

Engineering has reviewed the plans for the Hendrick Honda of Wilmington project submitted April 18, 2019 and have the following comments:

Stormwater Management Permit Application Form:

- 1) IV. Project Information; Line Item 9: Please break out sidewalk and concrete pads (Other) from Impervious Pavement.
- 2) IV. Project Information; Line Item 12: Update Impervious Pavement number once Greenway alignment has been designed. Make sure to also update line item #13.
- 3) IV. Project Information; Line Item 14: Break out sidewalk and concrete pads (Other) from Impervious Pavement. Total Impervious & Impervious Pavement numbers need to be looked at.
- 4) IV. Project Information; Line Item 14: Where is the 11,454 sf of offsite impervious coming from?

Narrative:

- 5) Update detention system reference to infiltration basin.
- 6) City of Wilmington requires a NRSC Type III rainfall event. Update Tables once routing is run with Type III storm event.

Stormwater Calculations:

- 7) Update Routing with NRSC Type III rainfall event.
- 8) Was routing completed without using an infiltration rate during storm event? This is a conservative method and the City supports the design.
- 9) 10 yr. & 50 yr. HGL calculations are needed with appropriately assigned tail water condition.

Supplement

- 10) Drainage Area and Impervious need to match application. I believe the supplement may be the correct document?
- 11) Please clarify where the Minimum Design Volume Required is coming from? I only saw calculations for the 1.5" event having a Water Quality Volume of 60,407 cubic feet.
- 12) Check basin bottom dimensions. They should equal the bottom square footage of 27,430sf.

O&M

- 13) Please have O&M Signed and Notarized.

Plans:

- 14) C1.1: Proposed Greenway Note: Multi Use Path design needs to be included with this construction set. Alignment needs to show tree avoidance, grading, & drainage while avoiding all proposed storm structures. Once alignment is proposed the City will be happy to have further discussions to verify route and elevations.
- 15) C2.0: Add Note: Reference Wetlands Investigation Report that No Wetlands were found on site.
- 16) C.4.0: Relabel Proposed Detention Basin as Proposed Infiltration Basin (All Sheets).
- 17) C.4.0: Show updated Greenway Alignment.
- 18) C.4.0: Site Data Table: Breakout Impervious Surface to match application. Such as Buildings, Impervious Pavement, Sidewalks, Other (Concrete Pads).....ect.
- 19) C.5.3: Please clarify where pipe entering structure #11 is coming from. Is this a roof or trench drain?
- 20) C.6.1: Please find a way to more clearly define catchment areas.

- 21) C.6.2: Provide elbow extension, within riser structure, for underdrain system. Native soil media needs to be used as primary infiltration. The underdrain needs to serve as a secondary dewatering device and/or emergency overflow with elbow invert discharging at 38.25 (bottom of infiltration basin).
- 22) C.6.2: Please remove check valve since elbow extension is to be provided for underdrain system.
- 23) C.6.2: Add SHWT to Infiltration Basin profile view
- 24) C.6.2: Update profile view title to read Infiltration Basin.
- 25) C.6.2: Underdrain Detail: Should perforated pipe be encased in "washed #57 stone" instead of compacted #57 aggregate?
- 26) C.8.2: Outfall from Riser structure can be raised. With the elbow being required for underdrain the outlet pipe from riser does not need to be at Inv.35.94. Reducing the depth of the proposed storm manholes & alignment may help with tree save and installation.

Variations:

- 27) Is there any way to reduce driveway radii? Our technical standard states that the maximum width for a driveway tie-in is 62' while both proposed driveways are proposing a width greater than 110'. We are open to granting a variance for the 62' standard however a width greater than 110' seems excessive.
- 28) 500/800 Rule Variance Granted: Approval letter forthcoming.

Payment in Lieu:

- 29) Provide cost estimate for sidewalk improvements required along Market Street. The cost estimate needs to include sidewalk, grading, & any utility relocations. The estimate will need to be approved before Construction plan approval. However, payment in lieu only needs to be provided before Certificate of Occupancy (CO). Please Note: City required sidewalk improvement are not dependent upon future proposed NCDOT or Capital projects.

Please submit revised plan sheets, revised application pages, supplements, calculations, O&M, cost estimate, and any other documentation to Engineering for additional review. Please call or email if there are any questions. Thank you.