
PUBLIC WORKS ENGINEERING DIVISION

Date: Tuesday, July 19, 2016

To:

ENGINEERING SOLUTIONS

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From: Gene Williams, P.E.

Senior Staff Engineer

Application Number: PL2016105

Application Type: Engineering Plan Review

Application Name: Manor at Stoney Creek 2nd Plat - Street, Stormwater, MDP

The Public Works Department received plans for this project on May 23, 2016. We have completed our review and offer the following comments:

Engineering Review

1. The typical section is not correct. CG-2 should be specified for a residential street. In addition, specify a compacted subgrade at 95% proctor beneath all subgrade layers.
2. Sheet C.200 Master Drainage Plan: What is the depressed feature shown north of Lot 64, and how will it drain?
3. Sheet C.201: The finish grade at the northwest corner of Lot 64 is 1010.55. This does not match the grading plan shown on Sheet C.200.
4. Sheet C.200: The contour north of Lot 64 is labeled as 1012, and then 1013 just to the north of this label. Please reconcile.
5. Sheet C.201: The finish grade at the northwest and northeast corners of Lot 52 does not match the grading plan shown on Sheet C.200.
6. General Comment Concerning Sheet C.201 and C.200: The above comments are not an all-inclusive list of discrepancies. Please check all finish grades, and ensure they match.
7. MBOEs should be specified for lots adjacent to field inlets, and adjacent to the detention basin. The

MBOEs must be a minimum of 2 feet higher than the 100 water surface elevation.

8. Sheet C.202: Please check the calculations of square feet and acres. It appears there are numerous discrepancies in the square footage versus the acreage. For instance, area F is called-out as 2797 square feet, which does not appear correct.
9. Sheet C.202: Provide better labels for each area. It is very difficult to determine which area is being called-out.
10. All Sheets: Please change the title to read "The Manor at Stoney Creek 2nd Plat".
11. The erosion and sediment control plans, including the sediment basin, were absent from the submittal.
13. The Master Drainage Plan must show the limits of the 100 year water surface elevation. This should be in a graphic format, showing the horizontal limits of the 100 year water surface elevation.
14. Sheet C.208: This sheet is not reviewable. The outlet structure is not labeled, and it is difficult to determine what storm lines are entering the basin.
15. Horizontal dimensions must be shown for the water quality feature.
16. The "Macro Storm Water Drainage Study" dated May 20, 2016 shows a crest elevation of the weir at 1008.0. This does not match the plans which show an elevation of 1006.5.
17. The "Macro Storm Water Drainage Study" dated May 20, 2016 shows the bottom elevation of the detention basin at 999.0. The grading plan shows 1000.0. Please reconcile.
18. Specific details concerning the detention basin outlet structure, including location, materials used, steel reinforcement, manhole frame and cover, steps, and proper labeling, were missing. As discussed in a previous comment, Sheet C.208 is not reviewable, and incomplete.
19. All Stormwater Sheets (Plan and Profile): No utility crossings were shown. These plans would be considered incomplete based on this omission.
20. All Stormwater Sheets (Plan and Profile): Hydraulic grade lines were not shown. Please show these on the profile view, along with the design storm.
21. All Stormwater Sheets (Plan and Profile): The grading plan should be superimposed upon the plan view.

22. All Stormwater Profile Views: The plans are not reviewable due to QA/QC issues. There are numerous instances of field inlet tops being "at grade", with openings on all sides, and hence the openings would be underground. There are also numerous instances of field inlets being underground as much as 3 feet, or above ground as much as 3 feet.
23. Sheet C.302: The storm line from field inlet 2-6 should match the crown for the receiving pipe at field inlet 2-5. The same should be done for the line from field inlet 2-4 to 2-3.
24. Sheet C.302: An existing field inlet is called out at station 0+00. The outgoing pipe should also be shown, with flowline elevations, pipe type and pipe size. The crown of the incoming pipe should be at or above the crown of the receiving pipe.
25. Sheet C.304: 7.5'x15' of rip rap does not appear sufficient for proper energy dissipation for a 36" pipe.
26. Sheet C.304: the pipe from curb inlet 6-5 to curb inlet 6-4 should match crowns on the receiving ends.
27. Sheet C.301: What is the plan for energy dissipation for the 48" HDPE pipe at station 0+00 on Storm Line 5?
28. Sheet C.301: A wider easement will be needed for the 42" pipe between Lot 56 and the future lots. Ten (10) feet would be the minimum required easement width on Lot 56.
29. Underdrains were missing at the sag points in the roadway. This would include station 2+20 on SW Merryman Dr., station 10+88 on SW Merryman Dr. (go from inlet to the next available inlet), station 1+50 on SW Alabaster Dr., and station 1+87 on SW Amethyst Dr.
30. Clearly specify which sidewalks and ADA-accessible ramps will be constructed during the subdivision improvements. This would include any sidewalk and ADA-accessible ramps along SW Grindstone Dr. near County Line, and SW Alabaster Dr. near County Line Rd.
31. Sheet C.200: Clearly label the swale along County Line Rd. as being a minimum of 2% slope.
32. Sheet C.200: It appears there will be lots with less than 2% grade in the rear yards. This would include Lots 70, 43, 44, and 45.
33. Please provide a response letter to your resubmittal.

Traffic Review

1. Add an end of road sign treatment for the dead end street.
2. Plans required for the off-site road improvements along County Line Road per conditions of project approval (i.e. eastbound left turn lane)
3. Check the location of Alabaster at County Line. This roadway shall align with the planned intersection (e.g. existing westbound left-turn opening) per project approval. It appears to be mis-aligned approximately 50' to the west.

In order to calculate the Public Works' Engineering Plan Review and Inspection Fee, a sealed Engineer's Opinion of Probable Construction Costs shall accompany your final submittal copies. The itemized estimate (material and installation) shall be sufficiently broken down and shall include the following items, as applicable.

- Public infrastructure, both onsite and offsite.
- Private street construction, including parking lots and driveways.
- Sidewalks located within the right-of-way.
- ADA accessible ramps.
- Sanitary sewer manholes and piping between manholes, including private mains.
- Connection of the building sanitary sewer stub to the public main.
- Waterlines larger than 2 inches in diameter, valves, hydrants, and backflow preventer with vault, if outside the building.
- Stormwater piping greater than 6 inches in diameter, structures, and detention / retention facilities - public or private.
- Water quality features installed to meet the 40-hour extended duration detention requirements.
- Grading for detention / retention ponds.
- Grading to establish proper site drainage.
- Utility infrastructure adjustments to finished grade (i.e. manhole lids, water valves, etc.).
- Erosion and sediment control devices required for construction.
- Re-vegetation and other post-construction erosion and sediment control activities.

Electronic Plans for Re-submittal

Beginning Monday, May 23, 2016, all Planning application and development engineering plan re-submittals shall include an electronic copy of the documents as well as the required number of paper copies. Electronic copies will not be required for initial application submittals at this time as the plans are subject to change.

Electronic copies shall be provided on CD in the following formats

- Plats – All plats shall be provided in Tagged Image Format File (TIFF) group 4 compression.
- Engineered Civil Plans – All engineered civil plans shall be provided in Tagged Image Format File (TIFF) group 4 compression. All sheets shall be individually saved and titled with the sheet title.

- Architectural and other plan drawings – Architectural and other plan drawings, such as site electrical and landscaping, shall be provided in Portable Document Format (PDF).
- Studies – Studies, such as storm and traffic, shall be provided in Portable Document Format (PDF).
- It is requested that each plan sheet be a maximum of 2MB.

Please contact Staff with any questions or concerns you may have.

If you have any questions or comments, please contact me, Gene Williams either at (816) 969-1812 or e-mail to Gene.Williams@cityofls.net.

Sincerely,

Original Signed

Gene Williams, P.E.
Senior Staff Engineer

cc: Development Engineering Project File