

To: Kathryn Espinoza, McKim & Creed
From: Brian Chambers, Assistant Director; 910.342.2782
CC: File;
Date: 5/14/2024
Re: Riverlights MX3 Townhomes TRC Rev 1

The following is a list of comments for review from planning regarding the project. Please provide your corrections as listed below. A staff summary of comments:

Staff	Department	Notes
Brian Chambers	Planning, Plan Review	Comments below
Eric Seidel	Engineering	Comments attached
Robert Bentfield	Fire	No comments
Randall Glazier	Traffic Engineering	Comments attached
Bill McDow	Transportation	Comments attached
Sally Thigpen	Urban Forestry	Comments attached
Anna Reh-Gingerich	Stormwater Services	Comments attached

Planning Review

Brian Chambers, brian.chambers@wilmingtonnc.gov, 910.342.2782

Comments:

- Consider stubbing roads to vacant parcel on corner of Arnold Road and Wiregrass Drive for future interconnectivity.
- Please provide updated master land use plan for the entire MX3 area showing compliance with MX land use mixing ratios, density, and FAR limits as part of your formal submittal package.
- Provide updated open space and common area plan for the entire MX3 area that shows compliance with MX standards.
- Provide updated master tree removal exhibit.
- Elevations will be needed to show compliance with MX design standards.
- Include maximum parking permitted.
- Copy of declaration assigning covenants for community property owner’s association will be required.
- Provide justification for tree removal behind lots 32-35, between tree save and LOD.
- Provide justification for tree removal behind lots 13-14
- Include building lot coverage amount/percentage, number of buildings, number of units, building height in feet and stories in site data table.
- Note method of solid waste disposal.

- Street trees must be a minimum of three-inch (3") caliper, please note on landscape plan.
- A total of 15 trees per disturbed acre are required, please note on landscape plan.

Project Name: Riverlights MX-3 Townhomes
Formal TRC Date: 5/16/2024
Reviewer: Eric Seidel, PE
Department: Engineering – Plan Review Section

1. Piped collection systems shall be designed for the 10-year storm event and analyzed for the 50-year frequency storm event to check the system for flooding. Assign an appropriate tailwater from Wet Pond for HGL analysis. Provide signed/sealed calculations package.
2. Engineering has significant concerns regarding parking. Please consider providing an additional parking lot and/or on-street parking. Streets B, D, & E could be converted to drive aisles to allow for perpendicular parking.
3. Recommendation Only: Provide additional connectivity and/or circulation.
4. All townhome driveways must provide a minimum of 20' unobstructed length from the right-of-way line. Please provide dimensions. Provide townhome footprints with driveways to assure parking requirements are met.
5. Provide additional contours / spot elevations for grading plan. Consider providing enlarged plans to show driveway curb transitions and sidewalk spot elevations. How are trees in center island to be saved, there is a 6' grade change? Retaining Wall? Provide finish floor / pad elevations. Include additional existing contour labels. There are significant grade changes over many of the townhome units, will retaining walls be provided?
6. Add Storm Drainage Rim elevations to grading plan.
7. Can the storm system be separated out into different systems to reduce depth? Providing an additional outfall to the forebay could reduce the overall length of the system therefore reducing depth. Could a Contech CDS system be used for Pre-Treatment?
8. Provide public drainage easement for all stormwater piping located outside of the right-of-way.
9. Provide details on how curb will transition for driveways. Will a valley curb be provided in front of each building and transition back to vertical?
10. Per LDC Section 18-495, Cul-de-sac or Hammerhead turnaround must be provided at all dead ends and follow City Technical Standards and Specifications Manual. Please note the minimum length of a cul-de-sac is 138', as measured from curblines of intersecting through street to bottom of bulb or end of roadway. If a length of 138' cannot be achieved, a waiver may be requested to *Table 2 Minimum & Maximum Street Design Standards, as found in Traffic Engineering Chapter VII*.
11. Extend Street B & D right-of-way and asphalt to outparcel to allow for future connection.
12. Provide Arnold Road saw-cut and patching limits for Sanitary Sewer tie-in. Assure connection does not conflict with existing storm pipe and/or other utilities such as gas, fiber, power, etc....

BASE INFORMATION:

- Accurately illustrate the existing conditions on and surrounding this parcel. Show all adjacent traffic signs, lane configurations, traffic control devices, pavement markings and streetlights on the site inventory plan. Please refer to the Technical Standards and Specifications Manual (link is below) Ch. VII C.1.a.2. for specific information and distance requirements.
- When a lot or lots within a subdivision abut an existing public street, highway, or thoroughfare, the developer shall be responsible for the installation and improvement of the portion of the right-of-way adjacent to the subdivision or development. Right-of-way improvements shall be to the standards outlined in the Technical Standards and Specifications Manual. [[Sec. 18-494 and Sec. 18-495 CofW Updated LDC](#)]

TECHNICAL STANDARDS – NEW ROADS:

1. Provide approved turnaround for both ends of all dead-end streets. [[Sec. 18-496 CofW updated LDC](#)]
2. Install wheelchair ramps at corners per ADA and City standards. Connect sidewalk with ramp. [[Chapter II \(E\) \(6\) of CofWTSSM](#)].
3. Provide a signage and pavement marking plan showing all proposed traffic control signs, street name signs, and related pavement markings locations and types. [[CofW Specifications For Installation of Street Name Signs, Traffic Control Signs and Signs Hardware](#)] [[Sec. 18-497 and Sec. 18-499 CofW updated LDC](#)]
4. Streetlights shall be installed within subdivisions in accordance with the CofW Technical Standards and Specifications Manual [[Ch VII, Section J](#)]. At the time of submittal to the technical review committee, it shall be noted on the plan whether standard or non-standard streetlights will be provided. [[Sec. 18-498 CofW Updated LDC](#)] [[Sec. 18-380 CofW updated LDC](#)] Contact Duke Energy to get the street lighting plans developed.

TECHNICAL STANDARDS – ACCESS (driveway, sidewalk, and sight distance):

5. Proposed driveways shall be City-standard ramp-type. Show appropriate City standard detail(s) on plan. [[SD 3-03.3 & 3-03.4 CofWTSSM](#)]
6. Show proposed driveway centerline elevations at both the front and the back of each concrete driveway apron, at the curb line, property line & points at 26' and 52' behind the property line. [[Chapter VII, C\(1\)\(a\)\(2\)12 CofWTSSM](#)]
7. Dimension driveway widths and tapers.
8. Driveways are to intersect the street at a 90-degree angle [[Chap VII Sec. C \(c\) \(3\) of CofW Tech Stds.](#)]
9. Provide sidewalk detail SD 3-10 on the plan. [[18-494\(E\) CofW Updated LDC.](#)]
10. Provide curbing detail SD 3-11 on the plan [[Sec. 18-495\(D\) and Sec. 18-552\(B\)\(4\) CoW Updated LDC.](#)]
11. Show and apply the City's 20'x70' sight distance triangle at each driveway and the City's 46'x46' sight distance triangle at each street corner intersection on the site plan and landscaping plan. [[Sec. 18-667 CofW Updated LDC.](#)]

Add a note site and landscaping plan sheets 'No parking spaces, fences, walls, posts, lights, shrubs, trees, or other type of obstructions not specifically exempted shall be permitted in the space between 30 inches and above ground and 10 feet above ground level within a triangular sight distance [[Sec. 18-667 Figure 18-667 CofW Updated LDC: Vision clearance](#)].

TECHNICAL STANDARDS – ADA:

12. Show location of accessible ramp(s) and provide details on the plan.

GENERAL NOTES TO ADD TO THE PLAN:

- A. Street trees must be located a minimum of 15 feet from streetlights. [\[CofW SD 15-17\]](#)
- B. Any required installation or relocation of traffic signs/pavement markings is the responsibility of the project developer. Please coordinate with City Traffic Signs and pavement markings Manager/Supervisor prior to installation/relocation of any traffic signs or markings in existing or proposed public ROW.
- C. All pavement markings in public rights-of-way and for driveways are to be thermoplastic and meet City and/or NCDOT standards. [\[Detail SD 11-03 and SD 15-13 CofW Tech Stds\]](#)
- D. All signs and pavement markings in areas open to public traffic are to meet MUTCD (Manual on Uniform Traffic Control Devices) standards. [\[Detail SD 15-13 CofW Tech Stds\]](#)
- E. All traffic control signs and markings off the right-of-way are to be maintained by the property owner in accordance with MUTCD standards.
- F. All parking stall markings and lane arrows within the parking areas shall be white.
- G. It shall be the responsibility of the subdivider to install all traffic control devices, pavement markings, and street name signs associated with the subdivision in accordance with the Technical Standards and Specifications Manual. Contact Traffic Engineering at 341-7888 to discuss installation of traffic and street name signs. Proposed street names must be approved prior to installation of street name signs.
- H. Any broken or missing sidewalk panels and curbing will be replaced.
- I. Contact 811 prior to contacting City of Wilmington, Traffic Engineering regarding the utilities in ROW.
- J. Contact Traffic Engineering at (910) 341-7888 to discuss street lighting options.
- K. No parking spaces, fences, walls, posts, lights, shrubs, trees, or other type of obstructions not specifically exempted shall be permitted in the space between 30 inches and above ground and 10 feet above ground level within a triangular sight distance [\[Sec. 18-667 Figure 18-667 CofW Updated LDC: Vision clearance\]](#).

Please let me know if you have any questions or if I can be of further assistance.

Project Name: **RIVERLIGHTS MX3 TOWNHOUSES**
TRC Date: **05.16.2024**
Reviewer Name: **BILL McDow**
Reviewer Department/Division: **PDT/Transportation Planning**

TECHNICAL STANDARDS:

1. The site has proposed a 73-unit Single-family Attached development, located at 4410 River Road.
2. Please provide a street cross section (Roadway Typical Section) for the proposed 52' ROW with on street parking.
3. The proposed development does not meet the minimum 200' offset of centerlines of intersections on opposite sides of the street. [Table 2, pg. 7-5, City Technical Standards.] A variance may be requested.
4. The proposed development does not meet the minimum 400' distance between centerlines of intersections. [Table 2, pg. 7-5, City Technical Standards.] A variance may be requested.
5. The intersection of Watergrass Drive and Street A shows three marked parking spaces within the intersection. Please revise.
6. The site plan does not show garages or parking pads for the townhouses. Please revise.
7. ~~The site plan is missing MUTCD and City Regulatory signs and markings on Streets A - E. Please add Stop Bars and Stop Signs to the site plan.~~
8. ~~Please provide street names for all proposed streets.~~
9. Please provide sidewalk on both sides of Street B, per the Riverlights Village Street 1, typical street cross section.
10. Please provide a sidewalk on both sides of the vehicle turnaround on Street D.
11. Please revise the dimensions on the Alternative Shoulder- Type 1 Modified from 17'-6", to 14'-6" due to the reduced sidewalk/trail section.

Please let me know if you have any questions regarding the comments.



Subject: Urban Forestry Comments: Formal TRC - Riverlights MX3 Townhomes

Good morning,

Urban Forestry Comments: Formal TRC - Riverlights MX3 Townhomes

- 1. 82 Zelkova are proposed for this landscape plan. Recommend increase species diversity by including, for example native oaks for a more sustainable planting over time.

Thank you,

Sally Thigpen
City of Wilmington
Parks and Recreation Assistant Director
910-765-0593
[Parks & Recreation | City of Wilmington, NC \(wilmingtonnc.gov\)](http://wilmingtonnc.gov)

Project: Riverlights MX-3 Townhomes
TRC Meeting Date: 2/1/2024 ; 5/16/24
Reviewer: Anna Reh-Gingerich
Department: Stormwater

To Whom It May Concern:

The Riverlights MX-3 Townhomes project drains to Barnards Creek and, eventually, the Cape Fear River. Any additional infiltration or pollution treatment onsite would help reduce the amount of stormwater runoff and pollution that could enter Barnards Creek and the Cape Fear River, which is currently listed by the State for exceeding the pH standard, having a poor benthic community, high copper levels, and low dissolved oxygen.

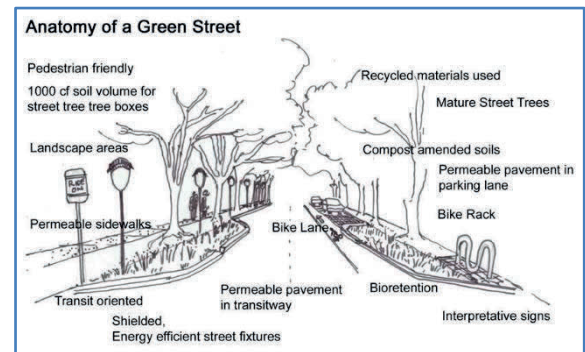
My comments:

NEW

1. Incorporate native plants wherever possible. Native plants require less maintenance (fertilizers, pesticides, water, etc.) than non-native plants to grow successfully since they are already acclimated to local conditions.
 - a. Is there a native tree alternative to the Zelkova Serrata that could work from this list NC Cooperative Extension put together of recommended native trees, shrubs, and grasses for urban areas?
<https://www.wilmingtonnc.gov/home/showpublisheddocument/17120/638301074568030000>

Carried over from Pre-TRC:

1. Please incorporate as much tree save as possible into the site plan. Trees are helpful for improving erosion control, stormwater management, the heat island effect, air quality, and energy efficiency.
2. We encourage passive infiltration over green space or depressed bioretention areas (with curb cuts and overflows) to allow for even more infiltration and pollution treatment on the property where possible. Some examples are available at the following links:
 - a. EPA Green Streets video
<https://www.youtube.com/watch?v=TxqxEqnHIKw&feature=youtu.be>;
 - b. Massachusetts "Green Parking" example: <https://www.mass.gov/service-details/demonstration-3-permeable-paving-materials-and-bioretention-in-a-parking-lot>
 - c. NCDEQ Stormwater Manual, Bioretention Cell Chapter:
<https://deq.nc.gov/media/17536/download>
 - d. Filterra boxes (adding trees and stormwater management in one practice):
<https://www.conteches.com/stormwater-management/biofiltration-bioretention/filterra>
 - e. Portland Green Street examples:
<https://www.portlandoregon.gov/bes/45386>
 - f. EPA Anatomy of a Green Street: <https://www.epa.gov/G3/learn-about-green-streets>
 - g. ***Below are examples of bioretention, vegetated swales, and curb cuts.***





3. Consider green roofs, rainwater harvesting, or redirecting some downspouts from the buildings into stormwater planter boxes (as shown on the right) to help mitigate some of the roof runoff before draining to the drainage system:

- a. Green roof <https://deq.nc.gov/media/17542/download>
- b. RWH: <https://deq.nc.gov/media/17541/download>
- c. https://nacto.org/docs/usdg/stormwater_planter_crwa.pdf
- d. <https://emswcd.org/in-your-yard/rain-gardens/stormwater-planters/>

4. Properties that go above and beyond to incorporate green infrastructure are eligible to apply to the Lower Cape Fear Stewardship Development Coalition Awards: <http://www.stewardshipdev.org/>



Thank you for the opportunity to review! Please do not hesitate to reach out to me if you have any other questions or would like to explore other ways to incorporate green infrastructure into the project.

Thank you,

Anna Reh-Gingerich

Watershed Coordinator - Heal Our Waterways Program

City of Wilmington Stormwater

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