

TRANSPORTATION TECHNICAL MEMORANDUM (TTM)

Date: March 8, 2022

To: Ben Kuhn
VP Land Development
Jones Homes USA

From: Michael Wickline, PE
Principal
Design Resource Group, PA (C-2165)

Subject: **Heritage at Marvin - Trip Generation & Distribution Memorandum (1015-001)**



Background Information

Jones Homes USA is proposing to construct 73 single family homes on approximately 47 acres in the Village of Marvin, NC. The proposed site is located on the southwest quadrant of New Town Road & Marvin Road/Meadowlark Lane (see Figure 1 for site plan on aerial). The proposed site is anticipated to fully built out by 2025.

New Town Road is classified as a major collector, with a posted speed limit of 35 mph. It is a two-lane undivided facility (one lane in each direction with appropriate right and left turn lanes). No curb/gutter, planting strip, bike lanes, or sidewalk are present on either side of the roadway along the frontage of the proposed site.

Marvin Road is classified as a minor collector, with a posted speed limit of 45 mph. It is a two-lane undivided facility (one lane in each direction with appropriate right and left turn lanes). No curb/gutter, planting strip, bike lanes, or sidewalk are present on either side of the roadway along the frontage of the proposed site.



New Town Road Facing East at Marvin Road



Marvin Road Facing South Along Site Frontage



Geospatial information provided by the North Carolina Department of Transportation's (NCDOT) ArcGIS portal (*Go! NC*) was collected such as Annual Average Daily Traffic (AADT).

AADT for two-way volumes on roadways within the area of influence are depicted in the table below.

Annual Average Daily Traffic Volumes (veh. per day)

Roadway	AADT (Year)
New Town Road West of Marvin Road	9,300 vpd (2019)
New Town Road East of Marvin Road	15,500 vpd (2018)

Per to NCDOT staff, there is an active Spot Safety Project (10-17-208) in the vicinity of the site:

- Spot Safety Project 10-17-208 – The proposed project includes installing a single lane roundabout at the intersection of New Town Road and Marvin Road/Meadowlark Lane. The project is expected to be let May 2022 and is expected to be completed by November 2022.

Proposed Access

According to the site plan (see Concept Plan), access to the development is expected to occur via two access locations on New Town Road:

- Proposed Access "A" (Full Movement) – unsignalized access located on New Town Road approximately 1,100 feet west of Marvin Road
- Proposed Access "B" (Full Movement) – unsignalized access located on New Town Road approximately 2,300 feet west of Marvin Road

Proposed Development Projected Traffic

The daily and peak-hour trip generation data for the site is presented in the table below for the proposed 73 single family homes. Values derived for the anticipated trips generated by the site are obtained from the Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017.

Trip Generation Table

Land Use [ITE Code]				Weekday Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Proposed Development										
Single Family Homes [210]	73	DUs	778	14	42	56	48	28	76	

References:

Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC. 2017.

Under the current plan the proposed site is anticipated to generate approximately 56 AM peak hour trips and 76 PM peak hour trips.



The directional distribution was derived via AADT volumes for New Town Road and general site location. The site directional distribution assumes the following trip distribution percentages (see Figure 2 for the anticipated site directional distribution):

- 45% to/from the east via New Town Road
- 30% to/from the west via New Town Road
- 25% to/from the north via Marvin Road

The AM and PM peak hour trip assignments were developed using the anticipated trip generation data and above trip distribution percentages and are also detailed on Figure 2.

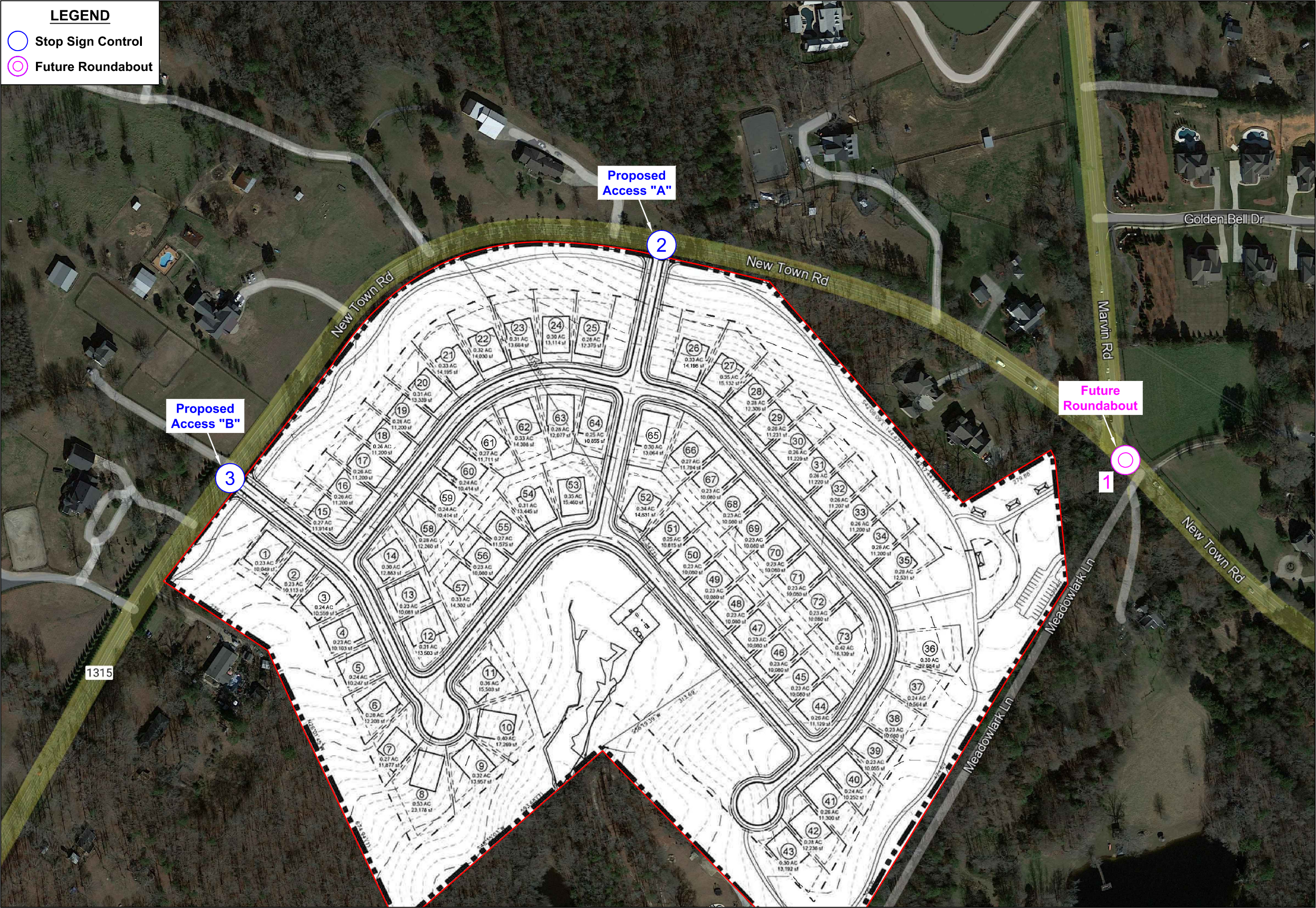
Conclusion

It is our opinion that the trips generated by the proposed residential development will not significantly impact the area roadway network based on the minimal number of additional trips anticipated to utilize the adjacent roadways. Furthermore, the proposed roundabout associated with Spot Safety Project 10-17-208 is expected to significantly improve current operations at the intersection of New Town Road and Marvin Road/Meadowlark Lane as well as the future conditions with the minor traffic increase the proposed development is anticipated to add to the adjacent roadways.

Please contact us should you have any questions or need any additional information.

Attachments: Figure 1 – Site Plan on Aerial
Concept Plan
Figure 2 – Site Directional Distribution & Assignment

cc: Mark Kime, PLA LandDesign
File



LEGEND

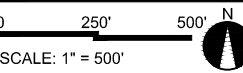
○ Stop Sign Control

○ Future Roundabout

HERITAGE AT MARVIN TTM
VILLAGE OF MARVIN, NC

JONES HOMES USA
414 TURTLEBACK RIDGE
WEDDINGTON, NC 28104

**SITE PLAN ON
AERIAL**

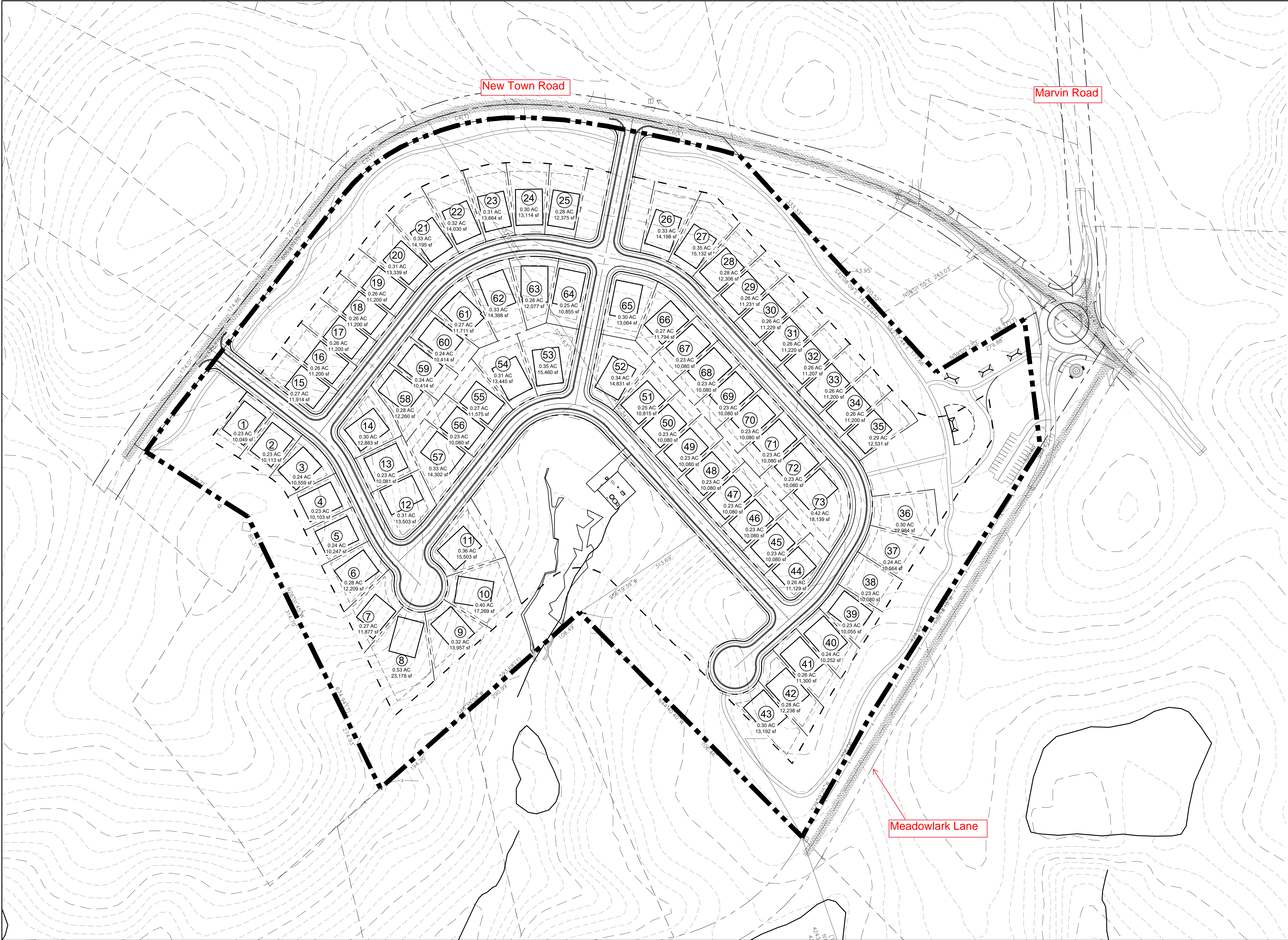


PROJECT #: 1015-001
DRAWN BY: SA
CHECKED BY: MW

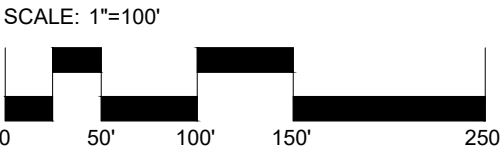
MARCH 2022

REVISIONS:

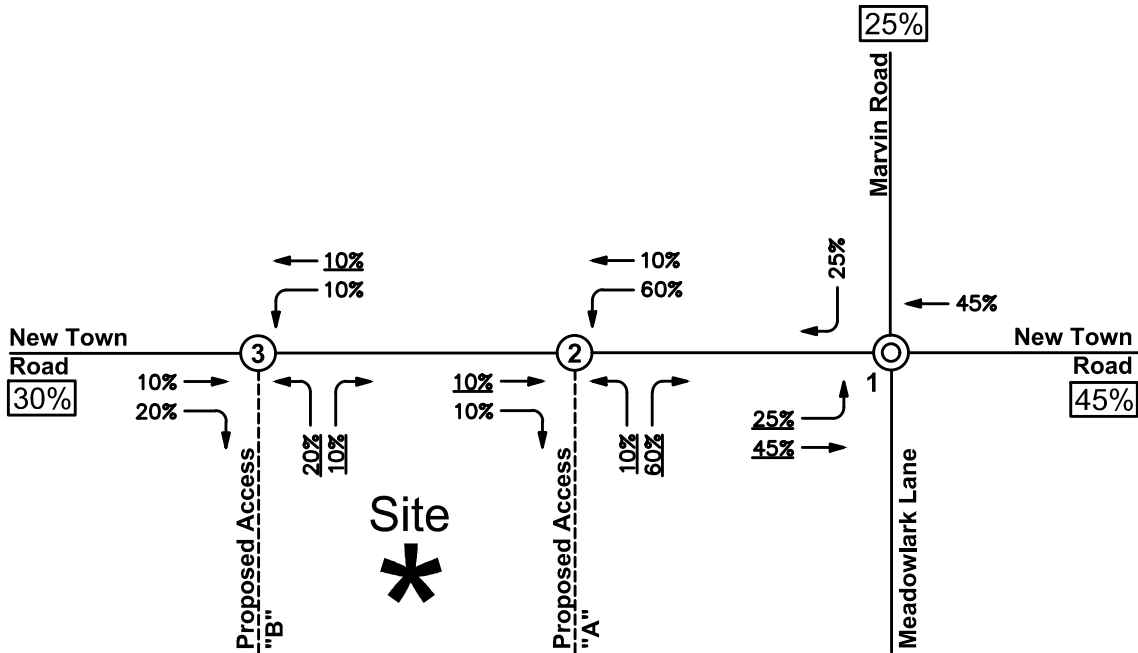
Figure 1



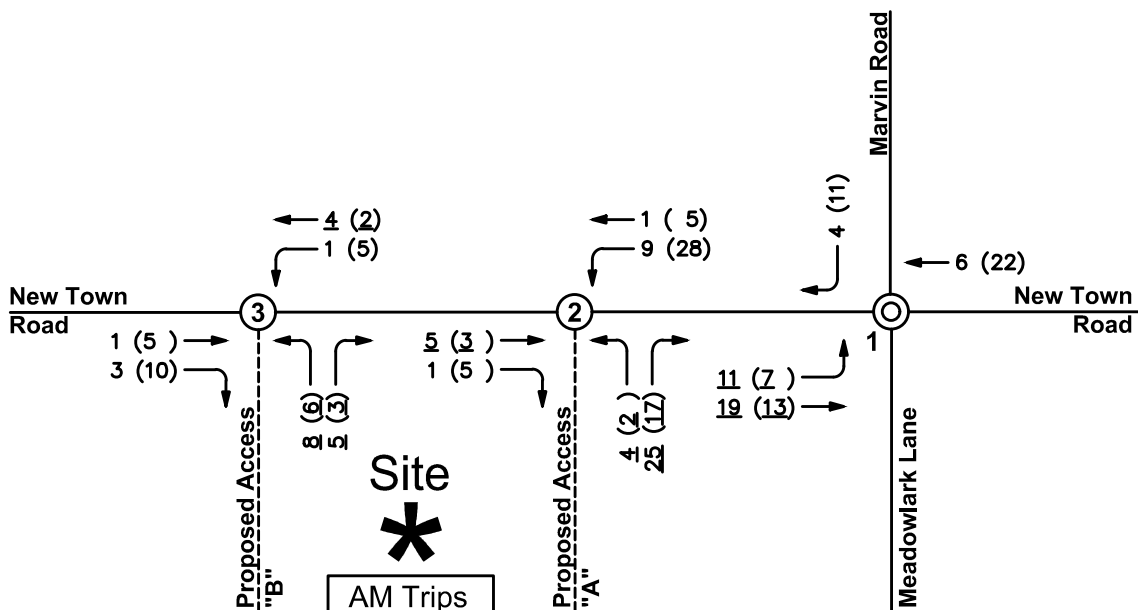
DEVELOPMENT SUMMARY	
PARCEL ID:	06225022, 06240005
TOTAL ACREAGE:	±47.115 ACRES
-DEDICATED TO NCDOT ROW:	±3.283 ACRES
RESIDUAL ACREAGE:	±43.832 ACRES
JURISDICTION:	MARVIN, NC
EXISTING ZONING:	RO-HD (MARVIN)
PROPOSED USE:	CONVENTIONAL SUBDIVISION
DEVELOPMENT STANDARDS:	
MINIMUM LOT AREA:	10,000 SF
MINIMUM FRONT YARD SETBACK:	20 FEET
MINIMUM LOT WIDTH:	70 FEET
MINIMUM SIDE YARD SETBACK:	5 FEET
MINIMUM REAR YARD SETBACK:	20 FEET
MAXIMUM BUILDING HEIGHT:	35 FEET
UNIT MIX:	
70 FOOT LOTS:	73
DENSITY:	1.66 DUA
OPEN SPACE REQUIRED:	30% OF GROSS ACREAGE 13.15 ACRES
OPEN SPACE PROVIDED:	±18.02 ACRES (41.15%)



SITE DIRECTIONAL DISTRIBUTION



SITE TRIP ASSIGNMENT



AM Trips	
Enter	14
Exit	42
PM Trips	
Enter	48
Exit	28

LEGEND

- Stop Sign Control
- ⊙ Future Roundabout
- Directional Movement

xx%/xx% In/Out Distribution Percentage

VOLUMES: AM (PM)



LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
TRANSPORTATION PLANNING

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704-343.0608
www.drgroup.com

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VILLAGE OF MARVIN, NC

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WEDDINGTON, NC 28104

SITE DIRECTIONAL DISTRIBUTION & ASSIGNMENT

0 NTS N
SCALE: NTS

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REVISIONS:

Figure 2