

TRAFFIC ASSESSMENT REPORT

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Newnan, GA 30263
678.423.0050
www.lumin8.com

Subject: Proposed Residential Subdivision
1481 Lavista Road

Location: Atlanta, GA

Date: 2/26/2024

To: Andy Kumar

From: Chris Stewart, PE

The purpose of this report is to evaluate the existing traffic operations at the intersection of Lavista Road and Shepherds Lane and determine if safety improvements need to be made based on the construction of a housing development at the corner of the intersection. Figure 1 below shows the study intersection as well as the development location.

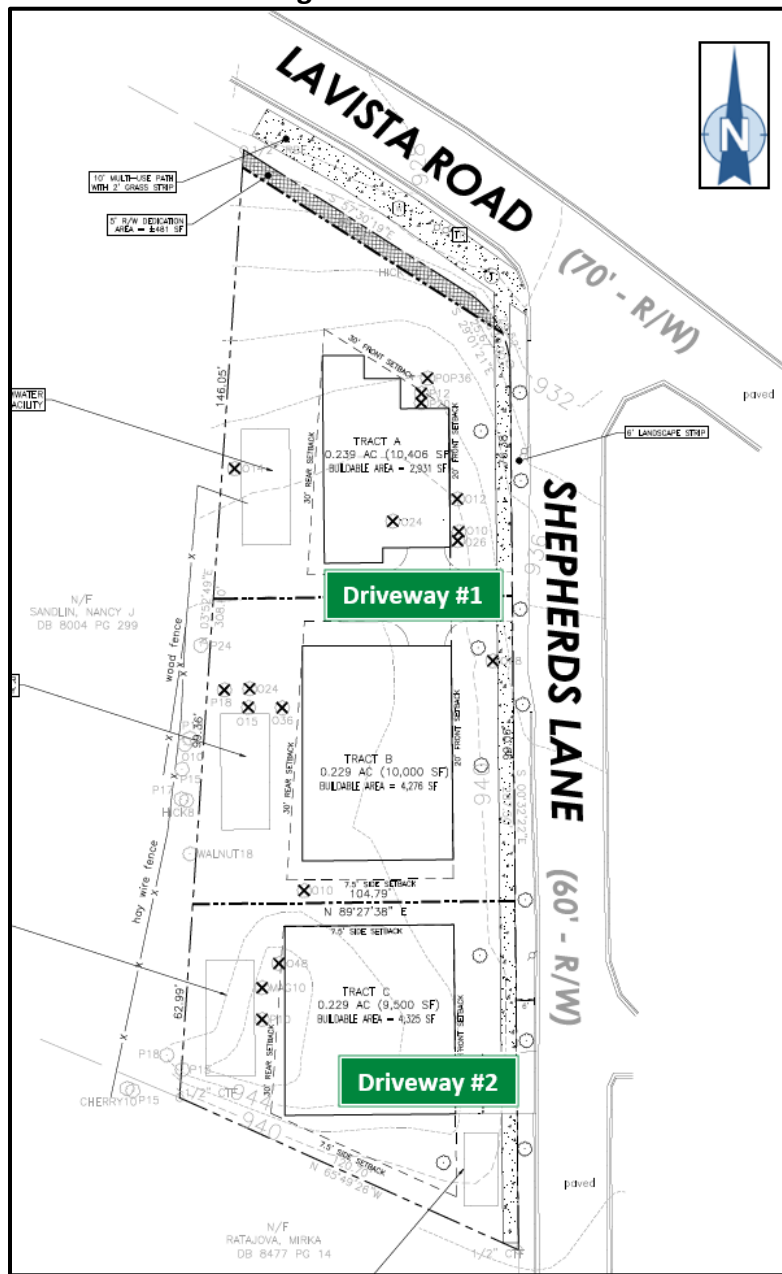
Figure 1: STUDY AREA



Proposed Development

The site plan proposes three single family residential homes on approximately 29,906 square feet. The site is located on the west side of Shepherds Lane south of Lavista Road. The site plan proposes a shared driveway for two of the houses 90 feet south of the intersection of Lavista Road and Shepherds Lane, as well as a second driveway 245 feet south of the intersection. Figure 2 below illustrates the site plan for the proposed development. The site plan is included in Appendix A.

Figure 2: SITE PLAN



Trip Generation

The trips generated by the proposed residential development were estimated using trip generation rates found in ITE’s publication Trip Generation, 11th Edition. The trip generation publication contains multiple associated trip rates for each of the uses listed. The rate that resulted in the larger trip generation was used for this study.

The weekday AM and PM Peak Hour trip generation estimates correspond to the peak hour of the adjacent street. The trip generation data is provided in Appendix B. Table 1 below summarizes the trip generation.

Table 1: TRIP GENERATION

ITE CODE	LAND USE DESCRIPTION	SIZE	DAILY TRIPS	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
210	Single Family Detached Housing	3 DU	40	1	2	3	2	2	4

DU: Dwelling Units

CRASH HISTORY

Crash data was analyzed to identify collision-prone movements at the study intersection. Data was obtained from GDOT’s Numetric system for the five most recent years of data. Detailed crash data is provided in Appendix C.

Tables 2 and 3 summarize the crash frequency and severity at the intersection of Lavista Road and Shepherds Lane.

Table 2: CRASH DATA SUMMARY, LAVISTA RD @ SHEPHERDS LN

YEAR	TOTAL CRASHES	INJURY CRASHES/ INJURIES	FATAL -ITIES	COLLISION WITH VEHICLE				COLLISION WITH ANIMAL OR STRUCTURE
				ANGLE	HEAD ON	REAR END	SIDE-SWIPE	
2018	3	0/0	0	1	0	2	0	0
2019	0	0/0	0	0	0	0	0	0
2020	2	1/1	0	0	0	2	0	0
2021	4	2/2	0	0	0	2	1	1
2022	2	0/0	0	1	0	0	1	0
Total	11	3/3	0	2	0	6	2	1

Table 3: CRASH SEVERITY, BERRY ST @ LAVISTA RD @ SHEPHERDS LN (2018-22)

TYPE OF COLLISION	CRASH SEVERITY					TOTAL CRASHES BY TYPE
	K	A	B	C	O	
Angle	0	0	0	0	2	2
Head-On	0	0	0	0	0	0
Rear End	0	0	0	3	3	6
Sideswipe – same	0	0	0	0	1	1
Sideswipe – opposite	0	0	0	0	1	1
Not a Collision w/ Motor Veh	0	0	0	0	1	1
Total	0	0	0	3	8	11

K: Fatal Injury
A: Suspected Serious Injury
B: Suspected Minor/Visible Injury
C: Possible Injury/Complaint
O: No Injury

According to the crash history, rear end collisions were the most common type of crash, accounting for 6 of the 11 collisions (55%) in the past five years. No fatalities were reported during this time period.

There were three accidents that occurred on Shepherds Lane; two rear end collisions, and an angle collision that occurred when a vehicle was attempting to turn out of the offices as 1489 Lavista Road.

Field Visit

On Wednesday, February 21st, 2024, engineers from Lumin8 visited the proposed site to evaluate the existing conditions at the intersection of Lavista Road and Shepherds Lane. The field visit was conducted during the peak hours of the day, from 7:00 to 9:00 AM and 4:00 to 6:00 PM. A photographic inventory is included in Appendix D. The following observations were made:

- The existing property has a driveway in a similar location to Driveway #1.
- There is a large vertical curve on Shepherds Lane.
- There is a speed hump near the top of the vertical curve of Shepherds Lane, approximately 275 feet south of Lavista Road.
- The non-perpendicular alignment of Shepherds Lane with Lavista Road makes turning difficult for some vehicles.
- There is a 'No Turn on Red' sign at the signal for Shepherds Lane. The sign, likely implemented due to the alignment of the intersection and the limited sight distance for vehicles on Shepherds Lane looking left, also contributes to some queuing on the approach.
- The signal is running a cycle length of 150 seconds for both peak periods. There is no detection on any approach, so the signal is not running any form of coordination.
 - For the two hours Lumin8 engineers observed each peak period, a total of approximately 48 cycles were observed per period, or 96 cycles total.
- Based on the field visit observations and the site plan, it was assumed that a northbound queue greater than 75 feet (or three cars) would block vehicles from turning left in or out of the proposed Driveway #1, while a queue greater than 225 feet (or thirteen cars) would block these movements at the proposed Driveway #2.
 - The northbound queue on Shepherds Lane was observed to exceed 75 feet twenty-five times in the AM Peak Period (52% of the total cycles), while the queue reached the speed hump four times (8% of the total cycles).
 - There was one cycle observed where the queue did not fully clear on Shepherds Lane.
 - A school bus was observed making a stop travelling southbound, which generated a queue that would block vehicles from entering or exiting from either direction at both proposed driveways.
 - The northbound queue on Shepherds Lane was observed to exceed 75 feet forty-one times in the PM Peak Period (85% of the total cycles), while the queue reached the speed hump four times (23% of the total cycles).

Conclusions

The development is projected to have a minimal impact on the operation of the intersection of Lavista Road and Shepherds Lane. The development is projected to generate 40 daily trips, with 3 trips in AM Peak Hour (1 entering, 2 exiting) and 4 trips in the PM Peak Hour (2 entering, 2 exiting).

Queueing on the northbound approach of the intersection of Lavista Road and Shepherds Lane was observed during a field visit to determine how frequently queues would obstruct the proposed driveways of the development. These queues would prevent vehicles from turning left out of the proposed driveways or entering from the northbound direction. It was observed that these queues would block access to Driveway #1 approximately 52% of all cycles during the AM Peak Period (7:00 to 9:00 AM) and 85% during the PM Peak Period (4:00 to 6:00 PM).

The traffic signal at the intersection of Lavista Road and Shepherds Lane runs on a cycle length of 150 seconds during both the observed AM and PM Peak Periods. When queues were observed to block the approximate location of Driveway #1, it would take about 15 to 45 seconds for these queues to clear in the AM Peak Period and 30 to 60 seconds to clear in the PM Peak Period. That means for the rest of the cycle there was no queue obstructing Driveway #1. There was only a single cycle observed where the entire queue on Shepherds Lane did not fully clear, leaving a single car at the approach. For most of the cycle vehicles accessing Driveway #1 would not be obstructed by a queue on the Shepherds Lane approach, and when there was a queue it would almost always dissipate before the next full cycle. This would allow for vehicles to turn safely in and out of the proposed Driveway #1 regularly each cycle after these queues clear.

Therefore, it is our belief that queueing on Shepherds Lane does not pose a significant risk of access to either of the proposed driveways for this development.

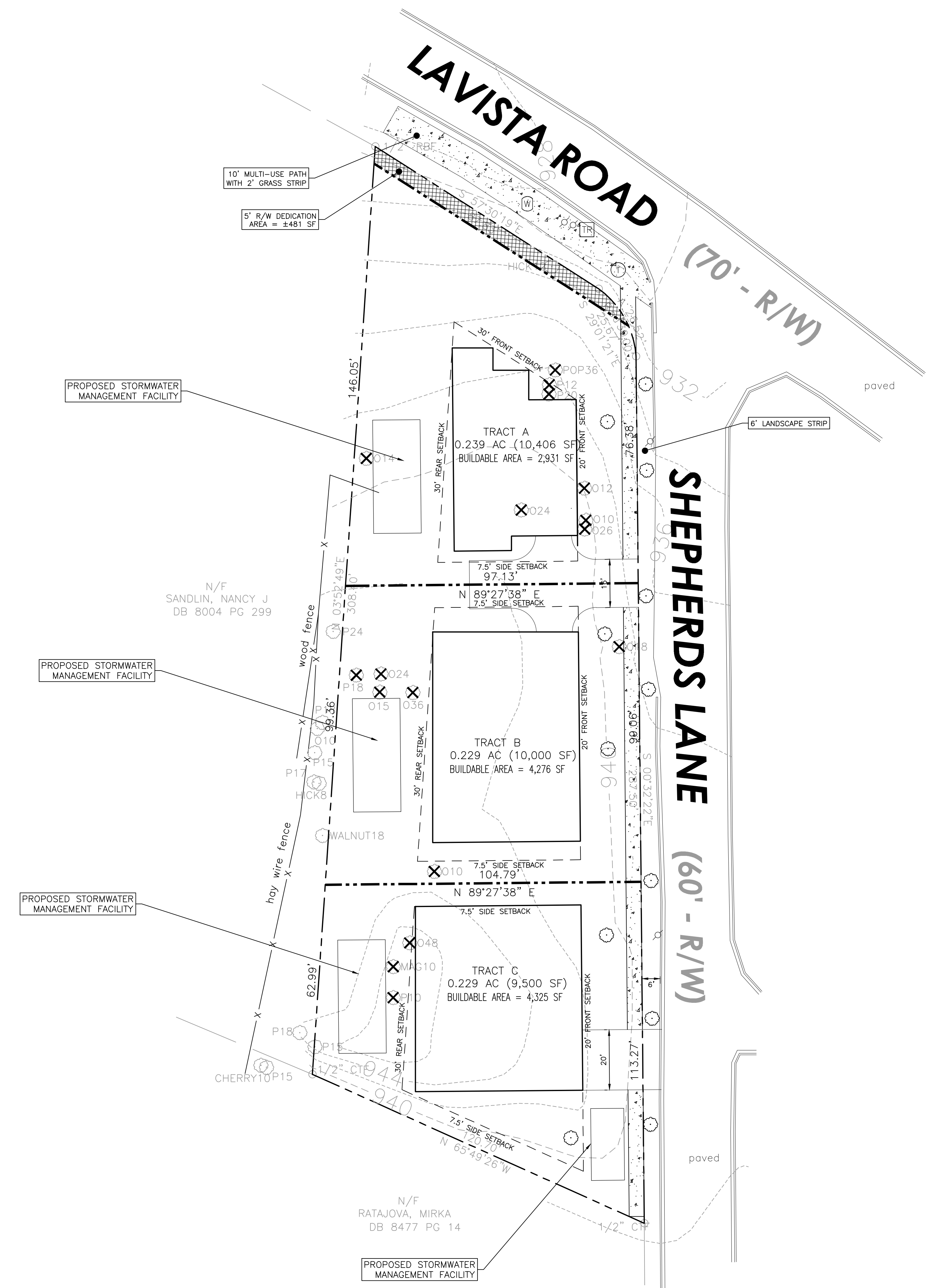
Potential safety improvements for the intersection of Lavista Road and Shepherds Lane include repairing or installing vehicle detection for each approach, allowing for improved operations of the signal. Optimized signal timing could help reduce or eliminate the queueing currently observed at the intersection.

APPENDIX A

SITE PLAN



I:\Maxwell-Reddick & Associates\2023\2023-001_Ancillary - 1481 Lavista Road, DeKalb County\Engineering\Design\Conceptual Drawings\2023-001_C2 6_PLOT DATE: 11/14/2023 3:26 PM



FLOOD ZONE NOTE

BY GRAPHICAL PLOTTING, ACCORDING TO F.I.R.M. MAP NO. 13089C0054K, WITH AN EFFECTIVE REVISED DATE OF 8-15-2019, THIS PROPERTY LIES WITHIN ZONE "X". ZONE "X" IS NOT A SPECIAL FLOOD HAZARD ZONE UNINUNATED BY THE 100-YR FLOOD.

BUILDING NOTE:

HOUSES SHOWN ON THIS PLAN ARE NOT MEANT TO REPRESENT THE FINAL FOOTPRINT OF THE HOUSES. SHAPE AND SIZE OF FOOTPRINT WILL NOT BE DETERMINED UNTIL THE TIME OF PERMITTING.

DRIVEWAY NOTE:

ALL DRIVEWAY ENTRANCES MUST BE AT LEAST FIFTY (50) FEET FROM AN INTERSECTION. THE DISTANCE IS MEASURED ALONG THE STREET FROM THE JUNCTION OF THE TWO (2) STREET CURB LINES TO THE NEAREST EDGE OF THE ENTRANCE.

TREE REMOVAL NOTE:

X = TO BE REMOVED

LANDSCAPE NOTE:

EACH SINGLE-FAMILY RESIDENTIAL LOT ON WHICH NEW DEVELOPMENT OCCURS SHALL BE PLANTED WITH A MINIMUM OF THREE (3) NEW TREES. STREET TREES ALONG THE LOT FRONTAGE SHALL COUNT TOWARDS THIS REQUIREMENT. THE SPECIES AND SPECIFICATIONS FOR THE TREES TO BE PLANTED IN COMPLIANCE WITH THIS REQUIREMENT SHALL MEET THE REQUIREMENTS OF A LIST APPROVED BY THE DEKALB COUNTY ARBORIST.

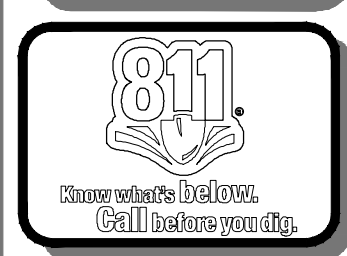
STORMWATER MANAGEMENT:

STORMWATER MANAGEMENT IS PROPOSED ON A LOT-BY-LOT BASIS AND MAY BE ACCOMPLISHED BY UTILIZING ONE OR MORE OF THE FOLLOWING APPROACHES: UNDERGROUND INFILTRATION BASINS; DOWNSPOUT DISCONNECTS, PERVIOUS DRIVEWAY PAVERS; RAINWATER HARVESTING; VEGETATED FILTER STRIPS; OTHER BMPs THAT MAY BE APPROPRIATE TO THE INDIVIDUAL SITES.

ZONING NOTES:

SITE ZONING	EXISTING	PROPOSED
	R75	R60
ZONING REQUIREMENTS (R60 ZONING)	REQUIRED	PROPOSED
MINIMUM LOT WIDTH	60 FT	73 FT
MINIMUM AREA	6,000 SQFT	9,500 SQFT
MINIMUM LOT WIDTH AT BUILDING LINE	60 FT	91 FT
MAXIMUM LOT COVERAGE	35%	40%
MINIMUM HEATED SQFT	1,200 SQFT	1,200 SQFT
MAXIMUM BUILDING HEIGHT	35 FT	35 FT
MINIMUM OPEN SPACE	20%	20%
BUILDING SETBACKS (CSD ZONING)	REQUIRED	PROPOSED
FRONT YARD SETBACK (LAVISTA ROAD)	30 FT	30 FT
FRONT YARD SETBACK (SHEPHERDS LANE)	20 FT	20 FT
SIDE YARD SETBACK	7.5 FT	7.5 FT
REAR YARD SETBACK	30 FT	30 FT
PROPOSED LOT SUMMARY	REQUIRED	PROPOSED
AVERAGE LOT AREA	N/A	9,969 SQFT
TOTAL PROPOSED LOTS	N/A	3
TOTAL PROPOSED PARKING	2/DU	2/DU

PRELIMINARY NOT FOR CONSTRUCTION



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 40 JOE KENNEDY BLVD
 STATESBORO, GA 30458
 912-488-7112 OFFICE
 912-488-7125 FAX
 NORTHWINDS III
 2500 NORTHWINDS PKWY,
 SUITE 300
 ALPHARETTA, GA 30009
 404-593-1618 OFFICE
 www.maxred.com

NOTE TO CONTRACTOR: IF ANY DISCREPANCIES BETWEEN THE ENGINEER'S PLANS OR CONSTRUCTION STAKES AND ACTUAL SITE CONDITIONS ARISE DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL NOTIFY THE ENGINEER IMMEDIATELY. THE CONTRACTOR KNOWS OR CAN REASONABLY BE EXPECTED TO HAVE KNOWLEDGE OF ANY DISCREPANCIES BETWEEN THE ENGINEER'S PLANS AND ACTUAL SITE CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS AND TO COMPENSATION FOR ANY WORK OR EXPENSE INCURRED BY HIM, WHICH IS REQUIRED TO CORRECT ANY DISCREPANCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS AND TO COMPENSATION FOR ANY WORK OR EXPENSE INCURRED BY HIM, WHICH IS REQUIRED TO CORRECT ANY DISCREPANCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS AND TO COMPENSATION FOR ANY WORK OR EXPENSE INCURRED BY HIM, WHICH IS REQUIRED TO CORRECT ANY DISCREPANCIES.

REVISIONS:

NO.	DATE	DESCRIPTION
1	07/14/2023	REV. TO 3 LOTS
2	07/25/2023	OWNER COMMENTS
3	07/27/2023	ADJUSTED LOT AREAS
4	11/02/2023	DRIVEWAY REVISION AND SWIM
5	11/14/2023	SHRIMP DRIVEWAY REVISION

PROP. RESIDENTIAL SUBDIVISION
 1481 LAVISTA ROAD
 DEKALB COUNTY, GA
CONCEPT PLAN

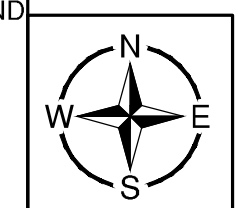
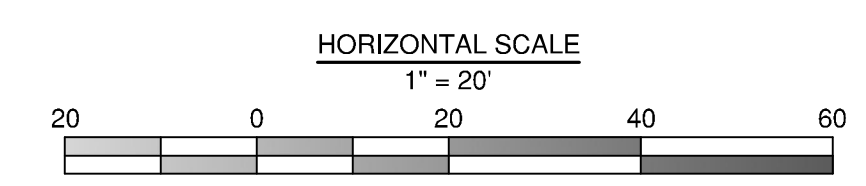
DESIGNED BY: DJB
 DATE: 04/20/2023
 JOB NO.: 2023-001
 SCALE: AS SHOWN

DRAWING NUMBER
C1.0
 SHEET NUMBER 1 of 1

DATA SOURCE NOTE:

"BOUNDARY, TOPOGRAPHIC AND ELEVATION DATA SHOWN HEREON WAS OBTAINED FROM THE "SURVEY FOR ERNEST WILLIAMS", PREPARED BY GARMON LAND SURVEYING AND DATED MAY 24, 2019.

WIDTHS OF EXISTING RIGHTS-OF-WAY ARE TAKEN FROM DEKALB COUNTY GIS AND ARE NOT CERTIFIED AS CORRECT BY THIS ENGINEER. USERS OF THIS DATA DO SO AT THEIR OWN RISK."



APPENDIX B

TRIP GENERATION



Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
210

LAND USE GROUP:
(200-299) Residential

LAND USE :
210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

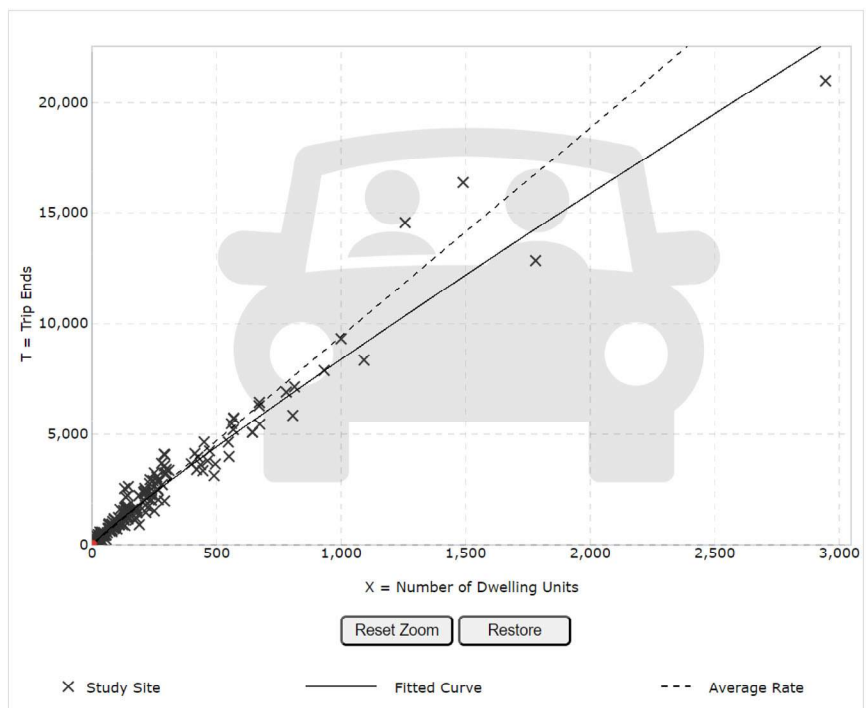
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
3 Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:	Single-Family Detached Housing (210) Click for Description and Data Plots
Independent Variable:	Dwelling Units
Time Period:	Weekday
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	174
Avg. Num. of Dwelling Units:	246
Average Rate:	9.43
Range of Rates:	4.45 - 22.61
Standard Deviation:	2.13
Fitted Curve Equation:	$\ln(T) = 0.92 \ln(X) + 2.68$
R²:	0.95
Directional Distribution:	50% entering, 50% exiting
Calculated Trip Ends:	Average Rate: 28 (Total), 14 (Entry), 14 (Exit) Fitted Curve: 40 (Total), 20 (Entry), 20 (Exit)

DATA SOURCE:
 Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

LAND USE GROUP:
 (200-299) Residential

LAND USE :
 210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:
 All Sites

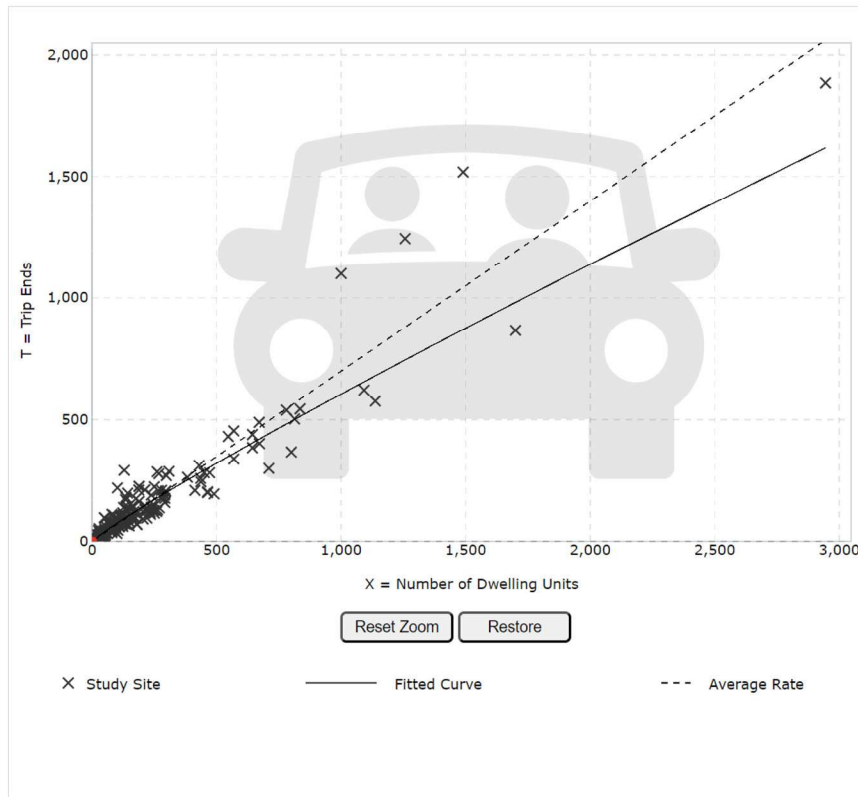
SETTING/LOCATION:
 General Urban/Suburban

INDEPENDENT VARIABLE (IV):
 Dwelling Units

TIME PERIOD:
 Weekday, Peak Hour of Adjacent Street Traffic,

TRIP TYPE:
 Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:



Land Use:
 Single-Family Detached Housing (210) [Click for Description and Data Plots](#)

Independent Variable:
 Dwelling Units

Time Period:
 Weekday
 Peak Hour of Adjacent Street Traffic
 One Hour Between 7 and 9 a.m.

Setting/Location:
 General Urban/Suburban

Trip Type:
 Vehicle

Number of Studies:
 192

Avg. Num. of Dwelling Units:
 226

Average Rate:
 0.70

Range of Rates:
 0.27 - 2.27

Standard Deviation:
 0.24

Fitted Curve Equation:
 $\ln(T) = 0.91 \ln(X) + 0.12$

R²:
 0.90

Directional Distribution:
 25% entering, 75% exiting

Calculated Trip Ends:
 Average Rate: 2 (Total), 1 (Entry), 1 (Exit)
 Fitted Curve: 3 (Total), 1 (Entry), 2 (Exit)

DATA SOURCE:
 Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

LAND USE GROUP:
 (200-299) Residential

LAND USE :
 210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:
 All Sites

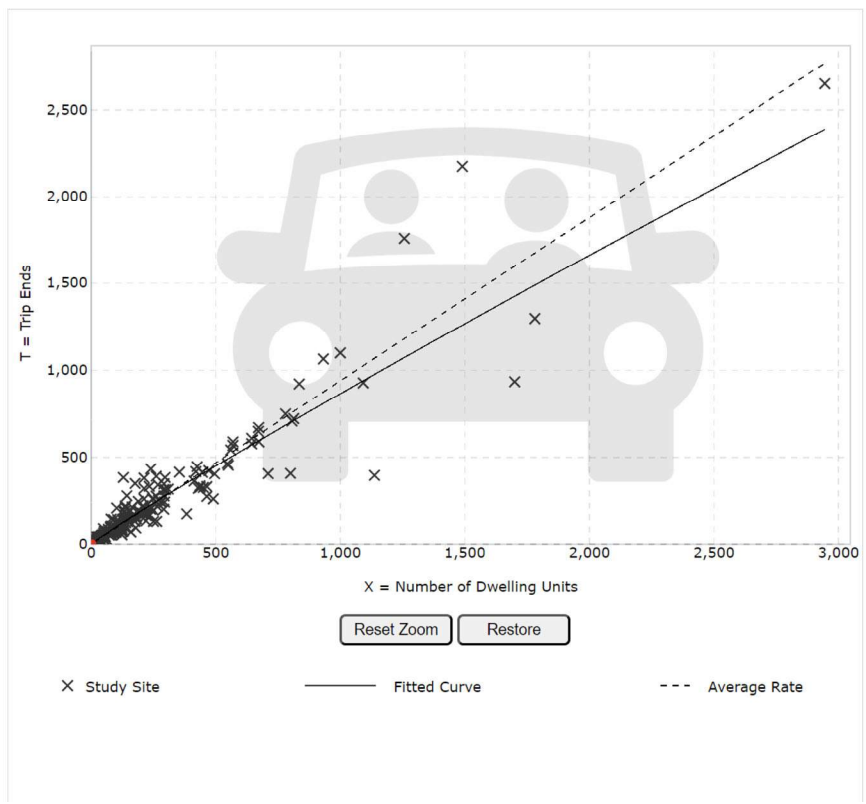
SETTING/LOCATION:
 General Urban/Suburban

INDEPENDENT VARIABLE (IV):
 Dwelling Units

TIME PERIOD:
 Weekday, Peak Hour of Adjacent Street Traffic,

TRIP TYPE:
 Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:



Land Use:
 Single-Family Detached Housing (210) [Click for Description and Data Plots](#)

Independent Variable:
 Dwelling Units

Time Period:
 Weekday
 Peak Hour of Adjacent Street Traffic
 One Hour Between 4 and 6 p.m.

Setting/Location:
 General Urban/Suburban

Trip Type:
 Vehicle

Number of Studies:
 208

Avg. Num. of Dwelling Units:
 248

Average Rate:
 0.94

Range of Rates:
 0.35 - 2.98

Standard Deviation:
 0.31

Fitted Curve Equation:
 $\ln(T) = 0.94 \ln(X) + 0.27$

R²:
 0.92

Directional Distribution:
 63% entering, 37% exiting

Calculated Trip Ends:
 Average Rate: 3 (Total), 2 (Entry), 1 (Exit)
 Fitted Curve: 4 (Total), 2 (Entry), 2 (Exit)

APPENDIX C

CRASH DATA



CRASH SUMMARY REPORT

Lavista Rd @ Shepherds Ln

Created on February 23, 2024

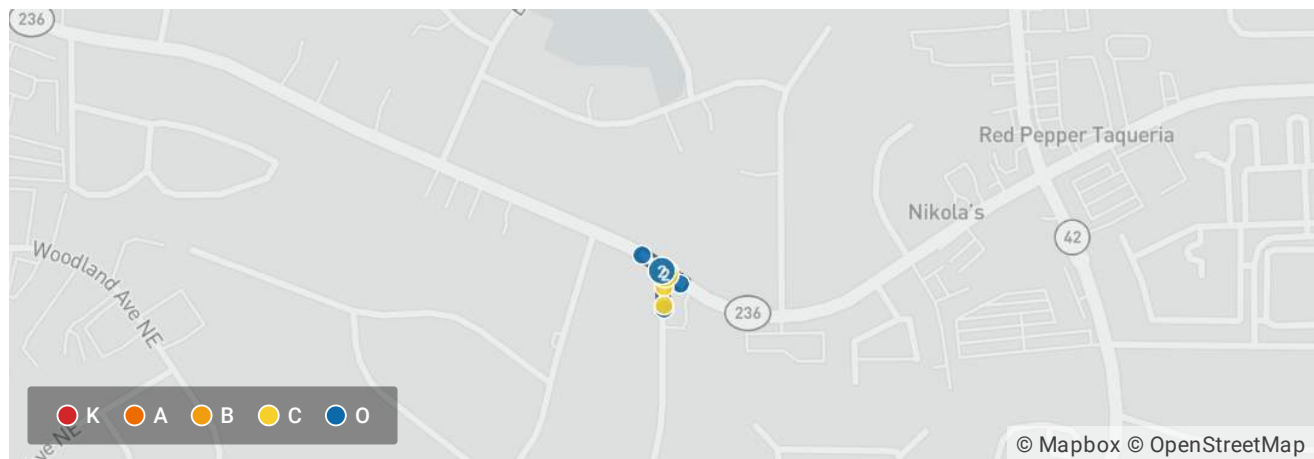
Created by Andrew Johnson

Data extents: January 1, 2018 to December 31, 2022



Applied Filters

Shape: Polygon



Total Crashes	11	Fatal Crashes	0
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GDOT Summary	Collisions Dataset	
Total Crashes	11	100.00%
Intersection Related	9	81.82%
Distracted Driver (Suspected)	7	63.64%
Single Motor Vehicle Involved	1	9.09%
+ 7 more	0	0%

KABCO Severity	Collisions Dataset	
(O) No Injury	8	72.73%
(C) Possible Injury / Complaint	3	27.27%
+ 4 more	0	0%

Date and Time (Year)	Collisions Dataset	
2022	2	18.18%
2021	4	36.36%
2020	2	18.18%
2018	3	27.27%

+ 6 more	0	0%
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Date and Time (Hour of Day)	Collisions Dataset	
2 am - 4 am	1	9.09%
8 am - 10 am	1	9.09%
10 am - 12 pm	1	9.09%
2 pm - 4 pm	3	27.27%
4 pm - 6 pm	2	18.18%
6 pm - 8 pm	3	27.27%
+ 6 more	0	0%

Manner of Collision (Crash Level)	Collisions Dataset	
Rear End	6	54.55%
Angle (Other)	1	9.09%
Left Angle Crash	1	9.09%
Not a Collision with Motor Vehicle	1	9.09%
Sideswipe-Opposite Direction	1	9.09%
Sideswipe-Same Direction	1	9.09%
+ 3 more	0	0%

Location at Impact (Crash Level)	Collisions Dataset	
On Roadway - Non-Intersection	6	54.55%
On Roadway - Driveway Intersection	3	27.27%
Off Roadway - Sidewalk	1	9.09%
On Roadway - Roadway Intersection	1	9.09%
+ 13 more	0	0%

Most Harmful Event (Crash Level)	Collisions Dataset	
Motor Vehicle in Motion	10	90.91%
Other Post / Pole Support	1	9.09%
+ 36 more	0	0%

Operator/Pedestrian Contributing Factors (Unit Order)	Collisions Dataset	
No Contributing Factors	8	72.73%
Following Too Close	6	54.55%
Disregard Other Traffic Control	1	9.09%
Driver Lost Control	1	9.09%
Failure to Yield	1	9.09%
Improper Passing	1	9.09%

Misjudged Clearance	1	9.09%
Not Visible (Object, Person, or Vehicle)	1	9.09%
+ 35 more	1	9.09%

Area: County	Collisions Dataset	
DeKalb	11	100.00%
+ 158 more	0	0%

Area: GDOT District (Crash Level)	Collisions Dataset	
D7	11	100.00%
+ 6 more	0	0%

SHSP Emphasis Area	Collisions Dataset	
Intersection Related	9	81.82%
Distracted Driver (Suspected)	7	63.64%
Older Driver Related (55-64)	4	36.36%
Hit & Run	2	18.18%
Young Adult Driver (Age 20-24)	2	18.18%
Aggressive/Speed Related	1	9.09%
Roadway Departure	1	9.09%
+ 11 more	0	0%

First Harmful Event	Collisions Dataset	
Motor Vehicle in Motion	10	90.91%
Other Post/ Pole Support	1	9.09%
+ 37 more	0	0%

Vehicle Type (Crash Level)	Collisions Dataset	
Passenger Car	9	81.82%
Sports Utility Vehicle (SUV)	5	45.45%
Other	1	9.09%
+ 21 more	0	0%

Roadway Contributing Factors	Collisions Dataset	
No Contributing Factors	11	100.00%
Road Surface Condition (wet, icy, snow, slush, etc.)	1	9.09%
+ 12 more	0	0%

Vehicle Contributing Factor (Crash Level)	Collisions Dataset	

No Known Defects	10	90.91%
Other	1	9.09%
+ 11 more	0	0%

APPENDIX D

SITE PICTURES





LAVISTA ROAD @ SHEPHERDSLANE
NORTHBOUND APPROACH LOOKING NORTH



LAVISTA ROAD @ SHEPHERDSLANE
NORTHBOUND APPROACH LOOKING SOUTH



LAVISTA ROAD @ SHEPHERDSLANE
EASTBOUND APPROACH LOOKING EAST



LAVISTA ROAD @ SHEPHERDSLANE
EASTBOUND APPROACH LOOKING WEST



5

LAVISTA ROAD @ SHEPHERDSLANE
PEDESTRIAN FACILITIES, NORTHBOUND APPROACH



6

LAVISTA ROAD @ SHEPHERDSLANE
CROSSWALK, NORTHBOUND APPROACH



7

LAVISTA ROAD @ SHEPHERDSLANE
PEDESTRIAN FACILITIES, SOUTHWEST CORNER



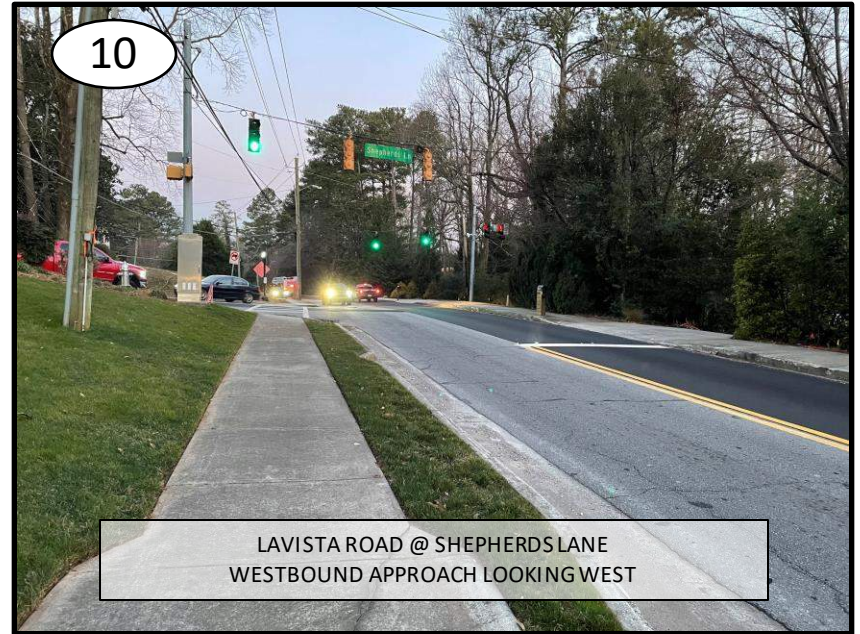
8

LAVISTA ROAD @ SHEPHERDSLANE
PEDESTRIAN FACILITIES, SOUTHWEST CORNER



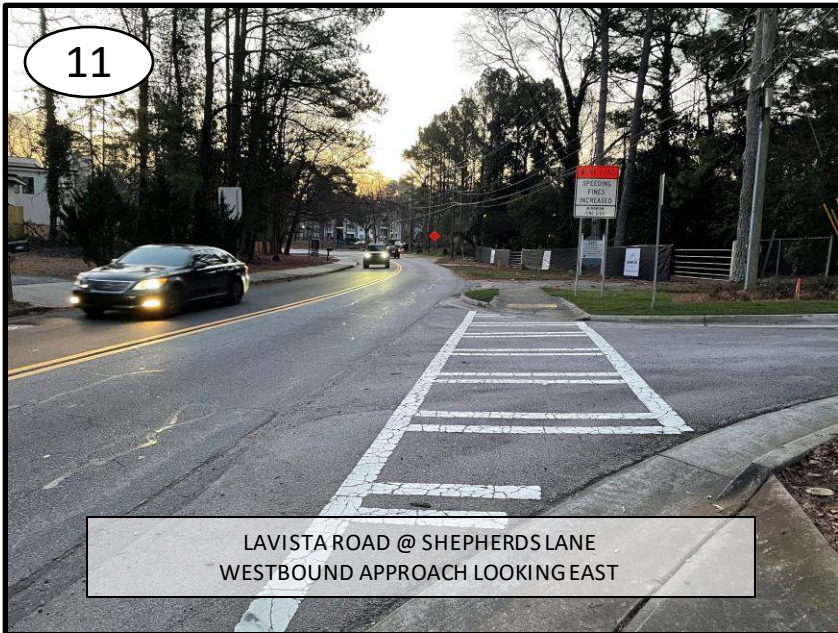
9

LAVISTA ROAD @ SHEPHERDSLANE
PEDESTRIANS FACILITIES ON POLE, SOUTHEAST CORNER



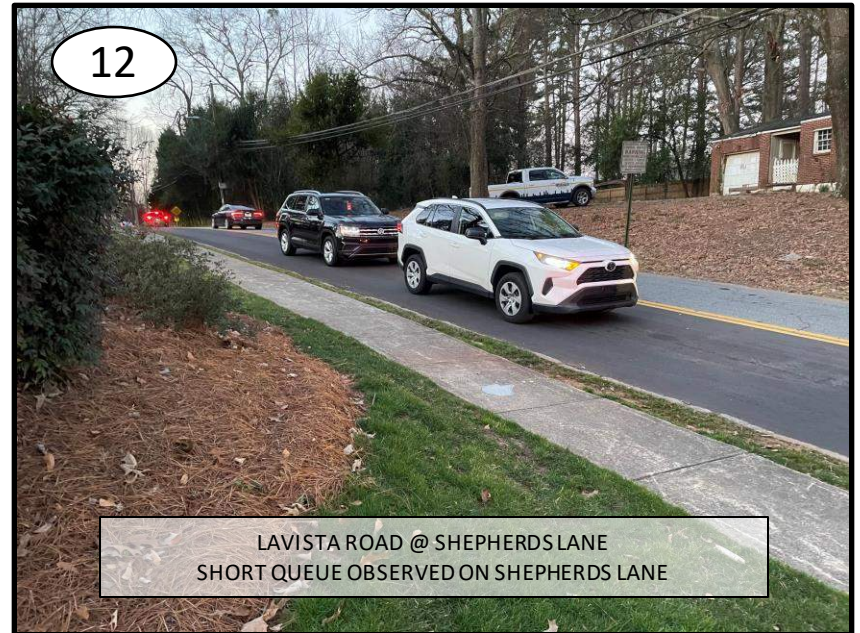
10

LAVISTA ROAD @ SHEPHERDSLANE
WESTBOUND APPROACH LOOKING WEST



11

LAVISTA ROAD @ SHEPHERDSLANE
WESTBOUND APPROACH LOOKING EAST



12

LAVISTA ROAD @ SHEPHERDSLANE
SHORT QUEUE OBSERVED ON SHEPHERDSLANE



13

EXISTING DRIVEWAY ON SHEPHERDS LANE
APPROXIMATE LOCATION OF DRIVEWAY #1



14

LAVISTA ROAD @ SHEPHERDS LANE
NORTHBOUND SCHOOL BUS OBSERVED ON SHEPHERDS LANE



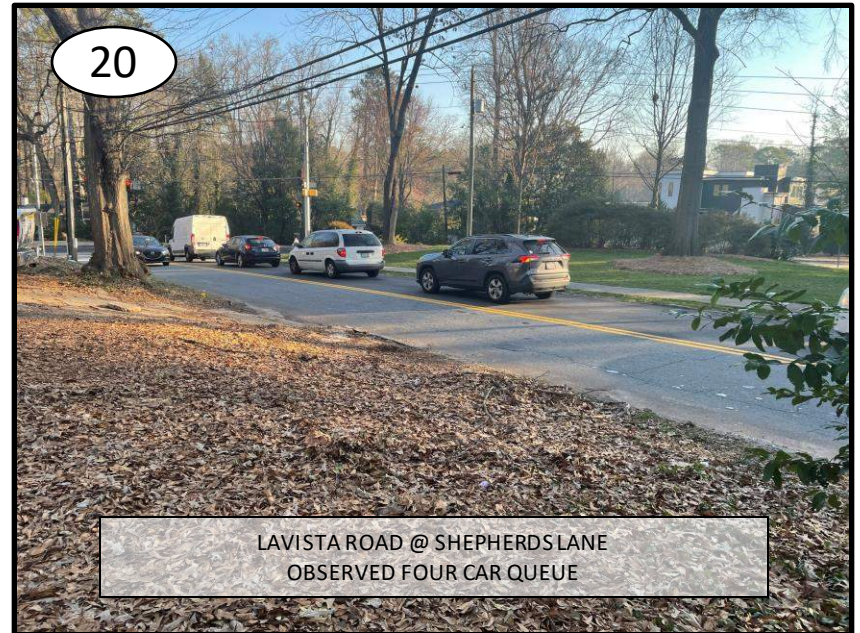
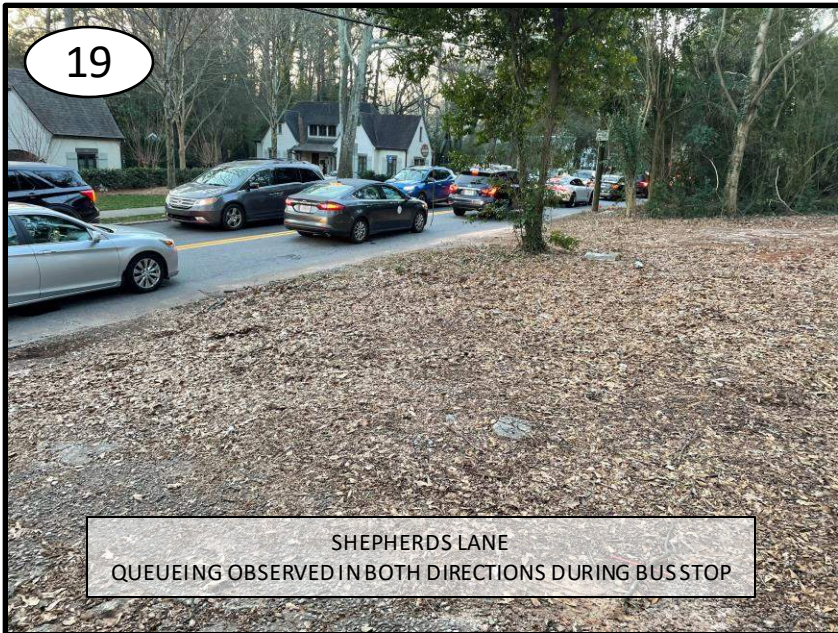
15

LAVISTA ROAD @ SHEPHERDS LANE
QUEUEING OBSERVED ON SHEPHERDS LANE

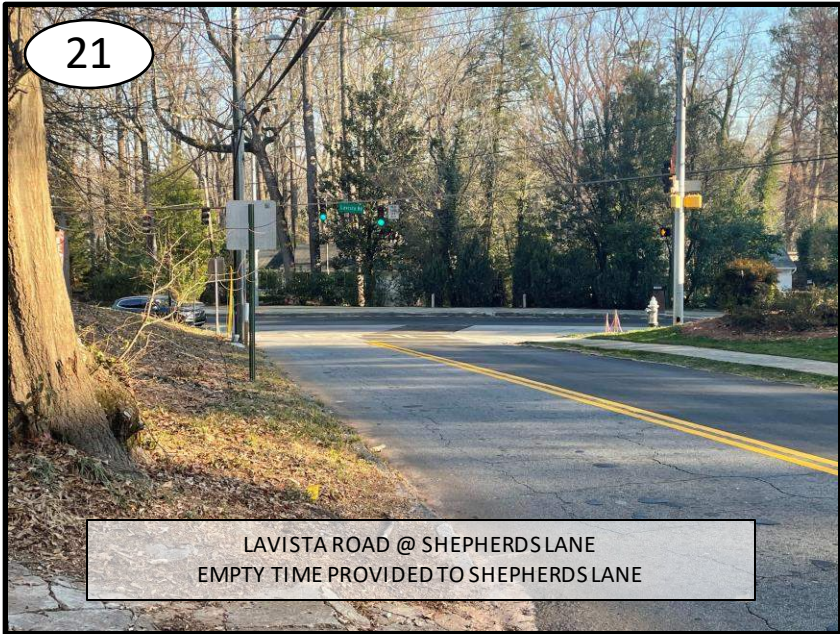


16

LAVISTA ROAD @ SHEPHERDS LANE
NORTHBOUND QUEUE EXTENDING TO SPEED HUMPS



21

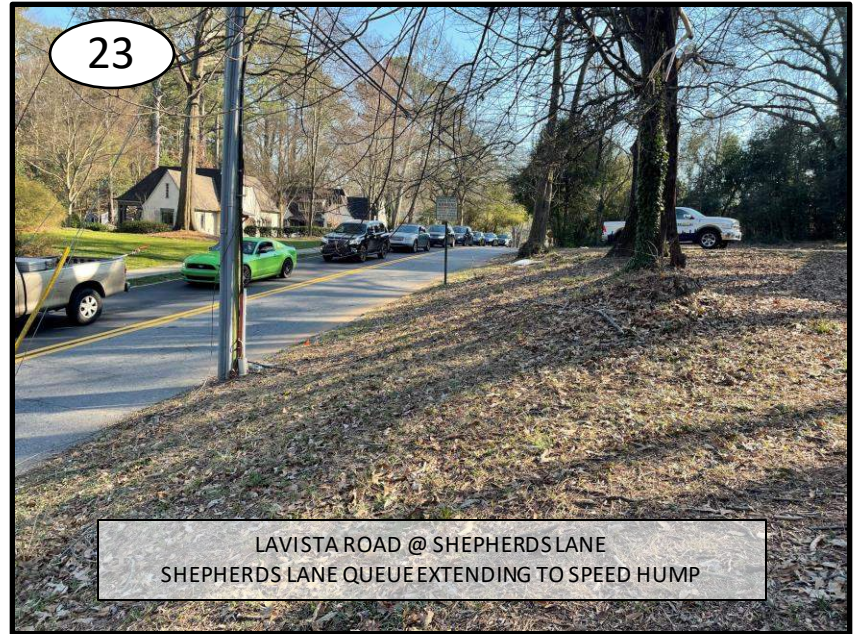


LAVISTA ROAD @ SHEPHERDSLANE
EMPTY TIME PROVIDED TO SHEPHERDSLANE



22

LAVISTA ROAD @ SHEPHERDSLANE
QUEUEING OBSERVED ON SHEPHERDSLANE



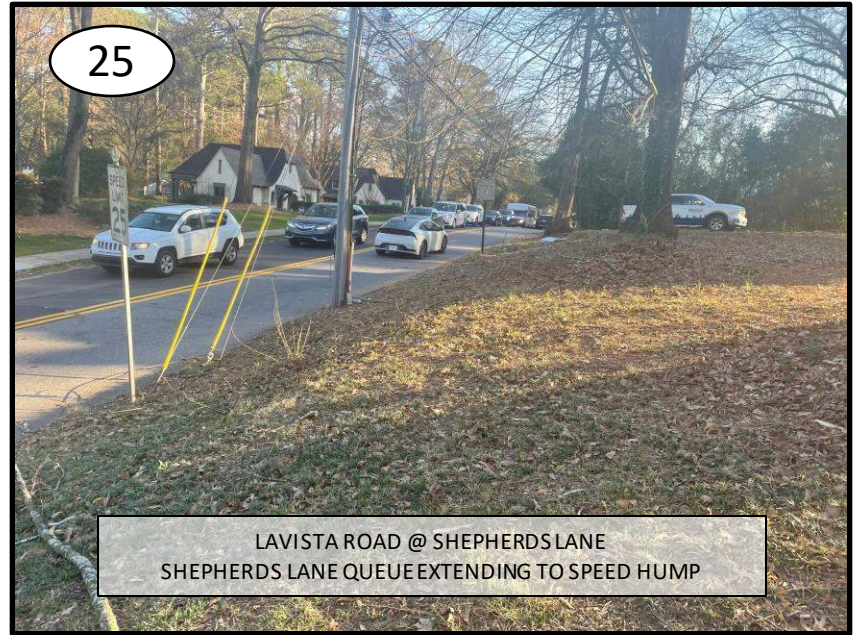
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LAVISTA ROAD @ SHEPHERDSLANE
SHEPHERDSLANE QUEUE EXTENDING TO SPEED HUMP



24

LAVISTA ROAD @ SHEPHERDSLANE
SHEPHERDSLANE QUEUE EXTENDING TO SPEED HUMP



25

LAVISTA ROAD @ SHEPHERDSLANE
SHEPHERDSLANE QUEUE EXTENDING TO SPEED HUMP



