Engineers, Surveyors, Planners, Scientists

November 6, 2018

City of Columbus, Division of Sewerage & Drainage
Attn: Mr. Greg Fedner, P.E.
Private Development Section Manager
910 Dublin Road
Columbus, Ohio 43215

Subject: Response to Public Comments – Greensward Road Type III Variance Request

Dear Greg,

This letter is provided in response to comments received from Ms. Alice Waldhauer regarding the pending Type III variance request from the City of Columbus Stormwater Drainage Manual (SWDM) for the proposed Greensward Road residential development. This response to comments is being submitted on behalf of Romanelli & Hughes Building Company

Comments received from Ms. Waldhauer are provided below in ***italics*** with the corresponding response provided immediately thereafter.

1. *(the) encroaching development isn't providing enough room for streams to meander and change course over time…*

Response: The proposed development will have no impact on the course of Sugar Run. The primary need for the variance is driven by the proposed impacts to a small, ephemeral tributary to Sugar Run. There are no impacts proposed to the Sugar Run channel or the Sugar Run SCPZ. The entirety of the Sugar Run stream channel, floodway, and SCPZ will be preserved and enhanced within 14.4 acres of greenspace on the property.

2. *…developers seek to build on sites that were previously considered unsuitable for development, requiring encroachment on Stream Corridor Protection Zones to preserve profit margins.*

Response: The property has been zoned by the City of Columbus as a PUD-4 Area since 1998, allowing up to four residential lots per acre. As such, this site was not "previously considered unsuitable for development." It has been slated and available for residential development for the last 20 years.

3. *…an increase in the percentage of impermeable surfaces in a watershed increases environmental damage to waterways.*

Response: Applicable standards for the Greensward Road development call for 600 square feet of open space per unit for PUD-4 (0.30 acres) and 5.5 acres per every 1,000 people for parkland dedication (0.34 acres). Thus, the total open space required for the development is 0.64 acres. The development includes 14.4 acres of open space, which is over 22 times the required amount. Moreover, although the zoning allows for four units per acre, the development includes only 1.05 units per acre. Over two-thirds (69.1%) of the proposed development will be open, permeable space that preserves Sugar Run and its SCPZ in its entirety on the site. Moreover, the site will comply with all stormwater quantity and quality requirements in accordance with the SWDM.

4. *Why is the SCPZ so narrow on the east side of Sugar Run? Should the established SCPZ be measured from the center of the stream extending out 125 feet from each bank?*

Response: The SCPZ was delineated in accordance with the requirements of the SWDM. Accordingly, the SCPZ width is equivalent to either the FEMA floodway or 250 feet, whichever is greater. As noted in Section 1.3.1 of the SWDM, "the zone shall be centered on the stream valley generally located at the point where both zone boundaries intersect equal elevations on either side of the stream." The difference in the SCPZ width on either side of the stream is attributed to the differences in topography on the east and west sides of the stream.

5. *Will the SCPZ land be available to the general public to explore?*

Response: The SCPZ will be located on private property within a reserve controlled by the homeowners' association. It is not currently, nor will be, available for public access.

6. *The site photographs show the presence of honeysuckle ….will these problems be addressed during the project?*

Response: No. The mitigation plan does not currently contemplate removal of honeysuckle on the property.

7. *Logjams can help change the course of a stream leading to sinuosity that helps the health of the stream and riparian corridor.*

Response: As noted in Section 3.1 of the variance application, we agree that generally logjams are a natural occurrence that provide benefits to stream habitat. However, the logjams to be removed within the Sugar Run corridor are exceedingly large and causing more negative impacts than positive ones. Logjams "help change the course of a stream" through erosion. Due to the logjams, the stream channel's energy is directed along the path of least resistance, eroding a new path around the obstructions. The stream flowing around the logjam is then redirected toward the opposite stream bank, causing further erosion. This "pinball" effect continues downstream, eroding the stream banks and undercutting the riparian vegetation. This erosion degrades the water quality in the stream, and leads to significant sedimentation that is deleterious to fish and other aquatic species.

8. *Large woody debris is helpful in maintaining healthy balance of organic material in the soil….*

Response: As noted in Section 3.2 of the variance application, we agree that generally dead trees are desirable for the stream and riparian ecosystem. The proposed mitigation plan does not intend to denude the streambanks of all potential sources of large woody debris. Rather, tree removal will be limited to large dead snags in immediate danger of falling into Sugar Run in order to prevent future large logjams. There will still be significant overhanging trees to contribute large woody debris to the stream. Moreover, the snags and logjams to be removed from the stream channel and streambanks will be kept on site. Following removal from the stream corridor, the woody debris will be placed within the project area, outside the floodway, such that it can still contribute organic material to the riparian habitat.

9. *The variance request indicates that logjams are a barrier to fish migration….what benefits to which aquatic species will come from this proposed mitigation?*

Response: According to the Rocky Fork Creek Watershed Action Plan (2010), Sugar Run and Rocky Fork Creek contain many species of common fish species, such as creek chub (*Semotilus atromaculatus*) and green sunfish (*Lepomis cyanellus*), as well as more sensitive species, such as rainbow darter

(*Etheostoma caeruleum*). The size of the logjams and minimal stream flow observed indicate that the logjams are likely significantly blocking fish passage. Removing the logjams will restore natural stream flow, improve sediment transport, and open the channel for more natural migration of aquatic species.

10. Will trees removed (snags and logjams) equal the number of trees planted?

Response: The dead snags to be removed have not yet been identified, but are not expected to exceed 30 in number. Removal will be limited to large dead snags in danger of falling into Sugar Run. In conjunction with the proposed reforestation, 120 trees and 90 shrubs will be planted, significantly exceeding the number of dead trees contemplated to be removed.

11. Will invasive plants be removed from the SCPZ?

Response: No. The mitigation plan does not currently contemplate removal of invasive species on the property.

12. Who will monitor the stream and SCPZ during and after construction?

Response: The project will be subject to a stormwater permit and Stormwater Pollution Prevention Plan (SWPPP) for construction activities, following the requirements of the National Pollutant Discharge Elimination System (NPDES) program. Appropriate, site-specific Best Management Practices (BMPs) for sediment and erosion control will be implemented at all times during the construction, and the site will be subject to periodic inspections in accordance with the SWPPP. In conjunction with the Section 404 Nationwide Permit approval that is being sought for the project, one year of post-construction monitoring will be conducted. This monitoring will ensure the proposed enhancement activities are completed as proposed.

13. After construction, will there be any visual cues at the edge of the property so that new homeowners are discouraged from impacting the riparian zone….

Response: The current SWDM does not require signage or other marking of the SCPZ. Therefore, signage is not currently contemplated.

14. The low score on the QHEI for this segment of Sugar Run may be indicative of upstream development… An anticipated higher future score for QHEI could mean that stormwater flashiness will send this silt downstream toward Rocky Creek or Big Walnut Creek…

Response: Silt has been artificially retained in this segment of Sugar Run due to the numerous large log jams located along the stream channel. These logjams are acting like lowhead dams, creating instream impoundments that lack functional riffle-pool sequences, promote the buildup of sediment and nutrients, increase streambank erosion, and negatively impact water quality. Much like when a lowhead dam is removed, the removal of the logjams may have a short-term impact on downstream waters as the built up sediments are transported through the stream system. However, as noted by Ohio EPA, studies have shown that the impact of re-suspended sediment typically is temporary, and is far outweighed by the benefit of restoring natural flow and sediment transport though the stream.

15. Since the QHEI scores have declined since Ohio EPA performed their sampling, meeting or exceeding the presented QHEI scores in post-restoration evaluation may be setting the bar very low.

Response: The decline in the QHEI score of Sugar Run since Ohio EPA performed their sampling in 2000 was confirmed through the QHEI assessment performed by EMH&T in 2018. However, this means that achieving the proposed post-restoration QHEI score of 62 requires a <u>greater</u> ecological lift. Moreover,

the proposed restoration is not intended to merely achieve a certain point differential in the QHEI, but rather is intended to achieve a score indicative of "good" habitat quality. The proposed score exceeds the goal score of 55 for warmwater habitat criteria; we disagree that this is a low bar.

16. Where is the proposed 9.54 acres conservation easement, and who will hold the easement in perpetuity?

Response: The 9.54-acre conservation easement is identified on the mitigation plan exhibit (red line). The holder of the easement has not yet been determined. The holder will be chosen in accordance with Ohio Revised Code 5301.69.

17. The Statement of Hardship… Is it possible that the No Impact Alternative could be implemented while still delivering a reasonable return on investment? The statement of hardship also doesn't explain the technical challenges…

Response: The No Impact Alternative results in a financial impact to the project of approximately $700,000, significantly impacting the project's financial viability. It would not provide a reasonable return on investment. This impact was calculated taking into account the reduced construction cost associated with the reduced number of lots to be developed. In addition to the financial impact, the application describes the technical challenges this option would present, which include the need for multiple retaining walls to achieve grade differentials.

18. The No Impact Option appears to impact the SCPZ by filling in the corridor at houses 10 and 11.

Response: The floodplain fill noted by the commenter at houses 10 and 11 occurs outside the SCPZ. It is not a SCPZ impact.

19. Houses 2, 12, 21 and 22…Will any special consideration be paid to building houses in the course of an ephemeral stream or on fill material at the top of a slope?

Response: The Greensward Road development is not located in a ravine setting. The terrain is generally gently sloping, ranging from 954 feet to 964 feet amsl across the development area. The ephemeral stream to be impacted is very small (less than three feet wide) with a very shallow channel (less than one foot deep). The ephemeral stream does not present any challenges in regard to slope or topography.

The comments provided from the Ohio Game Fishing Board Public Forum have been addressed under other comments provided above.

If you have any questions or require additional information, please contact me at (614) 775-4523 or hdardinger@emht.com.

Sincerely,

Heather L. Dardinger
Senior Environmental Scientist

Enclosures: 1

Copies: