

To: Shane Lippard, PE
From: Patrick O'Mahony, Senior Planner; 910-341-3260
CC: File;
Date: 3/18/2024
Re: Alloy 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
Pat O'Mahony	Planning, Plan Review	Comments attached
Trent Butler	Engineering	Comments attached
Robert Bentfield	Fire	Comments attached
Randall Glazier	Traffic Engineering	Comments attached
Bill McDow	Transportation	Comments attached
Sally Thigpen	Urban Forestry	Comments attached

Pat O'Mahony- Planning – Attached

Site Plan Comments:

- Section 18-588 (c) (v): Site data table with the following:
 - Required and proposed building setbacks
 - Off street parking calculations, including required (if applicable) and proposed number of parking spaces, and the basis for determination
 - Provide calculations
 - CAMA land use classification (Urban)
- Section 18-588 (c) (xii): Show names of owners of adjacent properties or subdivisions of record, including across all streets.
- Section 18-588 (c) (xiii): Show zoning and land use of adjacent properties or subdivisions of record, including across all streets.
- Section 18-448 Lighting Plan: A lighting plan is required for multiple dwelling, mixed use, and nonresidential developments.

Landscape Plan:

- Provide minimum planting sizes in planting table.
- Parking shading (18-318)
 - Based on lot location (15% required) and calculated only by using vehicle use impervious area.
- Streetscape (18-319)
 - Minimum dept – 15 feet max depth 40 – feet
 - For every 100 linear feet, 1 Canopy Tree and 6 understory trees and 9 shrubs required. Old code standards are shown on your plans.
- Street trees (18-320)

- Street trees shall be planted in the right-of-way wherever a new street right-of-way is constructed, where new construction occurs along an existing street right-of-way, or where an existing principal building is expanded by 2,500 square feet or more
- Sec. 18-321.C: When a parking lot is within 50 feet of a right-of-way, a low screen shall be incorporated into the streetscape landscaping. The screen shall be a minimum of three feet in height and may be incorporated into streetscape landscaping.

Urban Forestry Comments: Formal TRC - Alloy - 1545 41st Street

- Show Tree Protection Fencing and Critical Root Zone details [15-09.1](#), [15-09.2](#)
- Ligustrum is invasive and exempt from mitigation. Is this a multistemmed tree/shrub? 20" dbh Ligustrum is unusual.
- 20" Magnolia proposed to move to streetyard- What is the tree moving plan and maintenance plan to keep this tree alive? Moving a tree this large is challenging and costly and supplemental water and treatment is needed for survival. In addition it could impact the right of way.

Sally Thigpen
City of Wilmington
Parks and Recreation Assistant Director
910-765-0593

Project Name: Alloy
Formal TRC Date: 03/21/2024
Reviewer: Trent Butler, PE
Department/Division: Engineering/Plan Review

1. All stormwater runoff passing through the site and generated by the site must be captured and conveyed to a discharge point with adequate capacity to receive the drainage (City Land Development Code, 18-255, A, 2).
2. Provide a grading/drainage plan. Show the proposed roof drain configuration. Roof drains should not sheet flow down the ditch slope. Instead, they should be tied-in to the stormwater pipe system.
3. Provide additional spot elevations to demonstrate all site runoff is being conveyed to an appropriate outfall. Show the building FFE's on the grading/drainage plan.
4. Provide a cross section detail for the proposed pervious concrete.
5. The proposed pervious concrete will not be considered pervious area unless all NCDEQ MDC's are met for permeable pavement (soil infiltration and SHWT test, calculations, etc.). Please revise the stormwater permit application form, Sect. IV, #8-11 as necessary.
6. Washed gravel is considered a pervious material and does not need to be listed on the stormwater permit application form, Sect. IV, #8.
7. Revise the site data table to match the impervious areas listed on the stormwater permit application form. Revise the area of proposed pervious pavement. Provide a line item for the area of proposed washed gravel (pervious).
8. Provide a cross-section detail for the gravel parking area. The proposed gravel must be noted as a washed material to be considered pervious.
9. Revise the stormwater permit application form, Sect. IV, #12. Please list the total offsite newly constructed impervious area for the proposed driveway apron.
10. Provide a detail for the proposed perforated drainage pipe and trench.
11. The stormwater outlet pipe in the existing ditch ROW should be an RCP or HP Storm pipe. These are currently the only two pipe materials permitted for use in the ROW. Engineering recommends tying onsite stormwater pipes and roof drains to a manhole to transition to an RCP or HP Storm discharge pipe. The minimum stormwater pipe size for use in the ROW is 12 inches (City Technical Standards, Ch. 5, D, 1).
12. A flared end section should be installed at the stormwater pipe outlet to the ROW ditch. Flared end sections are required at all pipe outlet locations ((City Technical Standards, Ch. 5, D, 1).

13. All stormwater outlets should include a rip-rap energy dissipator (City Technical Standards, Ch. 5, F, 4).
14. Provide HGL calculations for the 10-year and 50-year storms and assume an appropriate tailwater condition (City Technical Standards, Ch. 5, D, 1, a).
15. A minimum 4-inch high vehicular barrier should border the proposed parking lot and is required around all landscaping (City SD 15-14). This is typically provided as curb & gutter, railroad ties, or landscape timbers. An additional vehicular barrier is not necessary in locations where wheel stops are provided.
16. The 4-inch high vehicular barrier should be provided along the southern edge of the parking lot and on both sides of the driveway throat. Please add a call out to note the type of vehicular barrier being proposed.
17. Show the sidewalk linework/expansion joint continuing through the proposed driveway apron per City SD 3-03.3.
18. The proposed driveway should be offset from the adjacent property to the south by a minimum of 6.5 feet measured at the curb line or edge of roadway (City Technical Standards, Ch. 7, C, 2, b, Table 4). The proposed driveway does not appear to meet this standard and is subject to variance by administrative adjustment.
19. Concrete being used as a driving surface in the parking area must be a minimum of 6 inches thick (City Technical Standards, Ch. 7, E, 2, a). Please add a callout and/or cross section detail.
20. Please provide a grading/drainage plan. Show roof drain locations.
21. Please include City SD 1-05 for pavement repairs/utility cuts on the plan.
22. 41st St will need to be demolished and repaired as one whole section for the multiple utility connections. Please show the limits of street demolition and repair on the plan.
23. The City standard detail for sidewalk has recently been updated (3/4/2024). Please replace City SD 3-10 on the plan with the most recent updated detail from the City website.
24. The proposed water meter and sewer manhole/valve should be relocated outside of the sidewalk and driveway apron (City SD 3-10, Note #1).
25. Provide all necessary City standard details in the plan set.
26. Please provide an email address for the applicant on the stormwater permit application form, Sect. III, #1.

Project Name: **Alloy**

TRC Date: March 21, 2024

Reviewer Name: Robert Bentfield

Reviewer Department/ Division: FIRE

Please address the following:

FDC must be within 40' of fire apparatus placement (FDC on back building is over 80')

Project Name: **Alloy**

Pre-TRC Date: **03.21.2024**

Reviewer Name: **Randall Glazier**

Reviewer Department/Division: **Traffic Engineering**

BASE INFORMATION:

- 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. 18-495 CofW Updated LDC]

TECHNICAL STANDARDS – DRIVEWAY ACCESS (Non-Major Thoroughfares):

1. Remove SD11-11 from plan.
2. The driveway curb return must be at least 6.5' from intersecting property lines. [Chapter VII, C, Table 4 CofWTSSM]
 - Administrative variance application required.

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

3. 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]
4. 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] [Sec. 18-693 CofW Updated LDC]. Add a note '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].
 - Add note to landscaping plan

TECHNICAL STANDARDS – PARKING:

5. The backing stub is to be 10' deep by 15' wide. Dimension backing stip. [Chapter VII, Detail SD 15-12 CofWTSSM]
6. All off-street parking facilities except those serving a detached single dwelling or duplex dwelling unit shall be designed so that ingress and egress is by the forward motion of the vehicle, unless approved by the design adjustment committee. [Sec. 18-344 (B) (7) CofW Updated LDC]
 - Provide turning movement analysis to demonstrate compliance.
7. Off-street loading facilities shall be constructed so that all maneuvering will take place entirely within the property lines of the facility and in a forward movement. [Sec. 18-346 CofW Updated LDC]
 - Provide turning movement analysis to demonstrate compliance.
8. The minimum radius is 25' for any portion of a parking lot adjacent to a travel way (i.e. islands at the end of a parking bay) for parking that is open to the public. If the travel way will not be used for emergency service vehicles or truck traffic, you may request a tighter radius, the minimum is 15'. [Chapter VII, Detail SD 15-13 CofWTSSM].

- Administrative variance application required.

9. Show detail of parking space delineation in gravel parking area.
10. Please show all the traffic control devices showing the traffic flow for this project.
11. Provide a turning movement analysis for largest vehicle expected in parking lot.

TECHNICAL STANDARDS – ADA:

12. Accessible aisle from ADA space to building should be marked. Including concrete areas.
13. Note the required and proposed number of handicapped spaces in the development data. [[Sec. 18-588 CofW Updated LDC](#)].

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 erect official street name signs at all intersections associated with the subdivision in accordance with the Technical Standards and Specifications Manual. The subdivider may acquire and erect official street name signs or may choose to contract with the city to install the street signs and the subdivider shall pay the cost of such installation. 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.
 - Verify notes are included and updated on plan.

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

Project Name: **ALLOY**
 TRC Date: **03.21.2024**
 Reviewer Name: **BILL McDow**
 Reviewer Department/Division: **PDT/Transportation Planning**

TECHNICAL STANDARDS:

1. The site has proposed a residential project at 1545 S. 41st Street.
2. Please revise the ITE Estimated Trip Generation Numbers for this project with the AM Peak Hour Total, PM Peak Hour Total and 24-Hour Daily Total for all proposed uses:

Land Use	Intensity	ITE Code	24 Hour Volumes	AM Peak Hour Trips		PM Peak Hour Trips	
				Enter	Exit	Enter	Exit
Multifamily low-rise, Proposed	6 units	220	40	1	2	2	1

3. Vehicles shall enter and exit the ROW in the forward direction. Vehicles will not be allowed to back into the S. 41st Street ROW.

Project: Alloy
TRC Meeting Date: 1/25/24 ; 3/15/24
Reviewer: Anna Reh-Gingerich
Department: Stormwater

To Whom It May Concern:

The Alloy project falls within the Hewletts Creek Watershed, which is listed on the regulatory 303(d) list as impaired due to pollution from stormwater runoff. The Hewletts Creek watershed specifically has a voluntary watershed restoration plan in place to encourage practices that will reduce the volume of stormwater that can transport bacteria and other pollutants into Hewletts Creek to eventually reopen areas of the creek for shellfish harvest.

Link to the plan: [Bradley and Hewletts Creeks Watershed Restoration Plan](#)

My comments:

New

1. Thank you for using all native plants in the landscaping!

Carried over from Pre-TRC

1. ****We still have funds available if you're interested!**** The HOW Program has a new cost-share program that offers up to \$10,000 for commercial, mixed use, and other high-density properties and HOA common areas in the Hewletts Creek Watershed to install green infrastructure above and beyond their permitted stormwater requirements. For example, this funding could be used to add additional measures such as rainwater harvesting, bioretention area/rain garden, green roof, and more. The brochure shows specific pricing and eligible practices, all of which are practices we encourage for water quality. Funding is available first-come, first-served until funds are depleted each fiscal year. If interested, please send me an email at anna.reh-gingerich@wilmingtonnc.gov.

Link to brochure:

<https://www.wilmingtonnc.gov/home/showpublisheddocument/17445/638406691212070000>

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. Massachusetts "Green Parking" example: <https://www.mass.gov/service-details/demonstration-3-permeable-paving-materials-and-bioretention-in-a-parking-lot>
 - b. NCDEQ Stormwater Manual, Bioretention Cell Chapter: <https://deq.nc.gov/media/17536/download>
 - c. Filterra boxes (adding trees and stormwater management in one practice): <https://www.conteches.com/stormwater-management/biofiltration-bioretention/filterra>
 - d. ***Below are examples of bioretention, vegetated swales, and curb cuts.***



3. 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/>
4. 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/>
5. Additionally, stormwater fee credits up to 40% may be available to incentivize innovative stormwater management to help achieve the stormwater volume reduction targets identified within the watershed restoration plan. Contact Fred Royal (Frederic.royal@wilmingtonnc.gov) for more information.



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

Thank you,

Anna Reh-Gingerich

Watershed Coordinator - Heal Our Waterways Program
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