

September 19, 2024

DRMP Job #: 22071

 Kevin Lewis, AICP, CZO
 Town of Knightdale
 950 Steeple Square Court
 Knightdale, NC 27545
 E: kevin.lewis@knightdalenc.gov

Reference: Poole and Smithfield – Knightdale, NC
Subject: Study Summarization Letter

Dear Mr. Lewis:

This letter summarizes the changes for the proposed Poole and Smithfield TIA. The original TIA was completed in May of 2023. The proposed Poole and Smithfield development is to be located north of Poole Road and along both sides of Smithfield Road in Knightdale, North Carolina. The updated site is also expected to incorporate the proposed Poole Road Assemblage development (TIA completed October 2022) to be located in the northeast quadrant of the intersection of Poole Road at Smithfield Road in Knightdale, North Carolina.

The original TIA for the proposed Poole and Smithfield development was, at full buildout, expected to consist of a maximum of 340 single-family homes, 393 townhomes, 427 apartments, 150,000 square feet (s.f.) mini warehouse, 10,000 s.f. fire and rescue station, 40,500 s.f. general office, and 90,100 s.f. of strip retail, and was expected to be completed by 2031. The Poole Road Assemblage development was expected to consist of 246 single-family homes and is anticipated to be completed by 2026. Table 1, below, shows trip generation for the original Poole and Smithfield development along with the trips from the Poole Road Assemblage development. It is important to note that the original TIA for the Pool and Smithfield development also included the traffic volume information from the Poole Road Assemblage in the study.

Table 1: Original TIA + Poole Road Assemblage Site Trip Generation

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Single Family Homes (210)	586 Units	5,133	93	279	330	194
Single Family Attached Housing (215)	393 Units	2,944	50	149	137	95
Multifamily Housing (Low-Rise) (220)	427 Units	2,812	37	118	129	75
Mini Warehouse (151)	150,000 s.f.	218	14	13	14	13
Fire and Resue Station (575)	10,000 s.f.	50	1	4	1	4
General Office (710)	40,500 s.f.	529	68	9	13	65
Shopping Plaza (821)	90,100 s.f.	6,084	97	59	229	239
Total Trips		17,770	360	631	853	685

Based on the two previous TIAs, the trip generation is estimated that the developments will generate approximately 17,770 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 991 trips (360 entering and 631 exiting) will occur during the weekday AM peak hour and 1,538 trips (853 entering and 685 exiting) will occur during the weekday PM peak hour.

The updated site plan is expected to change the density of the residential development. Table 2 below shows the updated trip generation for the new site plan. Under the new site plan the residential development is expected to consist of a maximum of 464 single family homes, 465 townhomes, 449 apartments. It is important to note that with the changes in residential density the overall trip generation is expected to be lower than the original TIA.

Table 2: 2024 Site Trip Generation

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Single Family Homes (210)	464 Units	4,141	75	226	265	156
Single Family Attached Housing (215)	465 Units	3,493	59	177	162	113
Multifamily Housing (Low-Rise) (220)	449 Units	2,953	37	118	129	75
Mini Warehouse (151)	150,000 s.f.	218	14	13	14	13
Fire and Resue Station (575)	10,000 s.f.	50	1	4	1	4
General Office (710)	40,500 s.f.	529	68	9	13	65
Shopping Plaza (821)	90,100 s.f.	6,084	97	59	229	239
Total Trips		17,468	351	606	813	665
Net Trips		-302	-9	-25	-40	-20

It is estimated that the proposed development will generate approximately 17,468 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 957 trips (351 entering and 606 exiting) will occur during the weekday AM peak hour and 1,478 trips (813 entering and 665 exiting) will occur during the weekday PM peak hour. Please refer to the figures for the updated trip assignment and build figures.

It is important to note that although the residential densities are expected to change the overall trip generation is expected to be similar to the original development with having less trips. Of the daily traffic volume, for the new proposed density, it is anticipated that the that the development is expected to generate 34 less trips (9 entering and 25 exiting) during the weekday AM peak hour and 60 less trips (40 entering and 20 exiting) during the weekday PM peak hour. Due to the lower trip generation the previous build analysis is not expected to change.

Due to the similar amount of total buildout trips the proposed development is not expected to have any additional impact from the original TIA. The peak hour trip generation of the updated site plan is expected to be less than the original trip generation. As the new trip generation is expected to be lower. Please let us know if you have any questions or comments regarding this letter or if additional information is required.

Sincerely,
DRMP, INC.
NC Corporate License # F-1524



Caroline Cheeves, P.E.
Traffic Analysis Project Manager

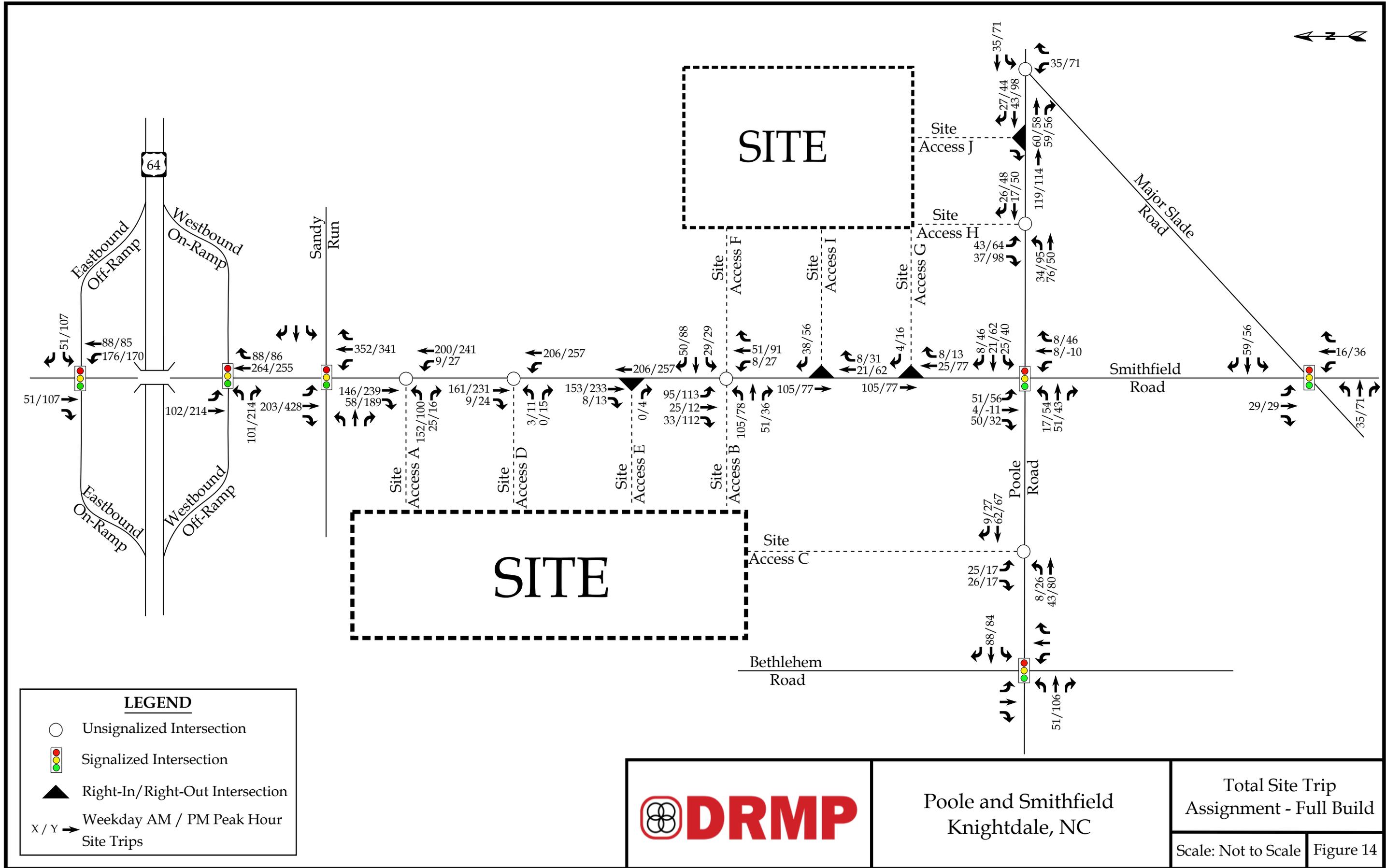


Attachments: Development Site Plan
Figures

CONCEPTUAL MASTER PLAN RENDERING



LEGEND	
	60 & 70' FRONT LOADED SINGLE FAMILY DETACHED
	33' - 43' REAR-LOADED SINGLE FAMILY DETACHED
	TOWNHOMES
	APARTMENTS
	MIXED-USE
	COMMERCIAL
	CORRIDOR COMMERCIAL
	NEIGHBORHOOD COMMERCIAL



SITE

SITE

Site Access A

Site Access D

Site Access E

Site Access B

Site Access C

Site Access F

Site Access I

Site Access G

Site Access H

Site Access J

64

Eastbound Off-Ramp

Westbound On-Ramp

Eastbound On-Ramp

Westbound Off-Ramp

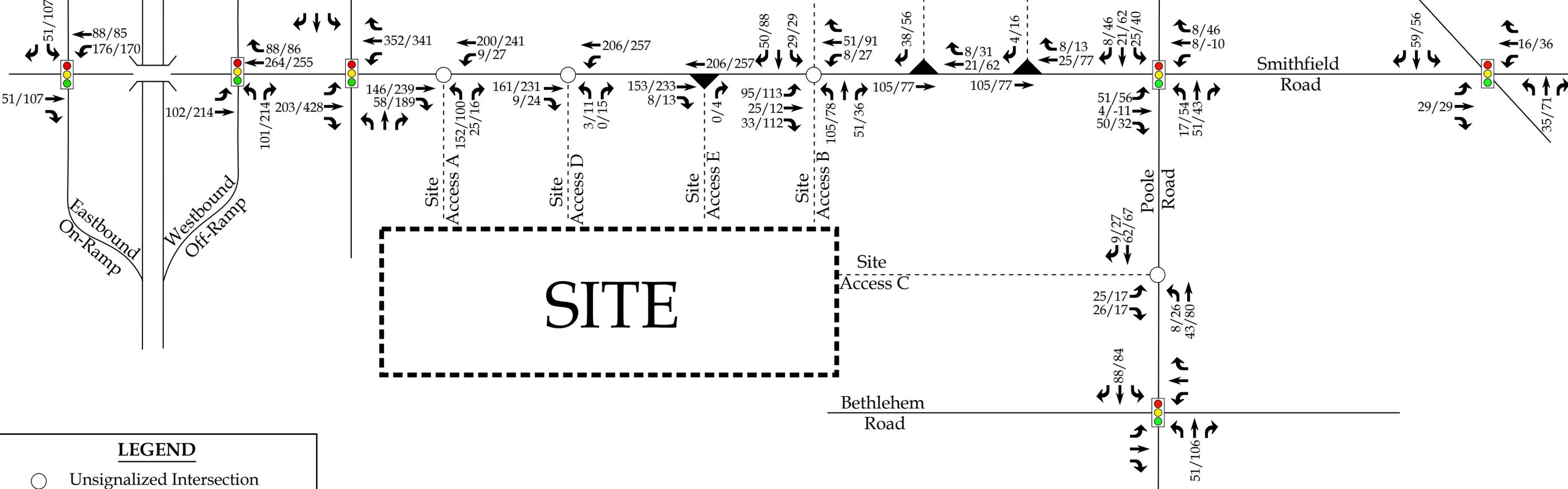
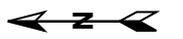
Sandy Run

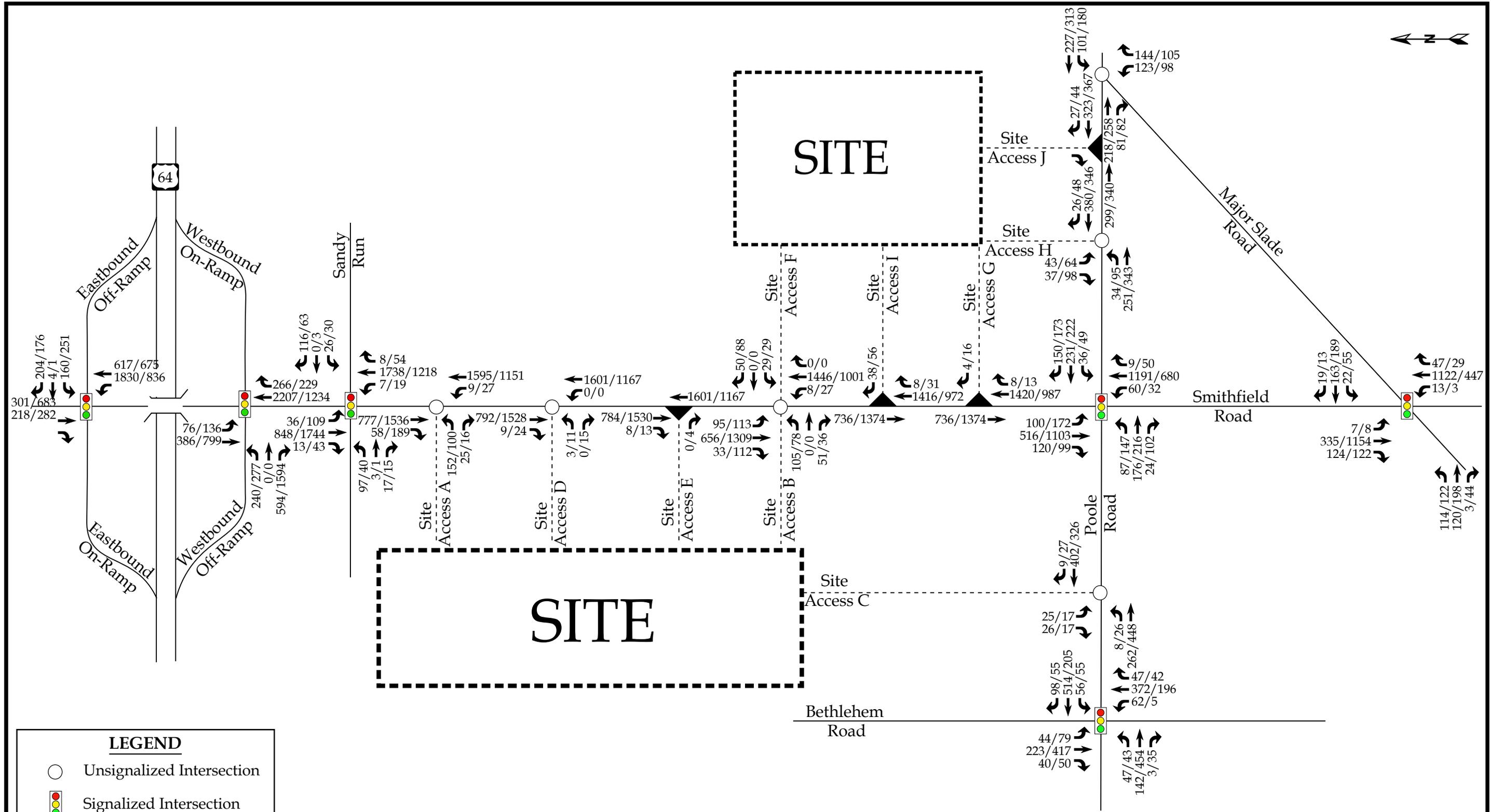
Smithfield Road

Bethlehem Road

Pooler Road

Major Slade Road





LEGEND

- Unsignalized Intersection
- 🚦 Signalized Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic

Note: Based on NCDOT Congestion Management guidelines, a volume of 4 vehicles per hour (vph) was analyzed for any movement with less than 4 vph.

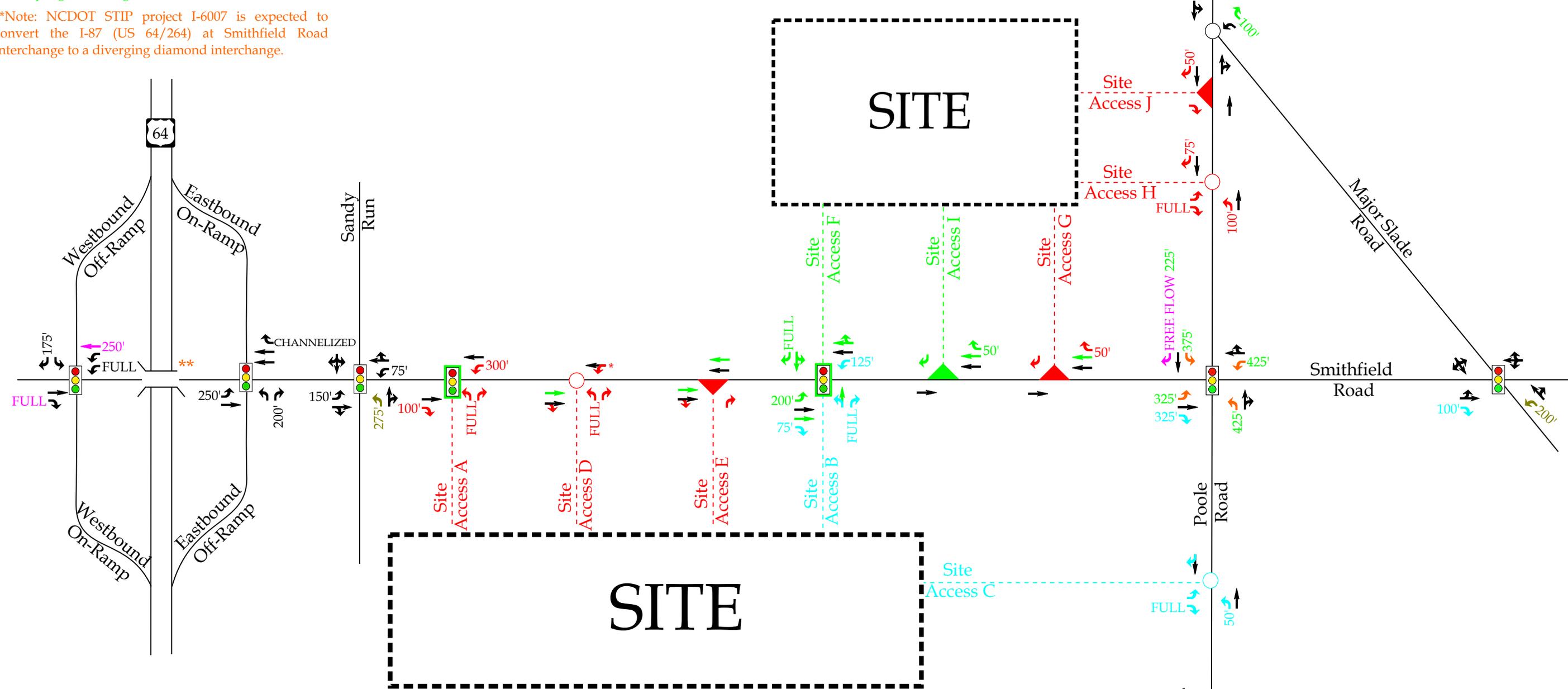


Poole and Smithfield
Knightdale, NC

2032 Build
Peak Hour Traffic -
Full Build

Scale: Not to Scale Figure 15c

*Turn lane not warranted but likely required
 *Modify Signal Timings
 **Note: NCDOT STIP project I-6007 is expected to convert the I-87 (US 64/264) at Smithfield Road interchange to a diverging diamond interchange.



LEGEND

○ Unsignalized Intersection	➔ Improvement by Developer - Phase 1a & 1b
● Signalized Intersection	➔ Improvement by Developer - Phase 2
➔ Existing Lane	➔ Improvement by Developer - Full Build
▲ Right-In/Right-Out Intersection	➔ Background Improvement by Adjacent Development
➔ Improvement by NCDOT STIP	➔ Improvement to Meet Town's UDO Req
x' Storage (In Feet)	● Monitor for Signalization

	Poole and Smithfield Knightdale, NC	Recommended Lane Configurations
	Scale: Not to Scale Figure 17	