HALSEY ROAD SIDEWALK GAP REPORT

Halsey Road from Henry Road to Ardennes Avenue

Twinbrook Safe Routes to School and Transit Access Feasibility Studies
City of Rockville Contract No. BCS 2017-01H

December 2024

Prepared For:

City of Rockville
111 Maryland Ave,
Rockville, Maryland 20850

Prepared By:

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Ashton, Maryland 20861

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Hunt Valley, Maryland 21030

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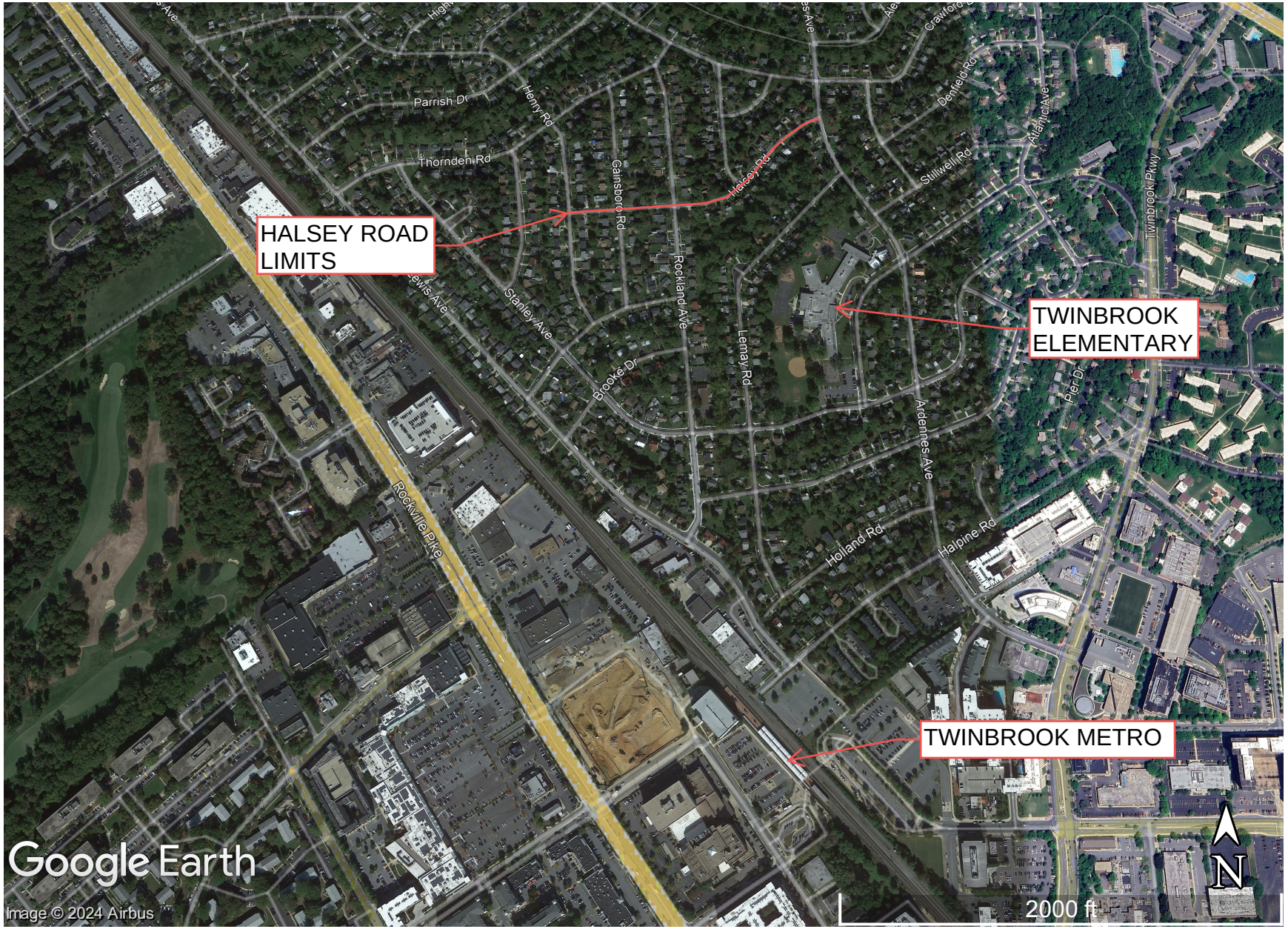


HALSEY ROAD
FIGURE 1: LOCATION MAP

I. PROJECT INTRODUCTION

This report has been prepared for the City of Rockville as one of their Vision Zero Projects. Vision Zero is a priority initiative of the Mayor and Council to create safe and livable neighborhoods. The Twinbrook Safe Routes to School and Transit Access feasibility study focuses on improving multimodal access and mobility in the Twinbrook neighborhood in Rockville. The goal of this project is to evaluate the feasibility of constructing new sidewalks along roads and identify opportunities to improve intersection safety for all modes of transportation, especially for trips to and from Twinbrook Elementary School and the Twinbrook Metro Station.

The following sidewalk segments were studied:

1. Brooke Drive between Lewis Avenue and Rockland Avenue
2. Crawford Drive between Rockcrest Circle and Hillcrest Park
3. Crawford Drive between Atlantic Avenue and Ardennes Avenue
4. Halsey Road between Henry Road and Ardennes Avenue
5. Lemay Road between Vandegrift Avenue and Ardennes Avenue
6. Midway Avenue between Crawford Dive and Stillwell Road
7. Wade Avenue between Edmonston Drive and Crawford Drive

The intersections studied included:

1. Ardennes Avenue and Crawford Drive
2. Ardennes Avenue and Halsey Road
3. Ardennes Avenue and Halpine Road
4. Ardennes Avenue and Ridgway Avenue
5. Ardennes Avenue and Wainwright Avenue
6. Chapman Avenue and Bouic Avenue
7. Chapman Avenue and Twinbrook Parkway
8. Lemay Road and Ridgway Avenue

This project was funded by a Maryland Department of Transportation (MDOT) Transportation Alternatives (TA) Program grant, and the improvements and cost estimate are proposed by the project team consisting of Mercado Consultants and AECOM.

II. PROJECT DESCRIPTION

This report discusses the feasibility of sidewalk improvements along the northern side of Halsey Road between Henry Road and Ardennes Avenue. Please see Appendix A for the sidewalk options and cost estimate.

III. DESIGN CRITERIA AND ASSUMPTIONS

The design criteria used for the proposed sidewalks comes from the ADA Standards for Accessible Design and the recently adopted Public Right-of-Way Accessibility Guidelines. A 5-foot minimum width sidewalk is proposed to meet this standard. The running slopes on the ramps are 12:1 maximum, and the proposed landing pads are a minimum of 5-foot x 5-foot with a 48:1 maximum cross-slope. The depressed landing pads located at crossings contain a 2-foot wide minimum detectable warning surface.

The buffer between the proposed sidewalk and back of curb is a minimum 2-foot but may vary to avoid impacts with utilities or trees. Proposed sidewalk must also tie into adjacent existing sidewalk where applicable.

It is assumed the sidewalk is also proposed entirely within the City of Rockville's right-of-way. Temporary construction easements will only be necessary for driveway reconstruction to tie-in to existing driveway grades. Driveways will be reconstructed in-kind. Impacted fences, mailboxes, and other resident belongings located within the City of Rockville's right-of-way are to be relocated. Impacted steps or resident walkways are to be reconstructed to tie into the proposed sidewalk. The study looked at shifting sidewalk to avoid moving utilities such as inlets, fire hydrants, and utility poles. At a time of more detailed design, the City of Rockville should coordinate with Pepco about moving utility poles.

Retaining walls or knee walls are to be proposed at locations with steep slope adjacent to the proposed sidewalk.

Marked crosswalks are proposed at intersections along the proposed sidewalk. Proposed marked crosswalks are to include advanced warning signage and stop bars at stop-controlled intersections. The MD MUTCD is to be followed for crosswalk placement. Per the MD MUTCD marked crosswalks are to be 6-foot wide minimum.

The Fire Department Access Performance-Based Design Guide also dictates the roadway clear width to be 20-feet minimum for emergency vehicles. The curb radius recommended at intersections is 25-feet minimum and was used to upgrade curb radii throughout the site. Intersections used specific AASHTO design vehicles proposed by the City of Rockville.

IV. EXISTING CONDITIONS

Halsey Road is an undivided two-way road, classified as a secondary residential street. The westernmost limits of the study, the intersection of Halsey Road and Henry Road, is located 0.7 miles from the Twinbrook Metro Station and 0.5 miles from Twinbrook Elementary. The easternmost limits of the study, the intersection of Halsey Road and Ardennes Avenue, is located 0.8 miles from the Twinbrook Metro Station and 0.4 miles from Twinbrook Elementary School.

The proposed sidewalk gap on Halsey Road extends from Henry Road to Ardennes Avenue and measures approximately 1510 linear feet. The limits of Halsey Road are intersected by five streets, Henry Road, Gainsboro Road, Rockland Avenue, Okinawa Avenue, and Ardennes Avenue. All the intersecting roads have existing sidewalk to tie into. Henry Road has existing sidewalk to tie into on the east side, Gainsboro Road has existing sidewalk to tie into on the east side, Rockland Avenue has existing sidewalk to tie into on the east side, Okinawa has existing sidewalk to tie into on the west side, and Ardennes Avenue has existing sidewalk to tie into on both sides of the road. There is an Intersection Improvement Study taking place for the intersection of Halsey Road and Ardennes Avenue.

Existing utilities poles are located on the south side of Halsey Road between Henry Road and Gainsboro Road, on both sides of the road between Gainsboro Road and Rockland Avenue, on the south side of the road between Rockland Avenue and Okinawa Avenue, then on the north side from Okinawa Avenue to Ardennes Avenue. There is also an existing fire hydrant on the north side of Halsey Road near the intersection of Ardennes Avenue. There are many trees on both sides of Halsey Road. The roadway clear width is approximately 25-feet along Halsey Road. All residents along the

north side of Halsey Road have a driveway, but many residents on the south side do not. There are multiple cars parking along both sides of Halsey Road.

Please see Appendix B for existing site photos.

V. CRASH DATA

There is one police-reported crash at this location during the 2018-2022 study period. Please see Appendix C for Crash Data.

VI. ALTERNATIVES CONSIDERED

Two alternatives were considered for the northern sidewalk gap along Halsey Road. The first alternative considered, Option 1, was designed using the criteria mentioned in the Design Criteria and Assumptions section. The buffer in Option 1 was generally kept at 2-feet but was allowed to fluctuate between zero and 4-feet to avoid utilities or tree impacts. Option 1 lists 13 trees marked for removal but 7 of these must be evaluated by the City of Rockville as potential trees to remain using flexi-pavement. Five of these trees are located between Rockland Avenue and Okinawa Avenue, and the remaining two are located between Okinawa Avenue and Ardennes Avenue. Option 1 impacts include tree removal (13), bush removal (3), driveway impact (15), and easements required (13).

The second alternative on the north side of Halsey Road, Option 2, was designed with a 2-foot buffer that increases to 4-feet to avoid utility post impacts, and is eliminated at the intersection of Ardennes. The buffer does not change to avoid tree impacts in this option, resulting in more trees removed. Impacts of Option 2 include tree removal (17), bush removal (3), driveways impact (15), and easements required (13).

Options 1 and 2 both tie into adjacent existing sidewalk at Henry Road, Gainsboro Road, Rockland Avenue, Okinawa Avenue, and Ardennes Avenue. Both options propose marked crosswalks with stop bars across Halsey Road at Henry Road, across Gainsboro Road at Halsey Road, and across Halsey Road at Ardennes Avenue. Both options also proposed marked crosswalks only across Rockland Avenue at Halsey Road, and across Okinawa Avenue at Halsey Avenue.

VII. PUBLIC INPUT

Residents and the Study Team participated in the walk the block meeting for Halsey Road sidewalk gap on May 30th. The primary concerns were related to the proximity of the sidewalk to the right-of-way, and if the sidewalk would require property impacts. The primary resident concern for the Halsey Road sidewalk gap was regarding tree removal. Some residents were in favor of removing trees in front of their property while others did not want trees removed. There was one resident from the south side of Halsey Road, where there is already an existing sidewalk, who was not in favor of the proposed sidewalk on the north side. They stated they rather add sidewalk on another street where none exists on either side of the road. No written resident comments were received for this location.

VIII. RECOMMENDATIONS

The study team recommends proceeding with Option 1 as the most feasible option for construction. The study team came to this conclusion based on a few factors. Options 1 and 2 are very similar in design but Option 1 has fewer tree impacts due to the variable sidewalk buffer. Option 1 also has a slightly lower cost because of the fewer trees removed. Otherwise, both Option 1 and Option 2 have the same bush removal, driveway impact, and easements required.

A. IMPACTS:

Option 1 impacts include:
- Tree removal: 13
- Bush removal: 3
- Driveways impacted: 15
- Easements required: 13

Option 2 impacts include:
- Tree removal: 17
- Bush removal: 3
- Driveways impacted: 15
- Easements required: 13

B. COST ESTIMATE:

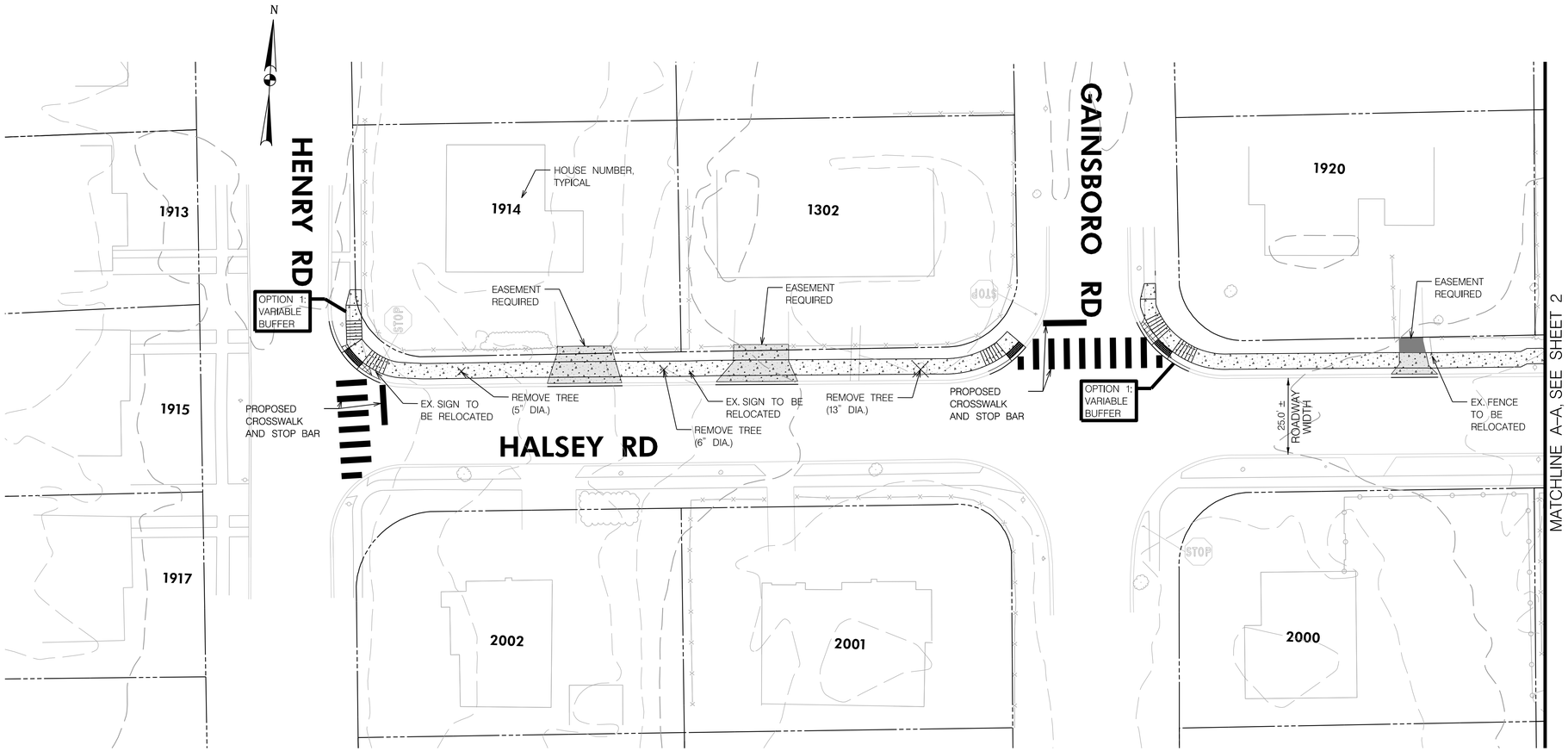
Project cost was estimated using the unit cost method plus an overall 40% contingency to reflect the current level of study. Unit costs were gathered for proposed items in each option and quantities were gathered. The unit costs used were derived from similar projects within Montgomery County. The approximate cost for constructing Option 1 is $372,000 and for Option 2 is $377,000. Please see Appendix A for cost estimate breakdown.

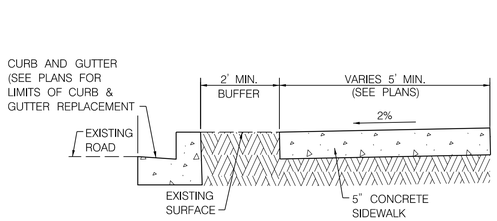
IX. SUMMARY

Construction of the sidewalk on Halsey Road is deemed feasible. Options 1 and 2 for construction of proposed sidewalk on the north side of Halsey Road have similar impacts. Option 1 is the recommended option for construction. Option 1 does not require as many trees to be removed. This is the main difference in the construction costs. Option 1 also has more resident support since it has fewer tree impacts.

APPENDIX A:

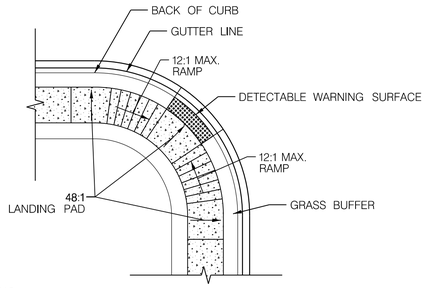
PLAN SHEET(S) AND ESTIMATE





DETAIL FOR SIDEWALK CONSTRUCTION

NOT TO SCALE



LEGEND

- 5 INCH CONCRETE SIDEWALK
- CONCRETE REMOVAL
- 8 INCH PORTLAND CEMENT CONCRETE DRIVEWAY
- 8 INCH ASPHALT DRIVEWAY
- DETECTABLE WARNING SURFACE
- NEW CURB
- APPROX. RIGHT OF WAY
- ADA RAMP

NOTES:

1. DIRECTION OF 2% CROSS SLOPE WILL BE CONSISTENT WITH EXISTING DRAINAGE CONDITIONS.
2. A CURB SHALL BE ADDED TO THE BACK OF THE SIDEWALK WHERE NEEDED TO PROTECT EXISTING LANDCAPE AND WHERE THE SLOPE BEHIND THE SIDEWALK IS GREATER THAN 10 PERCENT.
3. EXISTING MULCH BEDS SHALL RETURN TO MULCH BEDS IF DISTURBED.

OPTION 1 NOTES:

1. TREES TO BE REMOVED: 13
2. BUSHES/HEDGES TO BE REMOVED: 3
3. DRIVEWAYS IMPACTED: 15
4. EASEMENTS REQUIRED: 13

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MERCADO CONSULTANTS, INC.

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

NOTE: TOPOGRAPHY BASED ON MOBILE LIDAR SCAN

20' 0 20' 40'
SCALE: 1" = 20'

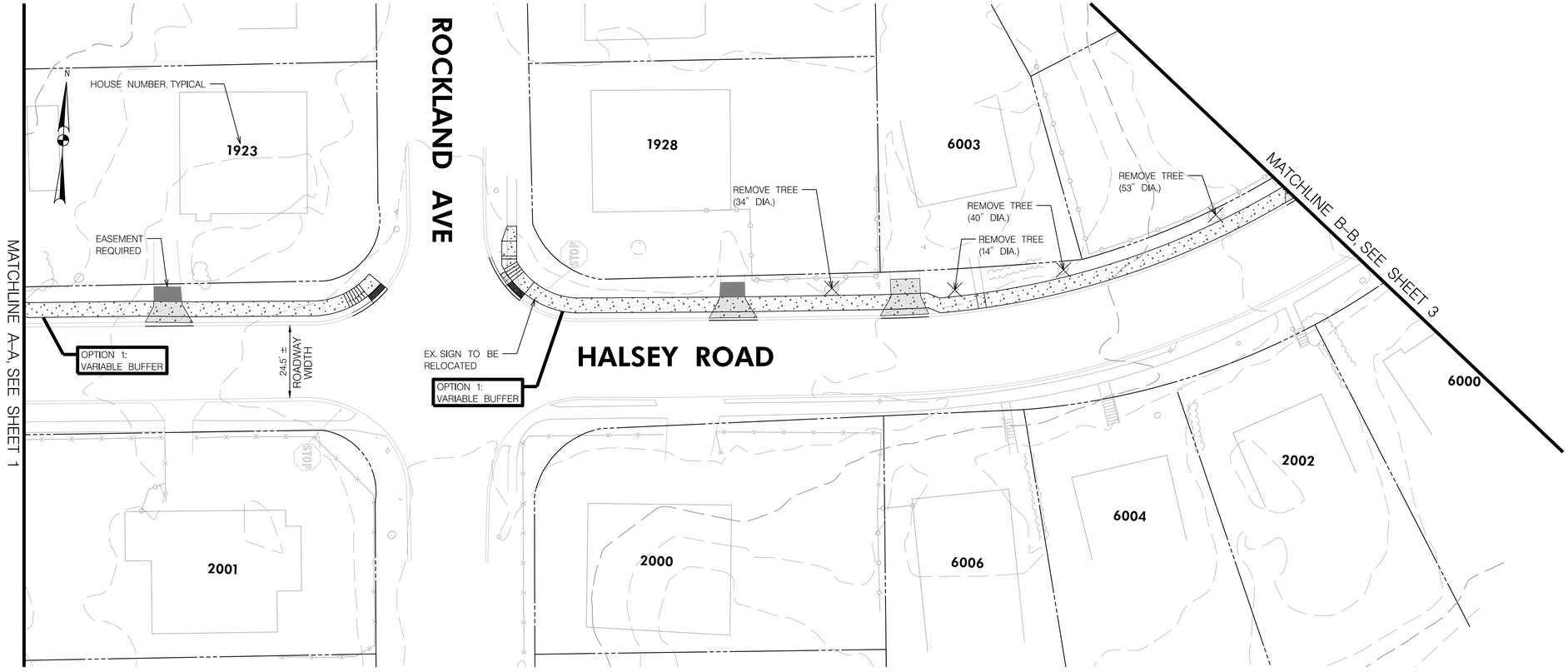
SIDEWALK GAP PLANS
HALSEY RD FROM HENRY ROAD TO ARDENNES AVE - OPTION 1

TWINBROOK SAFE ROUTES TO SCHOOL AND TRANSIT ACCESS FEASIBILITY STUDIES
City of Rockville, Maryland

DATE SUBMITTED: 10/07/2024
CONTRACT NO. BCS 2017-01H

SCALE 1"=20'

SHEET NO. 1 OF 4



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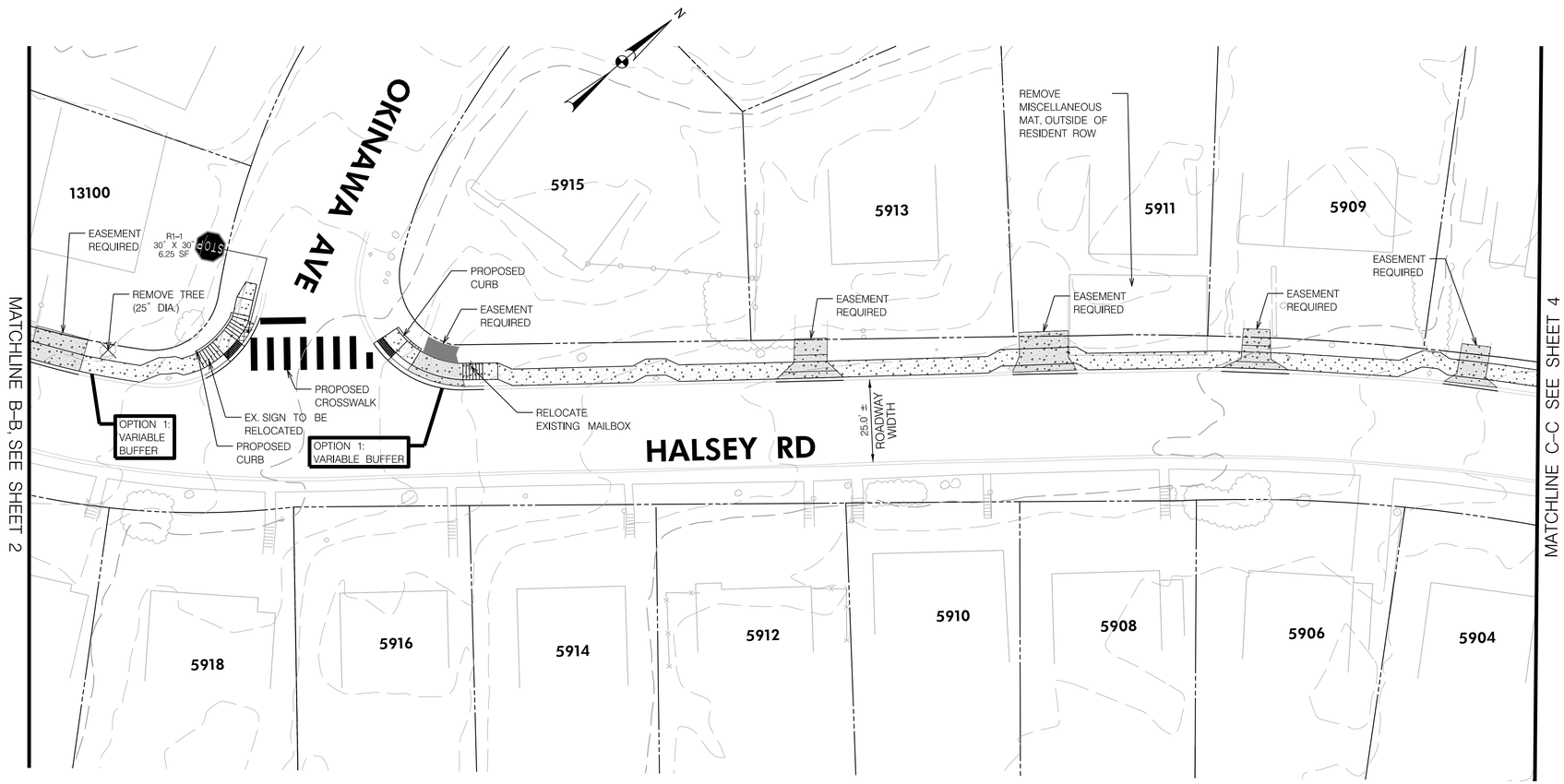

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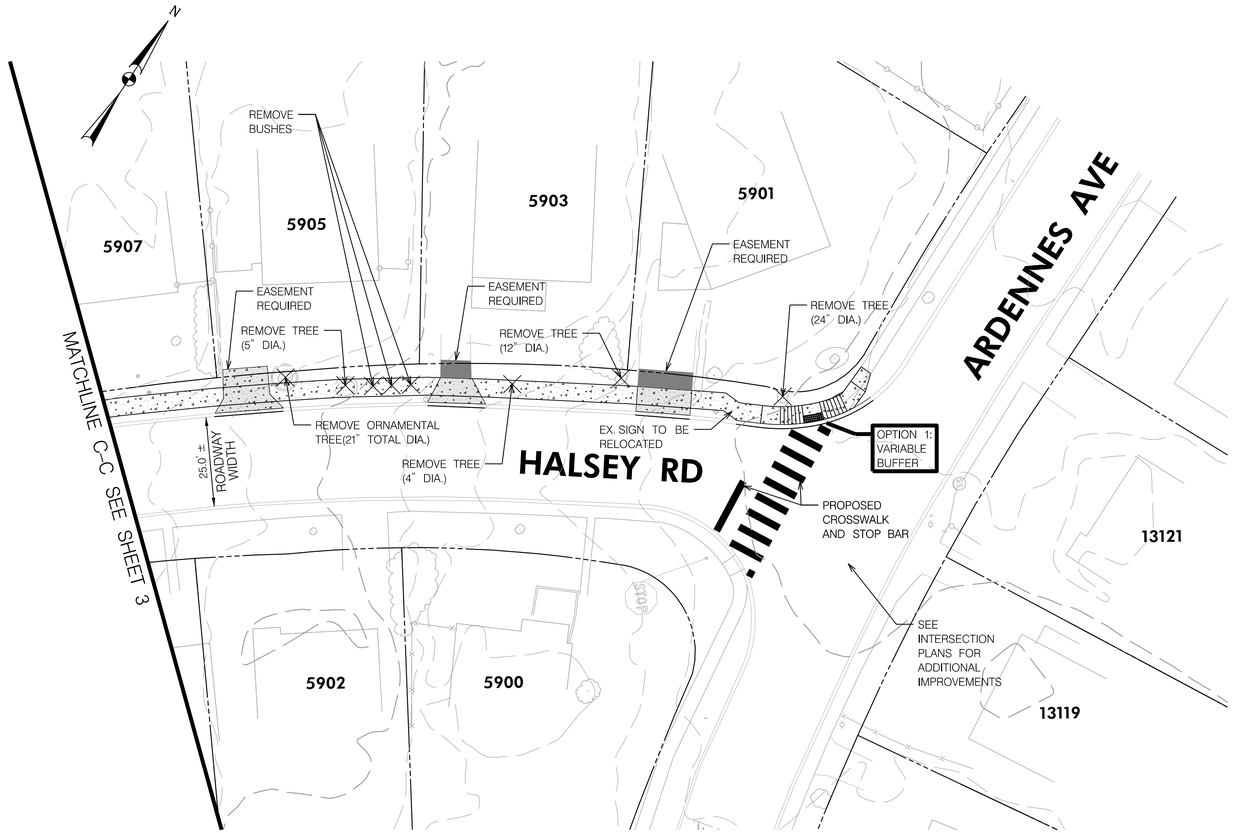

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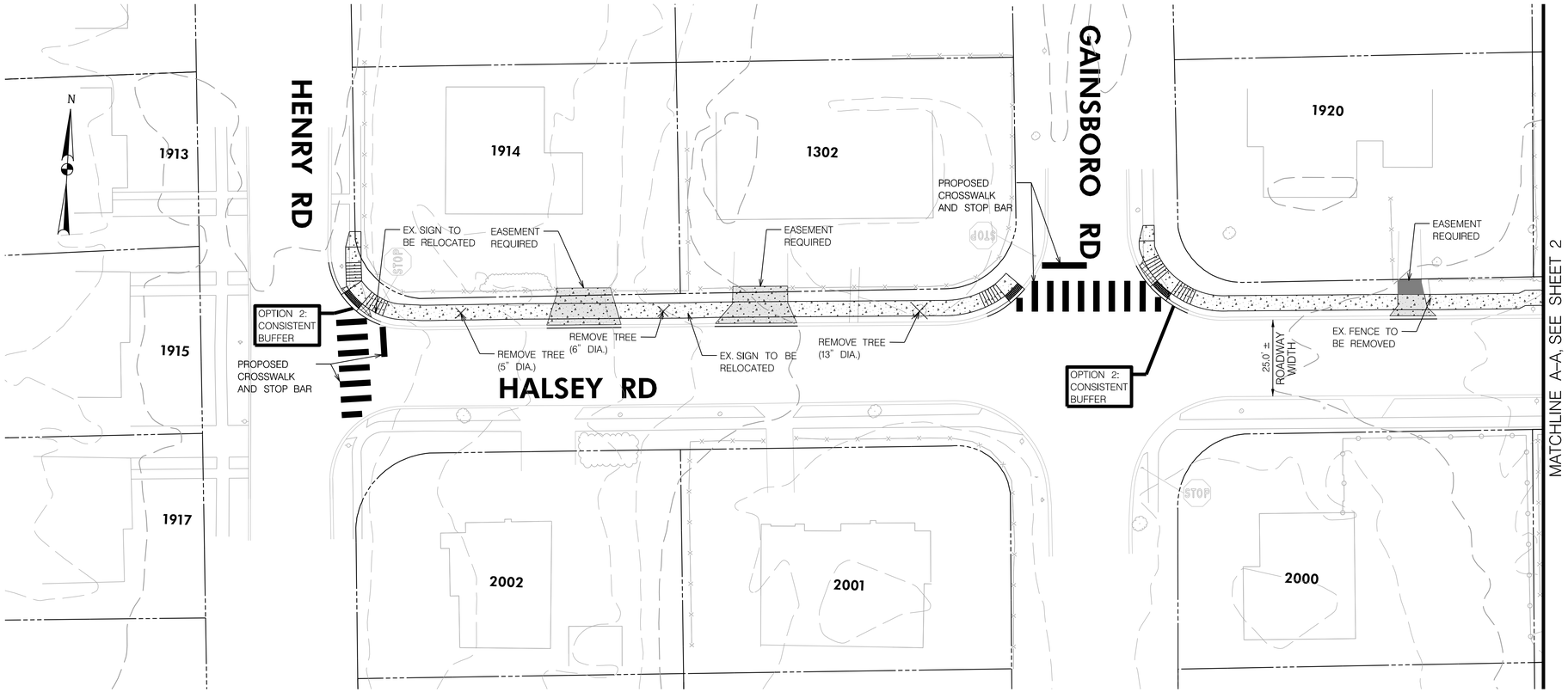

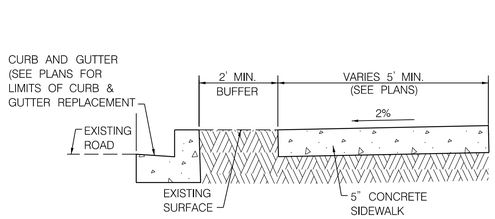

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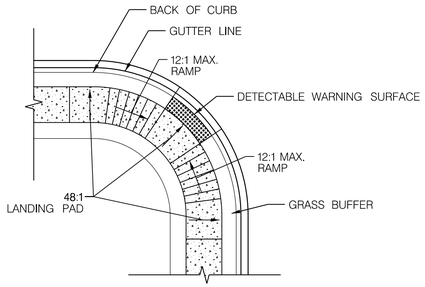

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OPTION 2 NOTES:

1. TREES TO BE REMOVED: 17
2. BUSHES/HEDGES TO BE REMOVED: 3
3. DRIVEWAYS IMPACTED: 15
4. EASEMENTS REQUIRED: 13

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SIDEWALK GAP PLANS
HALSEY ROAD FROM HENRY ROAD TO ARDENNES AVE - OPTION 2

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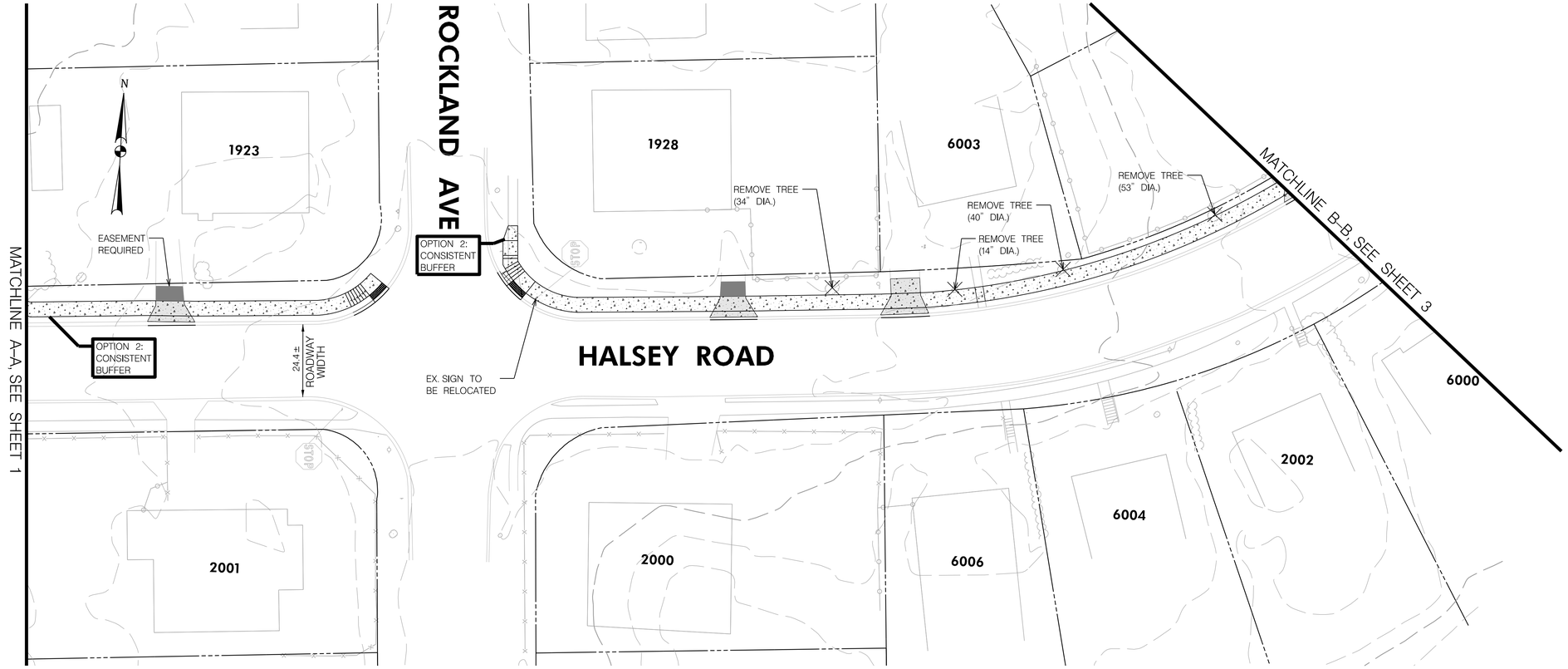

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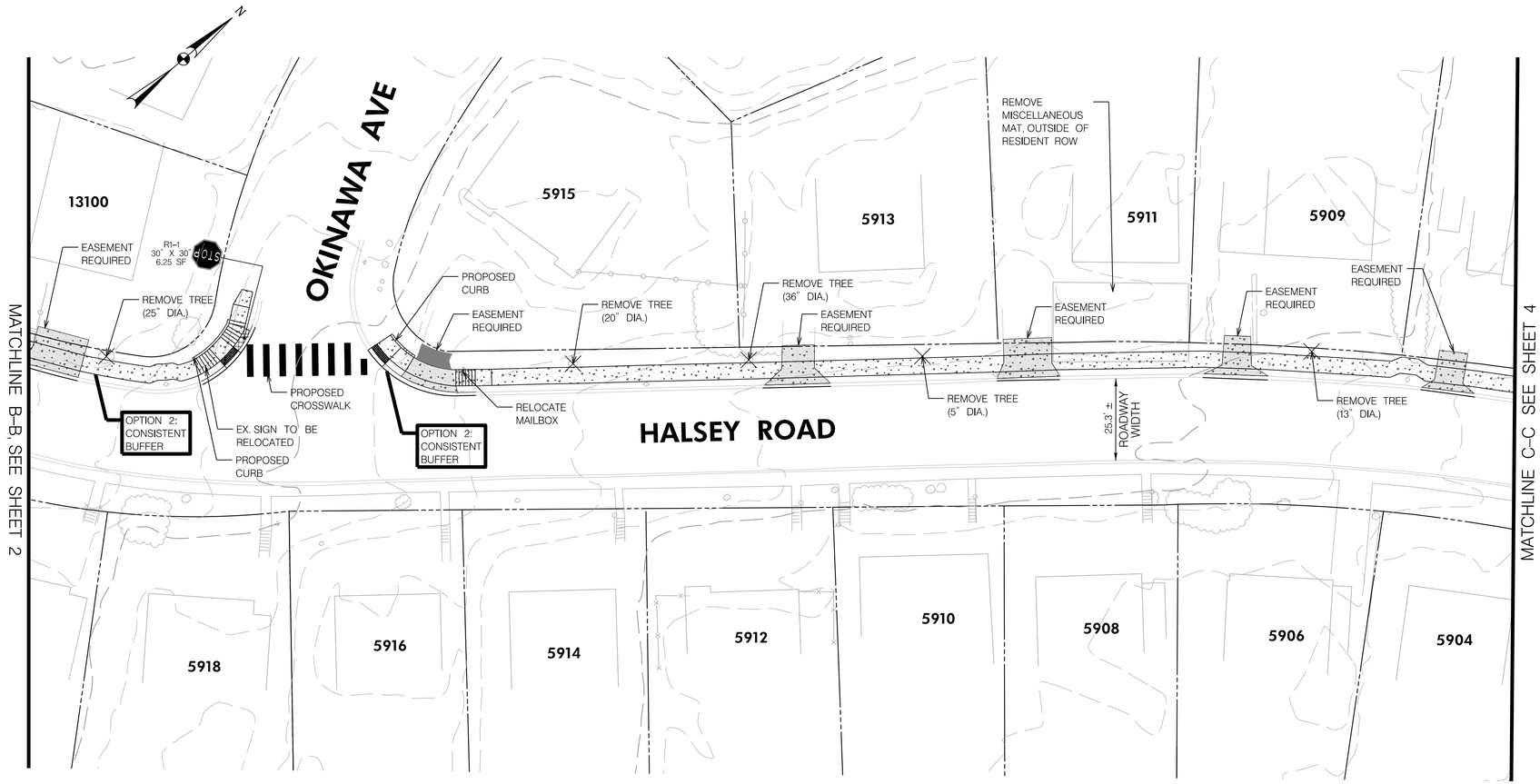

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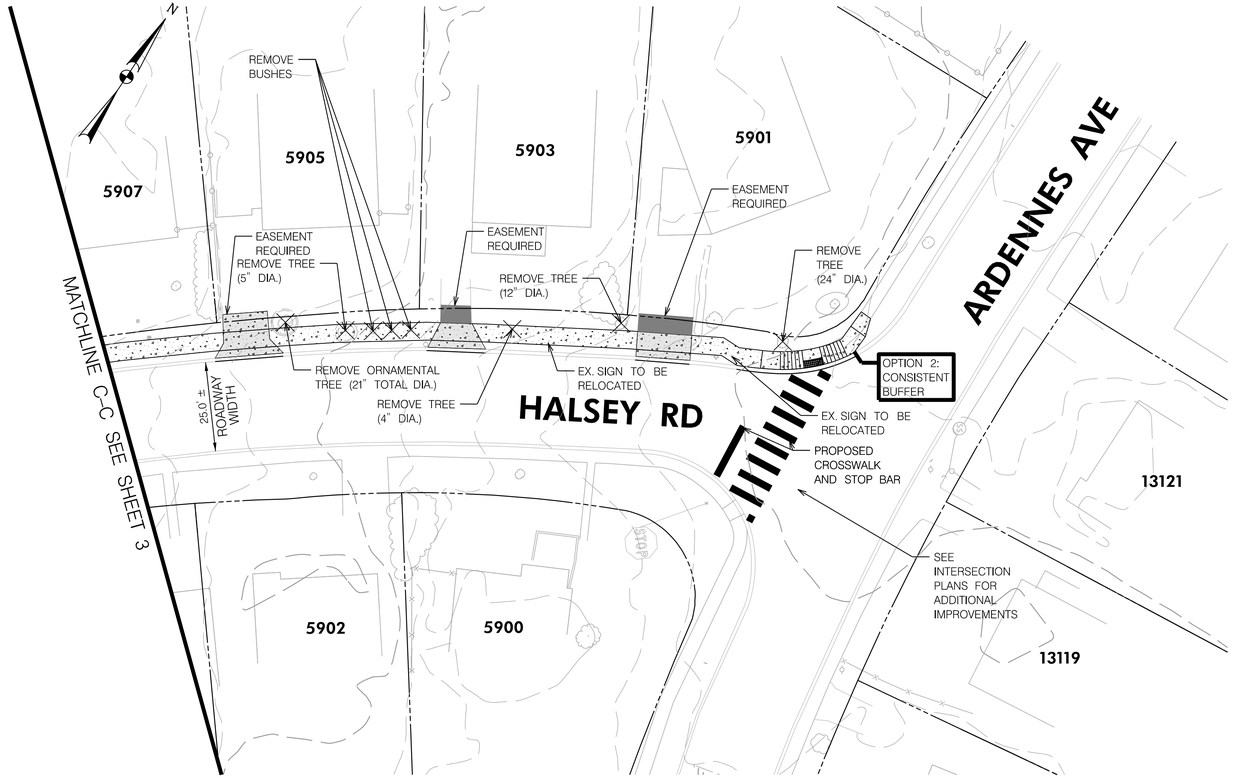

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SHEET NO. 4 OF 4

MERCADO CONSULTANTS, INC.

Engineer's Cost Estimate

Contract No. BCS 2017-01H
Twinbrook Safe Routes to School and
Transit Access Feasibility Studies
Halsey Road - Option 1
December 30, 2024

ITEM NO.	CATEGORY CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	CATEGORY 1					
		TREE REMOVAL	EA	13	$1,000.00	13,000.00
		BUSH REMOVAL	EA	3	$250.00	750.00
					CATEGORY 1 TOTAL	**$13,750.00**
	CATEGORY 2					
		CLASS 1 EXCAVATION	CY	151	$60.00	$9,060.00
					CATEGORY 2 TOTAL	**$9,060.00**
	CATEGORY 3					
		STEPS OR PATH RELOCATION (SET)	EA	4	$500.00	$2,000.00
		KNEE WALL	LF	0	$350.00	$0.00
					CATEGORY 3 TOTAL	**$2,000.00**
	CATEGORY 4					
					CATEGORY 4 TOTAL	**$0.00**
	CATEGORY 5					
		HOT ASPHALT MIX FOR DRIVEWAY	TON	6	$175.00	$1,050.00
		PAVEMENT MARKINGS FOR CROSSWALK	LF	316	$5.00	$1,580.00
		PAVEMENT MARKINGS FOR STOP BAR	LF	57	$5.00	$285.00
					CATEGORY 5 TOTAL	**$2,915.00**
	CATEGORY 6					
		5 INCH CONCRETE FOR SIDEWALK	CY	97	$1,000.00	$97,000.00
		7 INCH CONCRETE FOR DRIVEWAY	CY	45	$1,500.00	$67,500.00
		TYPE A CURB ANY HEIGHT OR DEPTH	LF	27	$100.00	$2,700.00
		TYPE A COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH	LF	468	$150.00	$70,200.00
					CATEGORY 6 TOTAL	**$237,400.00**
	CATEGORY 7					
					CATEGORY 7 TOTAL	**$0.00**
	CATEGORY 8					
		SHEET ALUMINUM SIGN	SF	7	$45.00	315.00
					CATEGORY 8 TOTAL	**$315.00**
					SUBTOTAL	**$265,440.00**
					40% CONTINGENCY	**$106,176.00**
					TOTAL	**$371,616.00**

MERCADO CONSULTANTS. INC.

Engineer's Cost Estimate

Contract No. BCS 2017-01H
Twinbrook Safe Routes to School and
Transit Access Feasibility Studies
Halsey Road - Option 2
December 30, 2024

ITEM NO.	CATEGORY CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	CATEGORY 1					
		TREE REMOVAL	EA	17	$1,000.00	17,000.00
		BUSH REMOVAL	EA	3	$250.00	750.00
					CATEGORY 1 TOTAL	**$17,750.00**
	CATEGORY 2					
		CLASS 1 EXCAVATION	CY	152	$60.00	$9,120.00
					CATEGORY 2 TOTAL	**$9,120.00**
	CATEGORY 3					
		STEPS OR PATH RELOCATION (SET)	EA	4	$500.00	$2,000.00
		KNEE WALL	LF	0	$350.00	$0.00
					CATEGORY 3 TOTAL	**$2,000.00**
	CATEGORY 4					
					CATEGORY 4 TOTAL	**$0.00**
	CATEGORY 5					
		HOT ASPHALT MIX FOR DRIVEWAY	TON	6	$175.00	$1,050.00
		PAVEMENT MARKINGS FOR CROSSWALK	LF	316	$5.00	$1,580.00
		PAVEMENT MARKINGS FOR STOP BAR	LF	57	$5.00	$285.00
					CATEGORY 5 TOTAL	**$2,915.00**
	CATEGORY 6					
		5 INCH CONCRETE FOR SIDEWALK	CY	97	$1,000.00	$97,000.00
		7 INCH CONCRETE FOR DRIVEWAY	CY	46	$1,500.00	$69,000.00
		TYPE A CURB ANY HEIGHT OR DEPTH	LF	27	$100.00	$2,700.00
		TYPE A COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH	LF	454	$150.00	$68,100.00
					CATEGORY 6 TOTAL	**$236,800.00**
	CATEGORY 7					
					CATEGORY 7 TOTAL	**$0.00**
	CATEGORY 8					
		SHEET ALUMINUM SIGN	SF	7	$45.00	315.00
					CATEGORY 8 TOTAL	**$315.00**
					SUBTOTAL	**$268,900.00**
					40% CONTINGENCY	**$107,560.00**
					TOTAL	**$376,460.00**

APPENDIX B:

SITE PHOTOS

Halsey Road – Looking East from Henry Road

Halsey Road – Looking West toward Henry Road

Halsey Road – Looking East toward Gainsboro Road

Halsey Road – Looking West toward Gainsboro Road

Halsey Road – Looking East toward Rockland Avenue

Halsey Road – Looking West toward Rockland Avenue

Halsey Road – Looking Northeast toward Okinawa Avenue

Halsey Road – Looking Southwest toward Okinawa Avenue

Halsey Road – Looking East toward Ardennes Avenue

Halsey Road – Looking Northwest from Ardennes Avenue

APPENDIX C:

CRASH DATA REPORT

Maryland State Highway Administration
Office of Traffic and Safety - Traffic Development and Support
SHA ADC Study Worksheet Output rev. 10/2017-1

Name: Robert Booker
Date: 04/19/2024

Location: HALSEY RD ~ HENRY RD - ARDENNES AVE
Logmiles: From 0 To 0.29 Length: 0.29
County: Montgomery, D3
Period: January 01, 2018 To December 31, 2022
Note:

YEAR >>	2018	2019	2020	2021	2022	Total
Fatal	0	0	0	0	0	0
No. Killed	0	0	0	0	0	0
Injury	0	0	0	1	0	1
No. Injured	0	0	0	3	0	3
Prop. Damage	0	0	0	0	0	0
Total Crashes	0	0	0	1	0	1
Severity Index	0	0	0	2	0	Avg 0
Opposite Dir.	0	0	0	0	0	0
Rear End	0	0	0	0	0	0
Sideswipe	0	0	0	0	0	0
Left Turn	0	0	0	0	0	0
Angle	0	0	0	1	0	1
Pedestrian	0	0	0	0	0	0
Parked Veh.	0	0	0	0	0	0
Fixed Object	0	0	0	0	0	0
Other	0	0	0	0	0	0
U-Turn	0	0	0	0	0	0
Backing	0	0	0	0	0	0
Animal	0	0	0	0	0	0
Railroad	0	0	0	0	0	0
Fire / Expl.	0	0	0	0	0	0
Overturn	0	0	0	0	0	0
Truck Related	0	0	0	0	0	0
Night Time	0	0	0	0	0	0
Wet Surface	0	0	0	0	0	0
Alcohol	0	0	0	0	0	0
Intersection	0	0	0	1	0	1
Total Vehicles	0	0	0	2	0	2
Total Trucks	0	0	0	0	0	0
Truck %	0.0	0.0	0.0	0.0	0.0	0.0

Comments:

Maryland State Highway Administration
Office of Traffic and Safety - Traffic Development and Support
SHA ADC Summary Output rev. 10/2017-1

Name: Robert Booker
Date: 04/19/2024

Location: HALSEY RD ~ HENRY RD - ARDENNES AVE
Logmiles: From 0 To 0.29 Length: 0.29
County: Montgomery, D3
Period: January 1, 2018 To December 31, 2022
Note:

SEVERITY	FATAL	INJURY	P-DAMAGE	TOTAL
Accidents		1		1
Veh Occ		3		
Pedestrian				

AVG Severity Index: 0

DAY OF THE WEEK

SUN	MON	TUE	WED	THU	FRI	SAT	UNK
1							

MONTH OF THE YEAR

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	UNK
				1								

CONDITION	DRIVER	PED
Normal:	2	
Alcohol:		
Other:		

TIME

	12	01	02	03	04	05	06	07	08	09	10	11	UNK
AM:											1		
PM:													

VEHICLES INVOLVED PER ACCIDENT

1	2	3	4	5	6+	UNK	TOTAL
	1						2

VEHICLE TYPE

	Motorcycle/Moped		Tractor Trailer
2	Passenger Vehicle		Passenger Bus
	Sport Utility Veh		School Bus
	Pick-Up Truck		Emergency Veh
	Trucks (2+3 axles)		Other Types

SURFACE

	Wet
1	Dry
	Sno/Ice
	Mud
	Other

MOVEMENTS

NORTH			SOUTH			EAST			WEST		
LF	ST	RT	LF	ST	RT	LF	ST	RT	LF	ST	RT
	1									1	

OTHER MOVEMENTS

PROBABLE CAUSES

	Influence of Drugs		Improper Lane Change
	Influence of Alcohol		Improper Backing
	Influence of Medication		Improper Passing
	Influence of Combined Subst.		Improper Signal
	Physical/Mental Difficulty		Improper Parking
	Fell Asleep/Fainted, etc.		Passenger Interfere/Obstruct.
	Fail to give full Attention		Illegally in Roadway
	Lic. Restr. Non-compliance		Bicycle Violation
	Fail to Drive in Single Lane		Clothing Not Visible
	Improper Right Turn on Red		Sleet, Hail, Freezing Rain
	Fail to Yield Right-of-way		Severe Crosswinds
	Fail to Obey Stop Sign		Rain, Snow
	Fail to Obey Traffic Signal		Animal
	Fail to Obey Other Control		Vision Obstruction
	Fail to Keep Right of Center		Vehicle Defect
	Fail to Stop for School Bus		Wet
	Wrong Way on One Way		Icy or Snow Covered
	Exceeded Speed Limit		Debris or Obstruction
	Operator Using Cell Phone		Ruts, Holes or Bumps
	Stopping in Lane Roadway		Road Under Construction
	Too Fast for Conditions		Traffic Control Device Inop.
	Followed too Closely		Shoulders Low, Soft or High
	Improper Turn	1	Other or Unknown

COLLISION TYPES		FATAL	INJURY	PROP	TOTAL
Opposite Dir	Related:				
	UnRelated:				
Rear End	Related:				
	UnRelated:				
Sideswipe	Related:				
	UnRelated:				
Left Turn	Related:				
	UnRelated:				
Angle	Related:		1		1
	UnRelated:				
Pedestrian	Related:				
	UnRelated:				
Parked Vehicle	Related:				
	UnRelated:				
Other Collision	Related:				
	UnRelated:				

F	Bridge	01
I	Building	02
X	Culvert/Ditch	03
E	Curb	04
D	Guardrail/Barrier	05
	Embankment	06
O	Fence	07
B	Light Pole	08
J	Sign Pole	09
E	Other Pole	10
C	Tree/Shrubbery	11
T	Contr. Barrier	12
S	Crash Attenuator	13
	Other Fixed Object	

WEATHER

1	Clear / Cloudy
	Foggy
	Raining
	Snow / Sleet
	Other

ILLUMINATION

1	Day
	Dawn/Dusk
	Dark - Lights On
	Dark - No Lights
	Other

TOTALS

18-22	1

Maryland State Highway Administration

Office of Traffic and Safety - Traffic Development and Support

SHA ADC History Output rev. 10/2023-1 - Combined Year Listing

Name: Robert Booker

Date: 04/19/2024

Location: HALSEY RD ~ HENRY RD - ARDENNES AVE

Logmiles: From 0 To 0.29 Length: 0.29

County: Montgomery, D3 Period: January 01, 2018 To December 31, 2022

Note:

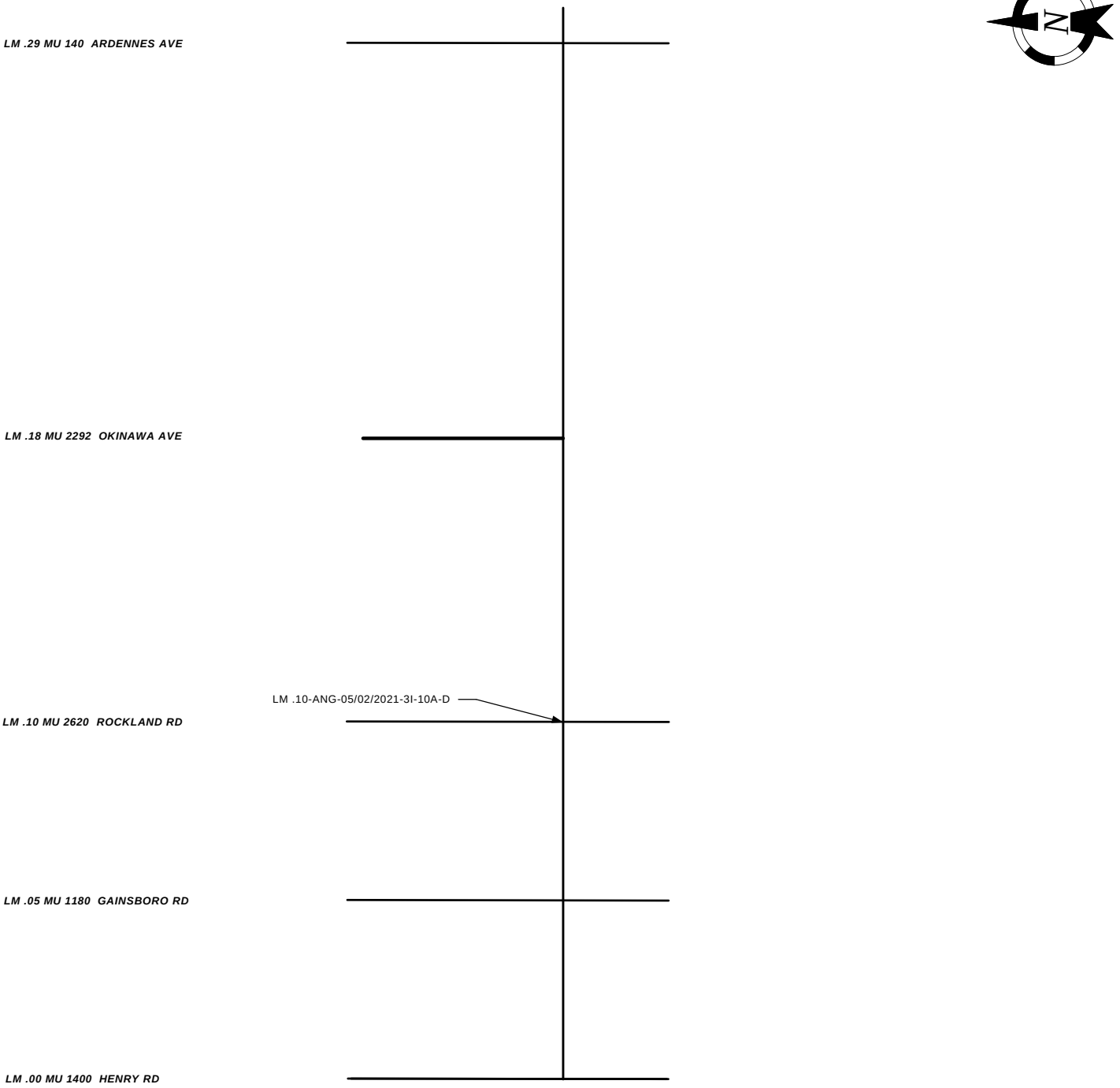
MilePt	Int Rel	Date	Severity	Time	Light	Surface	Alc Rel	FixObj	Collision	Movement V1	Movement V2	Probable Cause
MU1340												
0.100	☐	05022021	3 Injured	10A	Day	Dry			ANGLE	WS	NS	Other or Unknown

Fixed Object: 01 = Bridge 02 = Building 03 = Culvert/Ditch 04 = Curb 05 = Guardrail/Barrier 06 = Embankment 07 = Fence
08 = Light Pole 09 = Sign Post 10 = Other Pole 11 = Tree/Shrubbery 12 = Construction Barrier 13 = Crash Attenuator

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Office of Traffic & Safety
Traffic Development & Support Division
Crash Analysis Safety Team

Location: Hasley Rd ~ Henry Rd to Ardennes Ave
County: MONTGOMERY
Study Period: 01/01/2018 to 12/31/2022
Analyst: Robert L. Booker, Jr. Date: 04/19/2024



KEY:LogMile-CollisionType (FixedObjectStruck) -Date-Severity-Time-Surface-Illumination-Alcohol

template 12-14-23

F - Fatalities	SS - Sideswipe	FO - Fixed Object	OFFRD - Off Road	00 - Not Applicable	08 - Light Support Pole	N - Night
I - Injury	PARKD - Parked Vehicle	OOBJ - Other Object	RUNWY - Downhill Runaway	01 - Bridge or Overpass	09 - Sign Support Pole	X - Alcohol
P - Property Damage	PED - Pedestrian	OT - Overturn	FIRE - Explosion Fire	02 - Building	10 - Other Pole	D - Dry Surface
OD - Opposite Direction	BIKE - Bicycle	SPILL - Spilled Cargo	BCKNG - Backing	03 - Culvert or Ditch	11 - Tree Shrubbery	W - Wet Surface
LT - Left Turn	PEDAL - Other Pedalcycle	JCKKNF - Jackknife	UTURN - U-Turn	04 - Curb	12 - Construction Barrier	I - Icy Surface
RE - Rear End	CONVY - Other Conveyance	SPRTD - Units Separated	OTHR - Other	05 - Guardrail or Barrier	13 - Crash Attenuater	S - Snowy Surface
ANG - Angle	ANIML - Animal	NCOLL - Other Non Collision	UNK - Unknown	06 - Embankment	88 - Other	
				07 - Fence	99 - Unknown	