CITY OF CHARLOTTESVILLE

DEPARTMENT OF NEIGHBORHOOD DEVELOPMENT SERVICES

STAFF REPORT

JOINT CITY COUNCIL AND PLANNING COMMISSION PUBLIC HEARING

COMPREHENSIVE PLAN COMPLIANCE REVIEW

APPLICATION NUMBER: CP23-00001: 0 E High Street

DATE OF HEARING: August 8, 2023

Project Planner: Carrie Rainey
Date of Staff Report: July 31, 2023

Summary

As part of a preliminary site plan application (P22-0079) to establish a development containing multifamily residential units at 0 E High Street (TMPs 500144000, 500143000, 500143100, 500017000, 500018000), the applicant, Justin Shimp of Shimp Engineering, has proposed public facilities and uses including public streets, public land, public trail facilities, and public trail parking facilities. Per Section 34-28(a), the Planning Commission may determine whether the general location, character, and extents of the proposed public facilities and uses are compliant with the adopted comprehensive plan prior to authorization and construction of said facilities and uses. The detailed design of the proposed public facilities (such as public trail width and surfacing) is reviewed for compliance with all applicable codes and standards as part of the preliminary and final site plan review processes. This includes compliance review with the floodplain ordinance (Chapter 34), water protection ordinance (Chapter 10), and public facilities design requirements (Chapters 29 and 34, Standards and Design Manual).

Other components of the proposed development, including the multifamily residential use, private parking lot serving the multifamily units, and private amenity spaces, are not components for which the Planning Commission may conduct a comprehensive plan compliance review. The private development components are reviewed for compliance with all applicable codes and standards as part of the preliminary and final site plan review processes. The Planning Commission, per Section 34-820(d)(3), will review and approve or deny the preliminary site plan application at a future date.

Standard of Review

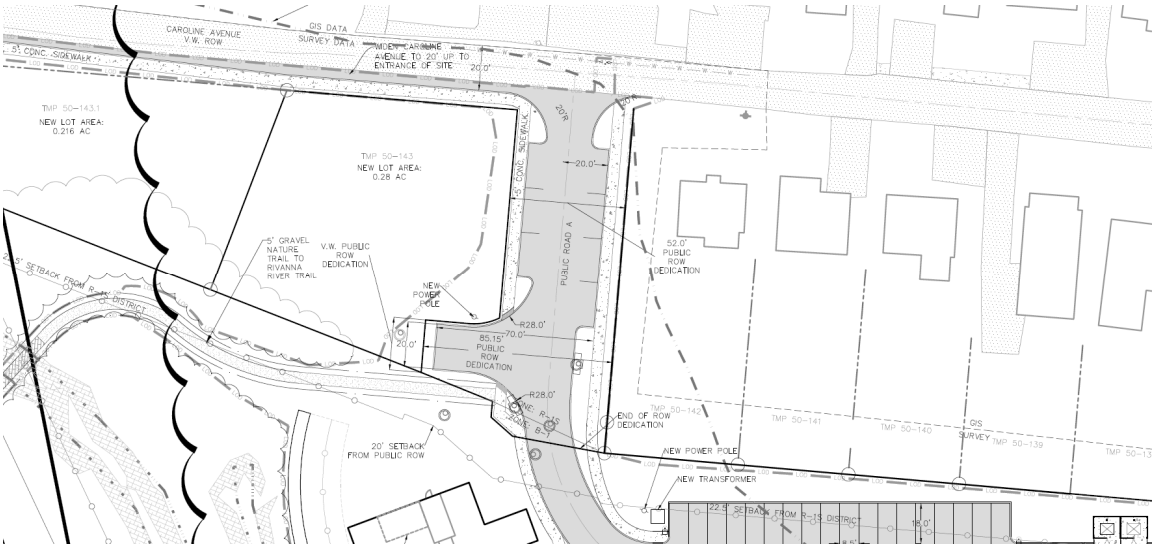
Pursuant to Virginia Code Section 15.2-2232 and City Code Section 34-28, the Planning Commission may review the proposed public facilities associated with the 0 E High development project to determine if the general character, approximate location and extent of the proposed improvements are substantially in accord with the City's adopted Comprehensive Plan or part thereof. The Planning Commission shall communicate its findings to the Charlottesville City Council, with written reasons for its approval or disapproval.

Public Streets

The applicant proposes two (2) new public streets ("Public Road A" and "Public Road B") in addition to widening existing Caroline Avenue and Fairway Avenue.

Public Road A

Proposed Public Road A– Preliminary Site Plan dated June 2, 2023



Public Road A is proposed to provide two-way vehicular travel with seven (7) public on-street parking spaces, "T and Branch" turnaround, public sidewalks 5-feet in width on both sides of the street, and curb extensions at the intersection with Caroline Avenue. Public Road A provides access to a network of proposed trails, both on private land under public easement and on land to be donated to the City, which connect to the Rivanna River trail network.

Staff Analysis: Per Section 34-28(c), public facilities may be deemed a feature already shown on the adopted comprehensive plan, provided that the city council has by ordinance or resolution defined standards governing the construction, establishment or authorization of such public facility. City Council defined standards through the adoption of the Standards and Design Manual (SADM) on December 2, 2019. The City Traffic Engineer has confirmed proposed Public

Road A, as presented, is consistent with the requirements of the SADM. The City Traffic Engineer find the roadway serves a public good by incorporating access and parking for the city trail network.

Per Section 34-241(a), the floodplain ordinance applies to both privately and publicly owned land within the Special Flood Hazard Area (SFHA) developed by the Federal Emergency Management Agency (FEMA). Per Section 34-256(b), a floodplain permit is required prior to the approval of a final site plan for the proposed development. Section 34-256(a) states that *under no circumstances shall a permit be issued to authorize any use, activity, and/or development that would adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch, or any other drainage facility or system*. Therefore, the final design of proposed Public Road A must comply with the floodplain ordinance and demonstrate no adverse effect in order to receive approval.

Below are specific areas of the Comprehensive Plan and approved amendments with which Public Road A may be in line:

2021 Comprehensive Plan
Chapter 4: Land Use, Urban Form, and Historic & Cultural Preservation
Future Land Use Planning Objective: Maximize access to public open spaces, urban agriculture amenities, and schools.
Chapter 7: Environment, Climate, and Food Equity
Strategy 3.1 Sub-strategy: Improve regional public access to the river.

2022 Urban Rivanna River Corridor Plan
Recreational Activities Recommendations
Recommendation 4 Increase the number and type of public access points to the river and waterfront for better public use and enjoyment of the water, with special consideration for accessibility for people with limited mobility.
Multipurpose Trails and Bridges Recommendations
Recommendation 9 Consider opportunities to expand community-wide access to the Rivanna River Corridor through a variety of modes.

Below are specific areas of the Comprehensive Plan and approved amendments with which Public Road A may not be in line:

2021 Comprehensive Plan

Guiding Principle: *Connections and Access*: The City will consider land use and transportation in complementary ways, creating more accessible and safer mobility options for all. Residents and visitors will have a variety of travel choices and will be able to move safely, efficiently, and affordably throughout neighborhoods, the city, and the region, with easy access to services, employment opportunities, healthy food sources, parks, schools, and other services and amenities, regardless of vehicle ownership or physical ability. The City will place an emphasis on enhancing networks and safety for walking, riding bicycles, and public transportation.

Chapter 6: Transportation

Goal 1 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.

Strategy 3.1 Encourage new street connections and alternate traffic patterns, where appropriate, to improve connectivity, reduce trip lengths for all users, and distribute traffic volumes across the street network.

Strategy 7.1 Develop policies and strategies to incorporate green infrastructure as an integral part of transportation planning, and ensure transportation projects are sited and designed to avoid sensitive environmental resources and natural resiliency features such as floodplains, stream buffers, and wetlands.

Chapter 7: Environment, Climate, and Food Equity

Strategy 5.8 Work to preserve and enhance wetlands, floodplains, and other features that provide natural resiliency against climate change.

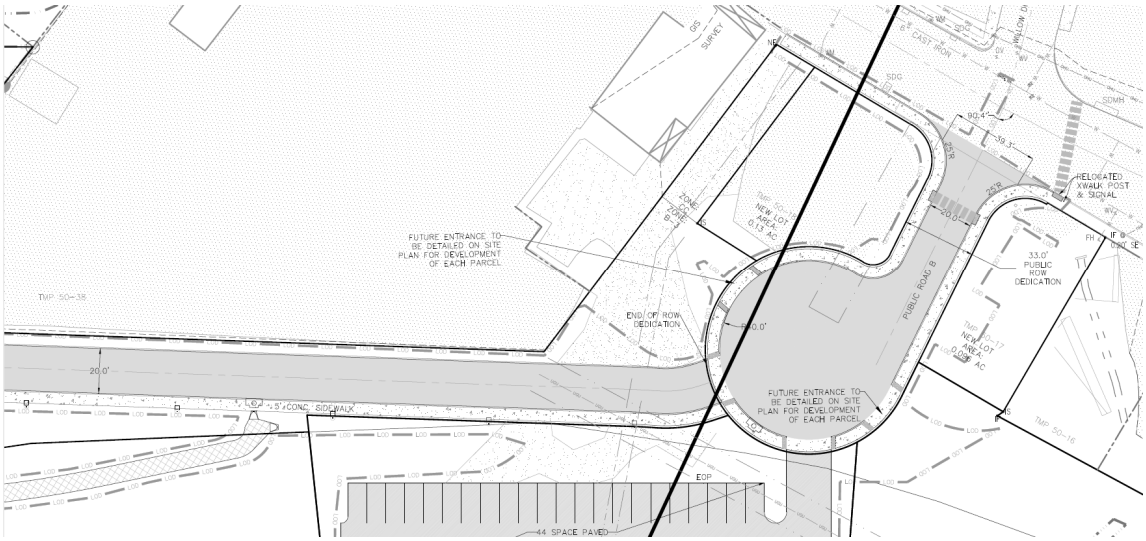
Several goals of the 2021 Comprehensive Plan and 2022 Urban Rivanna River Corridor Plan (an amendment to the comprehensive plan) speak to the importance of improving public access to the Rivanna River, public spaces, and trail networks. However, several goals also underscore the importance of preserving environmental resources such as floodplains, and the importance of a complete street network to improve connectivity and distribute traffic.

The Guiding Principles of the 2016 Streets that Work plan (an amendment to the comprehensive plan) state *Charlottesville will be a multi-modal*, *connected community…* and the planning of public streets will be a… *collaborative process to ensure decisions made about the city's streets reflect the public's priorities.* Public Road A is considered a *Local Street* per the 2016 Streets that Work Plan. *Local Streets* are characterized as the majority of the street

network and have no specific associated typology due to the variation of context and available space. The Streets that Work Plan notes design elements on Local Streets should not exceed the dimensions specified for *Neighborhood B* streets, and that techniques such as curb extensions are appropriate. A minimum of five (5) to six (6) feet of clear zone width for sidewalks is recommended for *Neighborhood B* streets. Sidewalks and on-street parking are noted as the highest priority street elements. Public Road A provides a five (5) foot sidewalk (without curbside buffer zone), on-street parking, and curb extensions at the intersection with Caroline Avenue. Public Road A will provide additional public access to the Rivanna River trail network but will not provide connectivity to the wider street network and community.

Public Road B

Proposed Public Road – Preliminary Site Plan dated June 2, 2023



Public Road B is proposed to provide two-way vehicular travel with “circular” turnaround and public sidewalks 5-feet in width on both sides of the street. Public Road B will align with the existing public street Willow Drive. Public Road B provides access to proposed Lot B (detailed below), which provides public parking and a public trail connection to the Rivanna River trail network.

Staff Analysis: Per Section 34-28(c), public facilities may be deemed a feature already shown on the adopted comprehensive plan, provided that the city council has by ordinance or resolution defined standards governing the construction, establishment or authorization of such public facility. City Council defined standards through the adoption of the Standards and Design Manual (SADM) on December 2, 2019. The City Traffic Engineer has confirmed proposed Public Road B, as presented, is consistent with the requirements of the SADM. The City Traffic Engineer find the roadway has a proper turn around, matches the intersection on the opposite

side of the street, and has the proper sidewalks. The roadway also serves a public good by incorporating access and parking for the city trail network.

Per Section 34-241(a), the floodplain ordinance applies to both privately and publicly owned land within the Special Flood Hazard Area (SFHA) developed by the Federal Emergency Management Agency (FEMA). Per Section 34-256(b), a floodplain permit is required prior to the approval of a final site plan for the proposed development. Section 34-256(a) states that *under no circumstances shall a permit be issued to authorize any use, activity, and/or development that would adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch, or any other drainage facility or system*. Therefore, the final design of proposed Public Road B must comply with the floodplain ordinance and demonstrate no adverse effect in order to receive approval.

Below are specific areas of the Comprehensive Plan and approved amendments with which Public Road B may be in line:

2021 Comprehensive Plan
Chapter 4: Land Use, Urban Form, and Historic & Cultural Preservation
Future Land Use Planning Objective: Maximize access to public open spaces, urban agriculture amenities, and schools.
Chapter 7: Environment, Climate, and Food Equity
Strategy 3.1 Sub-strategy: Improve regional public access to the river.

2022 Urban Rivanna River Corridor Plan
Recreational Activities Recommendations
Recommendation 4 Increase the number and type of public access points to the river and waterfront for better public use and enjoyment of the water, with special consideration for accessibility for people with limited mobility.
Multipurpose Trails and Bridges Recommendations
Recommendation 9 Consider opportunities to expand community-wide access to the Rivanna River Corridor through a variety of modes.

Below are specific areas of the Comprehensive Plan and approved amendments with which Public Road B may not be in line:

2021 Comprehensive Plan
Guiding Principle: *Connections and Access*: The City will consider land use and transportation in complementary ways, creating more accessible and safer mobility

options for all. Residents and visitors will have a variety of travel choices and will be able to move safely, efficiently, and affordably throughout neighborhoods, the city, and the region, with easy access to services, employment opportunities, healthy food sources, parks, schools, and other services and amenities, regardless of vehicle ownership or physical ability. The City will place an emphasis on enhancing networks and safety for walking, riding bicycles, and public transportation.

Chapter 6: Transportation

Goal 1 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.

Strategy 3.1 Encourage new street connections and alternate traffic patterns, where appropriate, to improve connectivity, reduce trip lengths for all users, and distribute traffic volumes across the street network.

Strategy 7.1 Develop policies and strategies to incorporate green infrastructure as an integral part of transportation planning, and ensure transportation projects are sited and designed to avoid sensitive environmental resources and natural resiliency features such as floodplains, stream buffers, and wetlands.

Chapter 7: Environment, Climate, and Food Equity

Strategy 5.8 Work to preserve and enhance wetlands, floodplains, and other features that provide natural resiliency against climate change.

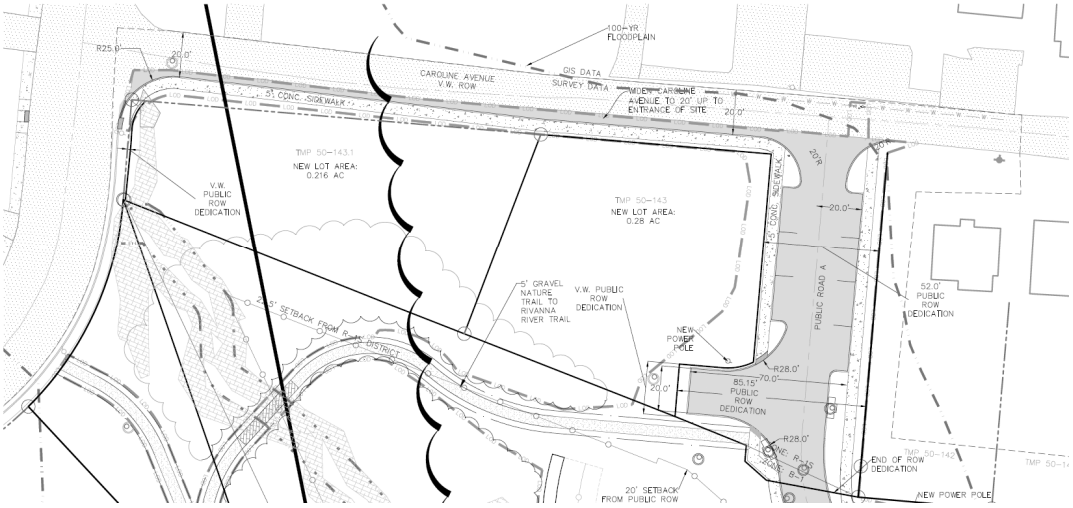
Several goals of the 2021 Comprehensive Plan and 2022 Urban Rivanna River Corridor Plan (an amendment to the comprehensive plan) speak to the importance of improving public access to the Rivanna River and trail networks. However, several goals also underscore the importance of preserving environmental resources such as floodplains, and the importance of a complete street network to improve connectivity and distribute traffic.

The Guiding Principles of the 2016 Streets that Work plan (an amendment to the comprehensive plan) state *Charlottesville will be a multi-modal*, *connected community…* and the planning of public streets will be a… *collaborative process to ensure decisions made about the city's streets reflect the public's priorities.* Public Road B is considered a *Local Street* per the 2016 Streets that Work Plan. *Local Streets* are characterized as the majority of the street network and have no specific associated typology due to the variation of context and available space. The Streets that Work Plan notes design elements on Local Streets should not exceed the dimensions specified for *Neighborhood B* streets, and that techniques such as curb extensions are appropriate. A minimum of five (5) to six (6) feet of clear zone width for sidewalks is recommended for *Neighborhood B* streets. Sidewalks and on-street parking are noted as the highest priority street elements. Public Road B provides a five (5) foot sidewalk

(without curbside buffer zone) and access to proposed Lot B, which provides a trail connection to the Rivanna River trail network. Public Road B will provide additional public access to the Rivanna River trail network contingent on the establishment of the proposed trail network connecting through Lot B but will not provide connectivity to the wider street network and community.

<u>Widening of Caroline Avenue and Fairway Avenue</u>

Proposed Widening and Improvements– Preliminary Site Plan dated June 2, 2023



Transit Stops

Meade Park Proximity

Caroline Avenue is proposed to be widened to meet the 20-foot minimum roadway width for two-way travel specified in the SADM and to provide a five (5) foot wide sidewalk along the development's frontage. The public sidewalk proposed on Caroline Avenue will continue around the corner to connect with the existing Fairway Avenue public sidewalk. The applicant

proposes dedicating a portion of land so that the proposed public sidewalk and the existing public sidewalk along Fairway Avenue are entirely within public right-of-way.

Staff Analysis: Per Section 34-28(c), public facilities may be deemed a feature already shown on the adopted comprehensive plan, provided that the city council has by ordinance or resolution defined standards governing the construction, establishment or authorization of such public facility. City Council defined standards through the adoption of the Standards and Design Manual (SADM) on December 2, 2019. The City Traffic Engineer has confirmed proposed improvements to Caroline Avenue and Fairway Avenue, as presented, are consistent with the requirements of the SADM. The City Traffic Engineer finds that by widening the roadway, the project meets the minimum criteria for allowing the "Road A" connection and providing a safe access point from the development to a city street.

Per Section 34-241(a), the floodplain ordinance applies to both privately and publicly owned land within the Special Flood Hazard Area (SFHA) developed by the Federal Emergency Management Agency (FEMA). Per Section 34-256(b), a floodplain permit is required prior to the approval of a final site plan for the proposed development. Section 34-256(a) states that *under no circumstances shall a permit be issued to authorize any use, activity, and/or development that would adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch, or any other drainage facility or system*. Therefore, the final design of the widening of Caroline Avenue and Fairway Avenue must comply with the floodplain ordinance and demonstrate no adverse effect in order to receive approval.

Below are specific areas of the Comprehensive Plan and approved amendments with which the widening of Caroline Avenue and Fairway Avenue may be in line:

> **2021 Comprehensive Plan**
> Chapter 6: Transportation
> *Goal 1 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.
> *Strategy 5.7* Identify locations along bus routes needing additional bus stops, enhanced quality and comfort of bus stops, connectivity via walking/biking, and safer crossings, particularly near schools, parks, and other amenities
> Chapter 7: Environment, Climate, and Food Equity
> *Strategy 3.1 Sub-strategy:* Improve regional public access to the river.

2022 Urban Rivanna River Corridor Plan

Recreational Activities Recommendations

Recommendation 4 Increase the number and type of public access points to the river and waterfront for better public use and enjoyment of the water, with special consideration for accessibility for people with limited mobility.

Multipurpose Trails and Bridges Recommendations

Recommendation 9 Consider opportunities to expand community-wide access to the Rivanna River Corridor through a variety of modes.

Several goals of the 2021 Comprehensive Plan and 2022 Urban Rivanna River Corridor Plan (an amendment to the comprehensive plan) speak to the importance of improving public access to the Rivanna River and trail networks as well as transit stops. The widening of Caroline Avenue and Fairway Avenue will permit a new public sidewalk connection on Caroline Avenue, which will connect pedestrians to both proposed Public Road A and Lot A, as well as the existing transit stop on Fairway Avenue and nearby Meade Park. However, the widening will not address the lack of sidewalks on the remainder of Caroline Avenue.

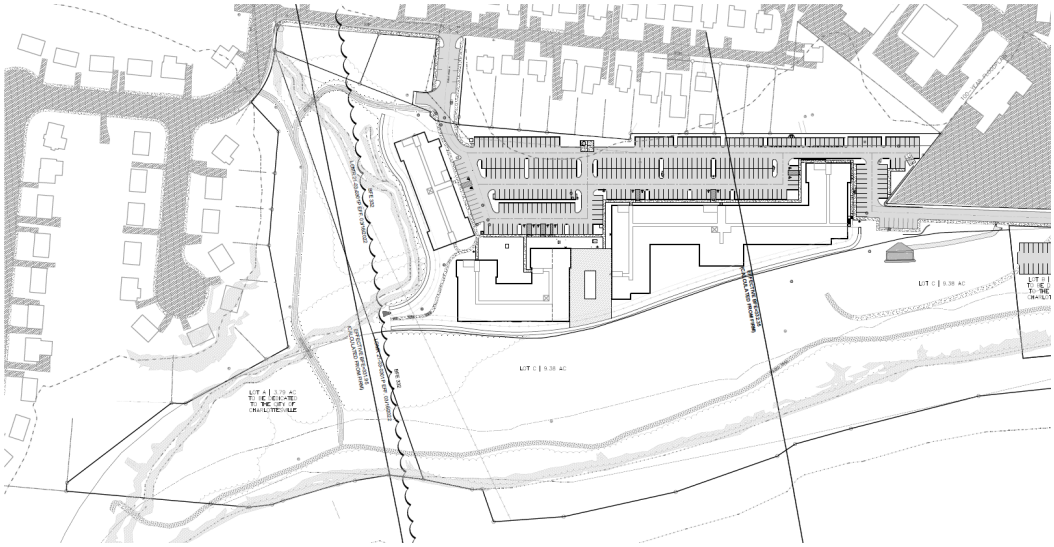
Public Land and Facilities

The applicant proposes the dedication of two (2) new parcels ("Lot A" and "Lot B"). Lot A is proposed to include a new public trail and Lot B is proposed to include a new public trail parking lot and trail connection to the existing Rivanna Trail.

Lot A

Lot A is 3.79 acres in area with frontage on Fairway Avenue. In addition to the proposed public trail, Lot A also encompasses a portion of the existing Rivanna Trail and Rivanna River riverbank, a portion of Meade Creek, and includes stands of mature forest and critical slopes areas. Lot A includes areas of floodplain (BFE) and floodway of the Rivanna River. The proposed trail on Lot A will connect to both Fairway Avenue and proposed Public Road A. The connection to Public Road A is proposed as a new trail on private land (TMP 50-144) with a public access easement to ensure continued access by the public. The proposed trail on Lot A will include a bridge structure over Meade Creek and adjacent critical slopes. Proposed disturbance on Lot A is limited to the area of the proposed public trail.

Proposed Lot Dedication and Trail Network – Preliminary Site Plan dated June 2, 2023

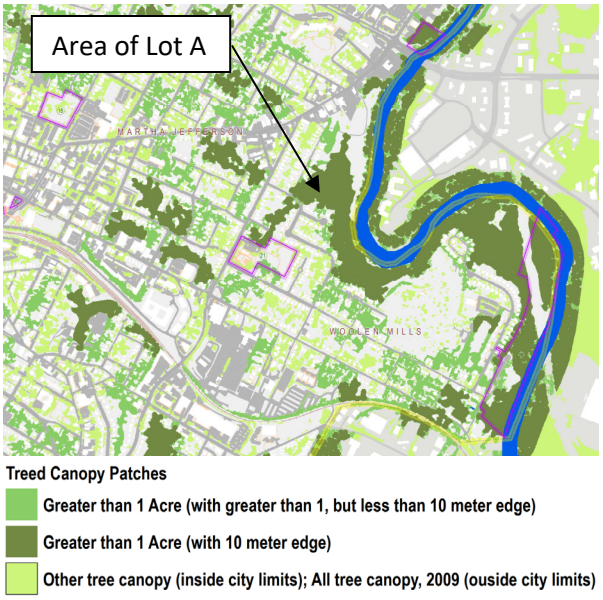


Meade Creek

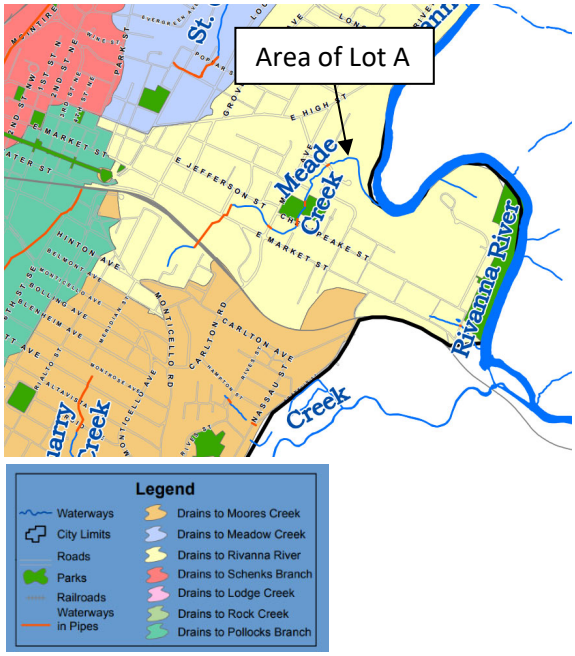
Critical Slopes

Rivanna Trail

Tree Canopy Patches- 2020 City GreenPrint 1.0



2011 Local Waterways



Staff Analysis: Per Section 34-241(a), the floodplain ordinance applies to both privately and publicly owned land within the Special Flood Hazard Area (SFHA) developed by the Federal Emergency Management Agency (FEMA). Per Section 34-256(b), a floodplain permit is required prior to the approval of a final site plan for the proposed development. Section 34-256(a) states that *under no circumstances shall a permit be issued to authorize any use, activity, and/or development that would adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch, or any other drainage facility or system*. Therefore, the final design of the proposed trail must comply with the floodplain ordinance and demonstrate no adverse effect in order to receive approval.

Below are specific areas of the Comprehensive Plan and approved amendments with which the dedication of Lot A and new trail facility may be in line:

2021 Comprehensive Plan

Priority Area: Keep Charlottesville green, make it greener, and protect the natural environment and the many benefits it provides.

Chapter 6: Transportation

Strategy 8.7 Seek opportunities for private donations of trail easements and construction of trail enhancements such as bridges or interpretive signage.

Chapter 7: Environment, Climate, and Food Equity

Strategy 3.1 Sub-strategy: Improve regional public access to the river.

Strategy 3.1 Sub-strategy: Continue public acquisition of natural areas along waterways to enable management strategies that protect water and habitat quality.
Strategy 5.8 Work to preserve and enhance wetlands, floodplains, and other features that provide natural resiliency against climate change.
Chapter 9: Community Facilities & Services
Strategy 13.1 Sub-strategy: Prioritize and encourage acquisition of natural areas, particularly along existing and proposed trails and near the Rivanna River, through developer contributions and fee simple purchase.
Strategy 15.2 Encourage land and easement acquisition along trail corridors to ensure permanent use as trail and the ability to manage land as park space, for multimodal enhancement, and as a green infrastructure resource.
Strategy 15.3 Ensure that all new trails and trail improvements are designed within the context of surrounding natural systems and urban areas to maximize positive and minimize negative impacts on environmental systems and cultural and historic resources.

2022 Urban Rivanna River Corridor Plan
Environmental Protection Recommendations
Recommendation 2 Retain and steward natural habitats and systems throughout the river corridor.
Recommendation 8 Protect and enhance forests within the river corridor with particular focus on the 100' stream buffer zone.
Recreational Activities Recommendations
Recommendation 4 Increase the number and type of public access points to the river and waterfront for better public use and enjoyment of the water, with special consideration for accessibility for people with limited mobility.
Multipurpose Trails and Bridges Recommendations
Recommendation 9 Consider opportunities to expand community-wide access to the Rivanna River Corridor through a variety of modes.

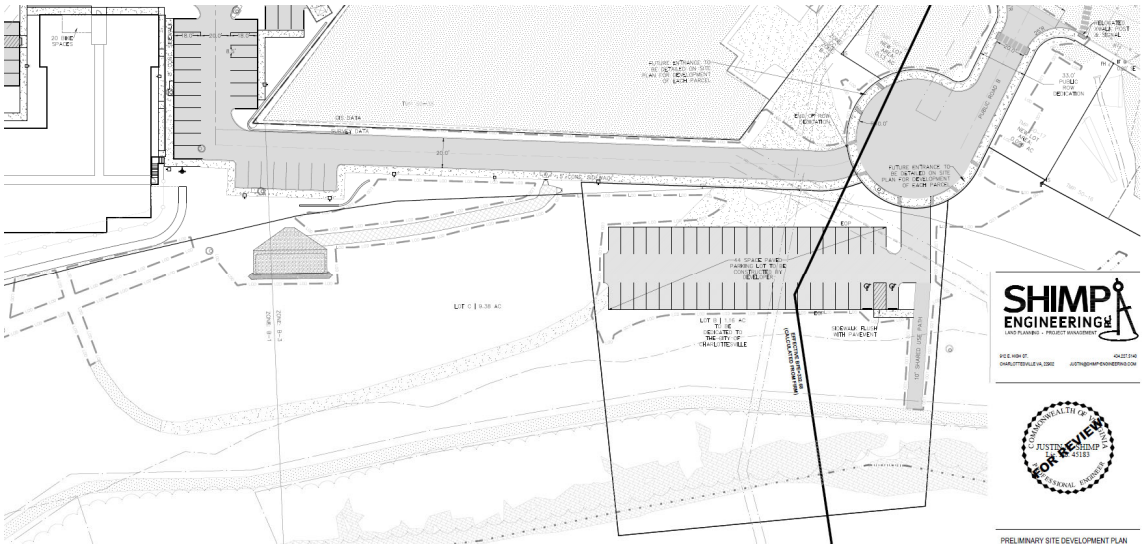
Several goals of the 2021 Comprehensive Plan and 2022 Urban Rivanna River Corridor Plan (an amendment to the comprehensive plan) speak to importance of protecting tree canopy and habitats, particularly in areas within the Rivanna River corridor and near local waterways. The 2020 City GreenPrint 1.0 plan (an appendix of the comprehensive plan) identifies the forested area of Lot A as part of a larger tree canopy patch, and notes such patches can provide wildlife habitat, infiltration of stormwater, and other ecological benefits beyond those provided by individual tree plantings. Donation of Lot A will allow the City to preserve and protect the environmental resources on the lot.

Several goals of the 2021 Comprehensive Plan and 2022 Urban Rivanna River Corridor Plan speak to importance of increasing public access to the Rivanna River and trail network. The 2015 Bicycle and Pedestrian Master Plan (an amendment to the comprehensive plan) recommends a new shared use path connection in the area of Lot A between the Rivanna River Trail and Fairway Avenue. Therefore, the trail network proposed on Lot A will provide an additional connection to the Rivanna River in a priority location.

Lot B

Lot B is 1.16 acres in area with frontage on the proposed Public Road B. In addition to the proposed public trail parking lot with trail access to the Rivanna Trail, Lot B also encompasses a portion of the existing Rivanna Trail and Rivanna River riverbank. Lot B contains areas of floodplain (BFE) and floodway of the Rivanna River. Proposed disturbance on Lot B is limited to the area of the proposed public trail parking lot with trail access detailed below.

Proposed Lot Dedication, Public Parking Lot, and Trail Network – Preliminary Site Plan dated June 2, 2023



Rivanna Trail

Critical Slopes

Riverview Park Proximity

Staff Analysis: Per Section 34-241(a), the floodplain ordinance applies to both privately and publicly owned land within the Special Flood Hazard Area (SFHA) developed by the Federal Emergency Management Agency (FEMA). Per Section 34-256(b), a floodplain permit is required prior to the approval of a final site plan for the proposed development. Section 34-256(a) states that *under no circumstances shall a permit be issued to authorize any use, activity, and/or development that would adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch, or any other drainage facility or system*. Therefore, the final design of the proposed parking lot and trail must comply with the floodplain ordinance and demonstrate no adverse effect in order to receive approval.

Below are specific areas of the Comprehensive Plan and approved amendments with which the dedication of Lot B may be in line:

2021 Comprehensive Plan

Chapter 6: Transportation

Strategy 8.7 Seek opportunities for private donations of trail easements and construction of trail enhancements such as bridges or interpretive signage.

Chapter 7: Environment, Climate, and Food Equity

Strategy 3.1 Sub-strategy: Improve regional public access to the river.

Chapter 9: Community Facilities & Services

Strategy 15.2 Encourage land and easement acquisition along trail corridors to ensure permanent use as trail and the ability to manage land as park space, for multimodal enhancement, and as a green infrastructure resource.

Strategy 15.3 Ensure that all new trails and trail improvements are designed within the context of surrounding natural systems and urban areas to maximize positive and minimize negative impacts on environmental systems and cultural and historic resources.

2022 Urban Rivanna River Corridor Plan

Recreational Activities Recommendations

Recommendation 4 Increase the number and type of public access points to the river and waterfront for better public use and enjoyment of the water, with special consideration for accessibility for people with limited mobility.

Multipurpose Trails and Bridges Recommendations

Recommendation 9 Consider opportunities to expand community-wide access to the Rivanna River Corridor through a variety of modes.

Several goals of the 2021 Comprehensive Plan and 2022 Urban Rivanna River Corridor Plan speak to importance of increasing public access to the Rivanna River and trail network. Riverview Park, located approximately one (1) mile south as measured along the Rivanna Trail, is the nearest public parking facility providing access to the Rivanna Trail. The high utilization rate of parking at Riverview Park indicates additional public parking facilities would improve community access to the Rivanna Trail. Therefore, the proposed public trail parking and associated trail connection to the Rivanna Trail will provide an additional connection to the Rivanna River in a priority location.

Public Comment

Many members of the public have provided comments to staff, the Planning Commission, and City Council on the associated preliminary site plan since the application was first filed in August 2022. While many comments focus on the associated private development (which is not under Planning Commission review for comprehensive plan compliance), the following items were noted by multiple members of the public regarding the facilities under review by the Planning Commission:

- Public Roads A and B do not provide connectivity, do not adequately address traffic conditions, and do not align with the comprehensive plan.
- The importance of maintaining public access to the Rivanna River Trail.
- The importance of preserving the floodplain and existing vegetation/wildlife habitat.
- The desire to see the property to become a public park or natural area.
- Construction of the public parking lot on Lot B will negatively impact the Rivanna River.

Staff Recommendations

Staff recommends the Planning Commission consider each facility individually:

- Public Road A
- Public Road B
- Widening of Caroline Avenue and Fairway Avenue
- Lot A with public trail (lot donation and trail may be considered separately)
- Lot B with public parking and public trail (lot donation, parking lot, and trail may be considered separately)

Suggested Motions

1. I move to approve the general character, location, and extents of all public facilities proposed as part of the 0 E High preliminary site plan as substantially in accord with the adopted comprehensive plan.

OR,

2. I move to approve only the general character, location, and extents of the following public facilities proposed as a part of the 0 E High preliminary site plan as substantially in accord with the adopted comprehensive plan.
    a.
    b.

OR,

3. I move to deny the general character, location, and extents of all public facilities proposed as a part of the 0 E High preliminary site plan are substantially in accord with the adopted comprehensive plan.

Attachments

A. Preliminary Site Plan dated June 2, 2023

LEGEND

EXISTING	NEW	DESCRIPTION
		BOUNDARIES
		BENCHMARK
		SITE PROPERTY OR ROW LINE
		ADJACENT PROPERTY OR ROW LINE
		BUILDING SETBACK
		PARKING SETBACK
		SITE TEXT
10	10	PARKING COUNT
		TOPOGRAPHY
		INDEX CONTOUR
		INTERVAL CONTOUR
311.5 x	x	SPOT ELEVATION
311.5 TC x	x	TOP OF CURB ELEVATION
311.5 TW x	x	TOP OF WALL ELEVATION
311.5 BW x	x	BOTTOM OF WALL ELEVATION
		STREAM
		STREAM BUFFER
		100 YEAR FLOODPLAIN
		BUILDING
		BUILDING
		RETAINING WALL
		STAIRS
		EDGE OF PAVEMENT
		ROAD CENTERLINE
		FRONT OF CURB
		BACK OF CURB
		CG-12 TRUNCATED DOME
		SIDEWALK
		BIKE PARKING
		HANDICAP ACCESSIBLE AISLE
		HANDICAP PARKING
		MATERIAL
		CONCRETE
		RIPRAP
		ASPHALT
		EC-2 MATTING
		EC-3 MATTING
		WETLAND
		TREELINE
X	X	FENCE
		UTILITY
		UTILITY POLE
		GUY WIRE
OHU	OHU	OVERHEAD UTILITY
UGU	UGU	UNDERGROUND UTILITY
UGT	UGT	UNDERGROUND TELEPHONE
UGE	UGE	UNDERGROUND ELECTRIC
		STORM
		STORM MANHOLE
		DROP INLET
		STORM SEWER
		ROOF DRAIN
		SANITARY
		SANITARY MANHOLE
		SANITARY SEWER MAIN
S	S	SANITARY SEWER LATERAL
		WATER
W	W	WATER LINE
	WS	WATER SERVICE LINE
		WATER METER
		WATER METER VAULT
		FIRE HYDRANT
		FIRE DEPARTMENT CONNECTION
GAS	GAS	GAS LINE
		EASEMENTS
		CONSTRUCTION
		GRADING
		ACCESS
		SIGHT DISTANCE
		UTILITY
		STORMWATER FACILITY MAINTENANCE
		STORMWATER ACCESS
		DRAINAGE
		SANITARY
		WATERLINE
		GASLINE

OWNER

50-144: Southern Ventures Inc, 410 Ednam Drive, Charlottesville, VA 22901

50-143: Southern Vector, Inc., P.O. Box 5548, Charlottesville, VA 22905

50-143.1: Wendall Wood, 410 Ednam Drive, Charlottesville, VA 22903

50-17 & 50-18: 1522 East High, LLC, 1940 Blue Ridge Road, Charlottesville, VA 22903

DEVELOPER

Seven Development
310 Old Ivy Way, Suite 204
Charlottesville, VA 22903

PLAN PREPARATION

Shimp Engineering, P.C.
912 E High Street
Charlottesville, VA 22902
(434)227-5140

PROPERTY ADDRESS

0 E High Street
Charlottesville, VA 22901

ZONING

The zoning for TMP 50-144 are as follows, per a determination by City Zoning:
Portion of 50-144 (4.7 AC): R-1S
Portion of 50-144 (12.8 AC): B-1
Portion of 50-144 (4.4 AC): B-3
Portion of 50-144 (0.04 AC): CC Central City Corridor

50-143 & 50-143.1: R-1S
50-17 & 50-18: CC Central City Corridor

SOURCE OF TITLE

DB 426 PG 282

BENCHMARK

NAVD 88

SOURCE OF BOUNDARY AND TOPOGRAPHY

ALTA survey provided by Lotts & Associates, P.C., July 7, 2022
ALTA survey for TMP 50-17 & 50-18 provided by Foresight Survey, P.C., February 14, 2023
Two (2)-ft interval contours provided by LiDAR, Virginia Geographic Information Network, 2016

FLOODZONE

1. FEMA flood insurance rate map (community panel 51003C0287D & 51003C0289D), effective date February 4, 2005 shows this property is within Zone AE Regulatory Floodplain. FEMA letter of map revision (LOMR 21-03-0301P), effective date March 16, 2022, established floodway as shown in this site plan.
2. Field stakeout of floodway limits shall be completed prior to the start of construction for city inspection.

WATER & SANITARY SERVICES

1. All materials used for water and sanitary sewer service lines are to comply with requirements as outlined in both the BOCA Code and the regulations used by the Department of Utilities for the City of Charlottesville.
2. All waterline shut downs must be coordinated with and performed by the City. Developer must hand out notices to affected customers at least 48 hours in advance.
3. Per the Virginia Department of Health Waterworks Regulations (Part II, Article 3, Section 12 VAC 5-590 through 630), all buildings that have the possibility of contaminating the potable water distribution system (hospitals, industrial sites, breweries, etc.) shall have a backflow prevention device installed within the facility. This device shall meet specifications of the Virginia Uniform Statewide Building Code, shall be tested in regular intervals as required, and test results shall be submitted to the Regulatory Compliance Administrator in the Department of Utilities.
4. All buildings that may produce wastes containing more than one hundred (100) parts per million of fats, oil, or grease shall install a grease trap. The grease trap shall meet specifications of the Virginia Uniform Statewide Building Code, maintain records of cleaning and maintenance, and be inspected on regular intervals by the Regulatory Compliance Administrator in the Department of Utilities.
5. Please contact the Regulatory Compliance Administrator at 970-3032 with any questions regarding the grease trap or backflow prevention devices.

Demands:
Water:
245 residential units, Max = 29,400 gph, Peak = 44,100 gph
Sewer:
245 residential units = 62,700 gal/day

CRITICAL SLOPES

There are critical slopes within the project area. No disturbance proposed.

GENERAL NOTES

1. The information and data shown or indicated with respect to the existing underground utilities at or contiguous to the site are based on information and data furnished to the owner and engineer by the owners of such underground facilities or others. The owner or engineer shall not be responsible for the accuracy or completeness of such information or data. The contractor shall have full responsibility for confirming the accuracy of the data, for locating all underground utilities, for coordination of the work with owners of such underground utilities during construction, for the safety and protection thereof and repairing any damage thereto resulting from the work. All of these conditions shall be met at no additional cost to the owner. The contractor shall contact "Miss Utilities" of Virginia at 1-800-552-7001 prior to the start of work.
2. When working adjacent to existing structures, poles, etc., the contractor shall use whatever methods that are necessary to protect structures from damage. Replacement of damaged structures shall be at the contractor's expense.
3. The contractor shall be responsible for protecting all existing site structures from damage and coordinating work so that the owner can make necessary arrangements to modify/protect existing structures from damages.
4. The contractor shall be responsible for notifying all utility owners, adjacent land owners whose property may be impacted and the Virginia Department of Transportation prior to completing any off-site work.
5. Contractor shall notify and coordinate all work involving existing utilities with utility owners, at least 72 hours prior to the start of construction.
6. Contractor shall immediately report any discrepancies between existing conditions and contract documents to the owner and engineer.
7. Contractor shall submit for the approval of the owner submittals of all specified materials listed in the plans, to include shop drawings, manufacturer's specifications and laboratory reports. the owner's approval of submittals will be general and will not relieve the the contractor from the responsibility of adherence to the contract and for any error that may exist.
8. All bare areas shall be scarified, limed, fertilized, seeded and mulched.
9. All trees, saplings, brush, etc. shall be removed from within the right of way and the drainage easements.
10. Retaining walls require separate building permits.

UTILITY MARKINGS

Miss Utility Ticket Number B026501443 - September 24, 2020

SIGNS

All signs and pavement markings shall conform with the latest edition of the MUTCD Guidelines.

DESIGN STANDARDS

Buildings to comply with most current Virginia Construction Code
Construction Type: Type 5A
Occupancy: R-2

RIVANNA WATER & SEWER AUTHORITY NOTES

1. All materials and methods of construction shall comply with the latest version of the General Water and Sewer Design and Construction Standards – Version 1.0, adopted in December 2015, except as modified below or modified in special notes.
2. RWSA shall approve all construction materials and methods of construction. A preconstruction conference shall be held with RWSA prior to the start of any work.
3. The contractor shall be responsible for notifying Miss Utility (1-800-552-7001).
4. RWSA Engineer (Victoria Fort at (434) 977-2970 ext. 205) shall be notified three business days prior to the start of construction.
5. All work is subject to inspection by RWSA staff. No tie-ins to the existing system shall be made without coordination with and the presence of RWSA staff. No work shall be conducted on RWSA facilities on weekends or holidays without special written permission from RWSA.
6. For sanitary sewer line construction: RWSA may require bypass pumping for tie-ins to the existing system. All doghouse manholes must be pressure-tested before a connection is made to the system.
7. The location of existing utilities as shown on the plans is from data available at the time of design and is not necessarily complete or accurate. The Contractor shall be responsible for the verification of the location, size and depth of all existing utilities, both surface and subsurface. The Contractor shall immediately notify the Engineer of any discrepancies between the plans and field conditions. The Contractor shall use due diligence to protect all utilities and structures from damage at all times, whether shown on the plans or not. Damage to any existing utilities shall be repaired by the Contractor to the original condition at no additional cost to the Owner.
8. Erosion and sediment control facilities shall not be permitted in the RWSA easement without special written permission from RWSA. No grading shall be permitted in the RWSA easement unless permitted otherwise by RWSA in writing.
9. No blasting shall be permitted within 100 feet of RWSA facilities without written permission and RWSA approval of the blasting plan. Ground monitoring during blasting and a pre-blast survey may be required. For blasting within 100 feet of any operative RWSA sewerlines, bypass pumping and/or pre- and post-CCTV may be required. RWSA may also require certification from a licensed professional engineer stating that the proposed blasting will not damage any RWSA facilities. Damage to any utilities due to blasting shall be repaired by the Contractor to the original condition at no additional cost to the Owner.
10. The contractor shall observe minimum separation requirements for utility crossings. When a crossing is made under an existing facility, adequate structural support shall be provided for the existing pipe. The area of the crossing shall be backfilled with compacted 57 stone to the springline of the existing pipe.
11. New water main installations shall be pressure tested, chlorinated, flushed and have water samples approved prior to making any permanent connection to the public water system. Approved methods of filling and flushing new water mains will be required to prevent any contamination of the public water system.
12. All easements for new RWSA facilities shall be recorded prior to placing the new facilities into service.
13. No permanent structural facilities will be permitted in the RWSA easement. This includes building overhangs, retaining walls, footers for any structure, drainage structures, etc.
14. Trees are not permitted in the RWSA easement.

BUILDING HEIGHT

Per Sec. 34-457, building height shall be a maximum of 45' in the B-1 zone.
Proposed building height: 45', 4 stories
Building GSF = 322,000 SF

BUILDING SETBACKS

FRONT & REAR: 20'
SIDE: 22.5' for a 45' building height as on the side of a lot adjoining a residential district or use, there shall be a side yard of 1' for every 2' of building height of the tallest building on the lot, minimum of 10'

EXISTING USE

Open space, other retail, not-specified (note: Rivanna River Company to be removed)

PROPOSED USE

Proposed 245 multifamily residential units: (25) efficiencies, (135) 1-bedroom, (85) 2-bedroom units
20 DUA of B-1 zone

LAND USE SCHEDULE

TMP 50-144

EXISTING	Area	%
Building	974 SF	0.1%
Pavement	30,593 SF	3.2%
Sidewalk	499 SF	0.05%
Open Space	921,898 SF	96.6%
Total=	953,964 SF	(21.9 ac.)
PROPOSED	Area	%
Building	80,514 SF	8.5%
Pavement	118,980 SF	12.5%
Sidewalk	24,250 SF	2.5%
Open Space	730,220 SF	76.5%
Total=	953,964 SF	(21.9 ac.)

TMP 50-143 [Proposed BLA]

EXISTING	Area	%
Building	0 SF	0%
Pavement	0 SF	0%
Sidewalk	0 SF	0%
Open Space	12,800 SF	100%
Total=	12,800 SF	(0.249 ac.)
PROPOSED	Area	%
Building	0 SF	0%
Pavement	0 SF	0%
Sidewalk	0 SF	0%
Open Space	13,000 SF	100%
Total=	13,000 SF	(0.3 ac.)

TMP 50-143.1 [Proposed ROW Dedication]

EXISTING	Area	%
Building	0 SF	0%
Pavement	0 SF	0%
Sidewalk	0 SF	0%
Open Space	9,496 SF	100%
Total=	9,496 SF	(0.218 ac.)
PROPOSED	Area	%
Building	0 SF	0%
Pavement	0 SF	0%
Sidewalk	0 SF	0%
Open Space	9,419 SF	100%
Total=	9,419 SF	(0.216 ac.)

TMP 50-17 [Proposed BLA]

EXISTING	Area	%
Building	2,585 SF	26.8%
Pavement	3,403 SF	35.2%
Sidewalk	244 SF	2.5%
Open Space	3,426 SF	35.5%
Total=	9,658 SF	(0.221 ac.)
PROPOSED	Area	%
Building	0 SF	0%
Pavement	263 SF	6.3%
Sidewalk	0 SF	0%
Open Space	3,937 SF	93.7%
Total=	4,200 SF	(0.096 ac.)

TMP 50-18 [Proposed BLA]

EXISTING	Area	%
Building	0 SF	0%
Pavement	3,901 SF	86.3%
Sidewalk	0 SF	0%
Open Space	618 SF	13.7%
Total=	4,519 SF	(0.104 ac.)
PROPOSED	Area	%
Building	0 SF	0%
Pavement	4,989 SF	75.0%
Sidewalk	0 SF	0%
Open Space	1,661 SF	25.0%
Total=	6,650 SF	(0.15 ac.)

LAND DISTURBANCE

8.1 AC land disturbed with this site plan proposal

PARKING SCHEDULE

Required:
Sec. 34-984.-Off-street Parking Requirements
Multifamily Dwellings - 1 parking space per each efficiency, 1- or 2-bedroom unit
(25) efficiencies, (135) 1-bedroom, and (85) 2-bedroom units proposed
Total Parking Required = 245 spaces
Sec. 34-977.-Parking Space Dimensions
Up to 30% of the required off-street parking spaces may be designed as compact car spaces
Total Parking Required = 245 spaces
30% of 245 spaces = 73 compact spaces
Provided:
318 parking spaces (includes 16 compact spaces & 13 HC spaces)

Required Bicycle Parking:
Sec. 34-881 - Bicycle Storage Facilities
Multifamily dwellings: 1 space for every 2 units
(1 space / 2 units) * 245 units) = 122.5 = 123 spaces
Total bicycle parking spaces required: 123 bicycle spaces
Provided:
123 indoor bicycle parking spaces

FIRE MARSHAL'S NOTES

SITE PLAN:
1. VSFPC 503.3 - Marking Fire Lanes. The location and method of marking fire lanes shall be clearly indicated on the submitted site plan. Fire lanes shall be a minimum of 20 feet in width. Signs and markings to delineate fire lanes as designated by the fire official shall be provided and installed by the owner or his/her agent of the property involved. Fire apparatus roads 20 to 26 feet in width shall be posted or marked on both sides "No Parking - Fire Lane".
2. VSFPC 505.1-The building street number to be plainly visible from the street for emergency responders.
3. VSFPC 506.1 - An approved key box shall be mounted to the side of the front or main entrance.
4. VSFPC 506.1.2 - An elevator key box will be required if the building has an elevator.
5. VSFPC 507.5.4 - Fire hydrants, fire pump test header, fire department connections or fire suppression system control valves shall remain clear and unobstructed by landscaping, parking or other objects.
6. VSFPC 503.2.1 - Overhead wiring or other obstructions shall be higher than 13 feet 6 inches.
7. SFPC 507.5.1.1 - Hydrant for standpipe system - Buildings equipped with a standpipe system installed in accordance with Section 905 shall have a fire hydrant within 100 feet of the fire department connections. The distance shall be permitted to exceed 100 feet where approved by the fire code official.
8. VSFPC 905.3.1 - If the floor level of the highest story is more than 30 feet above the lowest level of fire department vehicle access, then a Class I standpipe system must be installed in addition to the sprinkler system.
9. VSFPC 912.2.1 - The fire department connection shall be located on the street side of the structure unless otherwise approved by the fire code official.
10. VSFPC 3312.1 - An approved water supply for fire protection shall be made available as soon as combustible material arrives on the site. Fire hydrants shall be installed and useable prior to the start of any building construction.
11. All pavement shall be capable of supporting fire apparatus weighing 85,000 lbs.
12. Required vehicle access for fire fighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet of temporary pr permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available.
13. Buildings four or more stories in height shall be provided with not less than one standpipe for use during construction. Such standpipes shall be installed when the progress of construction is not more than 40 feet in height above the lowest level of fire department access. Such standpipe shall be provided with fire department hose connections at accessible locations adjacent to usable stairs. Such standpipes shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring. Installation of the standpipe shall begin once construction begins on the second (2nd) floor.

CONSTRUCTION & DEMOLITION:
1. VSFPC 310.3: 310.5 - No smoking or vaping within the construction safety fence. No smoking signs shall be posted throughout each building under construction as well as outside the building. Should anyone from the Fire Marshal's office witness smoking/vaping within the construction site, he or she may request a 24 hour Stop Work Order from the City Building Official.
2. VSFPC 3304.2 - Waste disposal of combustible debris shall be removed from the building at the end of each workday.
3. IFC 1410.1-Access to the building during demolition and construction shall be maintained.
4. VSFPC 3304.6 - Operations involving the use of cutting and welding shall be done in accordance with Chapter 35, of the Virginia Statewide Fire Prevention Code, addressing welding and hotwork operations.
5. VSFPC 3315.1 -Fire extinguishers shall be provided with not less than one approved portable fire extinguisher at each stairway on all floor levels where combustible materials have accumulated.
6. VSFPC 3310.1 - Required vehicle access for fire fighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet of temporary or permanent fire department connections, if any. Vehicle access shall be maintained until permanent fire apparatus access roads are available.
7. VSFPC 3311.1 - Where a building has been constructed to a height greater than 50 feet or four (4) stories, at least one temporary lighted stairway shall be provided unless one or more of the permanent stairways are erected as the construction progresses.
8. No vehicles or machinery of any type, construction materials or construction debris are to be parked, placed, or stored either in front of and within 15 feet of a fire hydrant.
9. VSFPC 3315.1 - Fire extinguishers shall be provided with not less than one approved portable fire extinguisher at each stairway on all floor levels where combustible materials have accumulated.

CITY PERMITS

1. The contractor shall be responsible for obtaining a street cut permit from the City.
2. A Temporary Street Closure Permit is required for closure of sidewalks, parking spaces and roadways and is subject to approval by the City Traffic Engineer. The contractor contact information will be provided with the final plans.

ELECTRIC/ TELEPHONE/ CABLE TV

If feasible, all new service lines for electricity, telephone and cable TV are to be installed underground. Care is to be taken to assure their location does not conflict with any other aspects of the proposed site plan.

FIRE FLOW

Minimum fire flow is 1,938 gpm. See sheet C16.

ITE TRIP GENERATION

Use	ITE Code	IV	AM			PM			Daily Total
			In	Out	Total	In	Out	Total	
Multifamily Housing (Mid-Rise)	221	245 Units	23	65	88	66	42	108	1334

Trip generation reflects AM and PM peak hour traffic as well as weekday traffic.

PRELIMINARY SITE DEVELOPMENT PLAN

0 E HIGH STREET

TAX MAP 50 PARCEL 144
PORTION OF TAX MAP 50 PARCEL 17,
TAX MAP 50 PARCEL 18,
TAX MAP 50 PARCEL 143
& TAX MAP 50 PARCEL 143.1
CITY OF CHARLOTTESVILLE, VIRGINIA

VICINITY MAP

SCALE : 1"=2000'

Map provided by Google Maps

SHEET INDEX: TOTAL 17 SHEETS

APPROVALS

DIRECTOR OF NEIGHBORHOOD DEVELOPMENT SERVICES — Date

SHIMP ENGINEERING PC
LAND PLANNING - PROJECT MANAGEMENT
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CHARLOTTESVILLE VA, 22902 JUSTIN@SHIMP-ENGINEERING.COM

COMMONWEALTH OF VIRGINIA
JUSTIN C. SHIMP
Lic. No. 45183
PROFESSIONAL ENGINEER
FOR REVIEW ONLY

PRELIMINARY SITE DEVELOPMENT PLAN

0 EAST HIGH STREET

CITY OF CHARLOTTESVILLE, VIRGINIA
SUBMISSION:
2022.08.05
REVISION:
2022.12.07
2023.02.17
2023.06.02

FILE NO.
20.017

COVER SHEET

C1

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C-1	144.64'	104.54'	102.28'	N 43°21'13" W	41°24'34"

LINE	BEARING	DISTANCE
L-1	S 19°42'29" W	18.31'
L-2	S 09°48'07" W	30.78'
L-3	S 01°57'41" W	20.45'
L-4	S 15°27'54" W	40.87'
L-5	N 62°58'29" W	15.00'
L-6	N 24°13'32" E	25.45'
L-7	N 63°46'24" W	10.98'
L-8	S 30°39'29" E	100.03'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C-1	144.64'	104.54'	102.28'	N 43°21'13" W	41°24'34"

LEGEND

CRITICAL SLOPES LOT REGULATIONS GENERAL

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PRELIMINARY SITE DEVELOPMENT PLAN

0 EAST HIGH STREET

CITY OF CHARLOTTESVILLE, VIRGINIA

SUBMISSION:
2022.08.05
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2022.12.07
2023.02.17
2023.06.02

FILE NO.
20.017

EXISTING CONDITIONS & DEMOLITION

C2

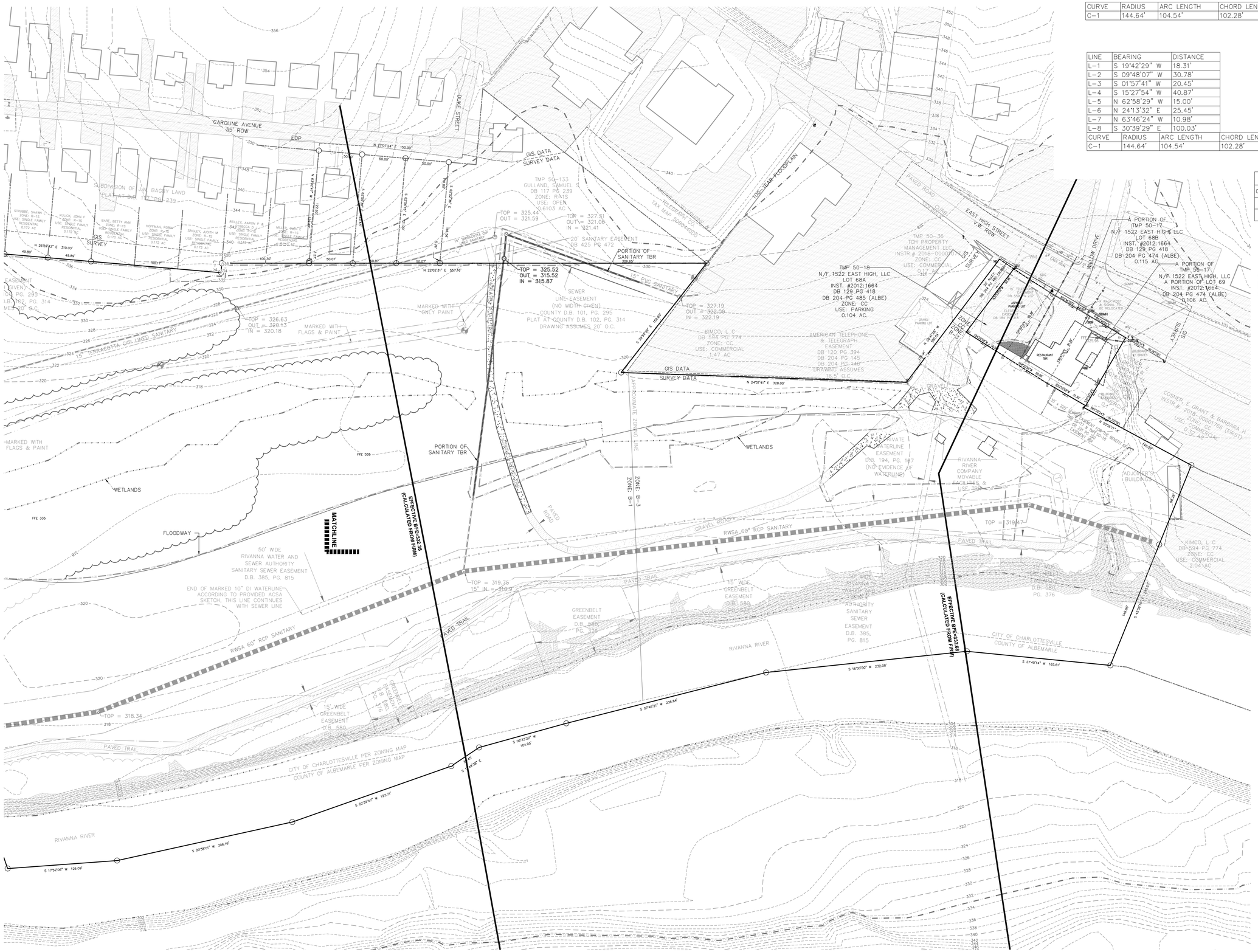
Scale: 1"=50'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C-1	144.64'	104.54'	102.28'	N 43°21'13" W	41°24'34"

LINE	BEARING	DISTANCE
L-1	S 19°42'29" W	18.31'
L-2	S 09°48'07" W	30.78'
L-3	S 01°57'41" W	20.45'
L-4	S 15°27'54" W	40.87'
L-5	N 62°58'29" W	15.00'
L-6	N 24°13'32" E	25.45'
L-7	N 63°46'24" W	10.98'
L-8	S 30°39'29" E	100.03'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C-1	144.64'	104.54'	102.28'	N 43°21'13" W	41°24'34"

BOUNDARY CURVE TABLE: 50-17 & 50-18						
Curve	Length	Radius	Delta	Tangent	Chord	Chord Bearing
C1	49.96'	1456.40'	1°57'56"	24.98'	49.96'	N 55°00'43" E
C2	6.63'	1456.40'	0°15'39"	3.31'	6.63'	N 53°53'56" E



50 0 50 100 150
Scale: 1" =50'

LEGEND

CRITICAL SLOPES LOT REGULATIONS GENERAL

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LAND PLANNING · PROJECT MANAGEMENT

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NOT RELEASED FOR CONSTRUCTION

PRELIMINARY SITE DEVELOPMENT PLAN

0 EAST HIGH STREET

CITY OF CHARLOTTESVILLE, VIRGINIA

SUBMISSION:
2022.08.05
REVISION:
2022.12.07
2023.02.17
2023.06.02

FILE NO.
20.017

EXISTING CONDITIONS & DEMOLITION

C3

LEGEND

CRITICAL SLOPES LOT REGULATIONS GENERAL

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LAND PLANNING • PROJECT MANAGEMENT

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FOR REVIEW

PRELIMINARY SITE DEVELOPMENT PLAN

0 EAST HIGH STREET

CITY OF CHARLOTTESVILLE, VIRGINIA

SUBMISSION:
2022.08.05

REVISION:
2022.12.07
2023.02.17
2023.06.02

FILE NO.
20.017

SITE LAYOUT OVERVIEW

C4

LEGEND

CRITICAL SLOPES LOT REGULATIONS GENERAL

SHIMP ENGINEERING PC
LAND PLANNING - PROJECT MANAGEMENT

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PRELIMINARY SITE DEVELOPMENT PLAN

0 EAST HIGH STREET

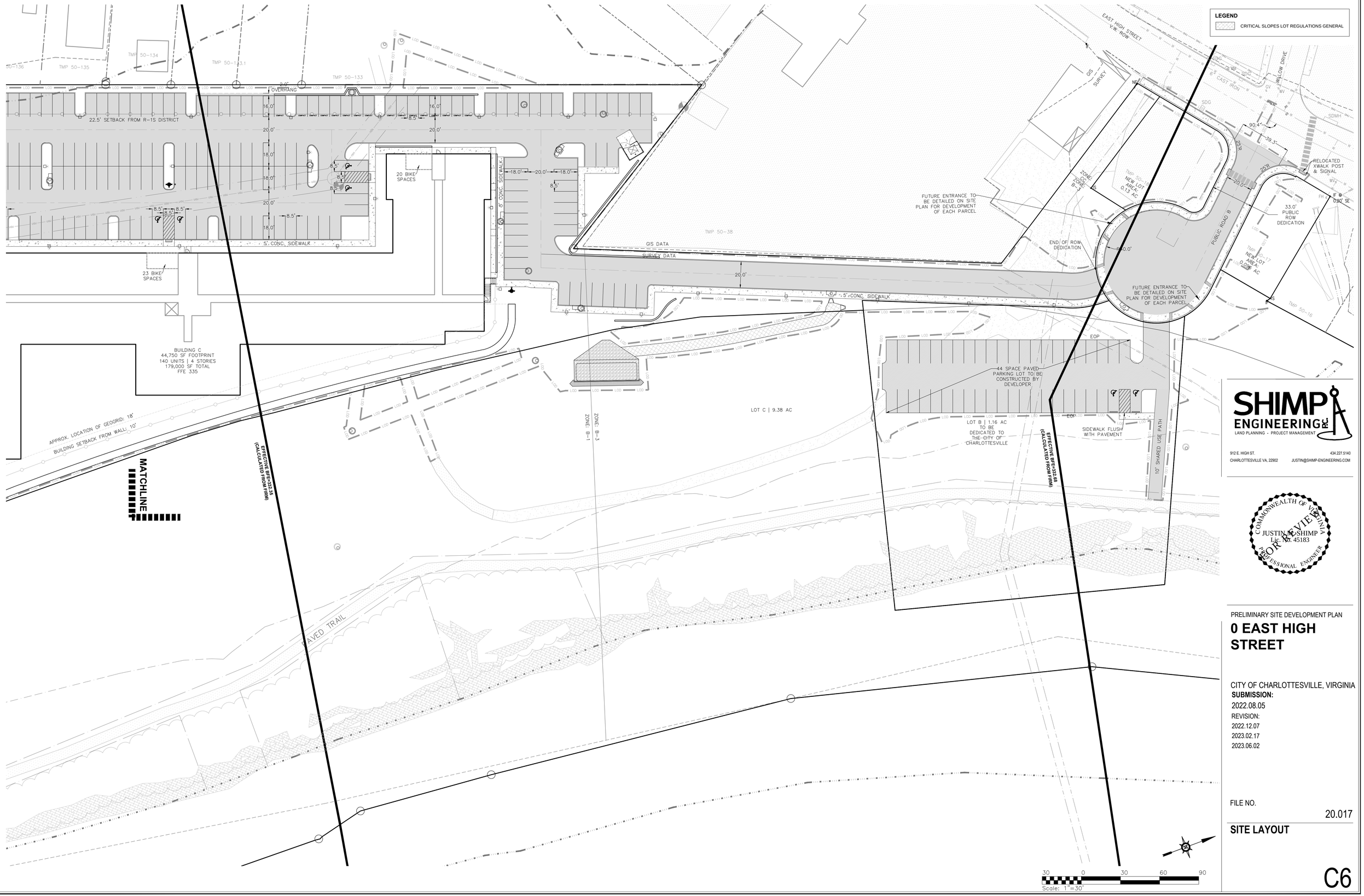
CITY OF CHARLOTTESVILLE, VIRGINIA

SUBMISSION:
2022.08.05
REVISION:
2022.12.07
2023.02.17
2023.06.02

FILE NO.
20.017

SITE LAYOUT

C5



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PRELIMINARY SITE DEVELOPMENT PLAN

0 EAST HIGH STREET

CITY OF CHARLOTTESVILLE, VIRGINIA

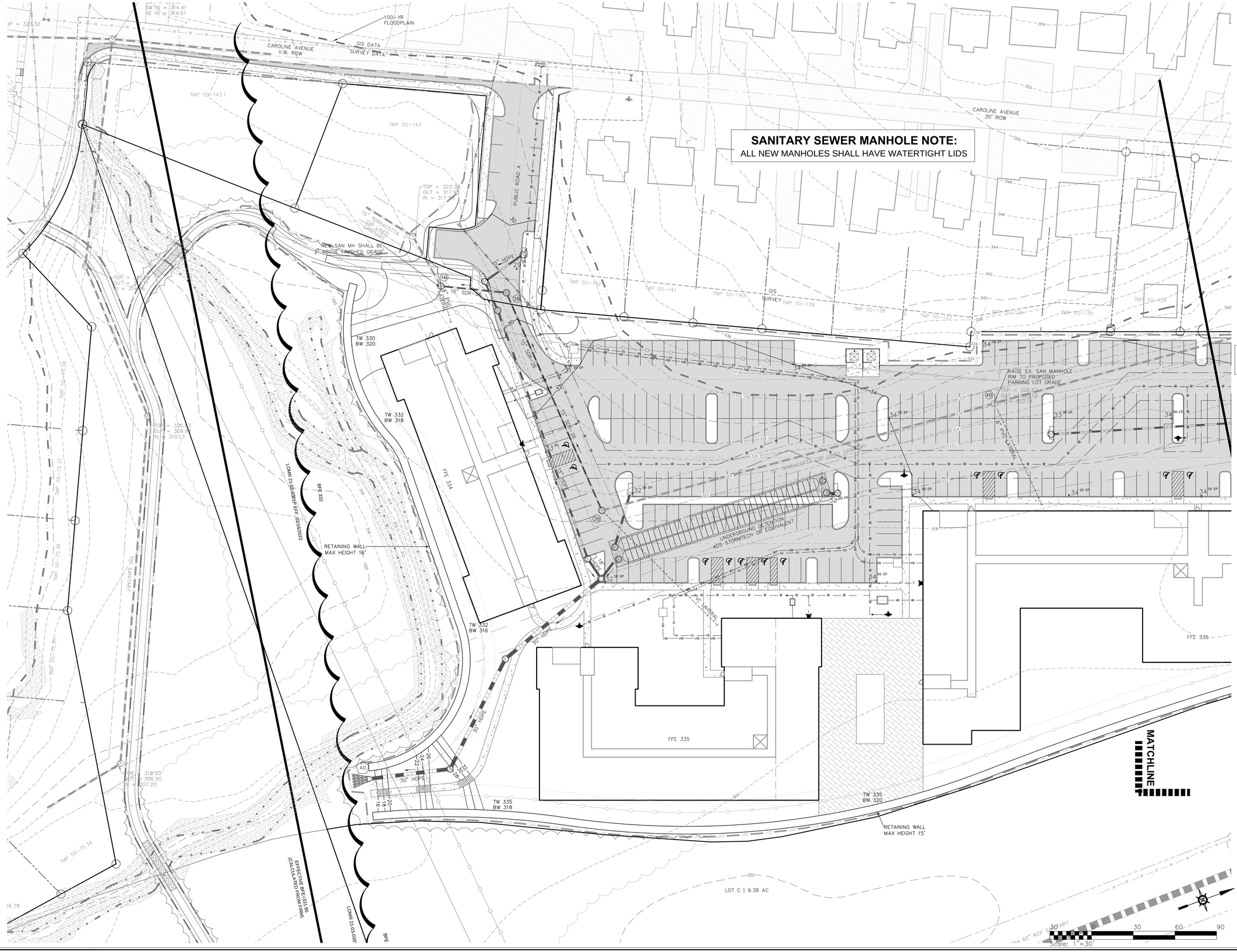
SUBMISSION:
2022.08.05

REVISION:
2022.12.07
2023.02.17
2023.06.02

FILE NO.
20.017

SITE LAYOUT

C6



LEGEND

CRITICAL SLOPES LOT REGULATIONS GENERAL

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PRELIMINARY SITE DEVELOPMENT PLAN

0 EAST HIGH STREET

CITY OF CHARLOTTESVILLE, VIRGINIA

SUBMISSION:
2022.08.05

REVISION:
2022.12.07
2023.02.17
2023.06.02

FILE NO.
20.017

GRADING & UTILITY PLAN

C7

LEGEND

CRITICAL SLOPES LOT REGULATIONS GENERAL

TMP 50-134
TMP 50-135
TMP 50-131
TMP 50-133
TMP 50-17
TMP 50-76

18" CULVERT TO COLLECT OFFSITE AREA

TW 330
BW 324

NEW DI-7

18" HDPE

15" HDPE

18" HDPE

15" HDPE

8.5% RAMP

8.5% RAMP

8.5% RAMP

FFE 334.8

TW 324
BW 320

GIS DATA

SURVEY DATA

TW 330
BW 328

FFE 335

TW 335
BW 320

ENGINEERED LEVEL SPREADER

LOT C | 9.38 AC

LOT B | 1.16 AC
TO BE
DEDICATED TO
THE CITY OF
CHARLOTTESVILLE

ZONE: B-1

ZONE: B-3

ZONE: B-1

EFFECTIVE BFE=332.35
(CALCULATED FROM FIRM)

EFFECTIVE BFE=337.66
(CALCULATED FROM FIRM)

MATCHLINE

PAVED TRAIL

EAST HIGH STREET
V.W. ROW

GIS SURVEY

WILLOW DRIVE

6" CAST IRON

SDMH

SDG

PUBLIC ROAD B

IF Ø
0.20' SE

TO SHARED USE PATH

15" HDPE

30 0 30 60 90
Scale: 1"=30'

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LAND PLANNING · PROJECT MANAGEMENT

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JUSTIN M. SHIMP
Lic. No. 45183
PROFESSIONAL ENGINEER

PRELIMINARY SITE DEVELOPMENT PLAN

0 EAST HIGH STREET

CITY OF CHARLOTTESVILLE, VIRGINIA

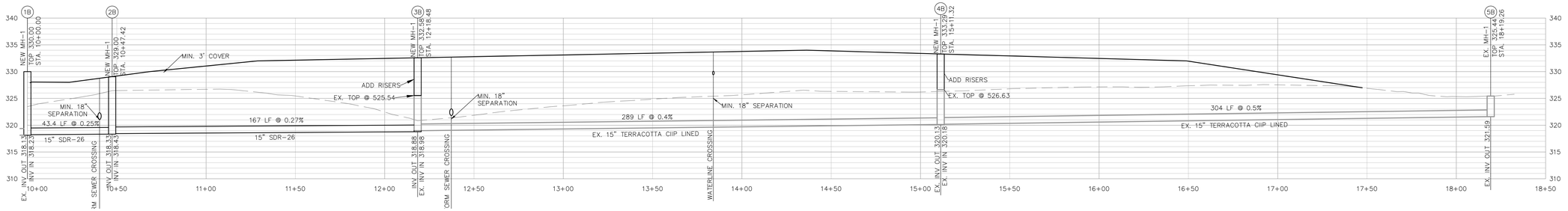
SUBMISSION:
2022.08.05

REVISION:
2022.12.07
2023.02.17
2023.06.02

FILE NO.
20.017

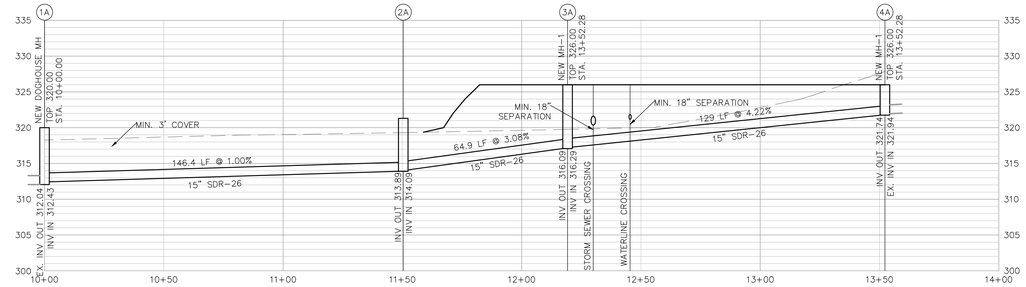
GRADING & UTILITY PLAN

C8



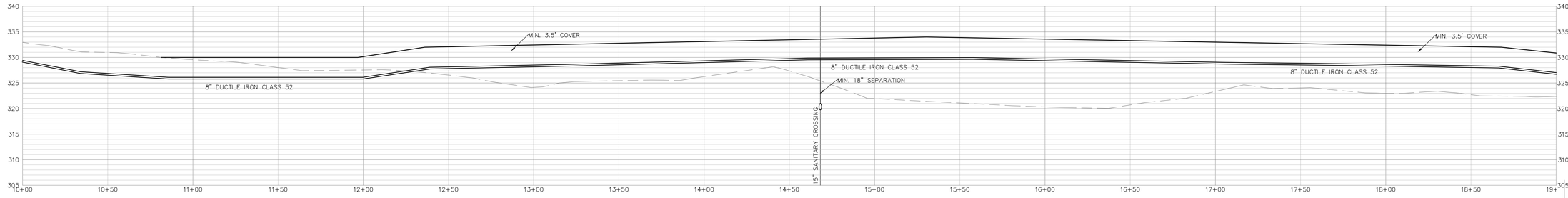
1 C9 SANITARY SEWER PROFILE 1B–4B

HORIZ. SCALE: 1"=30', VERT. SCALE: 1"=10'



2 C9 SANITARY SEWER PROFILE 1A–4A

HORIZ. SCALE: 1"=30', VERT. SCALE: 1"=10'



3 C9 WATER MAIN PROFILE – 1

HORIZ. SCALE: 1"=30', VERT. SCALE: 1"=10'

4 C9 WATER MAIN PROFILE – 2

HORIZ. SCALE: 1"=30', VERT. SCALE: 1"=10'

SHIMP ENGINEERING PC
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COMMONWEALTH OF VIRGINIA
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FOR REVIEW

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0 EAST HIGH STREET

CITY OF CHARLOTTESVILLE, VIRGINIA

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PRELIMINARY UTIILITY PROFILES

C9

Preliminary Quality Calculations

Preliminary site development plan shows conceptual stormwater management plans. Final site plan shall include all reuqired calculations to demonstrate compliance with the outlined methodologies per each outfall.

Drainage Areas

Refer to sheet C11 for water quality analysis. Final plans shall include all drawings and calculations as applicable per the requirements of each outfall.

Overall SWM Quality Strategy

The existing site is a mixture of woods and managed turf. The VRRM new development spreadsheet will compute the required nutrient credits required based upon the proposed development and those credits will be purchased from an approved nutrient credit bank.

LEGEND

CRITICAL SLOPES LOT REGULATIONS GENERAL

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STORMWATER MANAGEMENT CONCEPT

C10

Proposed Site Outfall #1

Onsite development runoff to be routed to underground detention facility. Runoff from site is directed to existing receiving channel. Energy Balance showing compliance with 1 yr flow rate to be provided with final site plan. Site outfall point is within a mapped floodplain, therefore 10 yr capacity requirements for outfall channel are not required. Post Development 10 yr storm capacity for new storm sewer will be provided.

Proposed Site Outfall #2

Discharge to sheet flow to open space using engineered level spreader, BMP spec. 2. Flood protection criteria met by providing adequate stormwater conveyance to point of outfall within 100-yr floodplain.

LOMR 21-03-0301P EFF. 03/16/2022

BFE 332

EFFECTIVE BFE=331.65 (CALCULATED FROM FIRM)

EFFECTIVE BFE=332.06

LOT A | 3.79 AC TO BE DEDICATED TO THE CITY OF CHARLOTTESVILLE

LOT C | 9.38 AC

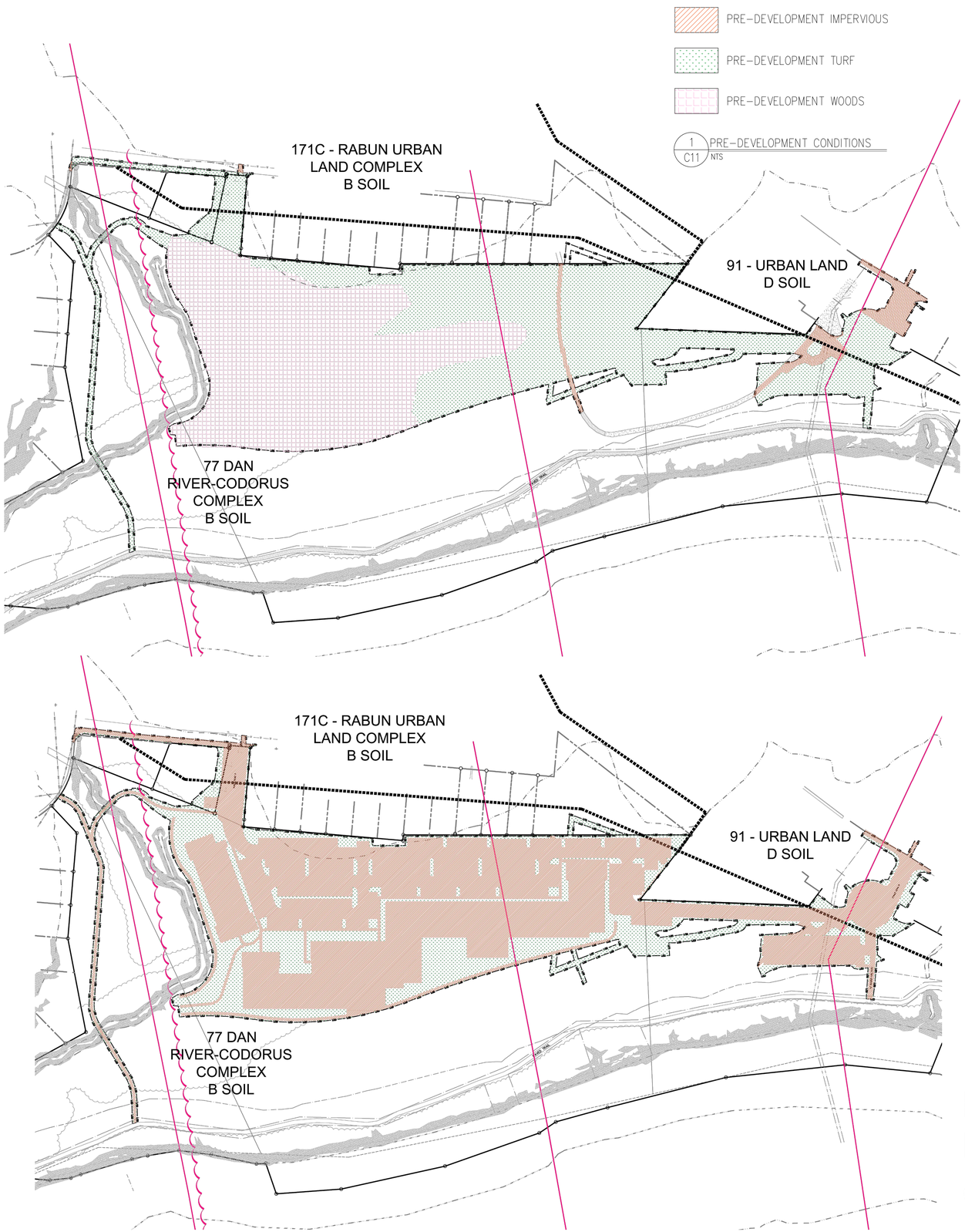
TOC - REAR FLOOR ELEV.

SHEET FLOW

LOT B | 1.16 AC TO BE DEDICATED TO THE CITY OF CHARLOTTESVILLE

EFFECTIVE BFE=332.68 (CALCULATED FROM FIRM)

Scale: 1"=80'



Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3)	21,572

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft^3)	0	0	0	0	0	0
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00
TP LOAD REMAINING (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	13.55
TP LOAD REDUCTION REQUIRED (lb/yr)	10.23
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.00
TP LOAD REMAINING (lb/yr)	13.55
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr)	**10.23**

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	96.96
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.00
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	96.96

DEQ Virginia Runoff Reduction Method New Development Compliance Spreadsheet - Version 3.0

☐ 2011 BMP Standards and Specifications ☑ 2013 Draft BMP Standards and Specifications

Project Name: 0 E High Street
Date: 6/2/2023
BMP Design Specifications List: .

CLEAR ALL (Ctrl+Shift+R)

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested land					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed		2.24		0.11	2.35
Impervious Cover (acres)		5.48		0.28	5.76
					8.11

Constants	
Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

Runoff Coefficients (Rv)

	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	10.23

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary	
Forest/Open Space Cover (acres)	0.00
Weighted Rv (forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.35
Weighted Rv (turf)	0.20
% Managed Turf	29%
Impervious Cover (acres)	5.76
Rv (impervious)	0.95
% Impervious	71%
Site Area (acres)	**8.11**
Site Rv	**0.73**

Treatment Volume and Nutrient Loads	
Treatment Volume (acre-ft)	0.4952
Treatment Volume (cubic feet)	21,572
TP Load (lb/yr)	13.55
TN Load (lb/yr) (Informational Purposes Only)	96.96

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VRRM MAPS & CALCULATIONS

C11

LANDSCAPE SCHEDULE

Plant Symbol	Planting Type	Botanical Name	Common Name	Min. Cal./Height	Quantity	Total Height(ft) in 10 Yrs	Canopy SF	Total Canopy SF
	Large Deciduous Tree	Quercus phellos	Willow Oak	2" Cal.	20	31	370	7400
	Large Deciduous Tree	Quercus falcata	Southern Red Oak	2" Cal.	35	31	424	14840
	Large Deciduous Tree	Tilia americana	American Linden	2" Cal.	11	26	191	2101
Ua	Large Deciduous Tree	Ulmus americana	American Elm	2" Cal.	30	25	397	11910
	Large Deciduous Tree	Tilia cordata	Littleleaf Linden	2" Cal.	20	27	249	4980
Cb	Medium Deciduous Tree	Carpinus betulus	European Hornbeam	2" Cal.	10	20	177	1770
Ac	Ornamental Tree	Amelanchier canadensis	Shadblow Serviceberry	6-8' Ht.	21	19	130	2730
	Evergreen Shrub	Myrica cerifera	Southern Wax Myrtle	12" Ht.	64	10	44	2816
	Evergreen Shrub	Viburnum awabuki 'Chindo'	Chindo Viburnum	12" Ht.	24	10	22	528
	Evergreen Shrub	Ilex glabra	Inkberry Holly	12" Ht.	51	6	23	1173
PH	Evergreen Shrub	Photinia x frazeri	Photinia	12" Ht.	18	10	20	360
Az	Evergreen Shrub	Rhododendron	Azalea	12" Ht.	34	4	10	340
Ic	Evergreen Shrub	Ilex crenata	Soft Touch Holly	12" Ht.	40	5	16	640
Cg	Deciduous Shrub	Cornus amomum	Silky Dogwood	12" Ht.	17	8	72	1224
							TOTAL SF:	52812

LANDSCAPING REQUIRED:

SITE REQUIREMENT (SEC. 34-869(b)): 15% CANOPY REQUIRED FOR RESIDENTIAL DENSITIES BETWEEN 10 AND 20 DUA.
PROJECT AREA: 7.4 AC (323,756 SF)
323,756 SF x 15% = 48,563
CANOPY REQUIRED: 48,563 SF
CANOPY PROVIDED: 52,812 SF

STREET TREES (SEC. 34-870): 1 LARGE TREE, 40' O.C. ADJ. TO PUBLIC STREET RIGHT-OF-WAY

INTERIOR PARKING AREA (SEC. 24.11.9.7): 5% OF THE PAVED PARKING AREA & 1 MEDIUM SHADE TREE PER 8 PARKING SPACES
104,027 SF x 5% = 5,202 SF
REQUIRED: 5,202 SF
PROVIDED: 8,135 SF

320 SURFACE PARKING SPACES PROVIDED
REQUIRED: 40 LARGE OR MEDIUM SHADE TREES
PROVIDED: 16 LARGE SHADE TREE + 24 MEDIUM SHADE TREES

PARKING LOT SCREENING (SEC. 34-873): A CONTINUOUS LANDSCAPE BUFFER OF AT LEAST 5' IN WIDTH SHALL BE ESTABLISHED BETWEEN THE EDGE OF A PARKING LOT AND AN ADJACENT PROPERTY. ONE LARGE TREE AND THREE SHRUBS SHALL BE PLANTED FOR EVERY 15' OF LENGTH OF THE PROPERTY LINE.

NOTES:
1. All site plantings of trees and shrubs shall be allowed to reach, and be maintained at, mature height; the topping of trees is prohibited. Shrubs and trees shall be pruned minimally and only to support the overall health of the plant.
2. All landscaping and screening shall be maintained in a healthy condition by the current owner or property owners' association and replaced when necessary. Replacement material shall comply with the approved landscape plan.
3. All new planting shown on the plan will be completed after building and road construction to avoid tree planting damage.
4. All disturbed slopes 3:1 or steeper to have low maintenance ground cover.
5. Any existing tree proposed to remain shall be replaced in kind if negatively impacted by improvements associated with this project.

LEGEND

CRITICAL SLOPES LOT REGULATIONS GENERAL

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LANDSCAPE PLAN

C12

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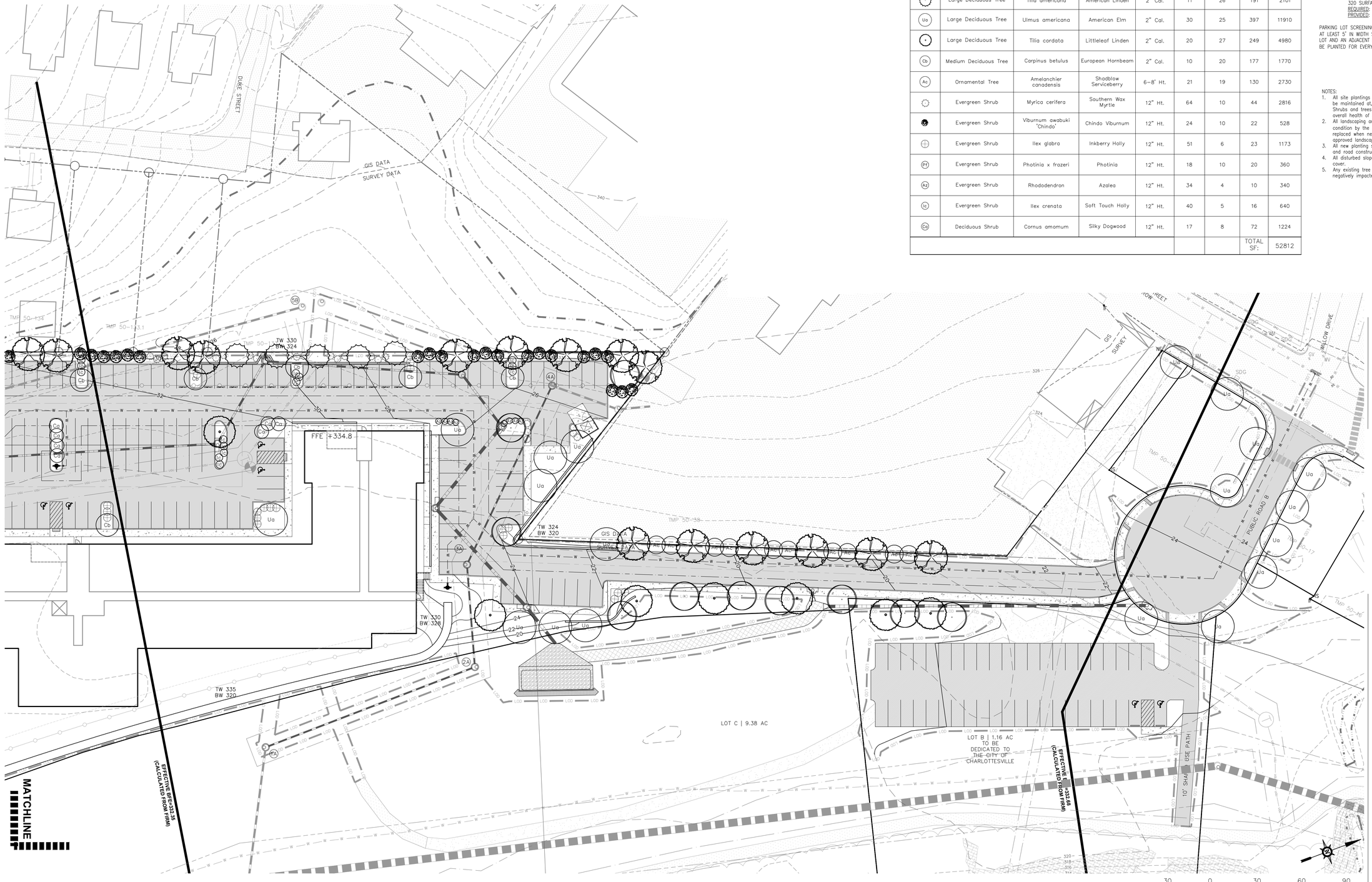

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LANDSCAPE PLAN

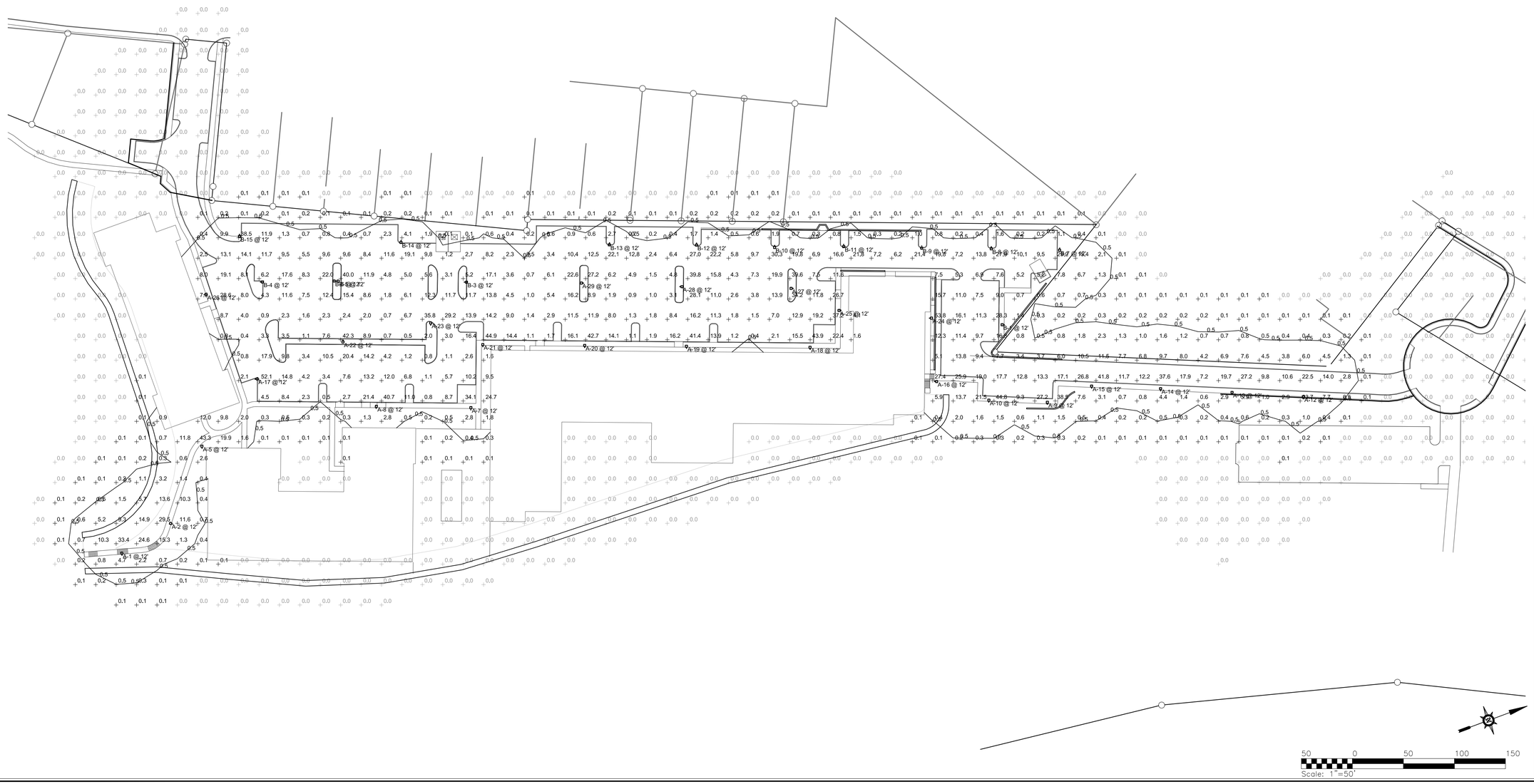
C13

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number of Lamps	Filename	Wattage	Light Loss Factor
	A	25	SIGNIFY GARDCO	ECF-L-96L-1.4A-WW-G2-4	EcoForm Area LED ECF - Large, 96 LED's, 3000K CCT, TYPE 4 OPTIC, No Shield	(6) LEDGINE SLD LIGHT ARRAY(S) DRIVEN AT 1370mA	ecf-l-96l-1-4a-ww-g2-4.ies	422.0	1.00
	B	14	SIGNIFY GARDCO	ECF-L-96L-1A-WW-G2-4-HIS	EcoForm Area LED ECF - Large, 96 LED's, 3000K CCT, TYPE 4-HIS OPTIC, House-side Internal Shielding	(6) LEDGINE SLD LIGHT ARRAY(S) DRIVEN AT 1050mA	ecf-l-96l-1a-ww-g2-4-his.ies	316.4	1.00

Lighting Notes:

1. Per Sec. 34-1003(c) of the Charlottesville Zoning Ordinance, pole mounted fixtures shall be mounted at a height of 12' from the finished grade which includes the pole base, outside of the public ROW and immediately adjacent to low-density residential districts.
2. Each outdoor luminaire equipped with a lamp that emits 3,000 or more initial lumens shall be a full cutoff luminaire and shall be arranged or shielded to reflect light away from adjoining residential districts and away from adjacent roads. The spillover of lighting from luminaires onto public roads and property in residential or rural areas zoning districts shall not exceed one half footcandle.



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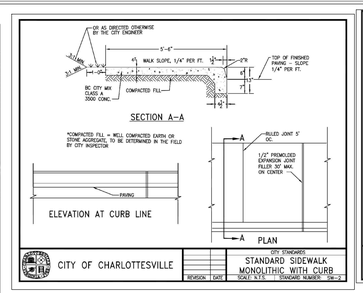
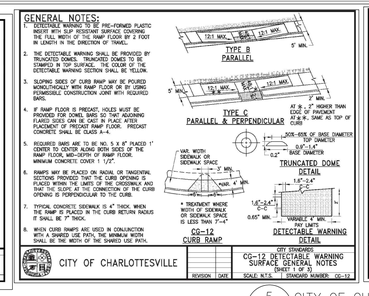
LIGHTING PLAN

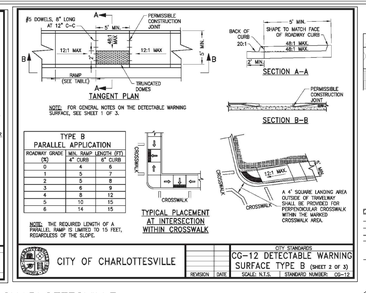
C14

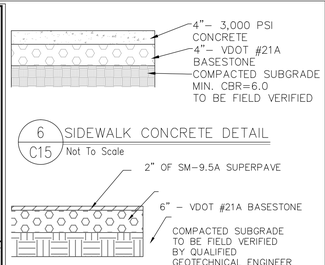


4 C15 CITY OF CHARLOTTESVILLE
STANDARD SIDEWALK MONOLITHIC W/ CURB
NOT TO SCALE



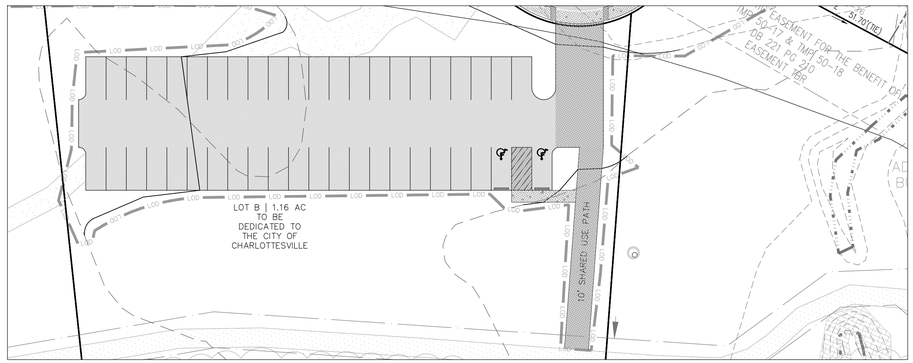
5 C15 CITY OF CHARLOTTESVILLE
CG-12 DETAIL
NOT TO SCALE



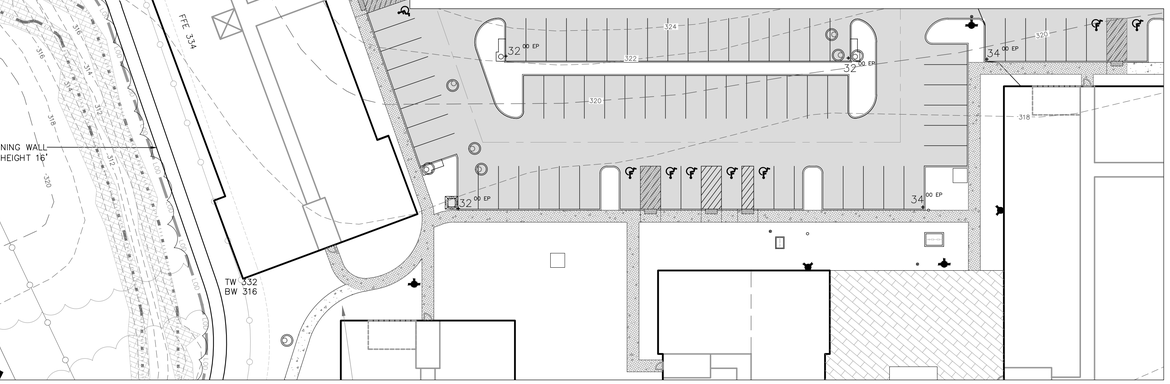


6 C15 SIDEWALK CONCRETE DETAIL
Not To Scale

7 C15 PAVEMENT SECTION DETAIL
Not To Scale



3 C15 ACCESSIBLE ROUTE
Scale: 1"=30'



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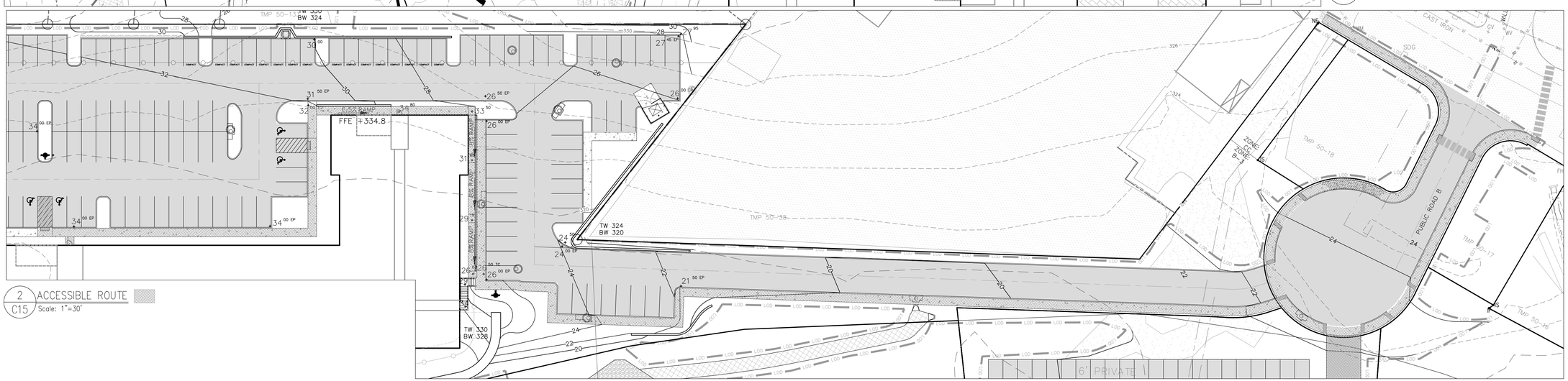

2 C15 ACCESSIBLE ROUTE
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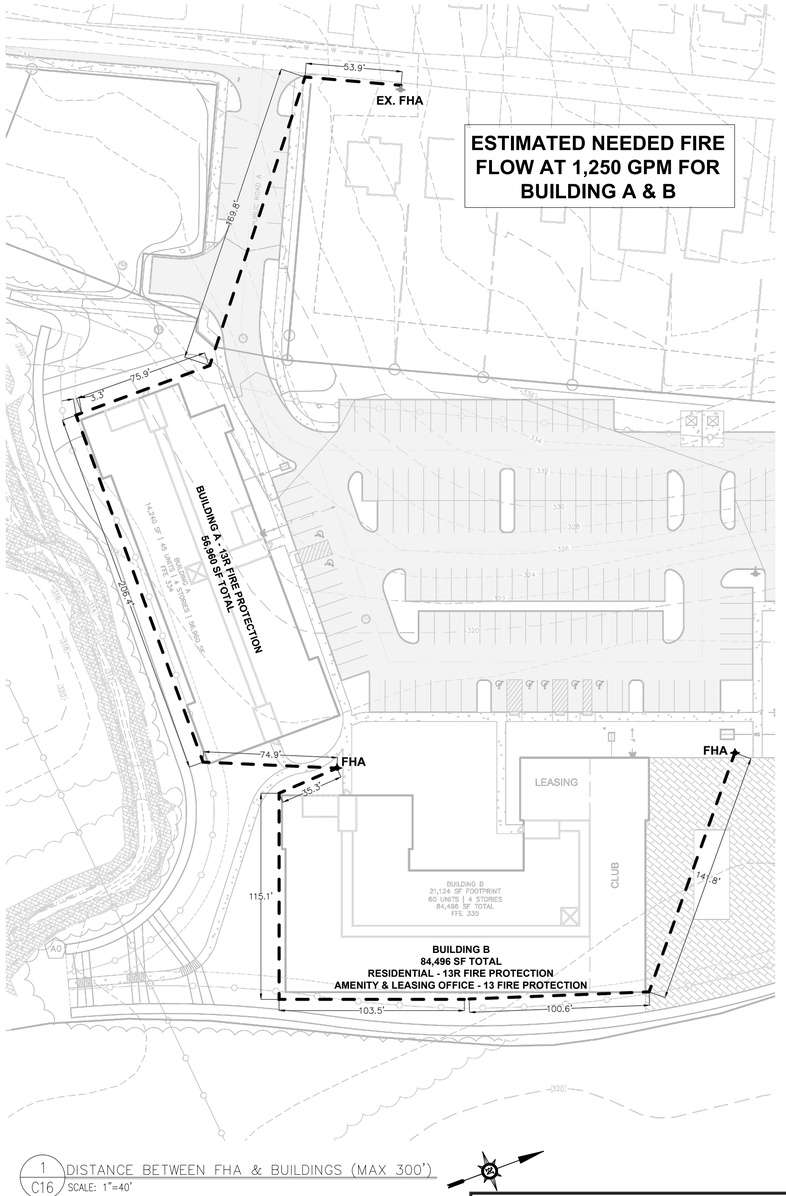
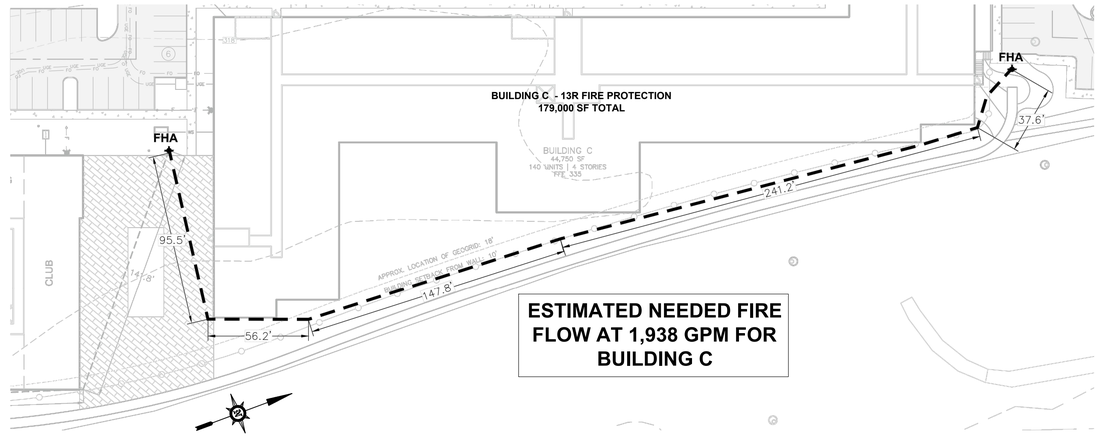
SITE DETAILS

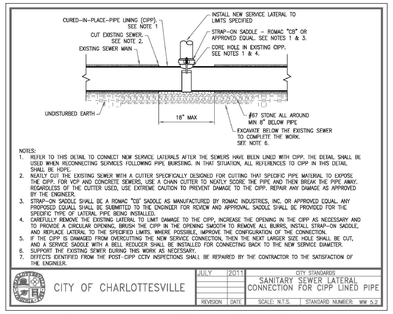
C14



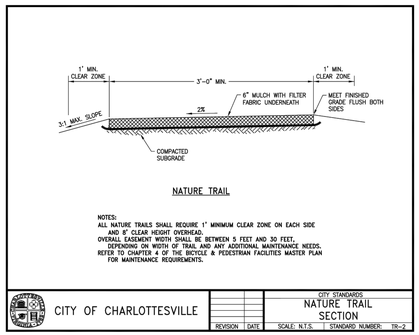
1 C16 DISTANCE BETWEEN FHA & BUILDINGS (MAX 300')
SCALE: 1"=40'



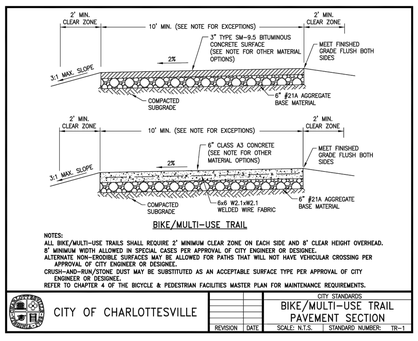
2 C16 DISTANCE BETWEEN FHA & BUILDINGS (MAX 300')
SCALE: 1"=40'



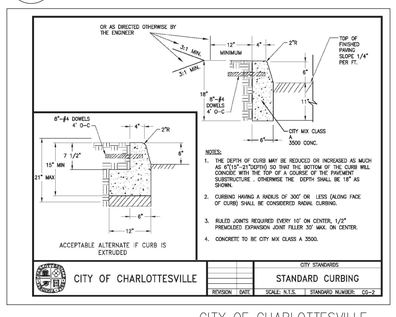
3 C16 CITY OF CHARLOTTESVILLE SANITARY SEWER CONNECTION FOR CIPP LINED PIPE
Not To Scale



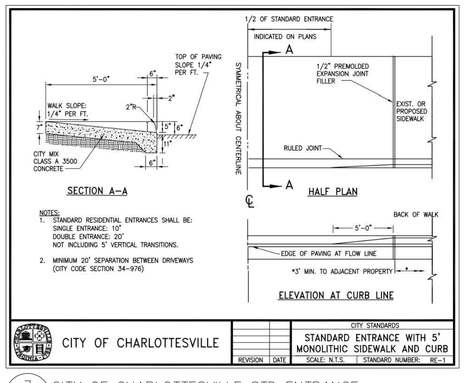
5 C16 CITY OF CHARLOTTESVILLE NATURE TRAIL DETAIL
Not To Scale



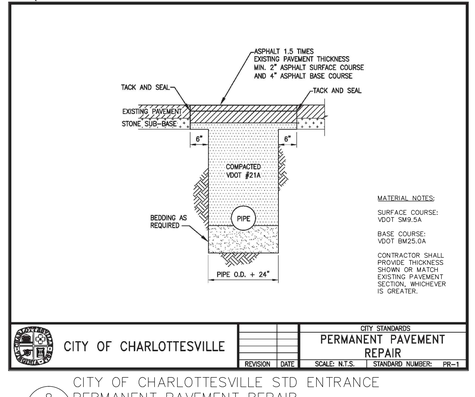
6 C16 CITY OF CHARLOTTESVILLE MULTIUSE PATH DETAIL
Not To Scale



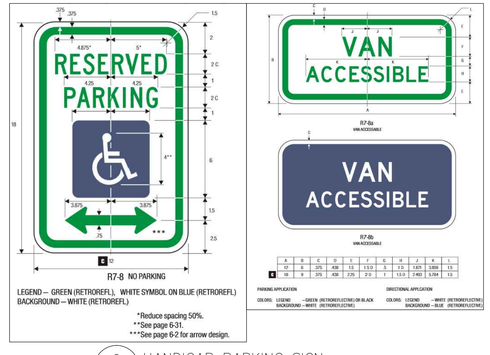
4 C16 CITY OF CHARLOTTESVILLE STD CURBING
Not To Scale



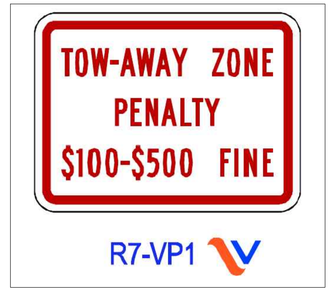
7 C16 CITY OF CHARLOTTESVILLE STD ENTRANCE
NOT TO SCALE



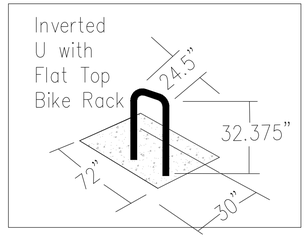
8 C16 CITY OF CHARLOTTESVILLE STD ENTRANCE PERMANENT PAVEMENT REPAIR
Not To Scale



9 C16 HANDICAP PARKING SIGN
NOT TO SCALE



10 C16 PENALTY SIGN DETAIL
NOT TO SCALE



11 C16 INVERTED U BIKE RACK DETAIL
Not To Scale

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COMMONWEALTH OF VIRGINIA
JUSTIN M. SHIMP
Lic. No. 45183
PROFESSIONAL ENGINEER
10/8/2019

PRELIMINARY SITE DEVELOPMENT PLAN

0 EAST HIGH STREET

CITY OF CHARLOTTESVILLE, VIRGINIA
SUBMISSION:
2022.08.05
REVISION:
2022.12.07
2023.02.17
2023.06.02

FILE NO.
20.017

SITE EXHIBITS & DETAILS

C16

0 E High Street Sewer Demand Calculation						
Use	**Bedrooms**		**Number of Users**		**Flow Per User (gpd)**	**Total Sewer Demand (gpd)**
Bedroom Units * 1.9 persons	330	Units	627	Persons	100	62700
		Units		Persons	100	0
		SF		Persons	100	0
				Total Estimated Sewer Demand:		**62700**

Water Demand Calculations

Residential 245 units

Max Hour Demand

Residential:

2 gpm/unit = 490 gpm = 29400 gph

or

Q=11.4*N^0.544 = 227.306 gpm = 13638.37 gph (not used)

Commercial: Average Daily Flows

Office Space = 200/1,000 sf = 0.00 gpd = 0.00 gph

Max Hour = 11.84 x 300% = 0.00 gph

Total = 29400 + 0.00 = 29400.00 gph

Peak Hour Demand

Residential:

3 gmp Per = 735 gpm = 44100 gph

Commercial:

1.5* Max Hour Demand Commercial = 0.00 gph

Total = 44100 + 0 = 44100.00 gph

BUILDING A

SIZING WATER SERVICE LINES AND METERS

CITY OF CHARLOTTESVILLE
WATER CUSTOMER DATA SHEET

Customer 0 E High Street Address
Building Address 0 E High Street Zip Code 22901
Subdivision Lot No. 50-144 Blk. No.
Type of Occupancy Residential

Fixture	Fixture Value 60 psi		No. of Fixtures		Fixture Value
Bathtub	8	x	54	=	432
Bedpan Washers	10	x		=	0
Bidet	2	x		=	0
Dental Unit	2	x		=	0
Drinking Fountain - Public	2	x		=	0
Kitchen Sink	2.2	x	44	=	96.8
Lavatory	1.5	x	59	=	88.5
Showerhead (Shower Only)	2.5	x	5	=	12.5
Service Sink	4	x		=	0
Toilet – Flush Valve - Tank Type	35	x		=	0
	4	x	59	=	236
Urinal – Pedestal Flush Valve - Wall Flush Valve	35	x		=	0
	16	x		=	0
Wash Sink (Each Set of Faucets)	4	x		=	0
Dishwasher	2	x	44	=	88
Washing Machine	6	x	44	=	264
Hose (50 ft Wash Down) - 1/2 in.	5	x		=	0
- 5/8 in.	9	x		=	0
- 3/4 in.	12	x		=	0
Combined Fixture Value Total				=	1217.8

Pressure Factor from Table 4-1 = 1.34gpm 110 psi
Customer Peak Demand From Fig. 4 –2 or 4 –3 x Press. Factor 65 gpm x 1.34 gpm = 87.1 gpm
Add Irrigation - Sections* x 1.16 or 0.40+ = gpm
1 Hose-Bib x 9 Hose Bibs x Fixture Value x Press. Factor = 12.06 gpm
Added Fixed Load = gpm
TOTAL FIXED DEMAND = 99.16 gpm

* 100 ft² area = 1 section
+ Spray Systems- Use 1.16; Rotary systems- Use 0.40

Figure 4-5 Water customer data sheet

Source: AWWA M22 Sizing Water Service Lines and Meters (Jan. 2004)
Copyright 2004, American Water Works Association

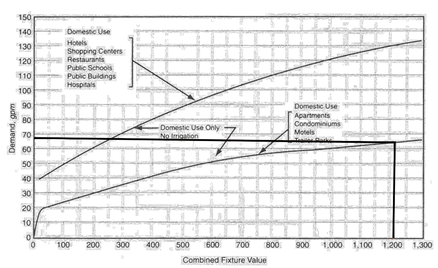

Figure 4-2 Water flow demand per fixture value—low range

BUILDING B

SIZING WATER SERVICE LINES AND METERS

CITY OF CHARLOTTESVILLE
WATER CUSTOMER DATA SHEET

Customer 0 E High Street Address
Building Address 0 E High Street Zip Code 22901
Subdivision Lot No. 50-144 Blk. No.
Type of Occupancy Residential

Fixture	Fixture Value 60 psi		No. of Fixtures		Fixture Value
Bathtub	8	x	76	=	608
Bedpan Washers	10	x		=	0
Bidet	2	x		=	0
Dental Unit	2	x		=	0
Drinking Fountain - Public	2	x		=	0
Kitchen Sink	2.2	x	61	=	134.2
Lavatory	1.5	x	82	=	123
Showerhead (Shower Only)	2.5	x	6	=	15
Service Sink	4	x		=	0
Toilet – Flush Valve - Tank Type	35	x		=	0
	4	x	82	=	328
Urinal – Pedestal Flush Valve - Wall Flush Valve	35	x		=	0
	16	x		=	0
Wash Sink (Each Set of Faucets)	4	x		=	0
Dishwasher	2	x	61	=	122
Washing Machine	6	x	61	=	366
Hose (50 ft Wash Down) - 1/2 in.	5	x		=	0
- 5/8 in.	9	x		=	0
- 3/4 in.	12	x		=	0
Combined Fixture Value Total				=	1696.2

Pressure Factor from Table 4-1 = 1.34gpm 110 psi
Customer Peak Demand From Fig. 4 –2 or 4 –3 x Press. Factor 70 gpm x 1.34 gpm = 93.8 gpm
Add Irrigation - Sections* x 1.16 or 0.40+ = gpm
1 Hose-Bib x 9 Hose Bibs x Fixture Value x Press. Factor = 12.06 gpm
Added Fixed Load = gpm
TOTAL FIXED DEMAND = 105.86 gpm

* 100 ft² area = 1 section
+ Spray Systems- Use 1.16; Rotary systems- Use 0.40

Figure 4-5 Water customer data sheet

Source: AWWA M22 Sizing Water Service Lines and Meters (Jan. 2004)
Copyright 2004, American Water Works Association

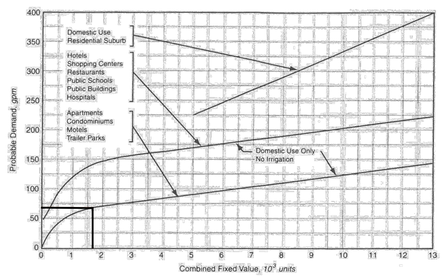

Figure 4-3 Water flow demand per fixture value—high range

BUILDING C

SIZING WATER SERVICE LINES AND METERS

CITY OF CHARLOTTESVILLE
WATER CUSTOMER DATA SHEET

Customer 0 E High Street Address
Building Address 0 E High Street Zip Code 22901
Subdivision Lot No. 50-144 Blk. No.
Type of Occupancy Residential

Fixture	Fixture Value 60 psi		No. of Fixtures		Fixture Value
Bathtub	8	x	175	=	1400
Bedpan Washers	10	x		=	0
Bidet	2	x		=	0
Dental Unit	2	x		=	0
Drinking Fountain - Public	2	x		=	0
Kitchen Sink	2.2	x	140	=	308
Lavatory	1.5	x	175	=	262.5
Showerhead (Shower Only)	2.5	x	14	=	35
Service Sink	4	x		=	0
Toilet – Flush Valve - Tank Type	35	x		=	0
	4	x	175	=	700
Urinal – Pedestal Flush Valve - Wall Flush Valve	35	x		=	0
	16	x		=	0
Wash Sink (Each Set of Faucets)	4	x		=	0
Dishwasher	2	x	140	=	280
Washing Machine	6	x	140	=	840
Hose (50 ft Wash Down) - 1/2 in.	5	x		=	0
- 5/8 in.	9	x		=	0
- 3/4 in.	12	x		=	0
Combined Fixture Value Total				=	3825.5

Pressure Factor from Table 4-1 = 1.34gpm 110 psi
Customer Peak Demand From Fig. 4 –2 or 4 –3 x Press. Factor 88 gpm x 1.34 gpm = 117.92 gpm
Add Irrigation - Sections* x 1.16 or 0.40+ = gpm
2 Hose-Bib x 9 Hose Bibs x Fixture Value x Press. Factor = 24.12 gpm
Added Fixed Load = gpm
TOTAL FIXED DEMAND = 142.04 gpm

* 100 ft² area = 1 section
+ Spray Systems- Use 1.16; Rotary systems- Use 0.40

Figure 4-5 Water customer data sheet

Source: AWWA M22 Sizing Water Service Lines and Meters (Jan. 2004)
Copyright 2004, American Water Works Association

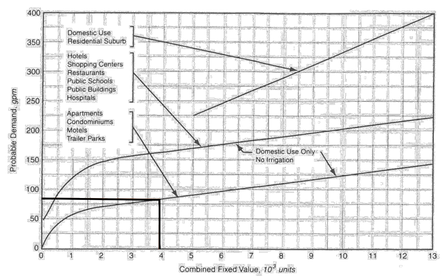

Figure 4-3 Water flow demand per fixture value—high range

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WATER & SANITARY DEMAND CALCULATIONS

C17