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**PUBLIC WORKS ENGINEERING DIVISION**

**Date:** Wednesday, December 21, 2016

**To:**

ENGINEERING SOLUTIONS

Matt Schlicht, P.E.

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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, Master Drainage Plan,  
and ESC

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The Public Works Department received plans for this project on Dec. 2, 2016. We have completed our review and offer the following comments:

**Engineering Review**

1. Cover Sheet: The index references Sheet C.209 as "Pavement Marking Plan". Sheet C.209 is entitled "County Line Road Pavement Marking Plan". The index does not reference the name of the sheet, but wouldn't it be more appropriate to label the sheet and the index to "County Line Road Improvements"?
2. Sheet C.051: Where is the "skimmer assembly" being used on the project? Please be specific on the installation of this skimmer assembly, with sufficient notes, dimensions, and other pertinent information.
3. All Erosion and Sediment Control Sheets: The lettering is too small to read on half size sets. Please enlarge the lettering so it is legible at half size.
4. Sheet C.052: What is the plan for the siltation basin in the northeast corner of the project after construction? Please provide sufficient notes.
5. Sheet C.100: The note concerning the installation of sidewalk along the southern tracts should be corrected to state "sidewalk and ADA ramps to the south of Lots 55 and 44 will be constructed with the subdivision improvements." The first note stating "...all sidewalk and ADA ramps are to be installed by individual home builders" should be deleted since it is not correct.

6. Sheet C.200: A substandard slope within the swale adjacent to County Line Road is still being shown in the vicinity of SW Alabaster Dr. We are showing 1.25% rather than the minimum 2.0% between contour lines 1013 and 1014.
7. Sheet C.200: The sediment basin in the northeast corner of the project is not labelled or detailed. Is this feature to remain after construction? If not, remove the feature from the Master Drainage Plan. If it is to remain after construction, then label it and provide sufficient details on the skimmer assembly, outflow assembly, etc.
8. Sheet C.203: Provide notes stating that sidewalk and ADA ramps along the tracts connecting to County Line Rd. at Alabaster Dr. and Grindstone Dr. will be installed along with the subdivision improvements. The notes should be adjacent to the sidewalk, along with a leader pointing to the sidewalk.
9. Sheet C.207: Provide notes stating the sidewalk and ADA ramps on Grindstone Dr. and Alabaster Dr. will be installed along with all other subdivision improvements.
10. Sheet C.207: Sidewalk and ADA ramp details for Alabaster Dr. suffer from QA/QC issues. No sidewalk is shown (i.e., the linework is missing), and elevations and leaders are shown pointing to nothing.
11. Sheet C.208: The flowline of the 24" pipe at the daylight end (i.e., within the detention basin) is shown as 999.15. The flowline elevation in the profile view for section C is shown at 999.15. This contradicts the drawing, which shows a slight slope from the daylight, detention basin side of the pipe, to the inlet side of the detention basin outlet structure.
12. Sheet C.208: It appears the southern dimension of the water quality feature is not dimensioned correctly. It appears to call-out 97.09 feet.
13. Sheet C.209: This appears to be a schematic drawing rather than an engineering drawing. Please see Traffic Comments for more detailed information regarding the requirements for an adequate traffic improvement plan at County Line Rd.
14. Sheet C.301: All of the field inlets for Storm Line 1 are shown "at grade" for field inlets which are designed to be in a sump condition. Please correct.
15. Sheet C.301: All of the field inlets for Storm Line 5 are shown "at grade" for field inlets which are designed to be in a sump condition. Please correct.
16. Sheet C.301: Storm Line 5 is shown with a hydraulic grade line of approximately 1001. The 100 year water surface elevation within the detention basin is shown as 1006.09 on the Master Drainage Plan. This is a serious discrepancy, and may lead to structure flooding.

17. General Comment Concerning All Field Inlets in Sump Condition: If field inlets are to be installed in a sump condition, please show the sump condition on the profile view. As shown, the field inlets are either "at grade", which means the openings are beneath the ground surface, and finally, no sump is shown on the profile view.
18. Sheet C.302: The same comments concerning the field inlets pertain to this sheet. All of the field inlets are shown "at grade" (i.e., the tops are "at grade"), and therefore the openings are beneath the ground surface. Finally, no sump is shown where it is called-out.
19. Sheet C.302: Insufficient slope is provided between contour line 1013 and 1014 on the west side of Alabaster Dr. near County Line Rd. We calculate a 1.25% slope, which is significantly less than 2.0%.
20. Sheet C.303: Field inlets are shown "at grade". See previous comments concerning the field inlets, and the requirement that field inlets in a sump condition be shown with proper grading around the field inlet to create a sump condition.
21. Sheet C.303: Please label Amethyst Ln.
22. Sheet C.303: The profile view of Storm Line 8 shows two sets of dashed lines for finish grade and proposed grade. Please change the finish grade line to a solid line, and the existing grade line to a dashed line.
23. Standard details must be provided for the curb inlets, junction boxes, field inlets, and curb and gutter. The Public Works Department is currently in the process of updating their standard details, so these will need to be provided within the plan set for this project.
24. General Comment Concerning Plans: The issue with the hydraulic grade line at the discharge point (i.e., in the southwest detention basin) contradicting the 100 year water surface elevation is a significant issue. It is probable that the 100 year water surface elevation of the basin will affect all aspects of the upstream stormwater system. It is for this reason that a thorough analysis of the upstream system should be performed, since the downstream condition (i.e., the 100 year water surface elevation within the detention basin) is more or less "set." It is unknown at this time how to rectify this situation.

## **Traffic Review**

1. The plan depicting the eastbound left-turn lane along County Line generally lacks detail and survey information for existing conditions. The turn lane is only required to have a 100' length plus 150' taper (substantially consistent with the northern double yellow line that may or may not require removal). Show the diagonal lines and long lines that will be removed and verify the lane widths remain 12' typical. May need to show a removal plan and improvement plan for this turn lane. Note the materials for arrows shall be preformed thermoplastic and long lines high build paint, both in accordance with City standards

and specifications. Include the City's pavement marking and sign standard details.

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 Resubmittal**

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Beginning Monday, May 23, 2016, all Planning application and development engineering plan resubmittals 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 stormwater 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](mailto:Gene.Williams@cityofls.net).

Sincerely,

*Original Signed*

Gene Williams, P.E.  
Senior Staff Engineer

cc: Development Engineering Project File