

Loudoun County School Board
LCPS The North Star School at C.S. Monroe Property
TLSE 2018-0008
Third Response to Referral Comments, dated June 19, 2019
July 12, 2019

TOWN PLAN COMPLIANCE

Comment 1: Land Use, General Objectives (2nd CCL Comment #1): Comment Remains. On page 6-5 of the *Town Plan*, reference is made to general objectives, in pertinent part, to protect residential areas, preserve and expand town character, and accommodate growth. Specific comments relating to these stated objectives were provided in the First Consolidated Comment Letter. Staff notes that these policies advocating traditional character and compatibility with adjacent uses will continue to guide staff's review of the project. (*Project Manager Comment*)

Response: Acknowledged. LCPS has reviewed the Town Plan. The project has been designed to reflect the Town's adopted objectives and policies.

MODIFICATIONS AND WAIVERS

Comment 2: Waiver Request: Zoning Ordinance Section 12.8.6.D.2 (Table 12.8.6.B) Screening (Previous Comment #2): Withdrawn

Response: Acknowledged

SPECIAL EXCEPTION PLAT (PLAT)

Parking and Loading

Comment 3: Parking Spaces Provided (2nd CCL Comment #3): Comment Satisfied

Response: Acknowledged

Comment 4: [New Comment] Proposed Parking. Sheets 3, 4, 5 and 6 of the Special Exception Plan incorrectly include a label denoting 18 parking spaces in the westernmost parking bay, but the actual number of parking spaces depicted is 16. Therefore, revise as follows: (*Zoning Comment #1*)

- a. Revise the labels to read as 16 spaces;
- b. Revise the total number of parking spaces listed within the depicted building footprints on Sheets 3-7, 11, 14 and 15 to read as 365 instead of 367; and,
- c. Revise the number of parking spaces provided on Sheet 3 in the Parking Requirements table tabulations to read as 365 instead of 367.

Response: The label for the westernmost parking bay has been changed from 18 to 16 (spaces). Two new spaces have been added to the parking bay on the south side of the building

and the labels have been changed from 8 to 9 (spaces). A total of 367 spaces have been provided.

Landscaping and Buffering

Comment 5: [New Comment] **20 Year Tree Canopy.** Total Exclusions From Minimum Tree Canopy Calculations (Section 12.3.2.(C)) in the 20 Year Tree Canopy Worksheet on Sheet 19 lists 0 SF of canopy, but should read as the entire site SF as this is a dedicated school site. Therefore, revise the table as follows (*Zoning Comment #3*):

- a. Revise #3 to read as “0 SF”,
- b. Revise #4 and #5 to read as “0 SF” and
- c. Revise #6 thru #9 to read as “NA”.

Response: The 20 Year Tree Canopy Worksheet on Sheet 19 has been revised as requested to include 0 SF for Items #3-5 and N/A for Items #6-9.

Comment 6: [New Comment] **Perimeter Parking Lot Landscaping.** In addition to the requirement to provide one (1) tree for every forty feet of street frontage, all parking lots adjacent to a public street must also be screened along the street frontage through the planting of shrubs, hedges and/or the creation of berms. Spacing of shrubs shall be no greater than four (4) feet and shrubs shall have a height of at least eighteen (18) inches per TLZO Sec. 12.5.3.C.

While the tree requirement for perimeter parking lot landscaping has been met with this proposal, the shrub requirement has not been met. Given a distance of approximately 300 feet of adjacent parking lot parking spaces and a required shrub spacing of at least 4 feet, 75 shrubs are required.

Revise Sheet 14 to add the required shrubs and further revise the Perimeter Parking Lot Screening table on Sheet 17 to include tabulations for the required shrubs. (*Zoning Comment #2*)

Response: The required shrubs have been added to Sheet 14 and noted on Sheet 17.

Comment 7: **Tree Management Report (2nd CCL Comment #4): Comment Satisfied.**

Response: Acknowledged

Comment 8: **Tree Preservation and Easements (2nd CCL Comment #5): Comment Satisfied.**

Response: Acknowledged

Comment 9: **Buffer Yard Tree Credit (2nd CCL Comment #6): Comment Satisfied.**

Response: Acknowledged

Comment 10: Limits of Clearing and Grading (2nd CCL Comment #7): Comment Satisfied.

Response: Acknowledged

Comment 11: Additional Buffer Screening (2nd CCL Comment #8): Comment Satisfied.

Response: Acknowledged

Project Site Design/ Building Architecture

Comment 12: Concept Design Presentation/Architectural Elevations: (2nd CCL Comment #9)

Comment Remains. The Applicant has submitted revised architectural renderings entitled, *The North Star School Concept Design Presentation*, dated May 10, 2019, prepared by Stantec showing floorplans, elevations and materials proposed for the new school building.

Although the Subject Property lies outside of the H-1 or H-2 Overlay Districts, the *Town Plan Central Sector* objectives guide new construction to model design elements of the Old and Historic District (H-1) and to strive for human-scaled architecture and public spaces. Human-scaled architecture for large institutional buildings, like that proposed on the Subject Property can be achieved through architectural design techniques to reduce massing. This is given heightened importance, in this particular case, given the surrounding residential neighborhoods and the substantial difference in scale between the proposed building and the existing homes.

Established techniques for reducing building mass in the H-1 Old & Historic District are provided in the *H-1 Guidelines*, Chapter VII.F Massing and Complexity of Form. Those specific techniques that would appear to be most effective, in the present case, include the following:

- **Vary the surface planes of the elevations.** Varying the surface planes of a large building may be a way to make structures more consistent with the design of smaller historic buildings. The differences in surface planes may be as little as one or as great as ten feet.
- **Break up the roofline.** Breaking up the roofline of larger buildings into smaller components may help reduce perceived mass of large buildings.
- **Use bay divisions on the elevations.** Create bay divisions on the façade of large buildings to allow the building to reflect the massing of smaller-scaled historic structures.
- **Vary the materials.** Use variations in materials, textures, patterns, colors, and detail to reduce the visual impact of the mass of large buildings.

- **Step back an upper story.** In instances where it is determined to have no adverse impact on the character of the streetscape, stepping back upper stories as a building increases in height may be a successful way reduce the perceived mass of the structure.

Staff pointed to examples of these techniques found in institutional building architecture throughout town. Some specific examples include Douglas Elementary School, Old Loudoun County Courthouse, Loudoun County Courthouse expansion, and the Loudoun County Courthouse Law Library.

In response, the revised drawing set was prepared, and the changes therein explained in the May 15, 2019 Response Letter as having addressed staff's direction with the following changes to the design:

- i. Building massing has been broken into four smaller blocks. Each of the four blocks now sit on a different plane;
- ii. The once continuous roofline has been broken by the second story block rising higher than the rest. Additionally, the gym volume located in the middle building also punctures the roofline;
- iii. Glazing on the revised façade reduces the amount of glass expanse into human scaled punched openings that relate to the surrounding housing development; and,
- iv. Building materials have been adjusted to horizontally cut the building in half. The revised elevation has discernable levels as well as smaller massing blocks which should fit in well with the adjacent two-story houses.

When comparing the two design concepts presented for this project, the December 13 Concept Design better illustrates the massing and complexity of form guidance expressed in the H-1 Design Guidelines staff recommends for guiding the design of this project.

- The December 10 Concept shows better and more complex variation in surface planes through horizontal and vertical architectural elements and changes in building materials;
- There is not much difference in the variation of the roofline between the two Concepts. But what are now minor variations in the roofline can be made greater when the December 10 Concept is revised to accommodate the additional gfa proposed in this latest submission;
- Bay divisions expressed in the December 10 Concept are more clearly defined, more interesting and have the effect of breaking up the mass of the building into a more human-scale than the May 10 Concept;
- Material variations are more complex, more interesting, and more indicative of a traditional institutional building versus the May 10 Concept; and,
- The design change that creates a second story that cantilevers beyond the outer walls of the first story is completely opposite the H-1 massing reduction technique to step upper stories back where appropriate.

Staff would be more supportive of the December 13 Conceptual Design before the Planning Commission. (Understanding some revisions are needed to accommodate programming needs at the facility). This position is based on the assessment that between the two conceptual designs, the December 10 Concept Design is more appropriate in the setting where the facility is located, and more closely follows the H-1 Design Guidelines as recommended by the *Town Plan's* Central Sector development objectives. (*Project Manager Comment*)

Response: The comment is acknowledged. The design of The North Star School is at a conceptual level of development and LCPS will remain open to comments on the design as the project progresses through the Town approval process.

Through meetings with the LCPS Department of Instruction, the building plans were amended with the last submission to refine key adjacencies of the spaces, delineate between the Adult Education and Alternative Education program spaces, where needed, and improve circulation throughout the building to support operations and student experiences. Additionally, the plan development brought opportunities for enhanced collaboration spaces, a key requirement to support educational strategies and flexibility for students and staff.

In response to site and building-related referral comments and to accommodate the additional LPN class, the functional arrangement of the floor plans on both levels changed from the December Submission. Likewise, the massing and development of the façade changed to align with the functional requirements and to respond to comments received. The December massing and elevations no longer fulfill the requirements of the revised plan functionality.

With Stantec, LCPS did review options when considering where and how to add the new program requirements to the December footprint and floor plans. The option of “infill” at the western end of the building was studied. Infill at that location created challenges where classroom spaces no longer had direct access to daylight and the location created circulation issues resulting in a less efficient plan. Additionally, providing the necessary delineation between Adult Education and Alternative Education spaces was an issue with that configuration.

Noting that the site is not located in the Town of Leesburg Historic Districts (H-1 or H-2), the Town Plan recommends the use of techniques from the H-1 Design Guidelines to create human-scaled architecture in public places. LCPS offers the following in response to the comments provided and the references to techniques from the H-1 Design Guidelines:

- ***Vary the surface planes of the elevations.*** *Varying the surface planes of a large building may be a way to make structures more consistent with the design of smaller historic buildings. The differences in surface planes may be as little as one or as great as ten feet.*
 - Each of the current elevations in the May 10 conceptual design has a minimum of two distinct planes of varying depths – the south and east

elevations each have four planes and the north (front) elevation has five planes. There remain opportunities in the current concept to further develop the surface planes of the building while weighing constructability and cost. Refinement and detailing of the materials will be continued with consideration to further variation.

- ***Break up the roofline.*** *Breaking up the roofline of larger buildings into smaller components may help reduce perceived mass of large buildings.*
 - In the current May 10 concept, there is less area of raised roofline when compared to the December concept; this has been isolated to the portion of the plan where the gym is located and is focused on the portion of the building that orients towards the Route 7 Bypass. Effort was made to minimize the massing relative to roofline on the portions of the building that orient toward residential neighbors. At this point in the project development, the footprint of the building has generally been fixed; adjusting the location of the larger volume spaces that influence the roofline will be challenging, however, LCPS will continue to look at options.

- ***Use bay divisions on the elevations.*** *Create bay divisions on the façade of large buildings to allow the building to reflect the massing of smaller-scaled historic structures.*
 - In the current May 10 concept, bay divisions on the elevations have a more horizontal approach when compared to the December concept. This approach is rooted in the functional floor plan with the administrative functions now oriented along the front elevation with smaller scaled window openings allowing for observation of the site as well as creating an approachable human scale at the entry. The horizontal division of the two stories through a portion of the building also breaks the massing down in scale when compared to the verticality of the December concept. Variation through the detailing of surface planes will continue to be studied relative to this objective.

- ***Vary the materials.*** *Use variations in materials, textures, patterns, colors, and detail to reduce the visual impact of the mass of large buildings.*
 - Materials will continue to be studied as the project develops to include consideration of expanses of glazing, varying planes of the elevation and utilization of textures and colors to further break down the massing of the building. At the current conceptual level of development, the proposed materials include brick, phenolic, polycarbonate and metal panels with glazing in varying textures and

color to create interest and reduce the scale of the building. The exterior details will also work to further reduce the visual impact in the larger planes of the building.

- ***Step back an upper story.*** *In instances where it is determined to have no adverse impact on the character of the streetscape, stepping back upper stories as a building increases in height may be a successful way reduce the perceived mass of the structure.*
 - With the revisions required for the onsite vehicular circulation and the additional LPN class, care was taken to not enlarge the overall footprint of the building. By creating a step back on the first floor level for a portion of the building, the footprint was minimized. Functionally, with the revisions required for the bus loop relative to the site, the overhang of the cantilevered second floor provides coverage from inclement weather for student arrival and dismissal. The site does not have an urban streetscape where stepping back upper stories may be a more powerful strategy to reduce the perception of mass. The set back at the first floor level for a school provides a human scale entrance and practical coverage for weather.
 - In addition to the architectural elements, the building itself is set back more than 200' from the Foxridge community and over 300' from the Park View Estates community.

As noted, the design of The North Star School is at a conceptual level and LCPS will continue to receive the input of Town Staff and through the public process on the development and refinement of the design.

Comment 13: Dumpster Location/Screening (2nd CCL Comment #10): Comment Satisfied.

Response: Acknowledged

Comment 14: Entrance Sign (2nd CCL Comment #11): Comment Remains. On Sheet 3, Note 3 has been added that states, “*Signs erected by a government body for public benefit are exempt from the sign regulations in accordance with TLZO Sec. 15.4.A*”. This note is incorrect as TLZO Section 15.4.A only exempts such signs from obtaining sign permits. All other applicable sign regulations still apply to government signs. Note 3 has also been added to include, “*Any new sign will be placed outside of the public right-of-way*” per staff recommendation in the 2nd CCL. (*Project Manager Comment*)

Response: The note on sheet 3 has been revised to read: “Signs erected by a government body for public benefit are not required to obtain a sign permit per TLZO Sec 15.4.A. The future sign

will comply with all applicable requirements of TLZO Sec 15. Any new sign will be placed outside the public right of way.”

Noise Abatement

Comment 15: Noise Abatement Corridor (NAC) (2nd CCL Comment #12): Comment Satisfied.

Response: Acknowledged

STORMWATER MANAGEMENT

Comment 16: Comments related to Proposed Facilities (2nd CCL Comment #13):

Comment Remains. Staff is unable to verify that the Virginia Stormwater Management Act requirements for this site can be met with the proposed layout and treatment methods as shown. If the applicant plans to utilize treatment and or detention facilities currently shown on this application with the final construction drawings, the following items, at a minimum, must be addressed with the next submission:

- a. **Quality Design:** Address the following items concerning Stormwater Quality Design:
 - i. In order to be consistent with other approved Special Exception Applications in the Town, revise the BMP analysis and narrative to use the New-Development criteria such that the application demonstrates that the project results in being site neutral. (Sht. 8) [9VAC25-870-63.A.2]

Comment remains. *The proposed site design does not meet the Site Neutral criteria as it relies the purchasing of offsite nutrient credits for over 40% of the site pollutant removal requirements. Additionally, the VRRM computations must to be updated to include the frontage improvements along Childrens Center Drive and included in the site removal requirements.*

Response: The VRRM calculations on sheet 8 have been revised and show a pollutant removal of 93.4%. They include Childrens Center Drive improvements. See sheet 8, Note 1 states “As shown in these calculations, this design provides 93.4% Total Pollutant (TP) reduction. Therefore, the remaining 0.58 nutrient credits (6.6%) are proposed to be purchased from a state approved nutrient credit bank per 62.1-44.15.35 of the code of Virginia. Please note that these computations may vary with the final site plan.”

Comment remains. *The land use computations provided on sheet 8 consider the area outside of the disturbed area to be forested in the proposed condition, but are not being shown in a conservation easement for protection against future disturbance. Update the plan to reflect the Land Cover Conservation easement, which is required at the time of site plan to utilize forested areas in the VRRM spreadsheet.*

In addition, the proposed bioretention surface areas are shown as turf area rather than forested area as specified by the DEQ SWM Handbook, Vol. 2. Review and revise proposed land cover analysis and revise the VRRM computations to match. (Sht. 8) (DPR Comment #4)

Response: The VRRM calculations have been updated to reflect the bioretention areas as “Forest/Open Space”. See sheet 8. Note 2 states “Areas considered “Forest/Open Space” for VRRM calculations shall be within a land cover conservation easement, which shall be delineated and recorded with the final site plan.” The easement will be dedicated on plat and deed during final site plan.

- ii. **Comment Remains.** Provide a DEQ VRRM Spreadsheet (new development) to reflect the water quality removal requirements of the site and to verify that the removal requirements have been met through the provided onsite BMPs. (Sht. 8) [9VAC25-870-63.A.2]

Comment remains. The proposed BMP narrative and comment response states that “LCPS plans to purchase nutrient credits for any remaining nutrient deficit, as determined by state code.” As shown on the proposed stormwater calculation, about 40% of the total pollutant removal requirement (4.15 lb./yr. out of 10.20 lb./yr.) cannot be achieved by the onsite BMPs as currently designed. Although the state requirements allow for up to 25% of nutrient credit purchase for sites over 10 acres of disturbance and 5 lb./yr. of removal requirements, the Towns position is that all Special Exception and Rezoning plans must be designed to be site neutral (i.e. meet greenfield post development loading) for stormwater quality. Town Staff has achieved this through requiring all Special Exception and Rezoning plans use new development criteria (which is based off an existing greenfield condition) and provide 100% of the required pollutant removal be provided on site. Also, if Auto Repair is to be a part of the curriculum, the site will be considered a BMP “hot spot”, which has similar requirements as noted above in addition to requiring oil grit separators. Review and revise the stormwater management plan to meet these design requirements.

Response: VRRM and BMP calculations have been completed and shown on sheet 8. While there may be minor modifications to these with final plans, the computations show that the site will provide a 93.4% TP removal by use of bioretention facilities and manufactured devices, which is significantly greater than the 75% required per DCSM and State regulations. It must be noted that the existing site contains no stormwater management facilities, and currently provides 0% pollutant removal. The proposed design will provide 93.4% pollutant removal in a feasible, cost effective, and maintainable design. Additionally, Auto Repair will not be part of the curriculum for this site, as that was moved to the Academies of Loudoun last year. Therefore, additional BMP measures for “hot spots” are not applicable. See sheet 8.

Comment remains until comment 13.a.i is addressed. As previously mentioned, the Town will review the total treatment provided by the special exception plan and the maximum extent practicable of onsite treatment. It should be noted that Town Council is typically looking for a project to be able to claim that it is site neutral with regards to water quality, which has been achieved by providing 100% of the pollutant removal on site on other projects. The final water quality design is ultimately up to Town Council to approve as long as it meets minimum state criteria. Staff continues to request that 100% of the pollutant removal be achieved on site. (Sht. 08) (DPR Comment #4)

Response: See previous response. The proposed facilities on this plan provide an improvement of treatment on site from 0% to 93.4% TP removal and comply with Town ordinances and State code. As stated in the comment, this design provides the maximum extent practicable of onsite treatment. The remaining 6.6%, or 0.58 lbs. of phosphorus, is proposed to be purchased from a state approved nutrient credit bank.

- b. Quantity Design:** Address the following items concerning Stormwater Quantity Design:
- i. The DCSM requires compliance with the Virginia Stormwater Management Act channel protection energy balance equation and/or onsite detention of the 2 year storm (if a manmade conveyance to the floodplain) in addition to providing onsite detention of the or 10 and 25 year storms to predevelopment levels within the Town Branch Sub basin, which this site is within, in addition to the channel and flood protection requirements of the Virginia Stormwater Management Act. All concentrated discharges of stormwater must also be analyzed from the point of discharge from the site to floodplain in order to verify that an adequate conveyance is provided for the entire run. Provide enough preliminary calculations to support the adequate outfall analysis determination in the adequate outfall narrative and meet the criteria listed above. (Sht. 8) [DCSM Section 5-341.1.B.1, 5-341.2 & 9VAC25-870-65]

Comment remains. The routing for the 25yr storm in Bioretention "B" shows that the embankment will be overtopped in the 25yr storm event. As the intent of the BMP is to also provide water quantity control for the 25yr storm, it must adequately convey the required storms without overtopping. Review and revise the BMP design to meet all applicable state and local criteria for water quality and quantity design and provide adequate freeboard to the top of the settled embankment.

Response: Bioretention "B" has been redesigned to provide a 2.2 ft freeboard above the 25-year storm event. See sheet 10, see the calculations for Pond

B:Bioretention B, the 25 yr. water surface elevation (WSE) is 386.30. On sheet 4, the top of bioretention facility B is 388.5, therefore 2.2' of freeboard is provided.

*Comment remains. At the time of site plan, provide a pre and post development analysis of the downstream storm sewer system for the 25 yr. storm to verify that the plan has no adverse impacts and does not negatively impact any downstream properties. The limit of analysis for this analysis should be the point at which the downstream system daylight into a natural channel or stream. (Sht. 4, 8-10)
(DPR Comment #4)*

Response: Acknowledged.

- ii. *[New Comment] The Grading Plan and SWM Computations plans do not match for multiple elements of the Treatment Volume requirements and are inconsistent between both facilities. For example, the storage volume depth/top of structure in the bioretention A routing and grading plan sheet do not match. Also, there are inconsistencies between the grading sheet and stage storage table concerning the inclusion of the pea gravel and mulch layers in both bioretentions. Review and revise the plans and routings to be consistent with each other and match the grading plan such that staff can agree that the layout as proposed can be constructed without changing the layout at the time of site plan.*

Additionally, bioretention B is shown to require 1 foot of above ground storage area to meet the Treatment Volume requirements, however the DEQ Clearinghouse Specification No. 9 requires a special planting plan if there is greater than 6 inches of ponding volume. Provide a note that states a specialized planting plan will be provided at the time of site plan. (Sht. 4, 8-10)

Response: The routings and grading plans have been reconciled for both bioretention facilities. For example, in Bioretention A, see sheet 10 for Stage Storage Volume calculations; at elevation 391.5, 4,646 sq. ft. of area is required. On Sheet 4, Surface Area provided is 4,646 sq. ft. @ elevation 391.5. All other elevations are based off of the standard bioretention specification 9. Additionally, the requested note has been added to sheet 10 to reflect that both bioretention facilities will have the planting plan added, as both are currently designed with 12-inches of ponding volume, during final site plan design. See sheets 4 & 10.

- c. **BMP Design:** Address the following items concerning Stormwater BMP Design.
- i. The location of Bioretention B is located within 100 feet of the existing Foxridge homes on Lots 81, 89 and 90. The minimum setback for a bioretention facility that allows infiltration is 100' when located up gradient of a structure. In addition, this BMP will require a Dam Breach Analysis in this

location due to the elevated nature of the BMP, its proximity to adjacent residences, the fill dam embankment, and due to this location being an overland relief point for a large portion of the site. Review and review the design to provide a minimum of 100 feet of setback from the nearest structure and meet the additional requirements set out above. (Sht. 4 & 8) [VA Clearinghouse SWM Design Specification 9, Section 6]

Comment remains. Review and revise the following comments regarding the water quantity design of the BMPs.

1. ***In addition, the comment response discussing the facility discharges only through underdrains only applies the BMP treatment volume and none of the proposed design storms (1, 10 and 25 yr.). The routing provided on sheet 10 shows that the 25 yr. storm will overtop the facility by over 3 feet. Revise the design to ensure that it can adequately pass the maximum design storm necessary to meet all design storms.***

Comment remains. The proposed bioretention B does not provide adequate (2 ft) freeboard for a combined spillway riser structure. The spot shot provided at 88.75 is not the lowest controlling top of dam elevation and does not allow for a level, constructible top of dam (4-6 ft width at same or similar elevation). Based on this, there is only 1.25 ft of freeboard from the 388 top of dam elevation. Review and revise the design of the facility to provide the adequate required freeboard.

Response: Bioretention “B” has been redesigned to provide a 2.2 ft freeboard above the 25-year storm event. See sheet 10, see the calculations for Pond B:Bioretention B, the 25 yr. WSE is 386.30. On sheet 4, the top of bioretention facility B is 388.5, therefore 2.2’ of freeboard is provided.

In addition, provide a check storm routing of the 100yr storm through the bioretention. If the 100yr storm overtops the facility, show the height and flow rate of weir flow over the berm and how it compares to the existing 100yr overland relief downstream of the site.

Also, provide a certification statement on the special exception plan (with additional computations and analysis provided at the time of site plan) that verifies the site does not negatively impact the overland relief path for the 25yr and 100yr storms for the existing offsite Foxridge structures. Verify that no additional flow is added in between any of the existing Foxridge structures. (Sht. 10)

Response: A preliminary overland relief analysis has been prepared for the area draining offsite. Per discussions with Staff, as the existing condition drains offsite, the proposed condition must show that this condition is improved. Sheet 10A has been added to reflect the existing and proposed drainage conditions to this area. A cross-section at the property line shows a significant decrease in the water surface elevation at this point. Note that the drainage area to Bioretention B is contained within the ponding area for the 100-year storm (per routing calculations on sheet 10A) and therefore, per discussion with staff, does not count toward the overland relief area or flow at the property line. The 100 yr. WSE in Bioretention B is 387.12, providing 1.38' of freeboard. See sheets 4, 10, and 10A.

2. *[New Comment] Specify the grate inlet type on the plan sheet (DI-7, YI-1, etc.) as the size on the routings do not seem to match VDOT standard inlets (must be a standard concrete structure). In addition, the routing design for the underdrain and riser controls are set parallel to the primary culvert outfall instead of in series with the culvert, which would produce a higher flow rate but a lower water surface elevation within the facility. Review and revise these routing items and adjust the sizing of the facilities as necessary to ensure the design can be accommodated in the location shown on the special exception plan without changing the layout at the time of site plan. (Sht. 10)*

Response: Inlet types are specified with the routing calculations under the headings "Bioretention Stage Storage Volume and Outlet Device Summary". Inlets shall utilize a DI-12 with 3 grates. As discussed with Staff, orifice calculations shown as 3.5" x 10" (each) are based on the openings shown with the VDOT DI-12 top detail and are assumed 50% clogged. See sheet 10. The proposed bioretention facilities can be accommodated in the locations shown on the special exception plan without changing the layout at the time of site plan.

TRANSPORTATION

TRANSPORTATION COMMENTS FROM June 19, 2019 MEMORADUM

Comment 1: (Combined Comment 16) Frontage improvements are required for the entire length of the parcel along Childrens Center Road SW. Revise design to include increased ultimate pavement width as well as full curb, gutter, sidewalk, and storm drainage along the entire frontage of the site. Provide a typical section for any proposed improvements. However, due to site constraints and not wanting to divert pedestrians into the road at the existing bridge,

Staff would be supportive of constructing curb, gutter and drainage improvements along the entire frontage of the property to a point where the existing bridge would prohibit continuation of these improvements. In addition, the applicant would also only be required to construct the sidewalk up to the western side of the Wild Turkey Way entrance (located on the north side of Childrens Center Road SW). At that point, a raised crosswalk would need to be proposed to connect to the existing CG-12 and sidewalk on the North West side of the Wild Turkey Way entrance. Staff would also support the associated required SLDR Variation Request (which could process concurrently with the Special Exception). As part of Staff's recommendation, an Escrow to the Town would be due prior to Site Plan approval for any required frontage improvements being relieved as part of the Variation Request. (Sht. 4 & 5) [DCSM Section 7-111.1.L]

Comment remains. *As coordinated with the Transportation Engineer's comments, show all applicable striping, signage, storm sewer, no parking areas and all other applicable items required by local, state and federal requirements for roadway design. Ensure that no parking is allowed within 20 feet of the crosswalk, no parking is allowed directly adjacent to or within the facility entrance, no parking is allowed in the sight distance triangles and that all lane widths and storm sewer layout meets adequate design standards. In addition, show the proposed typical tie out slope on the proposed roadway section. Also, review and revise the crosswalk to intersect with the PT of the Wild Turkey Way intersection rather than in the middle of the curve. (Town Code Sec. 32-141.a.4) Comment Remains as a SLDR Variation Request for the frontage improvements as currently proposed must be submitted and approved by the Planning Commission as noted in the original comment.*

Response: An SLDR variation request is being submitted for a portion of the frontage improvements with this submission.

Comment 2: Entrance Spacing (Combined Comment 18) - Comment Satisfied

Response: Acknowledged

Comment 2 (continued) (Combined Comment 18) Comment remains. *The proposed entrance design has a conflict between the straight inbound lane and the outbound lane from the western parking area (see exhibit below). Provide details on yield/stop requirements and stacking/queue impacts in the ROW due to this alignment and show all required striping and signage required to facilitate safe movement through the entrance.*

Possible alternative design options include an internal traffic circle or a "T" or "Y" internal intersection with a stop sign for the western parking area. (Sht. 3 & 4)

Response: The design has been revised to include a "T" intersection with stop sign. See sheets 4 & 5.

Comment 3: Entrance Spacing (Combined Comment 21) – Comment Satisfied

Response: Acknowledged

Comment 3 (continued) – Site Distance - Comment remains. *As coordinated with the Transportation Engineer's comments and the VDOT criteria, the sight distance shall be based*

LCSB Monroe Property
The North Star School
Third Response to Referral Comments
July 12, 2019

on Roadway Centerline Stationing distance rather than line of sight stationing. In addition, the vehicle should be located with the driver's eye/point of view 14.5 feet behind the extended curb line/edge of pavement through the entrance. Review and revise the design to ensure the requirements are met and properly depicted on the sight distance profiles on the plan (VDOT Roadway Design Manual, Appendix F, Section 4, and Page F-95). In addition, provide sight distance analysis for the cross walk at Wild Turkey Way.

The sight distance requirement of 335 ft. was not updated to be provided along the centerline stationing for Children's Center Road. The 285 foot distance looking to the right of the object location as provided does not meet the minimum 335 ft required for a 30 mph design speed as required by Table 2-5 Intersection Sight Distance located in Appendix F of the VDOT Road Design Manual. Review and revise the analysis to show the appropriate distance in each direction. (Sht. 13)

Response: The lines of sight have been recalculated based on the centerline of Children's Center Road, rather than the centerline of travelway. Plan and Profile views have been updated accordingly. The lines of sight comply with the 335' requirement. See sheets 12 & 13.

ADDITIONAL TRANSPORTATION COMMENTS FROM July 2, 2019

Comment 17: [New Comment] **Street Lights at Site Entrance.** Street lights (cobra head style) need to be installed at the entrance to the Property from Childrens Center Road pursuant to DCSM Sec 7-610.4 [Reference details DCSM Appendix A-TS-15 and TD-5, TLZO See 3.3.6.E.7]. (*Transportation Engineer Comment #1*)

Response: DCSM Sec 7-610.4 does not apply to a school, it applies to commercial and residential and private roadways. LCPS does not require or typically install streetlights at our entrances. Therefore, streetlights at our driveway are not proposed.

Comment 18: **Additional ROW Required (2nd CCL Comment #15): Comment Satisfied**

Response: Acknowledged

Comment 19: **Frontage Improvements (2nd CCL Comment #16): Comment Remains.** Provide a detail for revised drainage design at the intersection of the proposed sidewalk and the existing concrete "v" ditch at the southwestern corner of the Childrens Center Road and Catoctin Circle intersection. The proposed sidewalk improvements will fill in the existing "v" ditch (Sheet 4) ([DCSM Section 5-210, 230 & 240])

Comment Remains: The existing utilities and drainage details/information (including the concrete "v" ditch) are missing on the grading sheet and therefore the updated design cannot be verified at this time.

LCSB Monroe Property
The North Star School
Third Response to Referral Comments
July 12, 2019

Frontage improvements are required for the entire length of the parcel long Childrens Center Road SW. The current revision of the Plat does not include frontage improvements east of the consolidated entrance as required. If it is the intent to not provide these improvements, a SLDR Variation Request must be submitted and approved by the Planning commission (*DPR Comment #5*)

Response: An SLDR variation request for the frontage improvements has been submitted with this application. It is proposed to construct the sidewalk in an alternative location and to connect the sidewalk to the existing 8' asphalt trail at Foxridge park. This alignment will provide a continuous pedestrian linkage without impacting the drainage along Childrens Center Road. Photos are provided with the SLDR variation request.

Comment 20: Entrance Spacing #1 (2nd CCL #17): Comment Remains.

Response: Duplicate comment. See June 19, 2019 Comment #2.

Comment 21: Entrance Spacing #2 (2nd CCL Comment #18): Comment Satisfied

Response: Acknowledged

Comment 22: Dimensions (2nd CCL Comment #19): Comment Satisfied

Response: Acknowledged

Comment 23: Handicap Ramps (2nd CCL Comment #20): Comment Satisfied

Response: Acknowledged

Comment 24: Sight Distance (2nd CL Comment #21): Comment Remains.

Response: Duplicate comment. See June 19, 2019 – Comment #3

Comment 25: Bus Lane Emergency Access (2nd CCL Comment #22): Comment Satisfied

Response: Acknowledged

Comment 26: Autoturn Analysis (Previous Comment #22): Comment Partially Satisfied.

Autoturn analyses have been provided on Sheet 7 of the Plat pursuant to staff comments in the 2nd CCL. The Fire Marshal has expressed concerns with the SU-40 Fire Truck vehicle appearing to sweep through parking spaces and hitting curbs. See comment #28 below. (*DPR Comment*)

Response: Acknowledged. See response under Fire Rescue and Fire Marshal.

FIRE RESCUE AND FIRE MARSHALL

Comment 28: [New Comment] Requirements: From the 2015 Loudoun County Facilities Standards Manual (FSM) and 2012 Loudoun County Fire Prevention Code (LCFPC) (*Fire Marshal Comment #1*)

- a. Provide the details of the AASHTO SU-40 vehicle for the legend on the turning analysis sheet.

LCSB Monroe Property
The North Star School
Third Response to Referral Comments
July 12, 2019

- b. The turning analysis shows multiple areas hitting curbing or encroaching upon parking stalls. Provide a turning analysis where apparatus has adequate space to maneuver on all portions of the fire apparatus access roads without going over curbing or hitting obstacles.

Response: The requested detail has been shown on the plan. Additionally, the turning analysis has been revised to show that the vehicle has adequate space to maneuver on all portions of the fire apparatus access roads without going over or hitting curb lines. See sheet 7.

ITEMS FOR SITE PLAN REVIEW

The following comments are provided to give advance notice to the Applicant of potential issues to be addressed at the site plan review state and are not required to be addressed at this time. Applicant should acknowledge these comments in their comment response letter.

1. [New DPR Comment] At the time of site plan, revise the CG-12 alignment at the site entrance to cross in line with the adjacent sidewalk rather than jogging into the intersection as currently shown. (Sht. 4 & 5) [VDOT Road and Bridge Standards]

Response: Acknowledged.

S:\Planning\Donna's Folder\MONROE\Application Documents\July 2019 Response to 3rd Referral Comments\Third Response to Monroe Referral - July 2019.docx