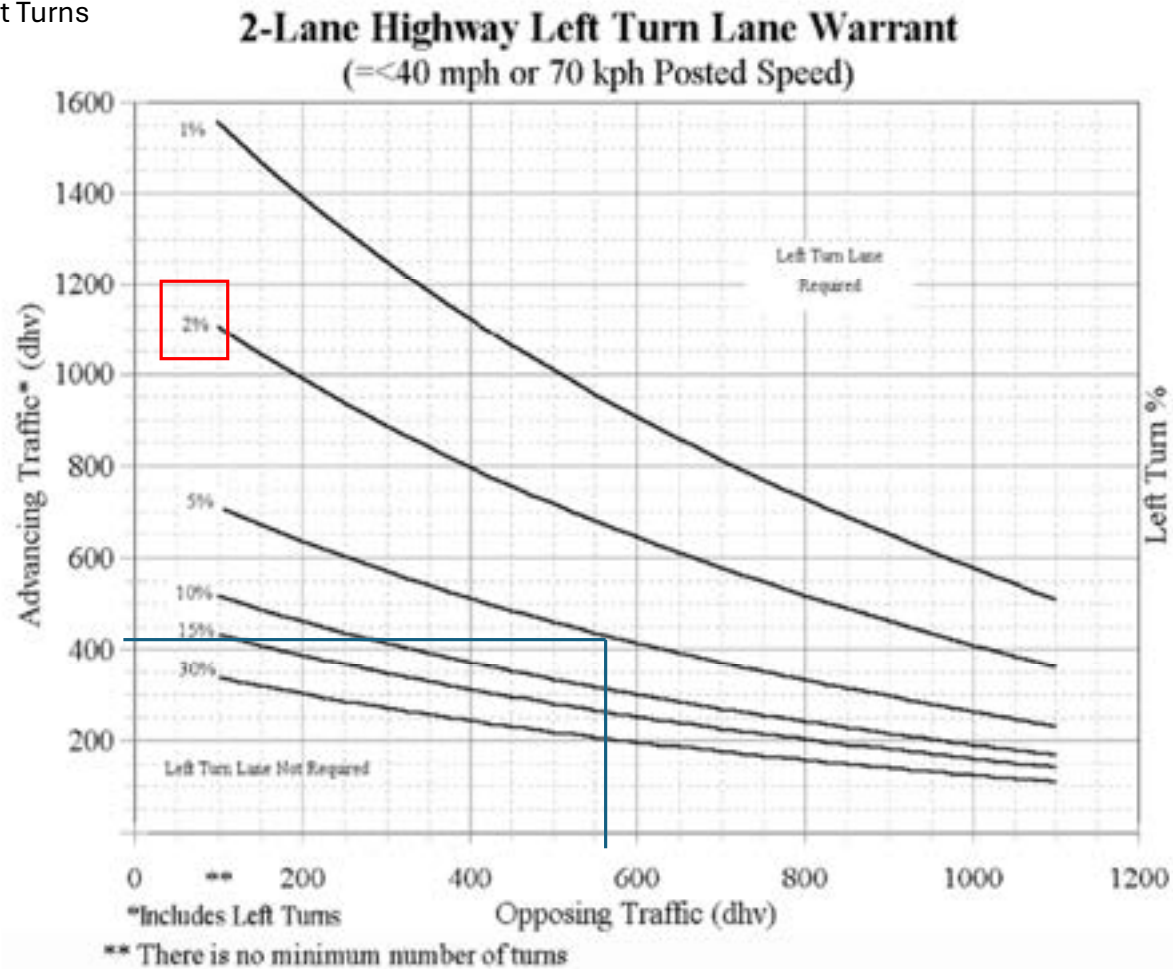
**401-5a**  
REFERENCE SECTION  
401.6.1



419 Advancing  
559 Opposing  
1.7% Left Turns

2047 Build PM Peak Hour – Deerhurst Drive/Road A & S. Brown School Road  
Southbound Left

October 2004



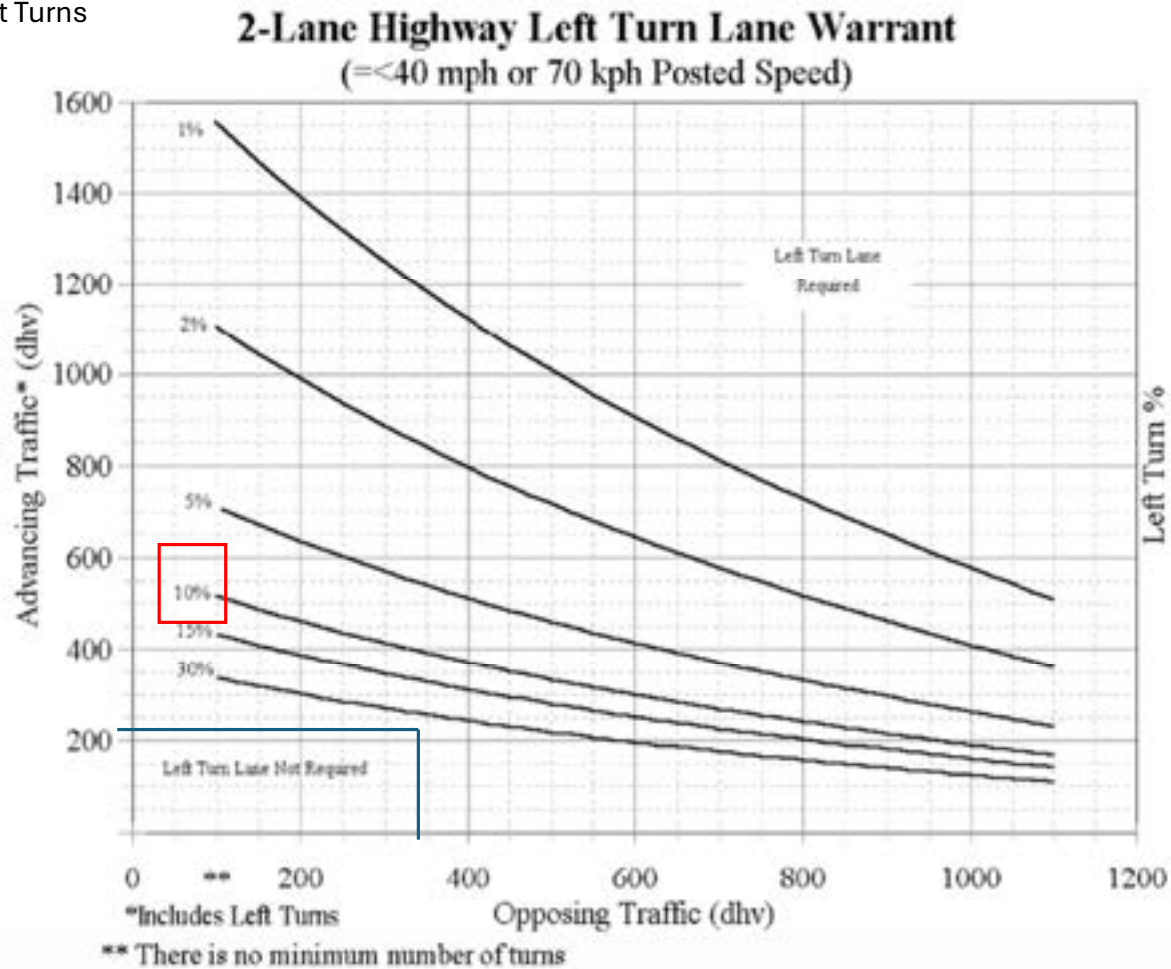
**2-LANE LEFT TURN LANE  
WARRANT (LOW SPEED)**

**401-5a**  
REFERENCE SECTION  
401.6.1

228 Advancing  
341 Opposing  
7.5% Left Turns

2047 Build AM Peak Hour – Deerhurst Drive/Road A & S. Brown School Road  
Northbound Left

October 2004



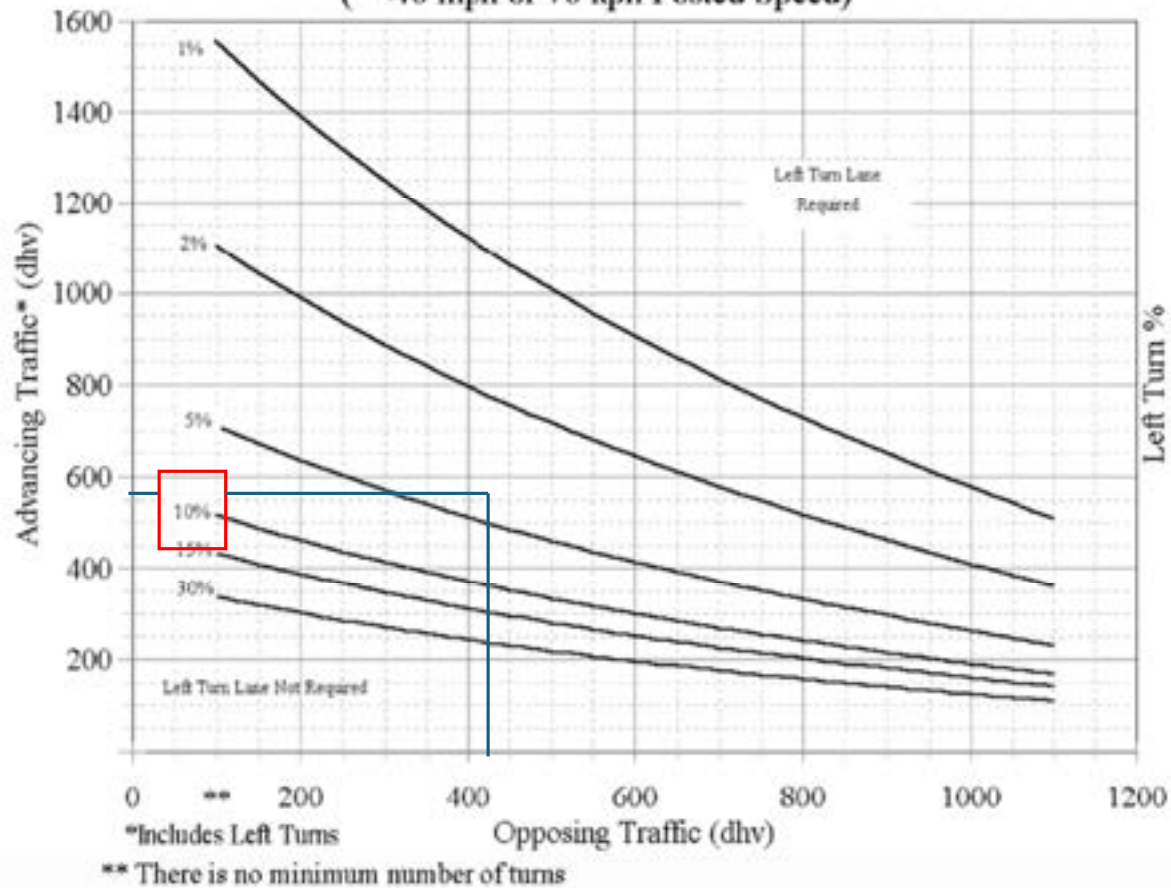
**2-LANE LEFT TURN LANE  
WARRANT (LOW SPEED)**

**401-5a**  
REFERENCE SECTION  
401.6.1

559 Advancing  
419 Opposing  
11.3% Left Turns

2047 Build PM Peak Hour – Deerhurst Drive/Road A & S. Brown School Road  
Northbound Left

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



October 2004

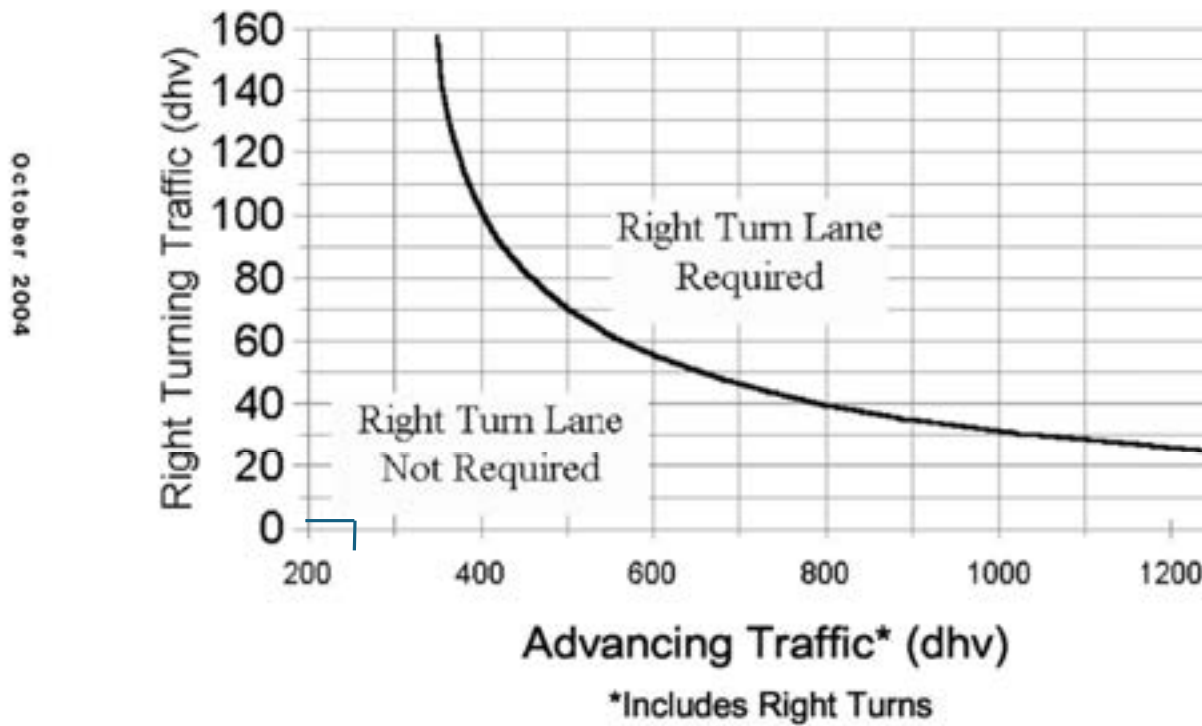
2-LANE LEFT TURN LANE  
WARRANT (LOW SPEED)

401-5a  
REFERENCE SECTION  
401.6.1

245 Advancing  
4 Right Turns

2047 Build AM Peak Hour – Road D & S. Brown School Road  
Northbound Right

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



**2-LANE RIGHT TURN LANE  
WARRANT (LOW SPEED)**

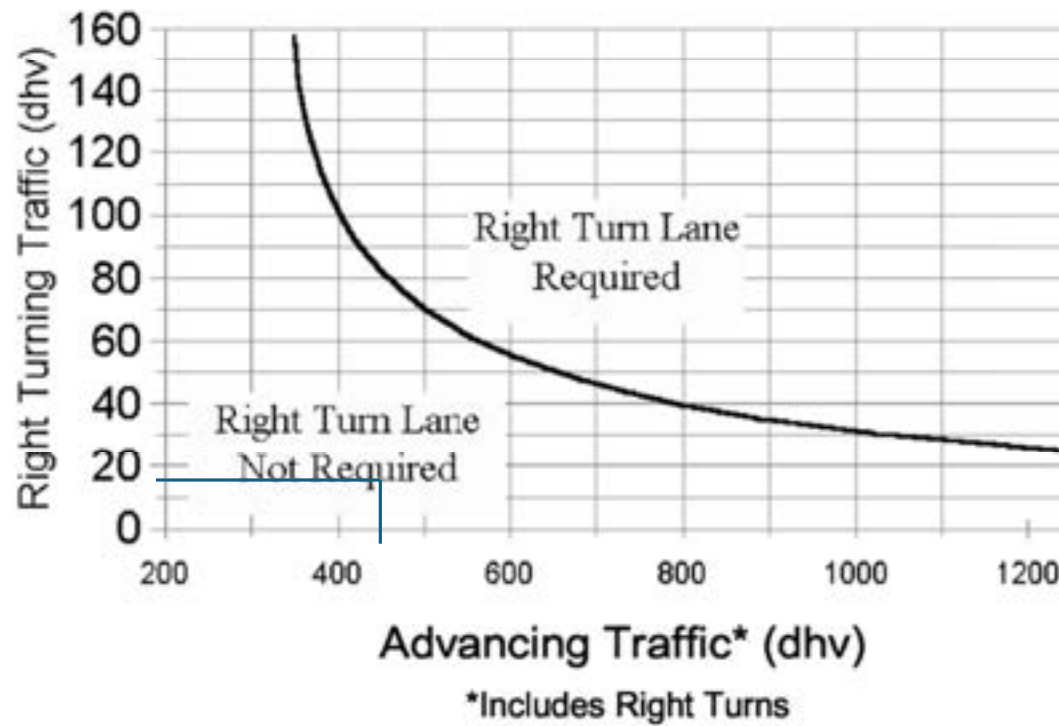
**401-6a**

REFERENCE SECTION  
401.6.3

443 Advancing  
16 Right Turns

2047 Build PM Peak Hour – Road D & S. Brown School Road  
Northbound Right

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



**2-LANE RIGHT TURN LANE  
WARRANT (LOW SPEED)**

**401-6a**

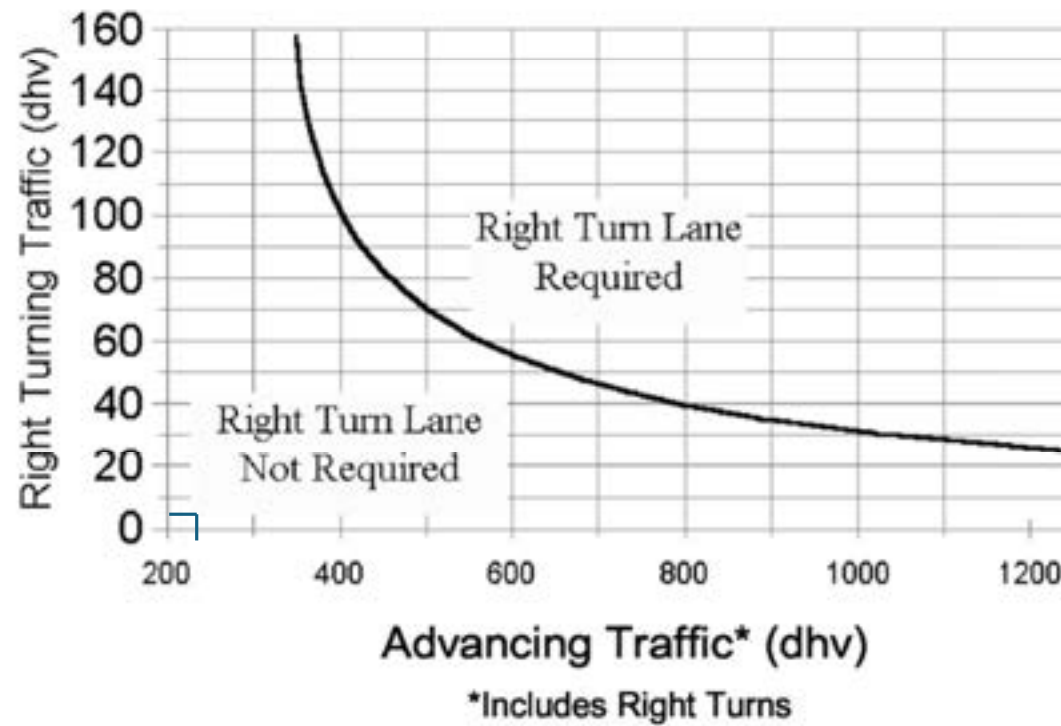
REFERENCE SECTION  
401.6.3



228 Advancing  
7 Right Turns

2047 Build AM Peak Hour – Foxfire Trail/Road C & S. Brown School Road  
Northbound Right

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



**2-LANE RIGHT TURN LANE  
WARRANT (LOW SPEED)**

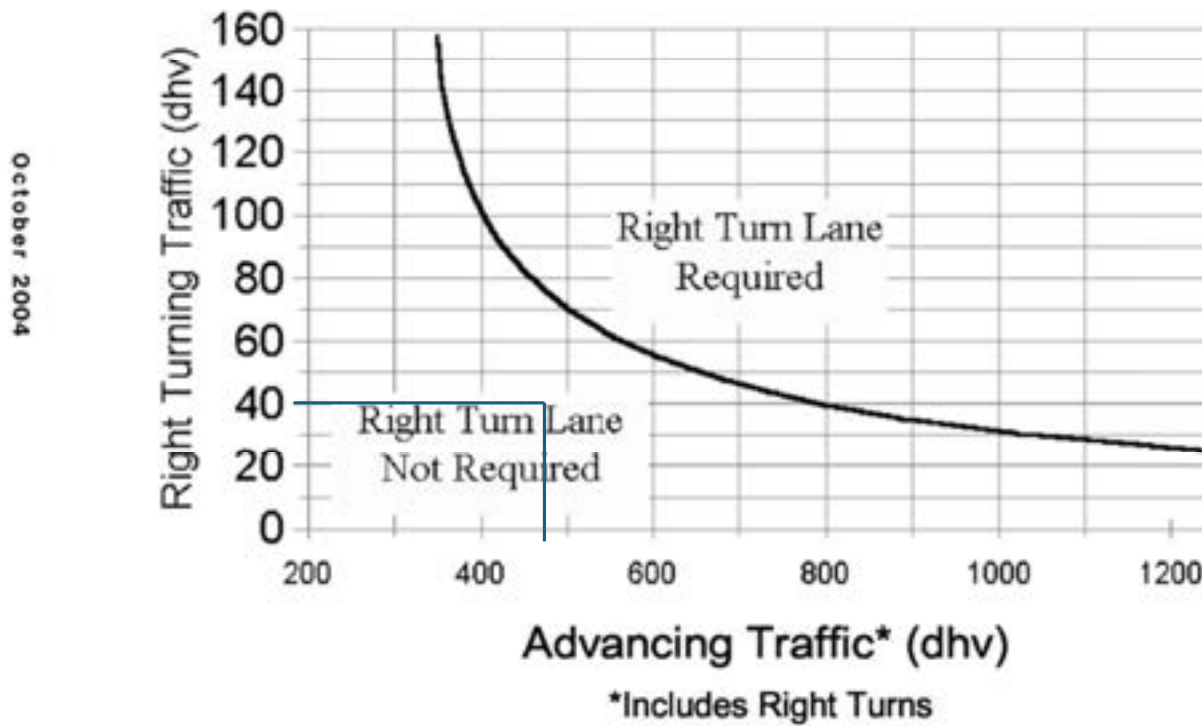
**401-6a**

REFERENCE SECTION  
401.6.3

476 Advancing  
40 Right Turns

2047 Build PM Peak Hour – Foxfire Trail/Road C & S. Brown School Road  
Northbound Right

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



**2-LANE RIGHT TURN LANE  
WARRANT (LOW SPEED)**

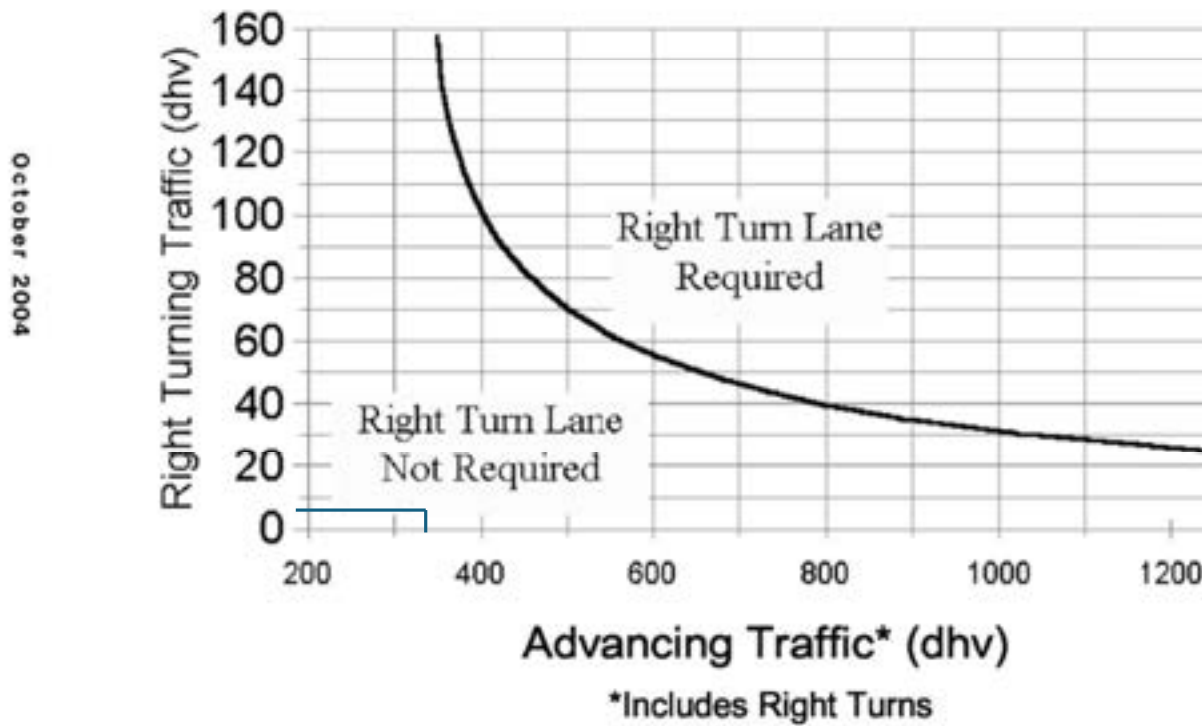
**401-6a**

REFERENCE SECTION  
401.6.3

317 Advancing  
6 Right Turns

2047 Build AM Peak Hour – Foxfire Trail/Road C & S. Brown School Road  
Southbound Right

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



**2-LANE RIGHT TURN LANE  
WARRANT (LOW SPEED)**

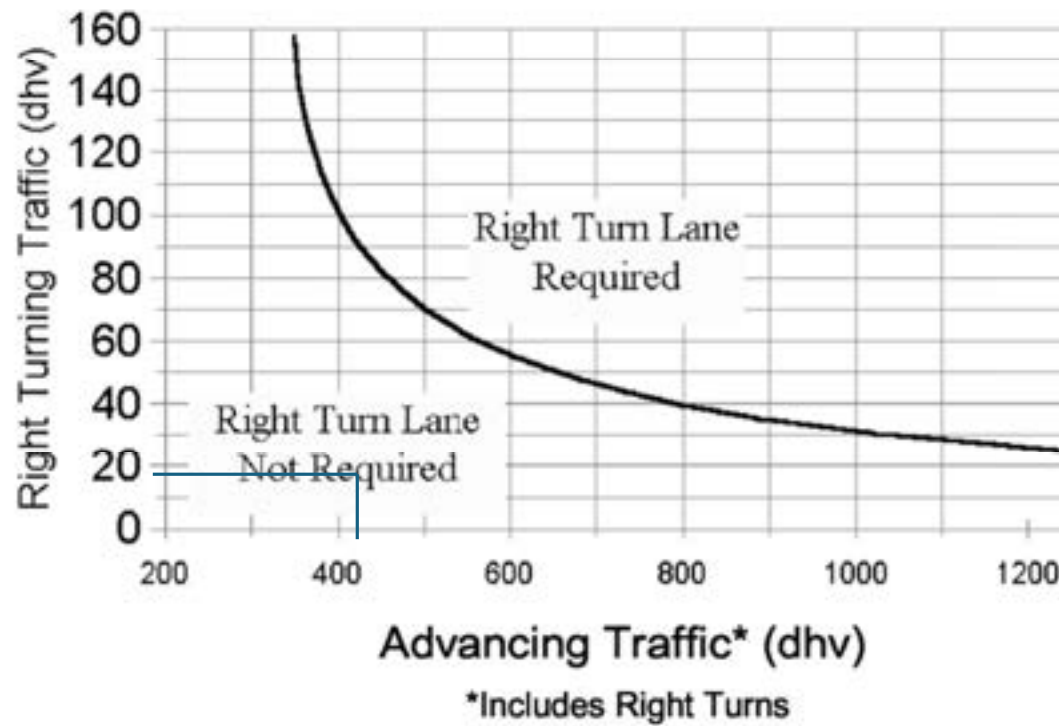
**401-6a**

REFERENCE SECTION  
401.6.3

416 Advancing  
18 Right Turns

2047 Build PM Peak Hour – Foxfire Trail/Road C & S. Brown School Road  
Southbound Right

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



**2-LANE RIGHT TURN LANE  
WARRANT (LOW SPEED)**

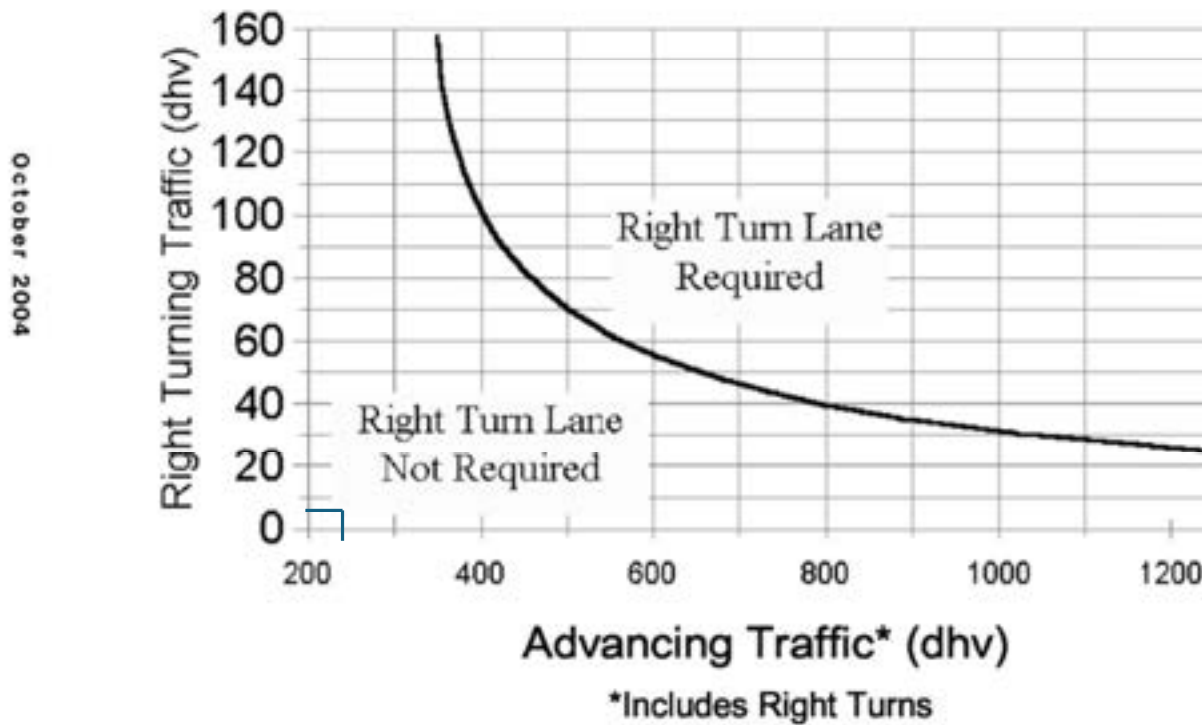
**401-6a**

REFERENCE SECTION  
401.6.3

242 Advancing  
7 Right Turns

2047 Build AM Peak Hour – Deerhurst Drive/Road A & S. Brown School Road  
Northbound Right

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



**2-LANE RIGHT TURN LANE  
WARRANT (LOW SPEED)**

**401-6a**

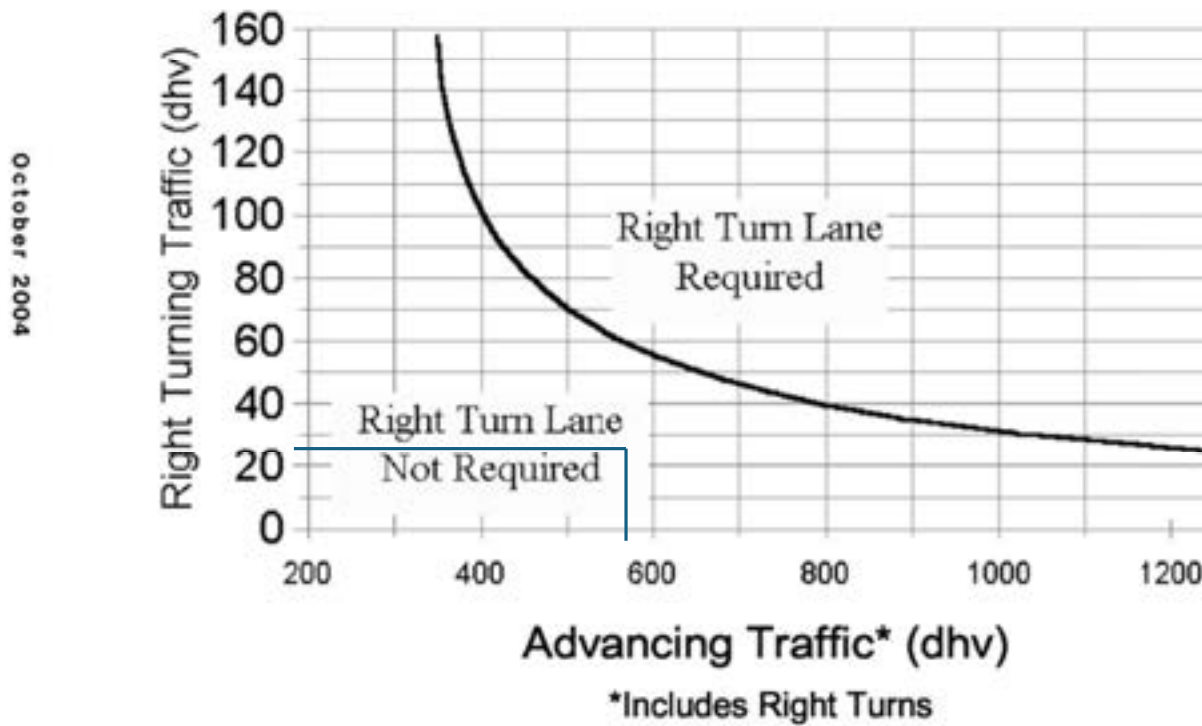
REFERENCE SECTION  
401.6.3



559 Advancing  
25 Right Turns

2047 Build PM Peak Hour – Deerhurst Drive/Road A & S. Brown School Road  
Northbound Right

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



**2-LANE RIGHT TURN LANE  
WARRANT (LOW SPEED)**

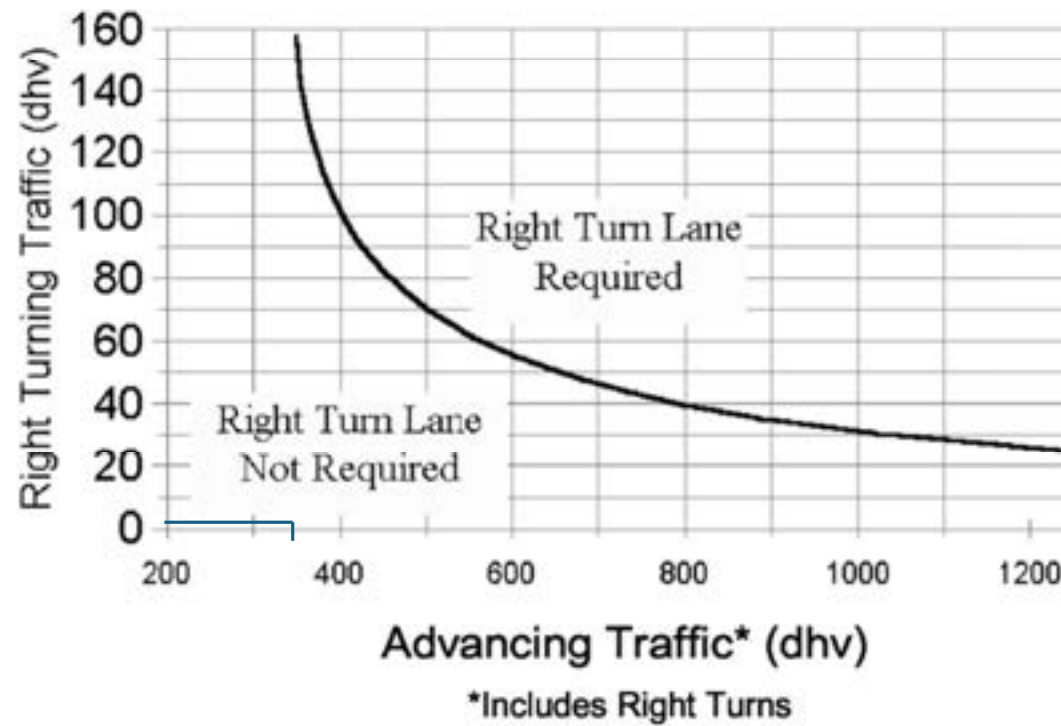
**401-6a**

REFERENCE SECTION  
401.6.3

347 Advancing  
2 Right Turns

2047 Build AM Peak Hour – Deerhurst Drive/Road A & S. Brown School Road  
Southbound Right

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



**2-LANE RIGHT TURN LANE  
WARRANT (LOW SPEED)**

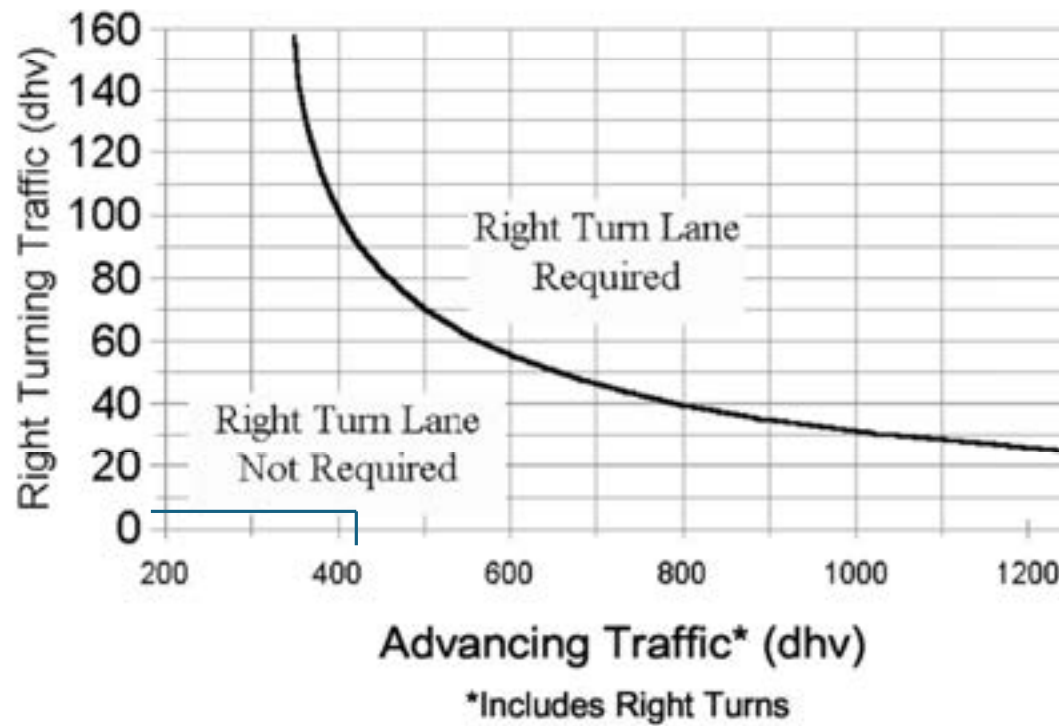
**401-6a**

REFERENCE SECTION  
401.6.3

419 Advancing  
6 Right Turns

2047 Build PM Peak Hour – Deerhurst Drive/Road A & S. Brown School Road  
Southbound Right

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



**2-LANE RIGHT TURN LANE  
WARRANT (LOW SPEED)**

**401-6a**

REFERENCE SECTION  
401.6.3

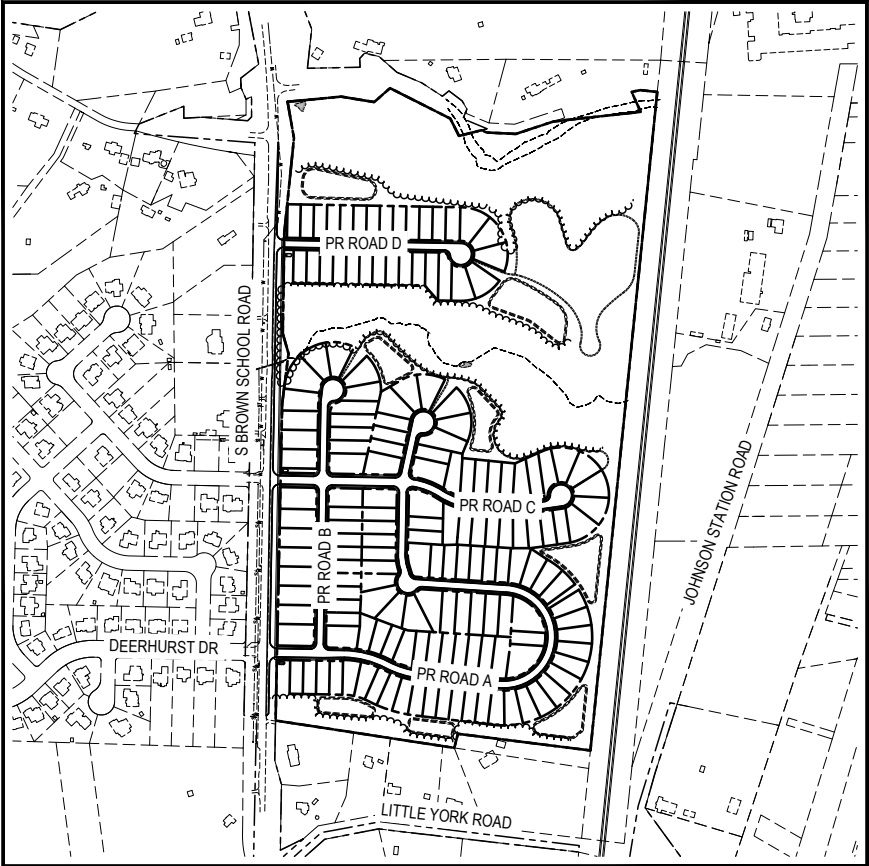
PLANNED UNIT DEVELOPMENT APPLICATION FOR

# RIVERDALE SUBDIVISION

7848 S BROWN SCHOOL ROAD  
VANDALIA, OH 45377

PROJECT DESCRIPTION

DEVELOPMENT OF A 167 LOT RESIDENTIAL SUBDIVISION WITH ASSOCIATED DETENTION, UTILITIES, AND LANDSCAPING.

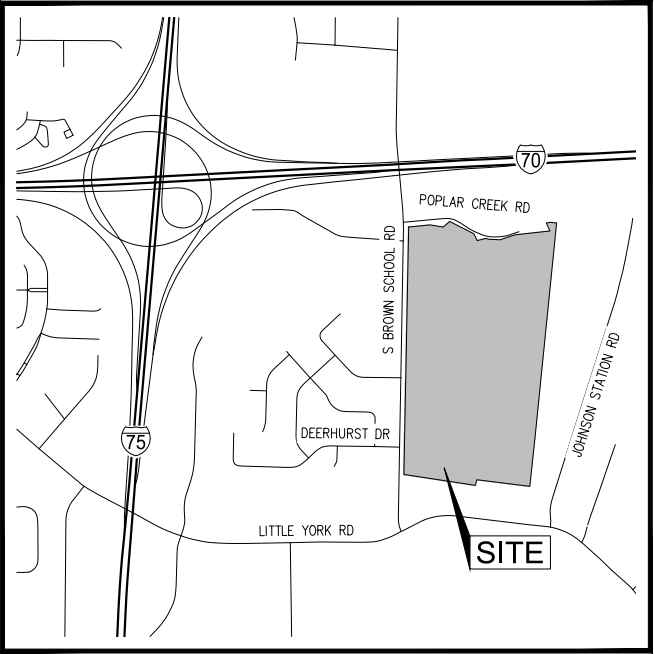


INDEX MAP

0 200 400 800  
SCALE: 1" = 400'

INDEX OF SHEETS

|                                       |     |
|---------------------------------------|-----|
| COVER SHEET                           | 1   |
| EXISTING CONDITIONS & DEMOLITION PLAN | 2   |
| PRELIMINARY SITE PLANS                | 3-7 |
| RESERVE PLAN                          | 8   |
| PRELIMINARY LANDSCAPE PLAN            | 9   |
| ENTRY FEATURE ENLARGEMENTS            | 10  |
| SIGNAGE DETAILS                       | 11  |
| RENDERED SITE PLAN                    | 12  |



VICINITY MAP

SCALE: 1" = 1,000'

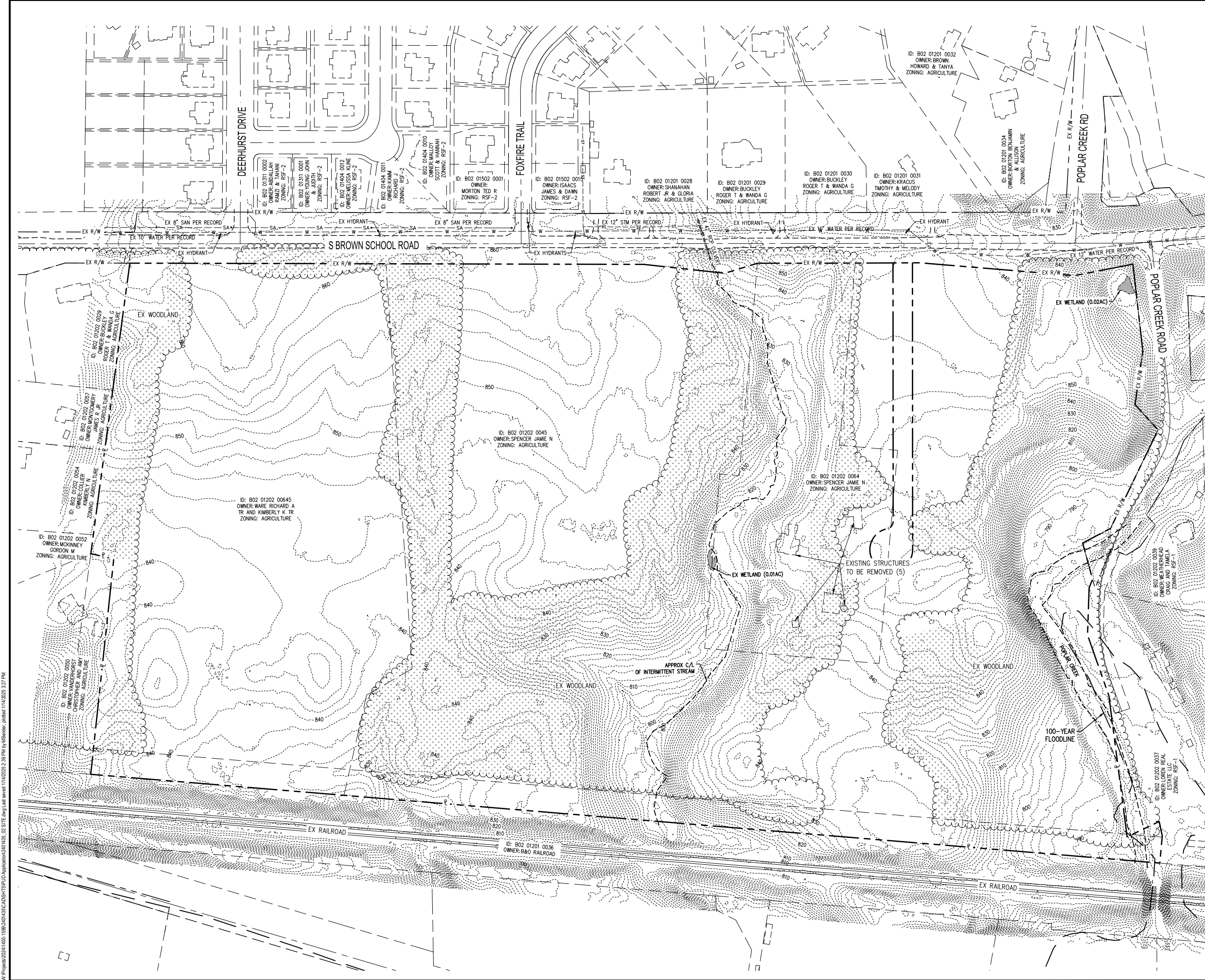
ENGINEER OF RECORD



CONTACT: ASHLEY FOWLER, PE  
ADDRESS: 1160 DUBLIN ROAD, SUITE 100  
COLUMBUS, OH 43215  
PHONE: 614.441.4222  
EMAIL: AFOWLER@MANNIKSMITHGROUP.COM



| REV NO | DATE | BY | REVISION DESCRIPTION | PROJECT DATE: 12/11/24 |
|--------|------|----|----------------------|------------------------|
|        |      |    |                      | PROJECT NO.: 2401435   |
|        |      |    |                      | 1 / 12                 |



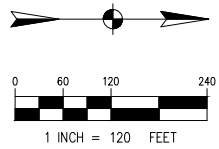
**LEGEND** (EX=EXISTING) PR=PROPOSED

- EX R/W EX RIGHT OF WAY
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- ROAD CENTERLINE
- 850 MAJOR CONTOUR
- MINOR CONTOUR
- EX TREE CANOPY - ±44.31AC
- EX TREE CANOPY AREA TO BE REMOVED - ±18.76AC

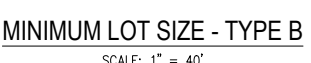
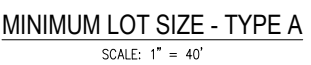
V:\Projects\2024\1400-1990\2401435\CADD\SPUD Application\2401435\_03 SITE.dwg Last saved 11/4/2025 2:39 PM by MBender, plotted 11/4/2025 3:27 PM

|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|----|------------------------------------------------|-----------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--|--|--|
| 2  | EXISTING<br>CONDITIONS<br>& DEMOLITION<br>PLAN | PUD APPLICATION FOR<br><br>RIVERDALE<br>SUBDIVISION | 7848 S BROWN SCHOOL RD, VANDALIA OH 45377 | PREPARED FOR:<br><br>ADDISON<br>PROPERTIES<br>4301 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | <br>TECHNICAL SKILL<br>CREATIVE SPIRIT<br><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a> | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 888.488.7340 |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      | PROJECT DATE: 12/11/2024<br>PROJECT NO: 2401435<br>DRAWN BY: MMB<br>CHECKED BY: NAF           |  |  |  |
| 12 |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      |                                                                                               |  |  |  |
|    |                                                |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                      | </                                                                                            |  |  |  |



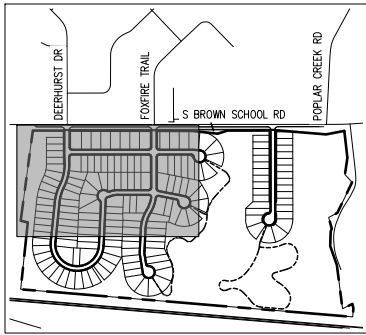
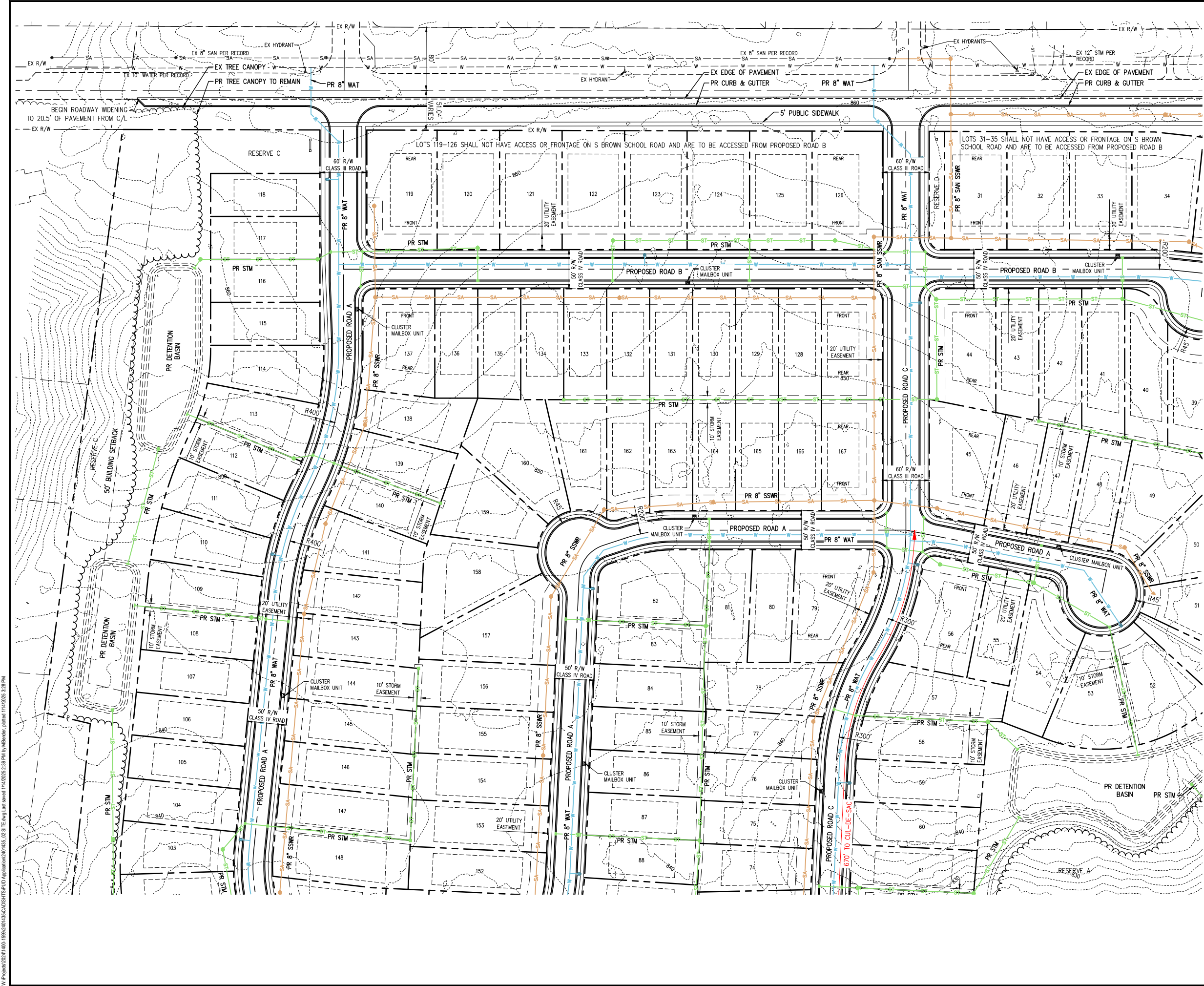


| SITE DATA                         |                      |
|-----------------------------------|----------------------|
| SITE ACREAGE:                     | ±85.05 ACRES         |
| PROPOSED ZONING:                  | PUD                  |
| DWELLING PARCELS:                 | 167                  |
| 55'-WIDE LOTS (TYPE A):           | 154                  |
| 80'-WIDE LOTS (TYPE B):           | 13                   |
| GROSS DENSITY OF DWELLING UNITS:  | ±1.96 DU/AC          |
| GROSS OPEN SPACE:                 | ±39.68 AC / 46.65%   |
| WOODED OPEN SPACE:                | ±25.27 AC / 29.71%   |
| OPEN GREEN SPACE:                 | ±14.41 AC / 16.94%   |
| TOTAL DEVELOPMENT AREA (COLORED): | ±60.67AC             |
| NET DENSITY OF DWELLING UNITS:    | ±2.75 DU/AC          |
| TOTAL PUBLIC ROAD LENGTH:         | 5,750 LF             |
| TOTAL SIDEWALK LENGTH:            | 14,500 LF            |
| TOTAL MULCH TRAIL LENGTH:         | 4,500 LF             |
| TOTAL DETENTION AREA:             | 220,296 SF / 5.06 AC |



|    |                                     |                                                     |                                                                                                                |                                                                                                                                                                                                             |                                                                                               |                                                                                     |     |      |    |             |
|----|-------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----|------|----|-------------|
| 3  | OVERALL<br>PRELIMINARY<br>SITE PLAN | PUD APPLICATION FOR<br><br>RIVERDALE<br>SUBDIVISION | PREPARED FOR:<br><br>ADDISON<br>PROPERTIES<br><br>4301 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | <br><b>TECHNICAL SKILL,<br/>CREATIVE MIND.</b><br><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a> | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 888.488.7340 | PROJECT DATE: 12/11/2024<br>PROJECT NO: 2401435<br>DRAWN BY: MMB<br>CHECKED BY: NAF | NO. | DATE | BY | DESCRIPTION |
|    |                                     |                                                     |                                                                                                                |                                                                                                                                                                                                             |                                                                                               |                                                                                     |     |      |    |             |
| 12 |                                     | 7848 S BROWN SCHOOL RD, VANDALIA OH 45377           |                                                                                                                |                                                                                                                                                                                                             |                                                                                               |                                                                                     |     |      |    |             |

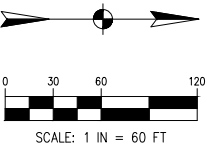




KEY MAP  
NOT TO SCALE

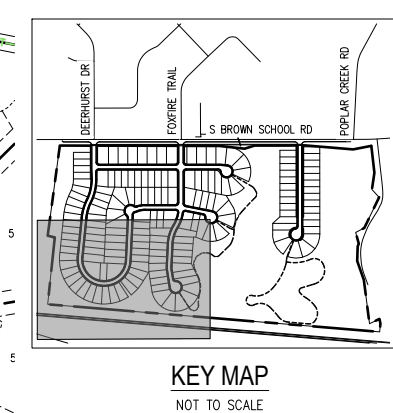
- LEGEND** (EX=EXISTING) PR=PROPOSED)
- EX R/W EX RIGHT OF WAY
  - PR R/W PR RIGHT OF WAY
  - PROPERTY LINE
  - ADJACENT PROPERTY LINE
  - ROAD CENTERLINE
  - MAJOR CONTOUR
  - MINOR CONTOUR
  - EX TREE CANOPY
  - PR TREE CANOPY
  - PR STIM
  - PR SANITARY SEWER
  - PR WATER MAIN
  - PR MANHOLE
  - PR FIRE HYDRANT
  - PR CATCH BASIN/CURB INLET

- NOTE:**
- LOTS 119, 137, 126, 31, 127, 44, 167, 45, 79, AND 56 SHALL NOT HAVE FRONTAGE ON OR HAVE ACCESS FROM PROPOSED ROAD C AND PROPOSED ROAD A. ALL HOUSE FRONT AND REAR YARDS SHALL BE ORIENTED EAST/WEST FOR THESE LOTS.
  - LOTS 14-18, 34-40, 49-54, 64-69, 89-103, 109-112, 138-142, AND 158-161 ARE LOCATED ALONG CURVES, KNUCKLES, AND/OR CUL-DE-SACS AND SHALL HAVE FRONTAGE MEASURED AT A SETBACK OF 35' DUE TO THE CURVATURE OF THE FRONT PROPERTY LINE.



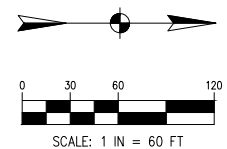
| DESCRIPTION                                                                                             |  | NO.                                                 | DATE | BY |
|---------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------|------|----|
| 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 688.488.7540           |  |                                                     |      |    |
| PROJECT NO. 2401435<br>PROJECT DATE: 12/11/2024<br>DRAWN BY: MMB<br>CHECKED BY: NAF                     |  |                                                     |      |    |
| PREPARED FOR:<br><b>ADDISON PROPERTIES</b><br>4301 ENTERPRISE PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 |  | PUD APPLICATION FOR<br><b>RIVERDALE SUBDIVISION</b> |      |    |
| 7848 S BROWN SCHOOL RD, VANDALIA OH 45377                                                               |  | PRELIMINARY<br><b>SITE PLAN</b>                     |      |    |
| 4                                                                                                       |  | 12                                                  |      |    |





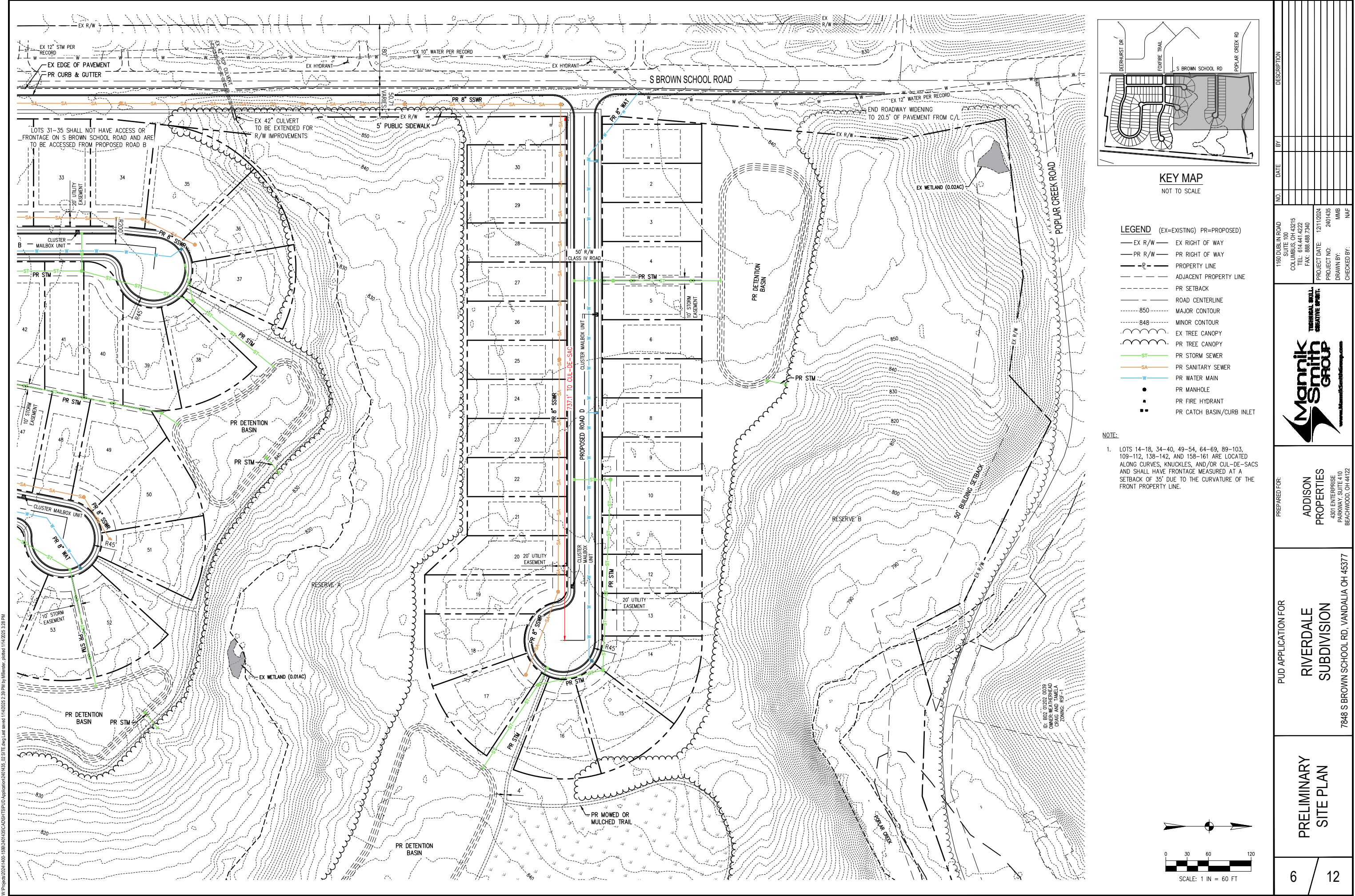
|               |                           |
|---------------|---------------------------|
| — EX R/W —    | EX RIGHT OF WAY           |
| — PR R/W —    | PR RIGHT OF WAY           |
| — <u>PL</u> — | PROPERTY LINE             |
| — — — — —     | ADJACENT PROPERTY LINE    |
| — — — — —     | PR SETBACK                |
| — — — — —     | ROAD CENTERLINE           |
| -----850----- | MAJOR CONTOUR             |
| -----848----- | MINOR CONTOUR             |
| ~~~~~         | EX TREE CANOPY            |
| ~~~~~         | PR TREE CANOPY            |
| —ST—          | PR STORM SEWER            |
| —SA—          | PR SANITARY SEWER         |
| —W—           | PR WATER MAIN             |
| ●             | PR MANHOLE                |
| ●             | PR FIRE HYDRANT           |
| ■ ■           | PR CATCH BASIN/CURB INLET |

1. LOTS 14-18, 34-40, 49-54, 64-69, 89-103, 109-112, 138-142, AND 158-161 ARE LOCATED ALONG CURVES, KNUCKLES, AND/OR CUL-DE-SACS AND SHALL HAVE FRONTAGE MEASURED AT A SETBACK OF 35' DUE TO THE CURVATURE OF THE FRONT PROPERTY LINE.



|    |                          |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                         |                                                                                               |               |            |    |             |
|----|--------------------------|-----------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------|------------|----|-------------|
| 5  | PRELIMINARY<br>SITE PLAN | PUD APPLICATION FOR<br><br>RIVERDALE<br>SUBDIVISION | 7048 S BROWN SCHOOL RD, VANDALIA OH 45377 | PREPARED FOR:<br><br>ADDISON<br>PROPERTIES<br>4301 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | <br><b>TECHNICAL &amp; CREATIVE GROUP</b><br><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a> | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 688.488.7240 | NO.           | DATE       | BY | DESCRIPTION |
|    |                          |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                         |                                                                                               |               |            |    |             |
| 12 |                          |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                         |                                                                                               | PROJECT DATE: | 12/11/2024 |    |             |
|    |                          |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                         |                                                                                               | PROJECT NO:   | 2401435    |    |             |
|    |                          |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                         |                                                                                               | DRAWN BY:     | MMB        |    |             |
|    |                          |                                                     |                                           |                                                                                                            |                                                                                                                                                                                                         |                                                                                               | CHECKED BY:   | NAF        |    |             |

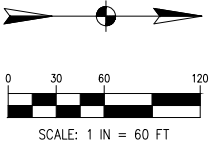




V:\Projects\2024\1400-1990\2401435\CAD\SH\TSPUD Application\2401435\_03 SITE.dwg Last saved 11/14/2025 2:38 PM by MBender, plotted 11/14/2025 2:38 PM

|    |  |                                                      |                     |                                           |                                                                                                            |                                                                                                                                                                                                                                                  |                                                                                               |  |     |      |    |             |
|----|--|------------------------------------------------------|---------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--|-----|------|----|-------------|
| 6  |  | PRELIMINARY<br>RIVERDALE<br>SUBDIVISION<br>SITE PLAN | PUD APPLICATION FOR | 7848 S BROWN SCHOOL RD, VANDALIA OH 45377 | PREPARED FOR:<br><br>ADDISON<br>PROPERTIES<br>4301 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | <br><b>Mannik Smith GROUP</b><br><small>TECHNICAL SKILL<br/>CREATIVE SPIRIT</small><br><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a> | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 888.488.7540 |  | NO. | DATE | BY | DESCRIPTION |
| 12 |  |                                                      |                     |                                           |                                                                                                            |                                                                                                                                                                                                                                                  | PROJECT DATE: 12/11/2024<br>PROJECT NO: 2401435<br>DRAWN BY: MMB<br>CHECKED BY: NAT           |  |     |      |    |             |



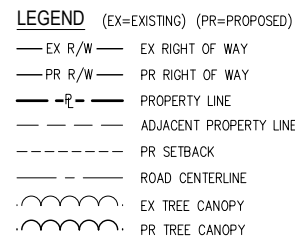


|                                                                                         |                           |
|-----------------------------------------------------------------------------------------|---------------------------|
| — EX R/W —                                                                              | EX RIGHT OF WAY           |
| — PR R/W —                                                                              | PR RIGHT OF WAY           |
| —  — | PROPERTY LINE             |
| —  — | ADJACENT PROPERTY LINE    |
| — — — — —                                                                               | PR SETBACK                |
| — — — — —                                                                               | ROAD CENTERLINE           |
| - - - - - 850 - - - - -                                                                 | MAJOR CONTOUR             |
| - - - - - 848 - - - - -                                                                 | MINOR CONTOUR             |
|      | EX TREE CANOPY            |
|      | PR TREE CANOPY            |
| —  — | PR STORM SEWER            |
| —  — | PR SANITARY SEWER         |
| —  — | PR WATER MAIN             |
| ●                                                                                       | PR MANHOLE                |
| ▲                                                                                       | PR FIRE HYDRANT           |
| ■ ■                                                                                     | PR CATCH BASIN/CURB INLET |

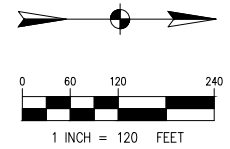
1. LOTS 14-18, 34-40, 49-54, 64-69, 89-103, 109-112, 138-142, AND 158-161 ARE LOCATED ALONG CURVES, KNUCKLES, AND/OR CUL-DE-SACS AND SHALL HAVE FRONTAGE MEASURED AT A SETBACK OF 35' DUE TO THE CURVATURE OF THE FRONT PROPERTY LINE.

|   |                          |                                                     |                                                                                                                                         |                                                                                                                                                                                                                     |                                                                                               |                          |                     |               |                 |
|---|--------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------|---------------------|---------------|-----------------|
| 7 | PRELIMINARY<br>SITE PLAN | PUD APPLICATION FOR<br><br>RIVERDALE<br>SUBDIVISION | ADDISON<br>PROPERTIES<br>4301 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122<br><br>7848 S BROWN SCHOOL RD., VANDALIA OH 45377 |  <p> <b>TECHNICAL SKILL<br/>CREATIVE SPIRIT</b><br/> <a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a> </p> | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 888.488.7540 | NO.                      | DATE                | BY            | DESCRIPTION     |
|   |                          |                                                     |                                                                                                                                         |                                                                                                                                                                                                                     |                                                                                               | PROJECT DATE: 12/11/2024 | PROJECT NO: 2401435 | DRAWN BY: MMB | CHECKED BY: NAF |





| SITE DATA                 |                      |
|---------------------------|----------------------|
| SITE ACREAGE:             | ±85.05 ACRES         |
| GROSS OPEN SPACE:         | ±39.68 AC / 46.65%   |
| WOODED OPEN SPACE:        | ±25.27 AC / 29.71%   |
| OPEN GREEN SPACE:         | ±14.41 AC / 16.94%   |
| SEEDED MEADOW:            | ±3.97 AC             |
| RESERVE A                 | ±13.71 AC            |
| RESERVE B                 | ±21.64 AC            |
| RESERVE C                 | ±5.61 AC             |
| RESERVE D                 | 2,890 SF / ±0.07 AC  |
| TOTAL DETENTION AREA:     | 220,296 SF / 5.06 AC |
| TOTAL MULCH TRAIL LENGTH: | 4,500 LF             |

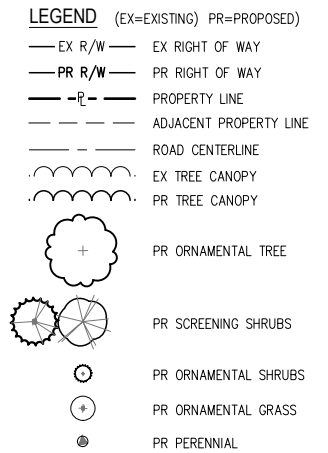
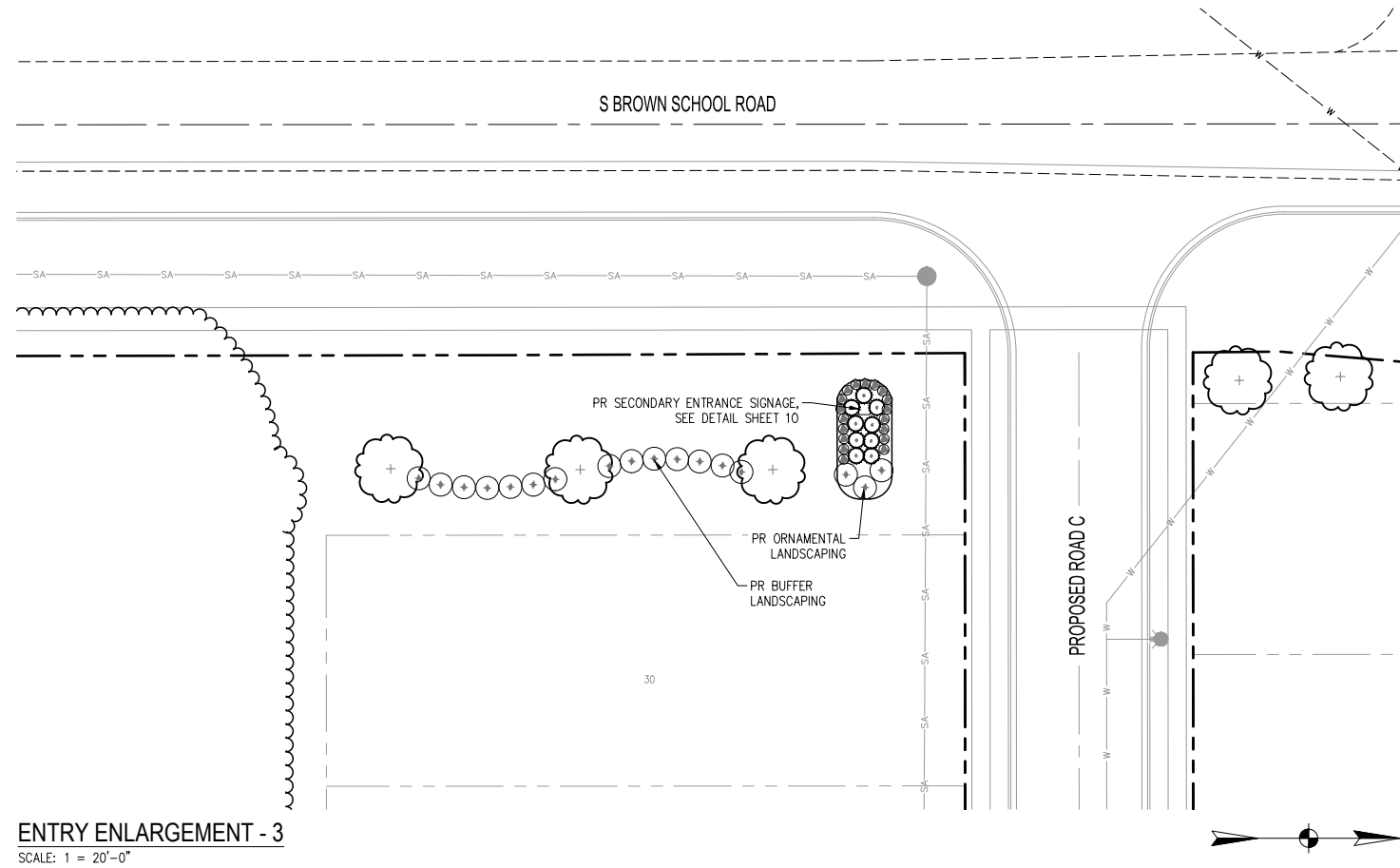


**Mannik  
Smith  
Group**

TECHNICAL SKILLS  
CREATIVE SPIRIT.

[www.2manniksmithgroup.com](http://www.2manniksmithgroup.com)





|    |                               |                                                                                                      |                                                                                                            |                                                                                                                                                                                                     |                                                                                                                                                                                      |     |      |    |             |
|----|-------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|----|-------------|
| 10 | ENTRY FEATURE<br>ENLARGEMENTS | PUD APPLICATION FOR<br><br>RIVERDALE<br>SUBDIVISION<br><br>7848 S BROWN SCHOOL RD, VANDALIA OH 45377 | PREPARED FOR:<br><br>ADDISON<br>PROPERTIES<br>4301 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | <br>TECHNICAL SKILL<br>CREATIVE SPIRIT<br><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a> | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 888.488.7340<br>PROJECT DATE: 12/11/2024<br>PROJECT NO. 2401435<br>DRAWN BY: MMB<br>CHECKED BY: NAF | NO. | DATE | BY | DESCRIPTION |
|    |                               |                                                                                                      |                                                                                                            |                                                                                                                                                                                                     |                                                                                                                                                                                      |     |      |    |             |





|    |                 |                                                                                                      |                                                                                                            |                                                                                                                                                                                                                |                                                                                               |                                                                                     |     |      |    |             |
|----|-----------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----|------|----|-------------|
| 11 | SIGNAGE DETAILS | PUD APPLICATION FOR<br><br>RIVERDALE<br>SUBDIVISION<br><br>7948 S BROWN SCHOOL RD, VANDALIA OH 45377 | PREPARED FOR:<br><br>ADDISON<br>PROPERTIES<br>4301 ENTERPRISE<br>PARKWAY, SUITE 410<br>BEACHWOOD, OH 44122 | <br><b>TECHNICAL SKILL,<br/>CREATIVE SPIRIT.</b><br><a href="http://www.MannikSmithGroup.com">www.MannikSmithGroup.com</a> | 1160 DUBLIN ROAD<br>SUITE 100<br>COLUMBUS, OH 43215<br>TEL: 614.441.4222<br>FAX: 688.488.7340 | PROJECT DATE: 12/11/2024<br>PROJECT NO: 2401435<br>DRAWN BY: MMB<br>CHECKED BY: NAF | NO. | DATE | BY | DESCRIPTION |
|    |                 |                                                                                                      |                                                                                                            |                                                                                                                                                                                                                |                                                                                               |                                                                                     |     |      |    |             |



\\proj\3\2024\1400-1990\3401435\CAD\SH\TSPUD Application\2401435\_03\_LAND.dwg, Last saved: 11/4/2025 1:47 PM by MBarber, plotted: 11/4/2025 1:58 PM



| NO. | DATE | BY | DESCRIPTION |
|-----|------|----|-------------|
|     |      |    |             |
| 1   |      |    |             |
| 2   |      |    |             |
| 3   |      |    |             |
| 4   |      |    |             |
| 5   |      |    |             |
| 6   |      |    |             |
| 7   |      |    |             |
| 8   |      |    |             |
| 9   |      |    |             |
| 10  |      |    |             |
| 11  |      |    |             |
| 12  |      |    |             |
| 13  |      |    |             |
| 14  |      |    |             |
| 15  |      |    |             |
| 16  |      |    |             |
| 17  |      |    |             |
| 18  |      |    |             |
| 19  |      |    |             |
| 20  |      |    |             |
| 21  |      |    |             |
| 22  |      |    |             |
| 23  |      |    |             |
| 24  |      |    |             |
| 25  |      |    |             |
| 26  |      |    |             |
| 27  |      |    |             |
| 28  |      |    |             |
| 29  |      |    |             |
| 30  |      |    |             |
| 31  |      |    |             |
| 32  |      |    |             |
| 33  |      |    |             |
| 34  |      |    |             |
| 35  |      |    |             |
| 36  |      |    |             |
| 37  |      |    |             |
| 38  |      |    |             |
| 39  |      |    |             |
| 40  |      |    |             |
| 41  |      |    |             |
| 42  |      |    |             |
| 43  |      |    |             |
| 44  |      |    |             |
| 45  |      |    |             |
| 46  |      |    |             |
| 47  |      |    |             |
| 48  |      |    |             |
| 49  |      |    |             |
| 50  |      |    |             |
| 51  |      |    |             |
| 52  |      |    |             |
| 53  |      |    |             |
| 54  |      |    |             |
| 55  |      |    |             |
| 56  |      |    |             |
| 57  |      |    |             |
| 58  |      |    |             |
| 59  |      |    |             |
| 60  |      |    |             |
| 61  |      |    |             |
| 62  |      |    |             |
| 63  |      |    |             |
| 64  |      |    |             |
| 65  |      |    |             |
| 66  |      |    |             |
| 67  |      |    |             |
| 68  |      |    |             |
| 69  |      |    |             |
| 70  |      |    |             |
| 71  |      |    |             |
| 72  |      |    |             |
| 73  |      |    |             |
| 74  |      |    |             |
| 75  |      |    |             |
| 76  |      |    |             |
| 77  |      |    |             |
| 78  |      |    |             |
| 79  |      |    |             |
| 80  |      |    |             |
| 81  |      |    |             |
| 82  |      |    |             |
| 83  |      |    |             |
| 84  |      |    |             |
| 85  |      |    |             |
| 86  |      |    |             |
| 87  |      |    |             |
| 88  |      |    |             |
| 89  |      |    |             |
| 90  |      |    |             |
| 91  |      |    |             |
| 92  |      |    |             |
| 93  |      |    |             |
| 94  |      |    |             |
| 95  |      |    |             |
| 96  |      |    |             |
| 97  |      |    |             |
| 98  |      |    |             |
| 99  |      |    |             |
| 100 |      |    |             |
| 101 |      |    |             |
| 102 |      |    |             |
| 103 |      |    |             |
| 104 |      |    |             |
| 105 |      |    |             |
| 106 |      |    |             |
| 107 |      |    |             |
| 108 |      |    |             |
| 109 |      |    |             |
| 110 |      |    |             |
| 111 |      |    |             |
| 112 |      |    |             |
| 113 |      |    |             |
| 114 |      |    |             |
| 115 |      |    |             |
| 116 |      |    |             |
| 117 |      |    |             |
| 118 |      |    |             |
| 119 |      |    |             |
| 120 |      |    |             |
| 121 |      |    |             |
| 122 |      |    |             |
| 123 |      |    |             |
| 124 |      |    |             |
| 125 |      |    |             |
| 126 |      |    |             |
| 127 |      |    |             |
| 128 |      |    |             |
| 129 |      |    |             |
| 130 |      |    |             |
| 131 |      |    |             |
| 132 |      |    |             |
| 133 |      |    |             |
| 134 |      |    |             |
| 135 |      |    |             |
| 136 |      |    |             |
| 137 |      |    |             |
| 138 |      |    |             |
| 139 |      |    |             |
| 140 |      |    |             |
| 141 |      |    |             |
| 142 |      |    |             |
| 143 |      |    |             |
| 144 |      |    |             |
| 145 |      |    |             |
| 146 |      |    |             |
| 147 |      |    |             |
| 148 |      |    |             |
| 149 |      |    |             |
| 150 |      |    |             |
| 151 |      |    |             |
| 152 |      |    |             |
| 153 |      |    |             |
| 154 |      |    |             |
| 155 |      |    |             |
| 156 |      |    |             |
| 157 |      |    |             |
| 158 |      |    |             |
| 159 |      |    |             |
| 160 |      |    |             |
| 161 |      |    |             |
| 162 |      |    |             |
| 163 |      |    |             |
| 164 |      |    |             |
| 165 |      |    |             |
| 166 |      |    |             |
| 167 |      |    |             |

1160 DUBLIN ROAD  
SUITE 100  
COLUMBUS, OH 43215  
TEL: 614.417.4222  
FAX: 688.488.7340

PROJECT DATE: 12/11/2024  
PROJECT NO: 2401435  
DRAWN BY: MMB  
CHECKED BY: NAF

TERMINAL SWELL  
CREATIVE GROUP

**Mannik Smith Group**  
www.manniksmithgroup.com

PREPARED FOR:  
**ADDISON PROPERTIES**  
4301 ENTERPRISE PARKWAY, SUITE 410  
BEACHWOOD, OH 44122

PUD APPLICATION FOR  
**RIVERDALE SUBDIVISION**  
7848 S BROWN SCHOOL RD., VANDALIA OH 45377

RENDERED  
SITE PLAN

12 / 12