

Loudoun County School Board
LCPS The North Star School at C.S. Monroe Property
TLSE 2018-0008
Second Response to Referral Comments, dated February 7, 2019
May 15, 2019

TOWN PLAN COMPLIANCE

Comment 1: Land Use, General Objectives (Previous Comment #2): 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.

Response: Acknowledged. The planning and design of the proposed school has considered the Town's Comprehensive Plan Policies and incorporates elements to implement the Town's objectives. Building design, setbacks, landscaping, and lighting address compatibility with surrounding residential uses and the Town's desired development character. The school will provide educational facilities to serve current and future needs. The details of the proposed use are contained in the application submission and the Responses to Referral Comments. LCPS staff appreciates the guidance provided by Town staff and has amended the application to address staff questions and recommendations.

MODIFICATIONS AND WAIVERS

Comment 2: Waiver Request: Zoning Ordinance Section 12.8.6.D.2 (Table 12.8.6.B) Screening (Previous Comment #8):

Conclusion: **More information needed.**

Proposal: Replace the shrubs required by the S-2 screen with evergreen trees at the rate of one (1) evergreen tree per six (6) required shrubs.

Analysis: In this instance the Applicant requests a modification of Buffer Yard 2 (Fox Ridge) replacing the shrubs required by the S-2 screen with evergreen trees at the rate of one (1) evergreen tree for every six (6) required shrubs. Per the calculations provided on Sheet 16 of the Plat, the S2 screen in Buffer Yard 2 is required to be comprised of various materials including a minimum of 197 shrubs. At the requested rate of exchange, this yields a total of 33 evergreen trees required. The calculations on Sheet 16 indicate the Applicant's intent to claim 79% credit for existing plant materials leaving 21%, or 7 evergreen trees, to be planted in Buffer Yard 2 in addition to the 9 required by Ordinance minimum for a total of 16 evergreen trees.

Buffer Yard Screens are comprised of combinations of canopy, understory and shrub materials intended to provide screening from the ground-level up between incompatible uses. In this instance, Buffer Yard 2 is a 25' wide minimum S2 type screen separating the Property from the adjacent Fox Ridge single-family residential development to the south. Because it is most customary that the first level of a dwelling is the main living level, it is extremely important that low-level element of the required screen in Buffer Yard 2 is as complete as possible to mitigate potential impacts on the neighboring residences from the Subject Property.

Provided below under Landscaping & Buffering are specific concerns staff has with the landscaping plans currently under review. Those concerns include questions about the amount of credit for existing materials being claimed, as well as, concerns with the Limits of Clearing (LOC) and effect on existing vegetation, and the installation of new. Until those matters are resolved, staff cannot present a final analysis/recommendation on the requested modification.

The Applicant shall note that the modification being requested is found in the text of TLZO Sec. 12.8.6.D Alternative Screens and Modifications where, in addition to authorizing alternative Screen types, or combinations thereof, the LDO is also granted the authority to consider the reduction or elimination of evergreen trees or shrubs in those instances when hedges, shrubs, walls or berms are employed to achieve the screening intended by the required Screen type. Presently, the Subject Property is separated from the adjacent Fox Ridge Property by a chain link fence. This fence is identified on the Plat as '6' Chain Link (Screened)'. Details have not been provided on the Plat, but information provided to the public at a recent information meeting indicates this fence will be replaced by a new coated chain link fence with slats.

It shall be noted that chain link fencing with slats would not qualify as a suitable alternative for buffer yard modifications pursuant to TLZO Sec 12.8.6. (Project Manager Comment)

Response: The previously requested landscape waiver is withdrawn. Revised calculations for the existing landscaping credit have been provided. As a result of the revisions the credit along this boundary is reduced from 79% to 35%. The proposed buffer is double the requirement (25 feet) at 50 feet in width. The additional landscape plantings along the Fox Ridge boundary will provide 101 additional trees, of which 44 will be evergreen, and 137 shrubs, including 49 evergreen shrubs. As discussed at the February 26, 2019, meeting with Town staff, the Limits of Clearing (LOC) and Limits of Disturbance (LOD) have been clarified. To protect the existing trees within the tree preservation area, no heavy equipment will be permitted in the area identified as LOD; new vegetation proximate to existing trees (in the LOD) will be installed by hand.

It is proposed to install a new fence, a six foot in height black vinyl coated chain link fence. No slats are proposed. The fence coupled with the proposed landscaping will provide an aesthetically pleasing buffer along the common boundary with Fox Ridge.

SPECIAL EXCEPTION PLAT (PLAT)

Parking and Loading

Comment 3: Parking Spaces Provided (Previous Comment #10): The application of the College/University parking rate (i.e., 1 space per 1.67 seats + visitor parking) to the entire planned student population appears to be the result of a misinterpretation of staff's direction in the application of the appropriate parking standards for the project. As stated previously above, the staff's direction was for the College/University rate to be applied only to the planned daytime Adult Education enrollment versus the entire student population.

The revised Statement of Justification provides new information that helps to clarify actual anticipated parking demands for the planned facility. The revised Statement of Justification anticipates +/- 150 student drivers out of the 450 total enrolled based on current observed student driving numbers and based on the fact that less than half of this facility's student population will be of legal driving age. Assuming parking is provided for 100% of the total of 100 faculty and staff, plus 100% of the maximum anticipated daytime adult education enrollees adds up to the following total parking needs based on anticipated demands:

Student Drivers	+/- 150
Faculty/Staff	100
Maximum Daytime Adult Ed Enrollees	100
Total parking spaces needed to meet daily anticipated demand at the planned facility	+/- 350 parking spaces

Interestingly, applying the College/University parking rate to the entire 550 maximum anticipated enrollment yields a total of 349 required parking spaces. As such, Town staff agrees that the appropriate number of parking spaces needed to meet anticipated parking needs for the proposed facility is approximately 350 spaces.

The total number of spaces provided on the Plat equals 401 spaces, or a surplus of 51 spaces. Knowing that the 350 total number of parking spaces is comprised of 40 visitor parking spaces, plus assuming 100% single-occupant drivers for 100% of the maximum number of adult education enrollees, Town staff recommends the Applicant examine options incorporating the space occupied by the 51 surplus parking spaces for additional open space and/or enhanced buffer yard/screening along the boundary with the Fox Ridge residential neighborhood (south).

If LCPS is contemplating opening surplus parking spaces on the Subject Property for use by students/staff at LCHS, this needs to be made part of the review of the current application.
(Project Manager Comment)

Response: The parking has been revised to provide a total of 367 spaces, consistent with staff's recommendation. The number of spaces reflects the anticipated need at full enrollment, including parking for the added daytime (adult education) nursing program.

Landscaping and Buffering

Comment 4: Tree Management Report (Previous Comment #13): The text portion of the Tree Management Report (TMR) submitted with the 2nd submission (Sheet 19) is found to be reasonable and accurate but staff has the following comments:

- a. **Disturbed Areas:** it is the established practice of the Town to designate areas in buffer yards where landscape materials are to be planted as 'disturbed areas'. As disturbed areas, they need to be included within the Limits Of Clearing (LOC). The current Plat includes such areas within what is designated 'Existing Woodland Canopy' on Sheet 17 (Existing Vegetation Map) and on Sheet 18 (Tree Preservation & Protection Plan).
- b. **Identify Trees:** The Landscape Plan (Sheet 14) shows new materials being planted within designated tree save areas and outside of the designated LOC that could require the removal of existing evergreen trees over 6' tall and/or deciduous trees less than 12" caliper DBH to accommodate those materials. As a result, the Tree Management Report and Tree Preservation Plan need to be updated to locate and identify any additional existing healthy trees ranging in size between 6" – 12' DBH and with a condition rating over 40% that can count towards tree canopy coverage and buffer yard calculations pursuant to TLZO Sec 12.8.2.D and TLZO Sec. 12.9.1.B.
- c. **Saved Trees:** Revise the Landscape Plan on Sheet 14 to reflect any additional saved healthy trees, shrubs or evergreen trees. In addition, relocate proposed planting materials to within the LOC, i.e., the disturbed area. SLDR 2.16(b)(4)((m & q)), TLZO Sec. 12.2.4, 12.8.2.D, 12.9.1.B and DCSM 8-700.1.D (Plan Review and Zoning Comment)

Response: Acknowledged. A Limits of Disturbance (LOD) line has been added to the plan to show areas outside of the Limit of Clearing (LOC). A note has been added to Sheets 4, 14 and 15 to prohibit heavy equipment outside of the LOC. Only hand digging should occur within the LOD. Tree save areas have been adjusted per staff guidance. No existing trees within easements are designated for credit and no new trees are proposed within easement areas. See Sheets 14 & 15.

Comment 5: Tree Preservation and Easements (Previous Comment #14): Trees are still located within the utility and drainage easements. Therefore:

- a. **Revise Limits:** Revise the limits of Tree Preservation Area 4 depicted on Sheet 14 (Landscape Plan) and on Sheet 18 (Tree Preservation and Protection Plan) by removing all portions of the proposed tree preservation area that are depicted within the following areas on the Plat:
 1. Existing 10-foot VEPCO and C&P easements along the eastern border; (See Attachment 1 sketch for details)
 2. Existing 20 foot wide drainage easement along the southern border;
 3. Existing 15 foot wide sanitary sewer easement; and
 4. Within existing parking lot proposed to be removed.
- b. **Relocate Areas and Trees:** Relocate any tree preservation area and/or new trees from within public easements pursuant to DCSM Sec. 8-700. (DRP and Zoning Comment)

Response: Acknowledged. All tree preservation areas have been removed from the easements. Proposed plantings have been removed from all easements. See Sheets 14, 15 & 19.

Comment 6: Buffer Yard Tree Credit (Previous Comment #17): In the table labeled “12.8 Buffers and Screening” on Sheet 16 Landscape Tabulations the Applicant is claiming a 79% credit for existing plant materials towards the minimum required screen in Buffer Yard 2 adjacent to the Fox Ridge development to the south. Staff cannot confirm the validity of this claim since information relating to compliance with the minimum standards for claiming credit have not been provided.

In order for existing trees to be credited toward buffer yard screening requirements, the trees must meet the following minimum requirements:

- A condition rating of 40% or greater on the Tree Management Report (TMR);
- Trees are shown on the Tree Preservation Plan with their Critical Root Zone entirely within the delineated tree protection area;
- Tree protection details and narratives are on the Tree Preservation Plan; and
- Credit will be given as 2.0 times the full diameter of the tree’s drip line.

The Tree Management Plan (TMR) must be revised and reviewed by staff before the credits being claimed can be confirmed. TLZO Sec. 12.8.2.D, 12.3.4 and 12.2.4 (Zoning Comment)

Response: Acknowledged. The buffer yard credit for Buffer 2 has been reduced from 79% to 35% based on staff guidance. The buffer yard credit for Buffer 1 has increased from 20% to 24%. Reference Sheet 19 for the revised tree preservation areas. Condition ratings along with

narratives and recommendations are shown on Sheet 20. All plantings have been removed from inside the critical root zones. The LOD follows the critical root zones where applicable. See Sheets 14, 15 & 19.

Comment 7: Limits of Clearing and Grading (Previous Comment #15, 16 and 18):

- a. Parking Lot Demolition:** The demolition of an existing parking lot must be included within the limits of clearing and grading. The existing parking lot on the south side of the property is approximately 10 feet from the property line with Foxridge Subdivision at its closest point as indicated on Sheet 2 (Existing Conditions Plan), but the limits of clearing and grading on Sheet 4 (Conceptual Grading Plan) do not accurately reflect the parking lot demolition in that area. Revise the limits of clearing and grading on all applicable sheets as necessary. (Zoning Comment #4)
- b. Existing White Pine Impact:** Given the revised limits of clearing and grading, reevaluate the impacts on the existing white pines adjacent to Foxridge Subdivision. (New Zoning Comment #5)
- c. Tree Protection Fencing/Root Pruning:** Given the revised limits of clearing and grading, revise the tree protection fencing and root pruning locations as shown on Sheet 18 (Tree Preservation Plan) accordingly. (New Zoning Comment #6)
- d. Additional Buffer Yard Screening/Loss of Existing Tree Credit:** Given the revised limits of clearing and grading and loss of tree preservation area, revise the buffer and screening table on Sheet 16 (Landscape Tabulations) accordingly and provide additional required landscaping to offset the loss in tree preservation area credit. (New Zoning Comment #7)

Response: Acknowledged. The LOC has been revised to include the parking lot demolition. The existing trees located adjacent to the parking lot were reevaluated in relation to the revised LOC. It was determined by TNT Environmental certified arborist that the white pines adjacent to the parking lot are not likely to survive construction and will need to be removed. These trees have also been removed from the tree preservation area. New landscaping is planned for this area. The tree protection fencing, root pruning locations and buffering and screening table have been revised accordingly. See Sheets 14-17 & 20.

Comment 8: Additional Buffer Screening (Previous Comment #21): On Sheet 14 (Landscape Plan) the proposed "Bio Retention B" pond encroaches into the proposed 50 foot buffer yard located along the southern side of the property. Staff recommends that the pond be relocated out of the 50 foot buffer yard. Staff believes that the buffer screening in this area is currently insufficient between Lots 81, 89, 90 and 91 in Foxridge Subdivision and the proposed school building, bus loop, parking lot.

As an additional screening measure to mitigate impact onto the neighboring residential community, staff would recommend replacement of the existing 6 foot chain link fence with a 6 foot tall opaque fence or wall. [DCSM Section 5-521.1 & VA Clearinghouse SWM Design Specification Appendix A, Section A-7, Maintenance and Safety #3, page 10 of 19] (*Zoning Comment #8*)

Response: Bioretention B has been removed from the 50-foot buffer yard. Additional screening has been added by lots 81, 89, 90, and 91 and along the eastern boundary by the relocated bus drop off. See Sheet 15. The proposed black vinyl coated chain link fence coupled with the proposed landscaping will provide an aesthetically pleasing buffer between the homes to the east and the school use.

Project Site Design/ Building Architecture

Comment 9: Concept Design Presentation/Architectural Elevations: The Applicant has submitted architectural renderings entitled, *New School on the CS Monroe Site Concept Design Presentation*, dated December 13, 2018, prepared by Stantec showing floorplans, elevations and materials proposed for the new facility.

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 space. An effective means of achieving human-scaled architecture for large institutional buildings like that proposed on the Subject Property is through techniques to reduce massing. Those specific techniques that appear to be most effective, in the present case, are: (H-1 Guidelines, Chapter VII.F Massing and Complexity of Form):

- a. **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
- b. **Break up the roofline.** Breaking up the roofline of larger buildings into smaller components may help reduce perceived mass of large buildings
- c. **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
- d. **Vary the materials.** Use variations in materials, textures, patterns, colors, and detail to reduce the visual impact of the mass of large buildings

Examples of these techniques are found in the architecture of institutional building throughout town. Some specific examples include Douglas Elementary School, Old Loudoun County

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Courthouse, Loudoun County Courthouse expansion, and the Loudoun County Courthouse Law Library. See Attachment 2 for pictures and illustrations describing how these same techniques might be employed on the proposed facility. (*Project Manager Comment*)

Response: Taking into account the requests of staff we have broken the massing into four smaller blocks. Each of the four blocks now sit on different planes. 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. Next, the glazing on the revised façade reduces the amount of glass expanse into human scaled punched openings that relate to the surrounding housing development. Lastly, the 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.

Comment 10: Dumpster Location/Screening (Previous Comment #25): Provide a note on the Plat stating that the proposed dumpsters and other waste/recycling containers will be completely screened from view off-site in accordance with TLZO Sec. 12.8.8 Dumpster Screening. This is particularly important given the potential proximity to residential uses. (*Zoning Comment*)

Response: A note has been added to the Plat stating that the proposed dumpster and other waste/recycling containers will be completely screened from view off-site. See Sheet 3 Note 2.

Comment 11: Entrance Sign (Previous Comment #28): The existing entrance sign on the Property presently encroaches into the Children's Center Road right-of-way. Any replacement for this sign must be moved out of the public right-of-way per TLZO Sec. 15.5.3. Provide a note on the Plat indicating that a sign permit is required for the relocated site entrance sign and all other proposed signs on the property pursuant to TLZO Section 15.2 Sign Permit Required. (*Zoning Comment #10*)

Response: Any new sign will be placed outside of the public right-of-way. Signs erected by a government body for public benefit are exempt from the sign regulations in accordance with TLZO Sec. 14.4.A. See Sheet 3 Note 3.

Noise Abatement

Comment 12: Noise Abatement Corridor (NAC) (Previous Comment #29): All lands lying within 300 feet of the centerline of the Route 7/15 Bypass shall meet the Noise Abatement Corridor Overlay District (NAC) regulations. The Subject Property lies within the NAC. Therefore, at the time of site plan, appropriate noise abatement design measures must be provided in accordance with DCSM 7-380 and TLZO Sec. 7.8.2 Applicability. (*Zoning Comment #11*)

Response: Acknowledged. Please note that as discussed at our post submission meeting on 2/26/19, there will be no sport or other playing fields outside of the school building. The

building is to be set back approximately 300 feet from the western property boundary (Route 7/15) and will be constructed to provide interior noise attenuation measures resulting in a maximum background noise level for core learning spaces at or below 35 dBA per VA-CHPS and ANSI S12.60.

Stormwater Management

Comment 13: Comments related to Proposed Facilities (Previous Comment #32): 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. (Sheet 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 Children's Center Drive and included in the site removal requirements. (DPR Comment #11)

Response: As discussed at the post submission meeting on 2/26/19, the proposed facilities for water quality treatment of surface runoff have been revised to achieve as much total pollutant (TP) removal as possible/feasible. As such, additional pre-treatment devices (Bayfilter or similar) have been introduced for each of the bioretention facilities, and the facilities themselves have also been modified. Another structural device has been added (as requested at the meeting on 4/25/19) for treatment at the driveway entrance; approximately 100% of the on-site impervious area is now proposed to be treated. As a result, the onsite TP removal achieved for the site and entire limits of disturbance, including the road improvements is 93%. Please note that the VRRM spreadsheet included in the plans has been updated to include the frontage improvements along Children's Center Drive. Consequently, the remaining TP load removal requirement that we respectfully ask to be purchased is 0.61 lbs. Upon final design, this number may be slightly modified. See Sheet 8.

- ii. 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. (Sheet 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. (DPR Comment #11)*

Response: Please see response to Comment 13.a. above. Auto Repair education and training is not part of the curriculum offered at this school, as this program has been moved to the Academies of Loudoun, therefore the site is not considered a BMP “hot spot”. As shown on the proposed stormwater calculations on Sheet 8, approximately 93% of the total pollutant removal requirement will be achieved by the proposed onsite BMPs facilities, and we would respectfully ask that the remaining nutrient credits be purchased as permitted by State code. See Sheet 8.

b. Quantity Design: Address the following items concerning Stormwater Quantity Design.

- i.** Update the application to show all offsite contributing drainage areas on the Pre and Post Adequate Outfall Drainage Area Maps. Include this offsite area as a portion of the outfall analysis. (Sheet 8) [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. (DPR Comment #11)*

Response: The proposed bioretention facilities have been revised to provide 2 feet of freeboard to the top of the settled embankment for a 25yr storm event as required. For

Bioretention A, the top of embankment is 395.50, while the 25 year WSE is 393.28. For Bioretention B, the top of embankment is 388.75, while the 25 year WSE is 386.75. See Sheets 4 & 10.

- ii. 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 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. (Sheet 8) [DCSM Section 5-341.1.B.1, 5-341.2 & 9VAC25-870-65]

Comment remains. *As discussed in the Existing 15” Children’s Center Road narrative, there is 1.23 acres of drainage area which drains to this system in the predevelopment condition but only 0.27 acres in the post. The outfall analysis for POI A does not address the additional area or include it all in the routing calculations on sheet 10 (only 0.64 acres of additional area are shown routing through Bioretention A for quantity). Review and revise the outfall analysis to ensure all predevelopment area in these three outfall are full accounted for in the post development analysis and all applicable local and state criteria are met. (DPR Comment #11)*

Response: The computations and narrative have been revised to clarify the discrepancy. The pre-developed drainage area for the existing 15” pipe on Childrens Center Road is 1.23 acres. The post-developed drainage area to the same 15” pipe is 0.27 acres. Of the remaining 0.96 acres, 0.94 acres flow to Bioretention A and 0.02 acres drains to Point of Interest A (POI A). See Sheet 9.

- c. **BMP Design:** Address the following items concerning Stormwater BMP Design.
 - i. Staff estimates the invert of the pipe which discharges into Bioretention A from the adjacent parking lot to be at approximately a maximum elevation of 391.5 ft. The bottom contour of the facility is at 394 ft., which is higher than the required elevation to accept the previously discusses pipe. Review and revise the BMP design to allow for adjacent pipe to discharge into the facility at or above the surface of the Bioretention facility. (Sheets 4 and 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. (DPR Comment #11)*

1. *The toe of the embankment is still less than 100 feet away from the existing homes and still proposes fill on the toe of the embankment (the top of dam 387 contour extends past the existing contour, meaning the embankment is in fill at this point). As this downstream area is in a potential inundation zone if the embankment fails, the toe of the facility embankment must be kept a minimum of 100 feet away in addition to providing the impermeable liner.*

Response: As discussed at the post submission meeting on 2/26/19 the 100 foot setback is not applicable to Bioretention A since no infiltration is being proposed. Please note that the proposed bioretention facilities have been revised so that the embankment is completely in cut. See Sheet 4.

2. *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.*

Response: The proposed bioretention facilities have been revised to provide 2 feet of freeboard to the top of the settled embankment for a 25yr storm event as required. See Sheets 4 & 10.

3. *Both BMP facilities propose a combined spillway to pass the 25 yr. storm, however the DCSM requires a separate Emergency Spillway in addition to the principal spillway and adequate freeboard to the settled top of dam. Bioretention B is shown with a fill embankment as discussed above, which prohibits the use of an emergency spillway per the DCSM Embankment criteria. The approval of a combined spillway for either or both BMPs requires a DCSM Section 521.9.D Modification and for the design to meet the required design criteria of that section, including passing the spillway design flood with 24 inches of freeboard to the top of dam and a secondary all weather access route.*

Response: The proposed principal and emergency spillways will be combined into one structure and provide 2' minimum of freeboard. We intend to ask for a modification to DCSM Section 521.9.D during site plan review, so we can finalize the design calculations. An access to the facilities has been provided as well. See Sheet 4.

4. *The application can be approved with the addition of a note in the Adequate Outfall Narrative similar to the BMP narrative note*

that discusses additional manufactured devices will be added as required to meet the water quantity criteria at the time of site plan. In conjunction with the addition of the manufacture devices note, revise or remove the 25 yr. bioretention calculations to ensure that the facility can control the largest intended design storm with adequate freeboard.

Response: A note has been added in the Adequate Outfall Narrative that states that the bioretention facilities will have a structural device included to provide pre-treatment and to further reduce the pollutant loading to more closely meet the water quality criteria at the time of site plan. See Sheet 9.

- ii. The top of dam width for Bioretention B as shown does not allow for maintenance access to the BMP outfall structure. Revise design to provide adequate maintenance access to the outfall structure along the top of dam. (Sheet 4) [VA Clearinghouse SWM Design Specification 9, Section 6]

***Comment remains.** The access road does not provide a turn around and does not wrap around the entire facility. Provide a turnaround or wrap around the entire facility. In addition, if the portion of the turnaround or extended access road is in a fill embankment, the width of the embankment must be 12 feet in addition to the width of the access road per DCSM Section 5-521.8.A. (DPR Comment #11)*

Response: The proposed maintenance access road for Bioretention B has been revised to provide an adequate turnaround that is not located within the embankment.

- iii. In lieu of redesigning the facilities or features, notes can be added to the plan and/or added to the narrative to discuss the following comments and discuss the design approach. These items must be fully designed and address at the time of site plan:

- 1. Provide the appropriate pre-treatment measures on all BMPs to meet minimum clearinghouse standards, such that staff can verify that there is sufficient room for the measures proposed without requiring changes to the proposed layout. (Sheet 8) [VA Clearinghouse SWM Design Specification 9, Section 6]

***Comment remains.** The narrative only states “The bioretention will be de designed as a ‘Level 1 Bioretention’ to reduce the site pollutant load.” Review and revise the narratives to discuss what pretreatment types (concentrated and/or sheet flow) will be required at time of site plan and ensure the BMP design will not be significantly impacted by the required pretreatment types so*

that the site plan can be prepared within substantial conformance with the proposed layout. (DPR Comment #11)

Response: A note has been added in the BMP Narrative that states that the bioretention facilities will have a structural device included to provide pre-treatment and to further reduce the pollutant loading to more closely meet the water quality criteria at the time of site plan. See Sheet 8.

Comment 14: Storm Drainage Design (Previous Comment # 33): Address the following items concerning Storm Drainage Design.

- a. Provide a detail for revised drainage design at the intersection of the proposed sidewalk and the existing concrete v ditch at the South Western corner of the Childrens Center Road and Catocin 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. (DPR Comment #15)*

- b. ***New DPR Comment.** The existing utilities shown on the Grading Plan of the previous submission, including easements and information/notes, are missing from the grading plan. Review and revise to ensure all existing utility information, including that which is depicted on the utility plan, is adequately displayed on the grading sheet. For example, the existing storm sewer crossing and along Children’s Center drive was shown previously but is now missing on the Grading Plan. (DPR Comment #15)*

Response: The plans have been revised to ensure that the missing information for the existing utilities is adequately shown on the grading plan. See Sheet 4.

TRANSPORTATION

Comment 15: Additional ROW Required (Previous Comment #37): The provided ROW varies along the entire length of frontage on Childrens Center Road. The TIA already indicates more than 2000 vehicles per day (before the above noted comments are addressed) which would classify Childrens Center Road SW as a “Through Collector” requiring a minimum of 70 feet of right of way. Review and revise the Right of Way in accordance with the recommendations of the updated TIA as corresponding classification of Childrens Center Road SW. (Sheets 3, 4 and 5) [DCSM Section 7-300.A]

Comment remains. *As coordinated with the Transportation Engineer's comments, the existing ROW meets the minimum requirement of 70 feet along the entire frontage of the site, consistent with the classification of a Through Collector. Label the roadway as a Through Collector on this Special Exception and ensure, at time of site plan, all roadway design requirements including pavement design, entrance spacing, sight distance, etc. meet requirements for a Through Collector as specified in the DCSM and VDOT Roadway Design Manual. (DPR Comment #1)*

Response: Existing Childrens Center Road has been labeled as Through Collector as requested. At time of site plan we will ensure that roadway design will meet requirements for a through collector as specified in the DCSM & VDOT Roadway Design Manual. See Sheet 3.

Comment 16: Frontage Improvements (Previous Comment #38): Frontage improvements are required for the entire length of the parcel along Childrens Center Road SW. Revise the 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 that were relieved as part of the Variation Request. (Sheets 4 and 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) (DPR Comment #2)*

Response: All the applicable striping, signage and no parking areas for the frontage improvements have been included in the plans. Additionally, the crosswalk to Wild Turkey Way has been revised to intersect with the Point of Tangent (PT) rather than in the middle of the curve

as requested. Please note that no parking signs have been added to the plans for areas within 20 feet of the crosswalk, the entrance to the site and within the vehicle sight lines at the entrance. At time of site plan we will ensure that roadway design will meet requirements for a through collector as specified in the DCSM & VDOT Roadway Design Manual. See Sheet 3. Also, the slope tie out is shown on Sheet 4.

Comment 17: Entrance Spacing #1 (Previous Comment #39): The School Bus Access entrance does not meet the minimum entrance spacing from Catoctin Circle. DCSM 7-361.5 requires the entrance to be located a minimum of 200' measured PC to PC away from Catoctin Circle as Catoctin Circle is classified as a "Minor Arterial" roadway within the Town of Leesburg. Revise the location of the entrance to meet this criteria. (Sheets 4 and 5) [DCSM Section 7-361.5]

Comment remains. *As coordinated with the Transportation Engineer's comments, the justification provided under separate cover does not provide adequate justification for DCSM Section 7-361.3 & 7-361.5 modifications at this time due to the following reasons:*

- a. *The usage of the entrances and history of no accidents are irrelevant to the revised usage due to the significant increase in vehicular traffic at both the proposed site entrance (up from 83 to 113) and bus entrance (up from 3 to 49) according to the TIA left turn movement peak hour counts for left turns into the site from Children's Center Road. In addition, the ADT on this road increases from 1,700 to 3,000 at the proposed site intersection. These increases in traffic flow in and out of the site along with the traffic on Children's Center Drive means that there will be a much higher potential for conflict than in the existing conditions.*
- b. *Adequate sight distance shall be met at any location of any entrance along the ROW. Adequate sight distance alone does not validate the modification of multiple entrance requirements.*
- c. *Potential increase in cost of site work due to the relocation of the entrances is not a valid justification for the modification of a public safety concern or requirement.*
- d. *Appendix F, Section 4 "Entrance Connection on Opposite Sides of a Roadway" in the Virginia Road Design Manual, entrances on opposite sides of an undivided roadway shall be directly across from each other creating a 4 way intersection or be offset and meet the entrance spacing per Table 2-2 of the same Appendix to avoid conflicting left turning movements and jog maneuvers. The justification of leaving the current alignment is in direct conflict with this VDOT entrance design requirement.*
- e. *Although the TIA does not currently indicate a turn lane is warranted from Children's Center Drive onto Catoctin Circle, the current bus lane entrance location is within the queuing length of a potential future left turn lane, if ever*

required. In addition, the queuing length of busses headed Westbound on Children's Center Drive turning into the site has not been analyzed and has the potential to stack into Catoctin Circle turn lane and effect through traffic on Catoctin Circle.

- f. *The justification concerning the alignment and layout of the building, visual impact to surrounding neighbors, and the small reduction in parking do not appear restrict the Special Exception from meeting additional site, building or zoning requirements and regulations at this time.*

Unless otherwise justified, the request to modify DCSM Sections 7-361.3 & 5 cannot be supported or approved at this time. (DPR Comment #3)

Response: As discussed at the post submission meeting on 2/26/19 the layout has been revised to remove the westernmost entrance into the site. As a result, since the main entrance into the site is in conformance with DCSM Section 7-361.3 & 7-361.5, the previously requested modifications have been withdrawn. See Sheet 3.

Comment 18: Entrance Spacing #2 (Previous Comment #40): The school bus entrance and the main entrance into the site do not meet the required minimum spacing of 200' between the corresponding centerline alignments. The proposed spacing as depicted would require a DCSM modification, which would require further coordination with the Director of Plan Review to be considered. A meeting with Town Staff to discuss options and possible DCSM Design Modifications is encouraged. Review and revise the entrance as necessary. (Sheets 4 and 5) [DCSM Section 7-361.3]

Comment remains. *See response to the comment above. (DPR Comment #4)*

Response: Please see response to Comment 17 above.

Comment 19: Dimensions (Previous Comment # 41): Revise the application to include geometric dimensions for all parking, travel aisle, entrances, radius, etc. (Sheet 3) [DCSM Section 10-120.2.C]

Comment remains. *The one way travel isle that passes in front of the front door of the school is only dimensioned at its widest point. As this travel isle is used for emergency access per the Auto Turn analysis on Sheet 7, the minimum one way travel isle width must be 20 feet. The minimum width measured just past the final adjacent parking space is 18 feet wide. Review and revise the travel isle to meet the minimum emergency vehicle width and dimension the minimum width of this travel isle rather than the widest width. (DPR Comment #5)*

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Response: The plans have been revised to ensure that all of the travel ways have been adequately dimensioned. See Sheet 3.

Comment 20: Handicap Ramps (Previous Comment # 42): Update the application to depict handicap ramps on each side of the site entrance, and as part of the on-site sidewalks. (Sheets 3 – 11) [TLZO Sec. 3.4.6.E.7., TLZO Sec. 11.6.2.B., and DCSM Section 7-362.4]

Comment remains. Depict handicap ramps along the portion of the sidewalk that abuts the handicap parking spaces. (DPR Comment #6)

Response: Depressed curb will be added along the portion of the sidewalk that abuts the handicap parking spaces for handicap access. See Sheet 3.

Comment 21: Sight Distance (Previous Comment #43): Provide sight distance analysis for both proposed site entrances once final locations are determined. (Sheet 5) [DCSM Section 7-371]

Comment remains. As coordinated with the Transportation Engineer's comments and the VDOT criteria, the sight distance shall be based 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. (DPR Comment #7)

Response: The entrance sight distance has been analyzed and depicted based on the Roadway Centerline Stationing distance rather than line of sight stationing. Additionally, the vehicle has been located with the driver's eye/point of view located 14.5 feet behind the flow line as required. Also, the sight distance profile at the intersection of Wild Turkey Way and Children's Center Road has been included with this resubmission. See Sheets 12 & 13.

Comment 22: Bus Lane Emergency Access (Previous Comment #44): The bus lane emergency access Autoturn analysis appears to directly conflict with the bus parking areas shown on Sheet 3. Revise the bus lane geometry to provide parallel parking for the school busses on each side in addition to the adequate travel aisle width for two way traffic in order to provide adequate emergency access. The Zoning Ordinance requires a minimum access aisle for 2 way traffic of 20' (with 0 degree parking angle) exclusive of parallel parking spaces, unless more is required per the applicable Fire Code. (Sheets 3, 4, 5 and 7) [DCSM Section 7-520.4.H and TLZO Sec. 11.6.1.A. and Section 11.6.2.C.]

Comment remains. *In addition to the requirements discussed in the original comment, the 30 ft. aisle width as currently shown requires one side of the travel way to be designated as a fire lane (Loudoun County FSM Section 4.810.C.1.b), which does not allow for parking or temporary queuing on both sides as shown on the Special Exception Plan (Town Code Sec. 32-141.a.14). Review and revise the design to meet all fire, zoning and transportation requirements for aisle width and emergency access. (DPR Comment #8)*

Response: As discussed at the post submission meeting on 2/26/19 no parking signs have been added along the bus lane on the eastern side of the roadway. As the entrances and bus circulation has been revised, buses will queue on one side of the driveway only and will provide a minimum 20' width for emergency vehicles per fire code requirements. All other proposed travelways have been verified to be in compliance with all applicable zoning, transportation and fire requirements.

Comment 23: Autoturn Analysis (Previous Comment #45): The Autoturn Analysis at the top left of Sheet 7 shows the vehicle exiting the site making a left turn out of the right turn lane. Revise the analysis to make all movements within the intended travel aisle/lane once final locations are determined. (Sheet 7) [DCSM Section 10-120.2.C]

Comment remains. *As coordinated with the Transportation Engineer's Review and revise the auto turn analysis to meet the following minimum VDOT criteria from the Virginia Roadway Design Manual, Appendix F, Section 4 – Entrance Design*

- a. ***Both auto turn analysis show the design vehicle crossing the lane line of Children Center Road to turn into the facility. Per the Design Vehicle section of the reference above, the vehicle must make the movements without encroaching into the adjacent lane when making turns or encroach on the oncoming lane of the entrance.***

Response: Auto turn analysis has been revised so the vehicle doesn't encroach into the adjacent lane when making turns. See Sheet 7.

- b. ***There is not an analysis for each turning movement of each entrance (missing left out of the site entrance and any movement into the bus lane entrance).***

Response: An analysis has been provided to include each turning movement of the entrance. See Sheet 7.

There is a third analysis that is only impervious shading and no other line work. What is intended to be depicted here? (DPR Comment #9)

Response: The third auto turn analysis on the previous submission was intended to show the school bus circulation movement. Some of the line work was omitted from the PDF set submitted to the Town. This analysis has been corrected to show the school bus travel path movement and to show the missing information. See Sheet 7.

FIRE RESCUE AND FIRE MARSHAL

None

ITEMS FOR SITE PLAN REVIEW

1. **New DPR Comment** The routing calculations provided incorrectly model the outfall structure and underdrains for both bioretention areas. The outfall culvert is currently shown as an orifice, but should be revised to be culvert. The underdrain is shown as 6 inches, but the limiting factor is either the percolation through the media (24 hrs. or more) and the perforations of the underdrain/filter fabric that surrounds the underdrain and therefore this device should be modeled correctly or removed from the routing calculations. Also, it is not clear that the Devices (riser structure and underdrain) are routed to the primary culvert outfall and appears that they may all be modeled in parallel instead of series. Review and revise all calculations at time of site plan to adequately model the proposed riser structure correctly.

Response: Comment acknowledged and will be examined further at the site plan review stage.

2. **New Utilities Comment** At site plan submission, relocate the proposed fire hydrant shown near the entrance clear of the sidewalk. (Sheet 5)

Response: Comment acknowledged and will be examined further at the site plan review stage.

3. **New Utilities Comment** At site plan submission, staff recommends relocating the proposed single arm light clear of the private sanitary lateral or realign the lateral clear of the light. (Sheet 5)

Response: Comment acknowledged and will be examined further at the site plan review stage.