

**To:** Nadean Shovels, Kimley-Horn  
**From:** Brian Chambers, Assistant Director; 910.342.2782  
**CC:** File;  
**Date:** 4/1/2024  
**Re:** Fairfield Park – Foundations Early Learning TRC Rev 1

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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	Comments attached
Randall Glazier	Traffic Engineering	Comments attached
Bill McDow	Transportation	Comments attached
Sally Thigpen	Urban Forestry	No comments
Anna Reh-Gingerich	Stormwater Services	Comments attached

### Planning Review

Brian Chambers, [brian.chambers@wilmingtonnc.gov](mailto:brian.chambers@wilmingtonnc.gov), 910.342.2782

#### Comments:

- Please provide master land use plan showing compliance with MX land use mixing ratios and FAR limits as part of your formal submittal package.
- Provide master POA documents for Fairfield Park that show compliance with MX unified control standards.
- Please provide master common space/open space plan showing compliance with MX standards.
- Provide both graphic and numeric scales.
- Include both required and proposed building setbacks.
- Include proposed impervious coverage (sq. ft and %)
- Pedestrian connections to the adjacent pedestrian facilities (sidewalks) are required.
- Show tree removal on top of proposed improvements.
- Protected trees cannot be removed from required streetyard.
- Significant trees removed will require mitigation.
- Show tree protection fencing (1 foot per 1 inch DBH).
- Identify method for handling solid waste (dumpster?)
- Show tree protection fencing (1 foot per 1 inch DBH).
- Street trees are required and must be 3-inch caliper at time of planting.(Sec. 18-185 (d) (9))
- Canopy trees are required in all landscape islands.
- Streetyard can be reduced 50% on secondary frontage (Fairview Dr).

Project Name: **Foundation Early Learning**

TRC Date: April 4, 2024

Reviewer Name: Robert Bentfield

Reviewer Department/Division: FIRE

Please address the following:

Sprinkled Building being 12,500 sq ft daycare??? If so,

- Show all FDC locations on the plan.
- FDC must be on the front of the building unless otherwise approved.
- Fire apparatus access road shall have an inside turning radius of no less than 25'. We have a small margin of latitude here, but the 10' inside radius will not be adequate.
- All exterior portions of the building must be within 150' of a fire department access road. This is determined by location the fire apparatus stops in the parking area or access road. The current building configuration does not meet those requirements, relocate the building or install fire sprinklers, however installing Fire Sprinklers will only give you 200' from apparatus access.
- The Dry-Barrell FDC in the rear needs to have one connection in the front of the building with a 1 1/2 inch intake and the other in the rear with a (2) 2 1/2 inch gated Wye

Please add the following Fire & Life Safety Notes to the plan:

- FDC must be within 40' of fire apparatus placement
- Private Underground Fire Lines require a separate underground fire line permit from the Wilmington Fire and Life Safety Division 910-343-0696
- All isolation valves within the "Hot Box" and between the "Hot Box" and the riser room, must be electrically supervised.

Project Name: Foundation Early Learning  
Formal TRC Date: 04/04/2024  
Reviewer: Eric Seidel, PE  
Department: Engineering – Plan Review Section

1. It is our understanding this project was previously permitted through NCDEQ as part of the Fairview Master Plan. Please reach out to the State and determine what modifications / rescissions are necessary for compliance. The city is fine with permitting this project separately as this section of the Master Plan was never constructed. Please forward NCDEQ correspondence and/or modification approvals when received.
2. Provide Narrative, Pipe HGL, 1.5" Water Quality, Rip-Rap, and Infiltration Basin routing calculations in a separate signed/sealed Engineering report. No need to keep calculations on construction drawings.
3. Stormwater Application: Sign & Notarize Applicant's Certification on page 6 of 6. Initial checklist on page 5 of 6.
4. Stormwater Application Line Item #8: Provide Impervious surface area for the building, it looks to have been included with Impervious Pavement.
5. Stormwater Application Line Item #12: Include public sidewalk and portion of driveway apron within the right-of-way.
6. Stormwater Application Line Item #14: Include the WAWA impervious surface as "Offsite", assure this number matches the WAWA Application & Offsite Supplement.
7. Stormwater Application Line Item #14: WAWA drainage area should be shown as Off-Site and taken from the On-Site Total of 4.5 ac. Update Total Impervious & Percent Impervious once WAWA impervious is included.
8. Grading Plan C401: Provide Impervious Data Table breakdown as shown within Line Item #8 of the Stormwater Application.
9. Grading Plan C401: Adjust grades around landscape island so runoff to ST: D2 drains per inlet drainage map.
10. Grading Plan C401: How is roof drainage being captured? Look to provide direct connections to proposed stormwater system. Could tie roof drains into proposed stub outs and convert to Yard Inlets?
11. Grading Plan C401: Consider adding yard inlets within playground area. Runoff from all Built Upon Area must be captured and treated by Infiltration Basin.
12. Sheet C502: Change Title of Dry Pond to Infiltration Basin. A Dry Pond qualifies only as a Secondary Treatment Measure.

13. Sheet C502: Show SHWT on Cross Section and assure 2' of separation is proposed.
14. Sheet C502: Provide additional detail for proposed orifice. Is it just a 12" hole drilled into the structure?
15. Provide Rip-Rap calculations with Engineering Report. Label / Dimension Rip-Rap Aprons on plans.
16. Have Playground Plans "By Others" been completed? If so, please include with next submittal.

**BASE INFORMATION:**

- Accurately illustrate the existing conditions on and surrounding this parcel. Show all adjacent traffic signs, lane configurations, traffic control devices, pavement markings, utility poles, nearby driveways, and streetlights on the site inventory plan. Please refer to the [Technical Standards and Specifications Manual 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](#)]

**NCDOT:**

Carolina Beach Rd is a NCDOT R/W. It is the Applicant's responsibility to coordinate directly with NCDOT to determine if any driveway permits/ revisions/ review processes are required. Contact NCDOT at 910-398-9100.

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

1. 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](#)]
2. Dimension driveway widths and tapers.
3. The maximum two-lane [Commercial] driveway width is 30'. [[CofW Tech Std. VII, Sec. \(C\) Table 3](#)]
4. Provide sidewalk detail SD 3-10 on the plan. [[18-494\(E\) CofW Updated LDC.](#)]
5. 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 on 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.](#)]

**SIGHT DISTANCE TRIANGLE FOR ANY STREET/DRIVEWAY INTERSECTIONS WITH THOROUGHFARES**

6. Carolina Beach Rd is a major thoroughfare [[Chap VII \(C\) \(2\) \(a\) of CofW Tech Stds.](#)]. In accordance with the City Code, sight distances along thoroughfares must be calculated in compliance with the AASHTO requirements. [[Chap VII \(C\) \(1\)\(c\)\(7\) of CofW Tech Stds](#)] [[Sec. 18-667 CofW Updated LDC.](#)] Show AASHTO sight clearances in addition to 20'x70' and 46'x46' SDT.

**TECHNICAL STANDARDS – PARKING:**

7. 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, \(E\) \(4\) and Detail SD 15-13 CofWTSSM.](#)]

**TECHNICAL STANDARDS – ADA:**

8. Show the typical handicap sign detail on the plan as per ADA and City standards. [[Detail No.: TE7-01 & TE7-02](#)] [[CofW Sign Specification and Installation Guide](#)] [NCGS § 20-37.6](#)

9. The proposed 5' sidewalk adjacent to 90-degree parking spaces shall meet ADA requirements. 2.5' shall be considered for an extended vehicle overhang zone. 4' of the sidewalks must remain clear for pedestrian use [Chapter VII, Detail SD 3-07 & SD 15-13 CofWTSSM] [Page 7-20 of CofWTSSM]
10. ADA parking signage shall be outside of a 2.5' vehicle overhang area where vehicles may damage or be damaged by. [Page 7-20 of CofWTSSM]
11. Please show location of accessible ramp(s) and parking signs and provide details on the plan.
12. Note the required and proposed number of handicapped spaces in the development data. [Sec. 18-529(b)(2) CofW LDC] [Sec. 18-588 CofW Updated LDC].
13. Note/label the plan with spot elevations that clearly indicate the accessible route from the handicap space(s) to the building. [Sec. 18-529(b)(2) CofW LDC] [Sec. 18-588 CofW Updated LDC].

**GENERAL NOTES TO ADD TO THE PLAN:**

- A. It shall be the duty of the owner, agent, or occupant of any building to properly display a building number that has been assigned by the city manager. The number shall be displayed in a conspicuous place so that it may be plainly seen and observed from the street.
- B. Street trees must be located a minimum of 15 feet from streetlights. [CofW SD 15-17]
- C. 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.
- D. 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]
- E. 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]
- F. All traffic control signs and markings off the right-of-way are to be maintained by the property owner in accordance with MUTCD standards.
- G. All parking stall markings and lane arrows within the parking areas shall be white.
- H. 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.
- I. Any broken or missing sidewalk panels and curbing will be replaced.
- J. Contact 811 prior to contacting City of Wilmington, Traffic Engineering regarding the utilities in ROW.
- K. Contact Traffic Engineering at (910) 341-7888 to discuss street lighting options.
- L. 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: **FOUNDATIONS EARLY LEARNING CENTER**

TRC Date: **04.04.2023**

Reviewer Name: **BILL McDow**

Reviewer Department/Division: **PDT/Transportation Planning**

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**TECHNICAL STANDARDS:**

1. The Carolina Beach C-Store and Sunshine Daycare TIA with conditions was completed on January 19, 2024. The project will be required to implement the TIA improvements.
2. Please show the full intersection of Carolina Beach Road at Echo Farms Blvd and George Anderson Drive on the site plans.
3. The Fairview Driveway requires 75' internal protective stem length and Stop Control. [\[Carolina Beach C-Store TIA Approval with Conditions Letter\]](#) Please revise.
4. The proposed speed cushions/ speed humps on the site plan shall not interfere with the 75' internal protective stem length. Please ensure the devices are placed outside the required protective stem length.
5. The proposed speed cushions/ speed humps on the site plan shall not interfere with Fire and Rescue Response. Please ensure the devices meet MUTCD and WFD requirements.
6. The TIA approval with conditions letter for the intersection of Carolina Beach Road at Echo Farms Blvd and George Anderson Drive requires a SB, Left Turn Lane with 250' Full Storage, and appropriate Deceleration and Taper length on Carolina Beach Road. [\[Carolina Beach C-Store TIA Approval with Conditions Letter\]](#) Please extend the SB Left Turn Lane to 250' Full Storage length plus appropriate Deceleration and Taper length.
7. The TIA approval with conditions letter for George Anderson Drive requires 325' Full Storage, WB, Left Turn Lane. [\[Carolina Beach C-Store TIA Approval with Conditions Letter\]](#) Please revise the Left Turn Lane to provide 325' Full Storage for the WB Left Turn Lane.
8. The TIA approval with conditions letter for the George Anderson Site Driveway includes a Right In Right Out configuration and 50' internal protected stem length. [\[Carolina Beach C-Store TIA Approval with Conditions Letter\]](#) Please provide the RIRO driveway with concrete island and 50' internal protected stem length.
9. The proposed 100' Right Turn Lane Taper for the George Anderson Driveway does not meet the AASHTO requirements for a 35-mph facility. [\[Carolina Beach C-Store TIA Approval with Conditions Letter\]](#) Please revise the taper length.
10. The TIA improvements for the left turn lane at the intersection of George Anderson Drive, Fairview Drive and Breezewood Drive requires an EB Left Turn Lane with 75' storage. Please revise the Two-Way Left Turn Lane for the 75' Left Turn Lane.
11. The TIA approval with conditions letter for the Carolina Beach Road driveway requires a NB Right Turn Lane with 200' full storage, plus an appropriate deceleration length and taper length. [\[Carolina Beach C-Store TIA Approval with Conditions Letter\]](#) Please revise the deceleration length and taper length (based upon AASHTO requirements for a 45-mph roadway).
12. Please label the width and location of the 5' public sidewalk on Fairview Drive.
13. The intersection of Carolina Beach Road and George Anderson Drive does not show pedestrian markings for the Crosswalk along George Anderson Drive and the Crosswalk across Carolina Beach Road to Echo Farms Blvd. Please show the marked crosswalks on the site plan.

14. The Carolina Beach Road and George Anderson Drive intersection does not show the pedestrian signal equipment. Please coordinate with City Traffic Engineering and NCDOT to install the pedestrian signal equipment.
15. Please show the existing WAVE Transit Bus Stop on Carolina Beach Road.
16. Please ensure curb ramps are aligned with crosswalks.
17. Please show internal sidewalk and connect to public sidewalk.

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



**Project:** Foundation Early Learning formerly Fairfield Park – Sunshine House

**TRC Meeting Date:** 6/8/2023 ; 4/4/2024

**Reviewer:** Anna Reh-Gingerich

**Department:** Stormwater

To Whom It May Concern:

The Foundation Early Learning 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. Thank you for incorporating an infiltration basin!
  
2. Thank you for incorporating several native plants into the landscaping! 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. For the remaining non-native trees and shrubs, such as the nandina domestica which has varieties that are considered invasive in NC, consider this list that NC Cooperative Extension put together of recommended native trees, shrubs, and grasses for urban areas:  
<https://www.wilmingtonnc.gov/home/showpublisheddocument/17120/638301074568030000>
  - b. There are more great options in this booklet, including trees, flowers, shrubs, screening plants, and groundcovers: <https://ncwildflower.org/handouts/Coastal-Landscaping-Guide-Book.pdf>
  - c. Many resources are available in the [Learning Library](#).

\*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. If there's additional space, 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. If the soils and water table levels allow, consider incorporating pervious materials or reducing some of the parking to preserve green space. Any replacement of impervious material with pervious material (pavers, pervious concrete, porous asphalt, grass) would help reduce the amount of stormwater runoff being generated:

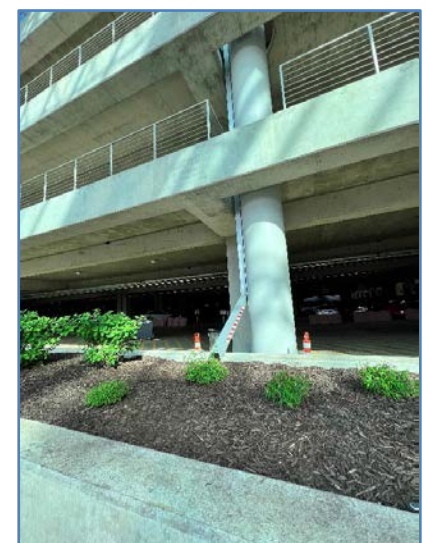
- a. <https://deq.nc.gov/media/17539/download>



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](https://nacto.org/docs/usdg/stormwater_planter_crwa.pdf)
  - d. <https://emswcd.org/in-your-yard/rain-gardens/stormwater-planters/>

5. Incorporate native plants wherever possible in future landscaping plans. Native plants require less maintenance (fertilizers, pesticides, water, etc.) than non-native plants to grow successfully since they are already acclimated to local conditions. Many resources are available in the [Learning Library](#).



6. 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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