

**Date:** Friday, June 19, 2020

**To:** GBA ARCHITECTS ENGINEERS  
9801 RENNER BLVD  
LENEXA, KS 66219

**From:** Sue Pyles, P.E.  
Senior Staff Engineer

**Application Number:** PL2019333

**Application Type:** Engineering Plan Review

**Application Name:** PARAGON STAR - PUBLIC OFF-SITE WATER MAIN EXTENSION

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The Development Services Department received plans for this project on September 27, 2019. We have completed our review and offer the following comments listed below.

- Resubmit one (1) comment response letter, and one (1) digital copy following the electronic plan submittal guides as stated below.
- Revised plans will be reviewed within five (5) business days of the date received.

**Engineering Review - Corrections**

1. Butterfly valves are required for all water mains 12" or larger. Please revise gate valves to butterfly valves. The contractor will need to bevel the inside edge of the pipe connecting to the butterfly valve. Add a note requiring certification be provided to the Field Engineering Inspector upon delivery that the butterfly valves have passed a 192.5 psi test.
2. Include thrust blocks at plugged valves near tees.
3. Using 150% of normal operating pressure at the low point to test the new water main, the test pressure could be 200 psi for the DR 18 pipe and 271 psi for the DR 14 pipe which is within the pressure class of each pipe but is a lot of pressure. Testing the DR 18 and the DR 14 pipe together will place about 224 psi pressure on the low point of the DR 18 pipe.
4. Sheet 1: Update the Summary of Quantities table to match any revisions.
5. Sheet 2: General Note 11 references incorrect specifications. Please revise the section numbers as needed.
6. Sheets 4 & 5: The FH stationing shown on the Plan and Profile views don't match for the FHs near Sta.

27+48 and Sta. 30+79. Please revise.

7. Sheet 6:

- The air relief assembly at Sta. 45+25 is supposed to have a brass saddle according the detail on sheet 9. Some brass saddles do not have the pressure rating for this location. For example, the Ford S90 saddle has a working pressure rating of 150 psi. A different type of saddle might be considered at this location.
- There is still a "15' Water Main easement" label near Sta. 38+00. Please revise.

8. Sheet 7: Include proposed grade. Verify that standard cover requirements are being met.

9. Revise the estimate to match any revisions.

### **Traffic Review - Not Required**

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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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 shall be provided in the following formats

- Plats – All plats shall be provided in multi-page Portable Document Format (PDF).
- Engineered Civil Plans – All engineered civil plans shall be provided in multi-page Portable Document Format (PDF).
- Studies – Studies, such as stormwater and traffic, shall be provided in Portable Document Format (PDF).

Please contact me if you have any questions or comments.

Sincerely,

Sue Pyles, P.E.  
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cc: Development Engineering Project File