



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

October 14, 2017

ORANGE

Judy Johnson
Interim Operations Manager, Current Development
Town of Chapel Hill
405 Martin Luther King Blvd.
Chapel Hill, NC 27514

Subject: Proposed Wegman's Supermarket Located on SR 1838, Old Durham Road
**Review of Technical Memorandum- Traffic Impact Study for
Inbound Service Road Access**

Dear Ms. Johnson,

Per your request, NCDOT staff have reviewed the Technical Memorandum prepared by HNTB and the revised site plan prepared by Pennoni for the above subject. Based on the submitted information and upon conferring with Town staff, we offer the following comments relevant to the State maintained highway system. This correspondence supersedes my previous correspondence dated September 9, 2017.

General:

The subject site is located on Old Durham Road adjacent to the US 15-501 Service Road and consists of redevelopment of the existing Performance Motors auto dealership with construction of a 140,000 SF supermarket. Upon buildout in 2018, the site is expected to produce a raw trip generation of approximately 10,766 trips. After appropriate adjustments for transit and multi-modal reductions, pass by trips and removal of existing trips generated by the auto dealership, the proposed site is expected to generate approximately 3214 net new daily vehicle trips. The site consists of a main campus consisting of the supermarket building and on-site parking which is served by three full movement accesses on Old Durham Road and a one-way ingress-only access on the Service Road. A satellite parking area is located on Old Durham Road directly across

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from the main campus which is served by a full movement access on Old Durham Road and a single full movement access on Cooper Street. Accommodation is provided for pedestrian movements across Old Durham Road between the two parking areas. Previous preliminary site plans indicated additional proposed full-movement driveways, providing direct ingress and egress access to the U.S. 15-501 Service Road. Traffic analysis for this scenario indicated a need for significant roadway improvements and geometric changes at the U.S. 15-501 and Service Road/Eastowne Drive intersection. These modifications would require additional right of way dedication along the frontage of the adjoining property owner to the east of the subject site. The Applicant, with facilitation by Town and NCDOT staff engaged in discussion with the adjoining property owner to develop and implement necessary modifications that would best serve both sites. After exercising considerable due diligence, the Applicant chose to submit a modified site plan with no direct access to the service road. In response to subsequent community concerns of potential confusion and operational problems that may result from that configuration, NCDOT and Town staff and the Applicant have explored potential modifications to provide site access more proximal to US 15-501 via the service road. Direct site access to US 15-501 was ruled out because such access is prohibited on this partially controlled access highway and would be expected to operate poorly due to high traffic volumes. Full movement ingress and egress access to the service road was ruled out for the reasons described above. A one-way, ingress- only access was identified as an option that provides direct access to the service road in a way that does not impact access and use of the service road by adjacent properties and operates acceptably during peak periods with construction of the required improvements listed below. The Applicant has modified the proposed site plan to provide a one-way, ingress-only access on the service road at the western end of the site.

NCDOT Projects:

The proposed site is adjacent to the programmed NCDOT projects listed below:

EB 4707A- Construction of bicycle, pedestrian and transit improvements on Old Durham Road from US 15-501 to Pope Road in Durham County. Right of way acquisition is underway with construction scheduled for 2018. The proposed development design and construction will need to be directly coordinated with this project.

U-5304- Feasibility Study for U.S. 15-501 Corridor from I-40 to NC 86, South Columbia Street. This feasibility study is in progress with tentative completion scheduled for late 2017. Analysis completed to date indicates a need for additional capacity on the corridor requiring additional lanes and intersection modifications. Impact to the U.S. 15-501 Service Road adjacent to the subject site up is not yet determined.

U-5304F- Construct Corridor Capacity Improvements on U.S. 15-501 from Ephesus Church Road to I-40. This project is currently listed on the developmental portion of the 2018-2027 State Transportation Improvement Program (STIP) As such, the project is subject to reprioritization in future versions of the STIP and project scope and schedule are uncertain and are beyond the buildout period of the subject development.

Required Improvements:

The Technical Memorandum lists a number of committed and necessary road improvements to mitigate the anticipated site traffic impacts and to ensure acceptable operation at the various study intersections. The following are the improvements that the Applicant is required to construct as a condition of the pending NCDOT Driveway Permit.

U.S. 15-501 and Sage Road/Old Durham Road Intersection:

- Widen the northbound approach of Old Durham Road to provide dual exclusive left turn lanes with a minimum full storage length of 325' and 125' respectively, a single exclusive thru lane and an exclusive right turn lane with a minimum of 75' of full storage.
- Extend the existing westbound left turn lane on U.S. 15-501 to provide 400' of full storage with appropriate transition taper.
- Modify the existing traffic signal to accommodate the new intersection geometry

Old Durham Road and Scarlett Drive Intersection:

- Extend the existing monolithic island on Old Durham Road to convert the existing Scarlett Drive intersection to right in and right out only operation.

Old Durham Road and Proposed Site Access 1:

- Widen Old Durham Road to provide an exclusive eastbound left turn lane with a minimum of 100' of full storage and appropriate transition tapers.
- Provide a three lane cross section on the proposed access consisting of a single ingress lane, and exclusive right turn egress lane and an exclusive left turn egress lane with a minimum of 100' storage each and protected internal stem length.
- Provide accommodation for future cross access connection along the access stem with the adjoining Hardee's site.

Old Durham Road and Proposed Accesses 2 and 3 Intersection:

- Construct a single-lane roundabout to provide site access and U-turning capability for redirected traffic from Scarlett Drive.
- Provide a single ingress lane and a single egress lane on proposed Access 2 with a minimum of 125' of protected internal stem length. Allow for free flow of ingress traffic at the internal intersection.
- Provide a single ingress lane and a single egress lane on proposed Access 3 with a minimum of 75' of protected internal stem length. Allow for free flow of ingress traffic at the internal intersection.
- Provide appropriate pedestrian crossing accommodations at the intersection

Cooper Road and Site Proposed Site Access 4 Intersection:

- This access is located on a municipal street and subject to the requirements of the Town of Chapel Hill

Old Durham Road and Proposed Service Entrance Intersection:

- Provide a single ingress lane and a single egress lane.
- Provide appropriate geometry to accommodate largest anticipated commercial vehicle.

Old Durham Road and Lakeview Drive Intersection:

- The Technical Memorandum indicates that traffic signal warrants are not sufficiently satisfied as required by the MUTCD but recommends that the intersection be monitored for signalization.
- It is our understanding that the Town of Chapel Hill will require the Applicant to post funds for a period of 5 years to be used for future post-development traffic analysis and construction of a traffic signal and/or other improvements that are deemed to be warranted and needed. NCDOT is amenable to this approach.

U.S. 15-501 and Eastowne Drive/Lakeview Drive Intersection:

- Convert the southbound Eastowne Drive approach to provide dual exclusive left turn lanes with 300' of full storage each with appropriate transition tapers
- Construct an exclusive right turn lane with 350' of full storage and appropriate deceleration taper on northbound Lakeview Drive. Provide right turn overlap signal phasing.
- Extend the existing through-right add lane on eastbound U.S. 15-501 to provide 300' of full storage with appropriate transition taper.
- Modify the existing traffic signal to accommodate the revised geometry.

U.S. 15-501 and Eastowne Drive/Service Road Intersection:

- Extend the existing westbound left turn lane on U.S. 15-501 to provide 400' of full storage with appropriate transition taper.
- Extend the existing eastbound left turn lane on U.S. 15-501 to provide 250' of full storage with appropriate transition taper.

Traffic Signal System Optimization:

- The Applicant shall develop signal timing and coordination plans to optimize operation along the U.S. 15-501 Corridor within the study intersections. The Town of Chapel Hill may require a payment in lieu for this activity at their discretion.

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,



C. N. Edwards Jr., PE
District Engineer

Cc: J.M. Mills, PE, Division Engineer
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