



26 August 2024

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Greg Fedner, PE
PR/SRM Section Manager – City of Columbus
111 N. Front Street
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RE: WKHS SCPZ TYPE III Variance Submittal Package

Mr. Fedner:

This comment response letter is provided to address the comments from your email dated 08/12/2024. Below are the original comments copied in **bold** and any responses to your comments in [blue](#).

Title Sheet

- 1. The footprint impact for the permanent Terrace is shown but how will the equipment needed to build the terrace access this stream corridor protection zone area and what will the temporary and permanent construction impacts be? For example, the entire area is steep slopes and forested. How many trees will need to be removed? What mitigation for tree cutting will be offered? It appears that 11,901 sq ft of impacts will be necessary. What is the difference between the proposed mitigation area of 13,810 sq ft and the Proposed SCPZ Easements?**

The proposed temporary impact (11,901 SF) is where the equipment will be placed such as cranes and trucks for the contractor to be able to build the terrace. This area will be restored to the previous existing conditions including replacing all trees in SCPZ in accordance with "Guidelines for stream Mitigation Banking and In-Lie Fee Programs in Ohio" provided by the City of Columbus. The permanent impact is where the terrace is going to be built. The proposed SCPZ/Conservative easement (2,797 SF) is the replacement for the Terrace permanent impact area that has square footage of 2,780 in SCPZ. The terrace is solely impacting the SCPZ; thus, adequate mitigation will be provided on site by creating equivalent mitigation SCPZ to replace functions lost as a result of the proposed impact. The proposed SCPZ Mitigation is performed on site based on 1:1 ratio (Terrace Impact area 2780 sf: proposed SCPZ 2797 sf). Please refer to Variance section of City of Columbus Stormwater Drainage Manual. A mitigation plan is provided for the SCPZ impacted area as shown on appendix D of the SCPZ Variance Package.

The proposed mitigation area is the area where the replacement of trees will be placed. This area will be located within the existing SCPZ & proposed SCPZ has a total area of 13,810 SF. The existing and proposed SCPZ will eventually become one SCPZ under one conservation easement.



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2. **Per Figure L.2.4- Are 19 B&B trees adequate to replace the public tree canopy that will be removed per the new Tree Mitigation Policy? Why is turf grass seed mix being used? FLOW requests that native seed mix be applied. How many trees will be cut and what is their Diameter at Breast Height (DBH)?**

L2.4 tree replacement covers tree removal in the mitigation area only. There are currently 32 trees total to be removed within the boundary totaling 300 DBH of trees in poor to good condition. 19 – 2.5”-3” caliper trees, as well as understory whip plantings are proposed to re-establish the native riparian zone and meet code as required during the permitting phase of the project / prior to implementation of new code requirements.

Existing tree species to be removed within the mitigation zone consist of Ash, Basswood, Boxelder, Buckeye, Cottonwood, Elm, Hickory, Maple, Oak, Pine, Walnut, and Pear.

Please note that the plan reflects the mitigation zone only and additional trees will be planted to account for the 35 trees required adjacent to the mitigation zone. The overall site tree replacement exceeds requirements.

Turf seed mix is proposed as a 10’ offset from the building for maintenance and access purposes. The remainder of the area is to be planted with native whips including Silky Dogwood, Shining Willow, and Silk Willow.

3. **No justification is provided for the need for this terrace and the impacts to the stream corridor. How old is this school and if it is so critical why didn't they build it in the first place? FLOW is not sympathetic to the conditions of the site, since Worthington Schools obviously knew that they were building over the tributary ravine. The claim that “The unique circumstances such that strict adherence to the manual will deprive the applicant of reasonable use of the land or result in a substantial hardship” seems an overreach.**

As with any District, student populations change, teaching methods evolve, technology changes and the community demand that the District provide quality schools for their students. Over the 25-year time of this high schools existence, upgrades and improvements are necessary to maintain quality schools for the District and to encourage and support students with a positive, aesthetically pleasing learning environments.

This high school is one of two high schools in the Worthington District. It is a District policy to provide equivalent amenities for the students of the District irrespective of the high school. This particular high school was designed and constructed in 1989, prior to the City of Columbus SCPZ standards and was designed to span the perineal stream corridor as an amenity similar to Frankl Lloyd Wright’s Falling Water residence in PA, a structure that likely could not be built under todays WOTUS standards. At the time of the high schools original construction, SCPZ regulations were not in place resulting in the school being where it is. It is that basis that compliance with current, ex post facto, regulations have an impact on the applicants reasonable use of the land and creating the hardship.

The existing conditions of the SCPZ includes a box culvert that runs under the high school and two retaining walls running essentially parallel to the box culvert providing structural support for the main building. This existing construction is predominantly in the SCPZ. The site has significant grades around the high school and any on grade outdoor amenity space for students would require significant regrading and would impact the SCPZ more than the proposed location. The terrace is immediately adjacent to the existing commons area of the high school which fulfills the programmatic requirements of the District and Ohio Schools Facilities design standards.



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The thalweg of this stream is approximately at elevation 848'. Terrace and first floor elevation is 870.98' a difference of approximately 22'. The piers to support the terrace have been designed to be the smallest footprint structurally feasible and have been placed such that the closest pier is 3-4' above the thalweg elevation and located along the eastern scarp of the stream channel outside of the Ordinary High Water Mark (OHWM) which is approximately at 851.5'. The entire square footage of the terrace, while within the SCPZ, does not impact the SCPZ as its elevation is above the 865' predominant elevation of the SCPZ. It is the piers themselves, similar to a bridge, that has the impact on the SCPZ. This terrace is immediately adjacent to the outflow of the box culvert which limits the flow of the stream in its present hydrologic and hydraulic design. The piers do not affect the present flow design from the upstream flows.

- 4. FLOW is also concerned about the proposed addition of the band room and the weight room as shown on Figure C1.0. The Band Room addition is particularly concerning since it is on the north ravine slope and appears to be wooded. How will the stormwater for these additional areas be handled?**

The proposed addition of the band room is outside the SCPZ. However, the band addition will have an exposed foundation wall at the 3 sides where a little grading will occur. The grading limits extend to outside the SCPZ. Please refer to sheet 16 of the [storm CC Plan attached to the email](#) that was submitted to the city of Columbus for review.

- 5. The Tree Canopy in the Fisher Run watershed as a result of the 3 schools with high impervious surface percentages and low tree canopy (14% Thomas Worthington, 10% McCord Middle School and Granby Elementary School is a cumulative problem for the watershed.**

The comment is not solely relevant to the proposed improvement in Worthington Kilbourne High School and is not solely relevant to the SCPZ. The proposed improvement to Worthington Kilbourne HS includes construction phase and post-construction stormwater controls which will fully comply with City of Columbus and Ohio EPA requirements. The proposed improvements include Stormwater Control practice items such as underground detention system in place to count for the disturbed area including added impervious for stormwater quality and quality control. This UGD system should be able to help decrease the flow into the Olentangy watershed than the existing condition. [Please refer to the stormwater Management control Report attached in the email](#) for actual release rates for the existing and proposed condition of site.

- 6. Is there any stormwater detention or retention by these schools to Fisher Run? Of particular concern are the parking spaces on the north slope of the ravine near the proposed HS Band addition.**

Yes, there are two underground detention systems, one east of the new band addition and the other is one the east of the weight room addition or under the new parking lot. [Refer to sheet 13 & sheet 14 the storm CC Plan](#) that was submitted to the city of Columbus for review.



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7. **According to our calculations, a Drainage Area of 0.7square miles would be 150 ft, not 130 ft. Can you please verify?**

Please refer to Appendix E for the SCPZ Width calculation. We show 0.71 square mile of area. Using this equation $SCPZ\ Width = 147(Drainage\ are\ in\ square\ mile)0.38=147(0.71).38=129.1$ which was round to 130 ft

8. **What is the function of the retaining wall along the south slope of the ravine?**

The retaining wall shown on the ravine area is existing. It is our understanding that the retaining wall was built for the purpose of stabilizing the steep slope toward the ravine.

9. **The site does not seem to be in compliance with the 1 tree for every 10 parking spaces and the northwestern parking lot tree islands are vacant of trees.**

The replacement of all trees outside of the SCPZ are called out in a different landscaping plans that will be submitted to the building department. It is our understanding that the tree replacement plan (prepared by others) is in compliance with the code. Please refer to the landscaping plan attached in the email

10. **FLOW is unclear on the footprint difference between the preferred and minimal impact design proposed projects. Can you please clarify?**

Both the preferred and the minimal impact design terrace "footprints" are identical. Please note that the "footprints" do not contact the ground, only the foundation columns will impact the ground. The preferred alternative is basically a terrace that will be built using pier columns that will not be evenly spaced to avoid encroaching the Ordinary High-Water Mark (OHWM) of the creek. With wider spaced columns in the middle of the terrace, the terrace design is maximized structurally to ensure beam standard sizes are available to built it. The terrace will have 5 columns along the east foundation and 5 columns along the west foundation.

On the other hand, the minimal impact alternate would be a cantilever design such as bridges, the terrace is only supported by a single columns or double columns on either side (North & South of the terrace). This alternative will not be feasible since the column sizes are not available to carry all the terrace load even though this option has less impact on the SCPZ. Not only that, but cantilever design can also affect the existing high school structurally. The design team does not see this alternative to work with this site.

Sincerely,
Sands Decker

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