

**PUBLIC WORKS ENGINEERING DIVISION**

**Date:** Thursday, August 03, 2017

**To:**

BHC RHODES

Patrick Joyce, P.E.

Email: PATRICK.JOYCE@IBHC.COM

Fax #: (913) 663-1633

**From:** Gene Williams, P.E.

Senior Staff Engineer

**Application Number:** PL2017110

**Application Type:** Engineering Plan Review

**Application Name:** The Grove - Mass Grading and Stormwater

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The Development Services Department received plans for this project on July 24, 2017. We have completed our review and offer the following comments:

**Engineering Review**

1. The reinforced concrete box (RCB) size has changed since the last submittal. It appears to be a 6' x 3', with other references showing 6' x 3.5'. The previous submittal showed a 5' x 7' RCB. The minimum height for the box should be 5 feet. This is needed to maintain the box culvert by Operations personnel.
2. The hydraulic grade line for the 100 year event within the box culvert is well above the top of the box culvert. The City made an allowance for the assumption of upstream detention rather than using maximum C values in the design of the culvert, but we cannot allow the 100 year water surface elevation to be above the top of the RCB.
3. Sheet C4.1: The 100 year water surface elevation within the retention basin does not appear to match what is shown in the stormwater report.
4. A revised Engineer's Estimate of Probable Construction Costs should be submitted. This revised estimate should include the correct size RCB.

In order to calculate the 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) 969-1223 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