

**CITY OF CHARLOTTESVILLE**  
**DEPARTMENT OF NEIGHBORHOOD DEVELOPMENT SERVICES**  
**STAFF REPORT**



**JOINT CITY COUNCIL AND PLANNING COMMISSION PUBLIC HEARING**

**APPLICATION FOR A REZONING OF PROPERTY**

**APPLICATION NUMBER: ZM21-00003**

**DATE OF HEARING: December 14, 2021**

**Project Planner:** Dannan O'Connell

**Date of Staff Report:** December 7, 2021

**Applicant:** Piedmont Housing Alliance

**Current Property Owner:** Monticello Area Community Action Agency & 1023 Park Street, LLC

**Application Information**

**Property Street Address:** 1021, 1023, & 1025 Park Street

**Tax Map & Parcel/Tax Status:** Tax Map 47-800, TMP 47-11, TMP 47-71, (real estate taxes paid current - Sec. 34-10)

**Total Square Footage/ Acreage Site: Approx.** 9.005 acres (392,258 square feet)

**Comprehensive Plan (Future Land Use Map):** Neighborhood Mixed-Use Node, Medium Intensity Residential

**Current Zoning Classification:** R-1 (Single Family Residential)

**Proposed Zoning Classification:** PUD (Planned Unit Development) with proffers

**Overlay District:** None

**Completeness:** The application generally contains all the information required by Zoning Ordinance (Z.O.) Sec. 34-41 and (Z.O.) Sec. 34-490.

**Other Approvals Required:**

**Applicant's Request (Summary)**

Piedmont Housing Alliance, in partnership with the Monticello Area Community Action Agency (MACAA) and 1023 Park Street LLC, has submitted an application pursuant to City Code 34-490 seeking a zoning map amendment to change the zoning district classifications of the above parcels of land. The application proposes to change the zoning classification of the Subject Property from "R-1" (Single Family Residential) to "PUD" (Planned Unit Development) subject to proffered development conditions.

**Vicinity Map**

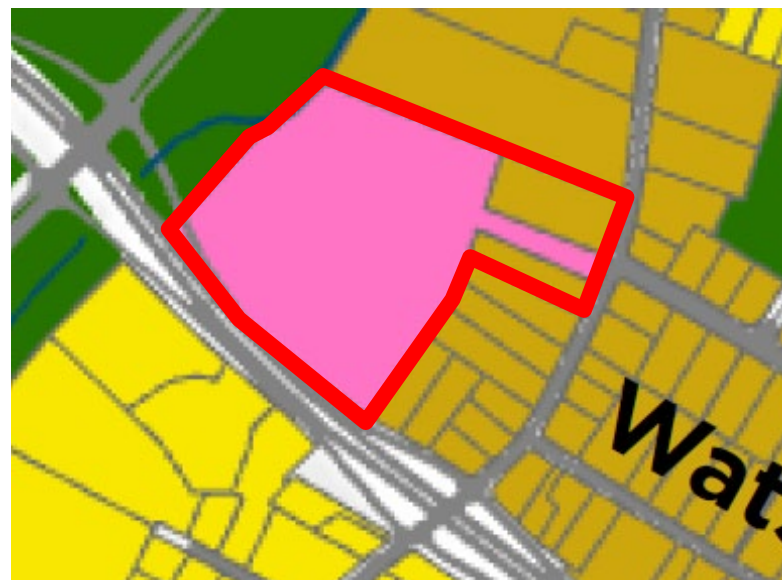


**Context Map 1**





**Context Map 3- Future Land Use Map, 2021 Comprehensive Plan**



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**Rezoning Standard of Review**

City Council may grant an applicant a rezoning request, giving consideration to a number of factors set forth within Z.O. Sec. 34-41. The role of the Planning Commission is and make an advisory recommendation to the City Council, as to whether or not Council should approve a proposed rezoning based on the factors listed in Z.O. Sec. 34-42(a):

- (a) All proposed amendments shall be reviewed by the planning commission. The planning commission shall review and study each proposed amendment to determine:
  - (1) Whether the proposed amendment conforms to the general guidelines and policies contained in the comprehensive plan;
  - (2) Whether the proposed amendment will further the purposes of this chapter and the general welfare of the entire community;
  - (3) Whether there is a need and justification for the change; and
  - (4) When pertaining to a change in the zoning district classification of property, the effect of the proposed change, if any, on the property itself, on surrounding property, and on public services and facilities. In addition, the commission shall consider the appropriateness of the property for inclusion within the proposed zoning district, relating to the purposes set forth at the beginning of the proposed district classification.

**Planned Unit Development Standard of Review**

Sec. 34-490. - In reviewing an application for approval of a planned unit development (PUD) or an application seeking amendment of an approved PUD, in addition to the general considerations applicable to any rezoning the city council and planning commission shall consider whether the application satisfies the following objectives of a PUD district:

1. To encourage developments of equal or higher quality than otherwise required by the strict application of zoning district regulations that would otherwise govern;
2. To encourage innovative arrangements of buildings and open spaces to provide efficient, attractive, flexible and environmentally sensitive design.
3. To promote a variety of housing types, or, within a development containing only a single housing type, to promote the inclusion of houses of various sizes;
4. To encourage the clustering of single-family dwellings for more efficient use of land and preservation of open space;
5. To provide for developments designed to function as cohesive, unified projects;
6. To ensure that a development will be harmonious with the existing uses and character of adjacent property, and/or consistent with patterns of development noted with respect to such adjacent property;
7. To ensure preservation of cultural features, scenic assets and natural features such as trees, streams and topography;



8. To provide for coordination of architectural styles internally within the development as well as in relation to adjacent properties along the perimeter of the development; and
9. To provide for coordinated linkages among internal buildings and uses, and external connections, at a scale appropriate to the development and adjacent neighborhoods;
10. To facilitate access to the development by public transit services or other single-vehicle-alternative services, including, without limitation, public pedestrian systems.

For applicant's analysis of their application per Sec 34-42, Sec. 34-41(d), & 34-490 see Attachment C.

**Sec. 34-42(a)(1): Whether the proposed amendment conforms to the general guidelines and policies contained in the comprehensive plan.**

*Below are specific areas of the Comprehensive Plan for which the request is in compliance:*

**a. Land Use, Urban Form, Historic and Cultural Preservation**

- i. **Goal 1 – Zoning Ordinance:** With the community, create a new zoning ordinance to reinforce and implement the vision for Charlottesville's future as articulated in the Comprehensive Plan, Affordable Housing Plan, Small Area Plans, Vision Plans, and the Standards and Design Manual.
- ii. **Goal 2 – Future Land Use Vision:** Guide implementation of the Future Land Use vision contained in this Comprehensive Plan, including support for existing neighborhoods and preventing displacement.
- iii. **Goal 3 – Balancing Preservation with Change:** Protect and enhance the existing distinct identities of the city's neighborhoods and places while promoting and prioritizing infill development, housing options, a mix of uses, and sustainable reuse in our community.

**b. Housing**

- i. **Goal 2 – Citywide Diverse Housing:** Support a wide range of rental and homeownership housing choices that are integrated and balanced across the city, and that meet multiple City goals including community sustainability, walkability, bikeability, ADA accessibility, public transit use, increased support for families with children and low-income households, access to food, access to local jobs, thriving local businesses, and decreased vehicle use.

**c. Transportation**

- i. **Goal 9 – Complete Streets:** Create and maintain a connected network of safe, convenient, and pleasant accommodations for pedestrians, bicyclists, and transit riders, including people of all ages and abilities.

*Below are specific areas of the Comprehensive Plan for which the request may not be in compliance:*

a. **Transportation**

- i. **Goal 11 – Efficient Mobility and Access:** Maintain a safe and efficient transportation system to provide mobility and access.

Comprehensive Plan- Staff Analysis:

The Subject Property is currently zoned R-1. The R-1 district was established to provide and protect quiet, low-density residential areas wherein the predominant pattern of residential development is the single-family dwelling. R-1 districts consist of low-density residential areas. While the 2013 Comprehensive Plan Land Use Map indicates the Subject Property remain Low Density Residential, the recently adopted 2021 Future Land Use Map designates 1025 Park Street as a Neighborhood Mixed-Use Node. Neighborhood Mixed-Use Nodes are described as compact neighborhood centers containing a mix of residential and commercial uses arranged in smaller scale buildings. No density is specified, but up to five stories in height is permitted, and mixed-use buildings are encouraged.

The two single-family lots included in the Subject Property, 1021 and 1023 Park Street, are designated as Medium Intensity Residential in the 2021 Future Land Use Map. Medium Intensity Residential allows for ‘house-sized’ infill of multi-unit dwellings, townhomes and accessory dwelling units within single-family areas, with an emphasis on providing affordable units and integrating development with existing neighborhood character. Heights of up to four stories are allowed.

The applicant is requesting a rezoning of the Subject Property to PUD to accommodate housing units that are not currently allowed in the R-1 district. Townhouses and multi-family units are not permitted in the R-1 district, while childcare centers are permitted only with a Special Use Permit. The proposed uses however do conform to the categories identified in the 2021 Future Land Use Map. The current MACAA school site (1025 Park Street) would be redeveloped as a mix of residential housing units and commercial (childcare) space. The two existing single-family units at 1021 and 1023 Park Street would remain intact.

According to the Development Plan Use Matrix (Attachment C) uses permitted within the PUD would be significantly more intensive than most of the current R-1 uses. Multifamily, townhouse, two-family, parking garage, surface parking lot (more than 20 spaces), daycare facilities smaller than 7,500 sq. ft, indoor health/sports clubs on private property smaller than 4,000 sq. ft, outdoor parks/playgrounds/ball fields/swimming pools on private property, and temporary sales would be added as by-right or ancillary uses to those currently allowed under R-1 zoning for the subject property.

Should the rezoning be approved, the overall density for the site will increase from less than 1 DUA (two existing single-family homes plus the MACAA school site) to around 10 DUA. Proposed buildings vary in height but do not exceed the five story limit for Neighborhood Mixed Use Nodes, or the four story limit for Medium Intensity Residential.

Streets that Work Plan:

The applicants are proposing proffered improvements to the intersection of Macaa Drive and Park Street, including shifting the former 20' north to align with the intersection of Park Street and Davis Avenue, removing vegetation and fencing to improve sight distance for vehicles entering and exiting the property, and eliminating 1021 Park Street's existing driveway (See Attachment C). These improvements would eliminate an existing skewed intersection, bringing it more in line with City standards, and reduce conflict points between the MACAA PUD site and vehicles traveling along Park Street and Davis Avenue. A right-turn-only directional curb island is also proffered for the entrance to the PUD to prevent left turns from the site onto Park Street. An existing pedestrian crosswalk across Park Street will be relocated to align with the new intersection and will consist of high-visibility and ADA-compliant design.

Macaa Drive is currently a paved private drive that has not been accepted into the City street system. As part of the PUD application, the developer wishes to extend and improve Macaa Drive and 'Road C' as depicted in their conceptual plans and have them accepted by the City as public roads. Based on the location and use associated with this development, the new streets would have a typology of Local Streets. The remaining streets depicted in the conceptual plans (Road A, B, D, E, and F respectively) will be private streets to provide access to parking lots and rear-loaded driveways.

Local streets are found throughout the City and provide immediate access to all types of land uses. Although local streets form most of Charlottesville's street network, there is no specific typology associated with them. This is due in part to the many variations in context and ROW, as well as the community's expressed desire to replicate as nearly as possible the feel of older local streets that do not meet current engineering and fire code standards. Local streets do not have priorities and Neighborhood A or B should be looked at when determining design elements.

As part of the Commission's review of this application, the Commission should consider whether the proposed street layout would be substantially in accord with the Comprehensive Plan. The Streets that Work Plan notes the highest priority design elements



for Neighborhood A Streets are sidewalks with a minimum of five (5) to six (6) feet of clear zone and bicycle facilities such as 5 feet bike lanes and 6 feet climbing lanes. On street parking is also a high priority for Neighborhood A Streets. Staff believes the new Macaa Drive and 'Road C' would generally meet these criteria; however, the applicants should consider extending public street dedication to the parking/access area connecting the endpoints of Macaa Drive and 'Road C' to ensure future connectivity and access to the site.

Bicycle and Pedestrian Master Plan:

The applicants are proposing a proffered pedestrian and bicycle access easement, as depicted in their conceptual plans, connecting the parking area between Buildings One and Two to the 250 Bypass sidewalk at the base of the hill to the south of the property. This would provide bicycle and pedestrian access between the 250 Bypass and Park Street by way of Macaa Drive and 'Road C.' Public sidewalks are also depicted along Macaa Drive and 'Road C' connecting the proposed parking areas to Park Street.

The Bicycle and Pedestrian Master Plan identifies Park Street as an important local corridor connecting to proposed bicycle and pedestrian improvements on Rio Road, and the extension of shared use lanes on Park Street as a high priority. The establishment of a pedestrian and bicycle access easement through the Subject Property could complement such future improvements and improve connectivity between Park Street and the nearby Rivanna Trail to the west. However, the proposed easement path depicts several sets of stairs down a steep incline, which will complicate accessibility to bicyclists. Additional trail easements to the 250 Bypass sidewalk and the Rivanna Trail may be possible but are not included as proffered conditions of this rezoning plan.

**Sec. 34-42(a)(2): Whether the proposed amendment will further the purposes of this chapter and the general welfare of the entire community.**

Staff finds that a land use change from R-1 to PUD, with proffers, as described in the application materials, could benefit the surrounding community by providing additional residential housing of a type that is not prevalent in this area of the City, while preserving substantial existing open space.

**Sec. 34-42(a)(3): Whether there is a need and justification for the change.**

According to the City's 2021 Future Land Use Map, this portion of the City should be a Neighborhood Mixed-Use Node and allow a mix of residential dwelling types and commercial uses at a compact scale. The proposed PUD would significantly increase the density of the Subject Parcel and change the existing use from single-family residential and educational, to a mix of single-and multi-family and commercial childcare. However, the

proposed changes are targeted towards providing affordable housing units identified as a priority in the 2021 Comprehensive Plan and 2020 Affordable Housing Plan. Based on the application materials presented, staff are of the opinion that the proposed development would further the PUD Objectives in Sec. 34-490 and promote the public welfare, convenience, and good zoning practice.

**Sec. 34-42(a)(4): When pertaining to a change in the zoning district classification of property, the effect of the proposed change, if any, on the property itself, on surrounding property, and on public services and facilities. In addition, the commission shall consider the appropriateness of the property for inclusion within the proposed zoning district, relating to the purposes set forth at the beginning of the proposed district classification.**

Any development on the subject properties would be evaluated during site plan review and need to meet all current regulations related to public utilities and facilities. Due to the location of the subject properties, staff believes all public services and facilities would be adequate to support any development contemplated by the Comprehensive Plan for this area.

The purposes set forth per Z.O. Sec. 34-350(a) and (b) are:

**Single-family (R-1).** The single-family residential zoning districts are established to provide and protect quiet, low-density residential areas wherein the predominant pattern of residential development is the single-family dwelling. There are four (4) categories of single-family zoning districts:

**R-1.** Consisting of low-density residential areas.

#### Planned Unit Development Standard of Review

Sec. 34-490. - In reviewing an application for approval of a planned unit development (PUD) or an application seeking amendment of an approved PUD, in addition to the general considerations applicable to any rezoning the city council and planning commission shall consider whether the application satisfies the following objectives of a PUD district:

- 1. To encourage developments of equal or higher quality than otherwise required by the strict application of zoning district regulations that would otherwise govern;**

Staff finds the development of multi-family buildings at this location, with the architectural features and sizes proposed, would be equal in quality to multi-family structures located in other areas of the City that are by-right. A similar mix of multi-family and daycare uses could be achieved by rezoning to an existing district (like R-3). Staff does find that the preservation of trees, open space and historic garden areas on the south slope of the Project Area introduce elements that are of a higher quality than

a new subdivision of single-family homes under the R-1 standards, or construction of multi-family units under City standards within an R-3 zoning at this location.

Staff does find the proposed townhome and duplex units to be designed to a higher quality than otherwise required by the strict application of the zoning district regulations. These units are sited close to the road and activate the street, taking advantage of the proposed street trees while providing a comfortable pedestrian experience. Parking is located to the rear, and the properties enjoy a shared open space to the west.

**2. To encourage innovative arrangements of buildings and open spaces to provide efficient, attractive, flexible and environmentally sensitive design.**

Staff does find the proposed mix of townhome, duplex and apartment units to be innovative and efficient in its preservation of open space and inclusion of pedestrian pathways. The proposal is environmentally sensitive in its avoidance of existing critical slopes and preservation of existing woodlands and garden areas.

**3. To promote a variety of housing types, or, within a development containing only a single housing type, to promote the inclusion of houses of various sizes;**

The developer is proposing a substantial mix of townhome, duplex and apartment uses, along with two existing single-family units. Units will include from one to three bedrooms and will be offered both for rent and for purchase as a mix of affordable housing and market-rate units.

**4. To encourage the clustering of single-family dwellings for more efficient use of land and preservation of open space;**

The development plan indicates the townhomes and duplexes will be clustered in a way that will preserve open space. Only two single-family dwellings are proposed.

**5. To provide for developments designed to function as cohesive, unified projects;**

The proposed development is planned as a single project linking a variety of housing types and daycare facilities with the surrounding neighborhood. Open spaces are proposed to be shared by all residents of the PUD through reciprocal easement agreements.

**6. To ensure that a development will be harmonious with the existing uses and character of adjacent property, and/or consistent with patterns of development noted with respect to such adjacent property;**



Although comparable in scale to the Locust Grove neighborhood, the development is not harmonious in use, as no transition is provided between the higher density townhome uses and the existing low density single-family dwelling pattern of development on Park Street. The applicant is proposing landscape screening and a 10' setback on the edges of the development to screen it from adjacent single-family properties.

**7. To ensure preservation of cultural features, scenic assets and natural features such as trees, streams and topography;**

The development will not impact critical slopes and utilizes the existing MACAA school footprint to minimize site disturbance and tree cutting.

**8. To provide for coordination of architectural styles internally within the development as well as in relation to adjacent properties along the perimeter of the development;**

The application materials indicate a variety of architectural styles that could be used in the development. They include a mix of traditional townhome and duplex facades with more modern apartment units. All the styles would be compatible with the surrounding built environment.

**9. To provide for coordinated linkages among internal buildings and uses, and external connections, at a scale appropriate to the development and adjacent neighborhoods;**

Coordinated linkages among internal buildings, open space, and the surrounding neighborhood is provided and to scale with the neighborhood. Residents of the development and the neighborhood would have access to preserved open space and garden area via Macaa Drive's sidewalks, and by an uphill trail from the 250 Bypass sidewalk. The proposed pedestrian easement connecting the PUD's street system with the 250 Bypass would create more connectivity in the neighborhood for pedestrians and bicycles. The proposed public streets provide a positive pedestrian experience with street trees, street-facing front porches and minimum on-street parking.

**10. To facilitate access to the development by public transit services or other single-vehicle-alternative services, including, without limitation, public pedestrian systems.**

Public 5' sidewalks are proposed along internal roads to provide pedestrian access to and from the property. Bicycle access is provided by the proposed public streets along with the proposed bike and trail easement to the 250 Bypass sidewalk. No bus route currently serves this property.

The proposed development would involve road improvements to Macaa Drive, the platting of a yet unnamed 'Road C' and five additional small private drives to connect townhome driveways and parking areas to the public streets. Currently Macaa Drive is an improved but private drive that is not accepted as part of the City street system. The applicant is also proposing certain proffers related to the development.

**Summary of Proffers:** The proffered development conditions include:

**(1) Affordable Housing:**

- (a) A minimum of eighty percent (80%) of the residential units built on the Subject Property will be affordable dwelling units (ADUs), as defined below.
- (b) Affordability for rental dwelling units shall be defined as dwelling units that are affordable to households with incomes at not more than eighty percent (80%) of the Area Medium Income and that are committed to remain affordable for not less than thirty (30) years from the date of the issuance of the last certificate of occupancy for multi-family buildings on the Subject Property. The affordability covenants of this subparagraph (b) shall be recorded in the City land records as deed restrictions in form and substance consistent with the requirements of Virginia Housing as to each affected lot or parcel.
- (c) Each for-sale ADU shall be affordable over a term of not less than thirty (30) years from the date of the recordation of the deed transferring the ADU to the first homeowner. Affordability shall be ensured by means of deed restrictions, which shall provide the seller a right of first refusal to repurchase each ADU and which shall provide that, if the right of first refusal is not exercised by the seller, then any sale of the ADU to a purchaser with household income greater than 60% of the Charlottesville Area Median Income ("AMI") shall require profit-sharing and reinvestment of net proceeds from sale of the unit into at least one new ADU in the City. For purposes of this proffer 1(c), "affordability" means dwelling units that are affordable to households with incomes of not more than sixty percent (60%) of the Charlottesville AMI; the administration of the for-sale ADUs shall in other respects be governed by the provisions of City Code §34-12 (c) and §34-12(g).

**(2) Transportation Improvements:** prior to the approval of a certificate of occupancy for the first unit, the Applicant shall construct the following road improvements, as depicted in their development plan:

- (i) Relocation of the entrance into the Subject Property to align with Davis Avenue east of Park Street;

- (ii) Removal of fencing and vegetation, and maintenance of vegetation, to improve sight distance for vehicles exiting the Subject Property to turn onto Park Street;
- (iii) Elimination of the driveway directly accessing Park Street on Parcel 47000800 (1021 Park Street);
- (iv) Installation of a right out only direction curb island at the exit from the Subject Property onto Park Street to prevent left turns out of the driveway onto Park Street; and
- (v) Relocation of the existing pedestrian crosswalk across Park Street in accordance with the new entrance alignment, connecting the southern end of the driveway into the Subject Property with the southern end of Davis Avenue; the new pedestrian crosswalk shall consist of high-visibility pavement markings, ADA curb ramps, and advanced signage.

**(3) Pedestrian/Bicycle Access Easement:** At the request of the City, and which may be a condition to the issuance of the first certificate of occupancy, the Owners shall dedicate to the City at no cost a permanent public easement for pedestrian and bicycle access in the general locations shown on the Application Plan, as will be determined with specificity during the site planning process and shown on the final approved site plan for the Subject Property and on the subdivision plat or separate easement plat, providing pedestrian and bicycle access from the public right-of-way / sidewalk system within the development through the Subject Property to the U.S. Route 29/250 Bypass multi-modal trail.

<b>Residential Use (by-Right)</b>	<b>R-1</b>	<b>PUD</b>
Accessory buildings, structures and uses	B	B
Adult assisted living	B	B
Amateur radio antennas, to a height of 75 ft.	B	B
Bed-and-breakfast Homestay	B	B
Dwellings: Single-family attached		B
Dwellings: Single-family detached	B	B
Dwellings: Two-family		B
Dwellings: Townhouse		B
Dwellings: Multifamily		B
Residential Density – Max. 21 DUA		B
Family day home 1 – 5 Children	B	B
Residential Occupancy 3 unrelated persons	B	B
Residential Occupancy 4 unrelated persons	B	B
Residential Treatment Facility 1 – 8 residents	B	B



<b>Non-Residential Use (by-Right)</b>	<b>R-1</b>	<b>PUD</b>
Houses of worship	B	B
Attached facilities utilizing utility poles as the attachment structure	B	B
Attached facilities not visible from any adjacent street or property	B	B
Daycare facility <7,500 sq. ft.	S	B
Libraries	B	B
Parking garages		A
Surface parking lot (20 or fewer spaces)		A
Surface parking lot (>20 spaces)		A
Temporary parking facilities		A
Indoor: health/sports clubs; tennis club; swimming club; yoga studios; dance studios, skating rinks, recreation centers, etc. (on City, School Board, or other public property)	B	B
Indoor: health/sports clubs; tennis club; swimming club; yoga studios; dance studios, skating rinks, recreation centers, etc. (on private property, GFA of 4,000 sq. ft. or less)		B
Outdoor: Parks, playgrounds, ball fields and ball courts, swimming pools, picnic shelters, etc. (city owned), and related concession stands	B	B
Outdoor: Parks, playgrounds, ball fields and ball courts, swimming pools, picnic shelters, etc. (private)	S	B
Utility lines	B	B
Temporary sales, outdoor (flea markets, craft fairs, promotional sales, etc.)		A

### Zoning History of the Subject Property

<b>Year</b>	<b>Zoning District</b>
1949	A Residential
1958	R-1 Residential
1976	R-1 Residential
1991	R-1 Residential
2003	R-1 Residential

**The Subject Property is bordered by:**

Direction	Use	Zoning
North	Open Space/Public Park	R-1
South	Single-Family Residences	R-1
East	Single-Family Residences	R-1
West	City Fire Station, Single-Family Residences	MR, R-1

Staff finds the proposed rezoning is consistent with the City's 2021 Future Land Use Plan Map for density, use and housing type. The development may contribute to other goals within the Land Use, Housing and Transportation chapters of the 2021 Comprehensive Plan. Staff also finds the type of use, residential plus daycare facilities, would be consistent with the existing development pattern in this area. The transition from the higher intensity development (multifamily apartments) to the lower intensity development along Macaa Drive (single family attached and townhomes) adequately separates the higher intensity uses from existing single family development on Park Street, however townhomes will still abut single-family residential areas (albeit with a 10' setback and screened by vegetation) along portions of the subject property's north and south boundary lines.

**Public Comments Received**

*Community Meeting Required by Z.O. Sec. 34-41(c)(2) and the Community Engagement meeting Requirements during the COVID -19 Emergency approved by City Council on July 20, 2020*

On August 10, 2021 the applicant held a community meeting virtually and in-person at Charlottesville High School. The applicant gave an overview of the project as it related to the need for a rezoning. Forty-six members of the public attended the meeting and voiced the following concerns:

- Increased traffic on Park Street and Davis Avenue will be a problem.
- Traffic counts provided in the traffic study are not considered accurate.
- New development north of Park Street will increase future traffic near this site.
- Desire for more pedestrian and trail access between Park Street and the 250 Bypass.
- Desire for preserving on-site trees and landscaping between the new use and adjacent properties.

***Other Comments***

As of the date of this report (December 7, 2021), staff has received the following concerns through email, phone calls or in person conversations (any email staff received was forwarded to Planning Commission and City Council Attachment E):

- Traffic counts provided in the traffic study are not considered accurate.
- Realignment of the intersection of Macaa Drive and Davis Avenue is unwanted and would increase cut-through traffic within a residential area.
- Sight distances for the realigned intersection are still not adequate.

### **Staff Recommendation**

Staff finds the proposed development, as presented in the application materials could contribute to many goals within the City's Comprehensive Plan. The uses presented in the proposed development are consistent with adopted 2021 Future Land Use Map. As presented in the application, staff finds the PUD to be desirable as to preserving open space, increasing housing diversity, and improving intersection design and pedestrian connectivity along Park Street. Staff is concerned about adequate accessibility of pedestrian infrastructure along the southern slope of the property, and turnaround access for the proposed public road, but otherwise recommends approval of this rezoning with the included proffers.

### **Suggested Motions**

1. I move to recommend that City Council should approve ZM21-0003 on the basis that the streets proposed within the PUD Development are laid out in a manner substantially in accord with the Comprehensive Plan, and approval of the proposed PUD Development is consistent with the Comprehensive Plan and will serve the public necessity, convenience, general welfare and good zoning practice.

**OR,**

2. I move to recommend that City Council should deny approval of ZM21-00003.

### **Attachments**

- A. Rezoning Application Dated September 1, 2021
- B. Proffer Statement Dated November 15, 2021
- C. MACAA PUD Development Plan Dated November 15, 2021
- D. MACAA PUD Supplemental Information Packet Dated November 15, 2021
- E. Emails received prior to December 7, 2021
- F. Traffic Impact Analysis for PHA Residential Developments on Park Street (shared traffic study for both MACAA and Park Street Church PUDS, Dated September 2021)



# City of Charlottesville

## Application for Rezoning

**Project Name:** MACAA PUD DEVELOPMENT PLAN

**Address of Property:** 1021, 1023 & 1025 PARK STREET, CHARLOTTESVILLE, VA 22901

**Tax Map and Parcel Number(s):** 470007100, 470011000 & 470008000

**Current Zoning:** R-1

**Proposed Zoning:** PUD

**Comprehensive Plan Land Use Designation:** LOW DENSITY RESIDENTIAL (2013); NEIGHBORHOOD MIXED USE NODE (2021)

**Applicant:** PIEDMONT HOUSING ALLIANCE (ATTN: MANDY BURBAGE)

**Address:** 682 BERKMAR CIRCLE, CHARLOTTESVILLE, VA 22901

**Phone:** 434-227-8468

**Email:** MBURBAGE@PIEDMONTHOUSING.ORG

**Applicant's Role in the Development (check one):**

Owner ☐ **Owner's Agent** ☒ Contract Purchaser ☐

**Owner of Record:** MONTECELLO AREA COMMUNITY ACTION AGENCY & 1023 PARK STREET, LLC

**Address:** 1021 & 1025 PARK STREET, CVILLE, VA 22901 (MACAA); PO BOX 1467, CVILLE, VA 22902 (1023 PARK STREET, LLC)

**Phone:** \_\_\_\_\_ **Email:** \_\_\_\_\_

### (1) Applicant's and (2) Owner's Signatures

(1) Signature [Signature] Print Sunshine Mathon Date 09.01.2021

Applicant's (Circle One): LLC Member ☐ LLC Manager ☐ Corporate Officer (specify) \_\_\_\_\_

Other (specify): Executive Director

(2) Signature [Signature] Print Andrew S. Donkers Date 8/30/2021

Owner's (Circle One): LLC Member ☐ LLC Manager ☐ Corporate Officer (specify) Vice President

Other (specify): \_\_\_\_\_



# City of Charlottesville

## Pre-Application Meeting Verification

**Project Name:** MACAA site PUD (1025 Park St.)

**Pre-Application Meeting Date:** June 2, 2021

**Applicant's Representative:** Mandy Burbage

**Planner:** Dannan O'Connell

**Other City Officials in Attendance:**

Brian Haluska, Principal Planner

Brennan Duncan, Traffic Engineer

**The following items will be required supplemental information for this application and must be submitted with the completed application package:**

1. List of proposed proffers, if applicable.

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

**Planner Signature:** Dann R. O'Connell

6/11/2021



# City of Charlottesville

## Application Checklist

**Project Name:** MACAA PUD DEVELOPMENT PLAN

**I certify that the following documentation is ATTACHED to this application:**

34-157(a)(2) Narrative statement: applicant's analysis of conformity with the Comprehensive Plan

34-157(a)(4) Narrative statement identifying and discussing any potential adverse impacts, as well as any measures included within the development plan, to mitigate those impacts

34-158(a)(6): other pertinent information (narrative, illustrative, etc.)

Completed proffer statement

All items noted on the Pre-Application Meeting Verification.

**Applicant**

**Signature**

**Print**

Sunshine Mathon

**Date**

09.01.2021

**By Its:**

Executive Director

(For entities, specify: Officer, Member, Manager, Trustee, etc.)



# City of Charlottesville

## Community Meeting

**Project Name:** MACAA PUD DEVELOPMENT PLAN

Section 34-41(c)(2) of the Code of the City of Charlottesville (adopted October 19, 2015) requires applicants seeking rezonings and special use permits to hold a community meeting. The purpose of a community meeting is to provide citizens an opportunity to receive information about a proposed development, about applicable zoning procedures, about applicable provisions of the comprehensive plan, and to give citizens an opportunity to ask questions. **No application for a rezoning shall be placed on any agenda for a public hearing, until the required community meeting has been held and the director of neighborhood development services determines that the application is ready for final review through the formal public hearing process.**

By signing this document, the applicant acknowledges that it is responsible for the following, in connection to the community meeting required for this project:

1. Following consultation with the city, the applicant will establish a date, time and location for the community meeting. The applicant is responsible for reserving the location, and for all related costs.
2. The applicant will mail, by U.S. mail, first-class, postage pre-paid, a notice of the community meeting to a list of addresses provided by the City. The notice will be mailed at least 14 calendar days prior to the date of the community meeting. The applicant is responsible for the cost of the mailing. At least 7 calendar days prior to the meeting, the applicant will provide the city with an affidavit confirming that the mailing was timely completed.
3. The applicant will attend the community meeting and present the details of the proposed application. If the applicant is a business or other legal entity (as opposed to an individual) then the meeting shall be attended by a corporate officer, an LLC member or manager, or another individual who can speak for the entity that is the applicant. Additionally, the meeting shall be attended by any design professional or consultant who has prepared plans or drawings submitted with the application. The applicant shall be prepared to explain all of the details of the proposed development, and to answer questions from citizens.
4. Depending on the nature and complexity of the application, the City may designate a planner to attend the community meeting. Regardless of whether a planner attends, the City will provide the applicant with guidelines, procedures, materials and recommended topics for the applicant's use in conducting the community meeting.
5. On the date of the meeting, the applicant shall make records of attendance and shall also document that the meeting occurred through photographs, video, or other evidence satisfactory to the City. Records of attendance may include using the mailing list referred to in #1 as a sign-in sheet (requesting attendees to check off their name(s)) and may include a supplemental attendance sheet. The City will provide a format acceptable for use as the supplemental attendance sheet.

**Applicant:** PIEDMONT HOUSING ALLIANCE

**By:**

**Signature**  **Print** Sunshine Mathon **Date** 09.01.2021

**Its:** Executive Director (Officer, Member, Trustee, etc.)





# City of Charlottesville

## Owner's Authorizations

(Not Required)

**Project Name:** MACAA PUD DEVELOPMENT PLAN

### Right of Entry- Property Owner Permission

I, the undersigned, hereby grant the City of Charlottesville, its employees and officials, the right to enter the property that is the subject of this application, for the purpose of gathering information for the review of this rezoning application.

**Owner:** MONTICELLO AREA COMMUNITY ACTION AGENCY **Date:** 9/1/21

**By (sign name):** Juliana Arsali **Print Name:** Juliana Arsali

**Owner's:** LLC Member      LLC Manager      Corporate Officer (specify): Board Chair

**Other (specific):** \_\_\_\_\_

### Owner's Agent

I, the undersigned, hereby certify that I have authorized the following named individual or entity to serve as my lawful agent, for the purpose of making application for this rezoning, and for all related purposes, including, without limitation: to make decisions and representations that will be binding upon my property and upon me, my successors and assigns.

**Name of Individual Agent:** MANDY BURBAGE

**Name of Corporate or other legal entity authorized to serve as agent:** PIEDMONT HOUSING ALLIANCE

**Owner:** MONTICELLO AREA COMMUNITY ACTION AGENCY **Date:** 9/1/21

**By (sign name):** Juliana Arsali **Print Name:** Juliana Arsali

**Circle one:**

**Owner's:** LLC Member      LLC Manager      Corporate Officer (specify): Board Chair

**Other (specific):** \_\_\_\_\_





# City of Charlottesville

## Owner's Authorizations

(Not Required)

Project Name: MACAA PUD DEVELOPMENT PLAN

### Right of Entry- Property Owner Permission

I, the undersigned, hereby grant the City of Charlottesville, its employees and officials, the right to enter the property that is the subject of this application, for the purpose of gathering information for the review of this rezoning application.

Owner: 1023 PARK STREET, LLC Date 8/30/2021

By (sign name): [Signature] Print Name: Andrew J. Donkers

Owner's: LLC Member      LLC Manager      Corporate Officer (specify): Vice-President

Other (specific): \_\_\_\_\_

### Owner's Agent

I, the undersigned, hereby certify that I have authorized the following named individual or entity to serve as my lawful agent, for the purpose of making application for this rezoning, and for all related purposes, including, without limitation: to make decisions and representations that will be binding upon my property and upon me, my successors and assigns.

Name of Individual Agent: MANDY BURBAGE

Name of Corporate or other legal entity authorized to serve as agent: PIEDMONT HOUSING ALLIANCE

Owner: 1023 PARK STREET, LLC Date: 8/30/2021

By (sign name): [Signature] Print Name: Andrew J. Donkers

Circle one:

Owner's: LLC Member      LLC Manager      Corporate Officer (specify): Vice-President

Other (specific): \_\_\_\_\_



# City of Charlottesville

## Disclosure of Equitable Ownership

**Project Name:** MACAA PUD DEVELOPMENT PLAN

Section 34-8 of the Code of the City of Charlottesville requires that an applicant for a special use permit make complete disclosure of the equitable ownership "real parties in interest" of the real estate to be affected. Following below I have provided the names and addresses of each of the real parties in interest, including, without limitation: each stockholder or a corporation; each of the individual officers and directors of a corporation; each of the individual members of an LLC (limited liability companies, professional limited liability companies); the trustees and beneficiaries of a trust, etc. Where multiple corporations, companies or trusts are involved, identify real parties in interest for each entity listed.

**Name** \_\_\_\_\_ **Address** \_\_\_\_\_

**Name** \_\_\_\_\_ **Address** \_\_\_\_\_

**Name** \_\_\_\_\_ **Address** \_\_\_\_\_

**Name** \_\_\_\_\_ **Address** \_\_\_\_\_

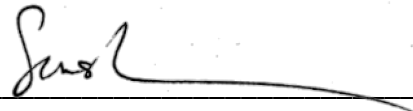
**Attach additional sheets as needed.**

**Note:** The requirement of listing names of stockholders does not apply to a corporation whose stock is traded on a national or local stock exchange and which corporation has more than five hundred (500) shareholders.

PIEDMONT HOUSING ALLIANCE

**Applicant:** \_\_\_\_\_

**By:**

**Signature**  **Print** Sunshine Mathon **Date** 09.01.2021

**Its:** Executive Director (Officer, Member, Trustee, etc.)



**Monticello Area Community Action Agency**  
*Board of Directors*

**Public Sector Representatives**

**Juliana Arsali, Chair**  
*Albemarle County Representative*  
1025 Park Street  
Charlottesville, VA 22901  
(434) 295-3171  
jarsali@macaa.org  
*Term (1): 11/2020-10/2022*

**Tamika Braveheart**  
*Fluvanna County Representative*  
Registered Nurse  
1025 Park Street  
Charlottesville, VA 22901  
(434) 295-3171  
tbraveheart@macaa.org  
*Term (1): 11/2019-10/2021*

**Jagdeesh Bhattal**  
*Louisa County Representative*  
University of Virginia, IT Department  
1025 Park Street  
Charlottesville, VA 22901  
(434) 295-3171  
deesh.bhattal@macaa.org  
*Term (2): 11/2018-10/2022*

**Art Thorn, Treasurer**  
*Nelson County Representative*  
Certified Public Accountant  
1025 Park Street  
Charlottesville, VA 22901  
(434) 295-3171  
athorn@macaa.org  
*Term (2): 3/2018-2/2022*

**Private Sector Representatives**

**Justin Mallory, Vice Chair**  
Craig Builders, Chief of Estimating and Budget Management  
1025 Park Street  
Charlottesville, VA 22901  
(434) 295-3171  
justin.mallory@macaa.org  
*Term (2): 09/2017-08/2021*

**Garrett Smith, JD, Secretary**  
Attorney  
1025 Park Street  
Charlottesville, VA 22901  
(434) 295-3171  
garrett.smith@macaa.org  
*Term (3): 10/2016-09/2022*

**Amanda Williford, PhD**  
University of Virginia, Curry School of Education  
1025 Park Street  
Charlottesville, VA 22901  
(434) 295-3171  
awilliford@macaa.org  
*Term (1): 05/2020-04/2022*

**Constituent Representatives**

**Erica Sanchez**  
*Chair, Head Start Policy Council*  
1025 Park Street  
Charlottesville, VA 22901  
(434-295-3171)  
esanchez@macaa.org  
*Term (1): 01/2021-12/2021*

**Monticello Area Community Action Agency**

1025 Park Street Charlottesville, VA, 22901 | Office: (434) 295-3171 | Fax: (434) 295-0093 | [www.macaa.org](http://www.macaa.org)

*To improve the lives of people with low income by helping them become self-reliant, thereby enhancing the economic vitality and well-being of our community.*



# City of Charlottesville

## Fee Schedule

Application Type	Quantity	Fee	Subtotal
Rezoning Application Fee		\$2000	
Mailing Costs per letter		\$1 per letter	
Newspaper Notice		Payment Due Upon Invoice	
<b>TOTAL</b>			

### Office Use Only

Amount Received: \_\_\_\_\_ Date Paid \_\_\_\_\_ Received By: \_\_\_\_\_

DRAFT11/15/2021

**BEFORE THE CITY COUNCIL OF THE CITY OF CHARLOTTESVILLE, VIRGINIA  
IN RE: PETITION FOR REZONING (City Application No. ZM-21-xxxxxx)  
STATEMENT OF PROFFER CONDITIONS  
TAX MAP PARCELS (TMP) 470007100, 470008000, 470011000**

ZMA Number and Name: 2021-00\_\_\_\_\_ PHA-MACAA PUD REDEVELOPMENT

Subject Property: TMP 470007100 (1025 Park Street)  
TMP 470008000 (1021 Park Street)  
TMP 470011000 (1023 Park Street)

Owners: Monticello Area Community Action Agency (MACAA)  
and  
1023 Park Street, LLC

Applicant: Piedmont Housing Alliance (PHA)

Date of Proffer Signature: \_\_\_\_\_, 2021

ZMA Request: 9.32 acres to be rezoned from R-1 Residential to Planned  
Unit Development

---

TO THE HONORABLE MAYOR AND MEMBERS OF THE COUNCIL OF THE CITY OF CHARLOTTESVILLE:

The undersigned Virginia nonstock corporation and Virginia limited liability company are the owners of land subject to the above-referenced rezoning petition (the “Subject Property”). The owners, represented by the rezoning applicant, Piedmont Housing Alliance (the “Applicant”), seeks to amend the current zoning of the Subject Property to Planned Unit Development (PUD), subject to certain voluntary development conditions set forth below.

The Owner hereby proffers and agrees that, if the Subject Property is rezoned as requested, Subject Property will be developed in general accordance with, and the Owner will abide by, the approved *MACAA Redevelopment Planned Unit Development Submission PROPOSED LAND USE PLAN*, dated September 3, 2021, last revised \_\_\_\_\_, prepared by BRW Architects (the “Application Plan”), and that the Subject Property shall also be subject to, and the Owner will abide by, the following conditions:

**1. AFFORDABLE HOUSING:**

- (a) A minimum of eighty percent (80%) of the residential units built on the Subject Property will be affordable dwelling units (ADUs), as defined below.
- (b) Affordability for rental dwelling units shall be defined as dwelling units that are affordable to households with incomes at not more than eighty percent (80%) of the Area Medium Income and that are committed to remain affordable for not less than thirty (30) years from the date of the issuance of the last certificate of occupancy for multi-family buildings on the Subject Property. The affordability covenants of this subparagraph (b) shall be recorded in the City land records as deed restrictions in form and substance consistent with the requirements of Virginia Housing as to each affected lot or parcel.
- (c) Each for-sale ADU shall be affordable over a term of not less than thirty (30) years from the date of the recordation of the deed transferring the ADU to the first homeowner. Affordability shall be ensured by means of deed restrictions, which shall provide the seller a right of first refusal to repurchase each ADU and which shall provide that, if the right of first refusal is not exercised by the seller, then any sale of the ADU to a purchaser with household income greater than 60% of the Charlottesville Area Median Income (“AMI”) shall require profit-sharing and reinvestment of net proceeds from sale of the unit into at least one new ADU in the City. For purposes of this proffer 1(c), “affordability” means dwelling units that are affordable to households with incomes of not more than sixty percent (60%) of the Charlottesville AMI; the administration of the for-sale ADUs shall in other respects be governed by the provisions of City Code §34-12 (c) and §34-12(g).

**2. TRANSPORTATION IMPROVEMENTS:** Prior to the approval of a certificate of occupancy for the first unit, the Applicant shall construct road improvements at the intersection of Park Street and Davis Avenue as shown on the plan entitled, MACAA PUD DEVELOPMENT PLAN, dated September 3, 2021, last revised \_\_\_\_\_, prepared by Timmons Group, specifically:

- (i) Relocation of the entrance into the Subject Property to align with Davis Avenue east of Park Street;
- (ii) Removal of fencing and vegetation, and maintenance of vegetation, to improve sight distance for vehicles exiting the Subject Property to turn onto Park Street;
- (iii) Elimination of the driveway directly accessing Park Street on Parcel 47000800 (1021 Park Street);
- (iv) Installation of a right out only direction curb island at the exit from the Subject Property onto Park Street to prevent left turns out of the driveway onto Park Street; and

- (v) Relocation of the existing pedestrian crosswalk across Park Street in accordance with the new entrance alignment, connecting the southern end of the driveway into the Subject Property with the southern end of Davis Avenue; the new pedestrian crosswalk shall consist of high-visibility pavement markings, ADA curb ramps, and advanced signage.

3. **PEDESTRIAN/BICYCLE ACCESS EASEMENT:** At the request of the City, and which may be a condition to the issuance of the first certificate of occupancy, the Owners shall dedicate to the City at no cost a permanent public easement for pedestrian and bicycle access in the general locations shown on the Application Plan, as will be determined with specificity during the site planning process and shown on the final approved site plan for the Subject Property and on the subdivision plat or separate easement plat, providing pedestrian and bicycle access from the public right-of-way / sidewalk system within the development through the Subject Property to the U.S. Route 29/250 Bypass multi-modal trail.

(Signature Page Immediately Follows)

**WHEREFORE**, the undersigned Owners stipulate and agree that the use and development of the Subject Property shall be in conformity with the conditions hereinabove stated and request that the Subject Property be rezoned as requested, in conformance with the Zoning Ordinance of the City of Charlottesville.

Respectfully submitted this \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_.

**OWNERS:**

**MONTICELLO AREA COMMUNITY ACTION AGENCY,**  
a Virginia nonstock corporation

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**1023 PARK STREET, LLC,**  
a Virginia limited liability company

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: Manager



# MACAA PUD DEVELOPMENT PLAN

## 1021, 1023, AND 1025 PARK STREET

### CITY OF CHARLOTTESVILLE, VIRGINIA

**TABLE OF CONTENTS**  
**PUD DEVELOPMENT PLAN (SEC 34-517)**

THIS PUD DEVELOPMENT PLAN MEETS THE REQUIREMENTS OF CHARLOTTESVILLE CITY CODE SECTION 34-517 (a). THE BELOW TABLE OF CONTENTS LISTS THE PUD REQUIREMENTS AND REFERENCES WHERE IN THE PUD DEVELOPMENT PLAN THE REQUIREMENTS ARE ILLUSTRATED OR DESCRIBED.

34-517 (1)a A SURVEY PLAT DESCRIBING AND DEPICTING THE ENTIRE LAND AREA TO BE INCLUDED WITHIN THE PUD DEVELOPMENT SITE, INCLUDING IDENTIFICATION OF PRESENT OWNERSHIP, EXISTING ZONING DISTRICT CLASSIFICATION(S) OF THE PARCEL(S) TO BE INCLUDED WITHIN THE PUD.

34-517 (2)a A NARRATIVE STATEMENT OF HOW THE OBJECTIVES DESCRIBED WITHIN SECTION 34-490 ARE MET BY THE PROPOSED PUD.

34-517 (3)a A CONCEPTUAL DEVELOPMENT PLAN, SUPPORTING MAPS, AND WRITTEN OR PHOTOGRAPHIC DATA AND ANALYSIS WHICH SHOW:

- A. LOCATION AND SIZE OF EXISTING WATER AND SANITARY AND STORM SEWER FACILITIES AND EASEMENTS;
- B. LAYOUT FOR PROPOSED WATER AND SANITARY SEWER FACILITIES AND STORM DRAINAGE FACILITIES;
- C. LOCATION OF OTHER PROPOSED UTILITIES;
- D. LOCATION OF EXISTING AND PROPOSED INGRESS AND EGRESS FROM THE DEVELOPMENT;LOCATION AND SIZE OF EXISTING AND PROPOSED STREETS;
- E. LOCATION OF EXISTING AND PROPOSED PEDESTRIAN AND BICYCLE IMPROVEMENTS, INCLUDING CONNECTIONS TO NEARBY SCHOOLS;
- F. AN INVENTORY, BY TAX MAP PARCEL NUMBER AND STREET ADDRESS, OF ALL ADJACENT PARCELS WITHIN A FIVE HUNDRED-FOOT RADIUS OF THE PERIMETER OF THE PUD, INDICATING THE EXISTING ZONING DISTRICT CLASSIFICATION OF EACH.
- G. A SITE INVENTORY OF THE SIGNIFICANT NATURAL, ENVIRONMENTAL AND CULTURAL FEATURES OF A SITE, INCLUDING AT A MINIMUM: HISTORIC LANDMARKS CONTAINED ON ANY STATE OR FEDERAL REGISTER; VEGETATION; EXISTING TREES OF EIGHT-INCH CALIPER OR GREATER; WETLANDS, TOPOGRAPHY, SHOWN AT INTERVALS OF FIVE (5) FEET OR LESS, CRITICAL SLOPES, AND OTHER, SIMILAR CHARACTERISTICS OR FEATURES, AND A PLAN FOR PRESERVING, PROTECTING, UTILIZING AND/OR INCORPORATING SUCH FEATURES INTO THE DESIGN AND FUNCTION OF THE PROPOSED PUD.

34-517(4)a A PROPOSED LAND USE PLAN. SUCH PLAN WILL IDENTIFY:

- A. PROPOSED LAND USES AND THEIR GENERAL LOCATIONS, INCLUDING WITHOUT LIMITATION, BUILDING AND SETBACKS;
- B. PROPOSED DENSITIES OF PROPOSED RESIDENTIAL DEVELOPMENT;
- C. LOCATION AND ACREAGE OF REQUIRED OPEN SPACE;
- D. SQUARE FOOTAGE FOR NON-RESIDENTIAL USES;
- E. MAXIMUM HEIGHT OF BUILDINGS AND STRUCTURES IN AREA OF PUD.

34-517 (5)a A GENERAL LANDSCAPE PLAN WHICH FOCUSES ON THE GENERAL LOCATION AND TYPE OF LANDSCAPING TO BE USED WITHIN THE PROJECT AS WELL AS THE SPECIAL BUFFERING TREATMENT PROPOSED BETWEEN PROJECT LAND USES AND ADJACENT ZONING DISTRICTS;

34-517(6)a A PHASING PLAN IF NEEDED. EACH PHASE SHALL INDIVIDUALLY MEET THE REQUIREMENTS OF THIS SECTION. (PHASING PLAN NOT ANTICIPATED AT THIS TIME)

34-517(7)a A STATEMENT FROM THE CITY PUBLIC UTILITIES DEPARTMENT VERIFYING WHETHER WATER AND SEWER INFRASTRUCTURE CAPACITY DOES OR DOES NOT EXIST FOR THE PROPOSED LAND USE(S).

34-517(8)a A STATEMENT FROM THE FIRE MARSHAL VERIFYING WHETHER ADEQUATE FIRE FLOW SERVICE DOES OR DOES NOT EXIST FOR THE PROPOSED LAND USE(S).

Sheet List Table	
Sheet Number	Sheets
0	COVER
(1)a-(1)d	EXISTING CONDITIONS - OVERVIEW
(2)a-(2)h	NARRATIVE
(3)a-(3)j	CONCEPTUAL DEVELOPMENT PLAN - OVERVIEW
(4)a-(4)b	LAND USE PLAN
(5)a-(5)c	LANDSCAPE PLAN
--	PROFFERS

**TOTAL # OF SHEETS: 30**

COVER

PAGE 0

MACAA PUD - September 3, 2021  
Revised - November 15, 2021

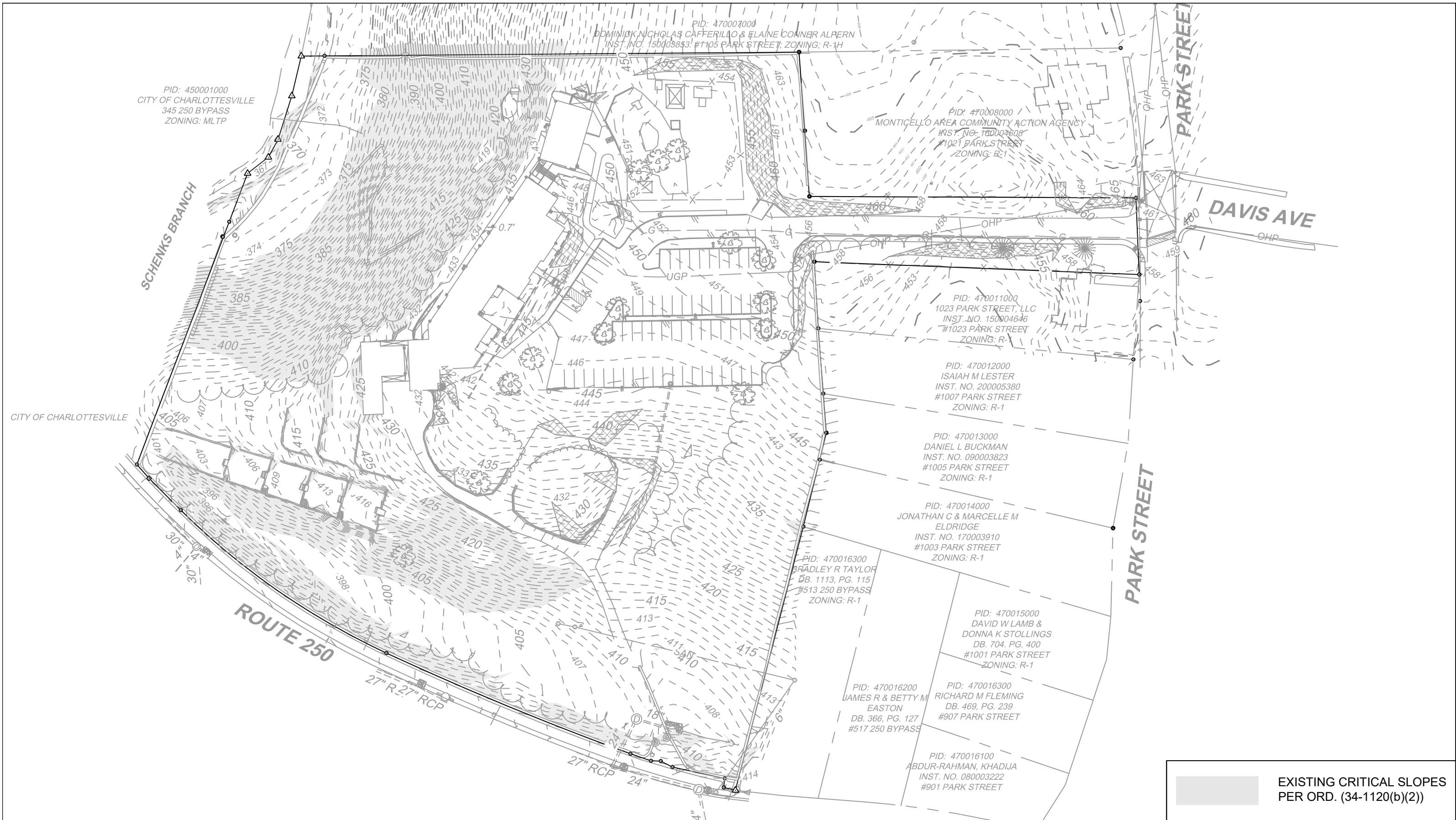


500' RADIUS FOR ADJACENT PROPERTIES

OWNER	ADDRESS	CITY / STATE	ZIP	PROPERTY ADDRESS	OWNER	ADDRESS	CITY / STATE	ZIP	PROPERTY ADDRESS
HENDON, JULIA W	100-B MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	100-B MELBOURNE PARK CIR	OVERLY, EDWARD A & ANN L	2810 WINTER OAKS WY	OAK HILL VA	20171	104-A MELBOURNE PARK CIR
WATSON, BARBARA C	100-E MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	100-E MELBOURNE PARK CIR	MISZ 3 PROPERTIES, LLC	3000 BURNLEY STATION RD	BARBOURSVILLE VA	22923	602 WILDER DR
FIKKE, KATHI FFN	100-F MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	100-F MELBOURNE PARK CIR	WEST, KYL S	301 SPRUCE ST	CHARLOTTESVILLE VA	22902	111-B MELBOURNE PARK CIR
LOOSE, ALAN R & KATHERINE S	1000 PARK ST	CHARLOTTESVILLE VA	22901	1000 PARK ST	LITZENBERGER, LESLEY M, TRUSTEE	315 FEDERAL ST	BEAUFORT SC	29902	111-C MELBOURNE PARK CIR
LAMB, DAVID W & DONNA K STOLLINGS	1001 PARK ST	CHARLOTTESVILLE VA	22901	1001 PARK ST	MOORE, WILLIAM T & SYLVIE C	325 BENNINGTON RD	CHARLOTTESVILLE VA	22901	113-D MELBOURNE PARK CIR
DAMERON, GORDON BERNARD & DONYL SU	1002 FERN CT	CHARLOTTESVILLE VA	22901	1002 FERN CT	CARRIAGE GATE, LLC	325 WINDING RIVER LN STE 201	CHARLOTTESVILLE VA	22911	106-F MELBOURNE PARK CIR
HONEYCUTT, WALLIN FORD, JR	1002 PARK ST	CHARLOTTESVILLE VA	22901	1002 PARK ST	SPEED, BONNIE A	3591 WYNTERSET DR	SNELLVILLE GA	30039	605 WILDER DR
ELDRIDGE, JONATHAN C & MARCELLE M	1003 PARK ST	CHARLOTTESVILLE VA	22901	1003 PARK ST	PARKER, EDWARD R & PAMELA K	3812 MARYLAND STREET	ALEXANDRIA VA	22309	104-F MELBOURNE PARK CIR
O'DONNELL, SUSAN S	1004 FERN CT	CHARLOTTESVILLE VA	22901	1004 FERN CT	ROBERTSON, DONALD R	405 HICKORY DR	EARLYSVILLE VA	22936	600 WATSON AVE
PRATIZ, BARTON J & JEAN A	1005 FERN CT	CHARLOTTESVILLE VA	22901	1005 FERN CT	BUSH, JULIANA E	4529 28TH RD S UNIT D	ARLINGTON VA	22206	611 NORTH AVE
BUCKMAN, DANIFI I	1005 PARK ST	CHARLOTTESVILLE VA	22901	1005 PARK ST	TUTTI F, THOMAS A & NANCY G	4601 PITTPWAY CT	CHESAPEAKE VA	23321	609 NORTH AVE
GUSTAFSON, ADAM R F	1006 PARK ST	CHARLOTTESVILLE VA	22901	1006 PARK ST	CHAMBERS, JOSEPH W, JR & MARETA W	4975 GREEN BRIDGE RD	DAYTON MD	21036	701 WILDER DR
LESTER M, ISAIAH	1007 PARK ST	CHARLOTTESVILLE VA	22901	1007 PARK ST	EASTON, JAMES R & BETTY M	517 250 BYPASS	CHARLOTTESVILLE VA	22901	517 250 BYPASS
SCHULTZ, ROBERT W & JUDY L	101-A MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	101-A MELBOURNE PARK CIR	SHIFFLETT, JAMES E, JR	552 CLEVELAND AVE	CHARLOTTESVILLE VA	22903	605 250 BYPASS
OSTARLY, GINA MARIE	101-B MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	101-B MELBOURNE PARK CIR	EVERTON, SANDRA W, TRUSTEE	5617 BROWNSVILLE RD	CHARLOTTESVILLE VA	22901	1012 PARK ST
SULLIVAN, MARY PAGE	101-C MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	101-C MELBOURNE PARK CIR	COOK, JOHN R & TERESA A	600 WILDER DR	CHARLOTTESVILLE VA	22901	600 WILDER DR
GIBSON, KATHERINE E	101-D MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	101-D MELBOURNE PARK CIR	FITCH, PRISCILLA F	602 BEECHWOOD DR	CHARLOTTESVILLE VA	22901	602 BEECHWOOD DR
HART, KEVIN J	101-E MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	101-E MELBOURNE PARK CIR	CROWLEY, ALISA K	602 WATSON AVE	CHARLOTTESVILLE VA	22901	602 WATSON AVE
HAAG, ULRICH	1010 PARK ST	CHARLOTTESVILLE VA	22901	1010 PARK ST	INDRLEY 1859, LLC	603 WATSON AVF	CHARLOTTESVILLE VA	22901	603 WATSON AVF
TAYLOR, BRADLEY R	1016 HAYRAKE LN	CHARLOTTESVILLE VA	22903	513 250 BYPASS	ULAKOVIC, GEORGE M	603 WILDER DR	CHARLOTTESVILLE VA	22901	603 WILDER DR
SALMON, MORGAN DURRETTE	102-A MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	102-A MELBOURNE PARK CIR	MOWBAY, DEBRA S	604 BEECHWOOD DR	CHARLOTTESVILLE VA	22901	604 BEECHWOOD DR
ELLIOTT, MELISSA	102-B MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	102-B MELBOURNE PARK CIR	CLARK, RICHARD JR & DONNA BONSIGNOR	604 DAVIS AVE	CHARLOTTESVILLE VA	22901	604 DAVIS AVE
LEFF, DAVID A	102-C MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	102-C MELBOURNE PARK CIR	DAVIS, JOSEPH E & MONICA S	604 WATSON AVE	CHARLOTTESVILLE VA	22901	604 WATSON AVE
KAVANAUGH, ROBERT &	102-D MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	102-D MELBOURNE PARK CIR	PATHAK, KUNJ &	604 WILDER DR	CHARLOTTESVILLE VA	22901	604 WILDER DR
CUETT, SUSAN BRYCE	102-E MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	102-E MELBOURNE PARK CIR	SHEDO, CHRISTOPHER D & SARAH S	605 BEECHWOOD DR	CHARLOTTESVILLE VA	22901	605 BEECHWOOD DR
MONTEICELLO AREA COMMUNITY ACTION AGENCY	1025 PARK ST	CHARLOTTESVILLE VA	22901	1021 PARK ST	DEER, JOHN R JR & PHYLLIS II	605 DAVIS AVE	CHARLOTTESVILLE VA	22901	605 DAVIS AVE
MONTEICELLO AREA COMMUNITY ACTION A	1025 PARK ST	CHARLOTTESVILLE VA	22901	1025 PARK ST	BANKS, JAMES CURTIS	606 BEECHWOOD DR	CHARLOTTESVILLE VA	22901	606 BEECHWOOD DR
BAHR, ALDEN K & ERIKA M	104-E MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	104-E MELBOURNE PARK CIR	COX, JAMES P, III, TRUSTEE	606 WATSON AVE	CHARLOTTESVILLE VA	22901	606 WATSON AVE
HOFF, ERIC NOEL	105 BEAUREGARD WAY	NEWPORT NEWS VA	23603	113-C MELBOURNE PARK CIR	MOHR, ADAMS & CAULIN E	606 WILDER DR	CHARLOTTESVILLE VA	22901	606 WILDER DR
RUSINA, REBECCA W	106-A MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	106-A MELBOURNE PARK CIR	WALLACE, SALLY A	607 BEECHWOOD DR	CHARLOTTESVILLE VA	22901	607 BEECHWOOD DR
STEWART, DENISE E	106-B MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	106-B MELBOURNE PARK CIR	HENRY, ROBERT R JR & SANDRA CAMERON	607 DAVIS AVENUE	CHARLOTTESVILLE VA	22901	607 DAVIS AVE
GOIDBERG, CAROL I	106-C MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	106-C MELBOURNE PARK CIR	DOYLE, RICHARD W & EMILY D	607 WATSON AVF	CHARLOTTESVILLE VA	22901	607 WATSON AVF
BALIAK, VALENTINA	106-D MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	106-D MELBOURNE PARK CIR	BURGOS, ANTHONY W	607 WILDER DR	CHARLOTTESVILLE VA	22901	607 WILDER DR
PORTER, CHRISTOPHER	106-G MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	106-G MELBOURNE PARK CIR	HARDING, KATHLEEN B, TRUSTEE	608 DAVIS AVE	CHARLOTTESVILLE VA	22901	1125 PARK ST
DAVIS, KRISTINA	108-A MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	108-A MELBOURNE PARK CIR	HARDING, KATHLEEN B, TRUSTEE	608 DAVIS AVE	CHARLOTTESVILLE VA	22901	608 DAVIS AVE
KEISLER, WILLIAM C	108-B MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	108-B MELBOURNE PARK CIR	PIGGINS, MARGO A, TRUSTEE	608 WILDER DR	CHARLOTTESVILLE VA	22901	608 WILDER DR
WONG, DOROTHY C	108-C MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	108-C MELBOURNE PARK CIR	WILLIAMS, WILLIE E & DOROTHY M	609 BEECHWOOD DR	CHARLOTTESVILLE VA	22901	609 BEECHWOOD DR
KHALO, MARK & LOGAN	108-D MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	108-D MELBOURNE PARK CIR	ASHOO, ANDRUS & CHRISTINA	609 DAVIS AVE	CHARLOTTESVILLE VA	22901	609 DAVIS AVE
HERREIRO, JAVIER S & MERCEDES, TRUSTEES	108-G MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	108-G MELBOURNE PARK CIR	REID, DOUGLAS G & SANDRA BALLENGEE	609 WATSON AVE	CHARLOTTESVILLE VA	22901	609 WATSON AVE
WILLIAMSON, BRUCE, JR & MARIANNE	1100 PARK ST	CHARLOTTESVILLE VA	22901	1100 PARK ST	MCCASKILL, MATTHEW DEAN	609 WILDER DR	CHARLOTTESVILLE VA	22901	609 WILDER DR
CAFFERILLO, NICHOLAS DOMINICK &	1105 PARK ST	CHARLOTTESVILLE VA	22901	1105 PARK ST	BARLOW, JUDITH L	610 NORTH AVENUE	CHARLOTTESVILLE VA	22901	610 NORTH AVE
COLE, MARGARET TOWNLEY	1106 PARK ST	CHARLOTTESVILLE VA	22901	1106 PARK ST	FORDE-MAZRUI, KIM & KATHLEEN	610 WILDER DR	CHARLOTTESVILLE VA	22901	610 WILDER DR
SEBRING, DANIEL BROWN & FRANCES COL	1108 PARK ST	CHARLOTTESVILLE VA	22901	1108 PARK ST	MUHLBERGER, PAUL, TRUSTEE	611 WILDER DR	CHARLOTTESVILLE VA	22901	611 WILDER DR
MILANOVIĆ, SLAVISA & TANJA	1109 PARK ST	CHARLOTTESVILLE VA	22901	1109 PARK ST	VEERABHADRAPPA, AKKUR R & GAYATHI	612 DAVIS AVE	CHARLOTTESVILLE VA	22901	612 DAVIS AVE
DOBBINS, THOMAS C	111-A MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	111-A MELBOURNE PARK CIR	HONEYCUTT, TIMOTHY J	612 NORTH AVE	CHARLOTTESVILLE VA	22901	612 NORTH AVE
BAILEY, DIANN G	111-D MELBOURNE PARK CIRCLE	CHARLOTTESVILLE VA	22901	111-D MELBOURNE PARK CIR	MILLNER, SHARON	612 WILDER DR	CHARLOTTESVILLE VA	22901	612 WILDER DR
LODD, MARGARET SHERMAN	1112 PARK ST	CHARLOTTESVILLE VA	22901	1112 PARK ST	MCKENNA, DANIEL J & MARGARET M	613 DAVIS AVE	CHARLOTTESVILLE VA	22901	613 DAVIS AVE
SHOWALTER, WELDON J & JANICE L	1121 PARK ST	CHARLOTTESVILLE VA	22901	1121 PARK ST	DOPELT, HAYA NAFTALI	616 DAVIS AVE	CHARLOTTESVILLE VA	22901	616 DAVIS AVE
KANTER, ALLAN R & VIRGINIA C	1122 PARK ST	CHARLOTTESVILLE VA	22901	1122 PARK ST	HOSSACK, JOHN A	617 DAVIS AVE	CHARLOTTESVILLE VA	22901	617 DAVIS AVE
MARKEY, WALTER Z & LORNA B	113-F MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	113-F MELBOURNE PARK CIR	CARWILE, CHRISTOPHER H & KELLY M	620 WILDER DR	CHARLOTTESVILLE VA	22901	620 WILDER DR
ADIE, PARAMES S	115 BENNINGTON RD	CHARLOTTESVILLE VA	22901	631 CUTLER LN	VIERRA, AUSTIN J	622 WILDER DR	CHARLOTTESVILLE VA	22901	622 WILDER DR
WEST, FREDERIC K, HILLARY T & KYL S	115-A MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	115-A MELBOURNE PARK CIR	HIGGINS, MARK C & FRANCES J	624 WILDER DR	CHARLOTTESVILLE VA	22901	624 WILDER DR
COLEBERT, JENNIFFER & THOMAS, TRUSTEES	115-D MELBOURNE PARK CIR	CHARLOTTESVILLE VA	22901	115-D MELBOURNE PARK CIR	KANTOR, EDWARD M	665 LAKE FRANCES DR	CHARLESTON SC	29412	1117 PARK ST
MORRIS, KATHERINE A	1200 CUTLER LN	CHARLOTTESVILLE VA	22901	1200 CUTLER LN	RATHBONE, DANIEL B & CLARISSA R, TRUSTEES	6813 JEREMIAH CT	FAIRFAX VA	22039	113-A MELBOURNE PARK CIR
PARK STREET CHRISTIAN CHURCH	1200 PARK ST	CHARLOTTESVILLE VA	22901	1200 PARK ST	BLACK CAIMAN REAL ESTATE, LLC	698 BARKMAR CIR	CHARLOTTESVILLE VA	22901	108-F MELBOURNE PARK CIR
CAPACILLO, MARIO E & LUISA B	1202 CUTLER LN	CHARLOTTESVILLE VA	22901	1202 CUTLER LN	WIENER, ANDREW & IOANNA	700 HARRIS ST STE 204	CHARLOTTESVILLE VA	22903	104-B MELBOURNE PARK CIR
BURTON, ETHEL W	1204 CUTLER LN	CHARLOTTESVILLE VA	22901	1204 CUTLER LN	WIENER, ANDREW & IOANNA	700 HARRIS ST STE 204	CHARLOTTESVILLE VA	22903	104-B MELBOURNE PARK CIR
PAGE, BEVERLY S C, TRUSTEE	1206 CUTLER LN	CHARLOTTESVILLE VA	22901	1206 CUTLER LN	ROTHWELL, NAIN T &	700 WILDER DR	CHARLOTTESVILLE VA	22901	700 WILDER DR
JUELF, MEGAN	1208 CUTLER LN	CHARLOTTESVILLE VA	22901	1208 CUTLER LN	CARLSON, PATRICIA L, TRUSTEE	701 WATSON AVE	CHARLOTTESVILLE VA	22901	601 WILDER DR
COOKE, DEBORAH C	1213 CUTLER LN	CHARLOTTESVILLE VA	22901	1213 CUTLER LN	MILLS, CECILIA L & PHILIP A SCHRÖDT	703 WILDER DR	CHARLOTTESVILLE VA	22901	703 WILDER DR
MONROY, ILU M	1214 TOWNBROOK XING	CHARLOTTESVILLE VA	22901	104-C MELBOURNE PARK CIR	KETTERFIELD, PAUL A S	705 WILDER DR	CHARLOTTESVILLE VA	22901	705 WILDER DR
MAY, JEANNETTE S	1224 MOUNTFORD CT	CHARLOTTESVILLE VA	22901	1115 PARK ST	DELOACH, MELIZABETH & ANN CAROTHERS, TR	707 WILDER DR	CHARLOTTESVILLE VA	22901	707 WILDER DR
DEANE, RODNEY C, JR, TRUSTEE	1411 SACHLEM PL STE 1	CHARLOTTESVILLE VA	22901	106-E MELBOURNE PARK CIR	JAMES, ELIZABETH M, TRUSTEE	709 BLOOMFIELD ST #3	HOBOCKEN NJ	7030	100-A MELBOURNE PARK CIR
ABDUR-RAHMAN, KHADIJA	149 CARDAMON DR	EDGEWATER MD	21037	901 PARK ST	CAROTHERS, ANN MARIE, TRUSTEE	709 WILDER DR	CHARLOTTESVILLE VA	22901	709 WILDER DR
MORRISON, JOHN C	1500 JAMESTOWN DR	CHARLOTTESVILLE VA	22901	113-G MELBOURNE PARK CIR	LUCK, JAMES M, III, EX	760 CHAPEL HILL RD	CHARLOTTESVILLE VA	22901	1126 PARK ST
NIC, LLC	1616 KING MOUNTAIN RD	CHARLOTTESVILLE VA	22901	113-B MELBOURNE PARK CIR	FLEMING, RICHARD M	907 PARK ST	CHARLOTTESVILLE VA	22901	907 PARK ST
GREGORY, GARY R, TRUSTEE	1713 BRIDGEWAY BLVD	SAUSALITO CA	94965	100-C MELBOURNE PARK CIR	JONES, DAVID C	975 STONEWALL JACKSON TR	MARTINSVILLE VA	24112	100-D MELBOURNE PARK CIR
VIKING SERVICES REAL ESTATE LLC	1721 DORRINGTON PLACE	CHARLOTTESVILLE VA	22901	111-E MELBOURNE PARK CIR	LEWIS, JAMES IYKONE	P O BOX 1242	CHARLOTTESVILLE VA	22902	104-D MELBOURNE PARK CIR
GAY, THOMAS F JR & DAPHNE B	1778 FOUNTAIN DR APT 224	RESTON VA	20190	605 WATSON AVF	1023 PARK STREET, LLC	P O BOX 1467	CHARLOTTESVILLE VA	22902	1023 PARK ST
RUPPERT, STEPHEN J	18539 THE COMMONS BLVD	CORNELIUS NC	28031	115-B MELBOURNE PARK CIR	BURRUSS APARTMENT CORPORATION	P O BOX 7701	CHARLOTTESVILLE VA	22906	0 PARK ST
MELBOURNE PARK CONDO UNIT OWNERS ASSOC, INC	200 RESERVE BLVD #300	CHARLOTTESVILLE VA	22901	100-115 MELBOURNE PARK CIR	BURRUSS APARTMENT CORPORATION	P O BOX 7701	CHARLOTTESVILLE VA	22906	1223-27 PARK ST
NGUYEN, PHUONG V	2100 TARLETON DR	CHARLOTTESVILLE VA	22901	115-C MELBOURNE PARK CIR	BURRUSS APARTMENT CORPORATION	P O BOX 7701	CHARLOTTESVILLE VA	22906	0 PARK ST
BERGLAND, FRANKLYN & SUSAN MCCULLEY	2340 OLD LYNCHBURG RD	CHARLOTTESVILLE VA	22903	113-E MELBOURNE PARK CIR	BUCHHOLZ, NATHAN J & MARY E, TRUSTEES	P O BOX 7783	CHARLOTTESVILLE VA	22906	1003 FERN CT
WORKMAN, MARYLE	26 JORDAN DR	GORHAM ME	4038	606 NORTH AVF	CITY OF CHARLOTTESVILLE	P O BOX 911	CHARLOTTESVILLE VA	22902	0 PARK ST
EUBANKS, DAVID A & GWEN	268 DOCKSIDE PKWY STE D	ELMHURST NY	14501	108-E MELBOURNE PARK CIR	CITY OF CHARLOTTESVILLE	P O BOX 911	CHARLOTTESVILLE VA	22902	345 250 BYPASS
PAYNE, NANCY L	2732 CRAIGS STORE ROAD	AFTON VA	22920	608 NORTH AVE	CITY OF CHARLOTTESVILLE	P O BOX 911	CHARLOTTESVILLE VA	22901	0 MELBOURNE RD

ADJACENT PROPERTIES

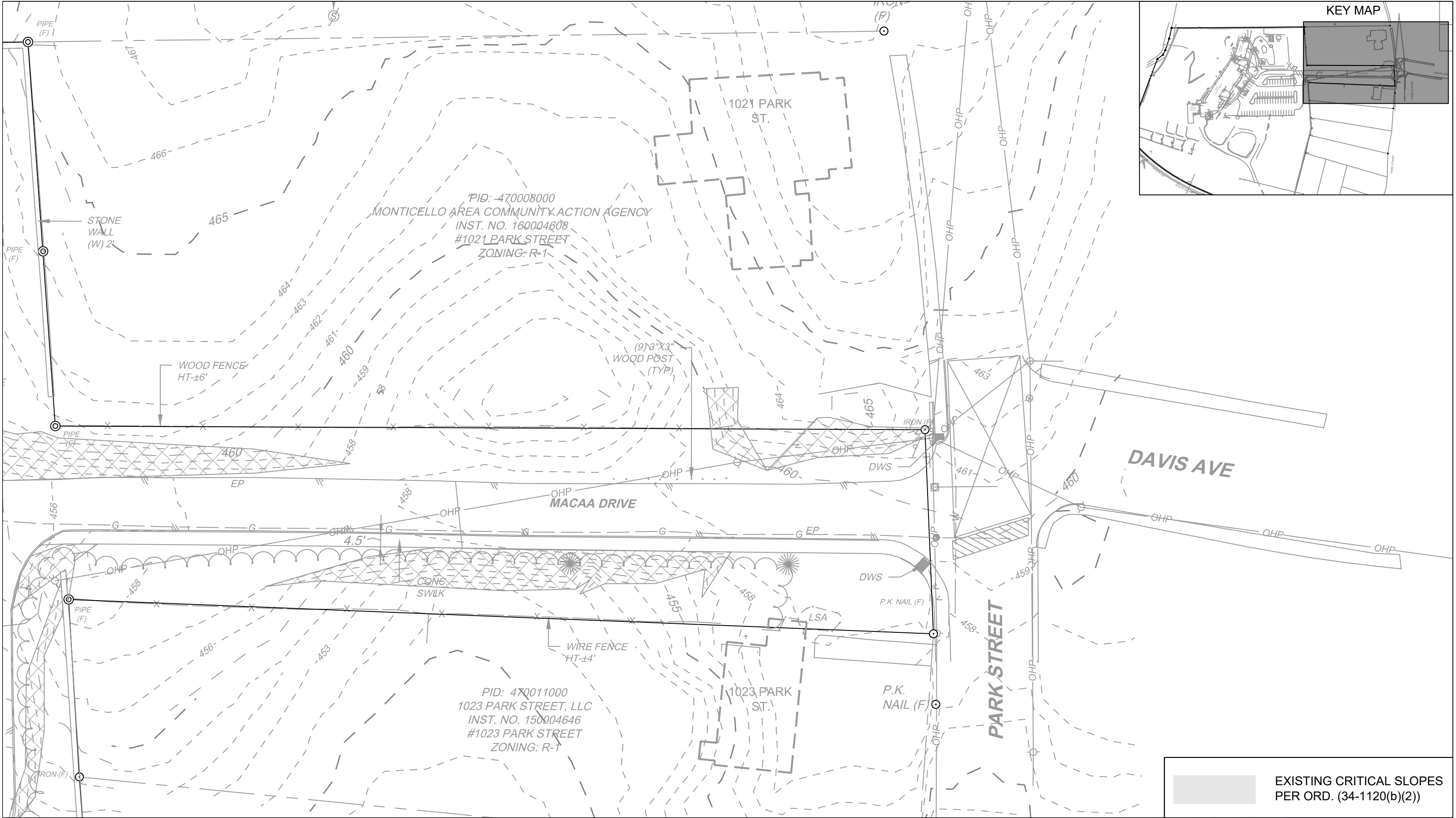




# EXISTING CONDITIONS - OVERVIEW

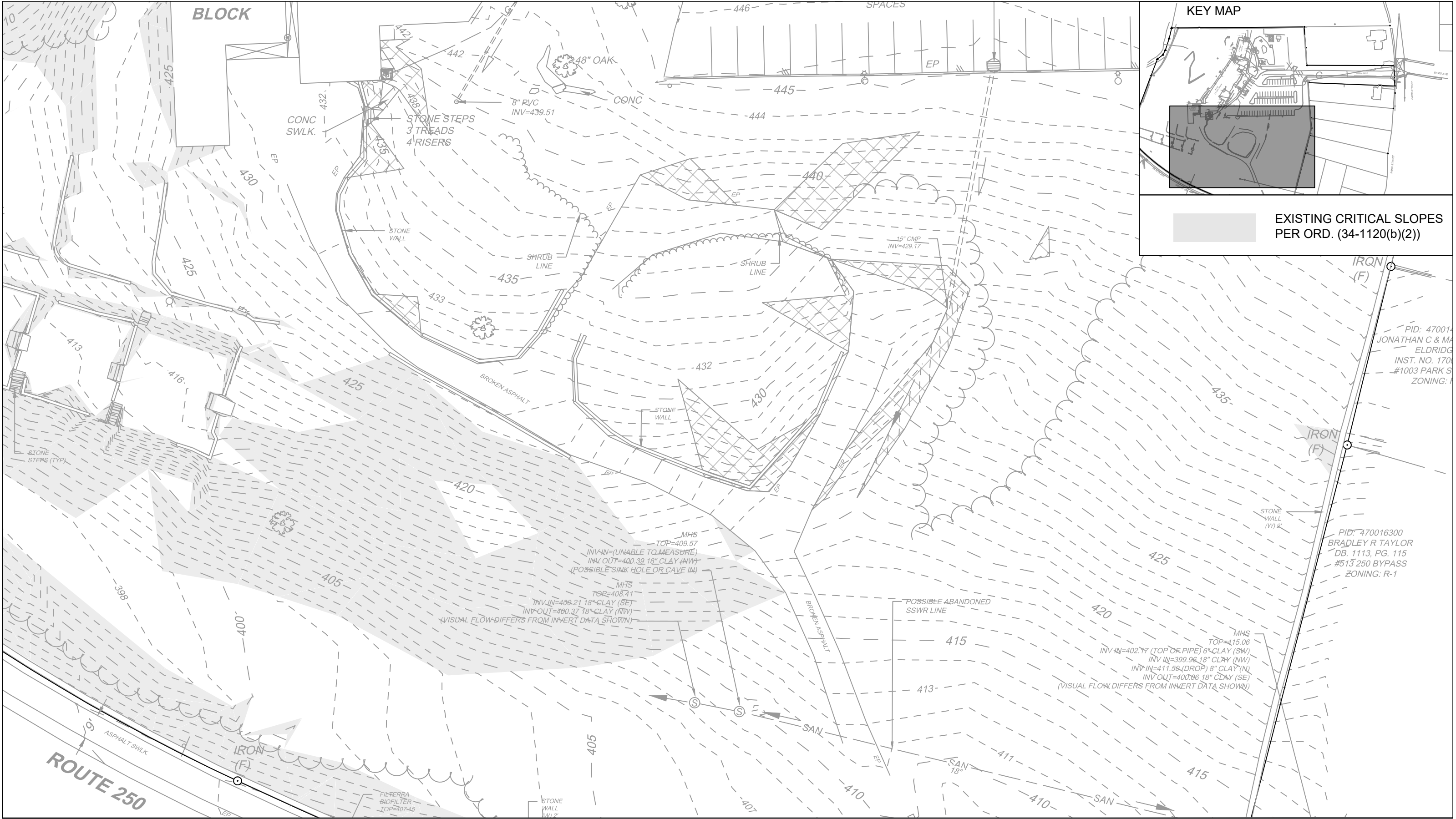






# EXISTING CONDITIONS





# EXISTING CONDITIONS





# Introduction

The redevelopment of the MACAA property on a prominent site between the North Downtown and Locust Grove neighborhoods provides a unique opportunity to address the City’s affordable housing needs while taking advantage of the unique character of the grounds and sloping landscape on the site. The following pages hope to illustrate a site-sensitive infill proposal under the City’s PUD rezoning process that recognizes the scale of adjacent homes, buffers the size and placement of the new apartments, and provides improvements to site access, allowing amenities of the landscape and natural features to be shared with the neighborhood. By placing an emphasis on connectivity and shared open spaces, this property will become an active and integrated extension of the adjacent neighborhoods while providing bike and pedestrian links to the broader community amenities beyond.

# Description of Property

The proposed PUD rezoning includes three parcels on Park Street north of the 250 bypass – 1025 Park Street (the “MACAA site” and primary parcel) 1021 Park Street (the “Stone House”), and 1023 Park Street. The MACAA site contains the majority of the land area, at 7.91 acres and is zoned R1 with a special use permit to operate as a school. The MACAA site is owned by the Monticello Area Community Action Agency, and currently houses MACAA’s offices and three classrooms as a part of their Head Start program.

The property is also known as “Rock Hill,” first used in the 1820s to describe a larger parcel owned by Thomas Walker Lewis, cousin of Meriwether Lewis. Many of the most visible historic landscape elements were built under the ownership of Dr. Henry Alford Porter, Pastor of First Baptist Church and his wife Elizabeth B. Porter, including the stone walls, terraced gardens, and stone steps. The former entrance and driveway loop visible on the Route 250 bypass once led to the Rock Hill dwelling which burned in a fire in 1963. From 1959 to 1979 the site housed the Rock Hill Academy, a private school established by the Charlottesville Educational Foundation in response to the desegregation of Charlottesville public schools. After ownership by the Charlottesville Educational Foundation, the property was transferred to the Covenant Foundation and Covenant School in 1984, then to the Charlottesville-Albemarle YMCA in 1989, and finally to MACAA in 1993.

The Stone House, 1021 Park Street, was acquired by MACAA in 2016 as a part of a prior proposed redevelopment plan. 1021 Park Street adjoins the

MACAA site to the north of MACAA drive and is 0.913 acres.

1023 Park Street is a 0.492-acre residential parcel containing one single family home and is located to the south of MACAA drive.

Together the three parcels comprise 9.3 acres and are bounded by the John W. Warner Parkway to the west, the Route 250 bypass to the south, and Park Street to the east.

In 2015, MACAA partnered with New Millennium Senior Living Communities, LLC and Retirement Unlimited, Inc. to propose a PUD Rezoning on the same properties for an intergenerational campus including 175,000-200,000 square feet of residential space, 13,500-15,000 square feet of classroom space for MACAA, and 3,800-4,500 square feet of office space within the existing Stone House. The PUD rezoning was not granted and faced community opposition around issues of density, lack of integration with the surrounding single-family neighborhoods, and impact to the site’s historic character. During the final City Council hearing in November 2017, one councilor regretted that the proposal failed to reach “a successful mix of affordable housing embraced by neighbors within a walkable, bikeable, and bus-rideable distance to the 30,000 jobs downtown,” and the Mayor expressed his hope that MACAA would “work with the city to come up with another plan that fits the community vision” ([https://dailyprogress.com/macaa-rezoning-is-denied/article\\_8aff7296-9ea4-5206-9cb9-4013364156f6.html](https://dailyprogress.com/macaa-rezoning-is-denied/article_8aff7296-9ea4-5206-9cb9-4013364156f6.html), November 22, 2017).

# Project Background

Since the former PUD application was denied in 2017, MACAA has continued to engage other partners for a potential redevelopment project that would use the organization’s largest financial asset to capitalize its programs to fulfill its mission to improve the lives of low-income people in Central Virginia.

MACAA has partnered with Piedmont Housing Alliance and Habitat for Humanity of Greater Charlottesville to pursue a concept of an affordable residential neighborhood that includes affordable rental multifamily housing, affordable homeownership townhomes and duplexes, a small number of market rate units, and an allowance for possible classroom space as a part of MACAA’s Head Start day care program. Piedmont Housing Alliance is the primary developer and applicant for the PUD rezoning.



This proposal provides a diversity of affordable housing options for people with low incomes within a high-opportunity neighborhood just one mile from a local job center in downtown Charlottesville and meets a critical need for affordable housing in the Charlottesville area.

The project responds to the context of Locust Grove’s tree-lined local streets with single-family dwellings by extending this neighborhood fabric into the site. Townhomes and duplex units front a new MACAA Drive at a scale comparable to Davis Avenue on the east side of Park Street, and parking is relegated to the rear, allowing for sidewalks and planting strips along the main entry drive. By creating pedestrian streets in the center of the site, the proposal aims to create connections from the neighborhood to the historic gardens, greenspace, and further to McIntire Park.

The larger scale apartment buildings are located towards the interior of the site, allowing direct access to the greenspace, historic gardens, and the trail access for residents without crossing busy streets. In general, the project is sited around the existing development area of the MACAA site in order to minimize site disturbance and tree clearing during construction, as well as to take advantage of the existing topography.

The proposed PUD development plan addresses the major goals of the Charlottesville Comprehensive Plan with particular respect to housing, community facilities, land use, and environment, and addresses the need for greater affordability within our community while being sensitive to neighborhood context.

## PROJECT NARRATIVE

MACAA Redevelopment  
Planned Unit Development Submission  
September 3, 2021  
Revised November 15, 2021  
(2)α





# Impacts & Mitigation

The project team has engaged community members, city staff, and the City of Charlottesville Planning Commission in a series of meetings prior to this submission in order to identify potential impacts of the project.

Piedmont Housing Alliance convened an initial community meeting for neighborhood residents on July 27th, 2021 at the Charlottesville Waldorf School Pavilion. 13 residents were in attendance. This meeting provided an opportunity to introduce the project and receive additional feedback prior to entering the process mandated by the City. The project team then held an official community meeting at Charlottesville High School on August 10th, 2021, and held a Planning Commission worksession on August 24th, 2021. In addition, the project team received initial comments from some City staff on August 27th, 2021.

Through the community process, comments centered around five key areas of concern:

- Traffic on Park Street
- Bike and pedestrian connectivity through site
- Affordability
- Use
- Viewshed

The project team has worked to address these concerns and mitigate potential project impacts in the following ways:

## Traffic on Park Street

Traffic on Park Street has long been a concern for neighbors around the project. While the completion of the John W. Warner Parkway in 2015 substantially reduced vehicle traffic along Park Street, residents report volumes have been slowly increasing over time. Therefore residents have expressed concern that additional traffic generated by the project will negatively impact traffic flows along Park Street.

At the direction of the City traffic engineer, Timmons Group performed a traffic study of the MACAA project to understand potential impacts and found that the project would reduce the level of service at the intersection of Park Street and MACAA drive from level B to level C. However level of service C is still considered adequate. Some additional vehicle queuing was projected, but that queuing was internal to the site.

Some residents proposed alternate routes out of the site to mitigate traffic impacts to Park Street however no feasible alternatives to the existing connection at Park Street and MACAA drive exist. Other connections to Park Street would require the acquisition and demolition of homes, and a 1995 special use permit condition permanently closed the 250 entrance.

Aside from issues of traffic volumes, road geometry and vegetation at the intersection of Park Street and MACAA Drive create limited sight distance for drivers and pedestrians. The project team has proposed a series of changes to simplify the intersection and reduce conflict points (*figure 1*), including eliminating a driveway from the Stone House property (1021 Park Street) and realigning MACAA Drive to Davis Street to create a conventional 4-way intersection.

To improve sight distance at the entrance, the project proposes removing visual impediments (*figure 2*) and potentially regrading a portion of 1021 Park Street while retaining the historic stone walls (*figure 1*). The current no-left-turn condition at the Park St-MACAA Dr intersection is retained to ease traffic flows and reduce the potential for accidents.

## Bike and pedestrian connectivity through the site

Community members and Planning Commissioners expressed interest in a safer pedestrian and bike connection from Locust Grove to the trails along Schenck’s Branch. The MACAA site has the potential to connect to a broad network of green spaces and pedestrian and bike trails however, pedestrians and bikers must currently navigate the busy intersection of Park Street and the Route 250 Bypass using a narrow sidewalk alongside fast-moving traffic in order to reach the trails.

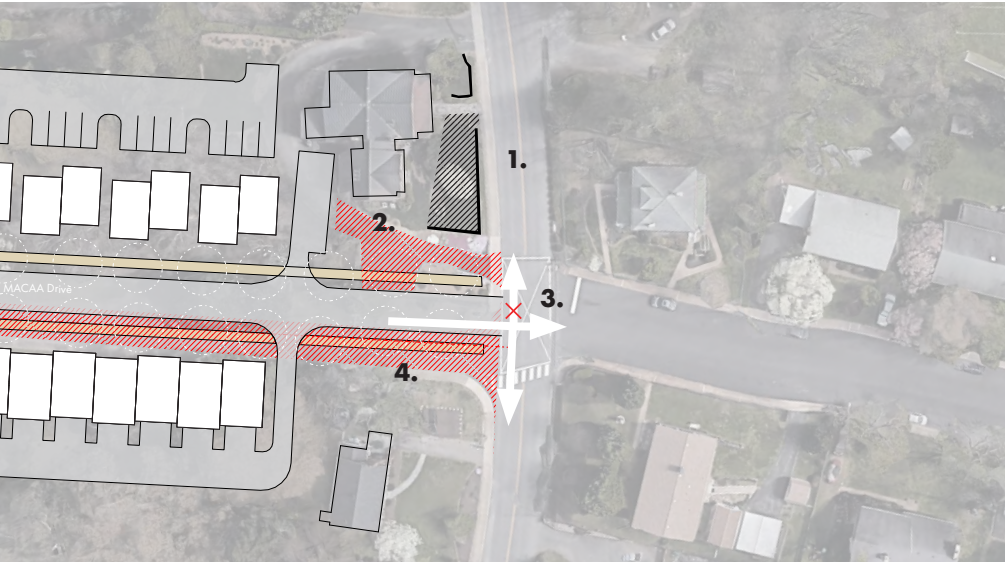
The project will explore the feasibility of two potential bike and pedestrian connections through the site – one at the existing site entrance along the 250 bypass and the other at the southwest corner of the site adjacent to the historic terraced gardens. (*figure 3*)

## Affordability

While many attendees at the community meetings were supportive of the project’s provision of no fewer than 80% of affordable units across the development, some wanted to know more about the exact definitions of affordability.

Standards for rental affordability are governed by percentages of the Area Median Income (AMI) as provided by the US Department of Housing &

Figure 1: Intersection Improvements



1. Regrade to improve visibility without impacting stone walls
2. Remove existing driveway
3. Preserve current no-left-turn condition
4. Shift MACAA Drive 20’ to align with Davis

Figure 2: Sight Distance Improvements





Urban Development (HUD) (figure 5). Affordable means that a household would pay no more than 30% of their income on their rent or mortgage.

Piedmont Housing Alliance, the developer of the affordable multifamily portion of the project, cannot currently provide the exact mix of affordable units at this phase of the design process. The exact unit mix is governed by the degree of subsidy the project is able to secure through the Low Income Housing Tax Credit and other means of financing which will be committed only after the entitlements process is complete. The project will serve families between 30 and 80% AMI, and the greater the subsidy the project receives, the more deeply the project can be made affordable to families of lower incomes.

The townhome and duplex portion of the project developed by project partner Habitat for Humanity of Greater Charlottesville follows the model of affordable homeownership. The homes will be sold to low-income families using a low- to no-interest mortgage and a repayment schedule appropriate to that family’s income. Habitat typically serves families between 30-60% AMI, and Habitat for Humanity of Greater Charlottesville has served families with an average AMI of 34% over the last three years.

In addition to the affordable rental and affordable homeownership units, the project also includes a small portion of market rate homeownership units, as well as the two existing single family homes. By pursuing a variety of financing models and unit types, the project intends to meet the needs for a range of household incomes.

**Use**

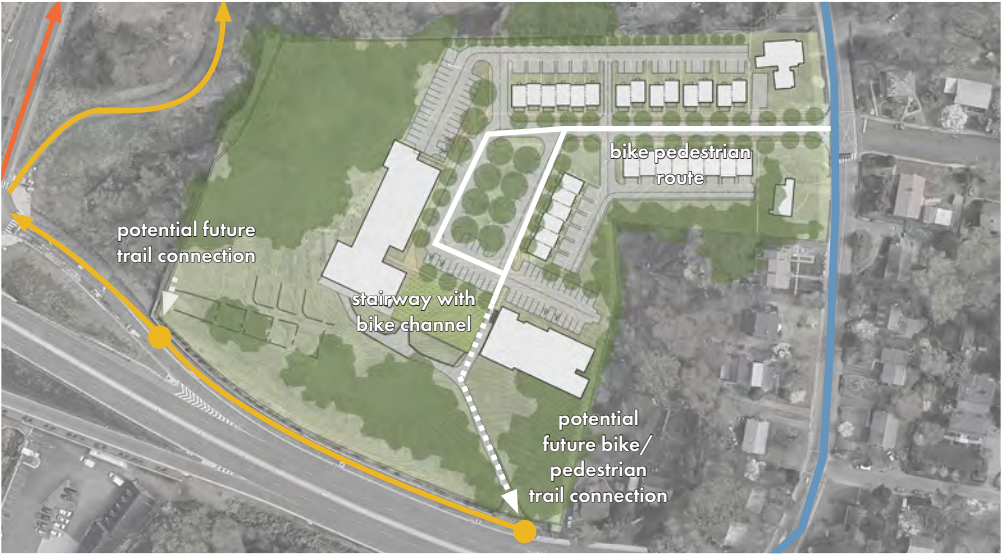
The current draft of the proposed Future Land Use Map (FLUM) designates this area as a “Neighborhood Mixed Use Node” with a mix of residential and commercial uses that responds to the surrounding neighborhood context. Some community members expressed concern about expanding commercial uses on the site beyond the currently permitted day care use operated by MACAA to serve low-income families. In response to this concern and MACAA’s interest in possibly continuing to operate a child care center on site, the project has restricted permitted commercial uses to child care and placed a cap on the overall square footage of the use.

**Viewshed**

By locating the two multifamily buildings on the interior of the site and placing single family homes adjacent to existing R1 districts, the project has sought to minimize visual impact and remain contextual with the surrounding community (Architectural Supplement - View from Rt. 250).

Despite the site’s 9.3 acre area, the site is in fact quite constrained by topography - therefore some travelways and parking areas must approach the boundaries of the site. To help mitigate impacts on adjoining neighbors, the project team has indicated landscape screening to provide a visual buffer to preserve privacy and views for both the new residents and neighbors. In general, the project team will work to minimize visual impact for neighboring residents where possible throughout the design process.

Figure 3: Proposed Bike and Pedestrian Connection



# Alignment with the Comprehensive Plan

Through the PUD Rezoning process, Piedmont Housing Alliance, Habitat for Humanity of Greater Charlottesville, and MACAA are committed to a development plan that aligns with the City of Charlottesville’s strategic goals, as well as the partner organization’s goals to advance housing equity within the Charlottesville community. The proposal meets the goals of the Comprehensive Plan in the following ways:

## Comprehensive Plan Goal 1 – Land Use

Vision: The use of land in Charlottesville supports human activities and reflects community values. Our land use plan aims to promote harmonious development and support neighborhoods and places that allow residents to live, work, shop and play in proximity. Charlottesville’s land use patterns will create, preserve, and enhance neighborhood character, improve environmental quality, integrate a diversity of uses, encourage various modes of transportation, promote infill development, and increase commercial vitality and density in appropriate areas. These interdependent parts will converge to enhance the social, cultural, recreational and economic needs of our City	The proposed development makes use of an underutilized site near downtown Charlottesville and its core residential neighborhoods to create a variety of affordable housing options at a scale and density that is compatible with neighboring uses. Affordable housing options for a diversity of families and individuals is key to retaining the vitality of Charlottesville’s social, cultural, and workforce needs. The proposed project will include single-family attached, townhome, and multi-family dwelling options. PHA rental units will serve residents earning 30-80% AMI, and Habitat for-sale options will serve a range of low-income and very low-income Habitat Partner Families.
Goal 1 – Enhance the Sense of Place Throughout Charlottesville	The proposed development preserves much of the topography, tree plantings, and historic assets which characterize this site. The proposed development also extends the neighborhood fabric of Locust Grove and North Downtown to this location.
Goal 2 – Establish a mix of uses within walking distance of residential neighborhoods that will enhance opportunities for small group interaction throughout Charlottesville	The proposed development may contain up to 7,500 feet of day care space for MACAA's Head Start program within a primarily residential neighborhood, providing opportunities for connection between families within the development and others served by the day care center.
Goal 3 – Enhance Formal Public Spaces of Community Interaction in Charlottesville that Support the City’s Role as a Center of Urban Vitality	The proposal includes a community green as well as the preservation of historic landscapes, which will be accessible to residents as well as neighbors, providing the opportunity to connect and interact.
Goal 4 - Facilitate the Creation of New Opportunities for Regional Cooperation on Land Use Issues	<p>The proposed project provides a key connection from Locust Grove and North Downtown to regional bike and trail networks, thus avoiding busy intersections at Park Street and Route 250.</p> <p>This proposal allows the possibility of supporting MACAA's work which is essentially regional, and focused on meeting the needs of low-income families in Charlottesville and its nearby counties.</p>
Goal 5 – Explore Progressive and Innovative Land Use, Design Standards, and Zoning Regulations to Accomplish the City’s Vision	The rezoning proposal makes use of the City of Charlottesville’s Planned Unit Development tool to provide affordable housing along different financial and spatial models aside from what is allowed with by-right zoning. Under current low-density zoning, the property would support only 30-40 single-family detached dwellings by-right, development of which would not lend itself to affordability. As proposed, the project would better adhere to the vision of the Draft Future Land Use Map, which calls for a compact neighborhood center encompassing a mix of land uses, including residential and active ground floor uses, compatible with surrounding residential. The proposal attempts to center spaces for pedestrians and cyclists in the primary circulation and public spaces accommodating alternatives to car-centric lifestyles.

## Comprehensive Plan Goal 2 – Community Facilities

Vision: The City of Charlottesville’s civic facilities and services are important to fostering a healthy and vibrant community. Residents benefit from access to excellent public services, recreational facilities and public buildings. Therefore, Charlottesville will have outstanding civic and recreational facilities, bicycle and walking trails and be served by a strong support system that includes one of the nation’s best emergency response systems. Effective and efficient water, wastewater and stormwater services will support the health and welfare of the City.	<p>The proposed development aims to meet or exceed performance standards set by city agencies and for fire and other emergency services.</p> <p>In addition, the proposal aims to contribute to a network of greenspaces, bike trails, and pedestrian infrastructure.</p>
Goal 1 - Continue to Provide Excellent Fire Protection Service and Fire Prevention Education Service to the City, the University of Virginia, and Portions of Albemarle County and Goal 2 - Continue To Provide Excellent Rescue Service To The Charlottesville And Albemarle Community.	The proposal will conform to fire codes and regulations to provide access to emergency services which will not impede their response time.
Goal 4 - Solid Waste	The proposed project will participate in solid waste and recycling programs and will encourage recycling where possible.
Goal 5 - Improve The Water System Infrastructure To Provide Reliable, Healthy And Efficient Water Service To City Residents And Address Increasing Densities Within The City As Part Of Any Improvements	The project proposes to use the City of Charlottesville's water infrastructure and will work to steward that resource where possible through the use of water conserving technologies.
Goal 6 - Improve Wastewater Infrastructure To Provide Effective And Efficient Sanitary Sewer Services To Residents, To Accommodate The Zoned And Projected Densities And Uses In The City And To Protect Public Health And Environmental Quality.	The project proposes to connect to Charlottesville’s wastewater infrastructure. Stormwater management will be undertaken according to industry best practices.
Goals 7, 8, 9, 10 -- Parks and Recreation [Upgrades and Expansion], Recreational Uses, and Best Practices	The proposed project provides access to community green space, historic landscapes, and a safe sidewalk network along the 250 off ramp median to McIntire Park and multimodal paths to John W. Warner Parkway.



# Alignment with the Comprehensive Plan

Through the PUD Rezoning process, Piedmont Housing Alliance, Habitat for Humanity of Greater Charlottesville, and MACAA are committed to a development plan which aligns with the City of Charlottesville’s strategic goals, as well as the partner organization’s goals to advance equity within the Charlottesville community. The proposal meets the goals of the Comprehensive Plan in the following ways:

## Comprehensive Plan Goal 3 – Economic Sustainability

<p>Vision: A strong economy is essential to the social, cultural and financial vitality of our city. Public and private initiatives help create employment opportunities and a vibrant and sustainable economy. The City of Charlottesville is committed to creating a strong, diversified economy and an environment that provides career ladder employment opportunities for residents.</p> <p>At its best, Charlottesville is a community with an effective workforce development system and a businessfriendly environment that supports entrepreneurship; innovation; heritage tourism; commercial, mixed use, and infill development; and access to a growing array of diverse employment and career ladder opportunities for all City residents. The Downtown Mall, as the economic hub of the region, features a vibrant historic district with arts and entertainment, shopping, dining, cultural events and a dynamic City Market.</p>	<p>The proposed development is a significant investment in the City of Charlottesville, providing jobs in the design, construction, and operations of the project.</p> <p>In addition, the rental and homeowner subsidies present in the affordable portion of the project represent an investment in the residents who contribute to Charlottesville’s workforce. Investments in affordable housing ensure that workers in all industries are able to maintain sustainable lifestyles in the communities in which they work.</p> <p>Through the project, MACAA will be able to stabilize itself financially, allowing it to continue its work supporting and assisting low-income families and individuals throughout the region.</p>
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## Comprehensive Plan Goal 4 – Environment

<p>Vision: The City of Charlottesville will be a green city, with clean and healthy air and water, sustainable neighborhoods, ample open space and natural areas that balance increased development and density in residential and economic centers, and walkable, bikeable and transit-supportive land use patterns that encourage healthy lifestyles.</p>	<p>The proposed project aims to meet high standards of environmental performance with the construction of its multifamily dwellings, targeting the Passive House standard as a design goal. The project also aims to minimize disturbance to the natural assets of the site.</p>
<p>Goal 1 - Value The Rivanna River As A Major Asset In The Life Of Our City And Region And Restore It To A Healthy Condition Within Our Ecosystem In Order To Improve Habitat, Watershed Health And Water Quality.</p>	<p>The project proposes to create a safe pedestrian connection to the trails around Schenk’s Branch, via links to existing sidewalks and Route 250, which flows into the Rivanna. By increasing access to this crucial resource, the project contributes to greater visibility and importance for the natural waterways within Charlottesville.</p>
<p>Goal 2 - Promote Practices Throughout The City That Contribute To A Robust Urban Forest.</p>	<p>The project will minimize impacts to existing tree canopy.</p>
<p>Goal 3 - Protect, Increase, And Provide An Interconnected System Of Green Space And Buffers That Support Habitat For Wildlife, Improve Water Quality, And Deliver Valuable Ecosystem Services.</p>	<p>The project will provide access and connections to a broader system of trails and natural systems.</p>
<p>Goal 4 - Improve Public And Private Stormwater Infrastructure While Protecting And Restoring Stream Ecosystems.*</p>	<p>The proposed project will include a system of stormwater management which will meet performance standards and best practices.</p>
<p>Goal 5 - Encourage High Performance, Green Building Standards And Practices And The Use Of The U.S. Green Building Council’s (USGBC) LEED Certification Program, Earthcraft, Energy Star Or Other Similar Systems.* and Goal 6 - Promote Effective And Innovative Energy And Fuel Management In Both City And Community Buildings And Operations.*</p>	<p>The multifamily portion of the project will target Passive House standards which are among the most rigorous performance standards for energy efficiency within the building industry. Passive House standards will significantly reduce the building demand for heating and cooling leading to large reductions in the buildings’ energy consumption.</p>
<p>Goal 7 - Promote Citywide Water Efficiency And Conservation And Implement Water Efficiency And Conservation Strategies In City Buildings And Operations.* and Goal 8 - Promote And Implement Strategies To Reduce Waste Generation And Increase Recycling, Composting, And Waste Diversion To Decrease Environmental Impacts, Including Greenhouse Gas Emissions.*</p>	<p>The proposed development will reduce water consumption and waste generation through building design and operations.</p>





# Alignment with the Comprehensive Plan

Through the PUD Rezoning process, Piedmont Housing Alliance, Habitat for Humanity of Greater Charlottesville, and MACAA are committed to a development plan which aligns with the City of Charlottesville’s strategic goals, as well as the partner organization’s goals to advance equity within the Charlottesville community. The proposal meets the goals of the Comprehensive Plan in the following ways:

## Comprehensive Plan Goal 5 – Housing

Vision: The quality and diversity of the City of Charlottesville’s housing stock creates the basis for viable neighborhoods and a thriving community. In order to be a truly world class city, Charlottesville must provide sufficient housing options to ensure safe, appealing, environmentally sustainable and affordable housing for all population segments and income levels, including middle income. Consequently, City neighborhoods will feature a variety of housing types, housing sizes, and incomes all within convenient walking, biking or transit distances of enhanced community amenities that include mixed use, barrier free, higher density, pedestrian and transit-oriented housing at employment and cultural centers connected to facilities, parks, trails and services.	<p>The proposed project creates a diversity of affordable housing options for families at a range of income levels from 30 to 80% of area median income, including affordable rental and affordable homeownership. The project also includes a small number of market rate homes. The housing provided ranges from multifamily dwellings, townhouses, and duplexes, providing a variety of typologies along with a diversity of rental and ownership models.</p> <p>The homes provided are within a short distance from downtown and will have convenient access to a system of greenspaces and other public amenities.</p> <p>The development will be constructed to a high level of quality – the standards for Low Income Housing Tax Credit-funded developments such as the rental portion of the project far exceed market rate building standards, and Greater Charlottesville Habitat for Humanity has a proven track record of constructing quality homes throughout the region.</p>
Goal 1 - Evaluate The Impact Of Housing Decisions On Other City Goals And City Vision With The Understanding That Any Regulatory Land Use Changes May Affect Housing Because Of The City’s Limited Geographic Size Of Only 10.4 Square Miles. (All Such Changes Must Be Considered Within The Context Of City Council’s Goal Of Achieving A Minimum 15% Supported Affordable Housing Throughout The City By 2025.)	The project contributes the vast majority of its units to the City’s larger housing affordability goals. Through the associated proffers, the owner will commit to providing a minimum of eighty percent (80%) of the units as affordable housing, as defined by the City of Charlottesville.
Goal 2 - Maintain And Improve The City’s Existing Housing Stock For Residents Of All Income Levels.*	The project will construct housing stock that in many cases exceeds the standards of existing housing in the area.
Goal 3 - Grow The City’s Housing Stock For Residents Of All Income Levels.*	The proposal expands the housing stock for low-income people, one of the key areas where more stock is most needed. The project also provides a small number of market rate units.
Goal 4 - Promote An Assortment Of Funding Initiatives To Meet The Needs Of Owners, Renters And The Homeless With Varying Levels Of Income	The proposed project makes use of a variety of affordable housing models, including affordable rental and homeownership, at a range of income levels.
Goal 5 - Support Projects And Public/Private Partnerships (I.E Private, Nonprofits, Private Developers And Governmental Agencies) For Affordable Housing, Including Workforce Housing And Mixed-Use, And Mixed-Income Developments. Also, Support Projects That Promote Economic Development And Job Creation, Especially But Not Exclusively, In Relatively Underinvested, Financially Depressed Areas.	TThe proposal is the result of a partnership between three organizations, all of which focus efforts on the support of people with low-incomes as a central part of their mission.

## Comprehensive Plan Goal 5 – Housing (cont.)

Goal 7 - Offer A Range Of Housing Options To Meet The Needs Of Charlottesville’s Residents, Including Those Presently Underserved, In Order To Create Vibrant Residential Areas Or Reinvalidate Existing Ones.*	The proposal provides a range of housing types for residents with a variety of family sizes and incomes, and accommodates affordable rental, affordable home ownership, and market rate options.
Goal 8 - Ensure That The City’s Housing Portfolio Offers A Wide Range Of Choices That Are Integrated And Balanced Across The City To Meet Multiple Goals Including: Increased Sustainability, Walkability, Bikeability, And Use Of Public Transit, Augmented Support For Families With Children, Fewer Pockets Of Poverty, Sustained Local Commerce And Decreased Student Vehicle Use.*	<p>The proposal provides housing choices which are not readily available within Charlottesville, namely affordable rental and homeownership opportunities.</p> <p>The project has been developed holistically, aiming to meet goals around affordability, sustainability, walkability, bikeability, and support of historical and natural landscapes.</p>



# Alignment with the Comprehensive Plan

Through the PUD Rezoning process, Piedmont Housing Alliance, Habitat for Humanity of Greater Charlottesville, and MACAA are committed to a development plan which aligns with the City of Charlottesville’s strategic goals, as well as the partner organization’s goals to advance equity within the Charlottesville community. The proposal meets the goals of the Comprehensive Plan in the following ways:

## Comprehensive Plan Goal 6 – Transportation

<p>Vision: The City of Charlottesville’s transportation network provides the fundamental framework for creating a safe, livable community while reinforcing more sustainable land use patterns. The system connects people to each other and to destinations, fosters economic activity and provides public space for human interaction.</p> <p>As a result, the transportation system should be designed for everyone, whether young or old, motorist or bicyclist, walker or wheelchair user, bus rider or shopkeeper. A multimodal transportation network is an effective, flexible framework for building community and creating places in our City.</p>	<p>The proposed project will make pedestrian and bike accommodations central to the circulations strategy around the site by relegating parking wherever possible, and providing sidewalks and quality greenspace to encourage transportation through the site.</p> <p>The project proposes to create a walkable, bikeable connection to the nearby trails and to McIntire Park allowing for safe use of a variety of modes of transportation.</p>
Goal 1 - Increase Safe, Convenient And Pleasant Accommodations For Pedestrians, Bicyclists And People With Disabilities That Improve Quality Of Life Within The Community And Within Individual Neighborhoods.*	The project will provide pedestrian and bike accommodations with access to existing facilities. The housing portion of the project will also meet high standards for accessibility in accordance with the requirements of the Low-Income Housing Tax Credit program.
Goal 2 - Improve Transportation Options And Quality Of Life Through Land Use And Community Design Techniques	The project will draw from the context of walkable neighborhood streets as a key principle in its design.
Goal 3 - Improve Mobility And Safety Of The Arterial Roadway Network	The proposal will make improvements to the intersection at MACAA Drive, Davis Avenue, and Park Street, improving visibility and reducing conflicts on a crucial roadway.
Goal 4 - Maintain An Efficient Transportation System That Provides The Mobility And Access That Supports The Economic Development Goals Of The City.	The proposed project provides homes for low-income people close to job centers downtown, supporting workers at a variety of incomes in Charlottesville
Goal 5 - Provide Parking To Adequately Meet Demand And Support Economic Vitality Without Sacrificing Aesthetics, While Minimizing Environmental Impacts And Accommodating Pedestrians, Bicycles, Transit Users And Disabled Individuals.	The proposal will meet parking targets which are consistent with actual usage rates at PHA’s other properties. Parking’s impact to the urban fabric has been minimized by relegating the provided parking and promoting other modes of mobility along main circulation routes.
Goal 7 - Continue To Work With Appropriate Governing Bodies To Create A Robust Regional Transportation Network.*	The project proposes a connection to a broad network of trails and transportation infrastructure. The project’s residents will have access to the Charlottesville Area Transportation System’s Route 11, which has a transit stop one block north on North Avenue and two blocks north on Park Street.
Goal 8 - Develop A Sustainable Transportation Infrastructure By Designing, Constructing, Installing, Using And Maintaining The City’s Transportation Assets And Equipment In Efficient, Innovative And Environmentally Responsible Ways.	The proposal aims to support walking and biking through its connection to walking trails and bike paths, as well as through its connections to the existing neighborhood.

## Comprehensive Plan Goal 7 – Historic Preservation and Urban Design

<p>Vision: Urban design and historic preservation contribute to the character and quality of neighborhoods, and to the aesthetic value of the entire community. As a result, the City of Charlottesville will be a well-designed community with neighborhoods, buildings, and public spaces, including the Downtown Mall, that are human scaled, sustainable, healthy, equitable and beautiful.</p> <p>Charlottesville will also seek to preserve its historic resources through education and collaboration to maintain the character of our neighborhoods’ core historic fabric, our major routes of tourism and our public spaces.</p>	<p>The proposal preserves the existing historic landscapes on site through sensitive site planning. The project creates an environment which is contextually consistent with the historic neighborhood of Locust Grove, while adapting the model to allow for greater access by low-income individuals and a wider range of housing choices.</p>
Goal 1 - Continue Charlottesville’s History Of Architectural And Design Excellence By Maintaining Existing Traditional Design Features While Encouraging Creative, Context-Sensitive, Contemporary Planning And Design.	The project draws from the urban fabric of adjacent residential neighborhoods for creation of street edges and sense of enclosure while placing multi-family buildings at more distant edges of buildable area to buffer noise from large volume highways beyond.
Goal 2 - Educate Property Owners And Potential Property Owners Of Historic Resources About The Significance Of Their Properties.*	By preserving the existing landscape on site, the project provides the possibility for direct experience and education around the historic resources within the neighborhood.
Goal 5 - Protect And Enhance The Existing Character, Stability, And Scale Of The City’s Older Neighborhoods.*	The proposal extends the existing neighborhood’s character and urban fabric and provides additional density while remaining sensitive to the scale of the surrounding context.
Goal 6 - Provide Effective Protection To The City Of Charlottesville’s Historic Resources.*	The project proposes to conserve as much of the historic landscape as possible, ensuring that its integrity is not disturbed.
Goal 7 - Coordinate The Actions Of Government, The Private Sector, And Nonprofit Organizations To Achieve Preservation And Urban Design Goals.	The project team will pursue opportunities to partner with other organizations and city agencies around the historic landscapes on site.



# Alignment with the Planned Unit Development District Objectives

The project on the MACAA site fulfills the primary objectives of the Planned Unit Development District designation by proposing a form of development which is more contextual, appropriate, and compact than would otherwise be possible under current zoning.

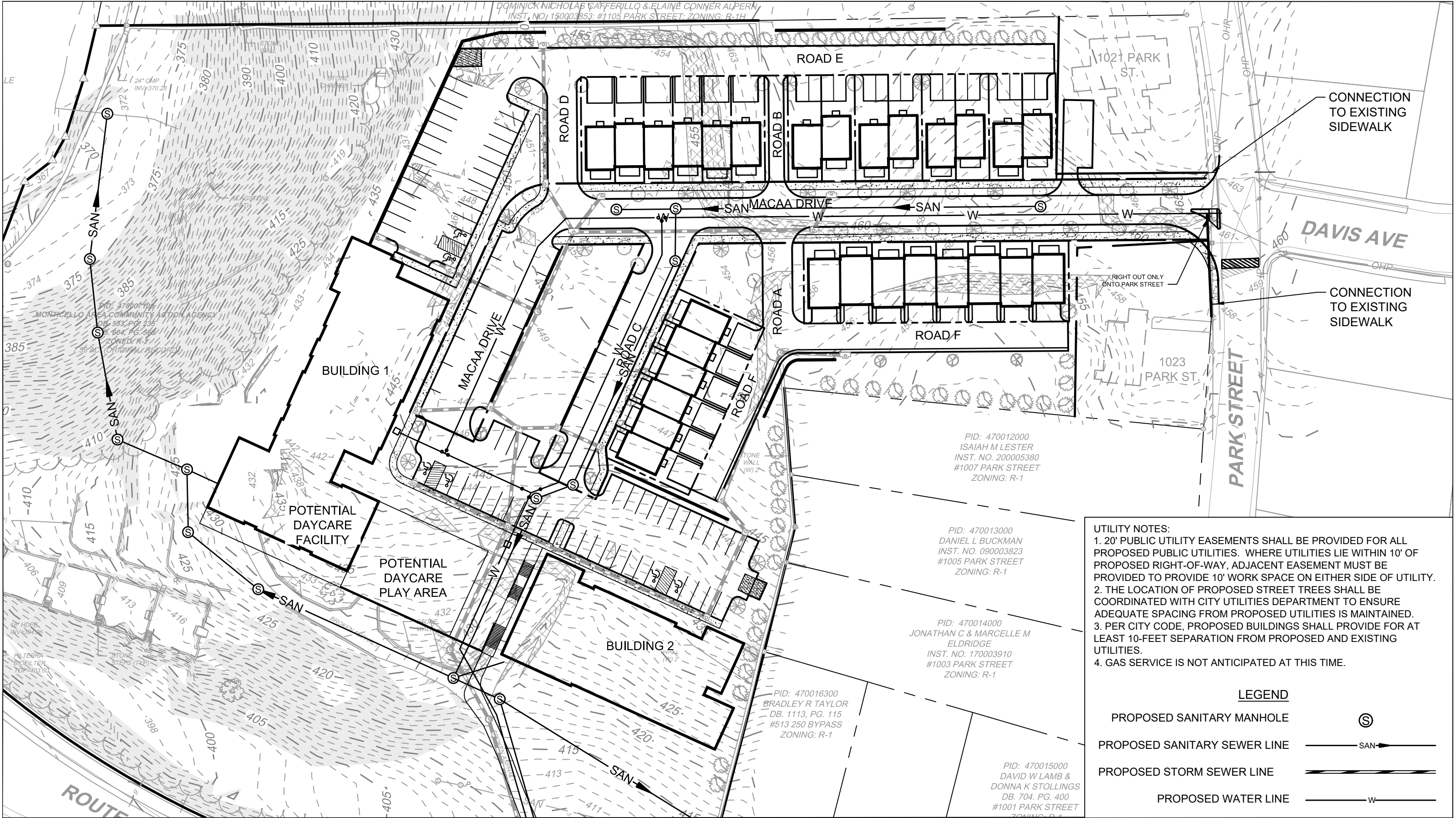
## Planned Unit Development District Primary Objectives Sec. 34-490

(1) To encourage developments of equal or higher quality than otherwise required by the strict application of zoning district regulations that would otherwise govern;	The property is currently zoned R-1. By rezoning to PUD, the project can achieve greater density, which affords the opportunity to provide much-needed affordable housing in a form and scale which are appropriate to the site and clusters the new houses to preserve open space and wooded areas, while also creating community green space. Further, the use of PUD zoning permits early childhood education as a by-right use.
(2) To encourage innovative arrangements of buildings and open spaces to provide efficient, attractive, flexible, and environmentally sensitive design	The PUD proposal makes use of townhouse, duplex, and apartment building types which would not be allowed under current zoning. This permits a greater quantity of open space and the preservation of the existing historic landscape.
(3) To promote a variety of housing types, or, within a development containing only a single housing type, to promote the inclusion of houses of various sizes;	The proposed development contains a range of housing types from multifamily apartment buildings to townhouse and duplex units. Within these types, units range from 1-3 bedrooms meeting the needs of many family sizes. These homes range from affordable rental, affordable home ownership, and market rate home ownership.
(4) To encourage the clustering of single-family dwellings for more efficient use of land and preservation of open space;	The proposal only includes two existing single-family dwellings.
(5) To provide for developments designed to function as cohesive, unified projects;	The proposed development was planned cohesively to mediate scales between the surrounding context and the interior of the site, provide consistent street frontage along main paths of circulation, preserve historic landscapes, and to maximize the quality of linked spaces. Open spaces will be shared by all residents of the PUD through reciprocal easement agreements.
(6) To ensure that a development will be harmonious with the existing uses and character of adjacent property, and/or consistent with patterns of development noted with respect to such adjacent property;	The development draws from the neighborhood character of Locust Grove, creating primary neighborhood streets with relegated parking, with scales which are compatible with single family dwellings.
(7) To ensure preservation of cultural features, scenic assets and natural features such as trees, streams and topography;	The development uses existing MACAA building footprints and parking areas to minimize disturbance to the site and the tree canopy and preserves the historic landscape.
(8) To provide for coordination of architectural styles internally within the development as well as in relation to adjacent properties along the perimeter of the development;	The proposal plans to coordinate styles so that the project is compatible with adjacent properties and is internally consistent.

(9) To provide for coordinated linkages among internal buildings and uses, and external connections, at a scale appropriate to the development and adjacent neighborhoods;	The proposal realigns the existing MACAA Drive to improve connections along Park Street, provides pedestrian access throughout the site, and allows for connections to the trail network and McIntire Park.
(10) To facilitate access to the development by public transit services or other single-vehicle-alternative services, including, without limitation, public pedestrian systems.	The project relegates parking to make streets and sidewalks the primary circulation method throughout the site. The proposal will make safe, walkable, bikeable streets a central feature of the project, and will improve pedestrian and bike access to the historic resources on site as well as to the larger bike and trail networks beyond

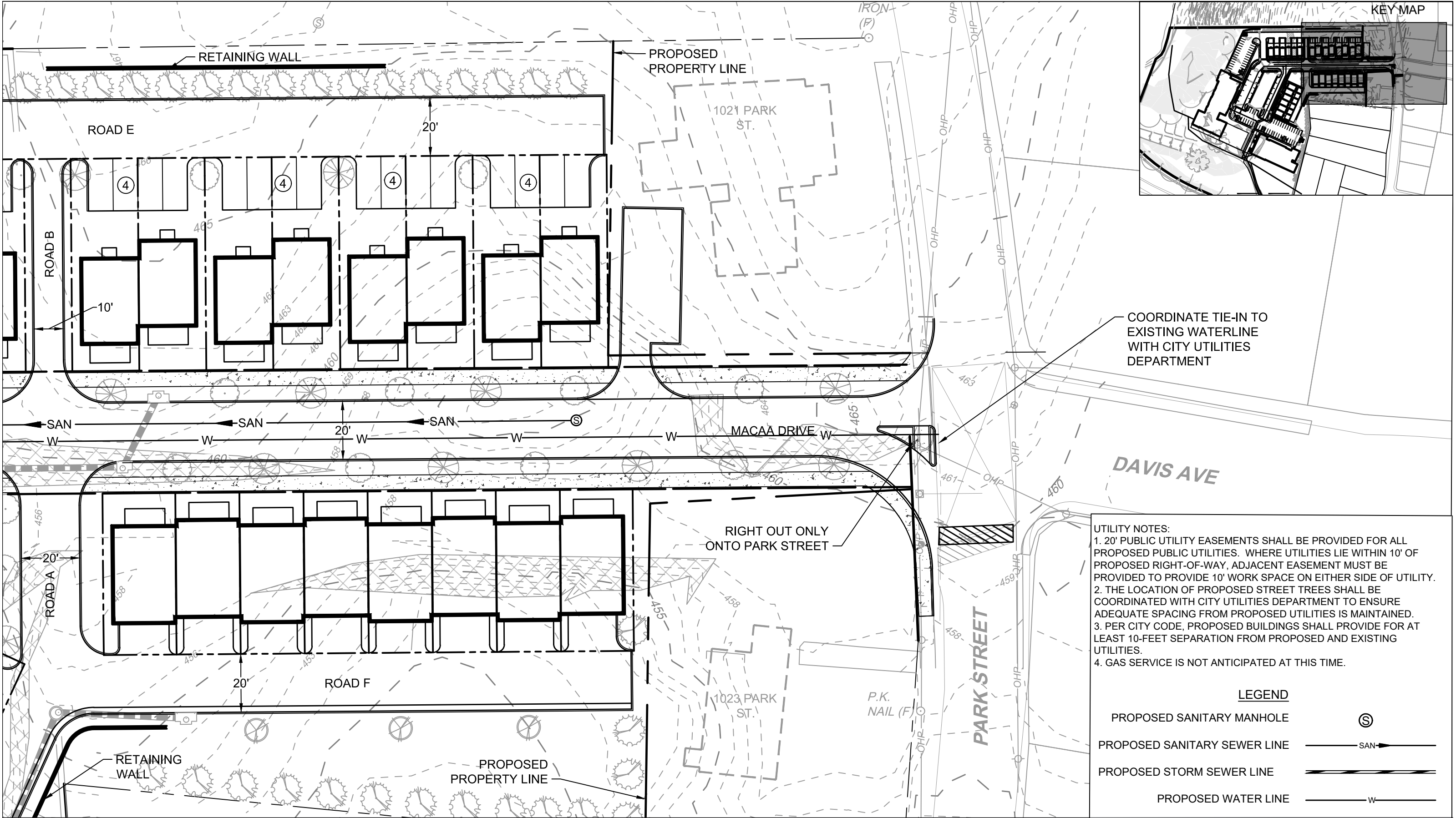






# CONCEPTUAL DEVELOPMENT PLAN - OVERVIEW

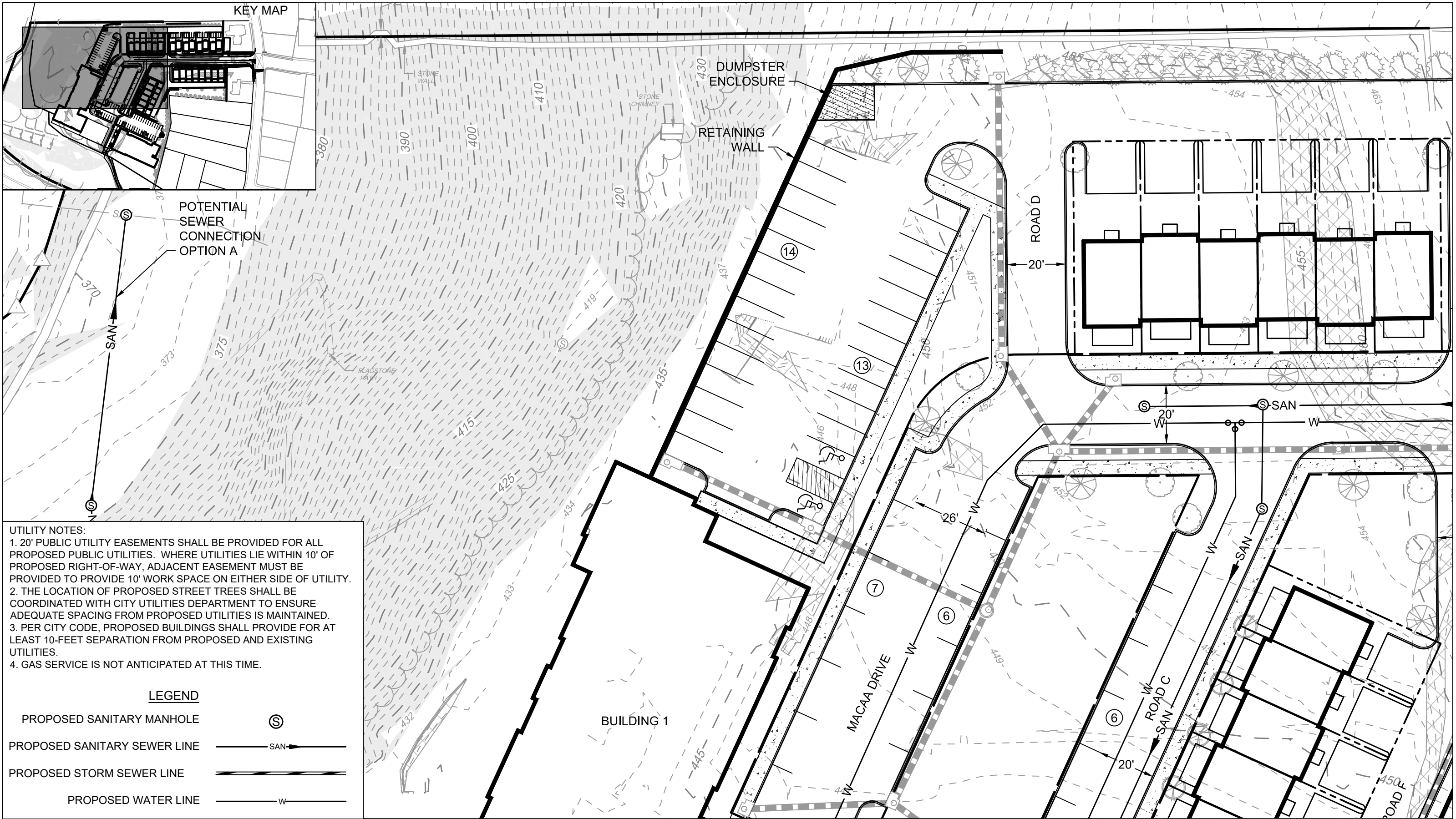




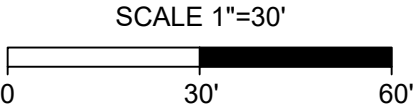
CONCEPTUAL DEVELOPMENT PLAN







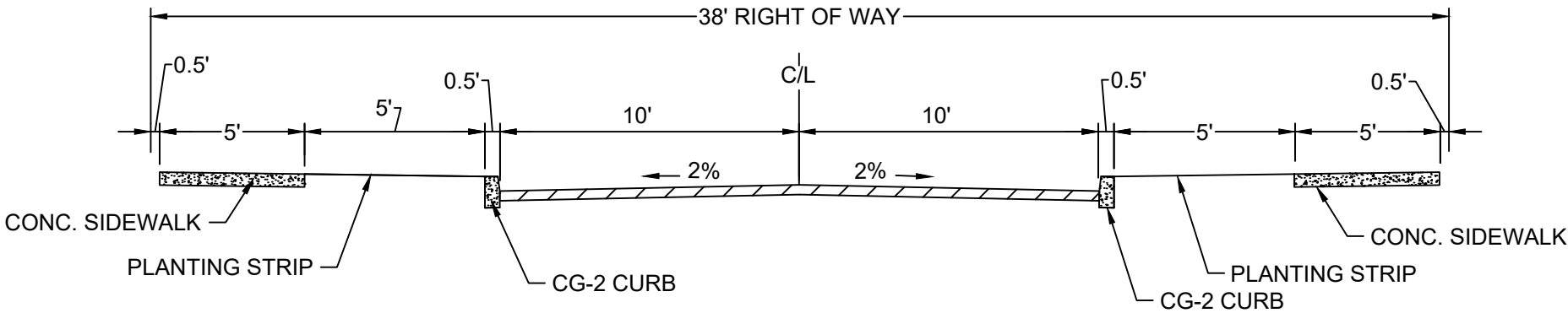
# CONCEPTUAL DEVELOPMENT PLAN





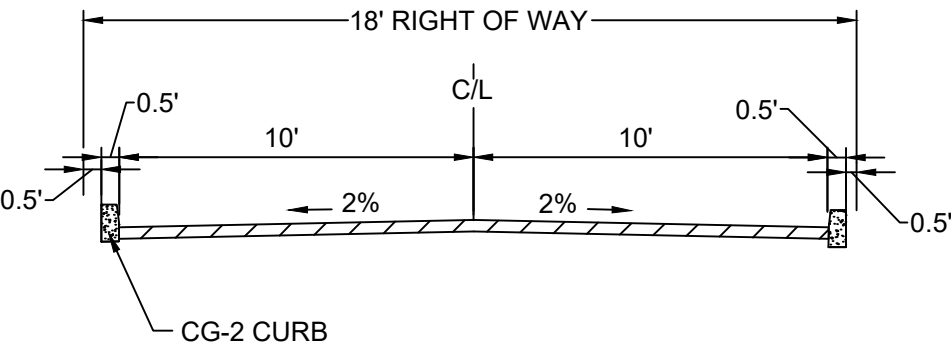


MACAA DRIVE:  
LOCAL STREET - PUBLIC RIGHT-OF-WAY

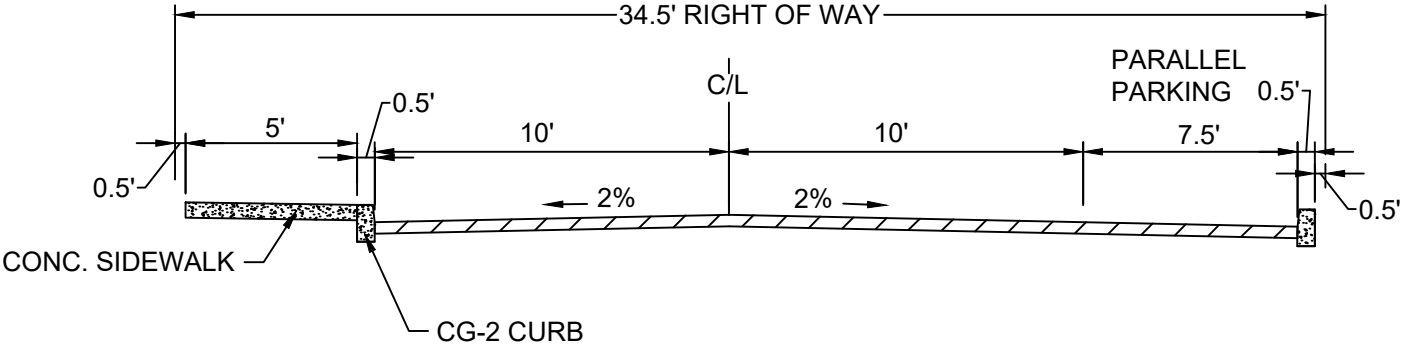


- NOTES:
- 1. ROAD SECTIONS SHOWN ARE CONCEPTUAL AND FINAL DETAILS SUCH AS SLOPES, PLANTING STRIP WIDTHS, AND TOTAL ROW WIDTH ARE SUBJECT TO CHANGE DURING FINAL SITE PLAN DESIGN.
  - 2. MACCA DRIVE AND ROAD C ARE INTENDED TO BE PUBLIC ROADS DESIGNED IN ACCORDANCE WITH THE LOCAL STREET GUIDELINES IN THE CHARLOTTESVILLE CITY CODE, CHARLOTTESVILLE STANDARDS & DESIGNS MANUAL, AND THE CHARLOTTESVILLE STREETS THAT WORK DESIGN GUIDELINES.
  - 3. THE PRIVATE ALLEYS ARE TO PROVIDE SECONDARY ACCESS TO THE REAR PRIVATE PARKING SPACES OF THE INDIVIDUAL LOTS.

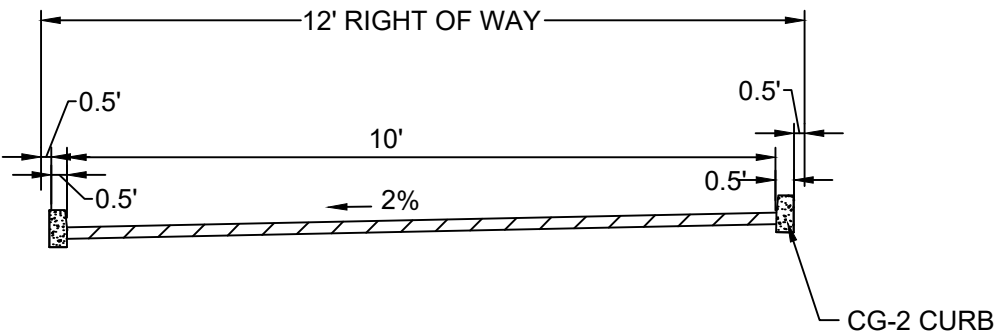
ROAD A:  
PRIVATE ALLEY - PRIVATE RIGHT-OF-WAY



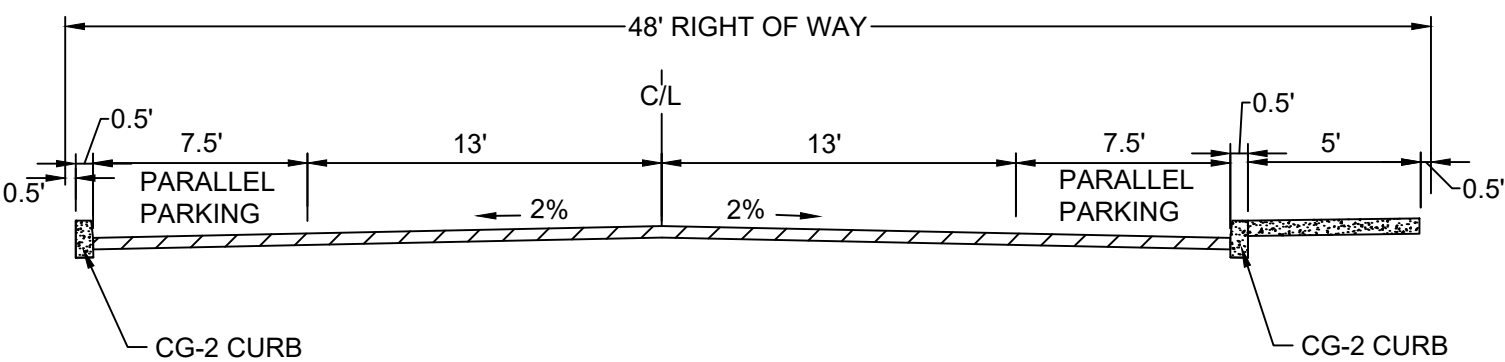
ROAD C:  
LOCAL STREET - PUBLIC RIGHT-OF-WAY



ROAD B: PRIVATE ONE-WAY ALLEY -  
PRIVATE RIGHT-OF-WAY

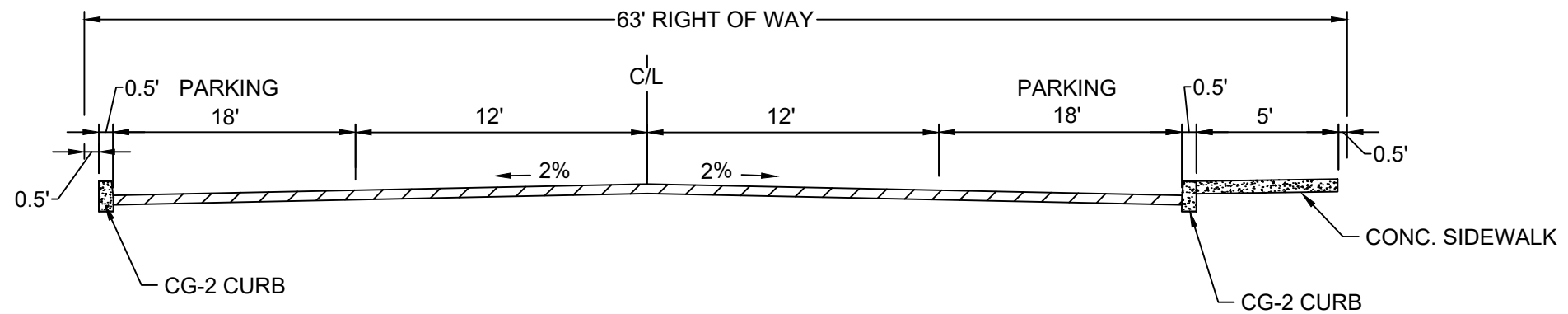


MACAA DRIVE (ADJACENT BUILDING 1):  
LOCAL STREET - PUBLIC RIGHT-OF-WAY

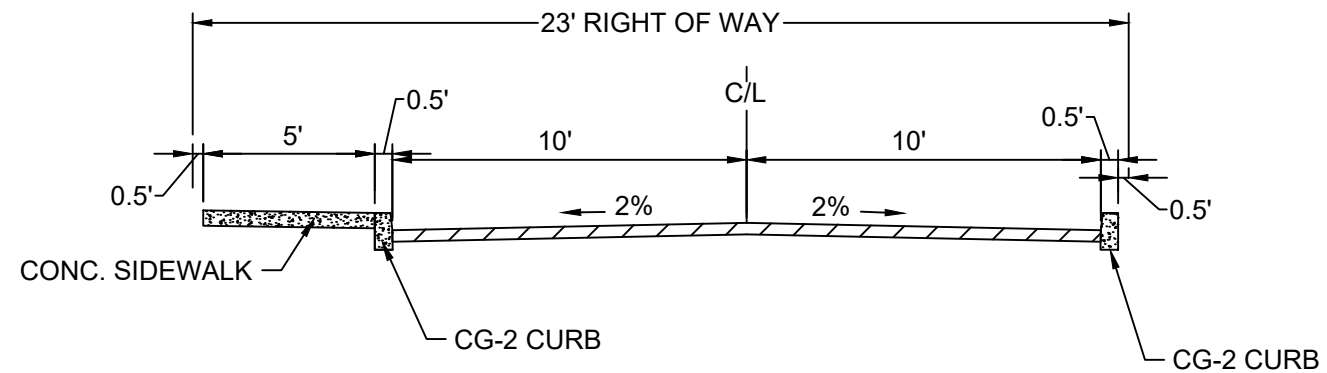


ROAD SECTIONS

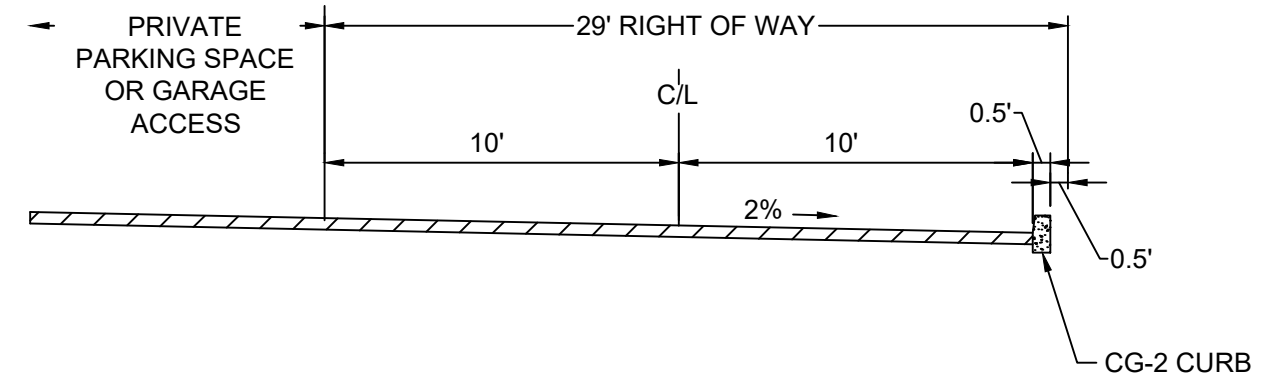
## BUILDING 1 & 2 PARKING LOT LOCAL STREET - PRIVATE



## ROAD D: PRIVATE ALLEY - PRIVATE RIGHT-OF-WAY



## ROAD E & F: PRIVATE ALLEY - PRIVATE RIGHT-OF-WAY



## ROAD SECTIONS

PAGE (3)f

MACAA PUD - September 3, 2021  
Revised - November 15, 2021





Resource Identification	Confirmation				Stream (sq ft)	Stream (ft)	Resource Description Notes*
	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	POW (sq ft)			
A					1,947	162	NT/NV
B	912						
Total	912	0	0	0	1,947	162	
Total Stream Length and Area =					1,947 sq ft	0.04 ac	162 lf
Total Wetland Area =					912 sq ft	0.02 ac	

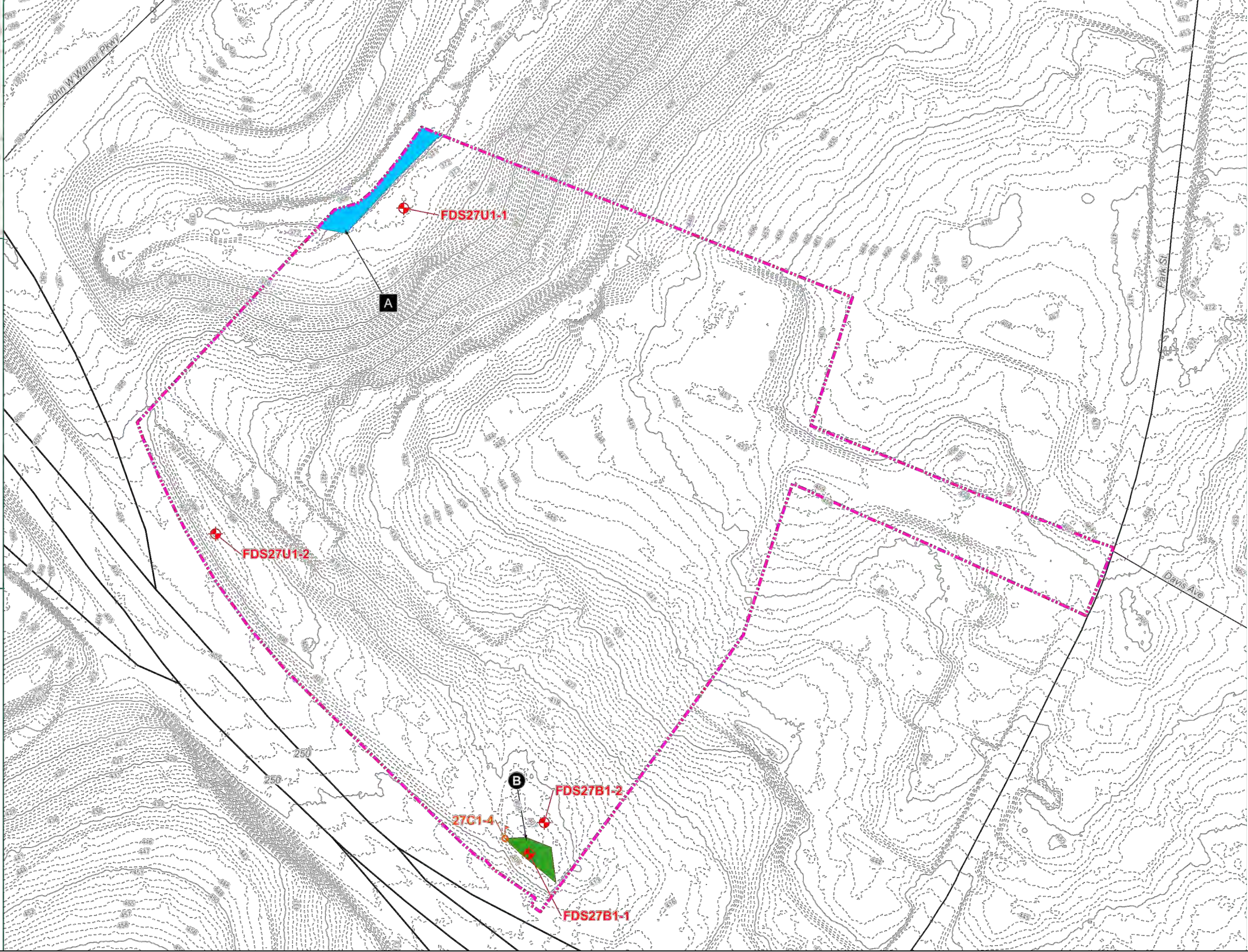
\* T=Tidal; NT=Non-Tidal; V=Vegetated; NV=Non-Vegetated; PFO=Palustrine Forested Wetland; PSS=Palustrine Scrub-Shrub Wetland; PEM=Palustrine Emergent Wetland; POW=Palustrine Open Water

**Legend**

- Project Study Limits- 7.66 Acres
- Stream Identifier
- Wetland Identifier
- Wetland Flag
- Field Data Station
- Culvert
- Stream
- Palustrine Forested (PFO) Wetland

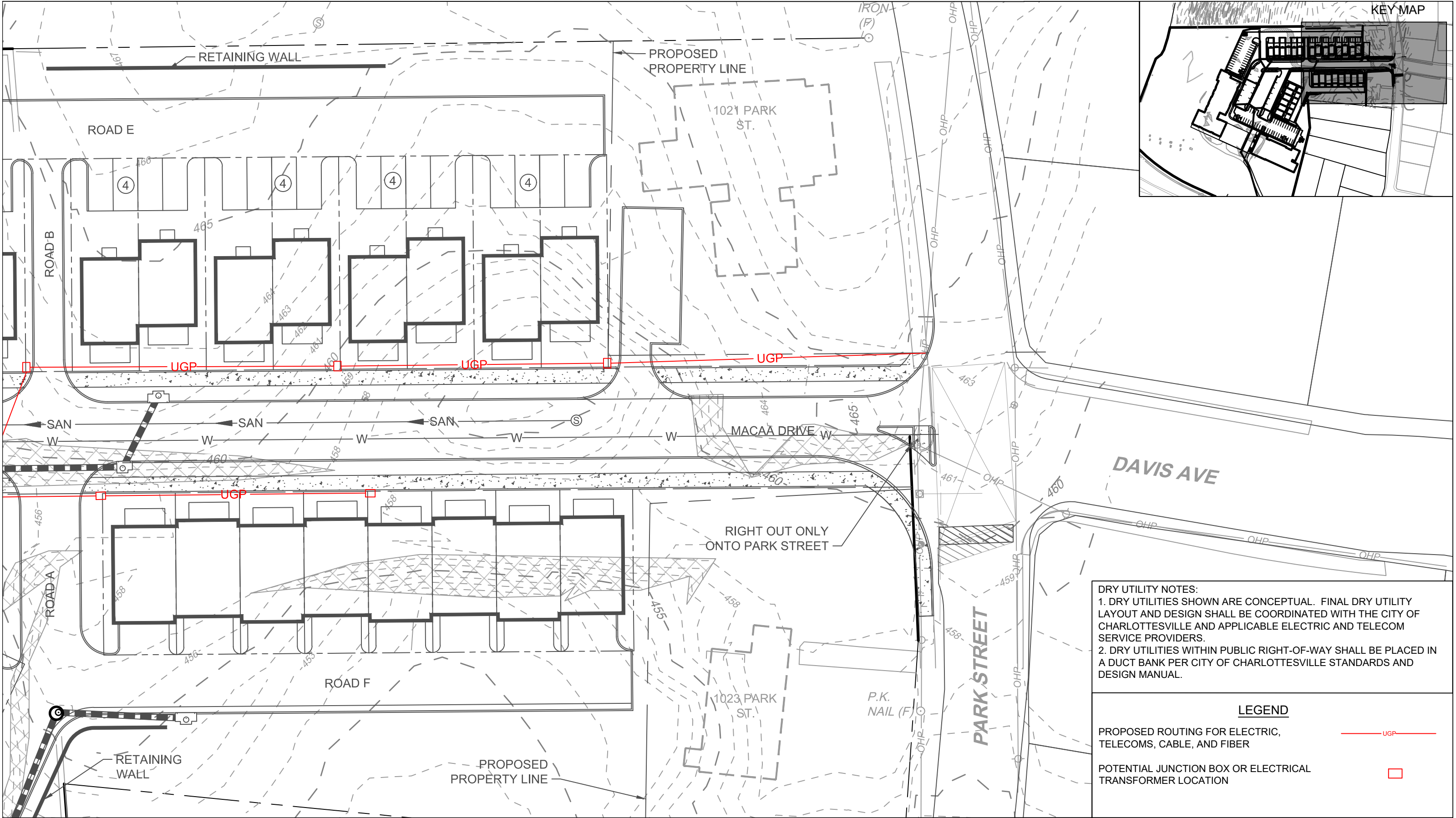
**Topographic Contours**

- Major - 10ft
- Minor - 1ft

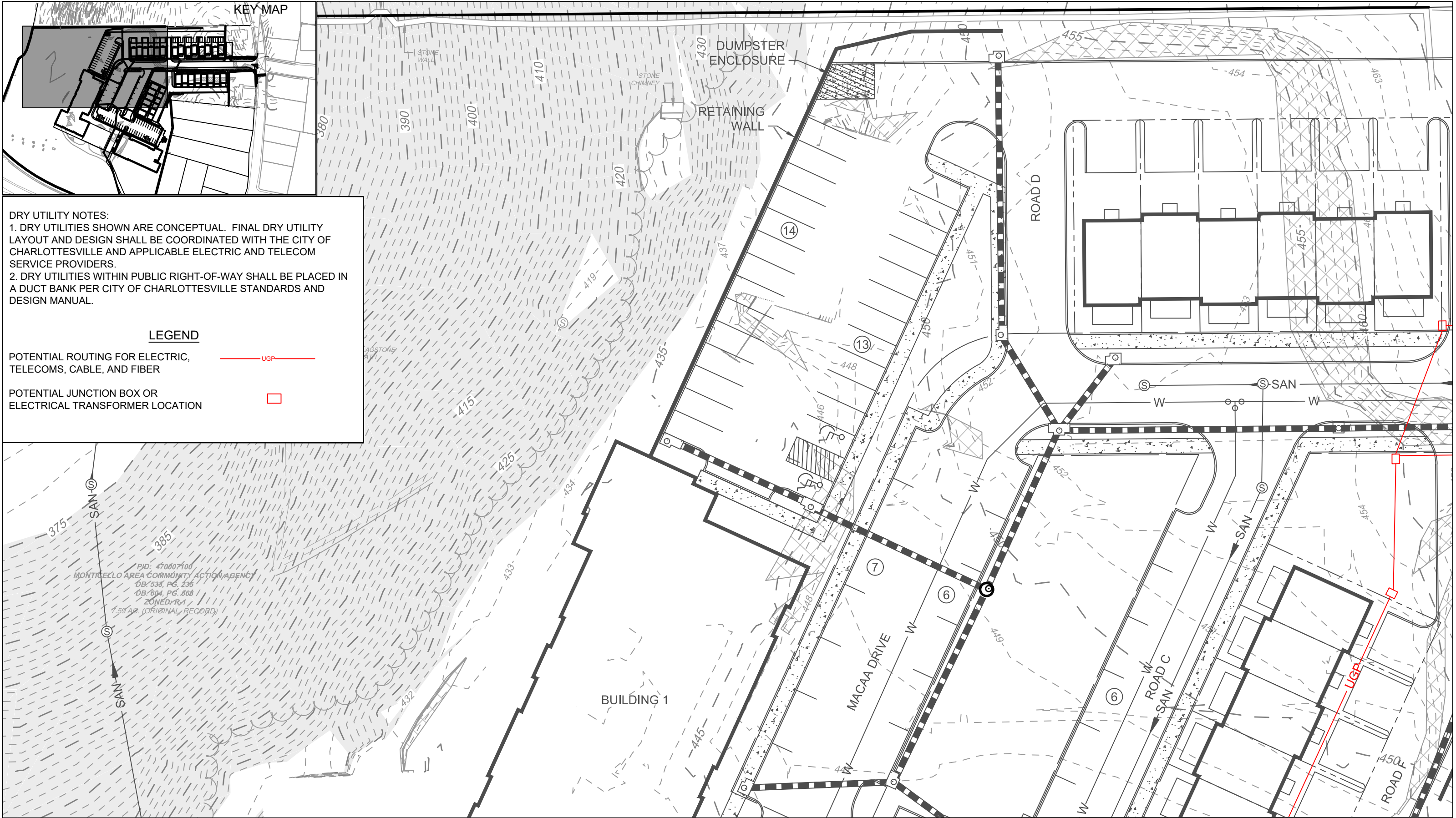


# ENVIRONMENTAL FEATURES

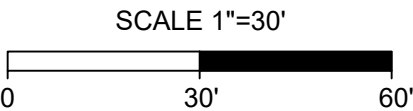




# CONCEPTUAL DRY UTILITY PLAN 1



# CONCEPTUAL DRY UTILITY PLAN 2











**PROPOSED LAND USE PLAN**

Current Zoning: R-1  
Proposed Zoning: PUD

**Setbacks Interior to Site**  
Front: 0'  
Side: 0'  
Rear: 0'

**Setbacks at PUD Boundary**  
Setback from parcels adjacent to PUD: 10'  
Setback along Park Street: 20'

**Maximum Height**  
Townhomes: 35'  
Duplexes: 35'  
Apartments: 45'  
35' max height within 75' of R1 per Sec. 34-501(2)

**Land Use Summary**  
Total Site Area: 9.32 acres (100.0%) +/-  
Open Space Area (approx.): 4.88 acres (52.3%) +/-  
(15% open space requirement)

**Nonresidential Uses:**  
Daycare Facility up to 7,500 sf

**Residential Density**  
10.3 dwelling units/acre (DUA)





# Proposed Use Matrix

The project proposes the following changes to the permitted uses under current zoning. Areas where zoning has changed are highlighted in orange.

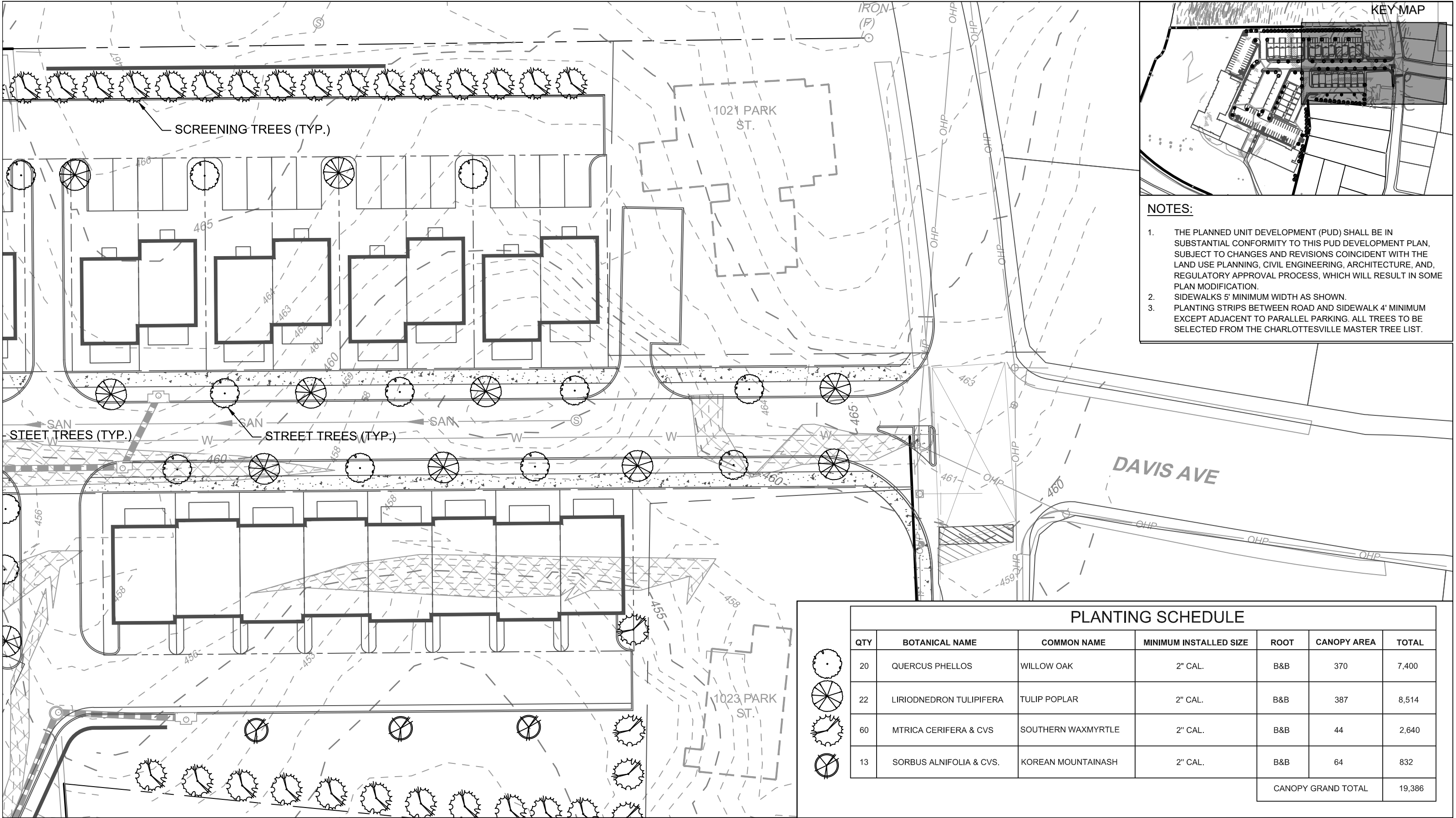
“A” indicates ancillary uses, “B” indicates uses which are permitted by-right, “P” indicates uses which require a provisional use permit, “S” indicates uses which require a special use permit, and “T” indicates uses which require a temporary use permit. Uses not identified are not permitted within the zoning district.

## Planned Unit Development District Proposed Uses

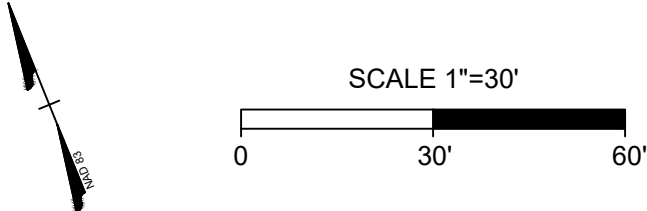
Use Types		
	PUD (proposed)	Existing Zoning - R-1 (for reference)
<b>RESIDENTIAL AND RELATED USES</b>		
Accessory apartment, internal	P	P
Accessory apartment, external	P	P
Accessory buildings, structures and uses (residential)	B	B
Homestay	B	B
Dwellings:		
Multifamily	B	
Single-family attached	B	
Single-family detached	B	B
Townhouse	B	
Two-family	B	
Home occupation	P	P
3 unrelated persons	B	B
4 unrelated persons	B	B
Residential Density (developments)		
Maximum of 21 DUA	B	
Temporary family health care structure	T	T
<b>NON-RESIDENTIAL: GENERAL AND MISC. COMMERCIAL</b>		
Temporary (outdoor church services, etc.)	T	T
Attached facilities utilizing utility poles as the attachment structure	B	B
Attached facilities not visible from any adjacent street or property	B	B
Daycare facility <7,500 ft	B	S
Libraries	B	B
Parking:		
Parking garage	A	
Surface parking lot (19 or less spaces)	A	
Surface parking lot (more than 20 spaces)	A	
Temporary parking facilities	A	

Use Types		
	PUD (proposed)	Existing Zoning - R-1 (for reference)
Indoor: health/sports clubs; tennis club; swimming club; yoga studios; dance studios, skating rinks, recreation centers, etc. (on private property)		
GFA 4,000 SF or less	B	
Outdoor: Parks, playgrounds, ball fields and ball courts, swimming pools, picnic shelters, etc. (city-owned), and related concession stands	B	B
Outdoor: Parks, playgrounds, ball fields and ball courts, swimming pools, picnic shelters, etc. (private)	B	S
Utility facilities	S	S
Utility lines	B	B
<b>NON-RESIDENTIAL USES: RETAIL</b>		
Temporary sales, outdoor (flea markets, craft fairs, promotional sales, etc.)	A	

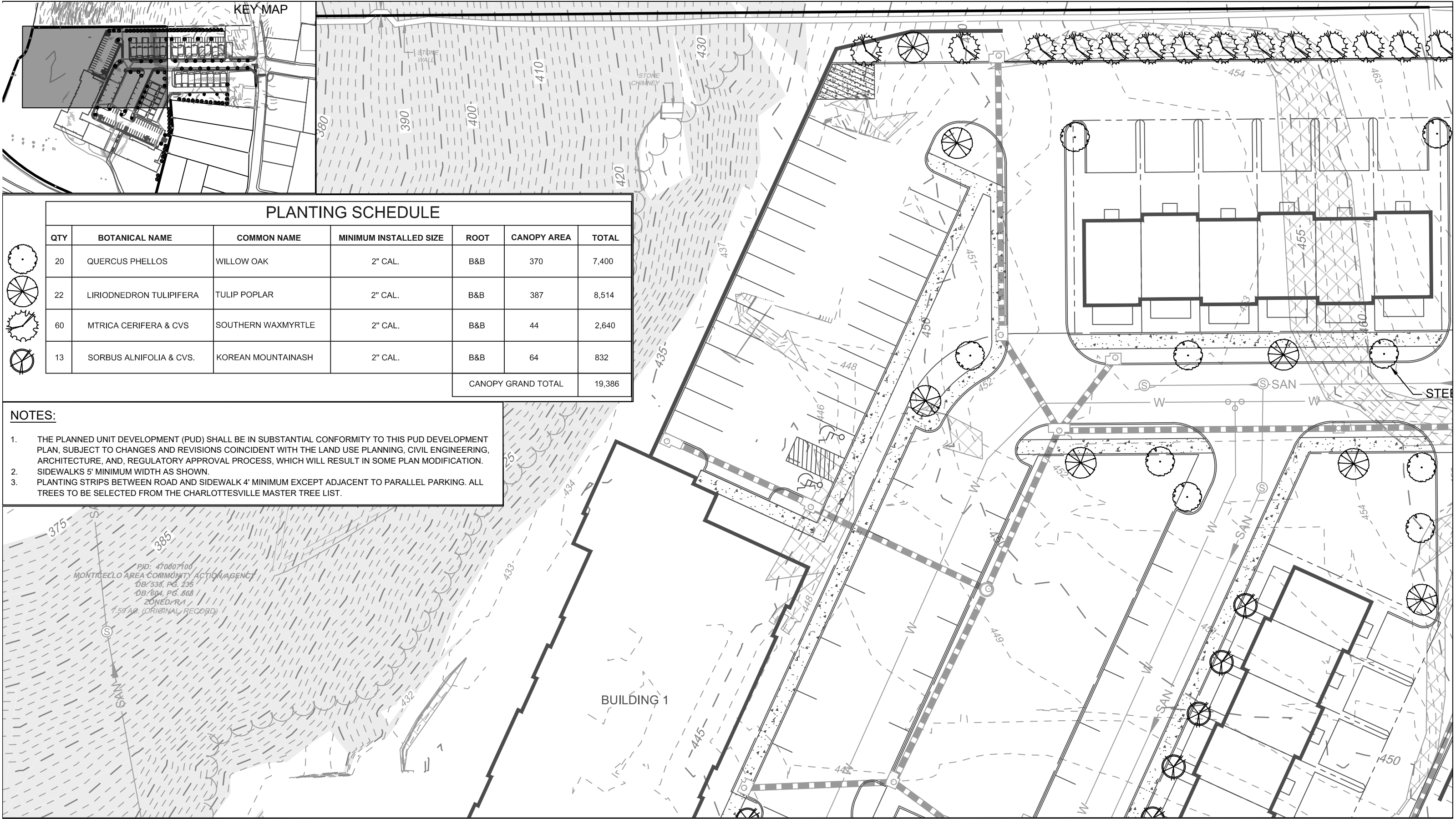




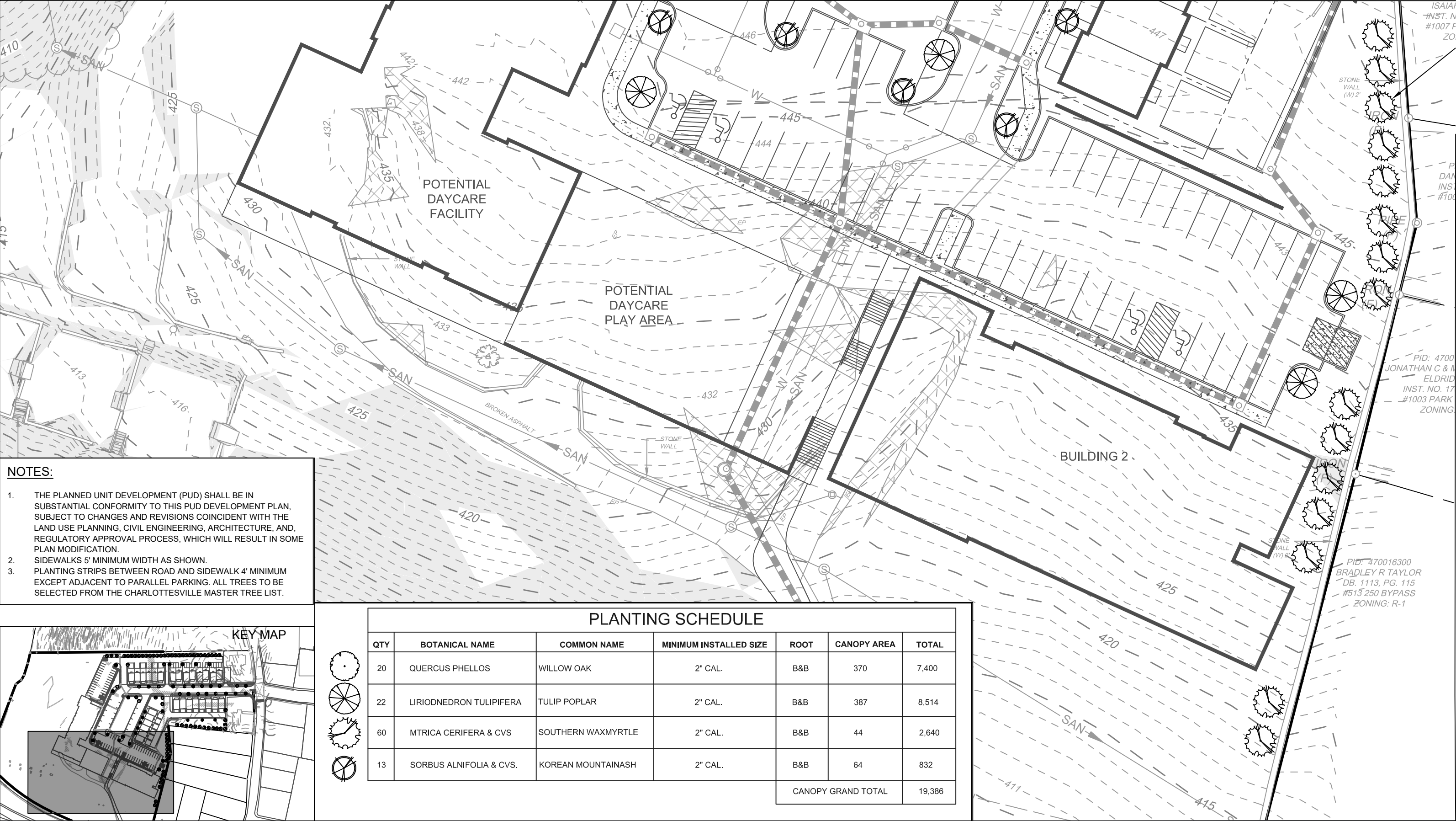
LANDSCAPE PLAN 1



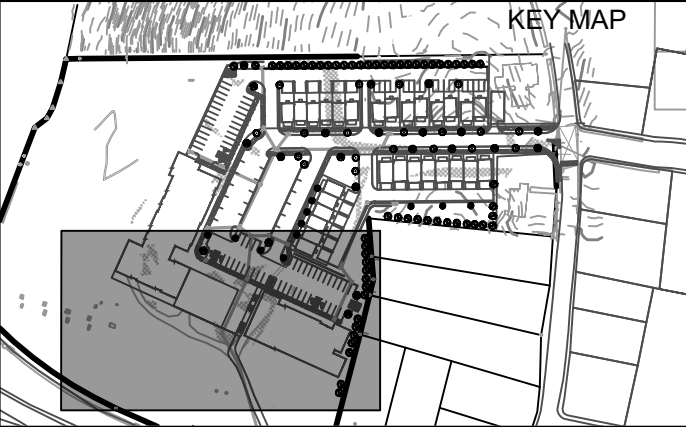






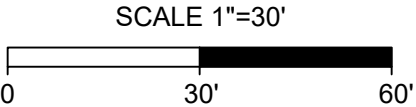


- NOTES:**
1. THE PLANNED UNIT DEVELOPMENT (PUD) SHALL BE IN SUBSTANTIAL CONFORMITY TO THIS PUD DEVELOPMENT PLAN, SUBJECT TO CHANGES AND REVISIONS COINCIDENT WITH THE LAND USE PLANNING, CIVIL ENGINEERING, ARCHITECTURE, AND, REGULATORY APPROVAL PROCESS, WHICH WILL RESULT IN SOME PLAN MODIFICATION.
  2. SIDEWALKS 5' MINIMUM WIDTH AS SHOWN.
  3. PLANTING STRIPS BETWEEN ROAD AND SIDEWALK 4' MINIMUM EXCEPT ADJACENT TO PARALLEL PARKING. ALL TREES TO BE SELECTED FROM THE CHARLOTTESVILLE MASTER TREE LIST.



PLANTING SCHEDULE						
QTY	BOTANICAL NAME	COMMON NAME	MINIMUM INSTALLED SIZE	ROOT	CANOPY AREA	TOTAL
20	QUERCUS PHELLOS	WILLOW OAK	2" CAL.	B&B	370	7,400
22	LIRIODNEDRON TULIPIFERA	TULIP POPLAR	2" CAL.	B&B	387	8,514
60	MTRICA CERIFERA & CVS	SOUTHERN WAXMYRTLE	2" CAL.	B&B	44	2,640
13	SORBUS ALNIFOLIA & CVS.	KOREAN MOUNTAINASH	2" CAL.	B&B	64	832
CANOPY GRAND TOTAL						19,386

# LANDSCAPE PLAN 3



BEFORE THE CITY COUNCIL OF THE CITY OF CHARLOTTESVILLE, VIRGINIA  
IN RE: PETITION FOR REZONING (City Application No. ZM-21-xxxxxx)  
STATEMENT OF PROFFER CONDITIONS  
TAX MAP PARCELS (TMP) 470007100, 470008000, 470011000

ZMA Number and Name: 2021-00 \_\_\_\_ PHA-MACAA PUD REDEVELOPMENT  
Subject Property: TMP 470007100 (1025 Park Street)  
TMP 470008000 (1021 Park Street)  
TMP 470011000 (1023 Park Street)  
Owners: Monticello Area Community Action Agency (MACAA)  
and  
1023 Park Street, LLC  
Applicant: Piedmont Housing Alliance (PHA)  
Date of Proffer Signature: \_\_\_\_\_, 2021  
ZMA Request: 9.32 acres to be rezoned from R-1 Residential to Planned  
Unit Development

TO THE HONORABLE MAYOR AND MEMBERS OF THE COUNCIL OF THE CITY OF  
CHARLOTTESVILLE:

The undersigned Virginia nonstock corporation and Virginia limited liability company are the  
owners of land subject to the above-referenced rezoning petition (the “Subject Property”). The  
owners, represented by the rezoning applicant, Piedmont Housing Alliance (the “Applicant”),  
seeks to amend the current zoning of the Subject Property to Planned Unit Development (PUD),  
subject to certain voluntary development conditions set forth below.

The Owner hereby proffers and agrees that, if the Subject Property is rezoned as requested, Subject  
Property will be developed in general accordance with, and the Owner will abide by, the approved  
MACAA Redevelopment Planned Unit Development Submission PROPOSED LAND USE PLAN,  
dated September 3, 2021, last revised \_\_\_\_\_, prepared by BRW Architects (the “Application  
Plan”), and that the Subject Property shall also be subject to, and the Owner will abide by, the  
following conditions:

1. AFFORDABLE HOUSING:

- (a) A minimum of eighty percent (80%) of the residential units built on the Subject  
Property will be affordable dwelling units (ADUs), as defined below.
- (b) Affordability for rental dwelling units shall be defined as dwelling units that are  
affordable to households with incomes at not more than eighty percent (80%) of the  
Area Medium Income and that are committed to remain affordable for not less than  
thirty (30) years from the date of the issuance of the last certificate of occupancy for  
multi-family buildings on the Subject Property. The affordability covenants of this  
subparagraph (b) shall be recorded in the City land records as deed restrictions in form  
and substance consistent with the requirements of Virginia Housing as to each affected  
lot or parcel.
- (c) Each for-sale ADU shall be affordable over a term of not less than thirty (30) years  
from the date of the recordation of the deed transferring the ADU to the first  
homeowner. Affordability shall be ensured by means of deed restrictions, which shall  
provide the seller a right of first refusal to repurchase each ADU and which shall  
provide that, if the right of first refusal is not exercised by the seller, then any sale of  
the ADU to a purchaser with household income greater than 60% of the Charlottesville  
Area Median Income (“AMI”) shall require profit-sharing and reinvestment of net  
proceeds from sale of the unit into at least one new ADU in the City. For purposes of  
this proffer 1(c), “affordability” means dwelling units that are affordable to households  
with incomes of not more than sixty percent (60%) of the Charlottesville AMI; the  
administration of the for-sale ADUs shall in other respects be governed by the  
provisions of City Code §34-12 (c) and §34-12(g).

2. TRANSPORTATION IMPROVEMENTS: Prior to the approval of a certificate of  
occupancy for the first unit, the Applicant shall construct road improvements at the intersection  
of Park Street and Davis Avenue as shown on the plan entitled, MACAA PUD  
DEVELOPMENT PLAN, dated September 3, 2021, last revised \_\_\_\_\_, prepared  
by Timmons Group, specifically:

- (i) Relocation of the entrance into the Subject Property to align with Davis Avenue east  
of Park Street;  
(ii) Removal of fencing and vegetation, and maintenance of vegetation, to improve sight  
distance for vehicles exiting the Subject Property to turn onto Park Street;  
(iii) Elimination of the driveway directly accessing Park Street on Parcel 47000800 (1021  
Park Street);  
(iv) Installation of a right out only direction curb island at the exit from the Subject Property  
onto Park Street to prevent left turns out of the driveway onto Park Street; and

- (v) Relocation of the existing pedestrian crosswalk across Park Street in accordance with  
the new entrance alignment, connecting the southern end of the driveway into the  
Subject Property with the southern end of Davis Avenue; the new pedestrian crosswalk  
shall consist of high-visibility pavement markings, ADA curb ramps, and advanced  
signage.

3. PEDESTRIAN/BICYCLE ACCESS EASEMENT: At the request of the City, and which  
may be a condition to the issuance of the first certificate of occupancy, the Owners shall  
dedicate to the City at no cost a permanent public easement for pedestrian and bicycle access  
in the general locations shown on the Application Plan, as will be determined with specificity  
during the site planning process and shown on the final approved site plan for the Subject  
Property and on the subdivision plat or separate easement plat, providing pedestrian and  
bicycle access from the public right-of-way / sidewalk system within the development through  
the Subject Property to the U.S. Route 29/250 Bypass multi-modal trail.

(Signature Page Immediately Follows)



**WHEREFORE**, the undersigned Owners stipulate and agree that the use and development of the Subject Property shall be in conformity with the conditions hereinabove stated and request that the Subject Property be rezoned as requested, in conformance with the Zoning Ordinance of the City of Charlottesville.

Respectfully submitted this \_\_\_\_ day of \_\_\_\_\_, 202\_\_.

**OWNERS:**

**MONTICELLO AREA COMMUNITY ACTION AGENCY,**  
a Virginia nonstock corporation

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**1023 PARK STREET, LLC,**  
a Virginia limited liability company

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: Manager

PHA - MACAA Rezoning Proffers PC Submission 11-15-2021 Clean(46483229.1)

PROFFERS



# MACAA PUD SUPPLEMENTAL INFORMATION IN ADDITION TO PUD DEVELOPMENT PLAN

## 1021, 1023, AND 1025 PARK STREET CITY OF CHARLOTTESVILLE, VIRGINIA

**SITE DATA:**

**TAX MAP PARCELS:**  
470007100, 470008000, 470011000

**TOTAL PARCEL AREA:**  
9.005 ACRES

**ZONING:**  
R1

**OWNER:**  
MONTICELLO, AREA COMMUNITY ACTION A

**DEVELOPER:**  
PIEDMONT HOUSING ALLIANCE

**DESIGN:**  
TIMMONS GROUP

**SOURCE OF BOUNDARY SURVEY:**  
PLAT OF RECORD

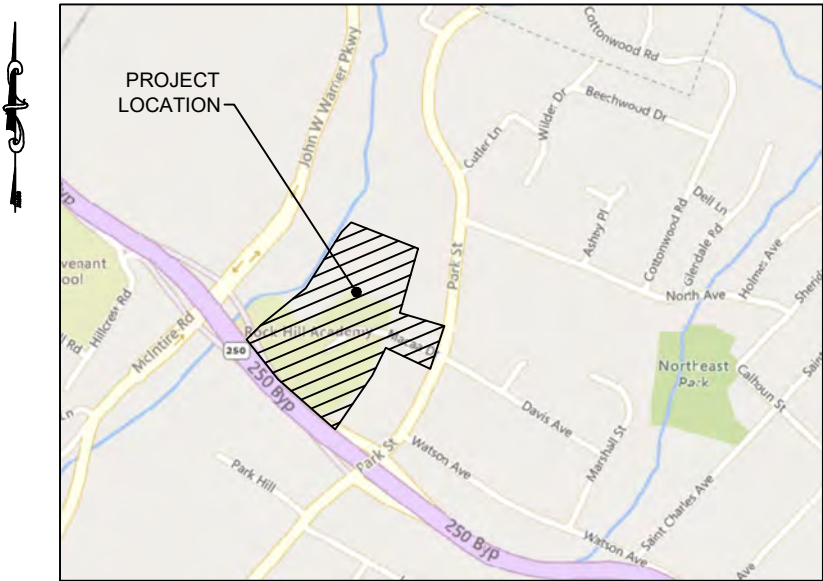
**SOURCE OF TOPOGRAPHY:**  
EXISTING TOPOGRAPHY PROVIDED BY TIMMONS GROUP JUNE, 2021

**CURRENT USE:**  
RESIDENTIAL HOUSING, MACAA OFFICES, DAYCARE AND OTHER USES

**PROPOSED USE:**  
PUD

**LIGHTING:**  
LIGHTING FIXTURES SHALL NOT EXCEED 3000 LUMENS.

**TRAFFIC STUDY:**  
ITE USE CODE 220; LOW RISE MULTIFAMILY  
ITE USE CODE 565; CHILDCARE  
94 UNITS AND 4703 SQ. FT.  
AM PEAK HOUR - 97 (38 ENTER, 59 EXIT)  
PM PEAK HOUR - 108 (59 ENTER, 49 EXIT)  
AVERAGE DAILY TRIPS - 894 ADT



**VICINITY MAP**

SCALE: 1" = 1000'

**APPLICANT:**

PIEDMONT HOUSING ALLIANCE  
682 BERMAR CIR.  
CHARLOTTESVILLE, VA 22901  
CONTACT: ANDREW MILLER  
TELEPHONE: 434-422-5497

**ENGINEER OF RECORD:**

TIMMONS GROUP  
608 PRESTON AVENUE, STE. 200  
CHARLOTTESVILLE, VA 22902  
CONTACT: JONATHAN SHOWALTER, P.E.  
TELEPHONE: 434-327-1681

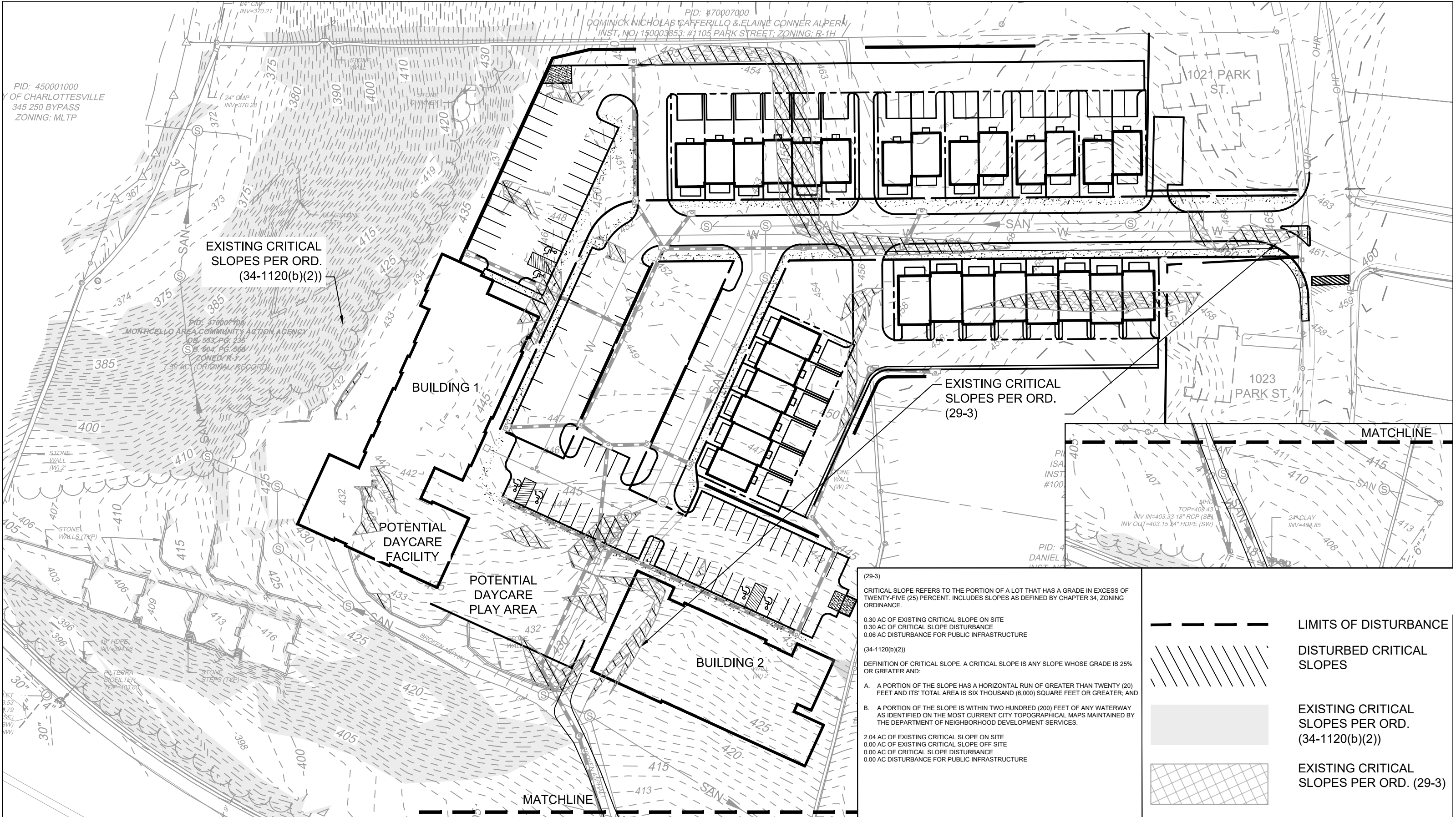
**Sheet List Table**

Sheet Number	Sheet Title
1	COVER
2	CRITICAL SLOPES EXHIBIT AND WAIVER
3	FIRETRUCK AUTOTURN 1
4	PARKING PLAN
5	PEDESTRIAN ACCESS PLAN
6	PEDESTRIAN ACCESS PLAN
7	PRELIMINARY BMP&STORMWATER MANAGEMENT PLAN
8	STORMWATER MANAGEMENT OVERALL DRAINAGE AREA
9	TREE SURVEY
10	TREE SURVEY CHART
11	EROSION CONTROL DETAILS

TOTAL # OF SHEETS: 11

**NOTE: SEE ARCHITECTURAL SUPPLEMENTAL  
INFORMATION ATTACHED**

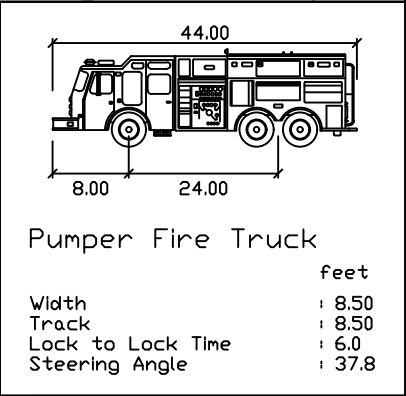
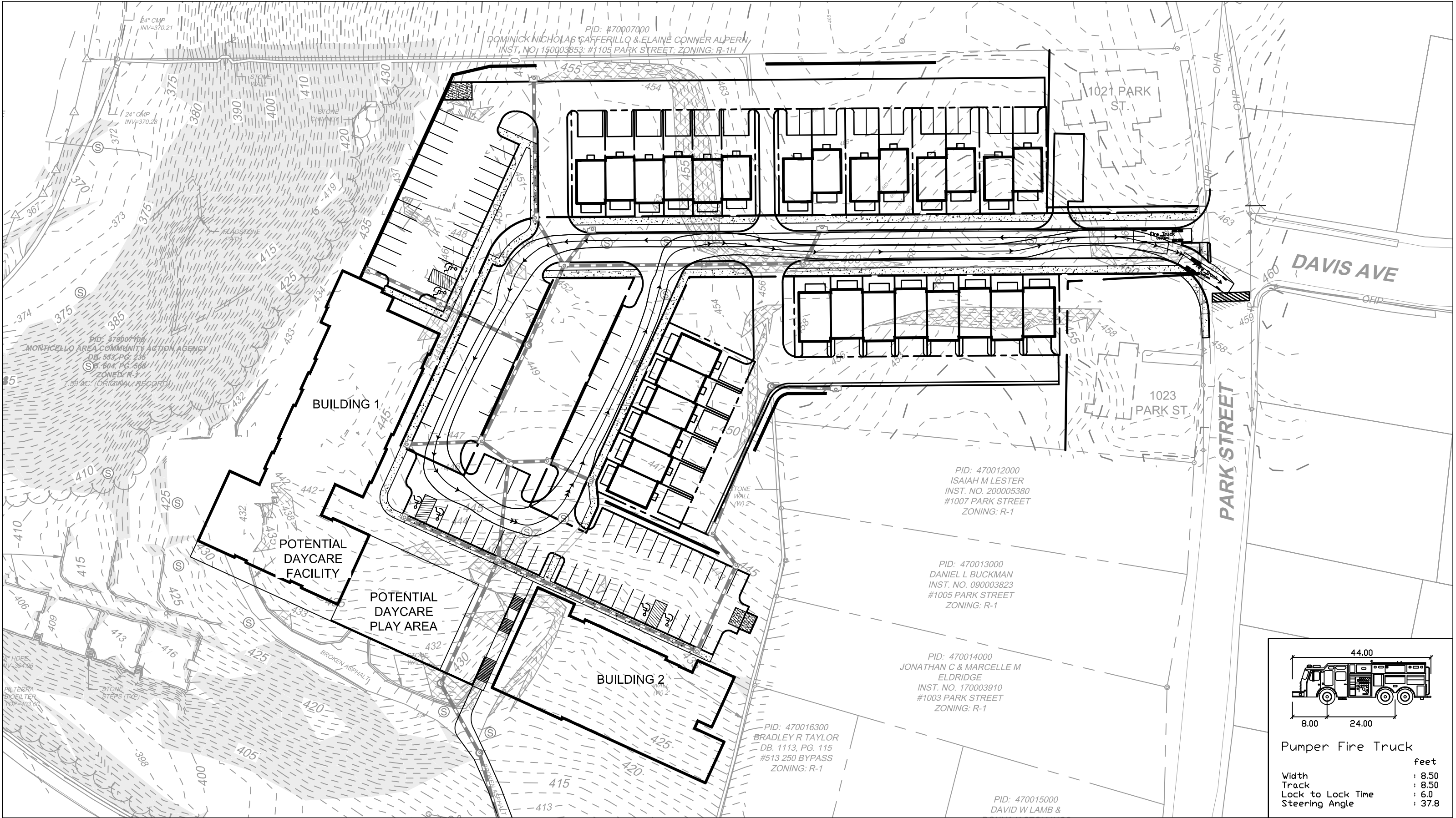




# CRITICAL SLOPES EXHIBIT







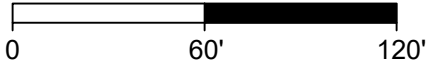
# FIRETRUCK AUTOTURN 1

PAGE 3

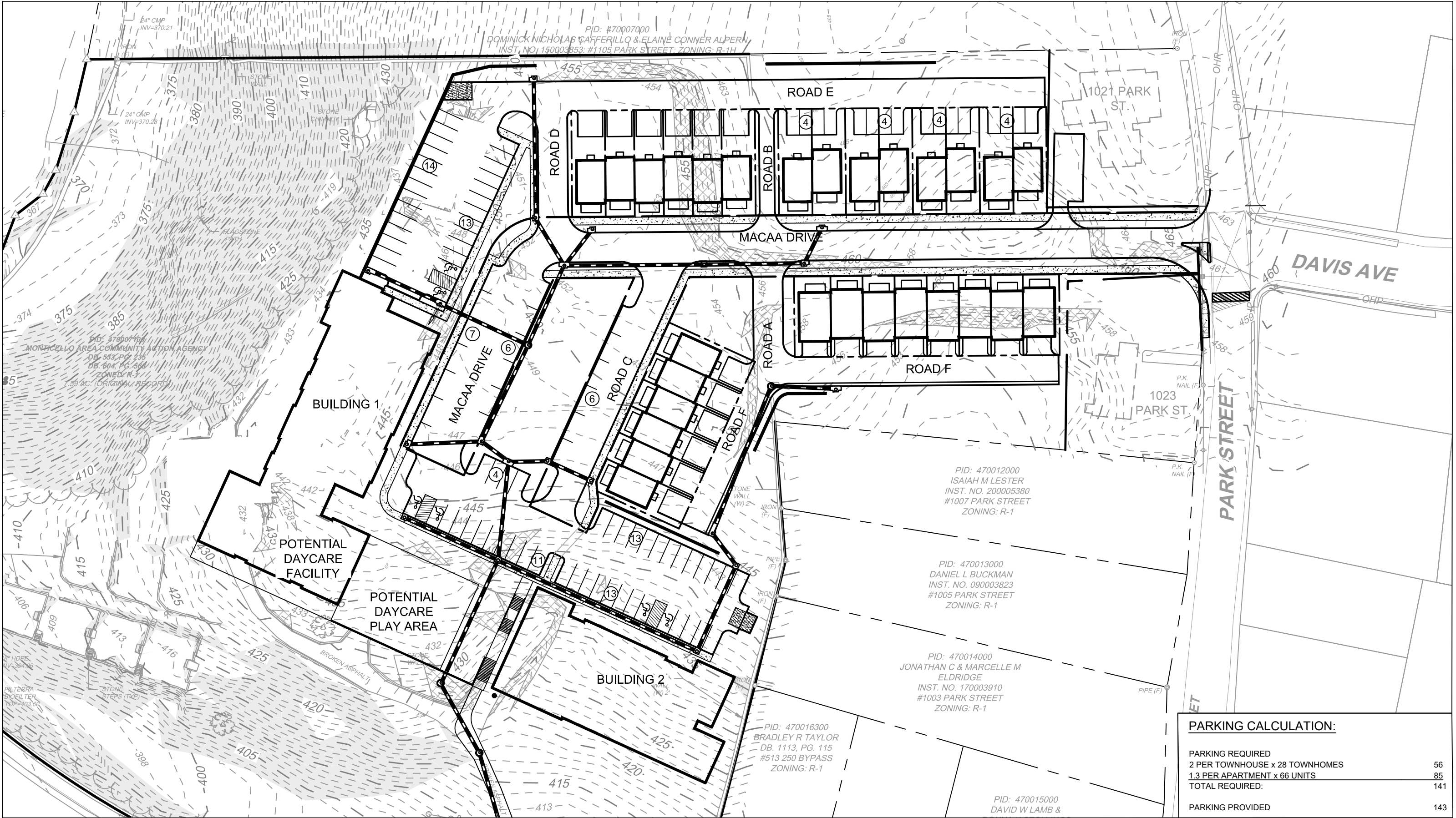
MACAA PUD - September 3, 2021  
Revised - November 15, 2021



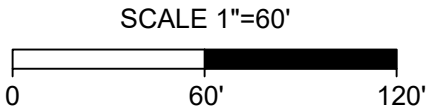
SCALE 1"=60'



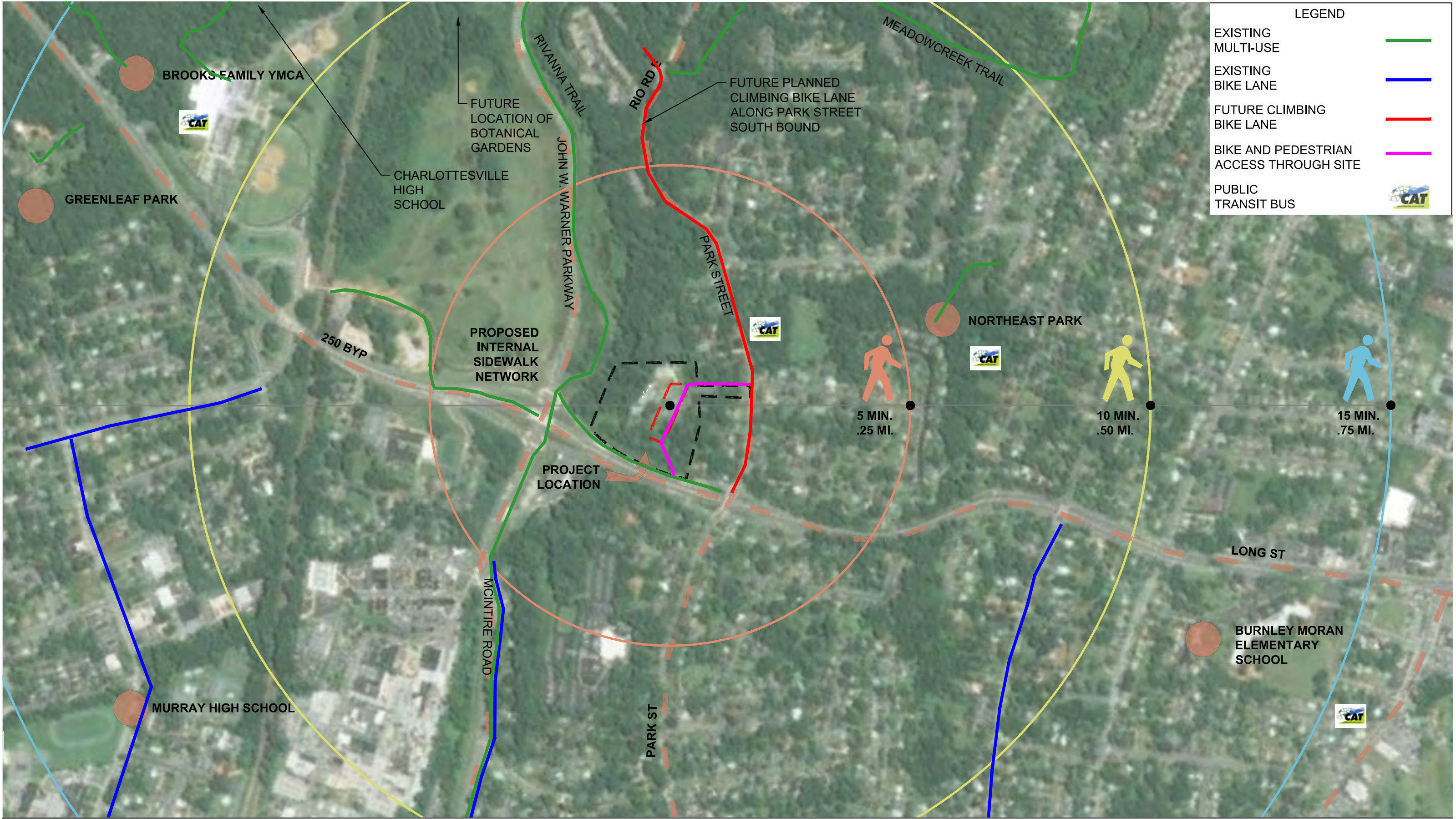




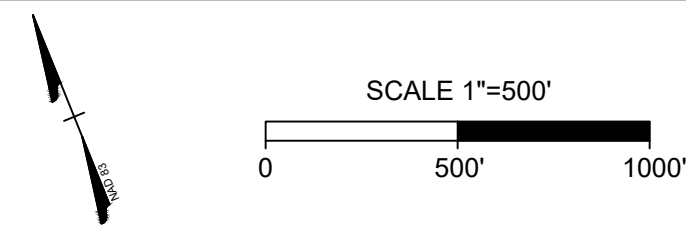
# PARKING PLAN







# PEDESTRIAN ACCESS PLAN









**STORMWATER MANAGEMENT AND E&SC NARRATIVE:**

**STORMWATER QUALITY:**

PARCEL 470007100 IS 7.59 ACRES AND CURRENTLY THE LOCATION USED BY THE MONTICELLO AREA COMMUNITY ACTION AGENCY (MACAA). THE EXISTING CONDITIONS CONSISTS OF A MARKING LOT, BUILDINGS AND PLAY AREA. 1.57 ACRES OF THE SITE IS IMPERVIOUS, 3.98 ACRES OF MANAGED TURF, AND 2.97 ACRES OF WOODED AREA.

THE TOTAL PROPOSED LIMITS OF DISTURBANCE IS APPROXIMATELY 5.27 ACRES. THE PARKING LOT, BUILDINGS, ENTRANCE ROAD, AND PLAY AREA WILL ALL BE DEMOLISHED TO BUILD TWO APARTMENT BUILDINGS, 28 TOWNHOMES, AND RELATED INFRASTRUCTURE. OF THE TOTAL POST DEVELOPMENT LAND COVER, APPROXIMATELY 3.02 ACRES IS IMPERVIOUS AND 3.26 ACRES IS MANAGED TURF.

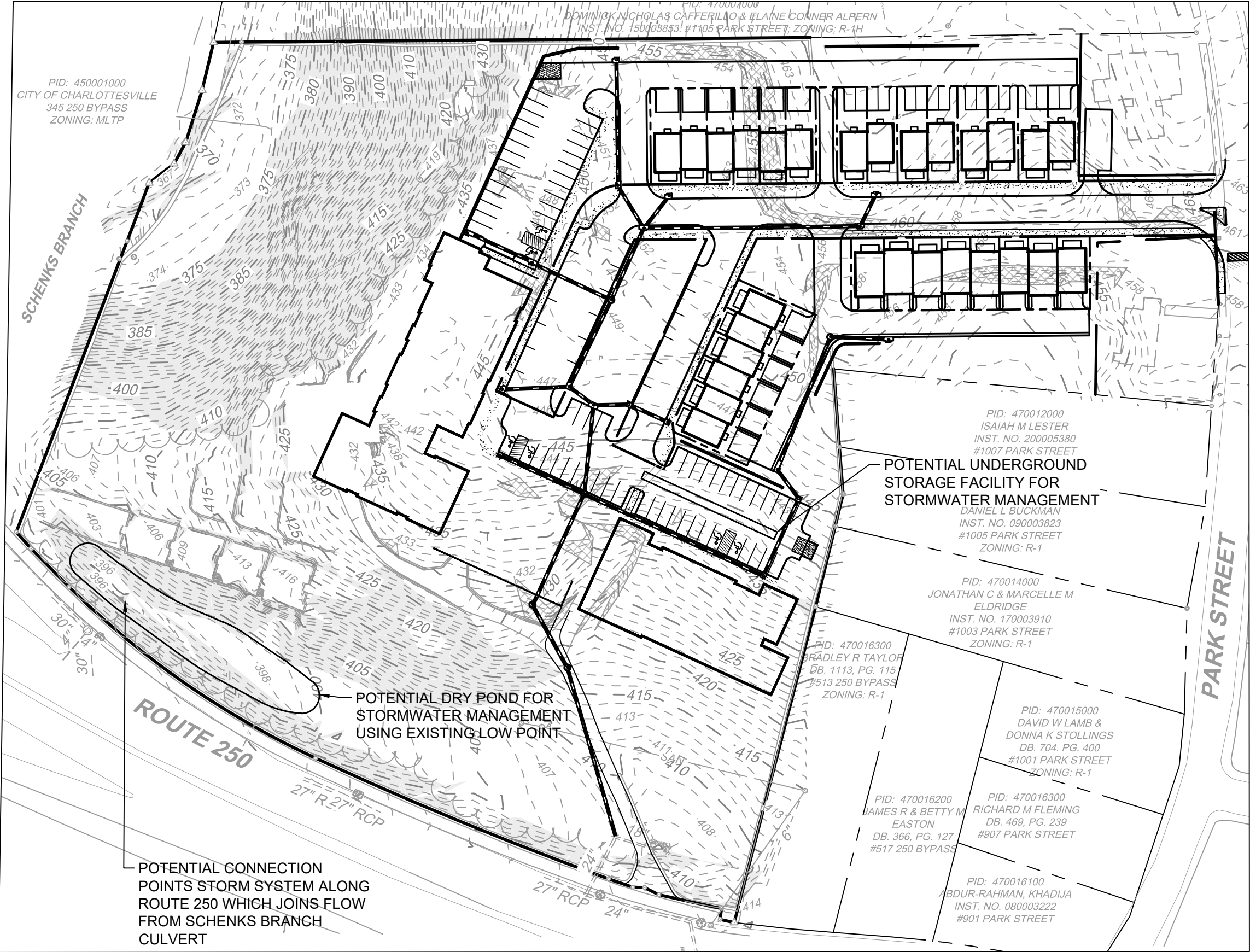
**STORMWATER QUANTITY:**

MACAA IS CURRENTLY LOCATED AT THE TOP OF THE SITE AND RUNOFF LEAVES THE SITE AND FLOWS DOWN THE HILL AND INTO THE STORM SYSTEM ALONG THE 250 BYPASS AND TO SCHENKS BRANCH ALONG THE WESTERN EDGE OF THE SITE VIA SHEET FLOW.

FOR THE PROPOSED POST DEVELOPMENT CONDITIONS, STORMWATER RUNOFF WILL BE COLLECTED INTO A STORM SEWER NETWORK AND THEN BE DETAINED EITHER THROUGH AND UNDERGROUND STORAGE PIPE, OR A SURFACE DRY POND, OR A COMBINATION OF THE TWO. CHANNEL PROTECTION REQUIREMENTS WILL BE MET THROUGH THE ENERGY BALANCE EQUATION WITH THE 1-YEAR, 24 HOUR STORM BEING DETAINED PER 9VAC25-870(B)3.

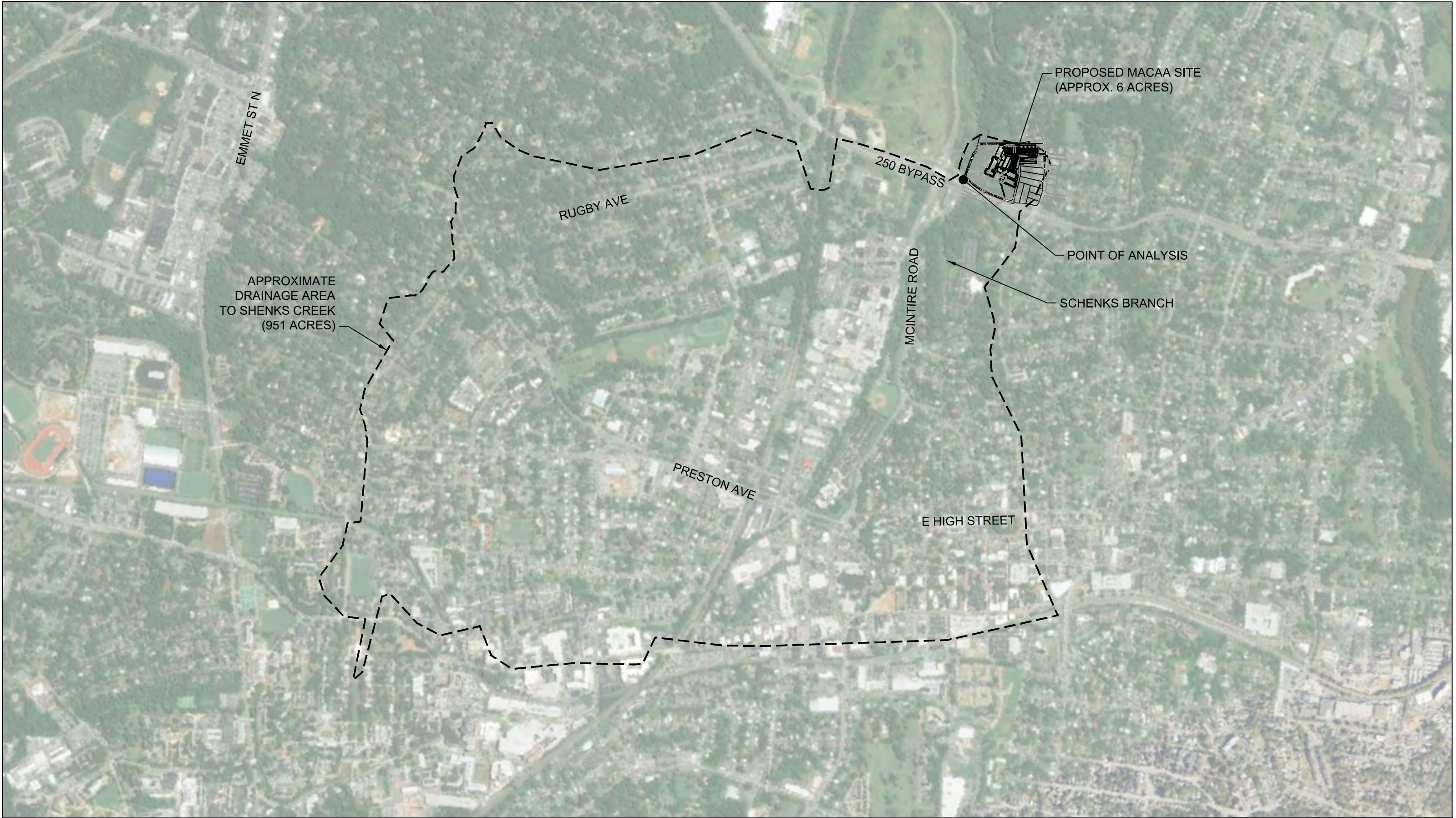
THE OUTFALLS FROM THE SITE WILL JOIN THE STORM SEWER NETWORK ALONG ROUTE 250. THIS STORM SYSTEM JOINS THE LARGE CULVERT CONVEYING SCHENKS BRANCH UNDER ROUTE 250 AT THE NORTHERN ENDWALL AND RIPRAP APRON. THE FLOW TO THAT POINT IS APPROXIMATELY 951 ACRES. THEREFORE OUR DISTURBED AREA IS LESS THAN 1% AT THAT POINT OF ANALYSIS. TO MEET FLOOD PROTECTION REQUIREMENTS THE STORMWATER SYSTEM SHALL BE ANALYZED AND SHOWN TO BE ADEQUATE TO THIS 1% POINT OF ANALYSIS PER 9VAC25-871-66(C)3a.

**EROSION AND SEDIMENT CONTROL NARRATIVE:**  
E&SC MEASURES SHALL BE PROVIDED PER THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) TO ENSURE SEDIMENT LADEN RUNOFF IS CONTAINED ONSITE AND TO ENSURE PROTECTION OF ADJACENT STREAM. FINAL DESIGN WILL BE PROVIDED WITH PRELIMINARY AND FINAL SITE PLAN SUBMITTALS.

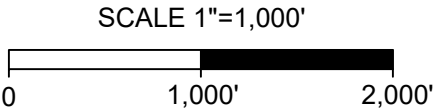


# PRELIMINARY BMP & STORMWATER MANAGEMENT PLAN





**STORMWATER MANAGEMENT OVERALL DRAINAGE AREA**



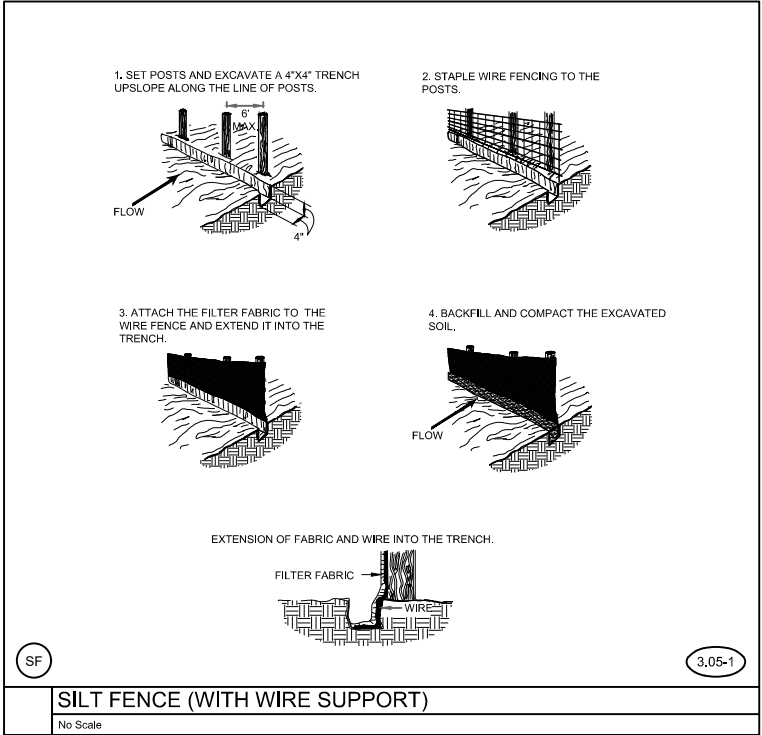
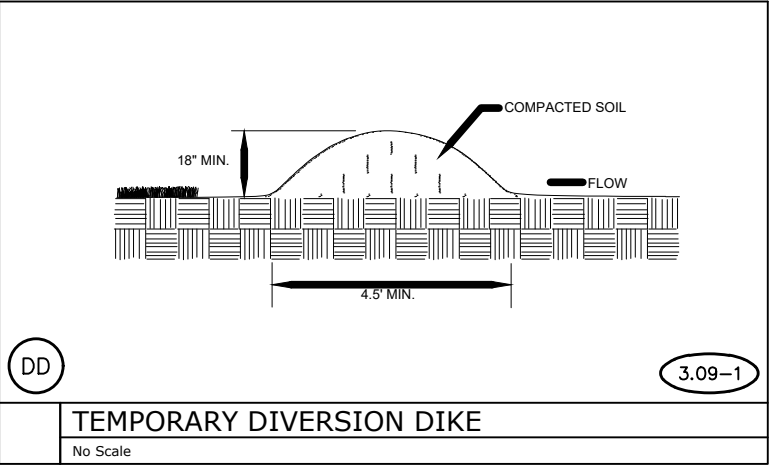
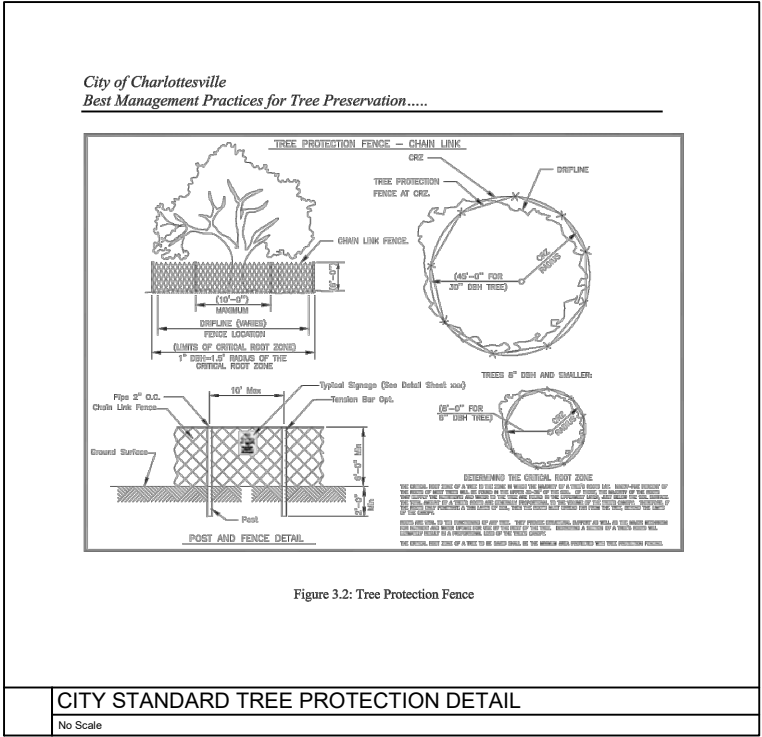
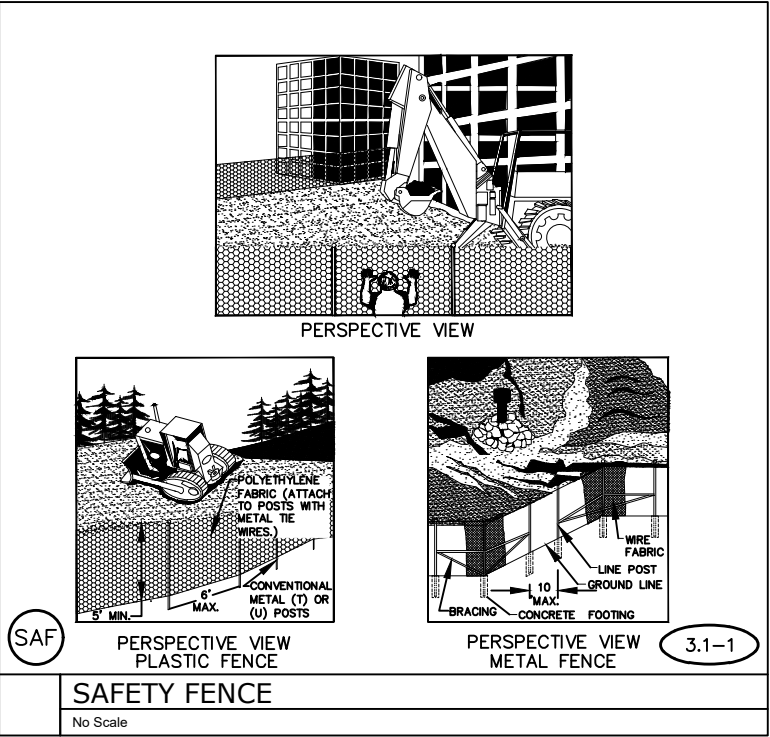
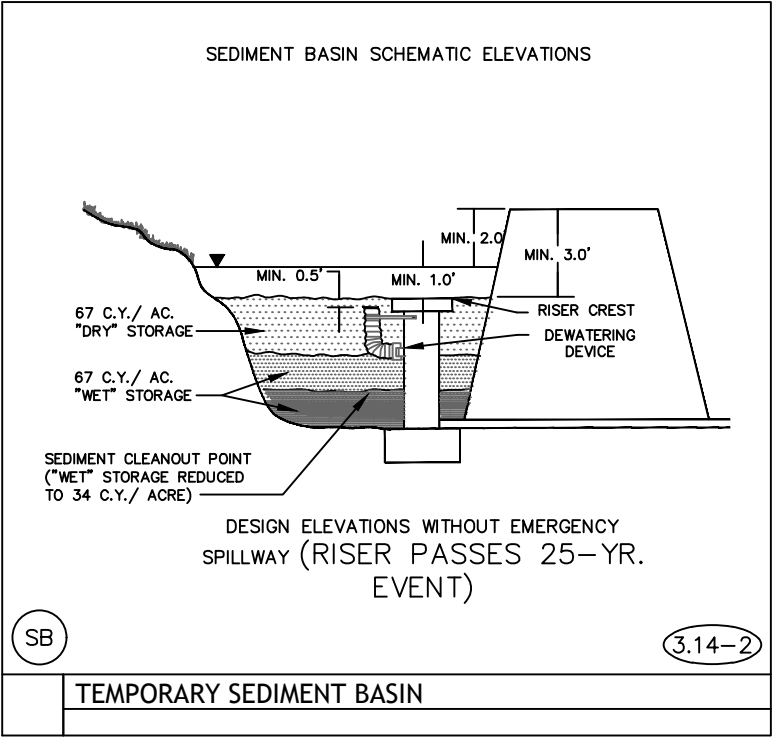




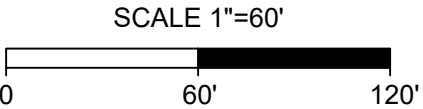
# TREE SURVEY CHART

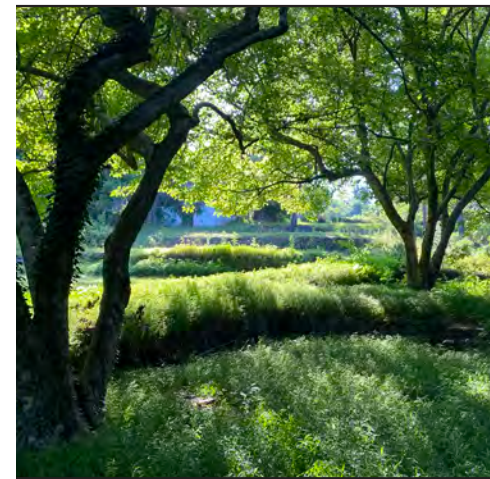






# EROSION CONTROL DETAILS





## MACAA REDEVELOPMENT

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Architectural Supplement

September 3, 2021

REVISED NOVEMBER 15, 2021

### Materials Included:

- a. Project Team
- b. View from Route 250
- c. Proposed MACAA Drive (perspective)
- d. Proposed Community Green (perspective)

### Materials Added 11/15/2021:

- e. Parks & Greenspace Network Diagram
- f. Trail Connections Diagram

# PROJECT TEAM

## About MACAA

Monticello Area Community Action Agency [MACAA] was founded in 1965 and has led the effort to eradicate poverty and improve the lives of individuals and families experiencing low-income in Central Virginia. Serving the City of Charlottesville and the counties of Albemarle, Fluvanna, Louisa, and Nelson, MACAA provides a range of services and support to families experiencing barriers to economic and social mobility. As part of the services it offers, MACAA administers a Head Start preschool program for the City of Charlottesville and the counties it serves, providing early childhood education to 213 children across its service area, 60 of which are served at the Park Street location. Additionally, beginning in October 2021, MACAA will begin operating six Early Head Start classrooms in the City of Charlottesville serving an additional 60 students ages birth – three.

Head Start provides a comprehensive early childhood development program for three- and four-year-old children from families in the greatest need. Head Start children participate in a wide range of educational activities designed to enhance school readiness. In addition, Head Start Family Support Coordinators provide case management support, assist parents in addressing social service needs, and help parents attain family management and parenting skills and reach self-identified goals.

Hope House offers housing and intensive case management for families facing homelessness in the community. The program works with families to provide a safe home, stabilize the family, help them to reach employment goals, attain money-management skills, and maintain a healthy, stable home environment. Since 1988, Hope House has transformed the lives of dozens of families.

Project Discovery promotes academic achievement as a means of propelling high school students from low-income families out of poverty. The program specifically focuses on encouraging and helping these students prepare for and pursue a college education. Students receive assistance with completing college applications, locating and applying for financial aid, planning for their careers, and preparing to excel academically and socially beyond high school. Rural Outreach offices in Fluvanna, Louisa, and Nelson counties provide emergency assistance to families by offering food, clothing, and financial resources to cover rent/mortgage and utility costs. MACAA’s family-centered coaches assesses a client’s needs and links them to other resources in the region to help meet their longer-term needs. MACAA’s Fluvanna program office operates a thrift shop as well as a large food bank



in cooperation with the Fluvanna Christian Services Society.

Additional information on MACAA can be found on their website at [www.MACAA.org](http://www.MACAA.org).

## About Piedmont Housing Alliance

Piedmont Housing Alliance is dedicated to improving financial outcomes for individuals and families by offering innovative affordable housing solutions. In doing this, PHA acknowledges the role real estate practices and laws have played in preventing Black Americans and others from building wealth in its service area and country. Piedmont Housing Alliance stands ready to make intentional change to right these wrongs. Piedmont Housing Alliance’s work focuses on achieving housing justice through the following program areas: Community Management: PHA currently manages 11 properties located in the city of Charlottesville and Albemarle and Nelson counties.

Lending Program: PHA’s lending program is certified by the US Treasury as a Community Development Financial Institution (“CDFI”).

Development: PHA’s development and redevelopment activity aims to preserve and increase the number of high-quality, affordable housing units in its area. Piedmont Housing Alliance is certified as a Community Housing Development Organization (CHDO).

Housing Counseling: PHA’s HUD-approved housing counseling program provides one-on-one coaching for home buying, credit improvement, debt reduction, savings programs, fair housing, and foreclosure prevention. Piedmont Housing Alliance offers free classes in the community and is a Virginia Housing Development Authority-approved provider of First Time Homebuyer Education, required for access to financial assistance in homebuying. (A first-time homebuyer is defined as a buyer who has not owned a home for a period of three years prior to purchase.)

Piedmont Housing Alliance is the successor organization to the Thomas Jefferson Housing Improvement Commission (TJHIC), which was founded in 1983 by Jane Saunier as part of the Thomas Jefferson Planning District Commission. TJHIC received designation as a Community Housing Development Organization (CHDO) by the state of Virginia and had four allied organizations: Charlottesville Housing Improvement Project (CHIP-now disbanded); Albemarle Housing Improvement Project (AHIP-now a separate non-profit); Jordan Development Corporation; and Midway Development Corporation.

In 1996, TJHIC joined together with the Charlottesville Housing Foundation, which had been founded in 1968 by Francis Fife, Delegate Mitch Van Yahres, Thomas J. Michie, Jr. and Robert Stroud. CHF brought substantial assets to the alliance, including land. At that time the organization took the name Piedmont Housing Alliance.

## About Habitat for Humanity of Greater Charlottesville

Habitat for Humanity of Greater Charlottesville envisions a Greater Charlottesville community where everyone can find a decent place to live.

To that end, Habitat for Humanity partners with hardworking, local, low-income families to help them build and purchase homes, and is scaling up to build at least 40 homes annually. Since 2004 Habitat has dedicated itself to creating new mixed-income communities and infusing existing neighborhoods with affordable housing. Habitat for Humanity believes in diverse, inclusive, and vibrant communities of neighbors that transcend socioeconomic and cultural divides.

In order to increase its impact beyond building homes, Habitat is reaching deeper into local, low-income communities. In 2017, it created a Pathways to Housing Program to work with extremely low-income residents and community members saddled with bad credit to walk side by side with them, lifting them up so that they can find better housing and become homeowners. As such, the average AMI of Habitat families over the past three years is 34%.

Building relationships is key to Habitat’s goals. Habitat works to create a sense of community, social cohesion, and collective capacity among future homebuyers, empowering them towards goals far beyond homeownership.

Habitat is committed to our families long-term. Habitat works with current homeowners to ensure that every family has the tools to thrive in their homes—as well as make a positive impact on their community and bring hope to others.



## PROJECT PARTNERS

MACAA Redevelopment  
Unit Development Submission  
September 3, 2021  
Revised November 15, 2021



















TO ALBEMARLE COUNTY



## TRAIL CONNECTIONS

MACAA Redevelopment  
Planned Unit Development Submission  
September 3, 2021  
Revised November 15, 2021



**O'Connell, Dannan**

---

**From:** John Hossack <jahossack.sp@gmail.com>  
**Sent:** Tuesday, December 7, 2021 9:09 AM  
**To:** O'Connell, Dannan  
**Subject:** Comments on MACAA and Park St Christian Church

**WARNING:** This email has originated from **outside of the organization**. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dannan

As is evident below, I consider it highly premature to move forward with the proposed hearing at this time.  
John Hossack

Comments on Park St developments – MACAA and Park St Christian Church  
John Hossack, Davis Ave

1. First, I would like to contrast the fact that there is a public meeting to discuss the many substantial problems with the plan. With the proposed Medium Intensity Residential plan (FLUM), the “by right” would short circuit that entirely. In this precise example, we can see why that is such a bad idea.
2. The plans (traffic impact analysis – TIA) show that it is not physically possible to construct a new roadway and junction on Park St at MACAA that meets federal safety standards – sight distance limited on Park St southbound near MACAA. Keep in mind that this plan involves building a NEW public street and junction on Park St at Davis. Currently MACAA Drive is a private driveway (and is so labeled physically). Deficiencies with MACAA Drive are only tolerable because it is grandfathered in based off old standards and traffic conditions applicable many decades ago. The NEW public street gets absolutely NO BENEFIT from MACAA Drive grandfathering. Further, it is offset in a northerly direction in so doing WORSENS sight distance considerations looking north.
3. Sight distance at MACAA junction -this is a function of both lateral and elevation (blind summit) considerations. It isn't even clear that the TIA actually consider elevation issues –“does not meet the design standards under existing conditions due to the presence of a fence, brush, and utility pole” (no reference to the blind summit problem). Additionally, since south bound Park St at MACAA is on a downward slope, the stopping distance is lengthened and no account of this is made in the TIA. The TIA assumes 25 mph. While traffic is speed constrained during many hours of the day, account should be made of the higher speeds (up to 40 mph) off hours especially at night. Note that the proposed use will involve night time traffic use on the new MACAA road whereas current MACAA use is essentially limited to daylight hours by nature of school use.
4. Who decides when one just ignores federal guidelines and who is on the hook for accidents? The traffic analysis is based off data collected in late June 2021 (i.e. COVID impact PLUS outside of school / university term impact). The traffic volume and analysis is fundamentally flawed. It assumes approximately 11,000 cars a day. The correct number is at least 16,000 and possibly up to 20,000. This is evident in the fact that week day volume further up this street on Rio is 32,000 where Park (Rio) and Warner Parkway join (county traffic count data relating to Rio Corridor). According to google traffic, more traffic uses Park than Warner (owing to the dysfunctional design of the Warner / 250 junction).
5. The accident record is already bad. There are two accidents per year (averaged over ten) and 60% involve injury. “Rear ender” is the most common. The real life accident record (i.e. non reported) is probably several times worse.



6. The TIA assumes 1% annual growth. This is demonstrably wrong for this particular street as is evident from measured traffic growth in recent years. Measured annual growth on the Park / Warner axis is in the range 2-4% annual.
7. The traffic analysis indicates that turn left lanes on park St are “warranted” but they are waived away by sole discretion of the traffic analysis engineer who is clearly conflicted because his report was paid for by the developer. As with the matter of sight distances, who is on the hook for responsibility for when, not if, there are accidents resulting?
8. Because of the faulty traffic flow numbers, the assigned “grades” for junction performance are all wrong. B’s become C’s etc. Output of the TIA are all wrong and needs to be redone before a rational reconsideration. It would be irresponsible to move forward using a flawed TIA (Also noted that the TIA does not assume the proposed right turn only kerb at MACAA south bound). Davis Ave appreciates that this kern helps mitigate traffic using Davis for the purpose of access to/from MACAA but this in itself is insufficient to overcome the other problems identified here.)
9. The plans do not show where MACAA will exist after this development. There appears to be no specific allowance for building dimension, student capacity, bus / staff / student drop off / parking, etc. When you add in keeping MACAA plus the proposed development, how can it possibly work?
10. As a matter of social policy, it would be preferable if affordable housing was distributed evenly in this city rather than in whichever neighborhood loses out in “musical chairs”. MACAA serves a good social justice model – helping lower income children with headstart. The neighborhood has welcomed the success of MACAA and tolerated some of the traffic generated – but the scale of the development is considerably greater and will create traffic at all hours unlike a school in which traffic is school hours related. Rather than ~100 affordable units applied to one small part of one neighborhood, could we not have developments of the scale of 20-30 in each of the many individual neighborhoods? Among those most vocal in supporting the interests of people needing affordable housing, there has been a sentiment that large concentration developments are not good planning practice. Prior examples in the city support this view.
11. This neighborhood, like others north and east of 250 / Park, is under pressure because of largely unconstrained and unsupported (infrastructure wise) county development. North Pointe, US 29 north, plus developments near Dunlora add thousands of new housing units and associated car trips. The TIA takes no account of this this (this question was asked at the August 2021 meeting) If the city held the county accountable for its commitment to build an “Eastern Connector” as promised when the compromises involved in the Warner Parkway were developed, we would not be in the current mess with respect to Park St and traffic capacity. However, we residents live with this nightmare day in day out and we are not now likely to be sympathetic to new development adding further pressure to a demonstrably intolerable situation. The city chose the path of inaction for the past several decades and that leaves us in the current no go situation with respect to high density development off Park St. Modest development, compatible with existing infrastructure, might work but that is not what this plan (MACAA redevelopment plus Park St Christian Church) constitutes.
12. There is no evidence of any coordination with the affordable housing development plans of the county or the University of Virginia. Are we solving their problems at our expense? That is what it looks like.
13. The financial support side of the plan appears to be essentially missing. It isn’t clear where the subsidies are coming from. As far as I know, support for this project is in the “unfunded” portion of the new CIP.

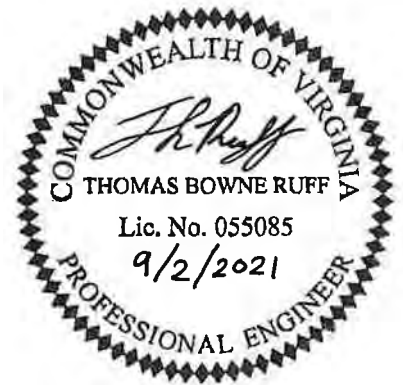
For all these reasons, please reject the rezoning as it stands today. Address the several fundamental flaws and determine whether a better plan can be derived. The use of the site for MACAA today is not a low value usage of a valuable site. It is a very good social welfare (headstart etc.) use of a site that has demonstrable planning related challenges.

# PHA PARK STREET RESIDENTIAL DEVELOPMENTS

CITY OF CHARLOTTESVILLE, VIRGINIA

Traffic Impact Analysis

September 2021



*Prepared for:*

Piedmont Housing Alliance (PHA)



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## 1 BACKGROUND INFORMATION

This report presents the findings of the traffic impact analysis (TIA) prepared for two (2) proposed residential developments in Charlottesville, VA. The sites are being simultaneously pursued by the Piedmont Housing Alliance (PHA) and both are located within a 3-block section of Park Street north of the US Route 250 Bypass. The sites are known as (1) the Monticello Area Community Action Agency (MACAA) site, located on Macaa Drive, and (2) the Park Street Christian site, located on Cutler Lane.

A scoping meeting with the City of Charlottesville was held in May 2021 to determine the scope of the TIA for both sites. It was determined that, based on the size of the proposed development, a VDOT Chapter 527 TIA was not required. However, the City requested the completion of a TIA to determine the impacts of the proposed site entrances for both sites and the surrounding roadway network on Park Street. The City agreed that both sites should be analyzed as part of the same TIA.

### 1.1 PROJECT OVERVIEW

The two (2) proposed developments are both located on Park Street. The study area covers the intersections of Park Street at Macaa Drive/Davis Avenue, at North Avenue, and at Cutler Lane. The location of both sites and the study intersections are shown on Figure 1-1 (all figures are located at the end of their respective chapters).

The MACAA site is located to the west of Park Street, east of John W. Warner Parkway, and immediately north of the US Route 250 Bypass. Access will be via the existing full access intersection of Macaa Drive and Park Street/Davis Avenue. The proposed development will consist of 65 apartments, 16 duplexes, and a 4,703 SF childcare center. The conceptual site plan can be found on Figure 1-2.

The Park Street Christian site is located to the east and north of Park Street and west of Cutler Lane. All access will be via a proposed entrance on Cutler Lane, with access to the intersection of Park Street and Cutler Lane. The proposed development will consist of 52 apartments. The conceptual site plan can be found on Figure 1-3.

For purposes of this analysis, the development of both sites was assumed to be complete and occupied by 2023.

### 1.2 STUDY AREA LIMITS

As agreed upon during the scoping meeting with the City of Charlottesville, the study limits include the following three (3) existing intersections (see Figure 1-1):

1. Park Street at Macaa Drive/Davis Avenue (unsignalized)
2. Park Street at North Avenue (signalized)
3. Park Street at Cutler Lane (unsignalized)

It is specifically noted that this study was prepared during the COVID-19 pandemic and traffic patterns and volumes were atypical. In order to accommodate for the discrepancy, a 20% adjustment factor was applied to the field counts.



### 1.3 PROJECT SCOPE

Per the scope of services, the following steps were taken to determine the potential traffic impacts associated with the proposed project:

1. Data Collection – Peak hour (7-9 AM and 4-6 PM) directional turning movement counts were performed on Thursday, June 24, 2021, at the three (3) intersections within the study area. The raw data collected has been included in Appendix A.
2. Background Traffic Growth – A 20% COVID-adjustment growth factor was applied to the 2021 volumes to account for discrepancies in traffic volumes. A 1% growth rate was applied to the adjusted existing 2021 volumes to reach the background 2023 volumes.
3. Trip Generation – Traffic generated by the proposed development was estimated using the 10<sup>th</sup> edition of the **Institute of Transportation Engineers’** (ITE) *Trip Generation Manual*.
4. Traffic Distributions – The distribution of trips generated by the proposed development was based on the existing traffic volumes, the nature of the use, the surrounding roadway network, and local knowledge of traffic patterns in the area.
5. Traffic Projections – Future traffic volumes were determined using the existing traffic counts, a 1% background growth rate, and the trips generated by the proposed site.
6. Operational and Queuing Analysis – Level of service, delay, and queuing calculations were completed at the study intersections for 2021 existing, 2023 background, and 2023 future conditions using SYNCHRO Version 10 with SimTraffic. The 95<sup>th</sup> percentile queue lengths (SYNCHRO) and maximum queues (SimTraffic) were reviewed at the study intersections.

More detailed information regarding each step is contained within each respective chapter as applicable to that analysis scenario.

#### 1.4 EXISTING ROADWAY NETWORK

Park Street is a two-lane, undivided major collector with a posted speed limit of 25 mph. Park Street travels north-south within the study area and connects downtown Charlottesville with residential areas to the north. According to 2019 VDOT count data, Park Street services 9,900 vehicles per day in the vicinity of the study area.

North Avenue is a two-lane, undivided minor collector with a posted speed limit of 25 mph. North Avenue travels east-west within the study area and primarily serves residential traffic. According to 2019 VDOT count data, North Avenue services 3,300 vehicles per day.

Cutler Lane is a two-lane, undivided local road with a posted speed limit of 25 mph. Cutler Lane travels north-south within the study area and provides access to Wilder Drive. There is no posted AADT data for Cutler Lane.

Macao Drive is a two-lane, undivided local road with no posted speed limit, assumed to be 25 mph. Macaa Drive travels east-west within the study area and provides access to the existing MACAA development. There is no published AADT data for Macaa Drive.

Davis Avenue is a two-lane, undivided local road with no posted speed limit, assumed to be 25 mph. Davis Avenue travels east-west within the study area and primarily serves residential traffic. There is no published AADT data for Davis Avenue.

The existing intersection geometry for all three (3) study intersections is shown on Figure 1-4.

#### 1.5 EXISTING PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

Throughout the study area there are sidewalks along Park Street, Cutler Lane, Macaa Drive, Davis Avenue, and North Avenue. Adjacent to the MACAA and Park Street Christian Church sites there are bike lanes along John W. Warner Parkway, paved bike trails through McIntire Park, and the Rivanna Trail shared-use path system. The MACAA site is immediately adjacent to Schenk's Branch and the Schenk's Greenway. The Park Street Christian Church site is immediately adjacent to the Meadow Creek trail system. A map of these existing facilities can be found in Figure 1-5.

Route 11 (Locust Ave to Fashion Square Mall) of the Charlottesville Area Transit (CAT) system provides service to Park Street via North Avenue and Locust Avenue. The closest bus stop to both sites is the North Avenue at Wilder Drive stop, which is located less than 200' east Park Street.

#### 1.6 CRASH DATA ANALYSIS

There have been a total of ten (10) crashes in the past five years within the vicinity of the study intersections. 70% of crashes were classified as rear end crashes, 20% were classified as other crashes, and 10% were classified as angle crashes. Four (4) crashes resulted in property damage only and the remaining six (6) resulting in some type of injury. 90% of crashes occurred during daylight. One (1) crash occurred when the surface condition was classified as slush; the remaining crashes occurred when the surface condition was dry.

Overall, during the five-year study period, there have been a limited number of crashes associated with the study intersections and no obvious pattern of crash history that would suggest a specific improvement or geometric change.



## 1.7 SIGHT DISTANCE EVALUATION

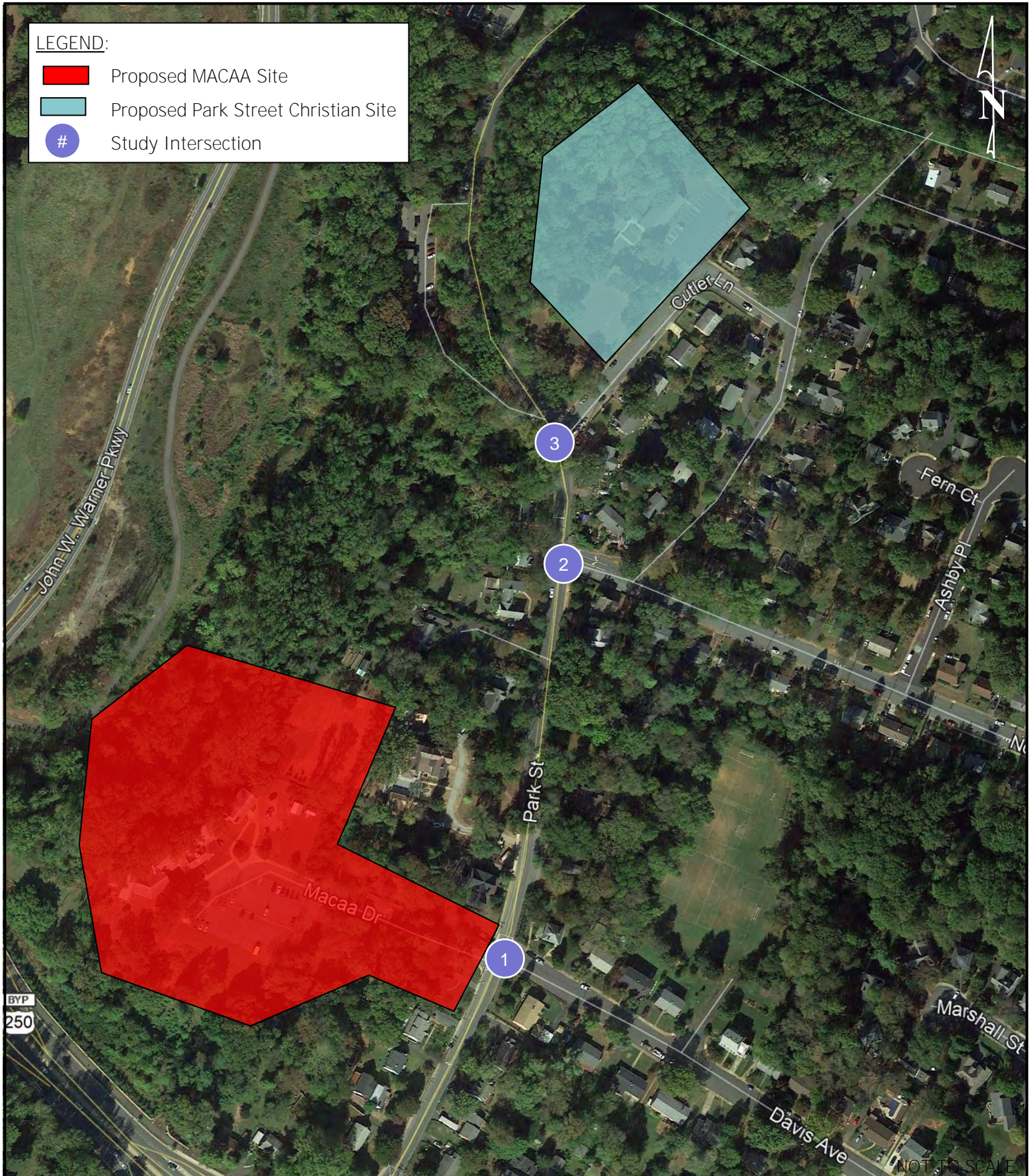
The existing sight distance for drivers exiting Macaa Drive was measured in the field during a previous traffic study. Table 1-1 below summarizes sight distance requirements for driveways on two-lane roadways according to the AASHTO *A Policy on Geometric Design of Highways and Streets* and those collected in the field as part of the previous work.

Table 1-1: Sight Distance Requirements

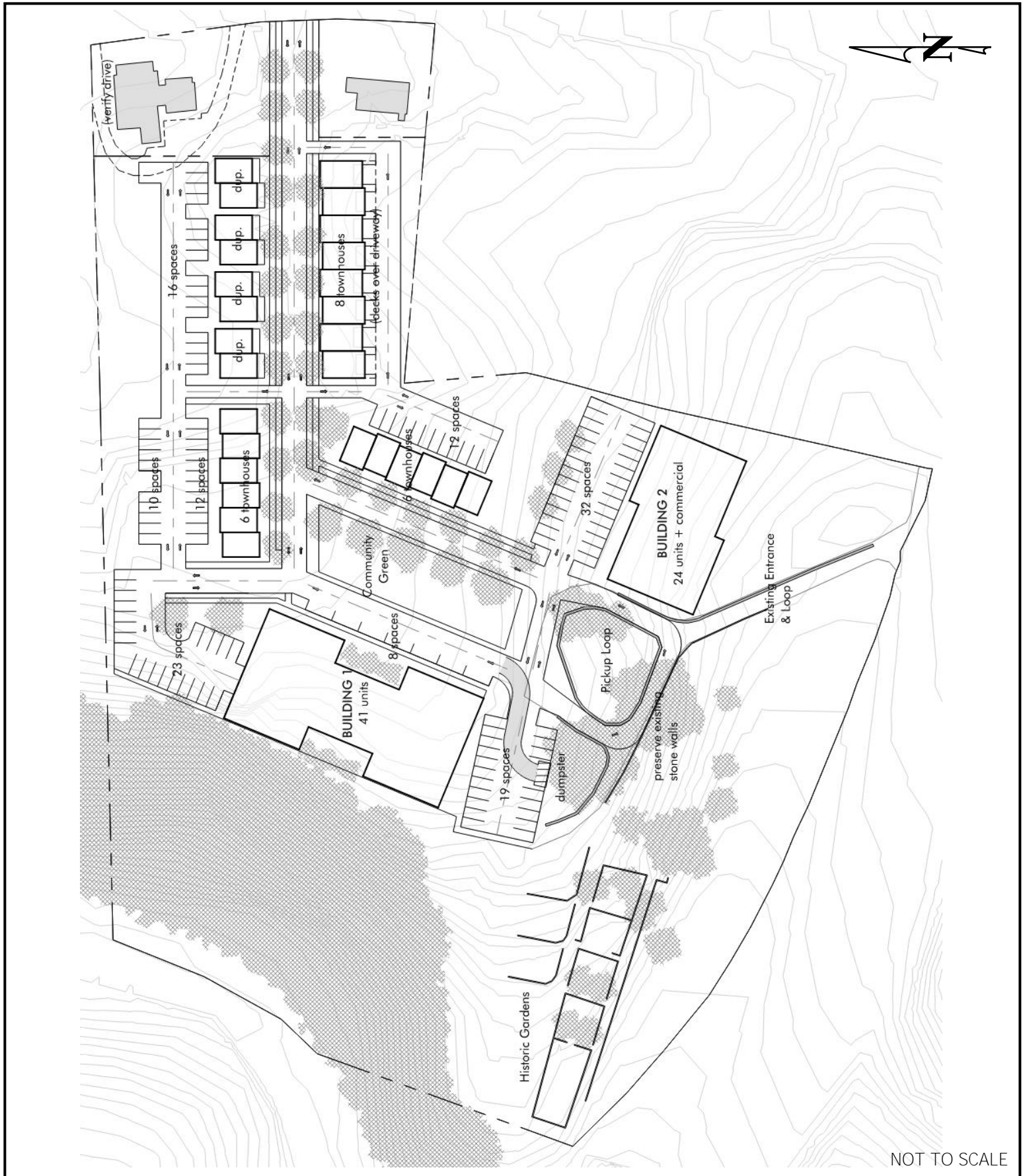
Design Speed	Turn	Stopping Sight Distance	Minimum Sight Distance	Actual Sight Distance (Existing)	Actual Sight Distance (Proposed)
Park Street: 25 MPH	Left	<b>155'</b>	<b>280'</b>	50'	<b>265'</b>
	Right	<b>155'</b>	280'	<b>&gt; 280'</b>	<b>&gt; 280'</b>

At the intersection of Park Street at Macaa Drive, drivers exiting the site are able to see approximately 50 feet to the north (sight distance left) and > 280 feet to the south (sight distance right). The sight distance right meets design standards under both the existing and proposed conditions. The sight distance left does not meet the design standards under existing conditions due to the presence of a fence, brush, and utility pole. The proposed realignment of Macaa Drive at Park Street will allow for an improvement in the intersection sight distance left.













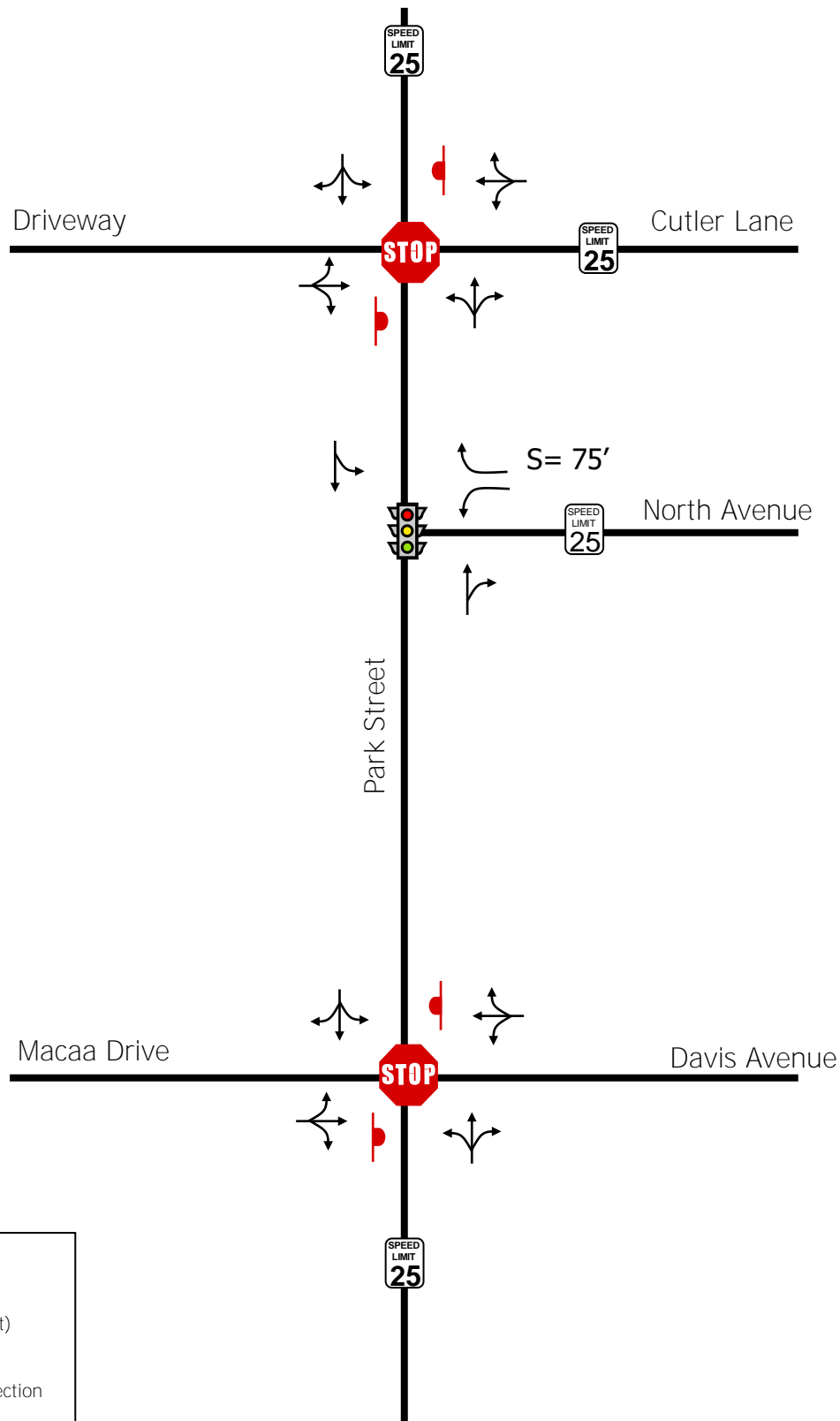
SITE PL  
Park Street Christian

NOT TO SCALE



Site Layout – Park Street Christian Site  
PHA Park Street Developments  
Charlottesville, Virginia

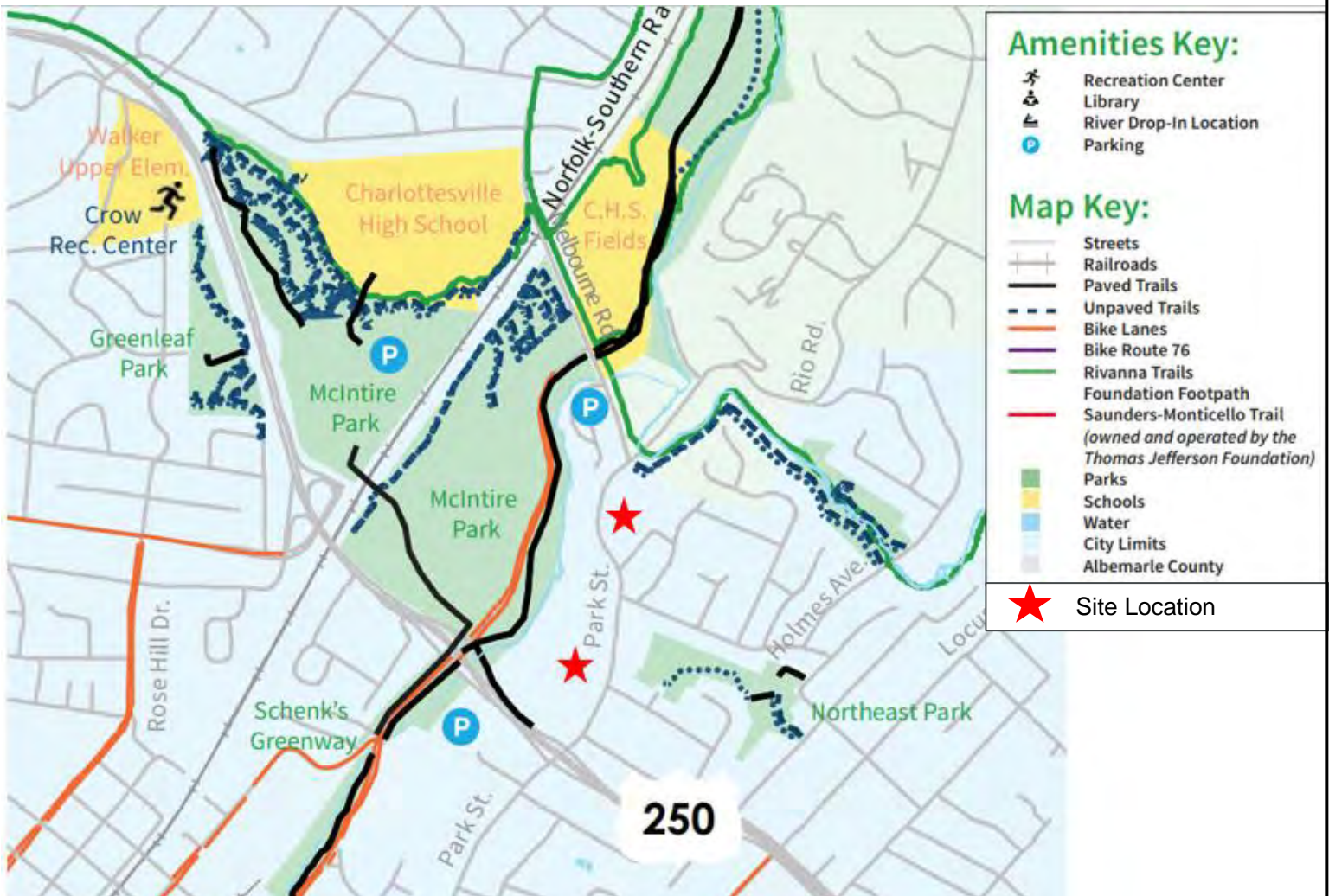




LEGEND:

- Existing Road
- S Storage Length (in feet)
- Signalized Intersection
- Stop Controlled Intersection
- Stop Sign Location
- Lane Configuration

NOT TO SCALE



NOT TO SCALE



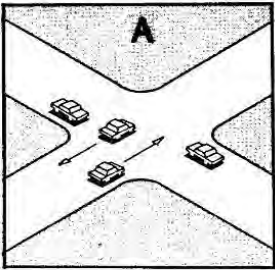
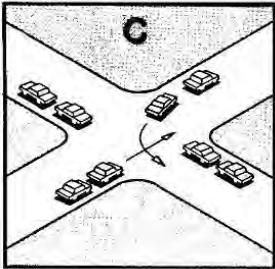
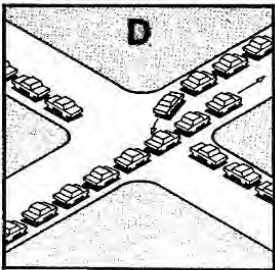
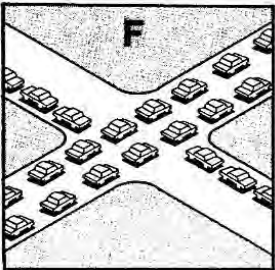
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## 2 ANALYSIS OF EXISTING CONDITIONS

### 2.1 CAPACITY ANALYSES

Capacity analysis allows traffic engineers to determine the impacts of traffic on the surrounding roadway network. The Transportation Research Board's (TRB) *Highway Capacity Manual* (HCM) methodologies govern how the capacity analyses are conducted and how the results are interpreted. There are six letter grades of Levels of Service (LOS) from A to F, with LOS A representing the best operating conditions and LOS F the worst operating conditions. Table 2-1 shows in detail how each of these levels of service are interpreted.

Table 2-1: Level of Service Definitions

Level of Service	Roadway Segments or Controlled Access Highways	Intersections	
A	Free flow, low traffic density.	No vehicle waits longer than one signal indication.	
B	Delay is not unreasonable, stable traffic flow.	On a rare occasion motorists wait through more than one signal indication.	
C	Stable condition, movements somewhat restricted due to higher volumes, but not objectionable for motorists.	Intermittently drivers wait through more than one signal indication, and occasionally backups may develop behind left turning vehicles, traffic flow still stable and acceptable.	
D	Movements more restricted, queues and delays may occur during short peaks, but lower demands occur often enough to permit clearing, thus preventing excessive backups.	Delays at intersections may become extensive with some, especially left-turning vehicles waiting two or more signal indications, but enough cycles with lower demand occur to permit periodic clearance, thus preventing excessive backups.	
E	Actual capacity of the roadway involves delay to all motorists due to congestion.	Very long queues may create lengthy delays, especially for left-turning vehicles.	
F	Forced flow with demand volumes greater than capacity resulting in complete congestion. Volumes drop to zero in extreme cases.	Backups from locations downstream restrict or prevent movement of vehicles out of approach creating a storage area during part or all of an hour.	

SOURCE: "A Policy on Design of Design of Urban Highways and Arterial Streets" - AASHTO, 1973 based upon material published in "Highway Capacity Manual", National Academy of Sciences, 1965.



For signalized and unsignalized intersections, level of service is defined in terms of delay, a measure of driver discomfort, frustration, fuel consumption and lost travel time. Table 2-2 summarizes the delay associated with each LOS category:

Table 2-2: Signalized and Unsignalized Intersection Level of Service Criteria

Signalized Intersections		Unsignalized Intersections	
Level of Service	Control Delay per Vehicle (sec/veh)	Level of Service	Average Control Delay (sec/veh)
A	$\leq 10$	A	0 to 10
B	$> 10$ to $\leq 20$	B	$> 10$ to $\leq 15$
C	$> 20$ to $\leq 35$	C	$> 15$ to $\leq 25$
D	$> 35$ to $\leq 55$	D	$> 25$ to $\leq 35$
E	$> 55$ to $\leq 80$	E	$> 35$ to $\leq 50$
F	$> 80$	F	$> 50$

*Source: Exhibit 16-2 and Exhibit 17-2 from TRB's "Highway Capacity Manual 2000"*

Generally, the standard acceptable minimum for the overall intersection is LOS D, while the standard acceptable minimum for an individual traffic movement is LOS E.

Capacity analyses were performed to assess existing (2021), background (2023), and future (2023) operational conditions for the AM and PM peak hours of the study area. The signalized and unsignalized intersections were analyzed using SYNCHRO Version 10 based on HCM 6<sup>th</sup> edition methodologies with the following assumptions:

- Level terrain;
- 12-foot lane widths;
- No parking activity or bus stops;
- Existing peak hour factor as determined by traffic counts (by intersection) for existing scenario;
- The higher of the existing peak hour factor as determined by traffic counts (by intersection) or a peak hour factor of 0.92.
- Heavy vehicle percentage as determined by the traffic counts (by movement); and
- Traffic signals **timing for North Avenue operates in "free" mode during all AM and PM peak hours.**

## 2.2 QUEUING ANALYSES

Queuing analysis allows traffic engineers to identify where vehicles queues are not adequately accommodated by existing storage bays and impact adjacent travel lanes.

Queuing analyses were conducted using both the HCM 2000 methodology (as calculated by SYNCHRO) and SimTraffic simulations. The Synchro 95<sup>th</sup> percentile queue is the maximum back of queue for a particular lane within a lane group considering 95<sup>th</sup> percentile traffic volumes. The SimTraffic maximum queues are the average maximum queues after 10 runs of 60 minutes each.

Note that it is possible for the 95<sup>th</sup> percentile queue to be higher than the SimTraffic maximum queue due to the method in which each software calculates its respective value. The 95<sup>th</sup> percentile queue is based on an HCM formula while the SimTraffic maximum queue varies based on simulation results.

## 2.3 EXISTING TRAFFIC VOLUMES

Existing count data was obtained from directional turning movement counts at the three (3) study intersections:

1. Park Street at Macaa Drive/Davis Avenue (unsignalized)
2. Park Street at North Avenue (signalized)
3. Park Street at Cutler Lane (unsignalized)

The turning movement counts were collected on Thursday, June 24, 2021, between 7 – 9 AM and 4 – 6 PM. The data collection provided pedestrian counts and heavy vehicles by movement for the peak hours. The complete count data for the turning movement counts is provided in Appendix A.

For all three (3) study intersections, the collected traffic data indicates that the AM peak hour occurs between 8:00 – 9:00 AM and that the PM peak hour occurs between 4:45 – 5:45 PM. The 2021 existing count volumes are shown on Figure 2-1 (all figures located at the end of the chapter).

It is noted that this study was prepared during the COVID-19 pandemic and traffic patterns and volumes were atypical. In order to accommodate for the discrepancy, a 20% adjustment factor was applied to the field counts. The 2021 adjusted existing volumes are shown on Figure 2-2.



## 2.4 2021 EXISTING CONDITIONS ANALYSIS

Table 2-3 summarizes the 2021 existing intersection LOS, delay, and queues based on the 2021 adjusted existing traffic volumes shown on Figure 2-2 and the existing intersection geometry and traffic controls shown on Figure 1-4. The corresponding SYNCHRO and SimTraffic reports are included in Appendix B. Note that the intersection numbers shown on the LOS, delay, and queue length summary tables correspond with the intersection numbers used in the SYNCHRO models and report figures.

As shown in Table 2-3, all three (3) study intersections operate at an overall LOS A during both the AM and PM peak hours, with no operational issues noted on Park Street and minimal operational issues on the side streets.

At the unsignalized intersection of Park Street and Macaa Drive/Davis Avenue, the eastbound approach of Macaa Drive operates at LOS B in both the AM and PM peak. The westbound approach of Davis Avenue operates at LOS B in the AM peak and LOS C in the PM peak. The northbound and southbound approaches operate at LOS A in both the AM and PM peaks. There are no operational or queuing issues noted at this intersection that impact adjacent intersections.

At the signalized intersection of Park Street and North Avenue, the overall intersection operates at LOS A during both peak hours. The westbound approach of North Avenue operates at LOS A in the AM peak and LOS B in the PM peak. The northbound and southbound approaches operate at LOS A in both the AM and PM peak hours. The queuing along the corridor reaches a maximum of 184 feet, or approximately 7 vehicles, which occurs during the PM peak hour in the southbound direction.

At the unsignalized intersection of Park Street and Cutler Lane, the westbound approach of Cutler Lane operates at LOS C in the AM peak and LOS D in the PM peak. The eastbound approach from the private entrance operates at LOS A in the AM peak and LOS B in the PM peak. The northbound and southbound approaches operate at LOS A in both the AM and PM peaks. There are no operational or queuing issues noted at this intersection that impact adjacent intersections.

Table 2-3: LOS, Delay, and Queue Length Summary – 2021 Existing Conditions

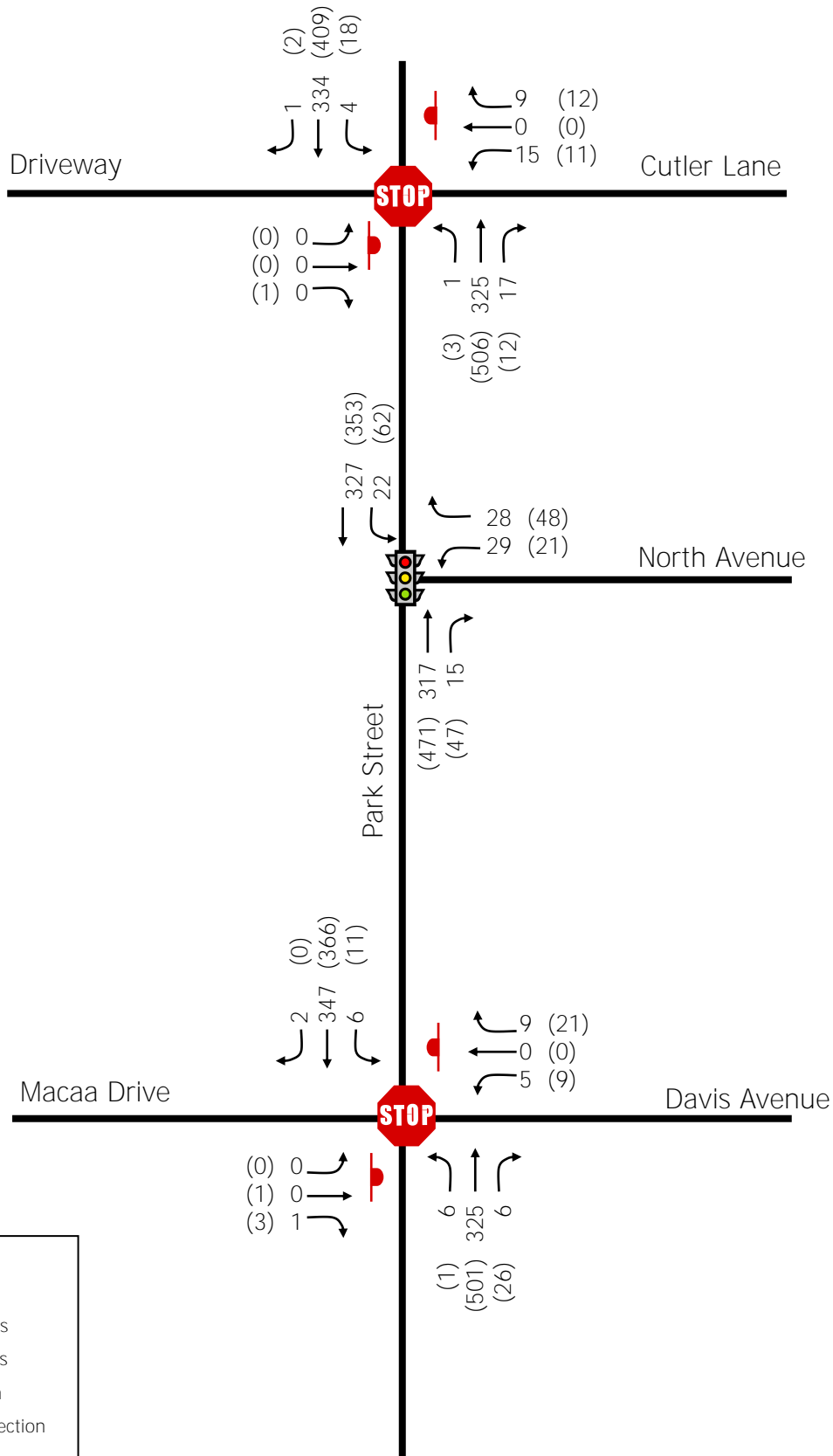
Intersection and Type of Control	Movement and Approach	Effective Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay (sec/veh)	LOS	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay (sec/veh)	LOS	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)
1. Park Street (NB-SB) Maca Drive (EB) Davis Avenue (WB) <i>Unsignalized</i>	EB L-T-R		11.1	B	0	22	14.3	B	0	31
	<i>EB Approach</i>		<i>11.1</i>	<i>B</i>	--	--	<i>14.3</i>	<i>B</i>	--	--
	WB L-T-R		14.6	B	5	37	20.2	C	13	56
	<i>WB Approach</i>		<i>14.6</i>	<i>B</i>	--	--	<i>20.2</i>	<i>C</i>	--	--
	NB L-T-R		8.3	A	0	32	8.4	A	0	29
	<i>NB Approach</i>		<i>8.3</i>	<i>A</i>	--	--	<i>8.4</i>	<i>A</i>	--	--
	SB L-T-R		8.2	A	0	51	9.1	A	3	98
	<i>SB Approach</i>		<i>8.2</i>	<i>A</i>	--	--	<i>9.1</i>	<i>A</i>	--	--
	Overall		0.4	A	--	--	0.8	A	--	--
2. Park Street (NB-SB) North Avenue (WB) <i>Signalized</i>	WB Left		8.8	A	20	58	11.0	B	21	34
	WB Right	75	9.0	A	13	55	12.7	B	21	45
	<i>WB Approach</i>		<i>8.9</i>	<i>A</i>	--	--	<i>12.2</i>	<i>B</i>	--	--
	NB Thru-Right		4.6	A	80	129	5.0	A	146	175
	<i>NB Approach</i>		<i>4.6</i>	<i>A</i>	--	--	<i>5.0</i>	<i>A</i>	--	--
	SB Left-Thru		4.4	A	89	141	4.3	A	121	184
	<i>SB Approach</i>		<i>4.4</i>	<i>A</i>	--	--	<i>4.3</i>	<i>A</i>	--	--
	Overall		4.8	A	--	--	5.2	A	--	--
3. Park Street (NB-SB) Cutler Lane (WB) Private Driveway (EB) <i>Unsignalized</i>	EB L-T-R		0.0	A	0	0	11.8	B	0	19
	<i>EB Approach</i>		<i>0.0</i>	<i>A</i>	--	--	<i>11.8</i>	<i>B</i>	--	--
	WB L-T-R		16.8	C	8	50	25.5	D	13	60
	<i>WB Approach</i>		<i>16.8</i>	<i>C</i>	--	--	<i>25.5</i>	<i>D</i>	--	--
	NB L-T-R		8.2	A	0	5	8.5	A	0	38
	<i>NB Approach</i>		<i>8.2</i>	<i>A</i>	--	--	<i>8.5</i>	<i>A</i>	--	--
	SB L-T-R		8.2	A	0	49	9.1	A	3	146
	<i>SB Approach</i>		<i>8.2</i>	<i>A</i>	--	--	<i>9.1</i>	<i>A</i>	--	--
	Overall		0.6	A	--	--	0.8	A	--	--

SimTraffic queues are average maximum queues after 10 runs of 60 minutes each.

Unsignalized, mainline single-lane approaches are shown with the highest reported delay for that approach.

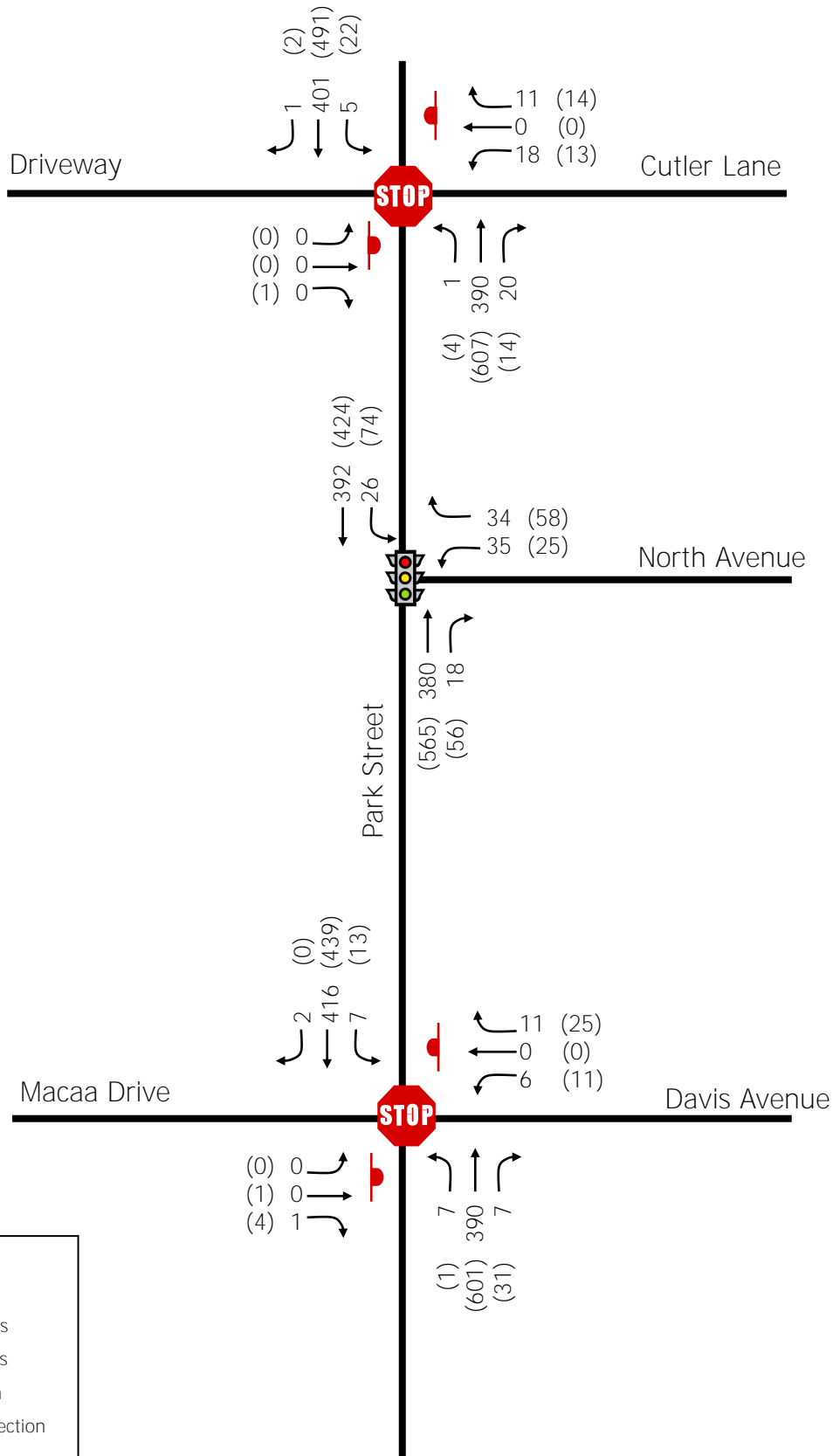


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- LEGEND:**
- Existing Road
  - 00 AM Peak Hour Volumes
  - ((00)) PM Peak Hour Volumes
  - Signalized Intersection
  - Stop Controlled Intersection
  - Stop Sign Location
  - Lane Configuration

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### 3 ANALYSIS OF BACKGROUND CONDITIONS

The background conditions assume maintain the existing intersection geometry in conjunction with projected background traffic volumes, which consists of general traffic growth and growth due to approved, neighboring developments. The background conditions analysis allows a reviewer to understand the traffic conditions in the buildout year without the traffic from the proposed development.

The proposed development is planned to be completed and operational by 2023. The 2023 background conditions account for the increase in background traffic for comparison with opening day volumes.

#### 3.1 2023 BACKGROUND TRAFFIC GROWTH

The background 2023 volumes were analyzed assuming the existing intersection geometry in conjunction with projected background traffic volumes. The background traffic volumes were developed based on a 1% annual growth rate. The growth rate was compounded annually for the 2-year period from 2021 to 2023. The resulting 2023 adjusted existing volumes plus background growth are shown on Figure 3-1.

#### 3.2 2023 BACKGROUND CONDITIONS ANALYSIS

Table 3-1 summarizes the 2023 background intersection LOS, delay, and queues based on the 2023 background traffic volumes shown on Figure 3-1 and the existing intersection geometry and traffic controls shown on Figure 1-4. The corresponding SYNCHRO worksheets are included in Appendix C. Note that the intersection numbers shown on the LOS, delay, and queue length summary tables correspond with the intersection numbers used in the SYNCHRO models and report figures.

As shown in Table 3-1, all three (3) study intersections continue to operate at an overall LOS A during both the AM and PM peak hours, with no operational issues noted on Park Street and minimal operational issues on the side streets.

At the unsignalized intersection of Park Street and Macaa Drive/Davis Avenue, the eastbound approach of Macaa Drive continues to operate at LOS B in both the AM and PM peak. The westbound approach of Davis Avenue continues to operate at LOS B in the AM peak and LOS C in the PM peak. The northbound and southbound approaches continue to operate at LOS A in both the AM and PM peaks. There are no operational or queuing issues noted at this intersection that impact adjacent intersections.

At the signalized intersection of Park Street and North Avenue, the overall intersection continues to operate at LOS A during both peak hours. The westbound approach of North Avenue continues to operate at LOS A in the AM peak and LOS B in the PM peak. The northbound and southbound approaches continue to operate at LOS A in both the AM and PM peak hours. The queuing reaches a maximum of 184 feet, or approximately 7 vehicles, which occurs during the PM peak hour in the northbound direction.

At the unsignalized intersection of Park Street and Cutler Lane, the westbound approach of Cutler Lane continues to operate at LOS C in the AM peak and LOS D in the PM peak. The eastbound approach from the private entrance continues to operate at LOS A in the AM peak and LOS B in the PM peak. The northbound and southbound approaches continue to operate at LOS A in both the AM and PM peaks. There are no operational or queuing issues noted at this intersection that impact adjacent intersections.

All operational and queuing issues noted in the 2021 existing conditions are found to be equal under the 2023 background conditions.

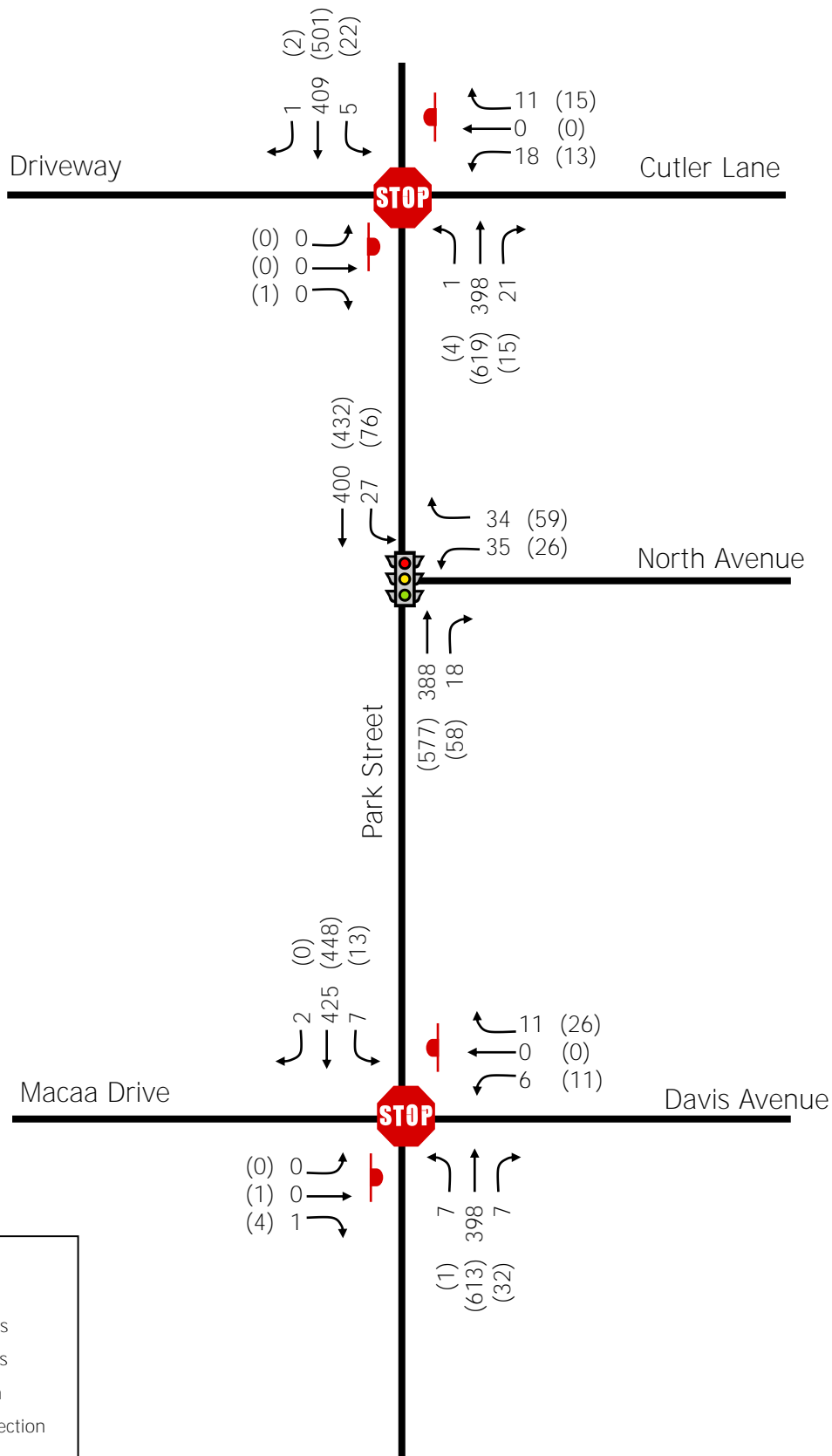


Table 3-1: LOS, Delay, and Queue Length Summary – 2023 Background Conditions

Intersection and Type of Control	Movement and Approach	Effective Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay (sec/veh)	LOS	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay (sec/veh)	LOS	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)
1. Park Street (NB-SB) Macao Drive (EB) Davis Avenue (WB) <i>Unsignalized</i>	EB L-T-R		11.0	B	0	25	14.1	B	0	30
	<i>EB Approach</i>		<i>11.0</i>	<i>B</i>	--	--	<i>14.1</i>	<i>B</i>	--	--
	WB L-T-R		14.4	B	3	37	19.4	C	13	55
	<i>WB Approach</i>		<i>14.4</i>	<i>B</i>	--	--	<i>19.4</i>	<i>C</i>	--	--
	NB L-T-R		8.3	A	0	49	8.3	A	0	10
	<i>NB Approach</i>		<i>8.3</i>	<i>A</i>	--	--	<i>8.3</i>	<i>A</i>	--	--
	SB L-T-R		8.2	A	0	78	9.0	A	0	137
	<i>SB Approach</i>		<i>8.2</i>	<i>A</i>	--	--	<i>9.0</i>	<i>A</i>	--	--
	Overall		0.4	A	--	--	0.8	A	--	--
2. Park Street (NB-SB) North Avenue (WB) <i>Signalized</i>	WB Left		8.9	A	20	64	10.7	B	21	46
	WB Right	75	9.1	A	14	52	12.4	B	22	45
	<i>WB Approach</i>		<i>9.0</i>	<i>A</i>	--	--	<i>11.9</i>	<i>B</i>	--	--
	NB Thru-Right		4.6	A	80	138	4.9	A	147	184
	<i>NB Approach</i>		<i>4.6</i>	<i>A</i>	--	--	<i>4.9</i>	<i>A</i>	--	--
	SB Left-Thru		4.4	A	89	144	4.2	A	122	180
	<i>SB Approach</i>		<i>4.4</i>	<i>A</i>	--	--	<i>4.2</i>	<i>A</i>	--	--
	Overall		4.8	A	--	--	5.1	A	--	--
3. Park Street (NB-SB) Cutler Lane (WB) Private Driveway (EB) <i>Unsignalized</i>	EB L-T-R		0.0	A	0	0	11.7	B	0	22
	<i>EB Approach</i>		<i>0.0</i>	<i>A</i>	--	--	<i>11.7</i>	<i>B</i>	--	--
	WB L-T-R		17.0	C	8	49	24.0	C	13	55
	<i>WB Approach</i>		<i>17.0</i>	<i>C</i>	--	--	<i>24.0</i>	<i>C</i>	--	--
	NB L-T-R		8.2	A	0	1	8.5	A	0	35
	<i>NB Approach</i>		<i>8.2</i>	<i>A</i>	--	--	<i>8.5</i>	<i>A</i>	--	--
	SB L-T-R		8.2	A	0	52	9.0	A	3	189
	<i>SB Approach</i>		<i>8.2</i>	<i>A</i>	--	--	<i>9.0</i>	<i>A</i>	--	--
	Overall		0.6	A	--	--	0.8	A	--	--

SimTraffic queues are average maximum queues after 10 runs of 60 minutes each.

Unsignalized, mainline single-lane approaches are shown with the highest reported delay for that approach.



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## 4 SITE TRIP GENERATION AND DISTRIBUTION

### 4.1 TRIP GENERATION

The site-generated traffic volumes shown in Tables 4-1 and 4-2 were estimated using the 10<sup>th</sup> edition of the **Institute of Transportation Engineers'** (ITE) *Trip Generation Manual* and were calculated using the number of dwelling units as the independent variable for the residential units and square footage as the independent variable for the childcare facility.

For trip generation purposes, the proposed MACAA site redevelopment was assumed to be a combination of low-rise multi-family housing (ITE Land Use Code 220) and childcare (ITE Land Use Code 565). When complete, the proposed development will generate a total of 894 average daily trips, 97 AM peak hour trips (38 in and 59 out), and 108 PM peak hour trips (59 in and 49 out), as shown in Table 4-1.

Table 4-1: Trip Generation Summary – MACAA Site

LAND USE	ITE CODE	AMOUNT	UNITS	WEEKDAY						
				ADT	AM PEAK HOUR			PM PEAK HOUR		
					IN	OUT	TOTAL	IN	OUT	TOTAL
Proposed Development										
Low-Rise Residential	220	94	Units	670	10	35	45	35	21	56
Day Care Center	565	4,703	Sq. Ft	224	28	24	52	24	28	52
TOTAL				894	38	59	97	59	49	108

SOURCE: Institute of Transportation Engineers' *Trip Generation Manual* 10th Edition (2017)

For trip generation purposes, the proposed Park Street Christian Church site development was assumed to be low-rise multi-family residential housing (ITE Land Use Code 220). When complete, the proposed development will generate a total of 352 average daily trips, 26 AM peak hour trips (6 in and 20 out), and 33 PM peak hour trips (21 in and 12 out), as shown in Table 4-2.

Table 4-2: Trip Generation Summary – Park Street Christian Church Site

LAND USE	ITE CODE	AMOUNT	UNITS	WEEKDAY						
				ADT	AM PEAK HOUR			PM PEAK HOUR		
					IN	OUT	TOTAL	IN	OUT	TOTAL
Proposed Development										
Low-Rise Residential	220	52	Units	352	6	20	26	21	12	33
TOTAL				352	6	20	26	21	12	33

SOURCE: Institute of Transportation Engineers' *Trip Generation Manual* 10th Edition (2017)



## 4.2 SITE TRIP DISTRIBUTION

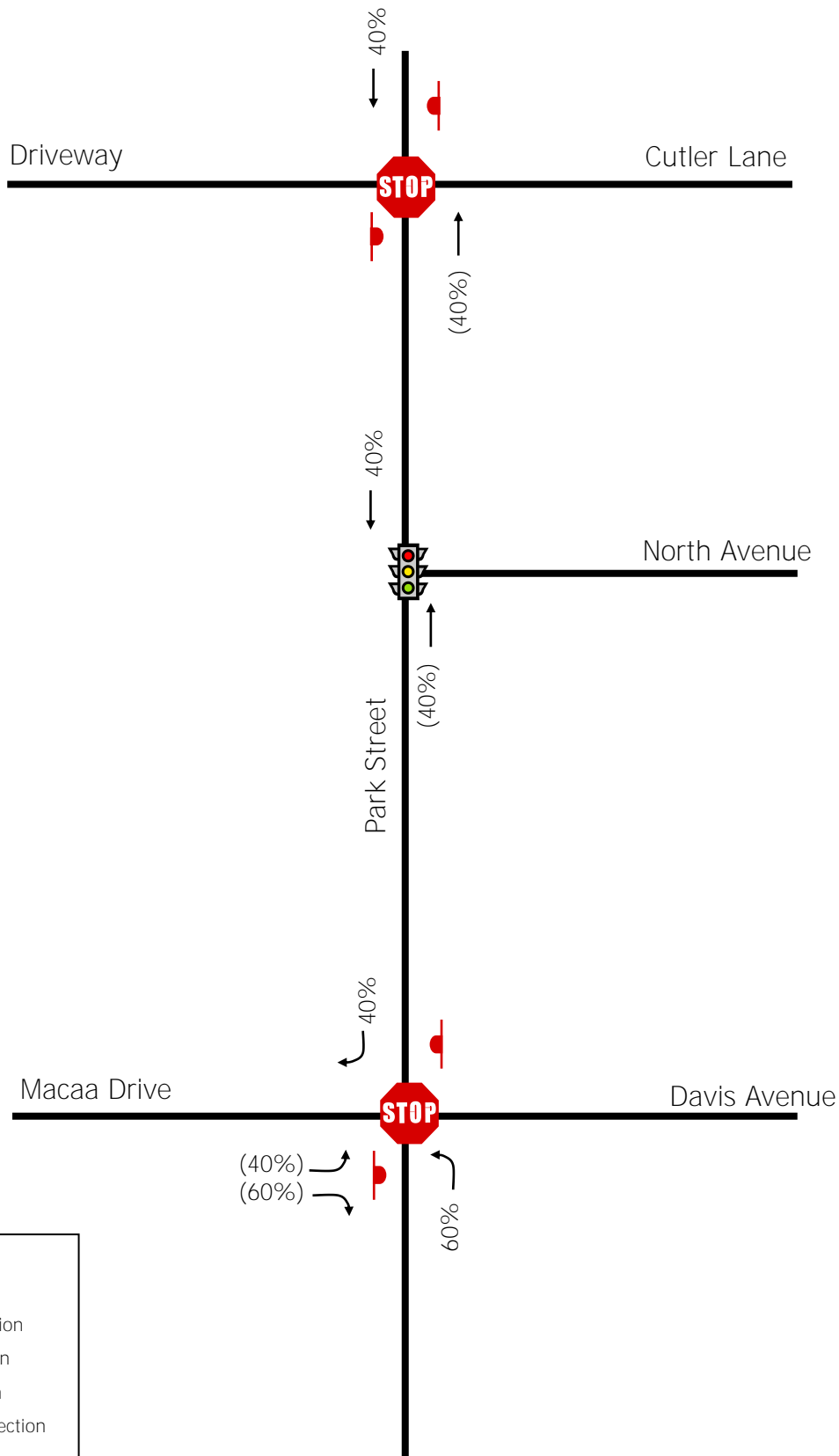
The distribution of site trips generated by the proposed residential development was based on the existing traffic volumes, the nature of the use, the surrounding roadway network, and local knowledge of traffic patterns in the area. Since both projects are located along streets that primarily access Park Street and Park Street provides access to the US Route 250 Bypass and John W. Warner Parkway, all traffic was assumed to utilize Park Street. 60% of site traffic will enter from and exit towards the south along Park Street. The remaining 40% of site traffic will enter from and exit towards the north along Park Street.

The trip distributions by study intersection for the MACAA site are shown on Figure 4-1 and for the Park Street Christian Church site are shown on Figure 4-2.

## 4.3 SITE TRIP ASSIGNMENT

For the MACAA site, the trip distribution percentages for the site trips shown in Figure 4-1 were applied to the trip generation volumes shown in Table 4-1 to calculate the site trips for the surrounding roadway network and study intersections. The resulting new site-generated trips are shown on Figure 4-3.

For the Park Street Christian Church site, the trip distribution percentages for the site trips shown in Figure 4-2 were applied to the trip generation volumes shown in Table 4-2 to calculate the site trips for the surrounding roadway network and study intersections. The resulting new site-generated trips are shown on Figure 4-4.



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LEGEND:

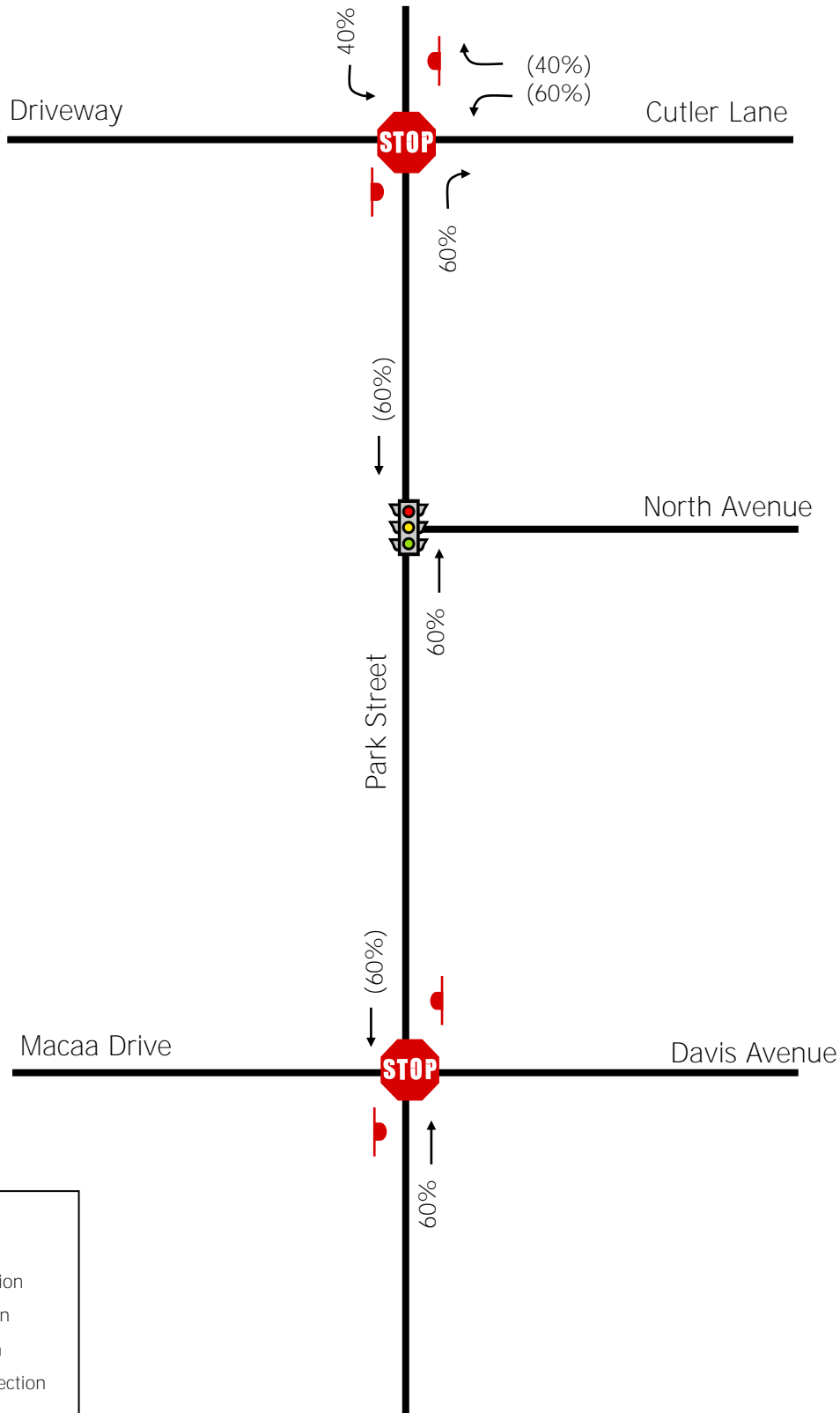
- Existing Road
- 00% Entering Trip Distribution
- (00%) Exiting Trip Distribution
- Signalized Intersection
- Stop Controlled Intersection
- Stop Sign Location
- Lane Configuration



Trip Distribution  
MACAA Site  
PHA Park Street Developments  
Charlottesville, Virginia

Figure  
4-1





**LEGEND:**

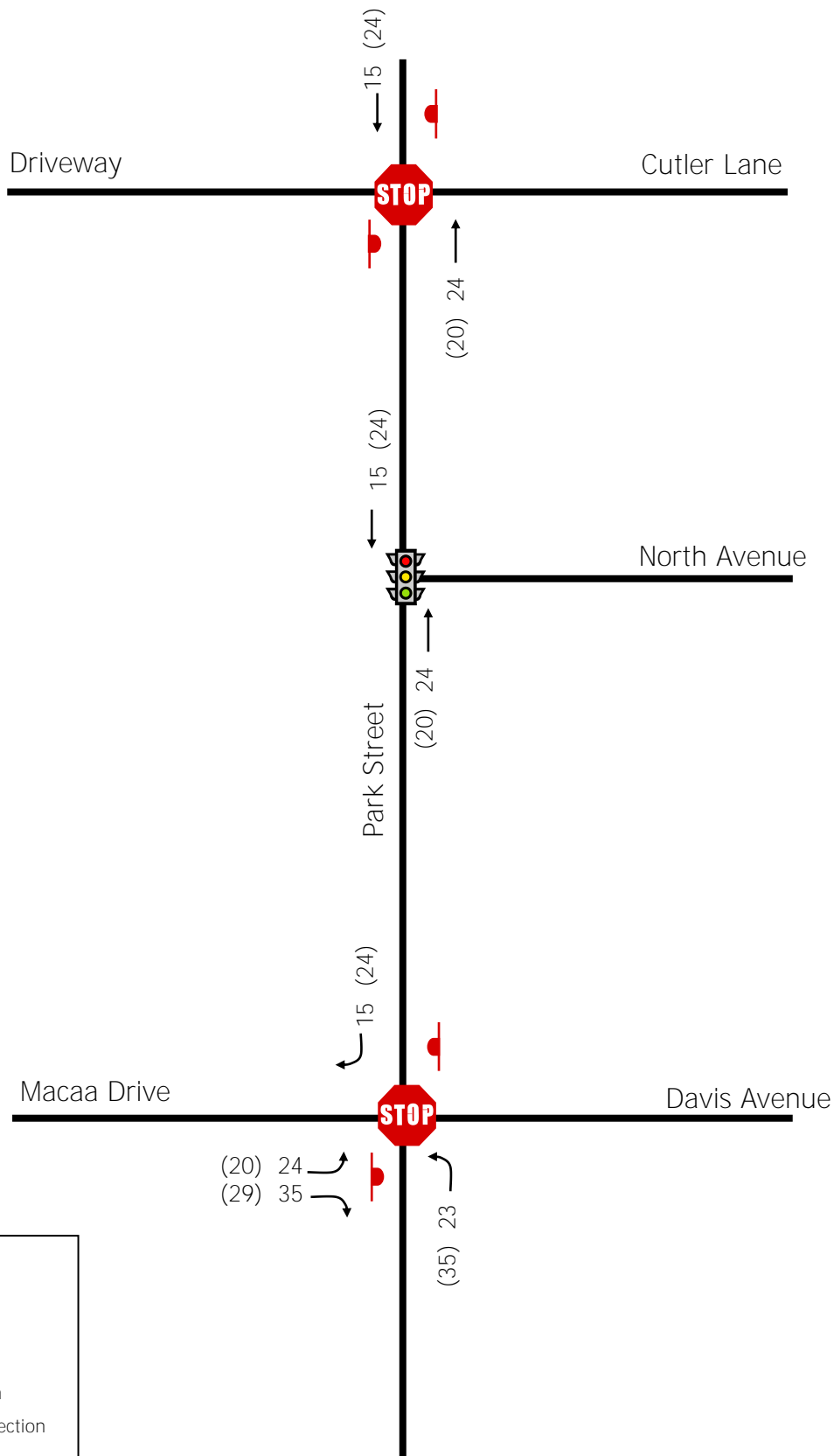
- Existing Road
- 00% Entering Trip Distribution
- (00%) Exiting Trip Distribution
- Signalized Intersection
- Stop Controlled Intersection
- Stop Sign Location
- Lane Configuration

NOT TO SCALE



Trip Distribution  
Park Street Christian Church Site  
PHA Park Street Developments  
Charlottesville, Virginia

Figure  
4-2



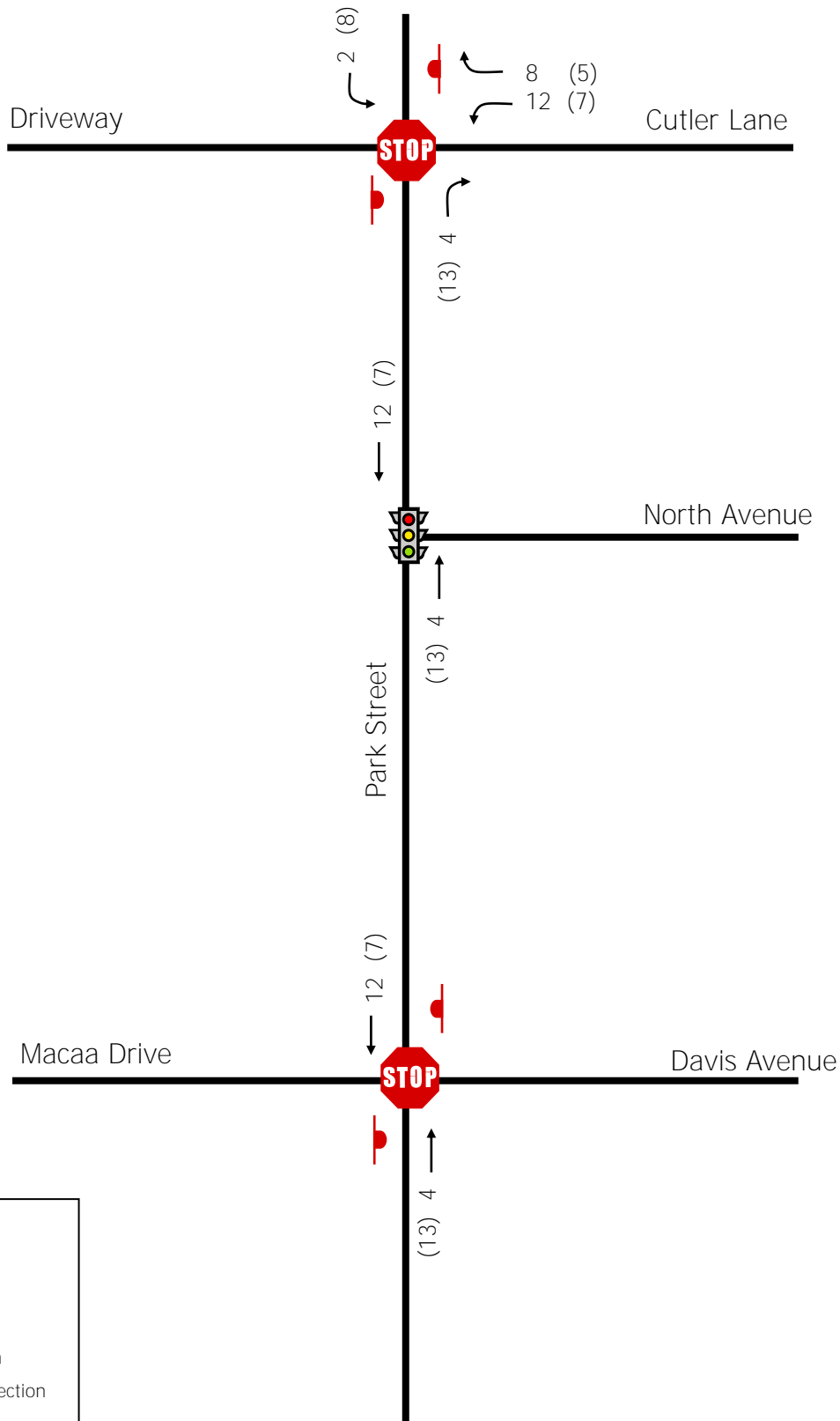
NOT TO SCALE



New Site-Generated Trips  
MACAA Site  
PHA Park Street Developments  
Charlottesville, Virginia

Figure  
4-3





LEGEND:

- Existing Road
- 00 AM Peak Hour Trips
- (00) PM Peak Hour Trips
- Signalized Intersection
- Stop Controlled Intersection
- Stop Sign Location
- Lane Configuration

NOT TO SCALE



New Site-Generated Trips  
Park Street Christian Church Site  
PHA Park Street Developments  
Charlottesville, Virginia

Figure  
4-4

## 5 ANALYSIS OF FUTURE CONDITIONS WITH DEVELOPMENT

### 5.1 FUTURE IMPROVEMENTS TO STUDY AREA

There are several planned improvements in regard to roadway geometry and pedestrian access improvements.

In the vicinity of the MACAA site, Macaa Drive will be realigned north to be directly across from Davis Avenue, removing existing walls, landscaping, and utilities, and improving sight distance from Macaa Drive onto Park Street. Sidewalks along Macaa Drive will be improved between Park Street and the site development during the roadway realignment. In addition, the pedestrian curb ramps will be improved at the intersection of Park Street and Macaa Drive/Davis Avenue, including a realigned pedestrian crosswalk. The improved sight distance and pedestrian infrastructure at the main site intersection provide a safer intersection for all modes of travel.

In the vicinity of the Park Street Christian Church site, the sight distance from Cutler Lane onto Park Street will be improved via the removal of brush and overgrown landscaping and installation of improved sidewalk along Cutler Lane between Park Street and the site. A new striped crosswalk with improved pedestrian curb ramps will be installed to the north of the Cutler Lane intersection. The improved sight distance and pedestrian infrastructure at the main site intersection provide a safer intersection for all modes of travel.

### 5.2 2023 TOTAL TRAFFIC VOLUMES

To complete the analysis of the 2023 total conditions (with the proposed development), the estimated site trips were added to the background 2023 volumes. The projected total future (background + site) volumes were then used to complete the capacity analysis.

To generate the 2023 total future traffic volumes, the site trips shown on Figures 4-3 and 4-4, respective to each development site, and the background 2023 traffic volumes shown in Figure 3-1 were combined. The resulting 2023 total future traffic volumes are shown in Figure 5-1.

### 5.3 2023 TOTAL FUTURE CONDITIONS ANALYSIS

Table 5-1 summarizes the 2023 total future intersection LOS, delay, and queues based on the 2023 total future traffic volumes shown on Figure 5-1 and the existing intersection geometry and traffic controls shown on Figure 1-4. The corresponding SYNCHRO worksheets are included in Appendix D. Note that the intersection numbers shown on the LOS, delay, and queue length summary tables correspond with the intersection numbers used in the SYNCHRO models and report figures.

As shown in Table 5-1, all three (3) study intersections continue to operate at an overall LOS A during both the AM and PM peak hours with the addition of the both the MACAA and Park Street Christian Church sites. There are no operational or queuing issues noted on Park Street and minimal operational issues are observed on the side streets.

At the unsignalized intersection of Park Street and Macaa Drive/Davis Avenue, the eastbound approach of Macaa Drive worsens to operate at LOS C during the AM peak hour and at LOS D during the PM peak hour. The westbound approach of Davis Avenue operates at LOS C during both the AM and PM peak hours. The northbound and southbound approaches continue to operate at LOS A in both the AM and PM peak hours. There are no operational issues noted at this intersection that impact adjacent intersections. The maximum queue observed is 148 feet, or approximately 6 vehicles, which occurs during the PM peak hour in the southbound direction, which is an increase of only 11 feet (less than one vehicle length) over the 2023 background conditions.

At the signalized intersection of Park Street and North Avenue, the overall intersection continues to operate at LOS A during both peak hours. The westbound approach of North Avenue continues to operate at LOS A in the AM peak and LOS B in the PM peak. The northbound and southbound approaches continue to operate at LOS A in both the AM and PM peak hours. The queuing reaches a maximum of 212 feet, or approximately 8 vehicles, which occurs during the PM peak hour in the northbound direction, which is an increase of only 32 feet (approximately 1 vehicle length) over the 2023 background conditions.

At the unsignalized intersection of Park Street and Cutler Lane, the westbound approach of Cutler Lane continues to operate at LOS C in the AM peak and worsens to operate at LOS D in the PM peak. The eastbound approach from the private entrance continues to operate at LOS A in the AM peak and LOS B in the PM peak. The northbound and southbound approaches continue to operate at LOS A in both the AM and PM peaks. There are no operational or queuing issues noted at this intersection that would impact adjacent intersections. The maximum queue observed is 213 feet, or approximately 9 vehicles, which occurs during the PM peak hour in the southbound direction, which is an increase of only 24 feet (approximately 1 vehicle length) over the 2023 background conditions.

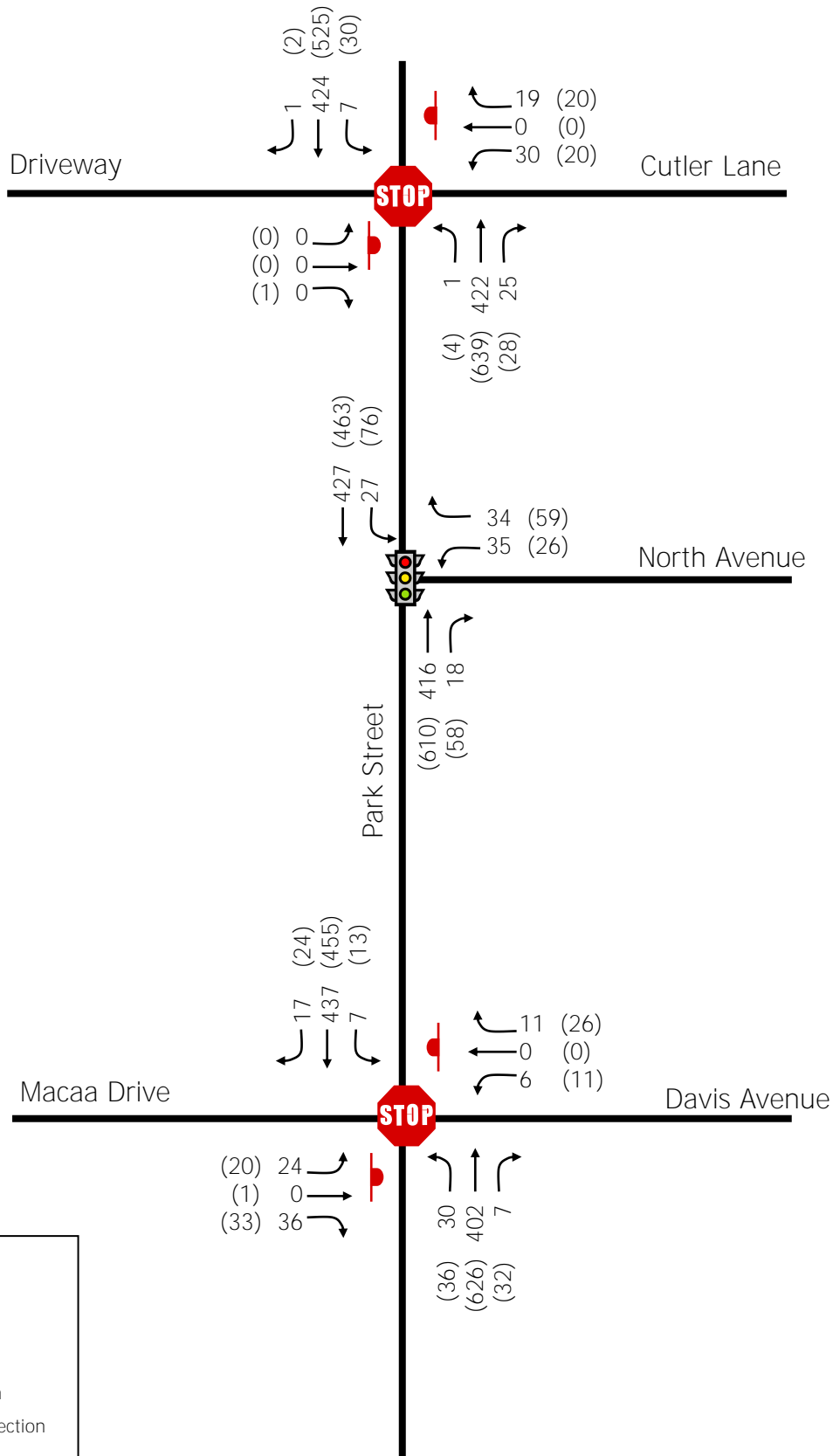
Table 5-1: LOS, Delay, and Queue Length Summary – 2023 Total Future Conditions

Intersection and Type of Control	Movement and Approach	Effective Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay (sec/veh)	LOS	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay (sec/veh)	LOS	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)
1. Park Street (NB-SB) Macao Drive (EB) Davis Avenue (WB) <i>Unsignalized</i>	EB L-T-R		18.2	C	18	66	25.9	D	25	72
	<i>EB Approach</i>		18.2	C	--	--	25.9	D	--	--
	WB L-T-R		15.9	C	5	38	22.9	C	15	64
	<i>WB Approach</i>		15.9	C	--	--	22.9	C	--	--
	NB L-T-R		8.4	A	3	71	8.5	A	3	144
	<i>NB Approach</i>		8.4	A	--	--	8.5	A	--	--
	SB L-T-R		8.2	A	0	53	9.1	A	0	148
	<i>SB Approach</i>		8.2	A	--	--	9.1	A	--	--
	Overall		1.7	A	--	--	2.1	A	--	--
2. Park Street (NB-SB) North Avenue (WB) <i>Signalized</i>	WB Left		9.1	A	20	66	11.2	B	21	40
	WB Right	75	9.3	A	14	56	12.9	B	22	46
	<i>WB Approach</i>		9.2	A	--	--	12.3	B	--	--
	NB Thru-Right		4.6	A	88	134	5.0	A	161	212
	<i>NB Approach</i>		4.6	A	--	--	5.0	A	--	--
	SB Left-Thru		4.4	A	96	152	4.3	A	134	185
	<i>SB Approach</i>		4.4	A	--	--	4.3	A	--	--
	Overall		4.8	A	--	--	5.2	A	--	--
3. Park Street (NB-SB) Cutler Lane (WB) Private Driveway (EB) <i>Unsignalized</i>	EB L-T-R		0.0	A	0	0	11.9	B	0	17
	<i>EB Approach</i>		0.0	A	--	--	11.9	B	--	--
	WB L-T-R		19.0	C	15	67	29.5	D	23	77
	<i>WB Approach</i>		19.0	C	--	--	29.5	D	--	--
	NB L-T-R		8.2	A	0	3	8.6	A	0	42
	<i>NB Approach</i>		8.2	A	--	--	8.6	A	--	--
	SB L-T-R		8.3	A	0	48	9.2	A	3	213
	<i>SB Approach</i>		8.3	A	--	--	9.2	A	--	--
	Overall		1.0	A	--	--	1.2	A	--	--

SimTraffic queues are average maximum queues after 10 runs of 60 minutes each.

Unsignalized, mainline single-lane approaches are shown with the highest reported delay for that approach.





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2023 Total Volumes  
PHA Park Street Developments  
Charlottesville, Virginia

Figure  
5-1

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## 6 TURN LANE WARRANT ANALYSIS

### 6.1 2023 TOTAL FUTURE CONDITIONS ANALYSIS

Using 2023 total future traffic volumes from Figure 5-1 and the appropriate turn lane warrant nomographs from Appendix F of the VDOT *Road Design Manual*, turn lane warrant analyses were completed for the proposed site entrances on Park Street, at Macaa Drive and at Cutler Lane. The northbound and southbound approaches at both intersections were analyzed to determine if the projected volumes would warrant the installation of a left or right turn lane.

The left and right turn lane warrants can be found in Figures 6-1 through 6-4.

Under 2023 total future conditions, the following turn lanes are warranted:

- Northbound left turn lane on Park Street at Macaa Drive;
- Northbound right turn taper on Park Street at Cutler Lane; and
- Southbound left turn lane on Park Street at Cutler Lane.

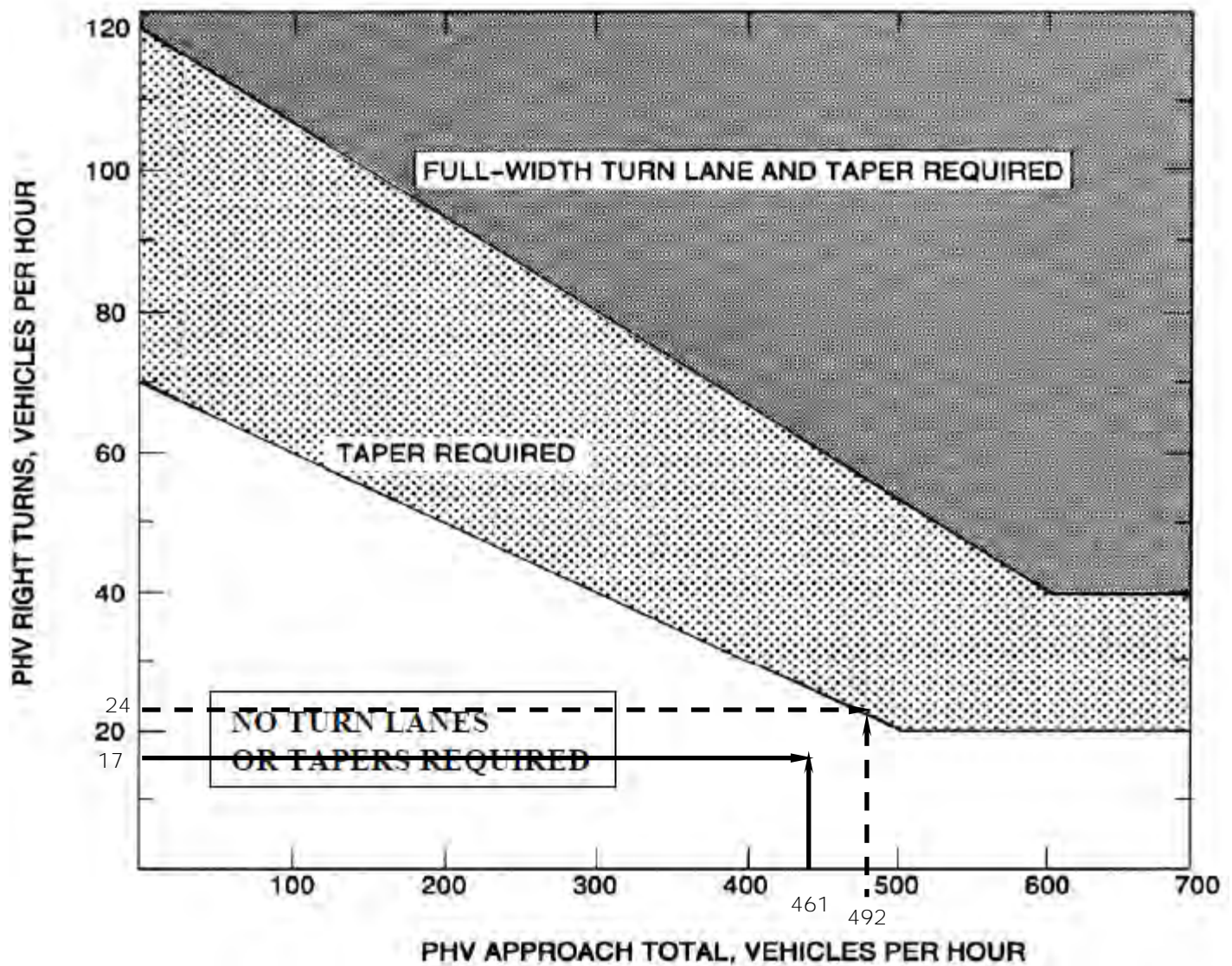
Based on the posted speed limit (25 MPH) and the functional classification of Park Street (urban collector), **a minimum taper of 100' and a minimum storage of 100' is required** for both turn lanes per the VDOT *Road Design Manual*.



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# GUIDELINES FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)

## FIGURE 3-26 VDOT ROAD DESIGN MANUAL APPENDIX F

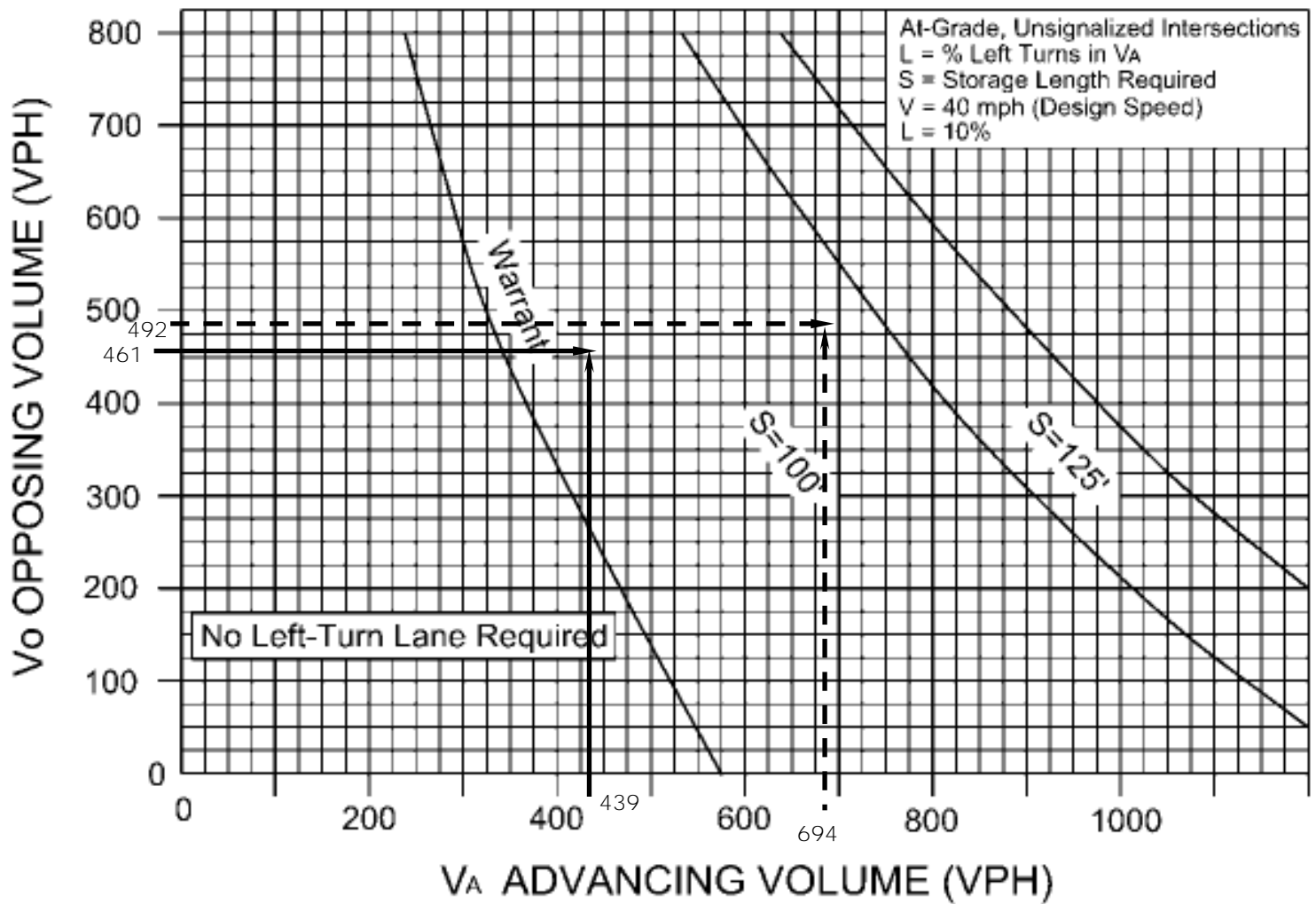


NO RIGHT TURN LANE OR TAPER WARRANTED

### LEGEND

- AM Peak Hour
- - - PM Peak Hour

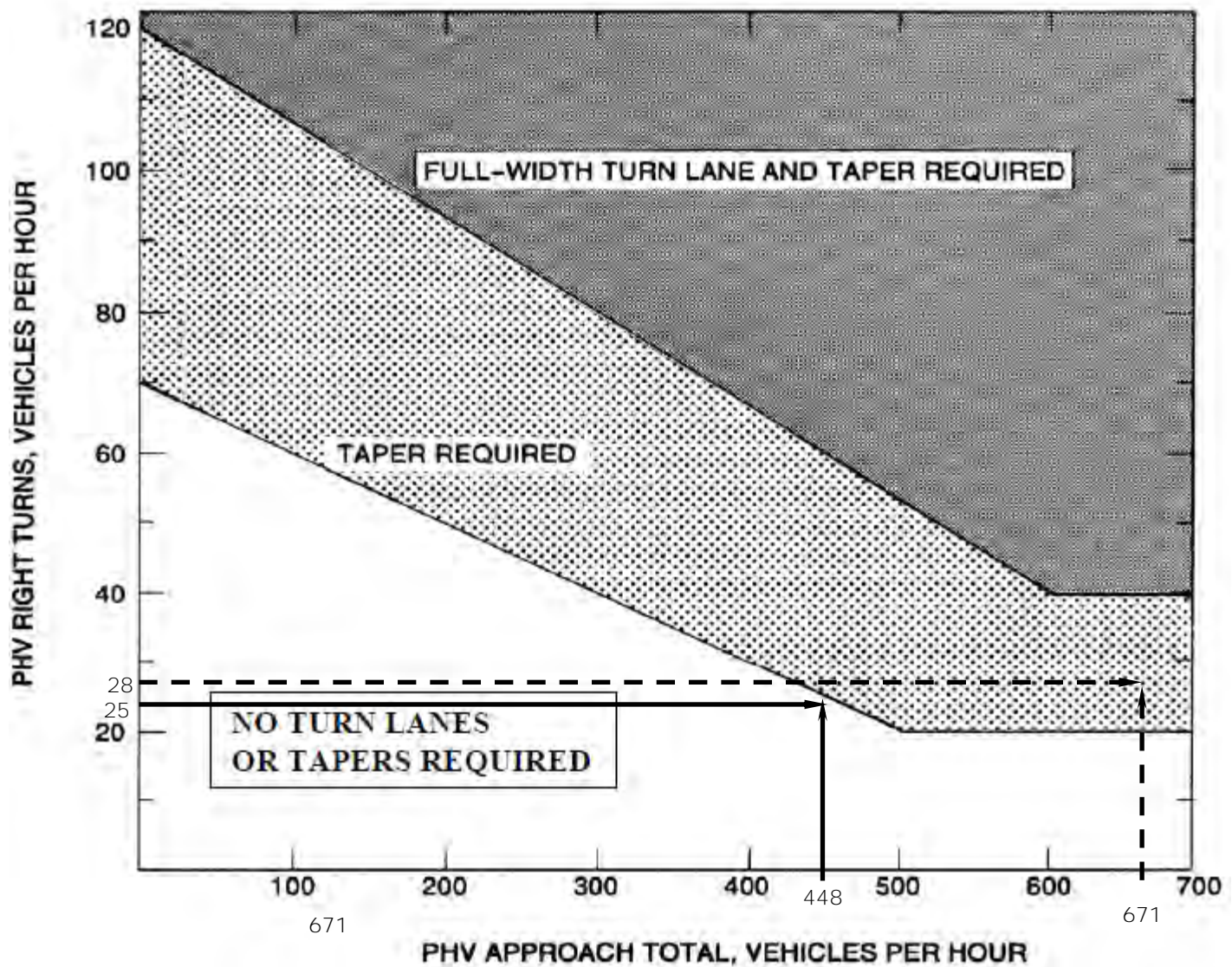
WARRANT FOR LEFT-TURN STORAGE LANES  
ON TWO-LANE HIGHWAYS (40 MPH)  
FIGURE 3-6 VDOT ROAD DESIGN MANUAL APPENDIX F



LEFT TURN LANE WARRANTED



GUIDELINES FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)  
FIGURE 3-26 VDOT ROAD DESIGN MANUAL APPENDIX F

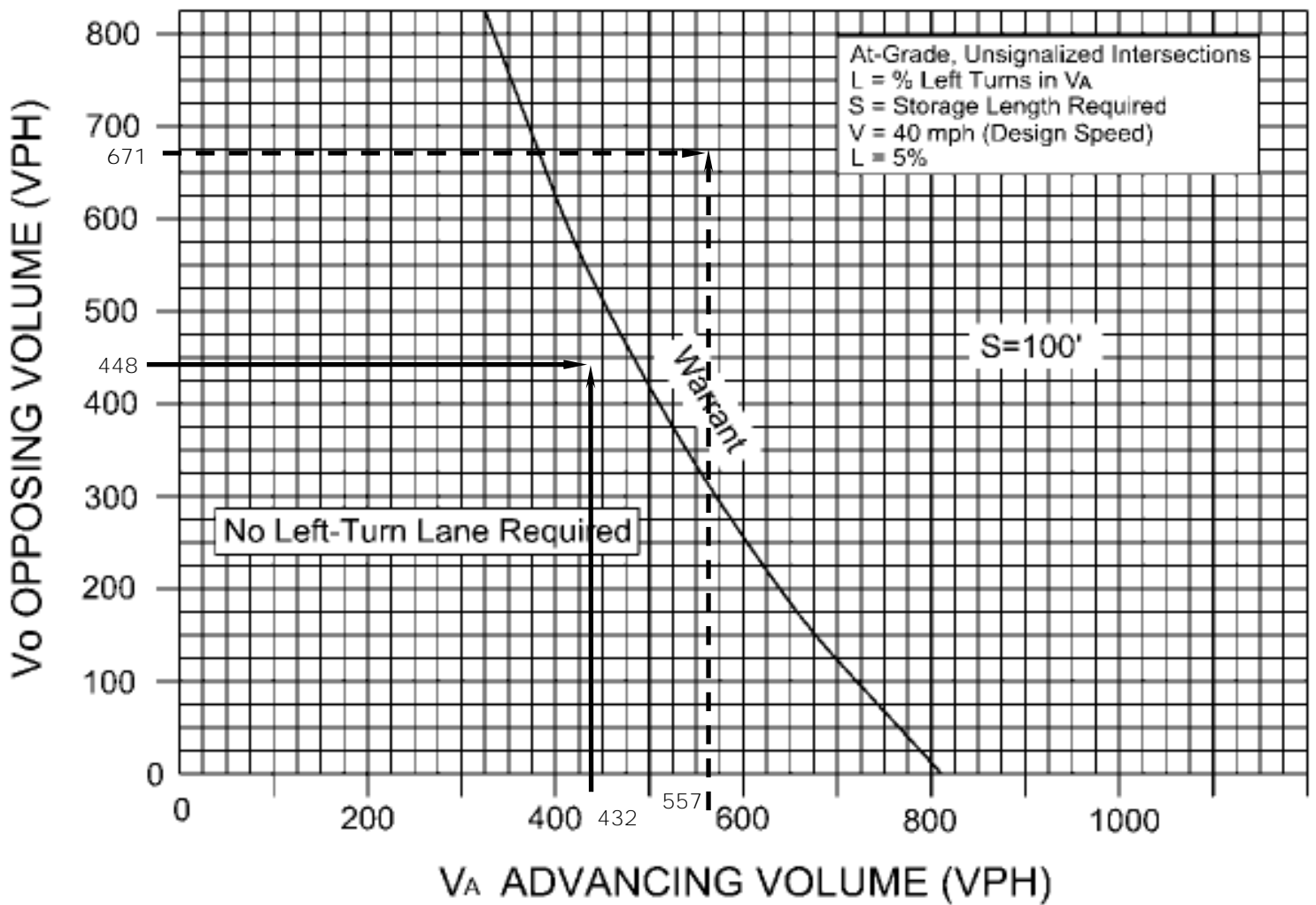


RIGHT TURN TAPER ONLY WARRANTED

LEGEND

- AM Peak Hour
- - - PM Peak Hour

WARRANT FOR LEFT-TURN STORAGE LANES  
ON TWO-LANE HIGHWAYS (40 MPH)  
FIGURE 3-5 VDOT ROAD DESIGN MANUAL APPENDIX F



LEGEND

- AM Peak Hour
- - - PM Peak Hour

LEFT TURN LANE WARRANTED

## 7 CONCLUSIONS AND RECOMMENDATIONS

### 7.1 STUDY FINDINGS

Operational analyses were performed during the AM and PM peak hours for the 2021 existing conditions with existing geometry, the 2023 background conditions with existing geometry, and the 2023 total future conditions with existing geometry. Based on the operational analyses the following summary is offered.

Under the 2021 existing and 2023 background conditions:

All three (3) study intersections operate at an overall LOS A during both the AM and PM peak hours, with no operational issues noted on Park Street and minimal operational issues on the side streets. There are no queuing issues at any intersection that create operational issues at adjacent intersections. All movements and approaches operate at LOS C or better during both peak hours. The signalized intersection of Park Street at North Avenue operates with the most queue along the corridor, which is to be expected. The maximum queue observed is 184 feet, or approximately 7 vehicles, which occurs during the PM peak hour. The majority of the peak hour will experience less queuing for any one movement or approach.

Under the 2023 total future conditions:

With the new site traffic from both the MACAA site and the Park Street Christian Church site, the overall operations along the Park Street corridor maintain the existing levels of service for all study intersections as under existing and background conditions. All three (3) study intersections continue to operate with an overall LOS A during both the AM and PM peak hours, with no operational issues noted on Park Street and minimal operational issues on the side streets. Overall, the study intersections will continue to operate as they do today.

Both the NB and SB directions of Park Street operate at LOS A, with less than 10 seconds of delay at any time of day. Any queuing along the corridor is associated with the small quantity of left turn traffic that will need to wait for a gap. The addition of site traffic adds only 1 to 2 seconds of delay to Park Street. The signalized intersection of Park Street and North Avenue operates with all movements at LOS A or B and no movement with more than 13 seconds of delay.

Macao Drive operates at LOS B with 14 seconds of delay and only 1 car of queuing in background conditions. The addition of the site will increase the delays for Macaa Drive to have 26 seconds of delay and a queue of approximately 3 cars. Most of the additional delay at the intersection occurs on Macaa Drive, which is internal to the site. There are no major impacts to mainline traffic on Park Street.

Cutler Lane operates at LOS C with 24 seconds of delay and 2 cars of queuing in background conditions. The addition of the site will increase the delays on Cutler Lane to 29.5 seconds of delay and a queue of approximately 3 cars. Most of the additional delay at the intersection occurs on Cutler Lane. There are no major impacts to mainline traffic on Park Street.



## 7.2 RECOMMENDATIONS

Overall, there are limited existing traffic issues on Park Street or the side streets within the study area. The addition of the two (2) projects will add some delay to Macaa Drive and Cutler Lane but generally leave the operations of Park Street minimally impacted. The overall additional delay to the Park Street approach at any intersection is less than 3 seconds. There are no operational or capacity improvements recommended to accommodate the increased traffic volumes associated with the proposed MACAA site redevelopment and the Park Street Christian Church site residential development.

While the warrants indicate a northbound left turn lane is warranted on Park Street at Macaa Drive and both a northbound right turn lane and a southbound left turn lane are warranted on Park Street at Cutler Lane, the installation of those improvements is not recommended for the following reasons:

1. No Operational Benefit – As noted above, all mainline movements (left, through, and right) on Park Street operate at LOS A during both peak hours with no queueing without any turn lane improvements. The projected queues generated by the proposed development are minimal and will not interfere with operations at existing intersections upstream or downstream of the study intersections. The lack of queueing for the mainline turning maneuver indicates that there will be minimal impacts to through traffic due to the left turning traffic.
2. Limited Safety Benefit – Although the installation of a left- or right-turn lane on Park Street would provide deceleration space for turning traffic, there are no existing safety issues present within the study area. There is no crash pattern or history that suggests a specific improvement or geometric change.
3. Impact on Adjacent Property – Based on available GIS data, the existing right-of-way along Park Street is insufficient to accommodate widening associated with the aforementioned auxiliary turn lanes. The geometric improvements would require the acquisition of right-of-way from adjacent landowners and construction costs in excess of \$1,000,000 for the benefit of a limited number of turning vehicles.
4. Existing Corridor – A review of the existing Park Street corridor shows that there are no turn lanes installed at any side street or commercial entrance in the area where curb/gutter and sidewalk exist, including all areas south of Cutler Lane into downtown Charlottesville. The current driver expectation on the corridor is to operate without left or right turn lanes.

There are several planned improvements in regard to roadway geometry and pedestrian access improvements. In the vicinity of the MACAA site, Macaa Drive will be realigned north to be directly across from Davis Avenue, removing existing walls, landscaping, and utilities, and improving sight distance from Macaa Drive onto Park Street. Sidewalks along Macaa Drive will be improved between Park Street and the site development during the roadway realignment. In addition, the pedestrian curb ramps will be improved at the intersection of Park Street and Macaa Drive/Davis Avenue, including a realigned pedestrian crosswalk. The improved sight distance and pedestrian infrastructure at the main site intersection provide a safer intersection for all modes of travel.

In the vicinity of the Park Street Christian Church site, the sight distance from Cutler Lane onto Park Street will be improved via the removal of brush and overgrown landscaping and installation of improved sidewalk along Cutler Lane between Park Street and the site. A new striped crosswalk with improved pedestrian curb ramps will be installed to the north of the Cutler Lane intersection. The improved sight distance and pedestrian infrastructure at the main site intersection provide a safer intersection for all modes of travel.

# Appendix A

## Traffic Counts

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# Data Collection Group

757.478.6761

LSmith@DataCollectionGroup.net

File Name : Park and Macaa

Site Code : 00068599

Start Date : 6/24/2021

Page No : 1

## Groups Printed- Passenger Veh - Trucks

	Park From North					Davis From East					Park From South					Macaa From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	41	0	0	41	1	0	3	0	4	0	46	0	0	46	0	0	0	1	1	92
07:15 AM	0	53	0	0	53	3	0	0	0	3	1	55	1	2	59	0	0	0	1	1	116
07:30 AM	0	69	1	0	70	3	0	0	0	3	1	66	0	0	67	0	0	0	1	1	141
07:45 AM	0	84	4	0	88	1	0	2	0	3	1	65	1	0	67	0	0	0	1	1	159
Total	0	247	5	0	252	8	0	5	0	13	3	232	2	2	239	0	0	0	4	4	508
08:00 AM	0	85	0	0	85	0	0	2	0	2	2	63	0	0	65	0	0	0	0	0	152
08:15 AM	0	78	3	0	81	2	0	2	0	4	3	84	2	0	89	0	0	0	1	1	175
08:30 AM	2	94	2	0	98	4	0	0	0	4	1	93	3	0	97	1	0	0	1	2	201
08:45 AM	0	90	1	0	91	3	0	1	0	4	0	85	1	2	88	0	0	0	1	1	184
Total	2	347	6	0	355	9	0	5	0	14	6	325	6	2	339	1	0	0	3	4	712
*** BREAK ***																					
04:00 PM	0	76	1	0	77	2	0	1	0	3	4	111	0	0	115	3	0	0	0	3	198
04:15 PM	0	94	3	0	97	1	0	2	0	3	1	98	0	0	99	1	0	0	0	1	200
04:30 PM	0	85	6	1	92	4	0	0	0	4	3	112	0	0	115	1	0	0	2	3	214
04:45 PM	0	87	0	0	87	3	0	2	0	5	3	118	0	1	122	1	0	0	1	2	216
Total	0	342	10	1	353	10	0	5	0	15	11	439	0	1	451	6	0	0	3	9	828
05:00 PM	0	111	1	0	112	5	0	1	0	6	7	140	0	1	148	1	0	0	0	1	267
05:15 PM	0	80	7	0	87	6	0	4	0	10	5	123	1	2	131	1	1	0	0	2	230
05:30 PM	0	88	3	0	91	7	0	2	0	9	11	120	0	0	131	0	0	0	1	1	232
05:45 PM	0	73	1	0	74	2	0	1	0	3	1	107	1	2	111	1	0	0	0	1	189
Total	0	352	12	0	364	20	0	8	0	28	24	490	2	5	521	3	1	0	1	5	918
Grand Total	2	1288	33	1	1324	47	0	23	0	70	44	1486	10	10	1550	10	1	0	11	22	2966
Apprch %	0.2	97.3	2.5	0.1		67.1	0	32.9	0		2.8	95.9	0.6	0.6		45.5	4.5	0	50		
Total %	0.1	43.4	1.1	0	44.6	1.6	0	0.8	0	2.4	1.5	50.1	0.3	0.3	52.3	0.3	0	0	0.4	0.7	
Passenger Veh	2	1274	31	1	1308	46	0	23	0	69	44	1466	10	10	1530	10	1	0	11	22	2929
% Passenger Veh	100	98.9	93.9	100	98.8	97.9	0	100	0	98.6	100	98.7	100	100	98.7	100	100	0	100	100	98.8
Trucks	0	14	2	0	16	1	0	0	0	1	0	20	0	0	20	0	0	0	0	0	37
% Trucks	0	1.1	6.1	0	1.2	2.1	0	0	0	1.4	0	1.3	0	0	1.3	0	0	0	0	0	1.2

# Data Collection Group

757.478.6761

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File Name : Park and Macaa

Site Code : 00068599

Start Date : 6/24/2021

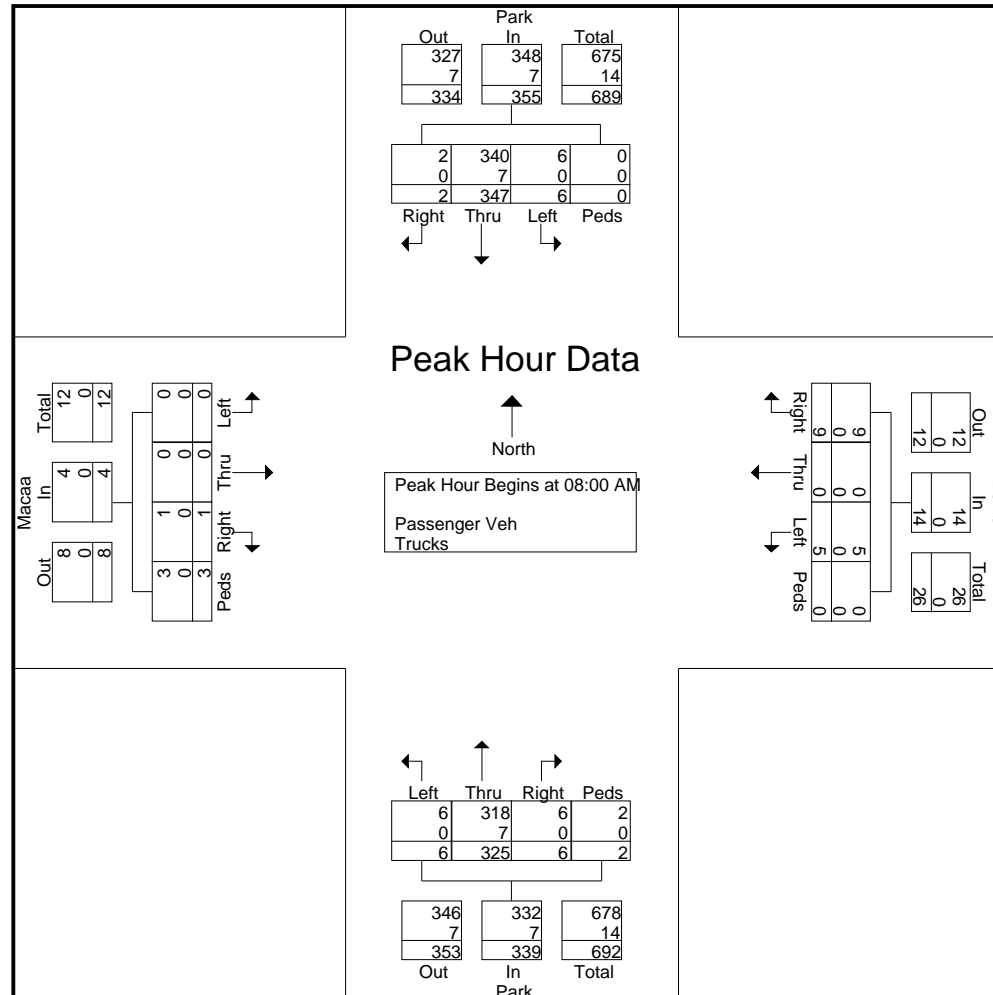
Page No : 2

	Park From North					Davis From East					Park From South					Macaa From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	85	0	0	85	0	0	2	0	2	2	63	0	0	65	0	0	0	0	0	152
08:15 AM	0	78	3	0	81	2	0	2	0	4	3	84	2	0	89	0	0	0	1	1	175
08:30 AM	2	94	2	0	98	4	0	0	0	4	1	93	3	0	97	1	0	0	1	2	201
08:45 AM	0	90	1	0	91	3	0	1	0	4	0	85	1	2	88	0	0	0	1	1	184
Total Volume	2	347	6	0	355	9	0	5	0	14	6	325	6	2	339	1	0	0	3	4	712
% App. Total	0.6	97.7	1.7	0		64.3	0	35.7	0		1.8	95.9	1.8	0.6		25	0	0	75		
PHF	.250	.923	.500	.000	.906	.563	.000	.625	.000	.875	.500	.874	.500	.250	.874	.250	.000	.000	.750	.500	.886
Passenger Veh	2	340	6	0	348	9	0	5	0	14	6	318	6	2	332	1	0	0	3	4	698
% Passenger Veh	100	98.0	100	0	98.0	100	0	100	0	100	100	97.8	100	100	97.9	100	0	0	100	100	98.0
Trucks	0	7	0	0	7	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	14
% Trucks	0	2.0	0	0	2.0	0	0	0	0	0	0	2.2	0	0	2.1	0	0	0	0	0	2.0

# Data Collection Group

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File Name : Park and Macaa  
Site Code : 00068599  
Start Date : 6/24/2021  
Page No : 3





# Data Collection Group

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File Name : Park and Macaa

Site Code : 00068599

Start Date : 6/24/2021

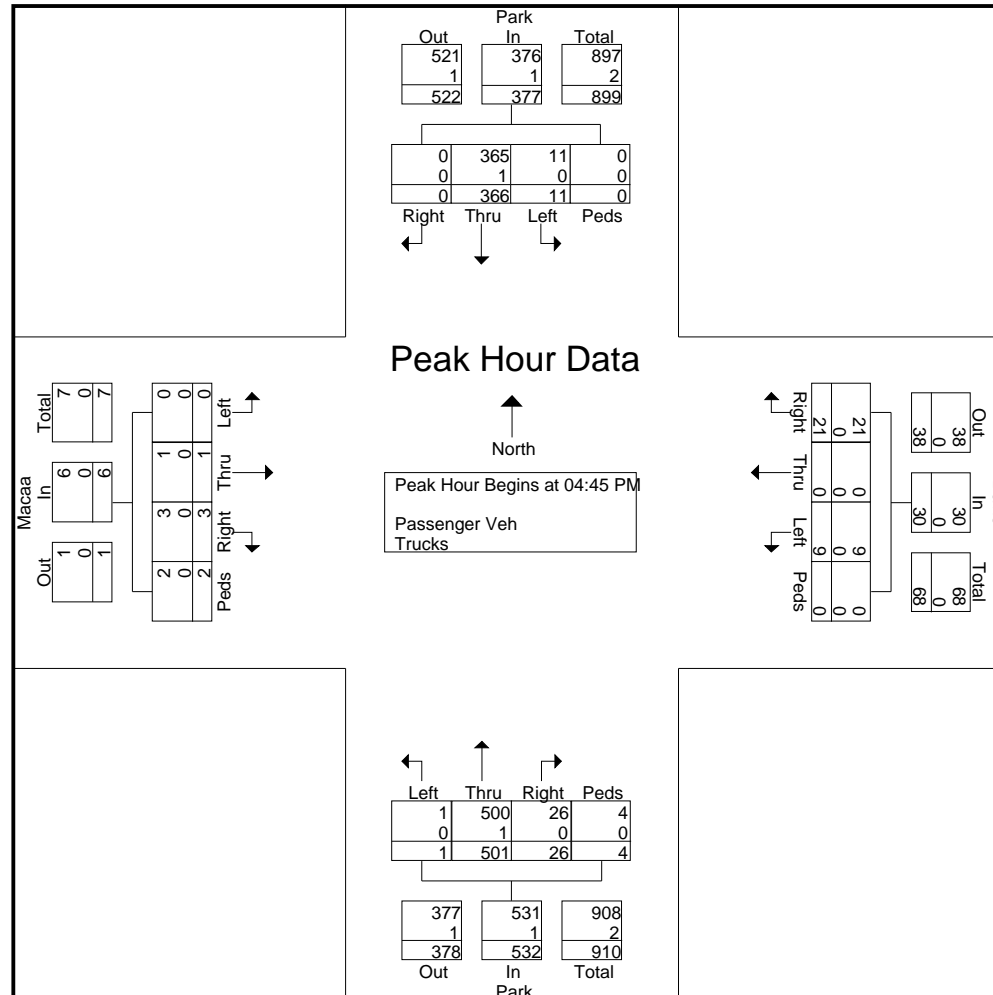
Page No : 4

	Park From North					Davis From East					Park From South					Macaa From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	87	0	0	87	3	0	2	0	5	3	118	0	1	122	1	0	0	1	2	216
05:00 PM	0	111	1	0	112	5	0	1	0	6	7	140	0	1	148	1	0	0	0	1	267
05:15 PM	0	80	7	0	87	6	0	4	0	10	5	123	1	2	131	1	1	0	0	2	230
05:30 PM	0	88	3	0	91	7	0	2	0	9	11	120	0	0	131	0	0	0	1	1	232
Total Volume	0	366	11	0	377	21	0	9	0	30	26	501	1	4	532	3	1	0	2	6	945
% App. Total	0	97.1	2.9	0		70	0	30	0		4.9	94.2	0.2	0.8		50	16.7	0	33.3		
PHF	.000	.824	.393	.000	.842	.750	.000	.563	.000	.750	.591	.895	.250	.500	.899	.750	.250	.000	.500	.750	.885
Passenger Veh	0	365	11	0	376	21	0	9	0	30	26	500	1	4	531	3	1	0	2	6	943
% Passenger Veh	0	99.7	100	0	99.7	100	0	100	0	100	100	99.8	100	100	99.8	100	100	0	100	100	99.8
Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Trucks	0	0.3	0	0	0.3	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.2

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Site Code : 00068599  
Start Date : 6/24/2021  
Page No : 5



# Data Collection Group

757.478.6761

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File Name : Park and North

Site Code : 00005602

Start Date : 6/24/2021

Page No : 1

## Groups Printed- Passenger Veh - Trucks

	Park From North					North From East					Park From South					From West					
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07:00 AM	0	36	4	0	40	3	0	5	0	8	0	46	0	1	47	0	0	0	0	0	95
07:15 AM	0	43	3	0	46	9	0	9	0	18	0	58	0	1	59	0	0	0	0	0	123
07:30 AM	0	60	2	0	62	9	0	10	0	19	2	65	0	1	68	0	0	0	0	0	149
07:45 AM	0	82	5	0	87	7	0	7	0	14	3	63	0	0	66	0	0	0	0	0	167
Total	0	221	14	0	235	28	0	31	0	59	5	232	0	3	240	0	0	0	0	0	534
08:00 AM	0	76	6	0	82	5	0	5	0	10	0	62	0	1	63	0	0	0	0	0	155
08:15 AM	0	78	7	0	85	6	0	8	0	14	6	79	0	2	87	0	0	0	0	0	186
08:30 AM	0	89	2	0	91	10	0	9	0	19	4	91	0	0	95	0	0	0	0	0	205
08:45 AM	0	84	7	0	91	7	0	7	0	14	5	85	0	1	91	0	0	0	0	0	196
Total	0	327	22	0	349	28	0	29	0	57	15	317	0	4	336	0	0	0	0	0	742
*** BREAK ***																					
04:00 PM	0	68	16	0	84	16	0	10	0	26	3	102	0	0	105	0	0	0	0	0	215
04:15 PM	0	91	12	0	103	9	0	5	0	14	6	96	0	0	102	0	0	0	0	0	219
04:30 PM	0	85	10	0	95	20	0	5	0	25	7	110	0	0	117	0	0	0	0	0	237
04:45 PM	0	79	21	0	100	6	0	4	0	10	12	105	0	0	117	0	0	0	0	0	227
Total	0	323	59	0	382	51	0	24	0	75	28	413	0	0	441	0	0	0	0	0	898
05:00 PM	0	109	19	0	128	14	0	6	0	20	9	130	0	0	139	0	0	0	0	0	287
05:15 PM	0	79	10	0	89	13	0	6	0	19	13	124	0	2	139	0	0	0	0	0	247
05:30 PM	0	86	12	0	98	15	0	5	0	20	13	112	0	3	128	0	0	0	0	0	246
05:45 PM	0	74	14	0	88	11	0	5	0	16	7	103	0	0	110	0	0	0	0	0	214
Total	0	348	55	0	403	53	0	22	0	75	42	469	0	5	516	0	0	0	0	0	994
Grand Total	0	1219	150	0	1369	160	0	106	0	266	90	1431	0	12	1533	0	0	0	0	0	3168
Apprch %	0	89	11	0		60.2	0	39.8	0		5.9	93.3	0	0.8		0	0	0	0		
Total %	0	38.5	4.7	0	43.2	5.1	0	3.3	0	8.4	2.8	45.2	0	0.4	48.4	0	0	0	0	0	
Passenger Veh	0	1206	144	0	1350	155	0	101	0	256	88	1416	0	12	1516	0	0	0	0	0	3122
% Passenger Veh	0	98.9	96	0	98.6	96.9	0	95.3	0	96.2	97.8	99	0	100	98.9	0	0	0	0	0	98.5
Trucks	0	13	6	0	19	5	0	5	0	10	2	15	0	0	17	0	0	0	0	0	46
% Trucks	0	1.1	4	0	1.4	3.1	0	4.7	0	3.8	2.2	1	0	0	1.1	0	0	0	0	0	1.5



# Data Collection Group

757.478.6761

LSmith@DataCollectionGroup.net

File Name : Park and North

Site Code : 00005602

Start Date : 6/24/2021

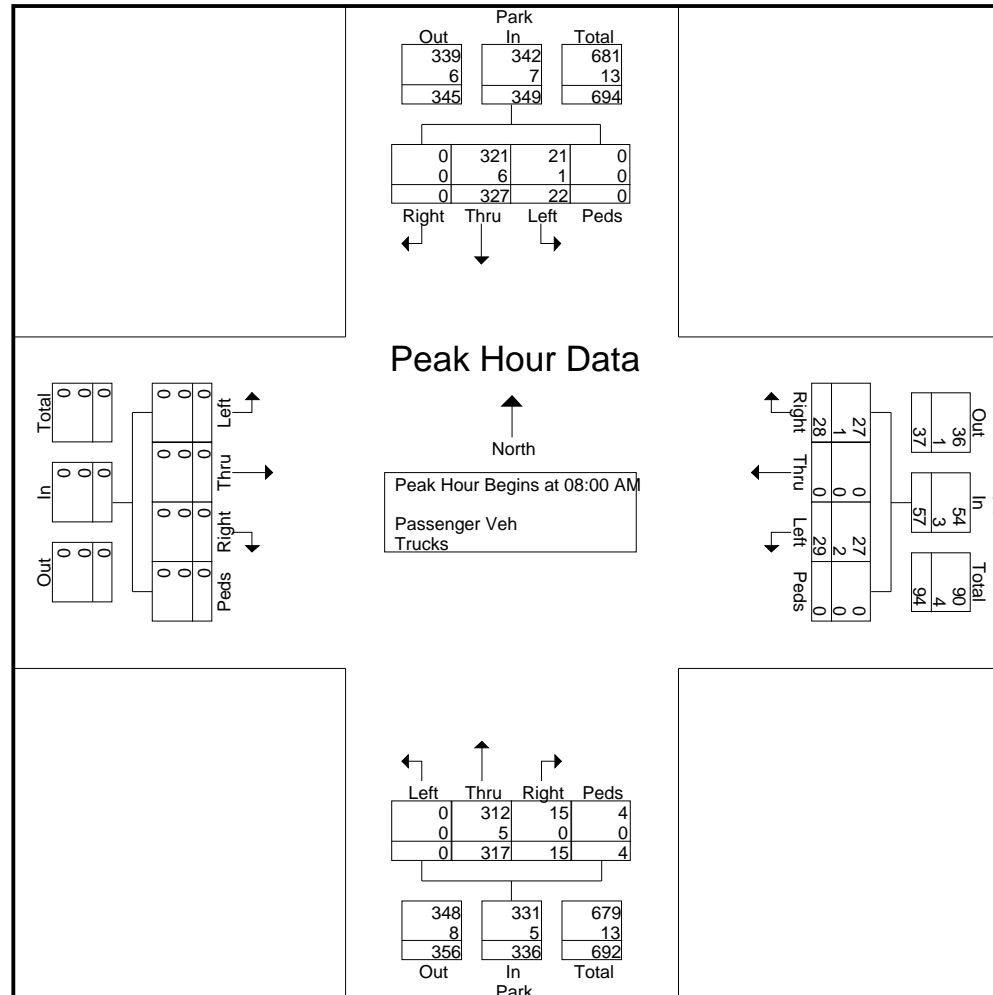
Page No : 2

	Park From North					North From East					Park From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	76	6	0	82	5	0	5	0	10	0	62	0	1	63	0	0	0	0	0	155
08:15 AM	0	78	7	0	85	6	0	8	0	14	6	79	0	2	87	0	0	0	0	0	186
08:30 AM	0	89	2	0	91	10	0	9	0	19	4	91	0	0	95	0	0	0	0	0	205
08:45 AM	0	84	7	0	91	7	0	7	0	14	5	85	0	1	91	0	0	0	0	0	196
Total Volume	0	327	22	0	349	28	0	29	0	57	15	317	0	4	336	0	0	0	0	0	742
% App. Total	0	93.7	6.3	0		49.1	0	50.9	0		4.5	94.3	0	1.2		0	0	0	0		
PHF	.000	.919	.786	.000	.959	.700	.000	.806	.000	.750	.625	.871	.000	.500	.884	.000	.000	.000	.000	.000	.905
Passenger Veh	0	321	21	0	342	27	0	27	0	54	15	312	0	4	331	0	0	0	0	0	727
% Passenger Veh	0	98.2	95.5	0	98.0	96.4	0	93.1	0	94.7	100	98.4	0	100	98.5	0	0	0	0	0	98.0
Trucks	0	6	1	0	7	1	0	2	0	3	0	5	0	0	5	0	0	0	0	0	15
% Trucks	0	1.8	4.5	0	2.0	3.6	0	6.9	0	5.3	0	1.6	0	0	1.5	0	0	0	0	0	2.0

# Data Collection Group

757.478.6761  
LSmith@DataCollectionGroup.net

File Name : Park and North  
Site Code : 00005602  
Start Date : 6/24/2021  
Page No : 3



# Data Collection Group

757.478.6761

LSmith@DataCollectionGroup.net

File Name : Park and North

Site Code : 00005602

Start Date : 6/24/2021

Page No : 4

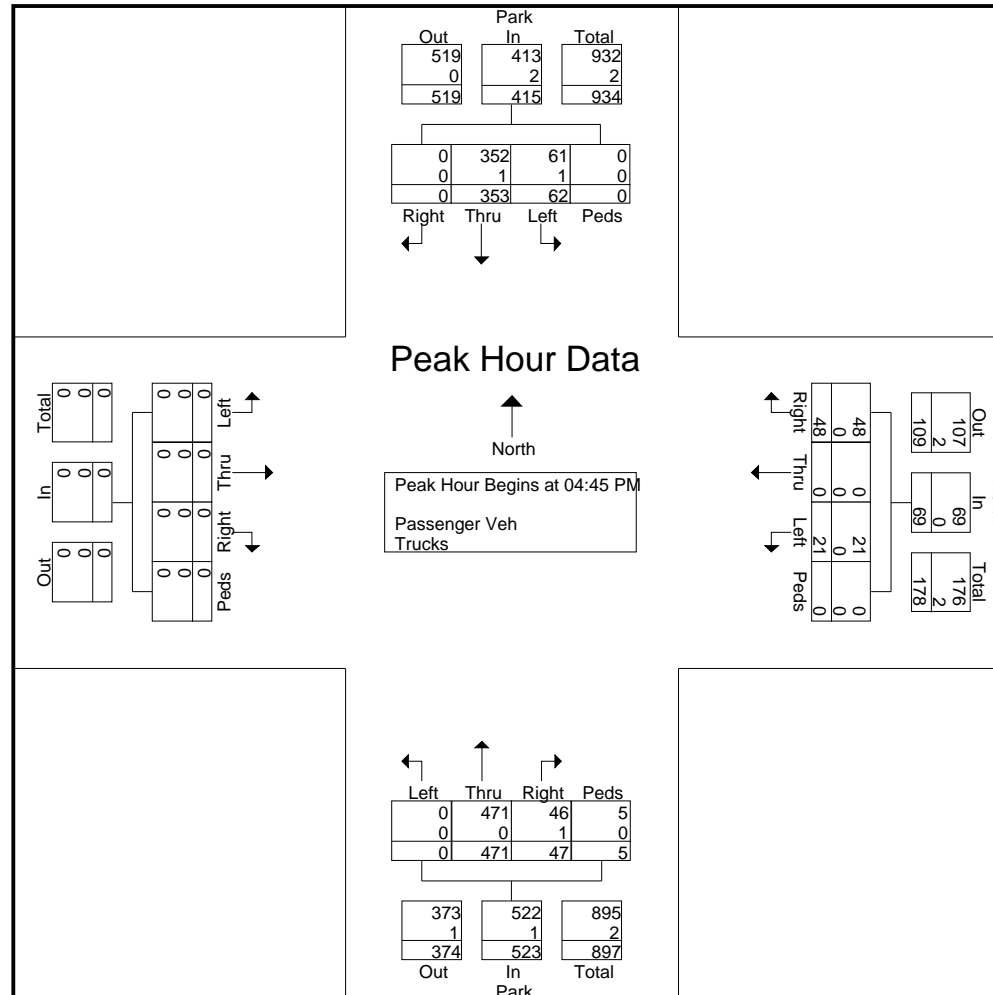
	Park From North					North From East					Park From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	79	<b>21</b>	0	100	6	0	4	0	10	12	105	0	0	117	0	0	0	0	0	227
05:00 PM	0	<b>109</b>	19	0	<b>128</b>	14	0	<b>6</b>	0	<b>20</b>	9	<b>130</b>	0	0	<b>139</b>	0	0	0	0	0	<b>287</b>
05:15 PM	0	79	10	0	89	13	0	6	0	19	<b>13</b>	124	0	2	139	0	0	0	0	0	247
05:30 PM	0	86	12	0	98	<b>15</b>	0	5	0	20	13	112	0	<b>3</b>	128	0	0	0	0	0	246
Total Volume	0	353	62	0	415	48	0	21	0	69	47	471	0	5	523	0	0	0	0	0	1007
% App. Total	0	85.1	14.9	0		69.6	0	30.4	0		9	90.1	0	1		0	0	0	0		
PHF	.000	.810	.738	.000	.811	.800	.000	.875	.000	.863	.904	.906	.000	.417	.941	.000	.000	.000	.000	.000	.877
Passenger Veh	0	352	61	0	413	48	0	21	0	69	46	471	0	5	522	0	0	0	0	0	1004
% Passenger Veh	0	99.7	98.4	0	99.5	100	0	100	0	100	97.9	100	0	100	99.8	0	0	0	0	0	99.7
Trucks	0	1	1	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3
% Trucks	0	0.3	1.6	0	0.5	0	0	0	0	0	2.1	0	0	0	0.2	0	0	0	0	0	0.3



# Data Collection Group

757.478.6761  
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File Name : Park and North  
Site Code : 00005602  
Start Date : 6/24/2021  
Page No : 5



# Data Collection Group

757.478.6761

LSmith@DataCollectionGroup.net

File Name : Park and Cutler

Site Code : 00007714

Start Date : 6/24/2021

Page No : 1

## Groups Printed- Passenger Veh - Trucks

	Park From North					Cutler From East					Park From South					Driveway From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	43	1	0	44	0	0	2	0	2	1	45	0	0	46	0	0	0	1	1	93
07:15 AM	0	39	1	0	40	1	0	3	0	4	2	65	1	0	68	1	0	0	0	1	113
07:30 AM	1	54	0	0	55	1	0	4	0	5	2	75	1	0	78	0	0	0	0	0	138
07:45 AM	0	92	0	0	92	3	0	0	0	3	1	68	1	0	70	0	0	0	0	0	165
Total	1	228	2	0	231	5	0	9	0	14	6	253	3	0	262	1	0	0	1	2	509
08:00 AM	0	78	1	0	79	2	0	4	0	6	5	59	0	0	64	0	0	0	1	1	150
08:15 AM	1	80	1	0	82	4	0	2	0	6	3	83	0	0	86	0	0	0	1	1	175
08:30 AM	0	84	0	0	84	2	0	3	0	5	2	99	0	0	101	0	0	0	1	1	191
08:45 AM	0	92	2	1	95	1	0	6	0	7	7	84	1	0	92	0	0	0	0	0	194
Total	1	334	4	1	340	9	0	15	0	24	17	325	1	0	343	0	0	0	3	3	710
*** BREAK ***																					
04:00 PM	0	80	1	0	81	3	0	1	0	4	3	120	0	0	123	1	0	0	0	1	209
04:15 PM	0	102	1	0	103	3	0	2	0	5	2	103	0	0	105	1	0	0	0	1	214
04:30 PM	0	90	5	0	95	2	0	1	0	3	1	121	0	0	122	0	0	0	0	0	220
04:45 PM	1	100	8	0	109	4	0	1	0	5	1	117	0	0	118	1	0	0	1	2	234
Total	1	372	15	0	388	12	0	5	0	17	7	461	0	0	468	3	0	0	1	4	877
05:00 PM	1	122	5	0	128	2	0	4	0	6	5	137	0	0	142	0	0	0	0	0	276
05:15 PM	0	93	1	0	94	4	0	6	0	10	2	134	1	0	137	0	0	0	2	2	243
05:30 PM	0	94	4	0	98	2	0	0	0	2	4	118	2	0	124	0	0	0	4	4	228
05:45 PM	0	84	2	0	86	2	0	2	0	4	4	110	0	0	114	0	0	0	0	0	204
Total	1	393	12	0	406	10	0	12	0	22	15	499	3	0	517	0	0	0	6	6	951
Grand Total	4	1327	33	1	1365	36	0	41	0	77	45	1538	7	0	1590	4	0	0	11	15	3047
Apprch %	0.3	97.2	2.4	0.1		46.8	0	53.2	0		2.8	96.7	0.4	0		26.7	0	0	73.3		
Total %	0.1	43.6	1.1	0	44.8	1.2	0	1.3	0	2.5	1.5	50.5	0.2	0	52.2	0.1	0	0	0.4	0.5	
Passenger Veh	4	1308	33	1	1346	35	0	41	0	76	45	1515	7	0	1567	3	0	0	11	14	3003
% Passenger Veh	100	98.6	100	100	98.6	97.2	0	100	0	98.7	100	98.5	100	0	98.6	75	0	0	100	93.3	98.6
Trucks	0	19	0	0	19	1	0	0	0	1	0	23	0	0	23	1	0	0	0	1	44
% Trucks	0	1.4	0	0	1.4	2.8	0	0	0	1.3	0	1.5	0	0	1.4	25	0	0	0	6.7	1.4

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Site Code : 00007714

Start Date : 6/24/2021

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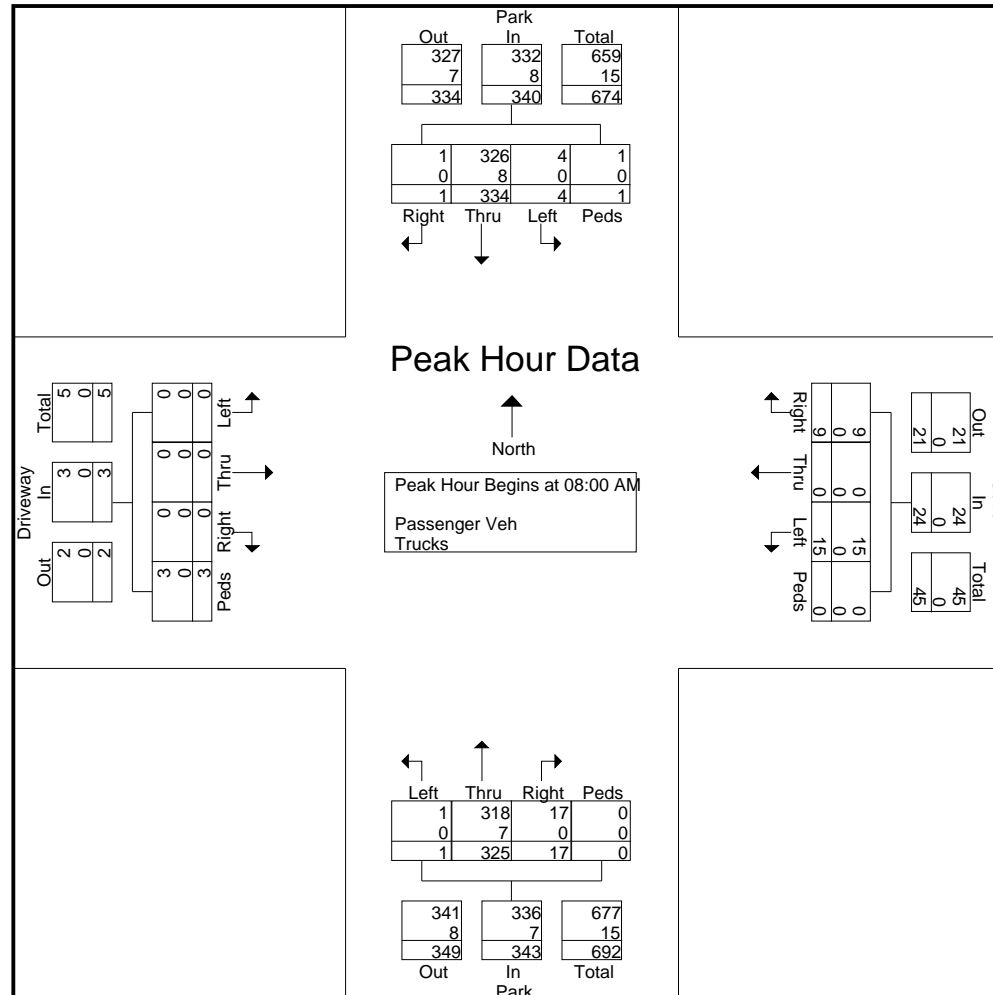
	Park From North					Cutler From East					Park From South					Driveway From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	78	1	0	79	2	0	4	0	6	5	59	0	0	64	0	0	0	1	1	150
08:15 AM	1	80	1	0	82	4	0	2	0	6	3	83	0	0	86	0	0	0	1	1	175
08:30 AM	0	84	0	0	84	2	0	3	0	5	2	99	0	0	101	0	0	0	1	1	191
08:45 AM	0	92	2	1	95	1	0	6	0	7	7	84	1	0	92	0	0	0	0	0	194
Total Volume	1	334	4	1	340	9	0	15	0	24	17	325	1	0	343	0	0	0	3	3	710
% App. Total	0.3	98.2	1.2	0.3		37.5	0	62.5	0		5	94.8	0.3	0		0	0	0	100		
PHF	.250	.908	.500	.250	.895	.563	.000	.625	.000	.857	.607	.821	.250	.000	.849	.000	.000	.000	.750	.750	.915
Passenger Veh	1	326	4	1	332	9	0	15	0	24	17	318	1	0	336	0	0	0	3	3	695
% Passenger Veh	100	97.6	100	100	97.6	100	0	100	0	100	100	97.8	100	0	98.0	0	0	0	100	100	97.9
Trucks	0	8	0	0	8	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	15
% Trucks	0	2.4	0	0	2.4	0	0	0	0	0	0	2.2	0	0	2.0	0	0	0	0	0	2.1



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File Name : Park and Cutler

Site Code : 00007714

Start Date : 6/24/2021

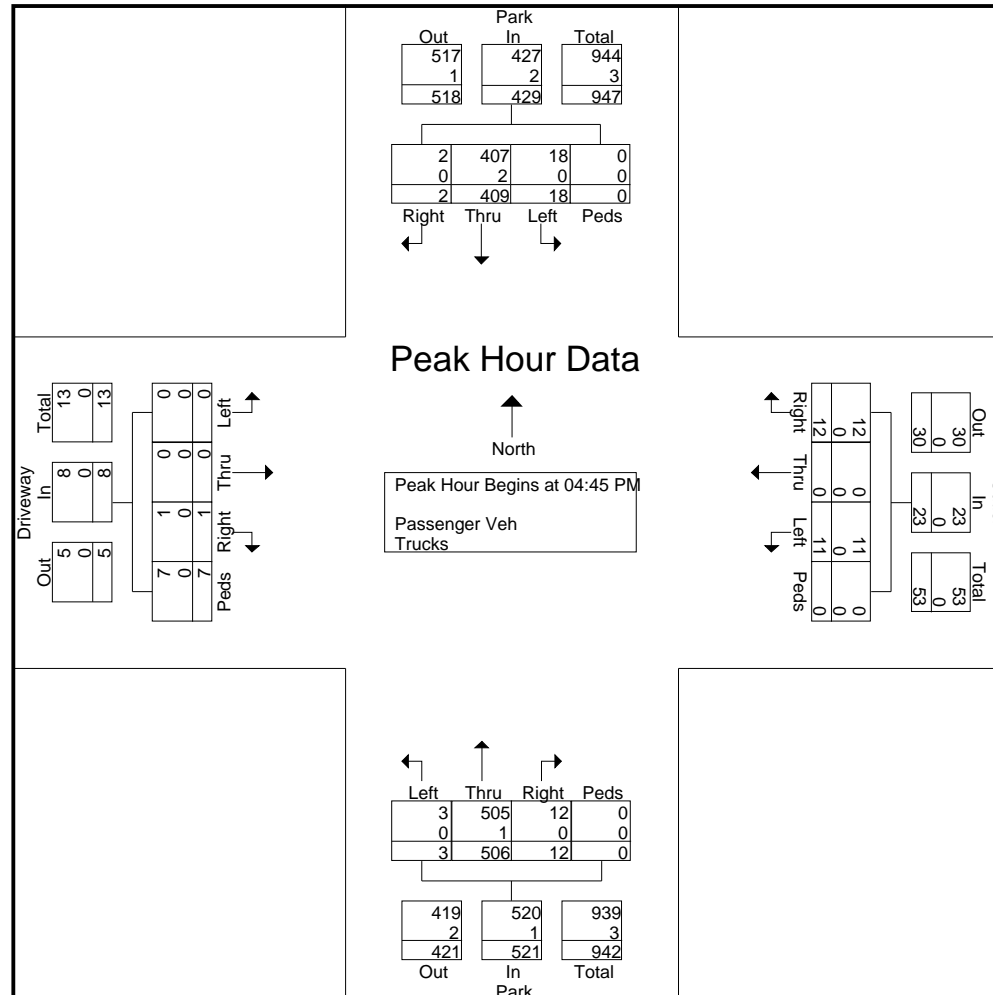
Page No : 4

	Park From North					Cutler From East					Park From South					Driveway From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	<b>1</b>	100	<b>8</b>	0	109	<b>4</b>	0	1	0	5	1	117	0	0	118	<b>1</b>	0	0	1	2	234
05:00 PM	1	<b>122</b>	5	0	<b>128</b>	2	0	4	0	6	<b>5</b>	<b>137</b>	0	0	<b>142</b>	0	0	0	0	0	<b>276</b>
05:15 PM	0	93	1	0	94	4	0	<b>6</b>	0	<b>10</b>	2	134	1	0	137	0	0	0	2	2	243
05:30 PM	0	94	4	0	98	2	0	0	0	2	4	118	<b>2</b>	0	124	0	0	0	<b>4</b>	<b>4</b>	228
Total Volume	2	409	18	0	429	12	0	11	0	23	12	506	3	0	521	1	0	0	7	8	981
% App. Total	0.5	95.3	4.2	0		52.2	0	47.8	0		2.3	97.1	0.6	0		12.5	0	0	87.5		
PHF	.500	.838	.563	.000	.838	.750	.000	.458	.000	.575	.600	.923	.375	.000	.917	.250	.000	.000	.438	.500	.889
Passenger Veh	2	407	18	0	427	12	0	11	0	23	12	505	3	0	520	1	0	0	7	8	978
% Passenger Veh	100	99.5	100	0	99.5	100	0	100	0	100	100	99.8	100	0	99.8	100	0	0	100	100	99.7
Trucks	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
% Trucks	0	0.5	0	0	0.5	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.3

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Site Code : 00007714  
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## Appendix B

### Synchro Analysis for 2021 Existing Conditions





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HCM 6th TWSC  
1: Park Street & Macaa Drive/Davis Avenue

07/15/2021

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	1	6	0	11	7	390	7	7	416	2
Future Vol, veh/h	0	0	1	6	0	11	7	390	7	7	416	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	2	0
Mvmt Flow	0	0	1	7	0	13	8	443	8	8	473	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	960	957	474	954	954	447	475	0	0	451	0	0
Stage 1	490	490	-	463	463	-	-	-	-	-	-	-
Stage 2	470	467	-	491	491	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	238	260	595	240	261	616	1098	-	-	1120	-	-
Stage 1	564	552	-	583	568	-	-	-	-	-	-	-
Stage 2	578	565	-	563	552	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	230	255	595	236	256	616	1098	-	-	1120	-	-
Mov Cap-2 Maneuver	230	255	-	236	256	-	-	-	-	-	-	-
Stage 1	558	546	-	577	562	-	-	-	-	-	-	-
Stage 2	561	559	-	556	546	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.1		14.6		0.1		0.1					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1098	-	-	595	393	1120	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.002	0.049	0.007	-	-				
HCM Control Delay (s)	8.3	0	-	11.1	14.6	8.2	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-				

## Queues

## 2: Park Street &amp; North Avenue

07/15/2021







Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	39	38	442	465
v/c Ratio	0.11	0.11	0.29	0.31
Control Delay	12.5	6.3	3.6	3.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.5	6.3	3.6	3.8
Queue Length 50th (ft)	5	0	0	0
Queue Length 95th (ft)	20	13	80	89
Internal Link Dist (ft)	617		677	169
Turn Bay Length (ft)		75		
Base Capacity (vph)	1018	952	1529	1480
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.29	0.31
Intersection Summary				

## HCM 6th Signalized Intersection Summary

### 2: Park Street & North Avenue

07/15/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	34	380	18	26	392
Future Volume (veh/h)	35	34	380	18	26	392
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1796	1841	1870	1900	1826	1870
Adj Flow Rate, veh/h	39	38	422	20	29	436
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	7	4	2	0	5	2
Cap, veh/h	151	138	760	36	228	758
Arrive On Green	0.09	0.09	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1711	1560	1771	84	53	1766
Grp Volume(v), veh/h	39	38	0	442	465	0
Grp Sat Flow(s),veh/h/ln	1711	1560	0	1855	1819	0
Q Serve(g_s), s	0.4	0.4	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.4	0.0	3.3	3.5	0.0
Prop In Lane	1.00	1.00		0.05	0.06	
Lane Grp Cap(c), veh/h	151	138	0	796	986	0
V/C Ratio(X)	0.26	0.28	0.00	0.56	0.47	0.00
Avail Cap(c_a), veh/h	1698	1548	0	1741	1884	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.9	7.9	0.0	4.0	4.0	0.0
Incr Delay (d2), s/veh	0.9	1.1	0.0	0.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.3	0.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.8	9.0	0.0	4.6	4.4	0.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	77		442			465
Approach Delay, s/veh	8.9		4.6			4.4
Approach LOS	A		A			A
Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	12.5				12.5	6.1
Change Period (Y+Rc), s	4.5				4.5	4.5
Max Green Setting (Gmax), s	17.5				17.5	18.5
Max Q Clear Time (g_c+I1), s	5.3				5.5	2.4
Green Ext Time (p_c), s	2.3				2.5	0.1
Intersection Summary						
HCM 6th Ctrl Delay			4.8			
HCM 6th LOS			A			
Notes						



# HCM 6th TWSC

## 3: Park Street & Driveway/Cutler Lane

07/15/2021

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	18	0	11	1	390	20	5	401	1
Future Vol, veh/h	0	0	0	18	0	11	1	390	20	5	401	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	0	0	0	0	2	0	0	2	0
Mvmt Flow	0	0	0	20	0	12	1	429	22	5	441	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	900	905	442	894	894	440	442	0	0	451	0	0
Stage 1	452	452	-	442	442	-	-	-	-	-	-	-
Stage 2	448	453	-	452	452	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	259	276	615	264	283	621	1129	-	-	1120	-	-
Stage 1	587	570	-	598	580	-	-	-	-	-	-	-
Stage 2	590	570	-	591	574	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	253	274	615	263	281	621	1129	-	-	1120	-	-
Mov Cap-2 Maneuver	253	274	-	263	281	-	-	-	-	-	-	-
Stage 1	586	567	-	597	579	-	-	-	-	-	-	-
Stage 2	578	569	-	587	571	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0		16.8			0			0.1			
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1129	-	-	-	337	1120	-	-				
HCM Lane V/C Ratio	0.001	-	-	-	0.095	0.005	-	-				
HCM Control Delay (s)	8.2	0	-	0	16.8	8.2	0	-				
HCM Lane LOS	A	A	-	A	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-				

## Queuing and Blocking Report

### 2021 Existing AM Peak

07/15/2021

#### Intersection: 1: Park Street & Macaa Drive/Davis Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	22	37	32	51
Average Queue (ft)	1	12	2	4
95th Queue (ft)	11	36	17	27
Link Distance (ft)	472	402	463	680
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

#### Intersection: 2: Park Street & North Avenue

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	58	55	129	141
Average Queue (ft)	18	14	46	55
95th Queue (ft)	44	36	104	116
Link Distance (ft)	657		680	167
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)		75		
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		

#### Intersection: 3: Park Street & Driveway/Cutler Lane

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	50	5	49
Average Queue (ft)	18	0	3
95th Queue (ft)	44	6	21
Link Distance (ft)	380	167	262
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

#### Network Summary

Network wide Queuing Penalty: 0

HCM 6th TWSC  
1: Park Street & Macaa Drive/Davis Avenue

07/15/2021

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	4	11	0	25	1	601	31	13	439	0
Future Vol, veh/h	0	1	4	11	0	25	1	601	31	13	439	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	1	5	13	0	28	1	683	35	15	499	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1246	1249	499	1235	1232	701	499	0	0	718	0	0
Stage 1	529	529	-	703	703	-	-	-	-	-	-	-
Stage 2	717	720	-	532	529	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	152	175	576	155	179	442	1075	-	-	892	-	-
Stage 1	537	530	-	431	443	-	-	-	-	-	-	-
Stage 2	424	435	-	535	530	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	140	171	576	150	175	442	1075	-	-	892	-	-
Mov Cap-2 Maneuver	140	171	-	150	175	-	-	-	-	-	-	-
Stage 1	536	518	-	430	442	-	-	-	-	-	-	-
Stage 2	396	434	-	517	518	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.3		20.2		0		0.3	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1075	-	-	391	277	892	-
HCM Lane V/C Ratio	0.001	-	-	0.015	0.148	0.017	-
HCM Control Delay (s)	8.4	0	-	14.3	20.2	9.1	0
HCM Lane LOS	A	A	-	B	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.1	-



## Queues

## 2: Park Street &amp; North Avenue

07/15/2021







Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	29	67	713	572
v/c Ratio	0.12	0.24	0.47	0.45
Control Delay	18.3	8.0	4.8	4.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.3	8.0	4.8	4.9
Queue Length 50th (ft)	9	0	73	58
Queue Length 95th (ft)	21	21	146	121
Internal Link Dist (ft)	610		677	169
Turn Bay Length (ft)		75		
Base Capacity (vph)	982	909	1505	1281
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.07	0.47	0.45
Intersection Summary				

# HCM 6th Signalized Intersection Summary

## 2: Park Street & North Avenue

07/15/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	58	565	56	74	424
Future Volume (veh/h)	25	58	565	56	74	424
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1870	1900
Adj Flow Rate, veh/h	29	67	649	64	85	487
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	2	2	0
Cap, veh/h	175	156	936	92	225	769
Arrive On Green	0.10	0.10	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1810	1610	1702	168	114	1398
Grp Volume(v), veh/h	29	67	0	713	572	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1870	1512	0
Q Serve(g_s), s	0.4	1.0	0.0	7.1	0.9	0.0
Cycle Q Clear(g_c), s	0.4	1.0	0.0	7.1	8.0	0.0
Prop In Lane	1.00	1.00		0.09	0.15	
Lane Grp Cap(c), veh/h	175	156	0	1028	994	0
V/C Ratio(X)	0.17	0.43	0.00	0.69	0.58	0.00
Avail Cap(c_a), veh/h	1812	1612	0	1872	1692	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.6	10.8	0.0	4.2	3.8	0.0
Incr Delay (d2), s/veh	0.4	1.9	0.0	0.9	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.0	0.8	0.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.0	12.7	0.0	5.0	4.3	0.0
LnGrp LOS	B	B	A	A	A	A
Approach Vol, veh/h	96		713			572
Approach Delay, s/veh	12.2		5.0			4.3
Approach LOS	B		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		18.5			18.5	7.0
Change Period (Y+Rc), s		4.5			4.5	4.5
Max Green Setting (Gmax), s		25.5			25.5	25.5
Max Q Clear Time (g_c+I1), s		9.1			10.0	3.0
Green Ext Time (p_c), s		4.9			4.0	0.2
Intersection Summary						
HCM 6th Ctrl Delay			5.2			
HCM 6th LOS			A			

HCM 6th TWSC  
3: Park Street & Driveway/Cutler Lane

07/15/2021

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	13	0	14	4	607	14	22	491	2
Future Vol, veh/h	0	0	1	13	0	14	4	607	14	22	491	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	1	15	0	16	5	690	16	25	558	2
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1325	1325	559	1318	1318	698	560	0	0	706	0	0
Stage 1	609	609	-	708	708	-	-	-	-	-	-	-
Stage 2	716	716	-	610	610	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	134	157	532	136	159	444	1021	-	-	902	-	-
Stage 1	486	488	-	429	441	-	-	-	-	-	-	-
Stage 2	424	437	-	485	488	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	124	149	532	131	151	444	1021	-	-	902	-	-
Mov Cap-2 Maneuver	124	149	-	131	151	-	-	-	-	-	-	-
Stage 1	482	468	-	426	437	-	-	-	-	-	-	-
Stage 2	406	434	-	465	468	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	11.8		25.5			0.1			0.4			
HCM LOS	B		D									
Minor Lane/Major Mvmt	NBL		NBT	NBR	EBLn1WBLn1		SBL	SBT	SBR			
Capacity (veh/h)	1021		-	-	532	206	902	-	-			
HCM Lane V/C Ratio	0.004		-	-	0.002	0.149	0.028	-	-			
HCM Control Delay (s)	8.5		0	-	11.8	25.5	9.1	0	-			
HCM Lane LOS	A		A	-	B	D	A	A	-			
HCM 95th %tile Q(veh)	0		-	-	0	0.5	0.1	-	-			



Queuing and Blocking Report  
2021 Existing PM Peak

07/15/2021

Intersection: 1: Park Street & Macaa Drive/Davis Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	31	56	29	98
Average Queue (ft)	5	22	1	10
95th Queue (ft)	22	49	19	51
Link Distance (ft)	472	402	463	680
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Park Street & North Avenue

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	34	45	175	184
Average Queue (ft)	13	18	76	92
95th Queue (ft)	34	35	152	175
Link Distance (ft)	651		680	167
Upstream Blk Time (%)				2
Queuing Penalty (veh)				13
Storage Bay Dist (ft)		75		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 3: Park Street & Driveway/Cutler Lane

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	19	60	38	146
Average Queue (ft)	1	21	2	26
95th Queue (ft)	8	51	18	105
Link Distance (ft)	211	380	167	262
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 13

## Appendix C

# Synchro Analysis for 2023 Background Conditions





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HCM 6th TWSC  
1: Park Street & Macaa Drive/Davis Avenue

07/15/2021

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	1	6	0	11	7	398	7	7	425	2
Future Vol, veh/h	0	0	1	6	0	11	7	398	7	7	425	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	2	0
Mvmt Flow	0	0	1	7	0	12	8	433	8	8	462	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	938	936	463	933	933	437	464	0	0	441	0	0
Stage 1	479	479	-	453	453	-	-	-	-	-	-	-
Stage 2	459	457	-	480	480	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	247	267	603	248	268	624	1108	-	-	1130	-	-
Stage 1	571	558	-	590	573	-	-	-	-	-	-	-
Stage 2	586	571	-	571	558	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	239	262	603	244	263	624	1108	-	-	1130	-	-
Mov Cap-2 Maneuver	239	262	-	244	263	-	-	-	-	-	-	-
Stage 1	565	552	-	584	567	-	-	-	-	-	-	-
Stage 2	569	565	-	564	552	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11		14.4		0.1		0.1					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1108	-	-	603	403	1130	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.002	0.046	0.007	-	-				
HCM Control Delay (s)	8.3	0	-	11	14.4	8.2	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

## Queues

## 2: Park Street &amp; North Avenue

07/15/2021







Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	38	37	442	464
v/c Ratio	0.11	0.11	0.29	0.31
Control Delay	12.6	6.4	3.5	3.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.6	6.4	3.5	3.7
Queue Length 50th (ft)	5	0	0	0
Queue Length 95th (ft)	20	14	80	89
Internal Link Dist (ft)	617		677	169
Turn Bay Length (ft)		75		
Base Capacity (vph)	990	926	1533	1484
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.29	0.31
Intersection Summary				

# HCM 6th Signalized Intersection Summary

## 2: Park Street & North Avenue

07/15/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	34	388	18	27	400
Future Volume (veh/h)	35	34	388	18	27	400
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1796	1841	1870	1900	1826	1870
Adj Flow Rate, veh/h	38	37	422	20	29	435
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	4	2	0	5	2
Cap, veh/h	148	135	763	36	228	761
Arrive On Green	0.09	0.09	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1711	1560	1771	84	53	1766
Grp Volume(v), veh/h	38	37	0	442	464	0
Grp Sat Flow(s),veh/h/ln	1711	1560	0	1855	1819	0
Q Serve(g_s), s	0.4	0.4	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.4	0.0	3.3	3.5	0.0
Prop In Lane	1.00	1.00		0.05	0.06	
Lane Grp Cap(c), veh/h	148	135	0	799	989	0
V/C Ratio(X)	0.26	0.27	0.00	0.55	0.47	0.00
Avail Cap(c_a), veh/h	1652	1507	0	1792	1932	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.0	8.0	0.0	4.0	4.0	0.0
Incr Delay (d2), s/veh	0.9	1.1	0.0	0.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.3	0.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.9	9.1	0.0	4.6	4.4	0.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	75		442			464
Approach Delay, s/veh	9.0		4.6			4.4
Approach LOS	A		A			A
Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	12.5				12.5	6.1
Change Period (Y+Rc), s	4.5				4.5	4.5
Max Green Setting (Gmax), s	18.0				18.0	18.0
Max Q Clear Time (g_c+I1), s	5.3				5.5	2.4
Green Ext Time (p_c), s	2.4				2.5	0.1
Intersection Summary						
HCM 6th Ctrl Delay			4.8			
HCM 6th LOS			A			
Notes						



HCM 6th TWSC  
3: Park Street & Driveway/Cutler Lane

07/15/2021

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	18	0	11	1	398	21	5	409	1
Future Vol, veh/h	0	0	0	18	0	11	1	398	21	5	409	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	0	0	0	2	0	0	2	0
Mvmt Flow	0	0	0	20	0	12	1	433	23	5	445	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	909	914	446	903	903	445	446	0	0	456	0	0
Stage 1	456	456	-	447	447	-	-	-	-	-	-	-
Stage 2	453	458	-	456	456	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	256	273	612	260	279	617	1125	-	-	1115	-	-
Stage 1	584	568	-	595	577	-	-	-	-	-	-	-
Stage 2	586	567	-	588	572	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	250	271	612	259	277	617	1125	-	-	1115	-	-
Mov Cap-2 Maneuver	250	271	-	259	277	-	-	-	-	-	-	-
Stage 1	583	565	-	594	576	-	-	-	-	-	-	-
Stage 2	574	566	-	584	569	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0		17			0			0.1			
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1125	-	-	-	332	1115	-	-				
HCM Lane V/C Ratio	0.001	-	-	-	0.095	0.005	-	-				
HCM Control Delay (s)	8.2	0	-	0	17	8.2	0	-				
HCM Lane LOS	A	A	-	A	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-				

Queuing and Blocking Report  
2023 Background AM Peak

07/15/2021

Intersection: 1: Park Street & Macaa Drive/Davis Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	25	37	49	78
Average Queue (ft)	1	14	4	5
95th Queue (ft)	12	37	30	32
Link Distance (ft)	472	402	463	680
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Park Street & North Avenue

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	64	52	138	144
Average Queue (ft)	19	14	49	54
95th Queue (ft)	51	37	107	114
Link Distance (ft)	657		680	167
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)		75		
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		

Intersection: 3: Park Street & Driveway/Cutler Lane

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	49	1	52
Average Queue (ft)	18	0	4
95th Queue (ft)	44	1	26
Link Distance (ft)	380	167	262
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

HCM 6th TWSC  
1: Park Street & Macaa Drive/Davis Avenue

07/15/2021

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	4	11	0	26	1	613	32	13	448	0
Future Vol, veh/h	0	1	4	11	0	26	1	613	32	13	448	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	1	4	12	0	28	1	666	35	14	487	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1215	1218	487	1204	1201	684	487	0	0	701	0	0
Stage 1	515	515	-	686	686	-	-	-	-	-	-	-
Stage 2	700	703	-	518	515	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	160	182	585	162	186	452	1086	-	-	905	-	-
Stage 1	546	538	-	441	451	-	-	-	-	-	-	-
Stage 2	433	443	-	544	538	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	147	178	585	157	182	452	1086	-	-	905	-	-
Mov Cap-2 Maneuver	147	178	-	157	182	-	-	-	-	-	-	-
Stage 1	545	527	-	440	450	-	-	-	-	-	-	-
Stage 2	405	442	-	528	527	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.1		19.4		0		0.3	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1086	-	-	401 290	905	-	-
HCM Lane V/C Ratio	0.001	-	-	0.014 0.139	0.016	-	-
HCM Control Delay (s)	8.3	0	-	14.1 19.4	9	0	-
HCM Lane LOS	A	A	-	B C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0 0.5	0	-	-



## Queues

## 2: Park Street &amp; North Avenue

07/15/2021







Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	28	64	690	553
v/c Ratio	0.12	0.23	0.46	0.43
Control Delay	18.4	8.1	4.6	4.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.4	8.1	4.6	4.7
Queue Length 50th (ft)	9	0	69	55
Queue Length 95th (ft)	21	22	147	122
Internal Link Dist (ft)	610		677	169
Turn Bay Length (ft)		75		
Base Capacity (vph)	979	905	1506	1288
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.07	0.46	0.43
Intersection Summary				

# HCM 6th Signalized Intersection Summary

## 2: Park Street & North Avenue

07/15/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	59	577	58	76	432
Future Volume (veh/h)	26	59	577	58	76	432
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1870	1900
Adj Flow Rate, veh/h	28	64	627	63	83	470
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	2	2	0
Cap, veh/h	171	152	920	92	231	771
Arrive On Green	0.09	0.09	0.54	0.54	0.54	0.54
Sat Flow, veh/h	1810	1610	1699	171	118	1422
Grp Volume(v), veh/h	28	64	0	690	553	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1869	1540	0
Q Serve(g_s), s	0.4	0.9	0.0	6.6	0.7	0.0
Cycle Q Clear(g_c), s	0.4	0.9	0.0	6.6	7.4	0.0
Prop In Lane	1.00	1.00		0.09	0.15	
Lane Grp Cap(c), veh/h	171	152	0	1013	1002	0
V/C Ratio(X)	0.16	0.42	0.00	0.68	0.55	0.00
Avail Cap(c_a), veh/h	1863	1658	0	1925	1760	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.3	10.6	0.0	4.1	3.7	0.0
Incr Delay (d2), s/veh	0.4	1.8	0.0	0.8	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.0	0.8	0.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.7	12.4	0.0	4.9	4.2	0.0
LnGrp LOS	B	B	A	A	A	A
Approach Vol, veh/h	92		690			553
Approach Delay, s/veh	11.9		4.9			4.2
Approach LOS	B		A			A
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	17.9		17.9		6.8	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	25.5		25.5		25.5	
Max Q Clear Time (g_c+I1), s	8.6		9.4		2.9	
Green Ext Time (p_c), s	4.8		3.9		0.2	
Intersection Summary						
HCM 6th Ctrl Delay			5.1			
HCM 6th LOS			A			

HCM 6th TWSC  
3: Park Street & Driveway/Cutler Lane

07/15/2021

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	13	0	15	4	619	15	22	501	2
Future Vol, veh/h	0	0	1	13	0	15	4	619	15	22	501	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	1	14	0	16	4	673	16	24	545	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1291	1291	546	1284	1284	681	547	0	0	689	0	0
Stage 1	594	594	-	689	689	-	-	-	-	-	-	-
Stage 2	697	697	-	595	595	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	142	165	541	143	166	454	1033	-	-	915	-	-
Stage 1	495	496	-	439	450	-	-	-	-	-	-	-
Stage 2	435	446	-	494	496	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	132	158	541	138	159	454	1033	-	-	915	-	-
Mov Cap-2 Maneuver	132	158	-	138	159	-	-	-	-	-	-	-
Stage 1	492	477	-	436	447	-	-	-	-	-	-	-
Stage 2	417	443	-	474	477	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.7		24		0.1		0.4					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1033	-	-	541	220	915	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.002	0.138	0.026	-	-				
HCM Control Delay (s)	8.5	0	-	11.7	24	9	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.1	-	-				



Queuing and Blocking Report  
2023 Background PM Peak

07/15/2021

Intersection: 1: Park Street & Macaa Drive/Davis Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	30	55	10	137
Average Queue (ft)	5	22	0	17
95th Queue (ft)	23	49	7	76
Link Distance (ft)	472	402	463	680
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Park Street & North Avenue

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	46	45	184	180
Average Queue (ft)	14	18	80	96
95th Queue (ft)	37	35	156	179
Link Distance (ft)	651		680	167
Upstream Blk Time (%)				3
Queuing Penalty (veh)				14
Storage Bay Dist (ft)		75		
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		

Intersection: 3: Park Street & Driveway/Cutler Lane

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	22	55	35	189
Average Queue (ft)	1	19	2	28
95th Queue (ft)	9	46	18	116
Link Distance (ft)	211	380	167	262
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 14

## Appendix D

# Synchro Analysis for 2023 Total Future Conditions

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HCM 6th TWSC  
1: Park Street & Macaa Drive/Davis Avenue

07/15/2021

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	0	36	6	0	11	30	402	7	7	437	17
Future Vol, veh/h	24	0	36	6	0	11	30	402	7	7	437	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	2	0
Mvmt Flow	26	0	39	7	0	12	33	437	8	8	475	18
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1013	1011	484	1027	1016	441	493	0	0	445	0	0
Stage 1	500	500	-	507	507	-	-	-	-	-	-	-
Stage 2	513	511	-	520	509	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	219	241	587	215	240	621	1081	-	-	1126	-	-
Stage 1	557	546	-	552	543	-	-	-	-	-	-	-
Stage 2	548	540	-	543	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	207	229	587	193	228	621	1081	-	-	1126	-	-
Mov Cap-2 Maneuver	207	229	-	193	228	-	-	-	-	-	-	-
Stage 1	534	541	-	529	521	-	-	-	-	-	-	-
Stage 2	515	518	-	502	536	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	18.2		15.9		0.6		0.1					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1081	-	-	338	348	1126	-	-				
HCM Lane V/C Ratio	0.03	-	-	0.193	0.053	0.007	-	-				
HCM Control Delay (s)	8.4	0	-	18.2	15.9	8.2	0	-				
HCM Lane LOS	A	A	-	C	C	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.2	0	-	-				

## Queues

## 2: Park Street &amp; North Avenue

07/15/2021



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	38	37	472	493
v/c Ratio	0.11	0.11	0.31	0.33
Control Delay	13.0	6.6	3.5	3.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.0	6.6	3.5	3.8
Queue Length 50th (ft)	5	0	0	0
Queue Length 95th (ft)	20	14	88	96
Internal Link Dist (ft)	617		677	169
Turn Bay Length (ft)		75		
Base Capacity (vph)	972	910	1541	1491
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.31	0.33
Intersection Summary				

# HCM 6th Signalized Intersection Summary

## 2: Park Street & North Avenue

07/15/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	34	416	18	27	427
Future Volume (veh/h)	35	34	416	18	27	427
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1796	1841	1870	1900	1826	1870
Adj Flow Rate, veh/h	38	37	452	20	29	464
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	4	2	0	5	2
Cap, veh/h	147	134	789	35	221	787
Arrive On Green	0.09	0.09	0.44	0.44	0.44	0.44
Sat Flow, veh/h	1711	1560	1778	79	49	1772
Grp Volume(v), veh/h	38	37	0	472	493	0
Grp Sat Flow(s), veh/h/ln	1711	1560	0	1856	1820	0
Q Serve(g_s), s	0.4	0.4	0.0	3.6	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.4	0.0	3.6	3.8	0.0
Prop In Lane	1.00	1.00		0.04	0.06	
Lane Grp Cap(c), veh/h	147	134	0	824	1007	0
V/C Ratio(X)	0.26	0.28	0.00	0.57	0.49	0.00
Avail Cap(c_a), veh/h	1608	1467	0	1745	1882	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.2	8.2	0.0	4.0	4.0	0.0
Incr Delay (d2), s/veh	0.9	1.1	0.0	0.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.3	0.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.1	9.3	0.0	4.6	4.4	0.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	75		472			493
Approach Delay, s/veh	9.2		4.6			4.4
Approach LOS	A		A			A
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	13.0		13.0		6.1	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	18.0		18.0		18.0	
Max Q Clear Time (g_c+I1), s	5.6		5.8		2.4	
Green Ext Time (p_c), s	2.5		2.7		0.1	

### Intersection Summary

HCM 6th Ctrl Delay	4.8
HCM 6th LOS	A

### Notes

User approved pedestrian interval to be less than phase max green.



# HCM 6th TWSC

## 3: Park Street & Driveway/Cutler Lane

07/15/2021

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	30	0	19	1	422	25	7	424	1
Future Vol, veh/h	0	0	0	30	0	19	1	422	25	7	424	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	0	0	0	2	0	0	2	0
Mvmt Flow	0	0	0	33	0	21	1	459	27	8	461	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	963	966	462	953	953	473	462	0	0	486	0	0
Stage 1	478	478	-	475	475	-	-	-	-	-	-	-
Stage 2	485	488	-	478	478	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	235	255	600	241	261	595	1110	-	-	1087	-	-
Stage 1	568	556	-	574	561	-	-	-	-	-	-	-
Stage 2	563	550	-	572	559	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	225	252	600	239	258	595	1110	-	-	1087	-	-
Mov Cap-2 Maneuver	225	252	-	239	258	-	-	-	-	-	-	-
Stage 1	567	550	-	573	560	-	-	-	-	-	-	-
Stage 2	543	549	-	566	553	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0		19			0			0.1			
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1110	-	-	-	311	1087	-	-				
HCM Lane V/C Ratio	0.001	-	-	-	0.171	0.007	-	-				
HCM Control Delay (s)	8.2	0	-	0	19	8.3	0	-				
HCM Lane LOS	A	A	-	A	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0	-	-				

Queuing and Blocking Report  
2023 Total Future AM Peak

07/15/2021

Intersection: 1: Park Street & Macaa Drive/Davis Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	66	38	71	53
Average Queue (ft)	30	13	14	4
95th Queue (ft)	55	37	49	27
Link Distance (ft)	472	402	463	680
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Park Street & North Avenue

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	66	56	134	152
Average Queue (ft)	19	15	52	60
95th Queue (ft)	50	38	115	124
Link Distance (ft)	657		680	167
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)		75		
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		

Intersection: 3: Park Street & Driveway/Cutler Lane

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	67	3	48
Average Queue (ft)	26	0	5
95th Queue (ft)	54	2	29
Link Distance (ft)	380	167	262
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

HCM 6th TWSC  
1: Park Street & Macaa Drive/Davis Avenue

07/15/2021

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	20	1	33	11	0	26	36	626	32	13	455	24
Future Vol, veh/h	20	1	33	11	0	26	36	626	32	13	455	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	22	1	36	12	0	28	39	680	35	14	495	26

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1326	1329	508	1331	1325	698	521	0	0	715	0	0
Stage 1	536	536	-	776	776	-	-	-	-	-	-	-
Stage 2	790	793	-	555	549	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	134	156	569	133	157	444	1056	-	-	895	-	-
Stage 1	532	527	-	393	410	-	-	-	-	-	-	-
Stage 2	386	403	-	520	520	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	118	143	569	116	144	444	1056	-	-	895	-	-
Mov Cap-2 Maneuver	118	143	-	116	144	-	-	-	-	-	-	-
Stage 1	499	515	-	369	385	-	-	-	-	-	-	-
Stage 2	339	378	-	475	509	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	25.9		22.9		0.4		0.2	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1056	-	-	230 241	895	-	-
HCM Lane V/C Ratio	0.037	-	-	0.255 0.167	0.016	-	-
HCM Control Delay (s)	8.5	0	-	25.9 22.9	9.1	0	-
HCM Lane LOS	A	A	-	D C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1 0.6	0	-	-

## Queues

## 2: Park Street &amp; North Avenue

07/15/2021













Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	28	64	726	586
v/c Ratio	0.12	0.23	0.48	0.45
Control Delay	18.4	8.1	4.9	4.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.4	8.1	4.9	4.9
Queue Length 50th (ft)	9	0	75	60
Queue Length 95th (ft)	21	22	161	134
Internal Link Dist (ft)	610		677	169
Turn Bay Length (ft)		75		
Base Capacity (vph)	979	905	1506	1289
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.07	0.48	0.45
Intersection Summary				



# HCM 6th Signalized Intersection Summary

## 2: Park Street & North Avenue

07/15/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	59	610	58	76	463
Future Volume (veh/h)	26	59	610	58	76	463
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1870	1900
Adj Flow Rate, veh/h	28	64	663	63	83	503
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	2	2	0
Cap, veh/h	170	151	949	90	220	786
Arrive On Green	0.09	0.09	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1810	1610	1708	162	109	1415
Grp Volume(v), veh/h	28	64	0	726	586	0
Grp Sat Flow(s),veh/h/ln	1810	1610	0	1871	1524	0
Q Serve(g_s), s	0.4	1.0	0.0	7.2	0.9	0.0
Cycle Q Clear(g_c), s	0.4	1.0	0.0	7.2	8.2	0.0
Prop In Lane	1.00	1.00		0.09	0.14	
Lane Grp Cap(c), veh/h	170	151	0	1039	1007	0
V/C Ratio(X)	0.17	0.42	0.00	0.70	0.58	0.00
Avail Cap(c_a), veh/h	1798	1600	0	1859	1687	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.7	11.0	0.0	4.1	3.7	0.0
Incr Delay (d2), s/veh	0.5	1.9	0.0	0.9	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.0	0.9	0.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.2	12.9	0.0	5.0	4.3	0.0
LnGrp LOS	B	B	A	A	A	A
Approach Vol, veh/h	92		726			586
Approach Delay, s/veh	12.3		5.0			4.3
Approach LOS	B		A			A
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	18.8		18.8		6.9	
Change Period (Y+Rc), s	4.5		4.5		4.5	
Max Green Setting (Gmax), s	25.5		25.5		25.5	
Max Q Clear Time (g_c+I1), s	9.2		10.2		3.0	
Green Ext Time (p_c), s	5.0		4.1		0.2	
Intersection Summary						
HCM 6th Ctrl Delay			5.2			
HCM 6th LOS			A			

HCM 6th TWSC  
3: Park Street & Driveway/Cutler Lane

07/15/2021

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	20	0	20	4	639	28	30	525	2
Future Vol, veh/h	0	0	1	20	0	20	4	639	28	30	525	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	1	22	0	22	4	695	30	33	571	2
Major/Minor	Minor2		Minor1		Major1				Major2			
Conflicting Flow All	1367	1371	572	1357	1357	710	573	0	0	725	0	0
Stage 1	638	638	-	718	718	-	-	-	-	-	-	-
Stage 2	729	733	-	639	639	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	125	147	523	127	150	437	1010	-	-	887	-	-
Stage 1	468	474	-	423	436	-	-	-	-	-	-	-
Stage 2	417	429	-	468	474	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	113	138	523	121	141	437	1010	-	-	887	-	-
Mov Cap-2 Maneuver	113	138	-	121	141	-	-	-	-	-	-	-
Stage 1	465	448	-	420	433	-	-	-	-	-	-	-
Stage 2	393	426	-	441	448	-	-	-	-	-	-	-
Approach	EB		WB		NB				SB			
HCM Control Delay, s	11.9		29.5		0.1				0.5			
HCM LOS	B		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1010	-	-	523	190	887	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.002	0.229	0.037	-	-				
HCM Control Delay (s)	8.6	0	-	11.9	29.5	9.2	0	-				
HCM Lane LOS	A	A	-	B	D	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.9	0.1	-	-				

# Queuing and Blocking Report

## 2023 Total Future PM Peak

07/15/2021

### Intersection: 1: Park Street & Macaa Drive/Davis Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	72	64	144	148
Average Queue (ft)	30	23	24	17
95th Queue (ft)	59	51	87	80
Link Distance (ft)	472	402	463	680
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

### Intersection: 2: Park Street & North Avenue

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	40	46	212	185
Average Queue (ft)	15	19	84	108
95th Queue (ft)	37	36	170	193
Link Distance (ft)	651		680	167
Upstream Blk Time (%)				4
Queuing Penalty (veh)				22
Storage Bay Dist (ft)		75		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

### Intersection: 3: Park Street & Driveway/Cutler Lane

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	17	77	42	213
Average Queue (ft)	1	27	2	46
95th Queue (ft)	9	63	21	155
Link Distance (ft)	211	380	167	262
Upstream Blk Time (%)				1
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

### Network Summary

Network wide Queuing Penalty: 22