



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

July 31, 2020

ORANGE COUNTY

Mr. Matthew Peach, PE
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606

Subject: Proposed Research Triangle Logistics Park
Located on SR 1223, Service Road and SR 1129, Davis Road
Review of Traffic Impact Analysis (TIA)

Dear Mr. Peach,

NCDOT Congestion Management Unit, Division and District staff have completed review of the TIA for the above-mentioned development. Based on the information provided, I offer the following comments.

General:

The proposed site consists of 2,251,200 SF of industrial warehousing with four buildings interconnected via an internal road network. Access is provided via three proposed full-movement driveways on the existing service road and a fourth full movement driveway located on Davis Road. The site is expected to generate approximately 3648 new daily trips upon buildout in 2023. The TIA did not provide any information or analysis regarding phasing of the project. It is assumed the site will be developed as single entity in a continuous manner.

Methodology:

Due to the current NCDOT moratorium on traffic volume data collection as a result of Covid-19 impacts, background traffic was determined utilizing data provided in the previously submitted Settler's Pointe TIA and adjusted accordingly for background growth and contributing traffic from approved development. This is consistent with the scoping document previously approved by the Department.

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Location:
115 EAST CRESCENT SQUARE DRIVE
GRAHAM, NC 27253

Website: www.ncdot.gov

Committed NCDOT Projects:

The TIA indicates the proposed development is proximal to two NCDOT projects currently programmed in the State Transportation Improvement Program (STIP). Namely, U-5845 (Churton Street Widening) and I-3306A (I-40 Widening). Neither of these projects include committed improvements at any of the intersections included in the study area of this TIA.

Analysis Results and Mitigation Requirements:

Old NC 86 and Waterstone Drive/Rippy Lane Intersection:

The analysis indicates that this intersection is expected to operate acceptably in the 2023 build scenario.

We concur with the TIA recommendation that no improvements are required.

Old NC 86 and I-40 Westbound Ramps Intersection:

The analysis indicates a significant increase in delay and drop in LOS from D-F on the westbound approach with the addition of site traffic.

Pursuant to NCDOT guidelines, the applicant will need to provide additional analysis and recommendations for mitigation of this impact to include assessment for warrant and need for a traffic signal.

Old NC 86 and I-40 Eastbound Ramps Intersection:

The TIA recommends installation of a traffic signal at this location. The applicant should provide additional traffic signal warrant assessment supporting this recommendation. In the event that a signal is verified to be warranted and needed, it is noted that the analysis indicates that a substantial queue for the southbound left turn movement that may exceed existing storage may result. Additionally, the analysis indicates that the queue for the northbound through/right movement is expected to spill beyond the existing Old NC 86 and Service Road intersection which would be expected to result in significant operational and safety issues at that location. The applicant will need to provide additional analysis and recommendations to mitigate the queue spillback or consider restrictions of left turn movements at the service road.

Old NC 86 and Service Road Intersection:

As noted above, queue spill back from the adjacent eastbound ramps will need to be mitigated or restrictions of left turns at this intersection will need to be considered with appropriate internal circulation patterns provided to route traffic to the proposed Davis Road as an alternate access route. In the event that a full movement intersection is approved at this location, then the following improvements are required.

- Construct an exclusive northbound left turn lane with 125' of full storage and appropriate transitions
- Construct and exclusive southbound right turn lane with 100' of full storage and appropriate transitions.
- Construct and exclusive eastbound right turn lane with 200' full storage and appropriate transitions.

Alternate improvements will need to be considered based on the final determination of the intersection configuration.

Old NC 86 and Davis Road Intersection:

The analysis indicates a significant increase in delay and drop in LOS from B to D on the eastbound approach with the addition of site traffic. The TIA recommends installation of a traffic signal at this location. The applicant should provide additional traffic signal warrant assessment supporting this recommendation. Regardless of final determination regarding signalization, the following improvements are required to ensure safe and efficient operation.

- Construct an exclusive northbound left turn lane with 100' of full storage and appropriate transitions.
- Construct an exclusive southbound right turn lane with 100' of full storage and appropriate transition.

Service Road and Site Driveway A,B,C Intersections:

We concur with the recommendation to construct each of these accesses as a two lane-two-way approach operated under stop sign control.

Each access will need to provide a minimum internal protected stem length of 100'

Davis Road and Site Driveway D intersections:

We concur with the recommendation to construct this access as a two lane-two-way approach operated under stop sign control.

Provide a minimum internal protected stem length of 100'.

The following improvement is required to better accommodate commercial vehicle maneuvers and to ensure safe and efficient operation at this location:

- Construct and exclusive westbound right turn with 100' of full storage and appropriate transitions.

Multi-modal and Streetscape Enhancements:

Any locally stipulated multi-modal enhancements including but not limited to sidewalk, bike lanes, bus pull offs, lighting, landscaping etc. on State maintained routes are subject to NCDOT requirements and approval through the encroachment process.

General Requirements:

It is necessary to obtain an approved driveway permit and/or encroachment agreement(s) prior to performing work on the NCDOT right of way. As a condition of the permit, the permittee shall be responsible for design and construction of the above stipulated improvements in accordance with NCDOT requirements. An approved permit will be issued upon receipt of approved roadway and signal construction plans, inspection fee, and any necessary performance and indemnity bonds.

The applicant shall dedicate any additional right of way necessary to accommodate the required road improvements or future improvements as stipulated.

Intersection radii and geometry shall be designed to accommodate turning movements of the largest anticipated vehicle.

All pavement markings shall be long life thermoplastic. Pavement markers shall be installed if they previously existed on the roadway.

The permittee shall be responsible for the installation and relocation of any additional highway signs that may be necessary due to these improvements and shall comply with the requirements of the MUTCD.

Feel free to contact me if you have any questions.

Sincerely,

DocuSigned by:



C. N. Edwards Jr., PE

District Engineer

Cc: J.M. Mills, PE, Division Engineer
D. M. McPherson, Division Traffic Engineer
Brian Thomas, PE, Regional Traffic Engineer
Doumit Ishak, PE, Congestion Management Regional Engineer
Orange County
Town of Hillsborough