

September 9, 2021

To: The Montgomery County Planning Board

From: John Parrish, Vice President, Friends of Ten Mile Creek and Little Seneca Reservoir

RE: Creekside at Cabin Branch Site Plan #820200160 - Public Hearing

Dear Commissioners,

You must deny approval of the Creekside at Cabin Branch site plan if you are to uphold the 2014 Ten Mile Creek Area Limited Amendment to the Clarksburg Master Plan, hereafter referred to as the Master Plan. **The development plan does not conform to the intent and recommendations of the Master Plan.** The placement of 23.27 acres of impervious cover within the two most sensitive sub-watersheds, LSTMs 110 and 111, leads to impervious levels that far exceed the impervious thresholds outlined in the Master Plan to protect stream conditions and water quality. Furthermore, the soil and topographic disturbances within the Limits of Disturbance (LOD) caused by grading equipment and fill dirt would reshape up to 76 acres. This would irreparably harm the hydrology of these sensitive sub-watersheds. Seventy-six acres represents 24% of the landscape comprising the two sub-watersheds. Worse yet, LSTM 111 would have nearly forty percent (39.49%) of its watershed within the LOD. This is not how you protect a stream system that the Master Plan describes as “*unique*” and “*warrants extraordinary protection.*”

Pulte proposes to build the Creekside at Cabin Branch development entirely within the two most sensitive and high quality Ten Mile Creek sub-watersheds, LSTM 110 and LSTM 111. The development size and configuration, along with the associated land alterations from grading (cut & fill), and subsequent impervious cover, would degrade and destroy the very qualities that make these tributaries healthy and diverse.

BACKGROUND, INTENT, SCIENTIFIC GUIDANCE & RECOMMENDATIONS FROM THE 2014 MASTER PLAN

According to the Master Plan (p.14), “*Ten Mile Creek is a reference stream in Montgomery County serving as a high-quality benchmark against which other streams are compared. Long-term monitoring indicates overall biological conditions to be healthy and diverse. Sensitive indicator organisms that occur in few other areas within the County are found here. Ten Mile Creek is part of a small group of high quality watersheds still remaining within the County. As a result of its unique characteristics, Ten Mile Creek warrants extraordinary protection.*”

Also on page 14, “*This Plan views this area as a complete and functioning watershed and ecosystem, including the watershed and all contributing tributaries and their drainage areas.*”

Concerning LSTM 110 and LSTM 111 the Master Plan (p.14) states:

“*LSTM 110 (King Spring Tributary) is considered one of the highest quality streams in Montgomery County, as measured by the Department of Environmental Protection countywide stream monitoring program and in an assessment by the U.S. Environmental Protection Agency using the Biological Conditions Gradient (See Appendix 8, Attachment 18).*”

The Master Plan (p.17) states: “**High quality subwatersheds with very low impervious cover, such as LSTM 110 (1.6%) and LSTM 111 (1.2%), are more sensitive to changes in impervious cover than watersheds like LSTM 206 (16.6%) and LSTM 202 (11%), which already have a significant amount of existing impervious cover and are showing signs of degradation. Recent studies, (see Appendix 9, Attach. 18) have shown that impervious cover levels as low as 5 percent are correlated with significant degradation in water quality.**”

Furthermore, scientific studies cited in the Master Plan’s Appendix 3 (Ten Mile Creek Watershed Environmental Analysis) conclude:

“In addition, it is now known that substantial degradation and loss of biodiversity begins at much lower levels of impervious cover between 0.5% and 2%.” This excerpt is from Ecological Applications Vol. 21, page 1666, *How Novel is too Novel? Stream Community Thresholds at Exceptionally Low Levels of Catchment Urbanization*. The citation is in Appendix D of the Ten Mile Creek Environmental Analysis.

The Master Plan directive under “Recommendations West of I-270” (pp.18-19) states: “**Reduce development footprint and impervious cover, emphasizing reduced impacts to upland forest areas and steep slopes. In particular protect existing stream conditions in the high quality headwater subwatersheds LSTM 110 (King Spring) and LSTM 111.**”

The Master Plan (p.41) states “**This area includes the most sensitive subwatersheds LSTM 110 and 111 and the monitoring stations for the reference stream reach. The very low existing imperviousness and long-term agricultural uses have resulted in excellent stream conditions that have been maintained since monitoring began in 1994. Even small changes in imperviousness will likely affect these sub-watersheds, but if imperviousness is kept as near to 5% as possible, stream conditions can be maintained in the good to excellent range based on the majority opinion of environmental experts.**”

Also on Master Plan page 17, “**The Plan recommends a six percent impervious cap for new development in the most sensitive sub-watersheds to minimize risk as much as possible.**”

UPDATED IMPERVIOUS COVER ANALYSIS FOR LSTM 110 AND LSTM 111

This analysis is an update and refinement to analyses submitted by R.G. Steinman and John Parrish for the December 3, 2020 Creekside at Cabin Branch Preliminary Plan Public Hearing for Plan # 120200050. Since that time, new data was submitted by Pulte Homes into the project Site Plan files. The new data was posted May 12, 2021 and contained in Site Plan File 12-WQP 820200160-002.pdf. This is named “Site Drainage Pattern Overview.” It is part of the Special Protection Area (SPA) Water Quality Plan - Impervious Surface Drawings.

The Master Plan (p.17) states that the existing impervious cover percentage for LSTM 110 is 1.6% and for LSTM 111, 1.2%. According to the Site Drainage Pattern Overview (Site Plan File 12-WQP 820200160-002.pdf), the impervious acreage added to LSTM 110 from Pulte’s development would be **11.19** acres and for LSTM 111, **12.08** acres. The **11.19** acres is equivalent to **5.3%** impervious cover added to the 211 acre LSTM 110 sub-watershed. The **12.08** acres is equivalent to **11.61%** impervious cover added to the 104 acre LSTM 111 sub-watershed. When you add the existing and proposed impervious percentages, **the results are 6.9% impervious cover for LSTM 110 and 12.8% for LSTM 111.** These figures far exceed the direction in the Master Plan (p. 41) to keep impervious cover in the most sensitive watersheds LSTM 110 and 111 “**as near to 5% as possible**” in accord with “**the majority opinion of environmental experts.**” The figures also far exceed what is recommended in the Master Plan

(pg. 17) which says ***“The Plan recommends a six percent impervious cap for new development in the most sensitive sub-watersheds to minimize risk as much as possible.”***

Another important outstanding factor to consider is the future development of the King property. It is one of the elephants in the room that staff has not addressed. This ~140-acre tract abuts the Pulte property on the north side.¹ The King property had been part of a larger Pulte development proposal when the 2014 Master Plan was approved. Since that time, Pulte and the owners of the King property severed their joint development relationship.

However, a sizable portion of a future King development would occur in the headwaters of the LSTM 110 (King Spring) sub-watershed. **According to our estimates, the development of this property would lead to a further rise in imperviousness bringing impervious cover in LSTM 110 to rise as high as 9.7%.** This additional impervious cover adds insult to injury, and is certainly not what the Master Plan intended or recommends. Since the severing of the joint development relationship with King, Pulte’s plans changed substantially at the expense of LSTM 110 and 111.

The bottom line is that each of the land development impacts described above would seriously degrade stream conditions in the sensitive and high quality sub-watersheds LSTM 110 and/or LSTM 111. Cumulatively, the impacts are more severe to LSTM 110 and to the Ten Mile Creek main-stem from a combination of Pulte and King land development. Pulte alone would devastate LSTM 111. Again, the science of watershed protection expressed in the Master Plan (p. 17) states:

“High quality subwatersheds with very low impervious cover, such as LSTM 110 (1.6%) and LSTM 111 (1.2%), are more sensitive to changes in impervious cover than watersheds like LSTM 206 (16.6%) and LSTM 202 (11%), which already have a significant amount of existing impervious cover and are showing signs of degradation. Recent studies, (see Appendix 9, Attach. 18) have shown that impervious cover levels as low as 5 percent are correlated with significant degradation in water quality.”

Furthermore, the Master Plan (p. 41) states:

“Even small changes in imperviousness will likely affect these sub-watersheds, but if imperviousness is kept as near to 5% as possible, stream conditions can be maintained in the good to excellent range based on the majority opinion of environmental experts.”

As calculated above, the impervious cover percentages from future developments in LSTM 110 (Pulte & King) would increase the impervious cover from the existing 1.6% to 6.9% from Pulte, and from 6.9% to as high as 9.7% when the King Property develops. In LSTM 111 the Pulte development would drastically increase the impervious cover from the existing 1.2% to 12.8%. The Master Plan makes it clear that 5% impervious cover is the threshold to stay within to maintain stream conditions in the good to excellent range. Environmental expert Matthew Baker submitted scientific guidance to the County Council in a letter dated February 27, 2014 (Master Plan Appendix 9, Attachment 18, p. 132) One of his four “take home messages” to the Council states:

“In order to keep streams in good condition, any ecologist will tell you to keep impervious cover under 5% by as much as possible to minimize risk. However, when I was asked whether 6% or 8% or 12% was best for the Pulte property (LSTM 110 and 111) and the streams that drain it, the evidence is clear that due to their status among the best examples of stream condition in the County,

¹ The Master Plan (p.41) states that the Pulte and King properties “...comprise almost 540 acres west of I-270.” According to the Creekside at Cabin Branch Site Plan the Pulte tract size is 400.24 acres. This leaves King with approximately 140 acres.

restricting levels as close to 5% as possible stands the best chance (with LID, ESD, and development at or near the divide and away from stream channels) of protecting the valuable natural resource they represent.”

Therefore it is abundantly clear that the Creekside at Cabin Branch Site Plan does not conform to the goals and science-based recommendations of the Master Plan regarding imperviousness to protect stream conditions and water quality in LSTM 110 and 111. In fact, the results of the Site Plan clearly contradict and violate the very intent and language of the Master Plan.

UPDATED ANALYSIS OF LAND AREA WITHIN THE LIMITS OF DISTURBANCE (LOD)

This analysis is an update and refinement to an analysis submitted by John Parrish at the December 3, 2020 Creekside at Cabin Branch Preliminary Plan Public Hearing (Plan #120200050). Since that time, new data has been submitted by Pulte Homes into the Site Plan files. The new data was posted May 12, 2021 and contained in Site Plan File 12-WQP 820200160-002.pdf. This is the Site Drainage Pattern Overview. It is part of the Special Protection Area (SPA) Water Quality Plan - Impervious Surface Drawings.

The Site Drainage Pattern Overview indicates the acreage within the Limits of Disturbance (LOD). The LOD is the boundary within which all manner of land alterations take place. The LOD in the LSTM 110 sub-watershed is 34.98 acres; for the LSTM 111 subwatershed, it is 41.07 acres. The combined disturbance area is 76.05 acres. **This comprises 24% of the 315 combined acres of the LSTM 110 (211ac) and LSTM 111 (104ac) subwatersheds.** See Land Disturbance Table below.

Land Disturbance Impact of Proposed Development on Subwatersheds LSTMs 110 & 111

	Subwatershed acreage¹	Acres of disturbance in subwatershed²	Percentage of subwatershed disturbed due to development³	Percentage of disturbance in the two subwatersheds combined⁴
LSTM 110	211	34.98	16.6%	
LSTM 111	104	41.07	39.5%	
Total Acreage	315	76.05		24.1%

Table Notes:

¹Acres in subwatershed from Ten Mile Creek Amendment, Appendix 3, Environmental Analysis, pdf pp. 18 & 20, https://www.montgomeryplanning.org/community/plan_areas/1270_corridor/clarksburg/documents/Appendix%203%20TMC_Env_Analysis_Final_Report_070313.pdf

²See Site Plan file at: <https://eplans.montgomeryplanning.org/UFS/31679/89774/12-WQP-820200160-002.pdf/12-WQP-820200160-002.pdf>

³Calculations: 34.98/211=16.6%; 41.07/104=39.5%

⁴Calculation: 76.05/315=24.1%.

Within the LOD, the bulldozing, excavation, scraping and compaction of the thin rocky soils would disfigure the landscape and cause irreparable harm by permanently altering the natural subsurface and surface drainage patterns that sustain groundwater flows to LSTMs 110 and 111. Subsequent erosion and sedimentation add to the destructive hydrological impacts to these tributaries as well as causing harm to the main stem of Ten Mile Creek. **LSTM 111 would suffer the greatest violation with nearly 40 percent (39.5%) of its watershed severely altered within the LOD!** The LSTM 110 sub-watershed would suffer 16.6% of its land area altered by grading equipment due to the Pulte development. The LSTM 110 land alteration total would increase again when the King property is developed. This added impact is not included in the table.

This amount of soil and topographic disturbance is contrary to Master Plan recommendations on (p.21) that state: *“Minimize grading the thin and rocky soils in Ten Mile Creek, which helps sustain*

groundwater flows to the many springs and seeps.” And on page 42 stating, “The stream impacts should be minimized [...] by minimizing grading, soil disturbance and soil compaction.”

The bottom line is that the Planning Board cannot fulfill Master Plan recommendations to **“protect existing stream conditions in the high quality headwater subwatersheds LSTM 110 King Spring and LSTM 111”** by allowing such a massive alteration to the soils, hydrology and topography in these watersheds.

CONCLUSION

Again, the Master Plan (pg. 14) states **“As a result of its unique characteristics, Ten Mile Creek warrants extraordinary protection.”** And **“This Plan views this area as a complete and functioning watershed and ecosystem, including the watershed and all contributing tributaries and their drainage areas.”**

The Master Plan emphasizes the importance of limiting impervious cover and minimizing grading and soil disturbances to achieve protection of Ten Mile Creek and its *most sensitive* and *high quality* tributaries, LSTM 110 and 111. Furthermore, of the eight LSTM tributaries (110, 111, 112, 201, 202, 203, 204, 206) flowing to Ten Mile Creek, LSTMs 110 and 111 currently have the two lowest impervious cover percentages.² If the Site Plan is approved, the ensuing Creekside development will cause these tributaries to be the second and third highest in impervious cover, surpassed only by LSTM 206, which has never recovered from development and is the only LSTM tributary that has declined to a degraded condition. Again, the Master Plan (pp.18-19) clearly states: **“In particular protect existing stream conditions in the high quality headwater subwatersheds LSTM 110 (King Spring) and LSTM 111.”** And also states (p. 41): **“This area includes the most sensitive subwatersheds LSTM 110 and 111 and the monitoring stations for the reference stream reach. The very low existing imperviousness and long-term agricultural uses have resulted in excellent stream conditions that have been maintained since monitoring began in 1994. Even small changes in imperviousness will likely affect these sub-watersheds, but if imperviousness is kept as near to 5% as possible, stream conditions can be maintained in the good to excellent range based on the majority opinion of environmental experts.”** LSTMs 110 and 111 should not be allowed to suffer the same fate as LSTM 206.

As shown in the testimony above, the development plan must be reduced or redesigned to achieve conformity with the intent and recommendations of the 2014 Master Plan to protect stream conditions and water quality in LSTM 110 and LSTM 111 and in the main stem of Ten Mile Creek. Impervious levels should not exceed 5% in the most sensitive and high quality sub-watersheds LSTM 110 and 111. Grading and soil disturbances must also be sharply reduced if Ten Mile Creek and the LSTM 110 and 111 sub-watersheds are to maintain good to excellent conditions.

Neither the Site Plan (820200160), nor the Preliminary Plan (120200050) conforms to the intent and recommendations of the 2014 Master Plan to protect stream conditions and water quality. Therefore, approval of the Creekside at Cabin Branch development plan must be denied.

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² Master Plan, Appendix 3, Ten Mile Creek Watershed Environmental Analysis, Table 2.3, p. 50.
https://www.montgomeryplanning.org/community/plan_areas/I270_corridor/clarksburg/documents/Appendix%203%20TMC_Env_Analysis_Final_Report_070313.pdf