



DESIGN ANALYSIS REPORT



E. JEFFERSON STREET & HALPINE ROAD BICYCLE ACCESS FEASIBILITY STUDY

Introduction

This design report summarizes the analysis and preliminary designs for new bicycle lanes along E. Jefferson Street between Congressional Lane and Rollins Avenue and along Halpine Road from Rockville Pike (MD 355) to E. Jefferson Street. In the City of Rockville's 2017 Bikeway Master Plan, bicycle lanes were recommended along this section of E. Jefferson Street and Halpine Road. The objective of the study is to provide a high-quality, safe, and convenient bicycle facility that improves connectivity and safety benefitting all roadway users. This study analyzed proposed alternative facility impacts on abutting properties, existing traffic patterns, on-street parking and pedestrian and bicycle traffic.

The design team developed three bicycle lane concept alternatives and assessed the impact on traffic operations; bicyclist and pedestrian safety; the quality of the bicyclist and pedestrian experience; parking; and abutting properties.

We recommend that the City of Rockville implement Concept 1 along E. Jefferson Street and Concept 2 along Halpine Road as a near term solution. In the long term, the City should consider designing and constructing Concept 3. This approach will provide separated bicycle lanes on Halpine Road, while also maintaining the parking on E. Jefferson Street.



Existing Conditions

E. Jefferson Street between Congressional Lane and Rollins Avenue is a two-lane undivided road, with parallel parking in certain locations. There are sidewalks on both sides of the road, separated from the road with a 5' to 10' planting strip with grass and trees. The posted speed limit is 25 mph. Parallel parking is allowed on both sides for approximately 280' south of Halpine Road. On Congressional Lane there is approximately 600' of space designated for parallel parking on the southbound side and 300' on the northbound side. This is a total of 880' of parking on the southbound side, or approximately 37 spaces, and 580' of parking on the northbound side or approximately 24 spaces. The total length of E. Jefferson Street within the study limits is 3,725'. The intersections with Congressional Lane, Rollins Avenue, and Halpine Road are signalized. There are bus stops along both sides of the road near each intersection. The primary land use along this section is multifamily residential, which includes off-street parking. Bicycle facilities along E. Jefferson Street are planned south of Rollins Avenue in the Montgomery County Bicycle Master Plan.

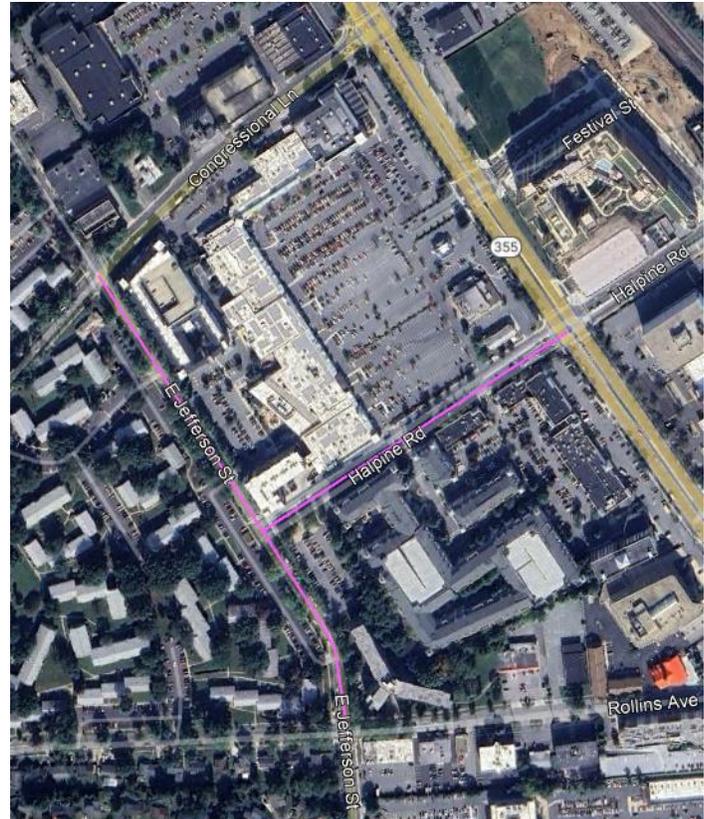


Figure 1 - Study Area

Halpine Road between E. Jefferson Street and MD 355 (Rockville Pike) is a four-lane divided road, with no parking. There are sidewalks on both sides of the road, either with no separation from the curb or a 5' planting strip. The median is 16' wide except near MD 355 where it narrows to 4' to accommodate a left turn lane. The wide median includes grass, trees, and light poles. The length of Halpine Road within the study limit is 1,050'. The intersections with E. Jefferson Street, the shopping center entrances, and MD 355 are signalized. There are bus stops near the intersection of E. Jefferson Street and near the MD 355 intersection. The primary land use is commercial, which includes off-street parking. Designated bicycle lanes continue on Halpine Road east of MD 355.

Design Considerations

The design team considered the following items during the development of the three concepts, and weighed the impact and effect on each when developing the design details:

- Safety and accessibility for bicyclists and pedestrians
- Pedestrian walking patterns
- Construction cost



- Private property impact
- Truck accessibility
- Traffic capacity
- Residential parking along both sides of E. Jefferson Lane

Each of these items has been addressed in the analysis of the three bicycle lane concepts.

Concept Alternatives

Three concept designs were developed:

Concept 1: Shared Lanes (Minimal Changes)

This concept would add shared bike lane markings to the outside travel lanes on both E. Jefferson Street and Halpine Road. It would maintain all vehicle travel lanes and parking lanes throughout the study area.

This concept slightly improves cyclist safety within the existing roadway footprint but does not significantly reduce bicycle level of stress.

Concept 2: Separated Bicycle Lanes (Moderate Changes)

This concept would reconfigure the southbound side E. Jefferson Street between Congressional Lane and Halpine Road to add a separated bicycle lane. The southbound roadway section would include a 5' bicycle lane, a 2' buffer, and an 11' travel lane. The other sections of the southbound roadway would remain as-is, but with shared bicycle lane markings and signage. The northbound travel lane would have shared bicycle lane markings and signage along the full extent of E. Jefferson Street.

In addition, this concept would reconfigure Halpine Road to repurpose the outer vehicle travel lanes and replace them with 7' bike lanes and 4' buffers. The 11' inner travel lanes would remain as-is. Traffic analysis (discussed later in this memo) shows there would be minimal effect on traffic by reducing the number of lanes.

This concept improves cyclist safety and level of comfort, and accommodates some on-street parking. Approximately 25 spaces (600' feet) of on-street parking would be removed and replaced with a bicycle lane on E. Jefferson Street.

This concept is a compromise between maintaining parking and providing a safe cycling route within the existing roadway footprint.

Concept 3 Shared Use Paths and Median Reconstruction (Maximized Safety, High Cost):

This concept would reconfigure the sidewalk and buffer area along E. Jefferson Street to widen the sidewalk to an 8' shared use path, accommodating both cyclists and pedestrians. While there is ample room within the right of way, constructing the shared use paths impacts trees and utilities, and the difference in construction cost is significant. The concept proposes flexible pavement to reduce the impact on tree roots, but this would need to be examined in future design development stages.

In addition, this concept would reconfigure Halpine Road to reduce the width of the median to 4' to accommodate two 11' vehicle travel lanes in each direction, along with 5' bike lanes and 1' buffers. The westbound section of Halpine Road between MD 355 and the commercial entrance 500' west of MD



355 would be converted to one travel lane to accommodate the separated bicycle lane as well as an eastbound approach turning lane. This roadway reconstruction would require a signal modification or full reconstruction for the intersection with E Jefferson Street.

This concept maximizes cyclist safety and level of comfort on both roadways, and accommodates all existing on-street parking and vehicle capacity. The construction cost of this concept is significantly higher than the other concepts.

Common Elements: each of the concepts include the following elements:

- Green bike crossings: Green-painted pavement markings at intersections to highlight designated bike crossing areas, improving cyclist awareness for motorists and pedestrians.
- New pavement marking paint and signage: Freshly painted lane markings and symbols to clearly delineate travel lanes, bike lanes, and pedestrian crossings, enhancing overall safety and visibility on the road.
- Enhanced pedestrian crossings ensuring accessibility and promoting safe street crossing including continental cross walk striping and new signage.

Concept Alternative Analysis

The three concept designs were analyzed to understand the best value and the downsides of each option. This analysis included a cost estimate, parking impact analysis, and traffic impact study.

Cost Estimate: A planning-level construction cost estimate was developed for each concept. The detailed cost estimate is included in the appendix, and the summary is below:

- Concept 1: \$26,000
- Concept 2: \$28,000
- Concept 3: \$1,005,000

Concepts 1 and 2 are very similar in cost, and the cost of Concept 3 is much larger due to the roadway reconstruction and shared use path construction. Concepts 1 and 2 would take less time to design and construct, and could likely be incorporated into the city's existing Pedestrian and Bicycle Safety capital projects budget. A separate capital improvement project will likely need to be developed and budgeted to fund this project. Moreover, design of concept 3 and its construction will take more time for implementation than concepts 1 or 2.



Parking Impact Analysis: Concepts 1 and 3 do not have any impact on existing parking. Concept 2 removes approximately 25 spaces along the southbound side of E. Jefferson Lane between Congressional Lane and Halpine Road. However, there are ample private parking lots in the area for the multifamily residential buildings. The location of on-street parking effected by Concept 2 is shown in the map to the right, along with the surrounding private parking lots.

Traffic Analysis: The study included a traffic capacity and level of service analysis to compare the existing road condition to the proposed. Since Concepts 1 and 3 maintain the existing travel and turn lane configuration they will not have any impact on existing traffic operations. The study focused on Concept 2 and found that the concept would have negligible impact on traffic delay, queue lengths, and level of service along Halpine Road, where the outside travel lanes would be repurposed, and along E. Jefferson Street. The results of the traffic analysis have been included in the appendix.

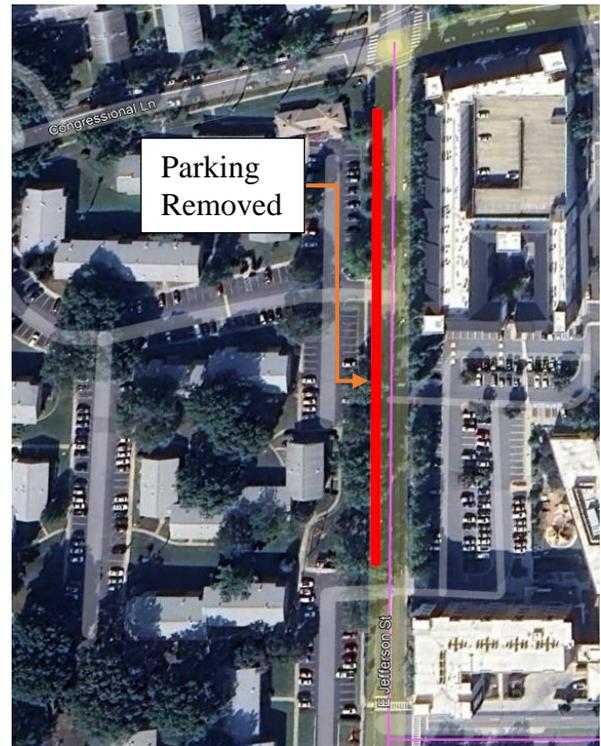


Figure 2 - Parking Removed in Concept 2

Public Input: The study team hosted a virtual public meeting on April 30, 2025. A summary of the three concepts were presented, and the detailed concept plans were reviewed. At the end of the presentation, the meeting was opened for public questions and comments. A summary of the question-and-answer section is below:

- Attendees noted that ...
- [not included in this draft]

The meeting summary, including responses to questions and comments raised by the public, is included in the appendix.

Best Value and Impact Analysis: The study team found that the best solution for a safe pedestrian and bicycle facility, while maintaining existing vehicle and parking capacity is Concept 3, however it is the costliest. Of the two other concepts, the separated bicycle lanes in Concept 2 are the best option for safe on-street bicycle lanes. The compromise with this option is the removal of 25 parking spaces on E Jefferson Lane and excess vehicle capacity on Halpine Road.

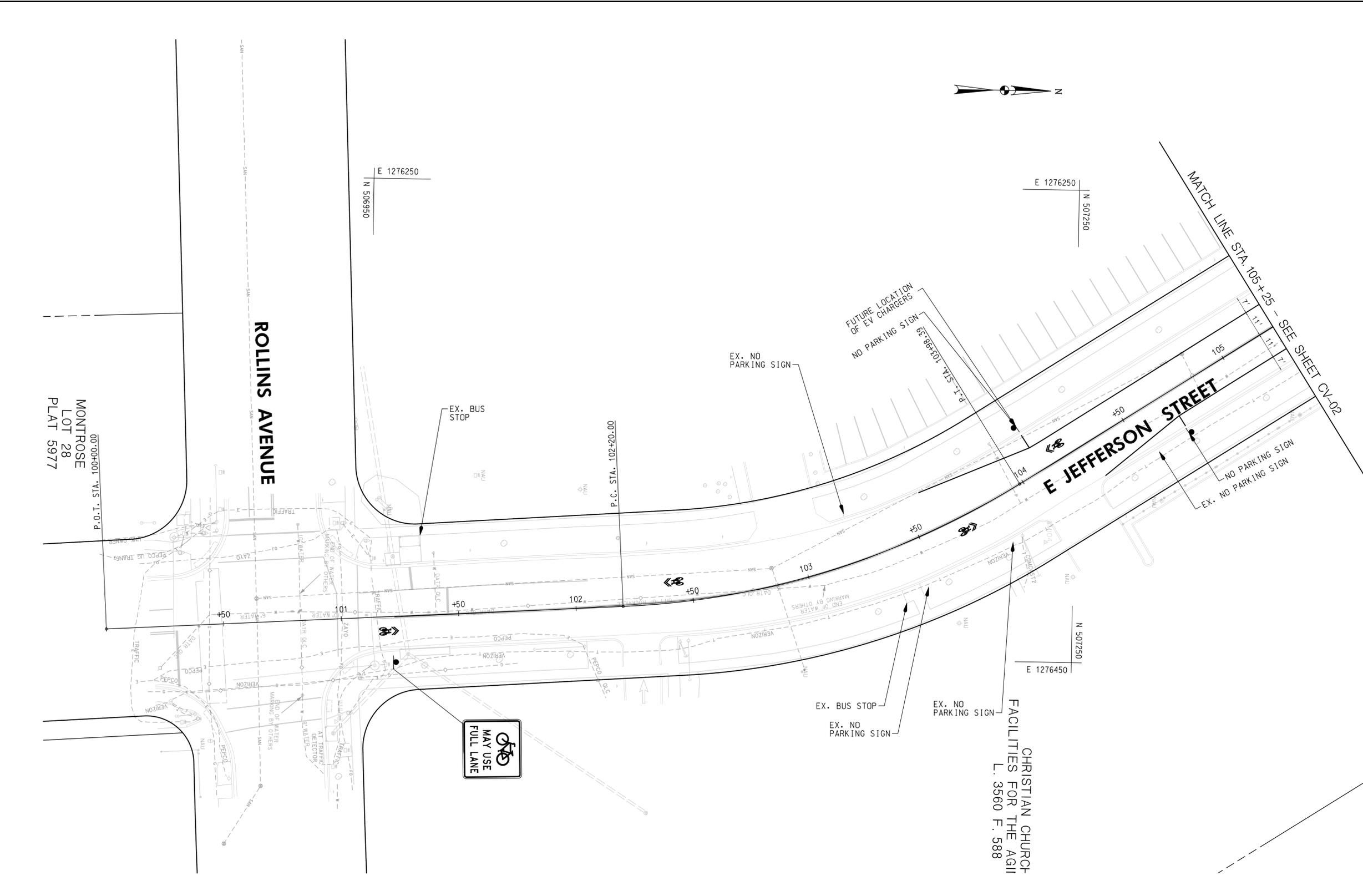
Next Steps

Recognizing that the best option may be cost prohibitive at this point, a phased approach may be best. The phased approach would implement Concept 2 in the short-term, and plan to implement parts or all of Concept 3 as the long-term goal.



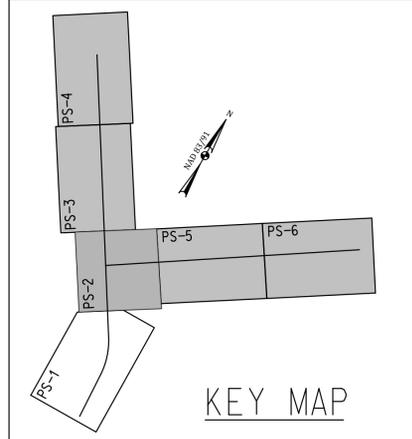
Appendix

- Concept plans
- Cost estimate
- Public meeting presentation [not included in this draft]
- Meeting summary [not included in this draft]
- Public comments and responses [not included in this draft]
- Traffic delay and queue analysis



LEGEND

- 4" CONCRETE SIDEWALK
- POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
- PROPOSED CURB AND GUTTER
- EXISTING CURB AND GUTTER
- REMOVE TREE
- RIGHT OF WAY
- BIKE SHARROWS
- BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS ARCHITECTS CONSTRUCTION MANAGERS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21086
 410.484.5500 Fax: 410.487.5925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION CONTACT "MISS UTILITY" WWW.MISSUTILITY.NET OR 1-800-257-7777 OR 811 AT LEAST 48 HOURS PRIOR TO EXCAVATION

GENERAL NOTES:
 1. TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 2. RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



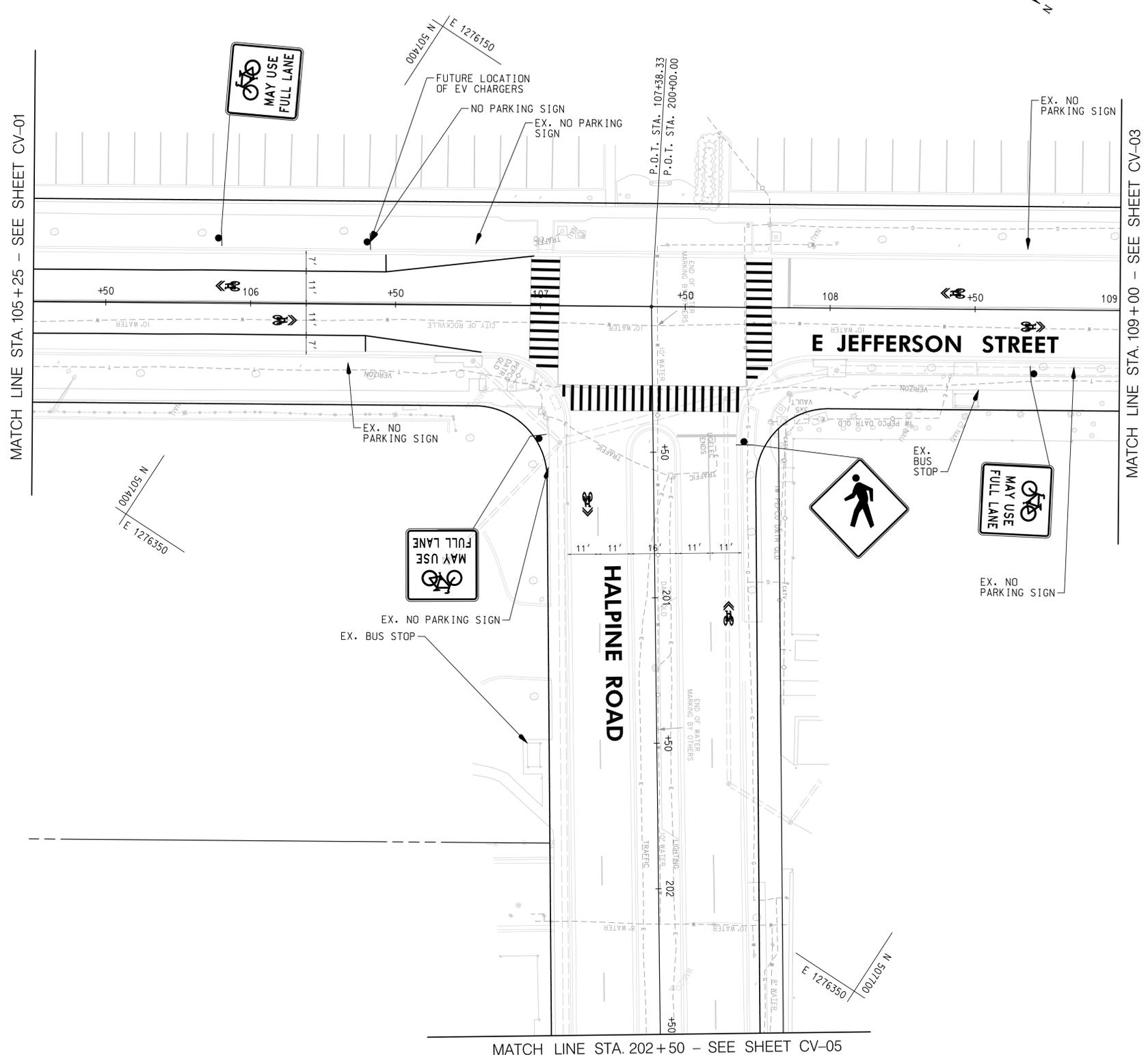
PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025.

Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

	DEPARTMENT OF PUBLIC WORKS CITY OF ROCKVILLE 111 MARYLAND AVE. ROCKVILLE, MARYLAND	DESIGNED _____	DESIGN PLAN APPROVAL		AS BUILT PLAN APPROVAL	CONCEPT PLAN	JEFFERSON STREET AND HALPINE ROAD BICYCLE FACILITIES FEASIBILITY STUDY	DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. 1	FILE #
		DRAFTED _____ CHECKED _____	PWK# _____ SCP# _____ SMP# _____ REVIEWED BY _____	_____ CHIEF, CONSTRUCTION MANAGEMENT	_____ APPROVAL DATE			_____ APPROVAL DATE	Election District No. 10 City of Rockville, Maryland	OF 6	

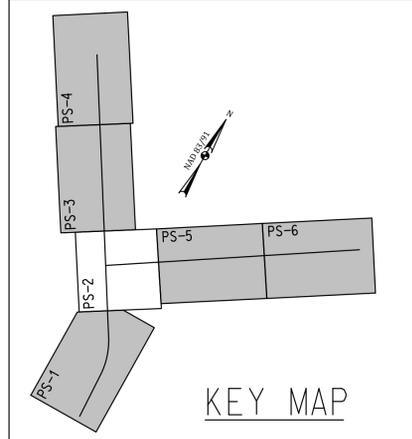


MATCH LINE STA. 105+25 - SEE SHEET CV-01

MATCH LINE STA. 109+00 - SEE SHEET CV-03

MATCH LINE STA. 202+50 - SEE SHEET CV-05

LEGEND	
	4" CONCRETE SIDEWALK
	POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
	PROPOSED CURB AND GUTTER
	EXISTING CURB AND GUTTER
	REMOVE TREE
	RIGHT OF WAY
	BIKE SHARROWS
	BIKE LANE

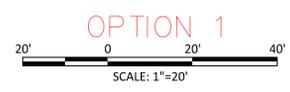


WALLACE MONTGOMERY
 ENGINEERS PLANNERS SURVEYORS CONSTRUCTION MANAGERS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21036
 410.644.5500 Fax: 410.667.5925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION CONTACT "MISS UTILITY" WWW.MISSUTILITY.NET OR 1-800-257-7777 OR 811 AT LEAST 48 HOURS PRIOR TO EXCAVATION

- GENERAL NOTES:**
- TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 - RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025.

Seth Darlington
NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE



DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGNED _____
DRAFTED _____
CHECKED _____

DESIGN PLAN APPROVAL

DIRECTOR OF PUBLIC WORKS

APPROVAL DATE _____

PWK# _____ SCP# _____
SMP# _____ REVIEWED BY _____

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT

APPROVAL DATE _____

CONCEPT PLAN

JEFFERSON STREET AND HALPINE ROAD
BICYCLE FACILITIES FEASIBILITY STUDY

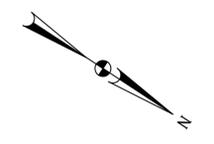
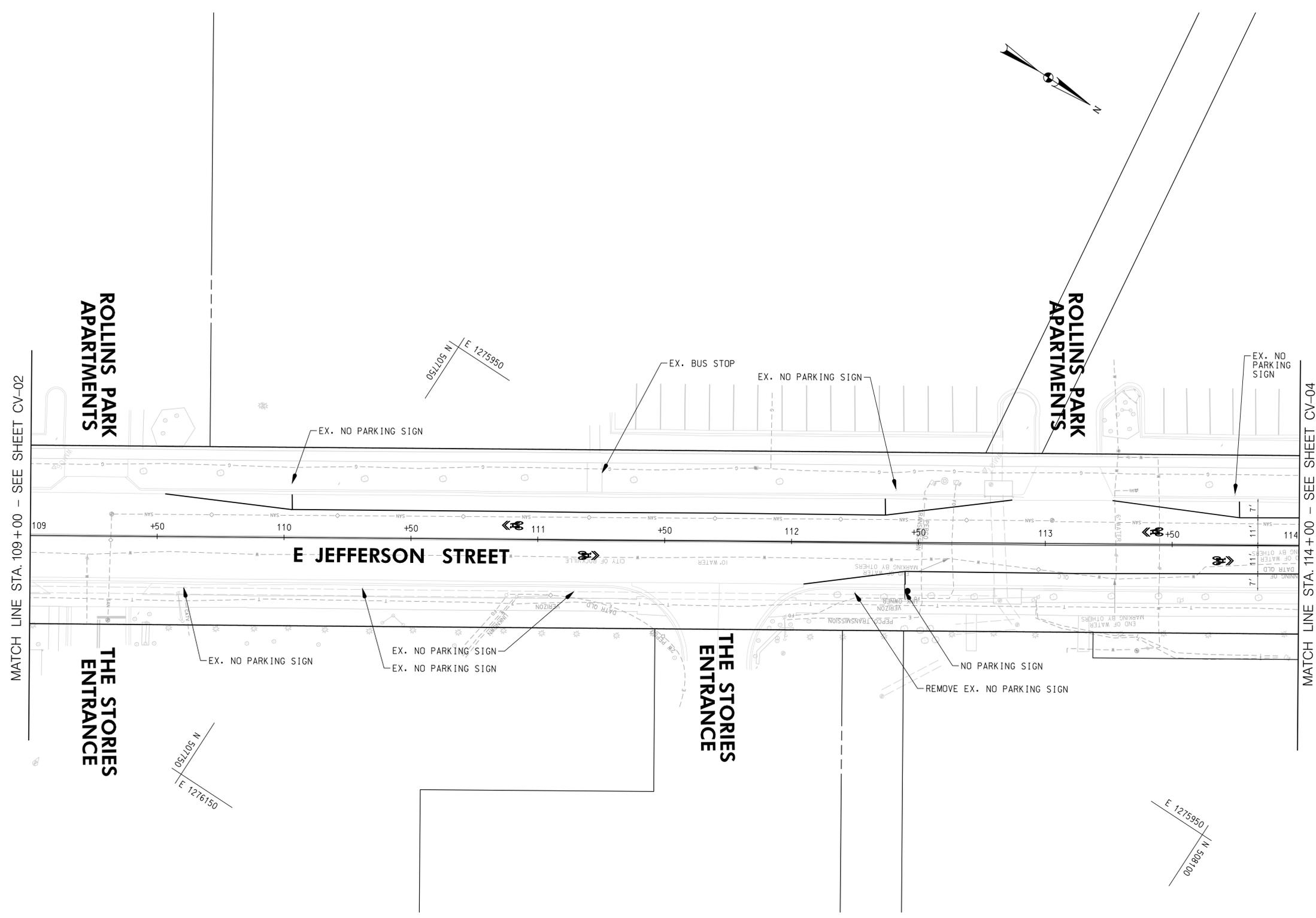
Election District No. 10 City of Rockville, Maryland

DATE SUBMITTED: JAN. 2025

SCALE: 1"=20'

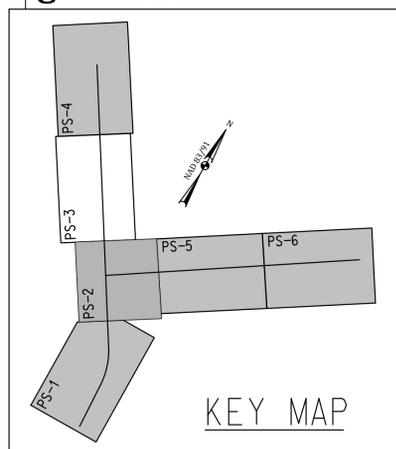
SHEET NO. 2 OF 6

FILE # _____



LEGEND

	4" CONCRETE SIDEWALK
	POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
	PROPOSED CURB AND GUTTER
	EXISTING CURB AND GUTTER
	REMOVE TREE
	RIGHT OF WAY
	BIKE SHARROWS
	BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS ARCHITECTS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21036
 410.644.5500 Tel. 410.967.5925 Fax
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION
 CONTACT
 "MISS UTILITY"
 WWW.MISSUTILITY.NET
 OR
 1-800-257-7777
 OR 811
 AT LEAST 48 HOURS
 PRIOR TO EXCAVATION

- GENERAL NOTES:**
- TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 - RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

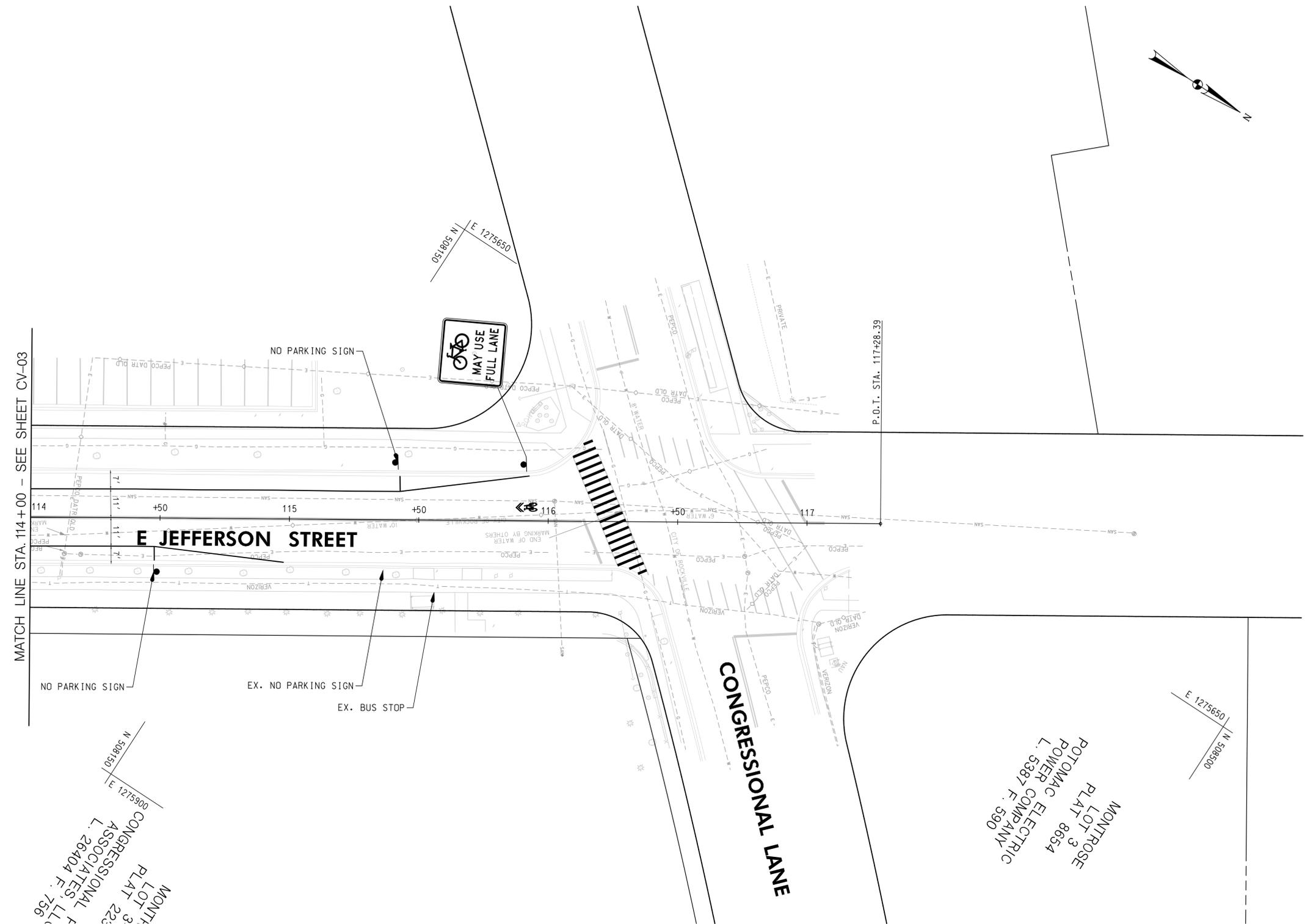
DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. **39917**, Expiration Date: **1/18/2025**
Seth Darlington
 NAME

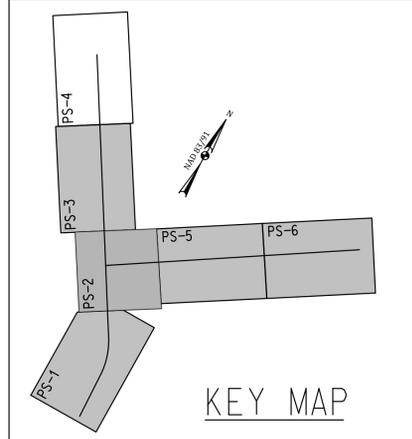
NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

<p>DEPARTMENT OF PUBLIC WORKS CITY OF ROCKVILLE 111 MARYLAND AVE. ROCKVILLE, MARYLAND</p>	DESIGNED _____ DRAFTED _____ CHECKED _____	DESIGN PLAN APPROVAL PWK# _____ SCP# _____ SMP# _____ REVIEWED BY _____	AS BUILT PLAN APPROVAL CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE _____	CONCEPT PLAN	JEFFERSON STREET AND HALPINE ROAD BICYCLE FACILITIES FEASIBILITY STUDY Election District No. 10 City of Rockville, Maryland	DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. <u>3</u> OF <u>6</u>	FILE #
	APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL						DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. <u>3</u> OF <u>6</u>



LEGEND

	4" CONCRETE SIDEWALK
	POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
	PROPOSED CURB AND GUTTER
	EXISTING CURB AND GUTTER
	REMOVE TREE
	RIGHT OF WAY
	BIKE SHARROWS
	BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS SURVEYORS CONSTRUCTION MANAGERS
 10100 York Road, Suite 200
 Hunt Valley, Maryland 21086
 410.644.5500 Fax: 410.667.5925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION
 CONTACT
 "MISS UTILITY"
 WWW.MISSUTILITY.NET
 OR
 1-800-257-7777
 OR 811
 AT LEAST 48 HOURS
 PRIOR TO EXCAVATION

- GENERAL NOTES:**
- TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 - RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. **39917**, Expiration Date: **1/18/2025**.
Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE



DEPARTMENT OF PUBLIC WORKS
 CITY OF
ROCKVILLE
 111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGNED _____
 DRAFTED _____
 CHECKED _____

DESIGN PLAN APPROVAL

	PWK# _____	SCP# _____
	SMP# _____	REVIEWED BY _____
DIRECTOR OF PUBLIC WORKS	APPROVAL DATE _____	

AS BUILT PLAN APPROVAL

	CHIEF, CONSTRUCTION MANAGEMENT	APPROVAL DATE _____
--	--------------------------------	---------------------

CONCEPT PLAN

JEFFERSON STREET AND HALPINE ROAD
 BICYCLE FACILITIES FEASIBILITY STUDY
 Election District No. 10 City of Rockville, Maryland

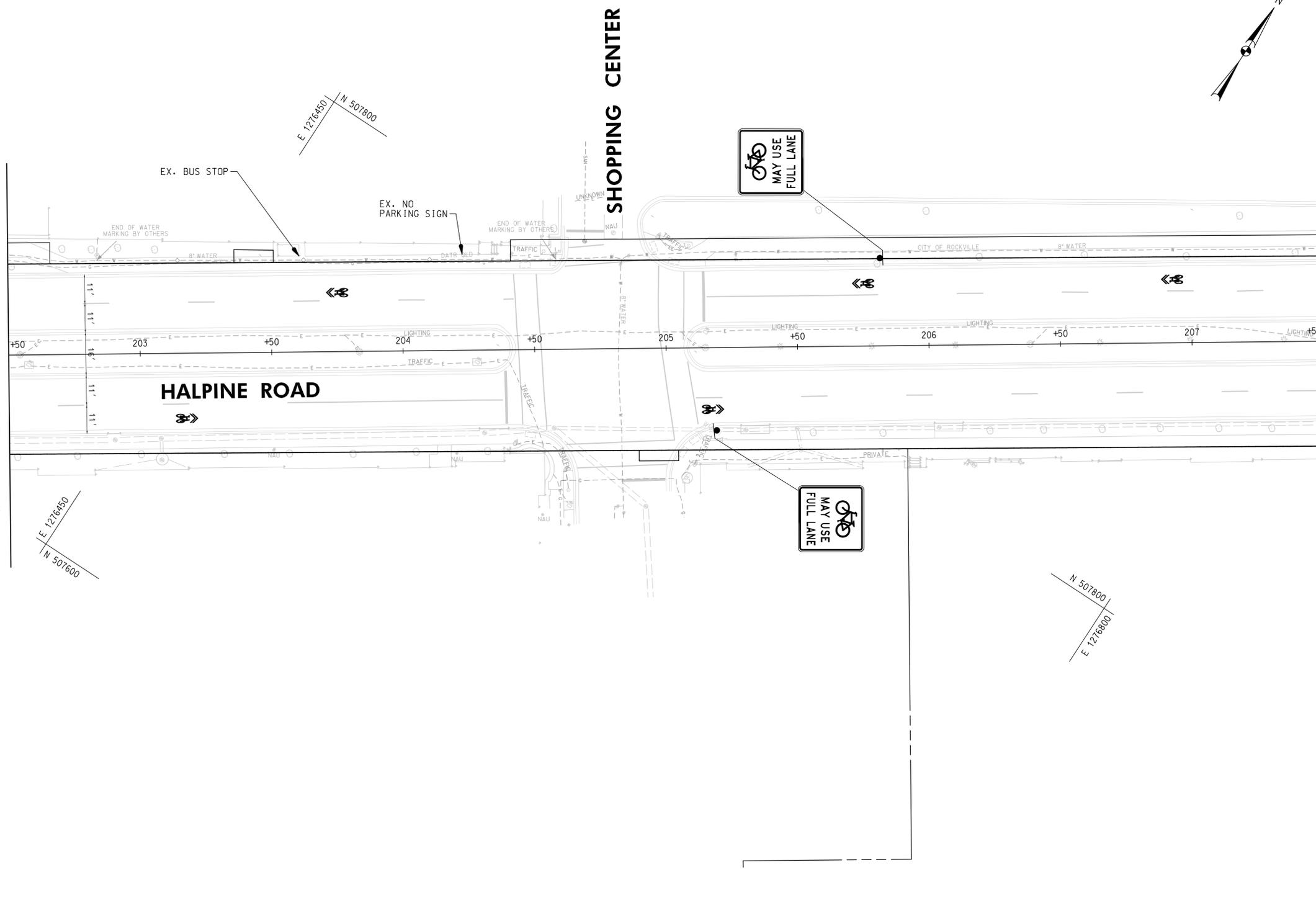
APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. 4	FILE #
		OF 6	



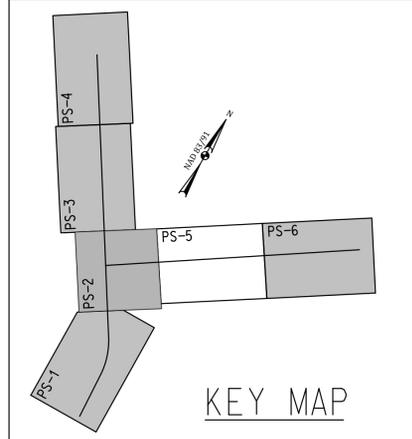
MATCH LINE STA. 202+50 - SEE SHEET CV-02

MATCH LINE STA. 207+50 - SEE SHEET CV-06



LEGEND

4" CONCRETE SIDEWALK
POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
PROPOSED CURB AND GUTTER
EXISTING CURB AND GUTTER
REMOVE TREE
RIGHT OF WAY
BIKE SHARROWS
BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS SURVEYORS CONSTRUCTION MANAGERS
 10100 York Road, Suite 200
 Hunt Valley, Maryland 21086
 410.644.5500 Fax: 410.667.5925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION
 CONTACT
 "MISS UTILITY"
 WWW.MISSUTILITY.NET
 OR
 1-800-257-7777
 OR 811
 AT LEAST 48 HOURS
 PRIOR TO EXCAVATION

GENERAL NOTES:
 1. TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 2. RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical

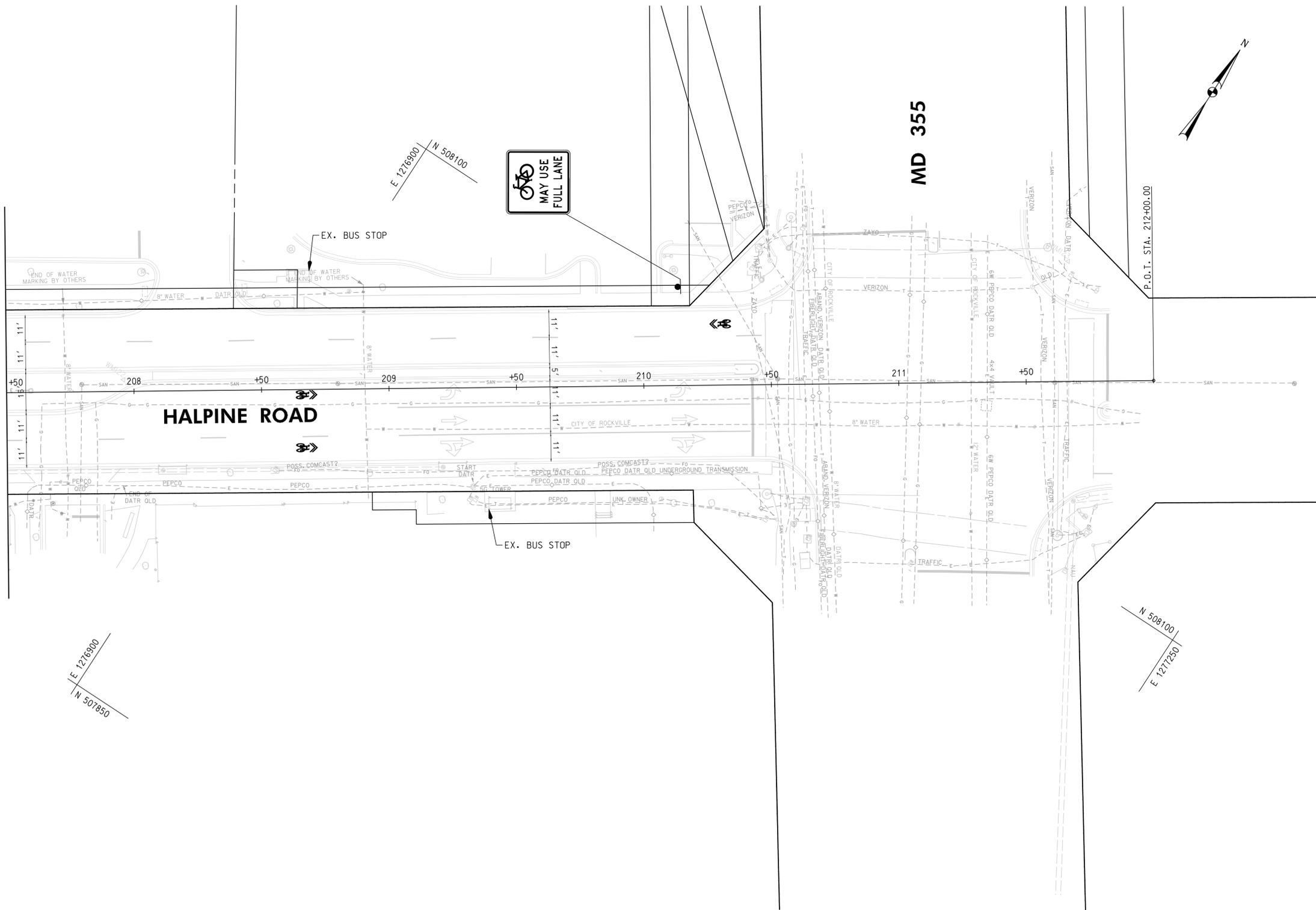


PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025
Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

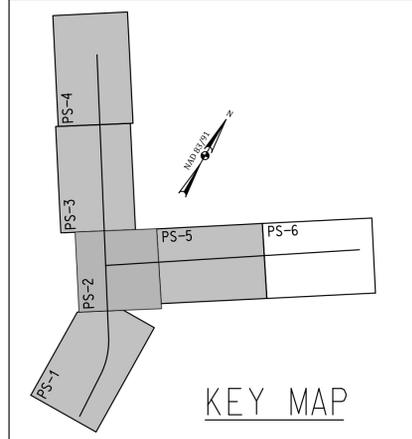
 DEPARTMENT OF PUBLIC WORKS CITY OF ROCKVILLE 111 MARYLAND AVE. ROCKVILLE, MARYLAND	DESIGNED _____ DRAFTED _____ CHECKED _____	DESIGN PLAN APPROVAL _____ P.W.# _____ SCP# _____ SMP# _____ REVIEWED BY _____ DIRECTOR OF PUBLIC WORKS APPROVAL DATE _____	AS BUILT PLAN APPROVAL _____ CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE _____	CONCEPT PLAN	JEFFERSON STREET AND HALPINE ROAD BICYCLE FACILITIES FEASIBILITY STUDY Election District No. 10 City of Rockville, Maryland	DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. <u>5</u> OF <u>6</u>	FILE #
	APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL								

MATCH LINE STA. 207 + 50 - SEE SHEET CV-05



LEGEND

- 4" CONCRETE SIDEWALK
- POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
- PROPOSED CURB AND GUTTER
- EXISTING CURB AND GUTTER
- REMOVE TREE
- RIGHT OF WAY
- BIKE SHARROWS
- BIKE LANE

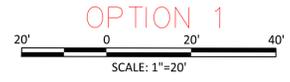


WALLACE MONTGOMERY
 ENGINEERS PLANNERS SURVEYORS CONSTRUCTION MANAGERS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21086
 410.644.5500 Fax: 410.667.0925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION
 CONTACT
 "MISS UTILITY"
 WWW.MISSUTILITY.NET
 OR
 1-800-257-7777
 OR 811
 AT LEAST 48 HOURS
 PRIOR TO EXCAVATION

GENERAL NOTES:
 1. TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 2. RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025
Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL



DEPARTMENT OF PUBLIC WORKS
 CITY OF
ROCKVILLE
 111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGNED _____
 DRAFTED _____
 CHECKED _____

DESIGN PLAN APPROVAL

 DIRECTOR OF PUBLIC WORKS APPROVAL DATE

PWK# _____ SCP# _____
 SMP# _____ REVIEWED BY _____

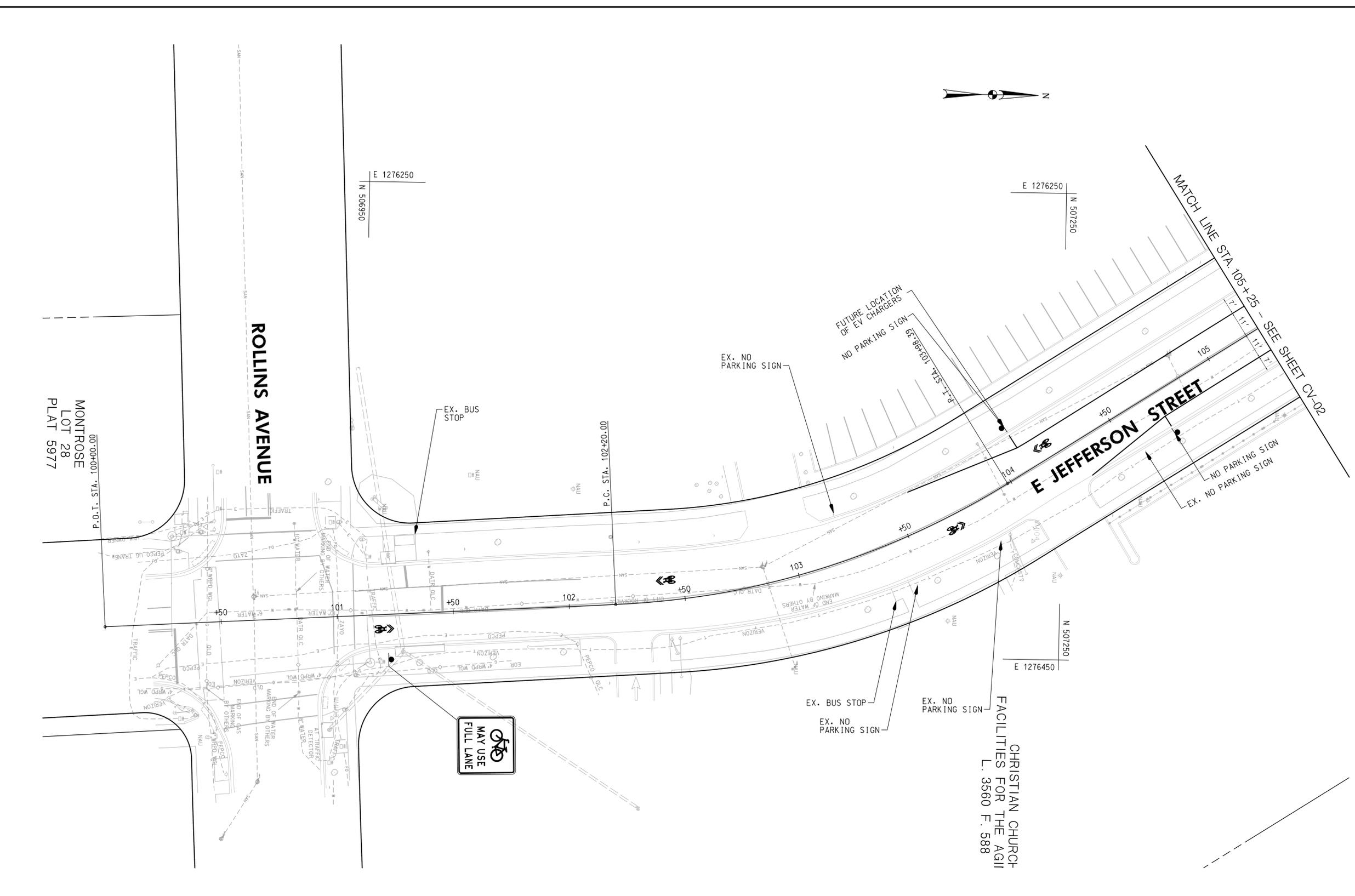
AS BUILT PLAN APPROVAL

 CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE

CONCEPT PLAN

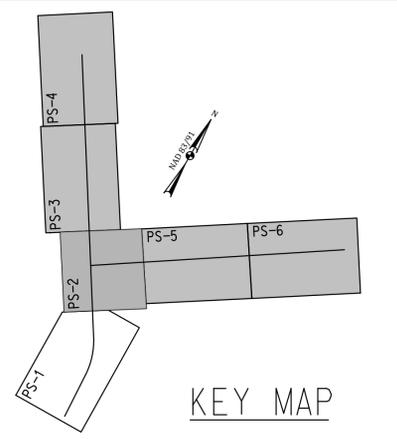
JEFFERSON STREET AND HALPINE ROAD
 BICYCLE FACILITIES FEASIBILITY STUDY
 Election District No. 10 City of Rockville, Maryland

DATE SUBMITTED: JAN. 2025
 SCALE 1"=20'
 SHEET NO. 6 OF 6
 FILE # _____



LEGEND

- 4" CONCRETE SIDEWALK
- POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
- PROPOSED CURB AND GUTTER
- EXISTING CURB AND GUTTER
- REMOVE TREE
- RIGHT OF WAY
- BIKE SHARROWS
- BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS ARCHITECTS CONSTRUCTION MANAGERS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21086
 410.484.6500 Fax: 410.487.0925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION CONTACT "MISS UTILITY" WWW.MISSUTILITY.NET OR 1-800-257-7777 OR 811 AT LEAST 48 HOURS PRIOR TO EXCAVATION

GENERAL NOTES:
 1. TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 2. RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025

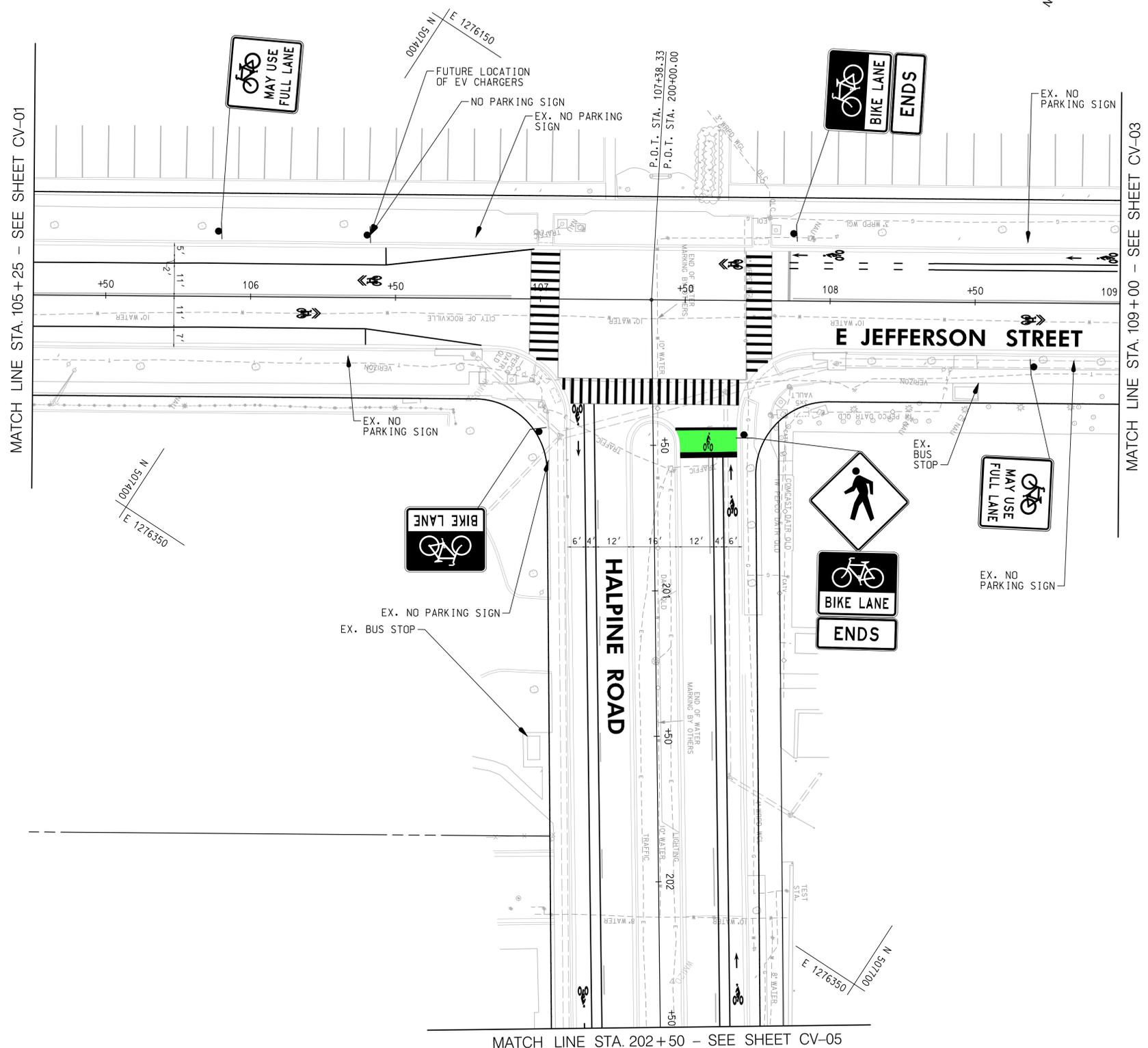
Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

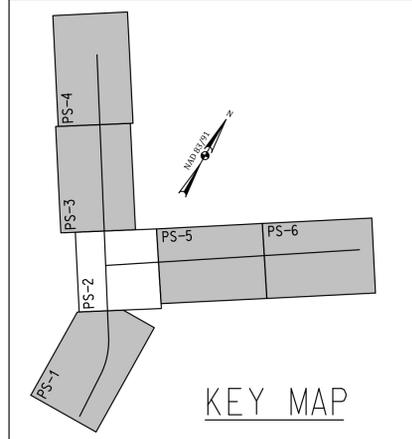
 DEPARTMENT OF PUBLIC WORKS CITY OF ROCKVILLE 111 MARYLAND AVE. ROCKVILLE, MARYLAND	DESIGNED _____ DRAFTED _____ CHECKED _____	DESIGN PLAN APPROVAL _____ P.W.K.# _____ SCP# _____ S.M.P.# _____ REVIEWED BY _____ DIRECTOR OF PUBLIC WORKS APPROVAL DATE _____	AS BUILT PLAN APPROVAL _____ CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE _____	CONCEPT PLAN	JEFFERSON STREET AND HALPINE ROAD BICYCLE FACILITIES FEASIBILITY STUDY Election District No. 10 City of Rockville, Maryland	DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. <u>1</u> OF <u>6</u>	FILE #
	APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL								

PARKING SPACES REMOVED	
7 EA.	PARKING SPACES REMOVED



LEGEND

	4" CONCRETE SIDEWALK
	POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
	PROPOSED CURB AND GUTTER
	EXISTING CURB AND GUTTER
	REMOVE TREE
	RIGHT OF WAY
	BIKE SHARROWS
	BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS SURVEYORS CONSTRUCTION MANAGERS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21086
 410.644.5500 Fax: 410.667.5925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION
 CONTACT
 "MISS UTILITY"
 WWW.MISSUTILITY.NET
 OR
 1-800-257-7777
 OR 811
 AT LEAST 48 HOURS
 PRIOR TO EXCAVATION

- GENERAL NOTES:**
- TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 - RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical

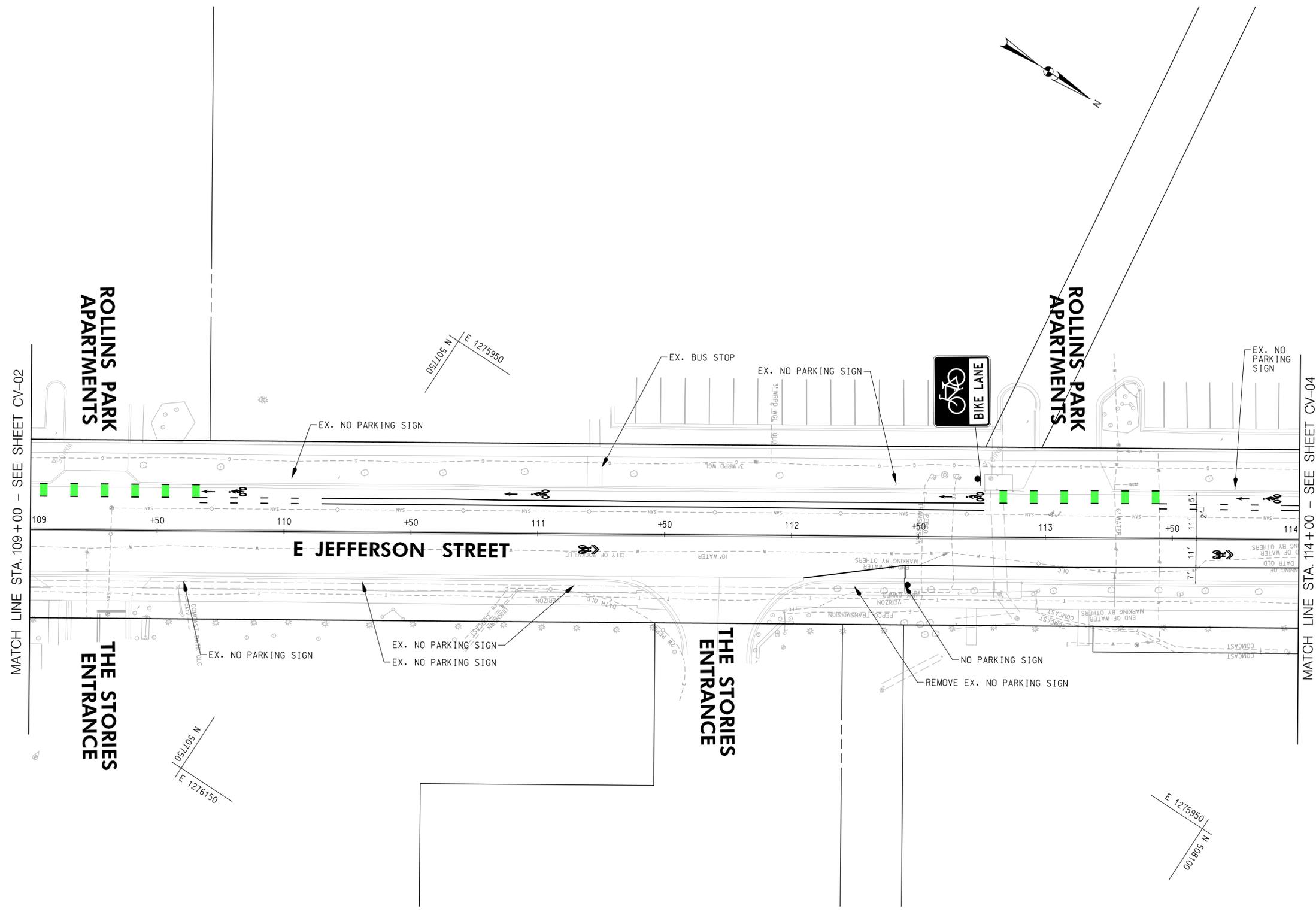


PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025
Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

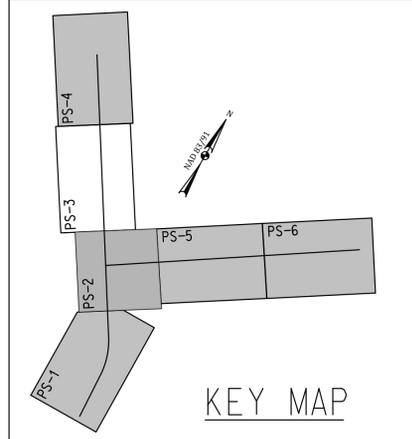
 DEPARTMENT OF PUBLIC WORKS CITY OF ROCKVILLE 111 MARYLAND AVE. ROCKVILLE, MARYLAND	DESIGNED _____ DRAFTED _____ CHECKED _____	DESIGN PLAN APPROVAL _____ P.W.K.# _____ SCP# _____ S.M.P.# _____ REVIEWED BY _____ APPROVAL DATE _____	AS BUILT PLAN APPROVAL _____ CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE _____	CONCEPT PLAN	JEFFERSON STREET AND HALPINE ROAD BICYCLE FACILITIES FEASIBILITY STUDY Election District No. 10 City of Rockville, Maryland	DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. <u>2</u> OF <u>6</u>	FILE #
	APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL					DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. <u>2</u> OF <u>6</u>	FILE #

PARKING SPACES REMOVED	
18 EA.	PARKING SPACES REMOVED



LEGEND

	4" CONCRETE SIDEWALK
	POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
	PROPOSED CURB AND GUTTER
	EXISTING CURB AND GUTTER
	REMOVE TREE
	RIGHT OF WAY
	BIKE SHARROWS
	BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS ARCHITECTS CONSTRUCTION MANAGERS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21036
 410.644.5500 Fax: 410.667.5925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION CONTACT "MISS UTILITY" WWW.MISSUTILITY.NET OR 1-800-257-7777 OR 811 AT LEAST 48 HOURS PRIOR TO EXCAVATION

GENERAL NOTES:
 1. TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 2. RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



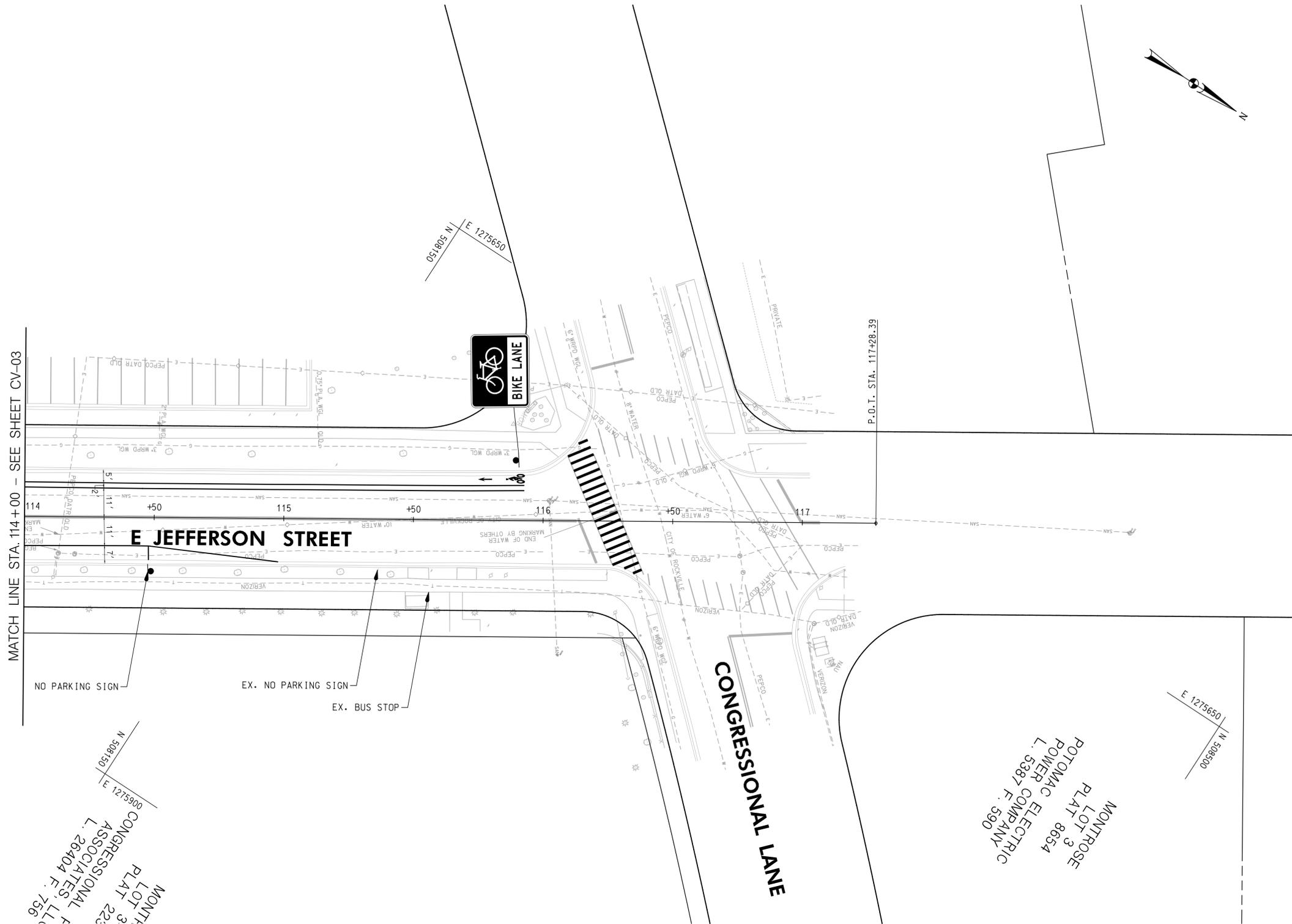
PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. **39917**, Expiration Date: **1/18/2025**.

Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

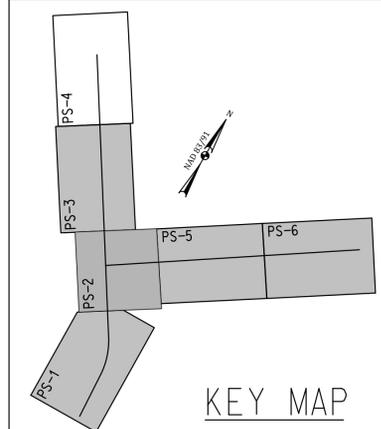
 DEPARTMENT OF PUBLIC WORKS CITY OF ROCKVILLE 111 MARYLAND AVE. ROCKVILLE, MARYLAND	DESIGNED _____ DRAFTED _____ CHECKED _____	DESIGN PLAN APPROVAL _____ PWK# _____ SCP# _____ SMP# _____ REVIEWED BY _____ DIRECTOR OF PUBLIC WORKS APPROVAL DATE _____	AS BUILT PLAN APPROVAL _____ CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE _____	CONCEPT PLAN	JEFFERSON STREET AND HALPINE ROAD BICYCLE FACILITIES FEASIBILITY STUDY Election District No. 10 City of Rockville, Maryland	DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. <u>3</u> OF <u>6</u>	FILE #
	APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL								

PARKING SPACES REMOVED	
9 EA.	PARKING SPACES REMOVED



LEGEND

	4" CONCRETE SIDEWALK
	POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
	PROPOSED CURB AND GUTTER
	EXISTING CURB AND GUTTER
	REMOVE TREE
	RIGHT OF WAY
	BIKE SHARROWS
	BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS SURVEYORS CONSTRUCTION MANAGERS
 10100 York Road, Suite 200
 Hunt Valley, Maryland 21086
 410.484.5500 Fax: 410.967.0925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION
 CONTACT
 "MISS UTILITY"
 WWW.MISSUTILITY.NET
 OR
 1-800-257-7777
 OR 811
 AT LEAST 48 HOURS
 PRIOR TO EXCAVATION

- GENERAL NOTES:**
- TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 - RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. **39917**
 Expiration Date: **1/18/2025**

Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE



DEPARTMENT OF PUBLIC WORKS
 CITY OF
ROCKVILLE
 111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGNED _____
 DRAFTED _____
 CHECKED _____

DESIGN PLAN APPROVAL

_____	PWK# _____	SCP# _____
_____	SMP# _____	REVIEWED BY _____
DIRECTOR OF PUBLIC WORKS	APPROVAL DATE _____	

AS BUILT PLAN APPROVAL

_____	CHIEF, CONSTRUCTION MANAGEMENT
_____	APPROVAL DATE _____

CONCEPT PLAN

JEFFERSON STREET AND HALPINE ROAD
 BICYCLE FACILITIES FEASIBILITY STUDY
 Election District No. 10 City of Rockville, Maryland

DATE SUBMITTED:
 JAN. 2025

SCALE
 1"=20'

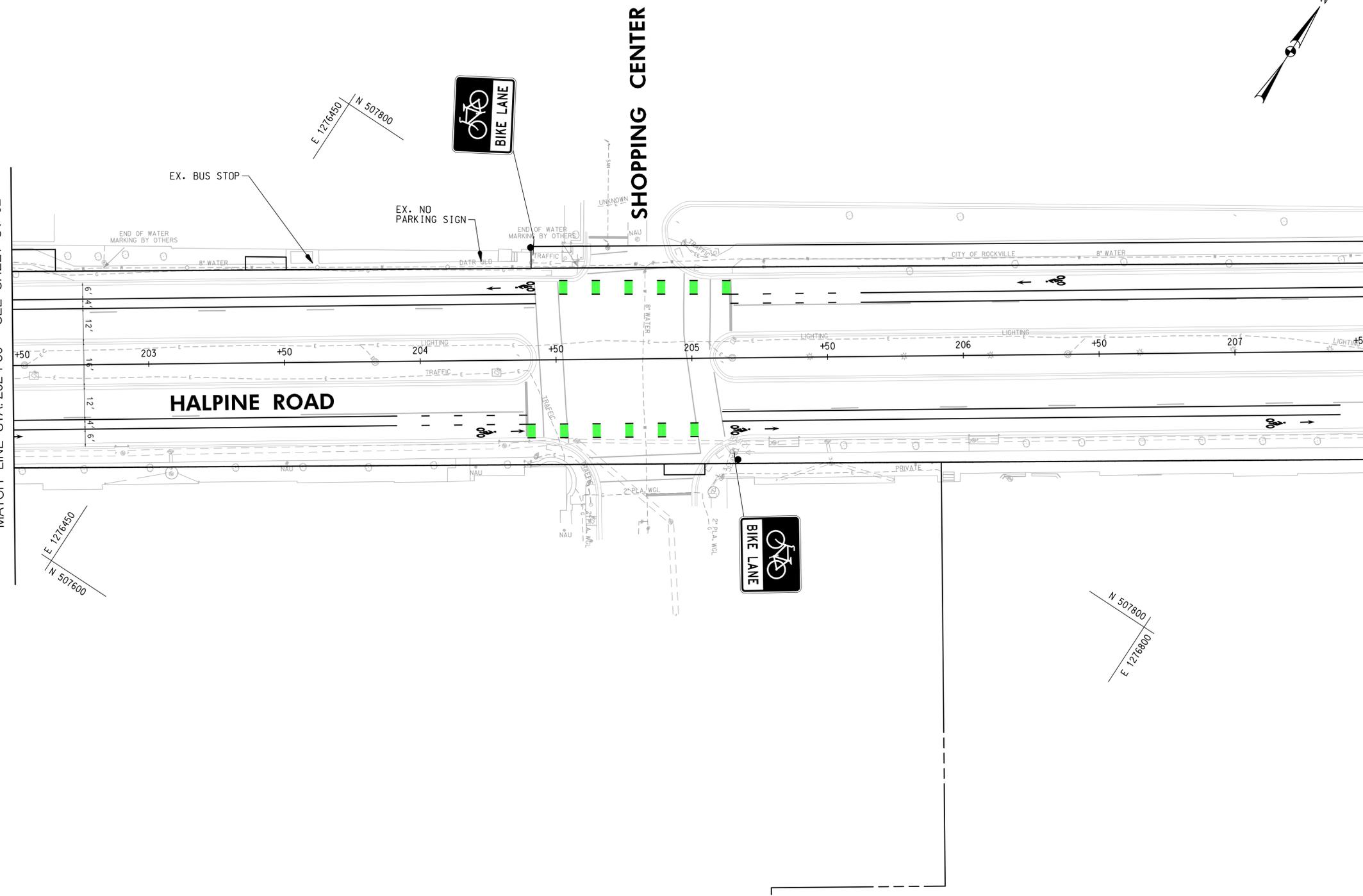
SHEET
 NO. 4
 OF 6

FILE # _____

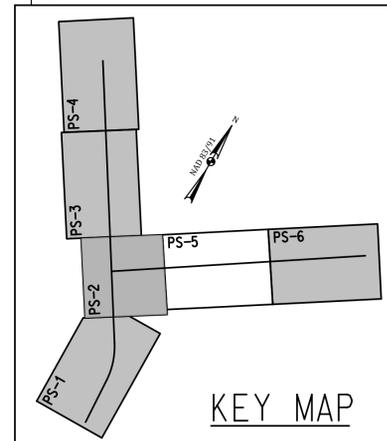


MATCH LINE STA. 202+50 - SEE SHEET CV-02

MATCH LINE STA. 207+50 - SEE SHEET CV-06



LEGEND	
	4" CONCRETE SIDEWALK
	POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
	PROPOSED CURB AND GUTTER
	EXISTING CURB AND GUTTER
	REMOVE TREE
	RIGHT OF WAY
	BIKE SHARROWS
	BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLUMBERS SURVEYORS CONSTRUCTION MANAGERS
 10100 York Road, Suite 200
 Hunt Valley, Maryland 21036
 410.644.6500 Fax: 410.667.0925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION
 CONTACT
 "MISS UTILITY"
 WWW.MISSUTILITY.NET
 OR
 1-800-257-7777
 OR 811
 AT LEAST 48 HOURS
 PRIOR TO EXCAVATION

GENERAL NOTES:
 1. TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 2. RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025
Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE



DEPARTMENT OF PUBLIC WORKS
 CITY OF
ROCKVILLE
 111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGNED _____
 DRAFTED _____
 CHECKED _____

DESIGN PLAN APPROVAL

 PWK# _____ SCP# _____
 SMP# _____ REVIEWED BY _____
 DIRECTOR OF PUBLIC WORKS APPROVAL DATE _____

AS BUILT PLAN APPROVAL

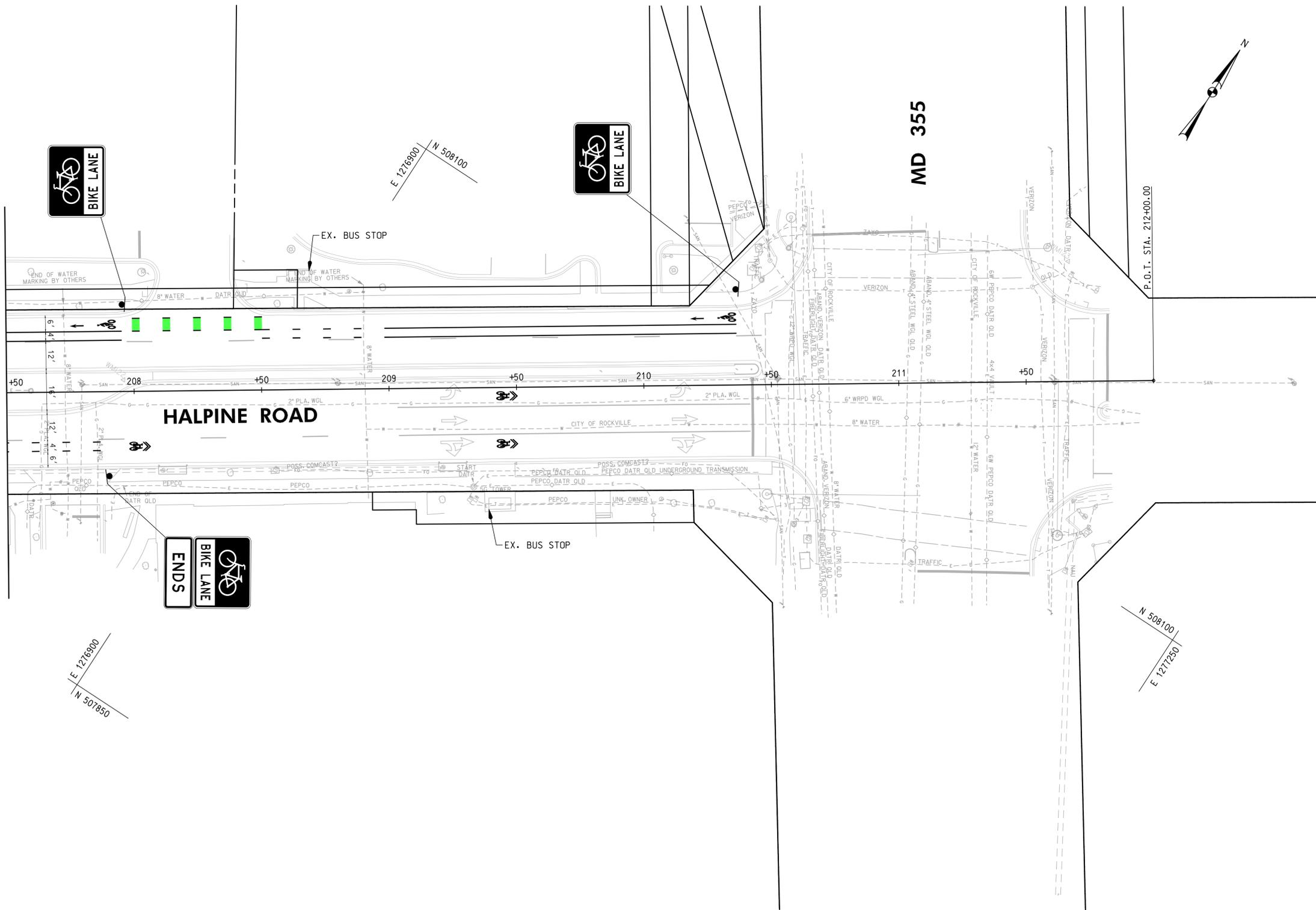
 CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE _____

CONCEPT PLAN

JEFFERSON STREET AND HALPINE ROAD
 BICYCLE FACILITIES FEASIBILITY STUDY
 Election District No. 10 City of Rockville, Maryland

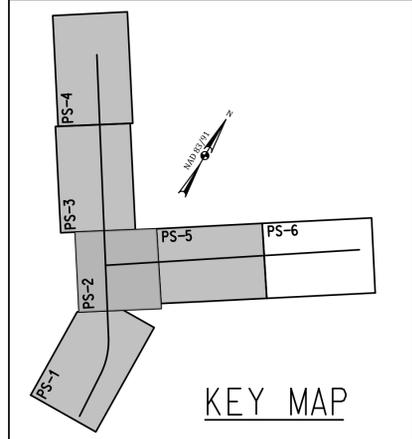
DATE SUBMITTED: JAN. 2025
 SCALE 1"=20'
 SHEET NO. 5 OF 6
 FILE # _____

MATCH LINE STA. 207 +50 - SEE SHEET CV-05



LEGEND

	4" CONCRETE SIDEWALK
	POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
	PROPOSED CURB AND GUTTER
	EXISTING CURB AND GUTTER
	REMOVE TREE
	RIGHT OF WAY
	BIKE SHARROWS
	BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS SURVEYORS CONSTRUCTION MANAGERS
 10100 York Road, Suite 200
 Hunt Valley, Maryland 21030
 410.644.6500 Fax: 410.667.0925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION CONTACT "MISS UTILITY" WWW.MISSUTILITY.NET OR 1-800-257-7777 OR 811 AT LEAST 48 HOURS PRIOR TO EXCAVATION

GENERAL NOTES:

- TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
- RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025

Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL



DEPARTMENT OF PUBLIC WORKS
 CITY OF
ROCKVILLE
 111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGNED _____
 DRAFTED _____
 CHECKED _____

DESIGN PLAN APPROVAL

 DIRECTOR OF PUBLIC WORKS

APPROVAL DATE _____

PWK# _____ SCP# _____
 SMP# _____ REVIEWED BY _____

AS BUILT PLAN APPROVAL

 CHIEF, CONSTRUCTION MANAGEMENT

APPROVAL DATE _____

CONCEPT PLAN

JEFFERSON STREET AND HALPINE ROAD
 BICYCLE FACILITIES FEASIBILITY STUDY

Election District No. 10 City of Rockville, Maryland

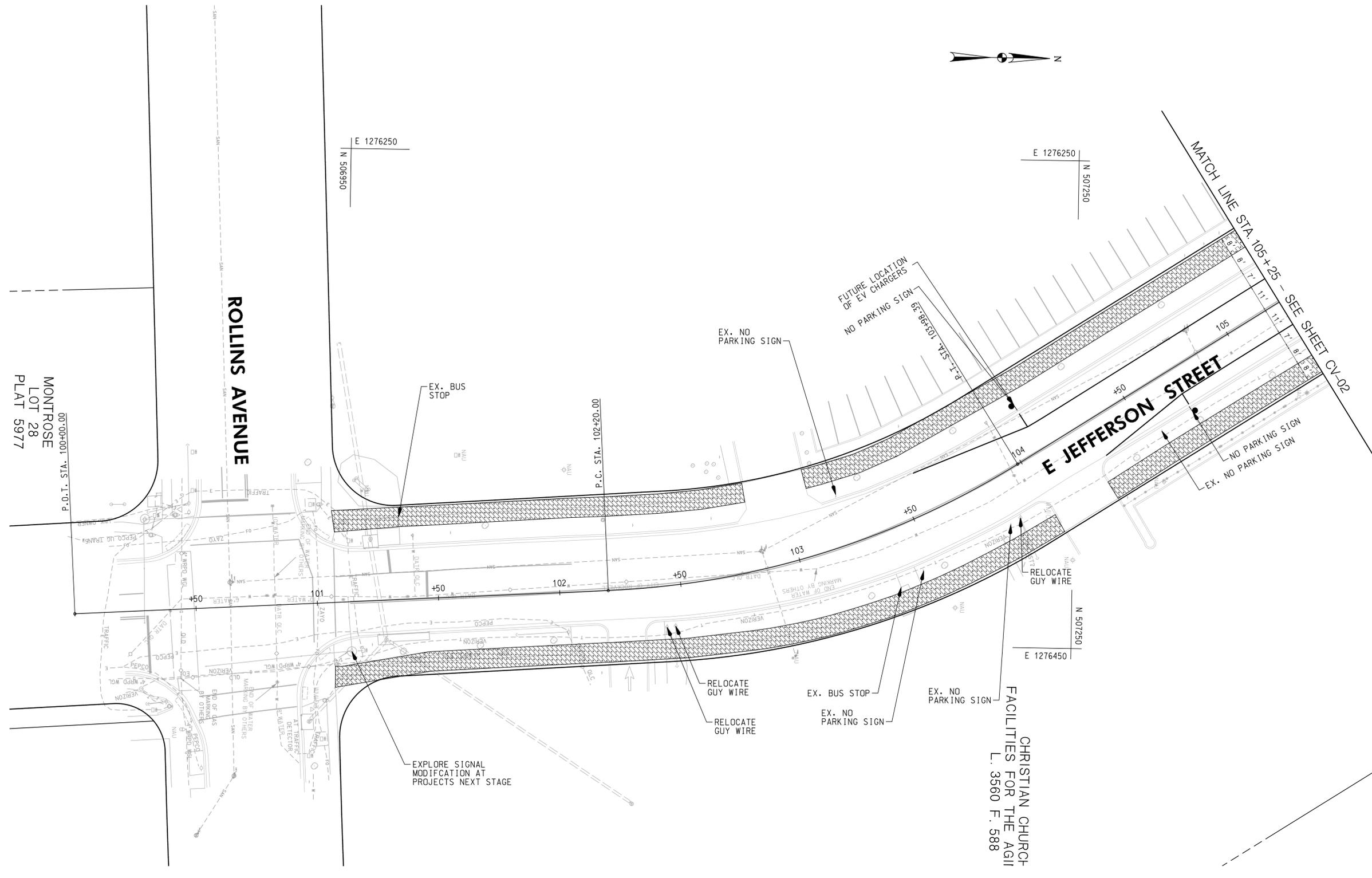
DATE SUBMITTED: JAN. 2025

SCALE: 1"=20'

SHEET NO. 6 OF 6

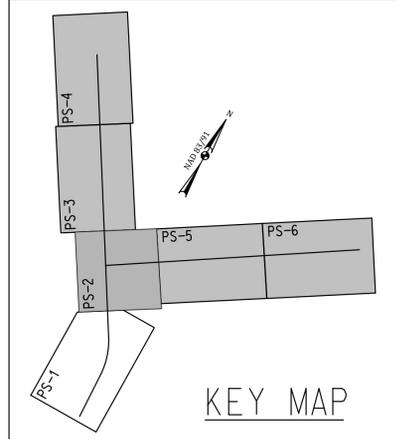
FILE # _____

SITE	
15 EA.	POTENTIAL TREE IMPACTS



LEGEND

	4" CONCRETE SIDEWALK
	POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
	PROPOSED CURB AND GUTTER
	EXISTING CURB AND GUTTER
	REMOVE TREE
	RIGHT OF WAY
	BIKE SHARROWS
	BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS ARCHITECTS CONSTRUCTION MANAGERS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21086
 410.644.5500 Fax: 410.667.9925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION
 CONTACT
 "MISS UTILITY"
 WWW.MISSUTILITY.NET
 OR
 1-800-257-7777
 OR 811
 AT LEAST 48 HOURS
 PRIOR TO EXCAVATION

- GENERAL NOTES:**
1. TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 2. RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.
 3. SHARED USE PATH IS TO USE A POROUS FLEXIBLE PAVEMENT TO LIMIT DAMAGE TO TREE ROOTS.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025.
Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE



DEPARTMENT OF PUBLIC WORKS
 CITY OF
ROCKVILLE
 111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGNED _____
 DRAFTED _____
 CHECKED _____

DESIGN PLAN APPROVAL

	PWK# _____	SCP# _____
	SMP# _____	REVIEWED BY _____
DIRECTOR OF PUBLIC WORKS	APPROVAL DATE _____	

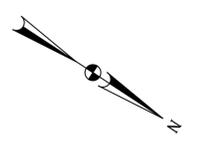
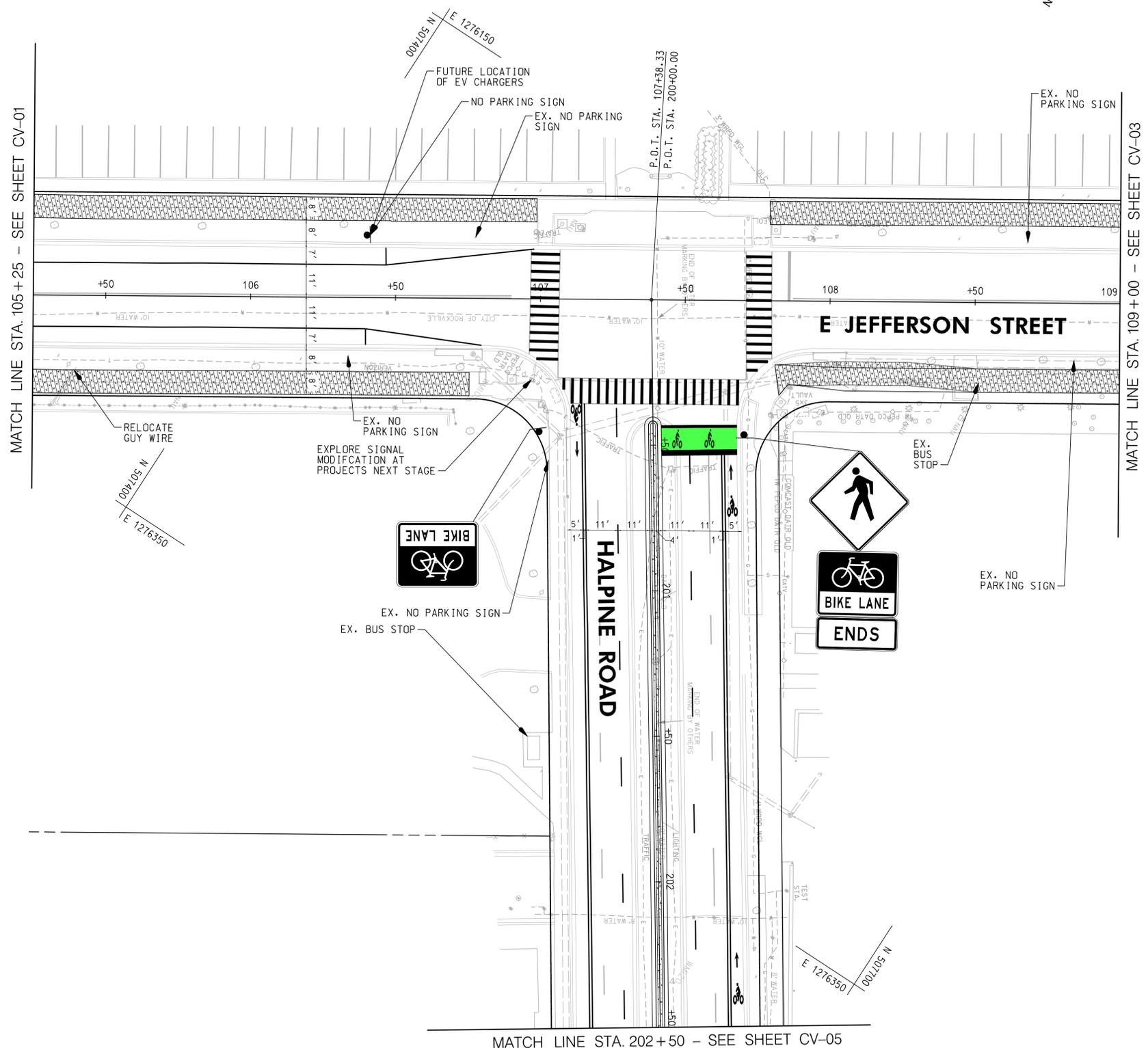
AS BUILT PLAN APPROVAL

	CHIEF, CONSTRUCTION MANAGEMENT	APPROVAL DATE _____
--	--------------------------------	---------------------

CONCEPT PLAN

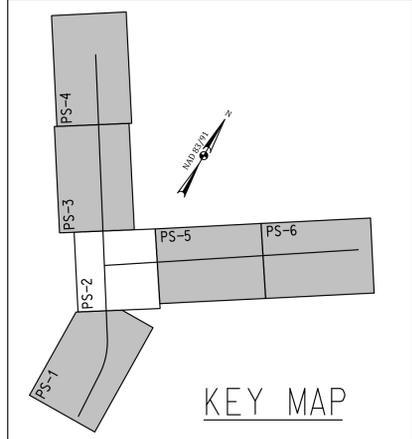
JEFFERSON STREET AND HALPINE ROAD
 BICYCLE FACILITIES FEASIBILITY STUDY
 Election District No. 10 City of Rockville, Maryland

DATE SUBMITTED: JAN. 2025
 SCALE: 1"=20'
 SHEET NO. 1 OF 6
 FILE # _____



LEGEND

- 4" CONCRETE SIDEWALK
- POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
- PROPOSED CURB AND GUTTER
- EXISTING CURB AND GUTTER
- REMOVE TREE
- RIGHT OF WAY
- BIKE SHARROWS
- BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS SURVEYORS CONSTRUCTION MANAGERS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21086
 410.644.5500 Fax: 410.667.5925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION CONTACT "MISS UTILITY" WWW.MISSUTILITY.NET OR 1-800-257-7777 OR 811 AT LEAST 48 HOURS PRIOR TO EXCAVATION

- GENERAL NOTES:**
- TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 - RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.
 - SHARED USE PATH IS TO USE A POROUS FLEXIBLE PAVEMENT TO LIMIT DAMAGE TO TREE ROOTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical



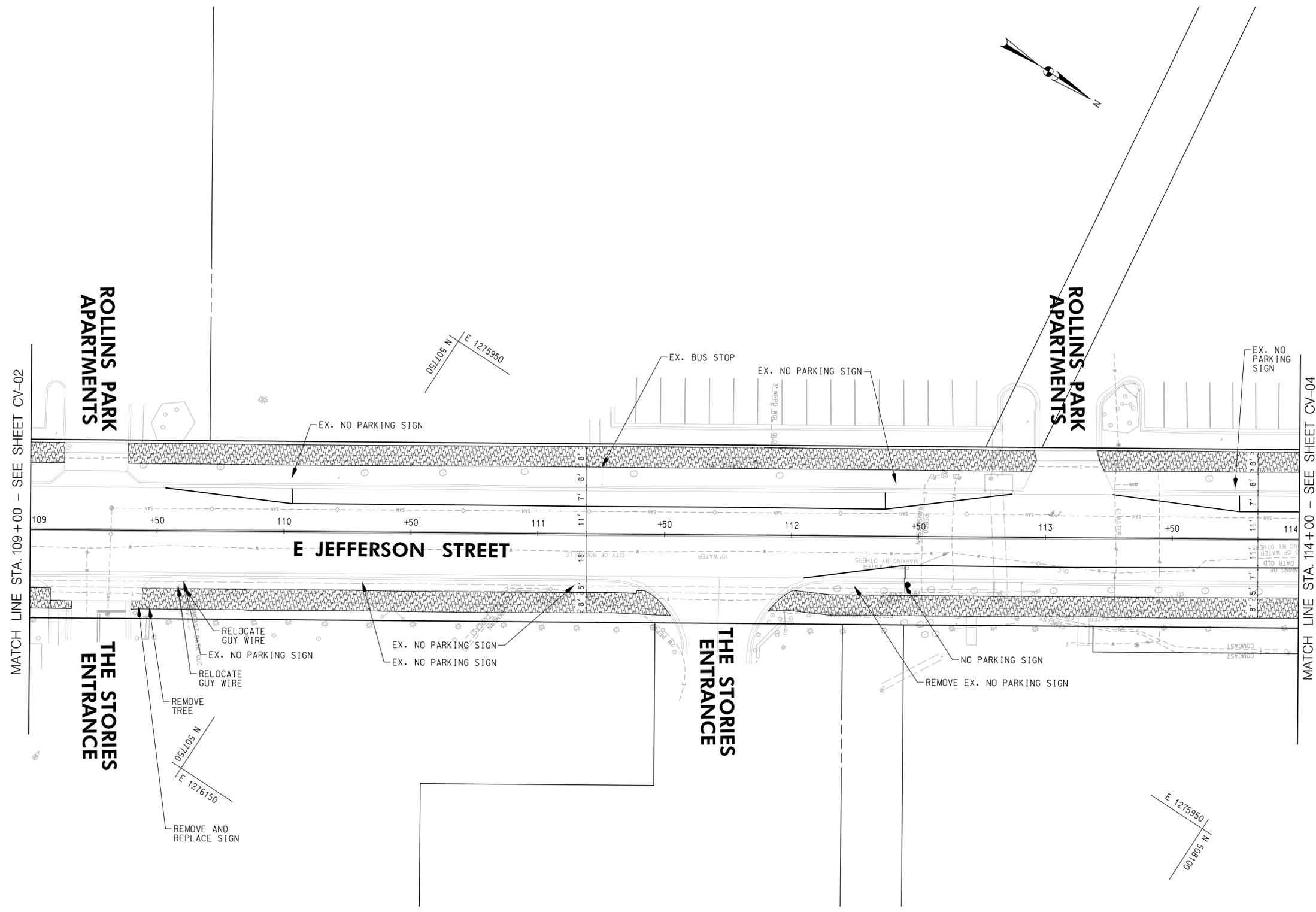
PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025.

Seth Darlington
NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

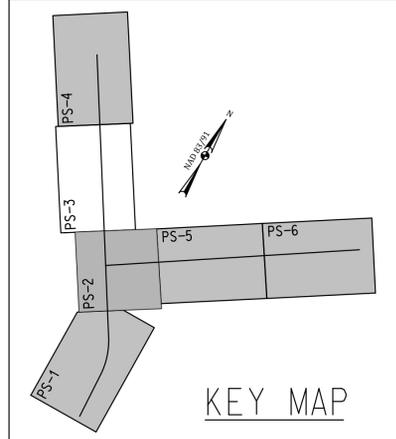
APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

<p>DEPARTMENT OF PUBLIC WORKS CITY OF ROCKVILLE 111 MARYLAND AVE. ROCKVILLE, MARYLAND</p>	DESIGNED _____ DRAFTED _____ CHECKED _____	DESIGN PLAN APPROVAL _____ P.W.K.# _____ SCP# _____ S.M.P.# _____ REVIEWED BY _____ DIRECTOR OF PUBLIC WORKS APPROVAL DATE _____	AS BUILT PLAN APPROVAL _____ CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE _____	CONCEPT PLAN	JEFFERSON STREET AND HALPINE ROAD BICYCLE FACILITIES FEASIBILITY STUDY Election District No. 10 City of Rockville, Maryland	DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. 2 OF 6	FILE #
--	--	--	---	--------------	---	------------------------------	-----------------	------------------------	--------



LEGEND

- 4" CONCRETE SIDEWALK
- POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
- PROPOSED CURB AND GUTTER
- EXISTING CURB AND GUTTER
- REMOVE TREE
- RIGHT OF WAY
- BIKE SHARROWS
- BIKE LANE



MATCH LINE STA. 109+00 - SEE SHEET CV-02

MATCH LINE STA. 114+00 - SEE SHEET CV-04

WALLACE MONTGOMERY
 ENGINEERS PLANNERS ARCHITECTS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21086
 410.484.5500 Fax: 410.487.5925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION CONTACT "MISS UTILITY" WWW.MISSUTILITY.NET OR 1-800-257-7777 OR 811 AT LEAST 48 HOURS PRIOR TO EXCAVATION

- GENERAL NOTES:**
- TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 - RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.
 - SHARED USE PATH IS TO USE A POROUS FLEXIBLE PAVEMENT TO LIMIT DAMAGE TO TREE ROOTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

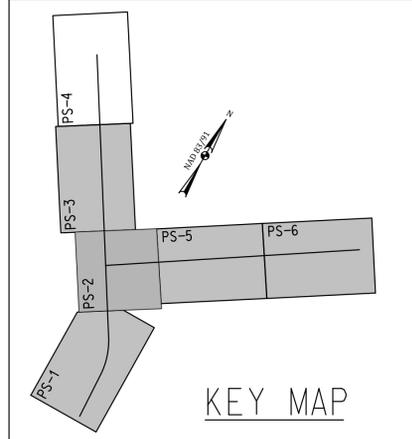
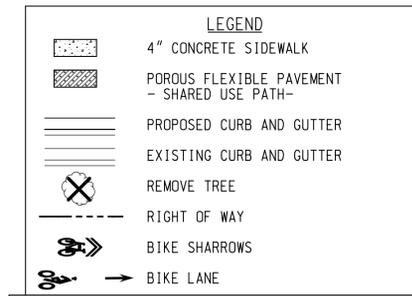
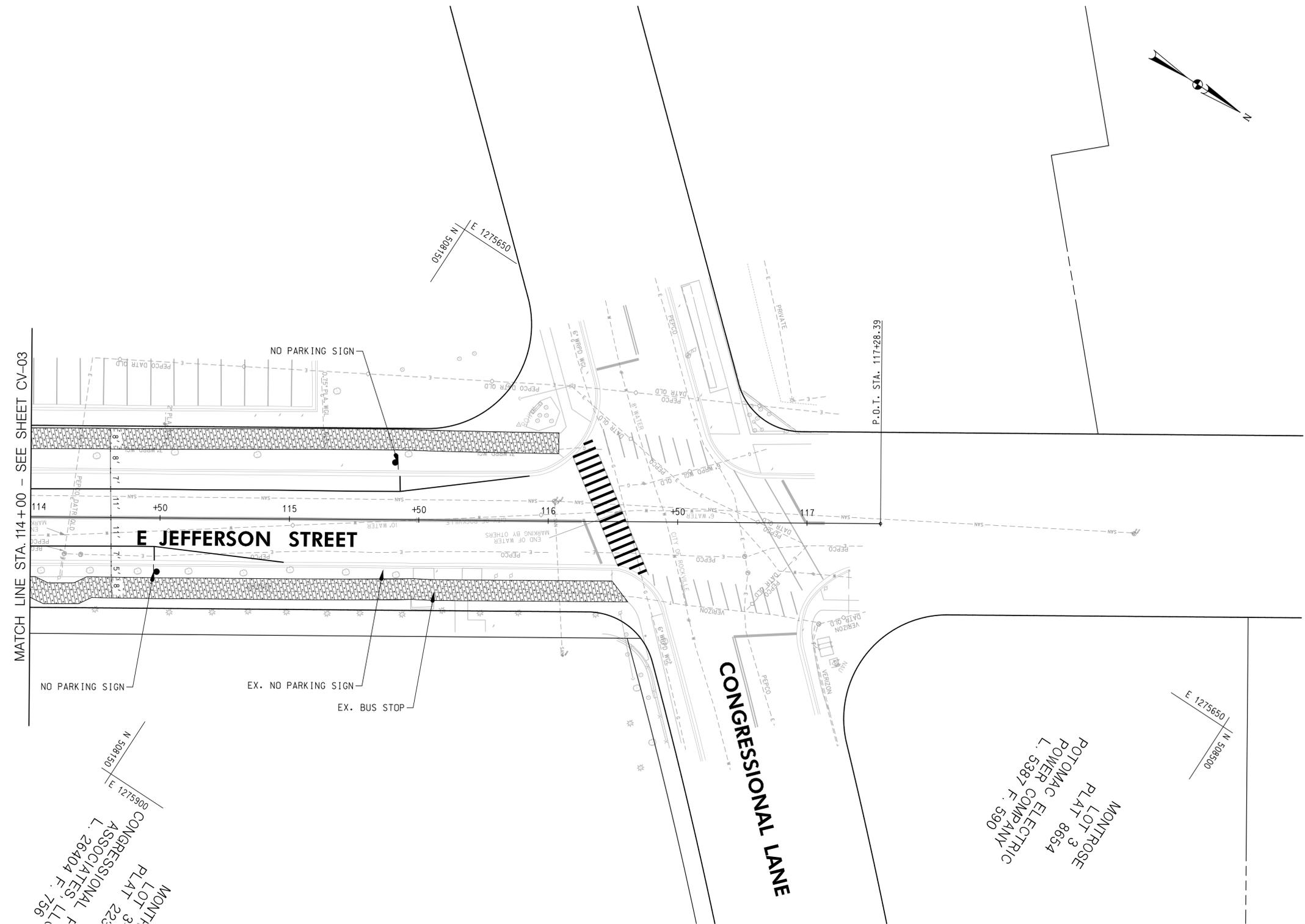


PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025.

Seth Darlington
NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

 DEPARTMENT OF PUBLIC WORKS CITY OF ROCKVILLE 111 MARYLAND AVE. ROCKVILLE, MARYLAND	DESIGNED _____	DESIGN PLAN APPROVAL	AS BUILT PLAN APPROVAL	CONCEPT PLAN	JEFFERSON STREET AND HALPINE ROAD BICYCLE FACILITIES FEASIBILITY STUDY Election District No. 10 City of Rockville, Maryland	DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. 3 OF 6	FILE #
	DRAFTED _____	_____ P.W.K.# _____ SCP# _____ SMP# _____ REVIEWED BY _____	_____ CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE	_____ APPROVAL DATE		APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL			



WALLACE MONTGOMERY
Engineers Planners Surveyors Construction Managers
10100 York Road, Suite 200
Hunt Valley, Maryland 21086
410.644.5500 Fax: 410.967.5925 Fax
www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION
CONTACT
"MISS UTILITY"
WWW.MISSUTILITY.NET
OR
1-800-257-7777
OR 811
AT LEAST 48 HOURS
PRIOR TO EXCAVATION

- GENERAL NOTES:**
1. TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 2. RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.
 3. SHARED USE PATH IS TO USE A POROUS FLEXIBLE PAVEMENT TO LIMIT DAMAGE TO TREE ROOTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. **39917**, Expiration Date: **1/18/2025**
Seth Darlington
NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE



DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGNED _____
DRAFTED _____
CHECKED _____

DESIGN PLAN APPROVAL
P.W.# _____ SCP# _____
S.M.P.# _____ REVIEWED BY _____
DIRECTOR OF PUBLIC WORKS APPROVAL DATE _____

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE _____

CONCEPT PLAN

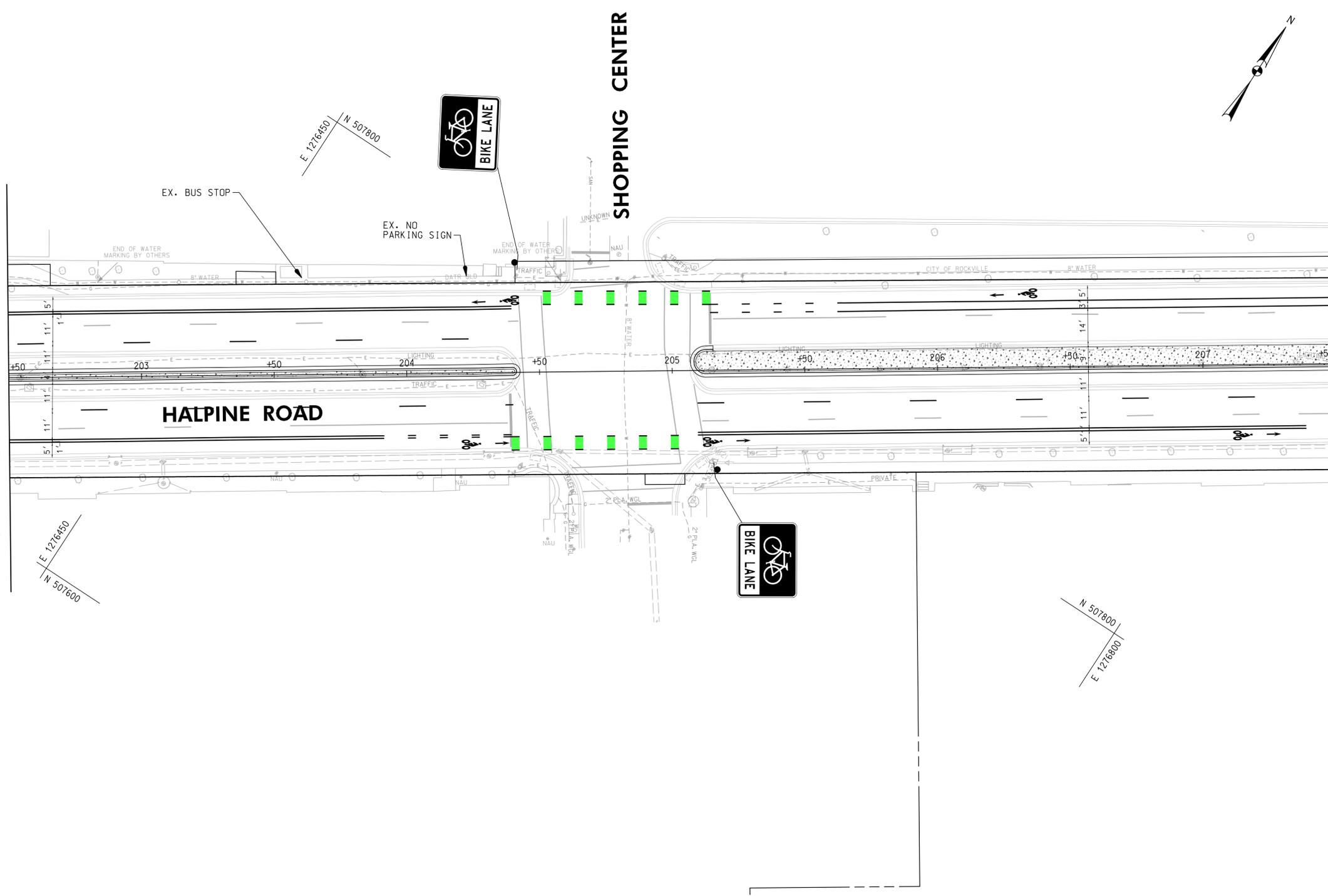
JEFFERSON STREET AND HALPINE ROAD
BICYCLE FACILITIES FEASIBILITY STUDY
Election District No. 10 City of Rockville, Maryland

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL
DATE SUBMITTED: JAN. 2025
SCALE: 1"=20'
SHEET NO. 4 OF 6
FILE # _____



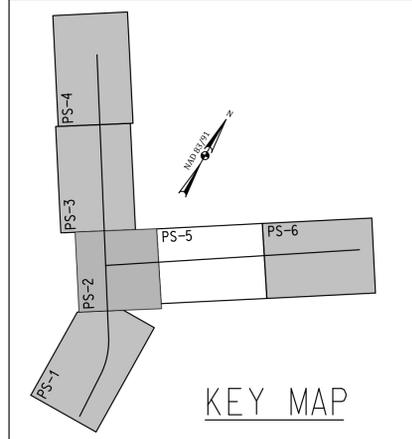
MATCH LINE STA. 202+50 - SEE SHEET CV-02

MATCH LINE STA. 207+50 - SEE SHEET CV-06



LEGEND

	4" CONCRETE SIDEWALK
	POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
	PROPOSED CURB AND GUTTER
	EXISTING CURB AND GUTTER
	REMOVE TREE
	RIGHT OF WAY
	BIKE SHARROWS
	BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS SURVEYORS CONSTRUCTION MANAGERS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21036
 410.644.5500 Fax: 410.667.5925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION CONTACT "MISS UTILITY" WWW.MISSUTILITY.NET OR 1-800-257-7777 OR 811 AT LEAST 48 HOURS PRIOR TO EXCAVATION

GENERAL NOTES:

- TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
- RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025

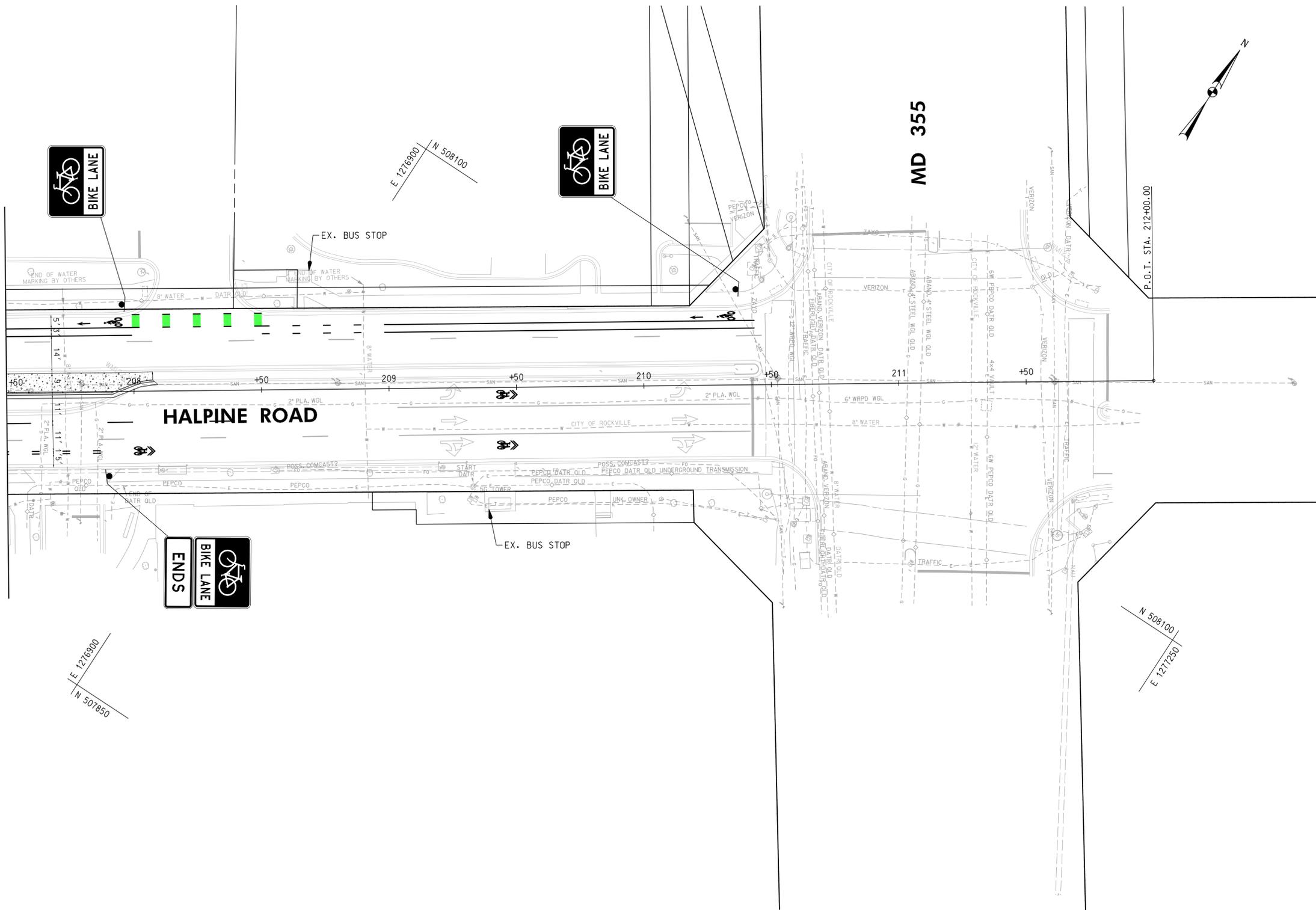
Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL

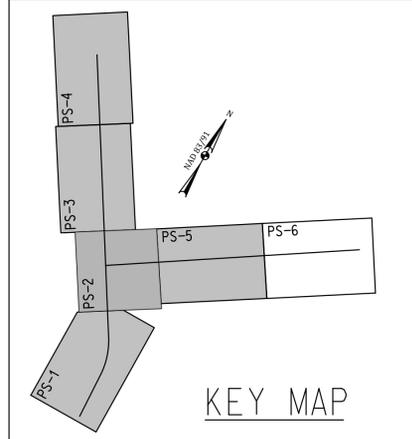
<p>DEPARTMENT OF PUBLIC WORKS CITY OF ROCKVILLE 111 MARYLAND AVE. ROCKVILLE, MARYLAND</p>	DESIGNED _____ DRAFTED _____ CHECKED _____	DESIGN PLAN APPROVAL _____ P.W.# _____ SCP# _____ SMP# _____ REVIEWED BY _____ APPROVAL DATE _____	AS BUILT PLAN APPROVAL _____ CHIEF, CONSTRUCTION MANAGEMENT APPROVAL DATE _____	CONCEPT PLAN	JEFFERSON STREET AND HALPINE ROAD BICYCLE FACILITIES FEASIBILITY STUDY Election District No. 10 City of Rockville, Maryland	DATE SUBMITTED: JAN. 2025	SCALE 1"=20'	SHEET NO. <u>5</u> OF <u>6</u>	FILE #

MATCH LINE STA. 207 + 50 - SEE SHEET CV-05



LEGEND

	4" CONCRETE SIDEWALK
	POROUS FLEXIBLE PAVEMENT - SHARED USE PATH-
	PROPOSED CURB AND GUTTER
	EXISTING CURB AND GUTTER
	REMOVE TREE
	RIGHT OF WAY
	BIKE SHARROWS
	BIKE LANE



WALLACE MONTGOMERY
 ENGINEERS PLANNERS SURVEYORS CONSTRUCTION MANAGERS
 10100 Rock Road, Suite 200
 Hunt Valley, Maryland 21086
 410.644.5500 Fax: 410.667.0925
 www.wallacemontgomery.com

BEFORE BEGINNING CONSTRUCTION
 CONTACT
 "MISS UTILITY"
 WWW.MISSUTILITY.NET
 OR
 1-800-257-7777
 OR 811
 AT LEAST 48 HOURS
 PRIOR TO EXCAVATION

GENERAL NOTES:
 1. TOPOGRAPHIC SURVEY WAS COMPLETED BY WALLACE MONTGOMERY IN SEPTEMBER 2024.
 2. RIGHT OF WAY AND PROPERTY LINES ARE BASED ON AVAILABLE RECORDS, AND ARE APPROXIMATE.

DATUM: NAD 8391 Horizontal
 NAVD 88 Vertical



PROFESSIONAL CERTIFICATION:
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 39917, Expiration Date: 1/18/2025
Seth Darlington
 NAME

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

APPROVAL OF REVISIONS AFTER INTIAL PLAN APPROVAL



DEPARTMENT OF PUBLIC WORKS
 CITY OF
ROCKVILLE
 111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGNED _____
 DRAFTED _____
 CHECKED _____

DESIGN PLAN APPROVAL

	PWK# _____ SCP# _____
	SMP# _____ REVIEWED BY _____
DIRECTOR OF PUBLIC WORKS	APPROVAL DATE _____

AS BUILT PLAN APPROVAL

CHIEF, CONSTRUCTION MANAGEMENT	APPROVAL DATE _____

CONCEPT PLAN

JEFFERSON STREET AND HALPINE ROAD
 BICYCLE FACILITIES FEASIBILITY STUDY
 Election District No. 10 City of Rockville, Maryland

DATE SUBMITTED: JAN. 2025
 SCALE: 1"=20'
 SHEET NO. 6 OF 6
 FILE # _____

Jefferson Halpine
 Bicycle Facility Feasibility Study
 Concept Estimate - Option 1
 Apr-25

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1001	MAINTENANCE OF TRAFFIC	LS	1	\$450.00	\$450.00
1002	CONSTRUCTION STAKEOUT	LS	1	\$0.00	\$0.00
1003	MOBILIZATION	LS	1	\$450.00	\$450.00
1004	TEMPORARY TRAFFIC SIGNS	SF	0	\$13.00	\$0.00
1005	TYPE III BARRICADES FOR MOT	EA	0	\$210.00	\$0.00
1006	CONCRETE AND ASPHALT DEMOLITION	LS	0	\$5,000.00	\$0.00
SUB-TOTAL					\$2,900.00
5001	PLACING SALVAGED TOPSOIL 2 INCH DEPTH	SY	0	\$2.00	\$0.00
5002	TURFGRASS ESTABLISHMENT	SY	0	\$10.00	\$0.00
5003	TREE REMOVAL	EA	0	\$100.00	\$0.00
5004	TREE PLANTING	EA	0	\$500.00	\$0.00
5005	LANDSCAPE PLANTING	LS	1	\$5,000.00	\$5,000.00
5006	5 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	1552	\$0.45	\$698.40
5007	5 INCH YELLOW THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$0.45	\$0.00
5008	10 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$0.75	\$0.00
5009	12 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$1.75	\$0.00
5010	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$4.00	\$0.00
5011	GREEN BIKE LANE THERMOPLASTIC PAVEMENT MARKINGS	SF	0	\$7.00	\$0.00
5012	WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS	SF	0	\$150.00	\$0.00
5013	BIKE LANE PREFORMED THERMOPLASTIC PAVEMENT MARKING	EA	22	\$150.00	\$3,300.00
5014	SHARED BIKE LANE PREFORMED THERMOPLASTIC PAVEMENT MARKING	SF	0	\$150.00	\$0.00
SUB-TOTAL					\$8,998.40
8001	CONCRETE FOR SIGNAL FOUNDATION	CY	0	\$1,400.00	\$0.00
8002	SQUARE PERFORATED TUBULAR STEEL SIGN POSTS	EA	12	\$200.00	\$2,400.00
8003	SQUARE PERFORATED TUBULAR STEEL SIGN BASES	EA	12	\$150.00	\$1,800.00
8004	SHEET ALUMINUM SIGNS	SF	40	\$30.00	\$1,200.00
SUB-TOTAL					\$5,400.00
TOTAL					\$17,298
CONTINGENCY AT 40%					\$6,919
CONSTRUCTION TOTAL					\$25,000

Jefferson Halpine
 Bicycle Facility Feasibility Study
 Concept Estimate - Option 2
 Apr-25

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1001	MAINTENANCE OF TRAFFIC	LS	1	\$1,000.00	\$1,000.00
1002	CONSTRUCTION STAKEOUT	LS	1	\$0.00	\$0.00
1003	MOBILIZATION	LS	1	\$1,000.00	\$1,000.00
1004	TEMPORARY TRAFFIC SIGNS	SF	0	\$13.00	\$0.00
1005	TYPE III BARRICADES FOR MOT	EA	0	\$210.00	\$0.00
1006	CONCRETE AND ASPHALT DEMOLITION	LS	0	\$5,000.00	\$0.00
SUB-TOTAL					\$4,000.00
5001	PLACING SALVAGED TOPSOIL 2 INCH DEPTH	SY	0	\$2.00	\$0.00
5002	TURFGRASS ESTABLISHMENT	SY	0	\$10.00	\$0.00
5003	TREE REMOVAL	EA	0	\$100.00	\$0.00
5004	TREE PLANTING	EA	0	\$500.00	\$0.00
5005	LANDSCAPE PLANTING	LS	1	\$5,000.00	\$5,000.00
5006	5 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	5634	\$0.45	\$2,535.30
5007	5 INCH YELLOW THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$0.45	\$0.00
5008	10 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$0.75	\$0.00
5009	12 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$1.75	\$0.00
5010	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$4.00	\$0.00
5011	GREEN BIKE LANE THERMOPLASTIC PAVEMENT MARKINGS	SF	554	\$7.00	\$3,878.00
5012	WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS	SF	0	\$150.00	\$0.00
5013	BIKE LANE PREFORMED THERMOPLASTIC PAVEMENT MARKING	EA	29	\$150.00	\$4,350.00
5014	SHARED BIKE LANE PREFORMED THERMOPLASTIC PAVEMENT MARKING	SF	0	\$150.00	\$0.00
SUB-TOTAL					\$15,763.30
8001	CONCRETE FOR SIGNAL FOUNDATION	CY	0	\$1,400.00	\$0.00
8002	SQUARE PERFORATED TUBULAR STEEL SIGN POSTS	EA	17	\$200.00	\$3,400.00
8003	SQUARE PERFORATED TUBULAR STEEL SIGN BASES	EA	17	\$150.00	\$2,550.00
8004	SHEET ALUMINUM SIGNS	SF	70	\$30.00	\$2,100.00
SUB-TOTAL					\$8,050.00
TOTAL					\$19,763
CONTINGENCY AT 40%					\$7,905
CONSTRUCTION TOTAL					\$28,000

Jefferson Halpine
 Bicycle Facility Feasibility Study
 Concept Estimate - Option 3
 Apr-25

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1001	MAINTENANCE OF TRAFFIC	LS	1	\$32,000.00	\$32,000.00
1002	CONSTRUCTION STAKEOUT	LS	1	\$6,000.00	\$6,000.00
1003	MOBILIZATION	LS	1	\$32,000.00	\$32,000.00
1004	TEMPORARY TRAFFIC SIGNS	SF	0	\$13.00	\$0.00
1005	TYPE III BARRICADES FOR MOT	EA	0	\$210.00	\$0.00
1006	CONCRETE AND ASPHALT DEMOLITION	LS	1	\$6,000.00	\$6,000.00
SUB-TOTAL					\$76,000.00
4001	STANDARD TYPE "A" CURB & GUTTER - MC-100.01	LF	1116	\$35.00	\$39,060.00
4002	TYPE "A" CURB - ANY HEIGHT, BACKER CURB	LF	0	\$50.00	\$0.00
4003	DEPRESSED CURB ENTRANCE	LF	0	\$35.00	\$0.00
4004	4" PLAIN CONCRETE SIDEWALK	SF	2911	\$12.00	\$34,932.00
4005	BRICK PAVERS	SF	0	\$27.00	\$0.00
4006	DETECTABLE WARNING SURFACE	SF	0	\$50.00	\$0.00
4007	9" CONCRETE DRIVEWAY PAVEMENT	SF	0	\$14.00	\$0.00
4008	POROUS FLEXIBLE PAVING	SF	21270	\$23.00	\$489,210.00
4009	4 GRADED AGGREGATE BASE COURSE	SY	2300	\$12.00	\$27,600.00
SUB-TOTAL					\$590,802.00
5001	PLACING SALVAGED TOPSOIL 2 INCH DEPTH	SY	0	\$2.00	\$0.00
5002	TURFGRASS ESTABLISHMENT	SY	0	\$10.00	\$0.00
5003	TREE REMOVAL	EA	64	\$100.00	\$6,400.00
5004	TREE PLANTING	EA	64	\$500.00	\$32,000.00
5005	LANDSCAPE PLANTING	LS	1	\$5,000.00	\$5,000.00
5006	5 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	6212	\$0.45	\$2,795.40
5007	5 INCH YELLOW THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$0.45	\$0.00
5008	10 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$0.75	\$0.00
5009	12 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$1.75	\$0.00
5010	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS	LF	0	\$4.00	\$0.00
5011	GREEN BIKE LANE THERMOPLASTIC PAVEMENT MARKINGS	SF	431	\$7.00	\$3,017.00
5012	WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS	SF	0	\$150.00	\$0.00
5013	BIKE LANE PREFORMED THERMOPLASTIC PAVEMENT MARKING	EA	12	\$150.00	\$1,800.00
5014	SHARED BIKE LANE PREFORMED THERMOPLASTIC PAVEMENT MARKING	SF	0	\$150.00	\$0.00
SUB-TOTAL					\$51,012.40
8001	CONCRETE FOR SIGNAL FOUNDATION	CY	0	\$1,400.00	\$0.00
8002	SQUARE PERFORATED TUBULAR STEEL SIGN POSTS	EA	13	\$200.00	\$2,600.00
8003	SQUARE PERFORATED TUBULAR STEEL SIGN BASES	EA	13	\$150.00	\$1,950.00
8004	SHEET ALUMINUM SIGNS	SF	55	\$30.00	\$1,650.00
8005	SIGNAL MODIFICATION	EA	2	\$50,000.00	\$100,000.00
SUB-TOTAL					\$106,200.00
TOTAL					\$717,814
CONTINGENCY AT 40%					\$287,126
CONSTRUCTION TOTAL					\$1,005,000

2024 Existing Conditions

Intersection Number	Intersection	Movement	AM Peak (8:15-9:15 AM)				PM Peak (4:45 - 5:45 PM)			
			Approach Delay (LOS)	Lane Group Delay (LOS)	95 th Percentile Queue Length (FT)	Storage Length (FT)	Approach Delay (LOS)	Lane Group Delay (LOS)	95 th Percentile Queue Length (FT)	Storage Length (FT)
1	E. Jefferson Street @ Congressional Lane	EB L/T/R	8.6 (A)	8.6 (A)	51	-	9.2 (A)	9.2 (A)	50	-
		WB L/T/R	10.4 (B)	10.4 (B)	80	-	13.5 (B)	13.5 (B)	112	-
		NB L/T/R	9.4 (A)	9.4 (A)	75	-	12.5 (B)	12.5 (B)	120	-
		SB L/T/R	9.2 (A)	9.2 (A)	55	-	9.3 (A)	9.3 (A)	40	-
		Overall	9.7 (A)				12.4 (B)			
2	E. Jefferson Street @ Halpine Road	WBL	41.6 (D)	42.4 (D)	90	-	40.2 (D)	42.4 (D)	179	-
		WBR		40.6 (D)	50	-		35.2 (D)	67	-
		NBT/R	2.0 (A)	2.0 (A)	66	-	5.7 (A)	5.7 (A)	326	-
		SB L/T	1.8 (A)	1.8 (A)	108	-	4.3 (A)	4.3 (A)	177	-
		Overall	8.6 (A)				14.3 (B)			
3	E. Jefferson Street @ Rollins Avenue	EBL	41.5 (D)	34.9 (C)	28	50	42.1 (D)	39 (D)	43	50
		EB T/R		42.3 (D)	103	-		42.8 (D)	104	-
		WBL	37.9 (D)	39.5 (D)	279	250	72.3 (E)	84.7 (F)	278	250
		WB T/R		22.7 (C)	205	-		22.5 (C)	1016	-
		NB L/T	7.8 (A)	12.8 (B)	166	-	14.1 (B)	22.9 (C)	319	-
		NBR		3.7 (A)	76	-		4.5 (A)	189	-
		SBL	13.0 (B)	14.9 (B)	42	50	20.7 (C)	29.4 (C)	47	50
		SB T/R		12.8 (B)	142	-		20.2 (C)	270	-
		Overall	20.3 (C)				36.1 (D)			
4	Halpine Road @ Congressional Village/Congressional Plaza	NB L/T/R	11.7 (B)	11.7 (B)	52	-	18.6 (B)	18.6 (B)	64	-
		EB L/T	1.6 (A)	7.5 (A)	19	-	4.9 (A)	4.9 (A)	71	-
		EB T/R		0.1 (A)	10	-		4.8 (A)	63	-
		WB L/T	2.1 (A)	7.7 (A)	24	-	4.8 (A)	4.9 (A)	97	-
		WB T/R		0.1 (A)	6	-		4.7 (A)	48	-
		SB L/T/R	10.6 (B)	10.6 (B)	49	-	20.3 (C)	20.6 (C)	105	-
		Overall	4.5 (A)				10.1 (B)			
5	Halpine Road @ MD 355	EBL	39.7 (D)	41.3 (D)	80	225	55.8 (E)	62.2 (E)	179	225
		EBT		38.9 (D)	59	-		50.8 (D)	86	-
		EB T/R		39.2 (D)	96	-		52.9 (D)	130	-
		WBL	40.4 (D)	41.1 (D)	48	125	60.5 (E)	59.1 (E)	103	125
		WBT		38.6 (D)	81	-		51.2 (D)	144	-
		WBR		41.1 (D)	67	-		65.0 (E)	148	-
		NB U/L	13.6 (B)	15.4 (B)	86	125	15.2 (B)	12.3 (B)	234	125
		NBT		13.4 (B)	251	-		15.1 (B)	394	-
		NBT/R		13.7 (B)	138	-		15.8 (B)	281	-
		SBL	18.1 (B)	10.1 (B)	251	175	14.5 (B)	14.4 (B)	221	175
		SBT		18.2 (B)	503	-		14.3 (B)	351	-
		SBT/R		19.7 (B)	339	-		15.0 (B)	246	-
Overall	19.0 (B)				21.3 (C)					

2024 Proposed Conditions - Halpine Road Bidirectional 2-Lane

Intersection Number	Intersection	Movement	AM Peak (8:15-9:15 AM)				PM Peak (4:45 - 5:45 PM)			
			Approach Delay (LOS)	Lane Group Delay (LOS)	95th Percentile Queue Length (FT)	Storage Length (FT)	Approach Delay (LOS)	Lane Group Delay (LOS)	95th Percentile Queue Length (FT)	Storage Length (FT)
1	E. Jefferson Street @ Congressional Lane	EB L/T/R	8.6 (A)	8.6 (A)	46	-	9.2 (A)	9.2 (A)	48	-
		WB L/T/R	10.4 (B)	10.4 (B)	77	-	13.5 (B)	13.5 (B)	106	-
		NB L/T/R	9.4 (A)	9.4 (A)	79	-	12.5 (B)	12.5 (B)	127	-
		SB L/T/R	9.2 (A)	9.2 (A)	52	-	9.3 (A)	9.3 (A)	40	-
		Overall	9.7 (A)				12.4 (B)			
2	E. Jefferson Street @ Halpine Road	WB L/R	35.6 (D)	35.6 (D)	107	-	43.3 (D)	43.3 (D)	255	-
		NBT/R	3.5 (A)	3.5 (A)	63	-	8.4 (A)	8.4 (A)	307	-
		SB L/T	3.2 (A)	3.2 (A)	83	-	6.7 (A)	6.7 (A)	175	-
		Overall	8.8 (A)				17.1 (B)			
3	E. Jefferson Street @ Rollins Avenue	EBL	41.5 (D)	34.9 (C)	29	50	42.1 (D)	39.0 (D)	41	50
		EB T/R		42.3 (D)	79	-		42.8 (D)	93	-
		WBL	37.9 (D)	39.5 (D)	272	250	72.3 (E)	84.7 (F)	277	250
		WB T/R		22.7 (C)	170	-		22.5 (C)	1088	-
		NB L/T	7.8 (A)	12.8 (B)	159	-	14.1 (B)	22.9 (C)	314	-
		NBR		3.7 (A)	79	-		4.5 (A)	189	-
		SBL	13.0 (B)	14.9 (B)	40	50	20.7 (C)	29.4 (C)	62	50
		SB T/R		12.8 (B)	133	-		20.2 (C)	262	-
		Overall	20.3 (C)				36.1 (D)			
4	Halpine Road @ Congressional Village/Congressional Plaza	NB L/T/R	11.9 (B)	11.9 (B)	52	-	18.5 (B)	18.5 (B)	67	-
		EB L/T/R	1.5 (A)	1.5 (A)	20	-	5.4 (A)	5.4 (A)	117	-
		WB L/T/R	2.1 (A)	2.1 (A)	15	-	5.2 (A)	5.2 (A)	130	-
		SB L/T/R	10.9 (B)	10.9 (B)	49	-	20.6 (C)	20.6 (C)	116	-
		Overall	4.5 (A)				10.4 (B)			
5	Halpine Road @ MD 355	EBL	40.8 (D)	41.3 (D)	73	225	58.4 (E)	62.2 (E)	179	225
		EB T/R		40.6 (D)	125	-		56.2 (E)	197	-
		WBL	40.7 (D)	43.6 (D)	57	125	61.3 (E)	65.2 (E)	93	125
		WBT		38.6 (D)	74	-		51.2 (D)	140	-
		WBR		41.1 (D)	69	-		65.0 (E)	124	-
		NB U/L	13.7 (B)	15.4 (B)	92	125	15.2 (B)	12.4 (B)	222	125
		NBT		13.5 (B)	253	-		15.1 (B)	387	-
		NBT/R		13.8 (B)	145	-		15.8 (B)	278	-
		SBL	18.2 (B)	10.1 (A)	250	175	14.6 (B)	14.4 (B)	216	175
		SBT		18.3 (B)	461	-		14.3 (B)	366	-
		SBT/R		19.7 (B)	299	-		15.0 (B)	258	-
Overall	19.1 (B)				21.5 (C)					

Proposed v. Existing Delay and Queue Change

Intersection Number	Intersection	Movement	AM Peak (8:15-9:15 AM)		PM Peak (4:45 - 5:45 PM)	
			Difference in Approach Delay (s/veh)	Difference in 95th Percentile Queue Length (FT)	Difference in Approach Delay (s/veh)	Difference in 95th Percentile Queue Length (FT)
1	E. Jefferson Street @ Congressional Lane	EB L/T/R	0	-5	0	-2
		WB L/T/R	0	-3	0	-6
		NB L/T/R	0	4	0	7
		SB L/T/R	0	-3	0	0
		Overall	0	-	0	-
2	E. Jefferson Street @ Halpine Road	WB L/R	-6	17	3.1	76
		NBT/R	1.5	-3	2.7	-19
		SB L/T	1.4	-25	2.4	-2
		Overall	0.2	-	2.8	-
3	E. Jefferson Street @ Rollins Avenue	EBL		1		-2
		EB T/R	0.0	-24	0.0	-11
		WBL		-7		-1
		WB T/R	0.0	-35	0.0	72
		NB L/T		-7		-5
		NBR	0.0	3	0.0	0
		SBL		-2		15
		SB T/R	0.0	-9	0.0	-8
Overall	0.0	-	0	-		
4	Halpine Road @ Congressional Village/Congressional Plaza	NB L/T/R	0.1	0	-0.1	3
		EB L/T/R	-0.1	1	0.5	46
		WB L/T/R	-0.1	-9	0.4	33
		SB L/T/R	0.3	0	0.3	11
		Overall	0	-	0.3	-
5	Halpine Road @ MD 355	EBL		-7		0
		EB T/R	1.1	66	2.6	111
		WBL		9		-10
		WBT	0.3	-7	0.8	-4
		WBR		2		-24
		NB U/L		6		-12
		NBT	0.1	2	0	-7
		NBT/R		7		-3
		SBL		-1		-5
		SBT	0.1	-42	0.1	15
SBT/R		-40		12		
Overall	0.1	-	0.2	-		