

April 2, 2024

David Barlow, PE
CHA, Inc.
9020 Stony Point Parkway, Suite 160
Richmond, VA 23235

**RE: Glover Park Phase II
11217 Greenwood Dr.
POD NO: 2023-00365**

Dear Mr. Barlow:

We have reviewed the construction plans submitted to the Planning Department on February 28, 2024.

Please address the following comments and **resubmit revised construction plans** for review. Water and Sewer Agreements that must be executed by the Owner and the County for water and sewer improvements **have been executed**.

Site layout Plan (C-101-C-106 & C-111):

1. No proposed 30x34 pavilion center can be constructed over the existing water and sanitary sewer lines.
2. The proposed 8x9 pavilion center must be 10 feet away from the existing water and sanitary sewer lines.

Overall Utility Plan (C-400):

3. Update the utility quantities list.
4. Update the overall plan per comments on the utility plan.
5. Add the note that all proposed sanitary sewers on this plan are to be owned by Henrico County Department of Recreation and Parks.
6. Is Mr. Steve Hart of Recreation and Parks ok with your approach of just design the proposed force main to be big enough to only handle this project knowingly that there is a possibility that the proposed 4" pipe might have to be taken out and replaced with a bigger pipe size in the near future to accommodate the future flows?

Utility Plan (C-401):

7. Do you really need the 4" DI pipe and 1.5" copper pipe just for a few spigots? Can you just extend the 1" copper coming out of the 5/8" meter to the spigots? A 1" copper pipe is normally coming out from the 5/8" meter. Use an increaser if you need a bigger size pipe to the spigots.
8. Are these spigots going to be used to wash the dog? Where is the water coming out from all these spigots going to drain to?

Utility Plan (C-402):

9. Relocate the 8" valve next to the corporation stop to be west of the hydrant tee.
10. Use 1" corporation stop and 1" copper pipe for a 5/8" meter instead of 1.5" at the dog park and the misting station. Label the water service pipe from the corporation to the meter to be 1" copper. Add an increaser if you need to increase the water service to 1.5" after the meter.
11. Provide backflow preventer west of the 5/8" meter for the misting area.
12. Where is the water from the misting station and the foot wash area draining to?

13. DPU does not normally accept 10" water line. The next size up from the 8" would be 12". What is the pressure at the hydrant with the 8" water line? Provide hydraulic calculations.
14. Label the pipe material of the existing water main and force main.
15. Remove the pavilion shown on the sheet.
16. Water line and sanitary sewer must be at least 10 feet from any pavilion, and tree.
17. Aren't the square and rectangle between the fields represented the special brick pavers? Provide hold harmless agreement if the waterline is under some special paver.

Utility Plan (C-403):

18. Eliminate the note for contractor to set the benchmark in the future. Benchmark must have elevation. Is there any existing benchmark out there set by your surveyor? Is there any existing structure in this area that your surveyor can set as a benchmark?
19. Relocate the 8" valve next to the corporation stop to be north of the hydrant tee.
20. The proposed meter cannot be in the brick paver area. Recommend relocating it to the median. Move the tree and light pole to another location if possible.
21. When you are installing the meter per detail D-530 and D-535, you are tapping into the 4" plug with the 2" copper pipe going to the 2" meter and the 2" copper pipe come out from the meter. Reference the 2" copper service pipe and use a 2"x3" increaser after the meter instead of the 4"x3" reducer.
22. Relocate the irrigation meter and the backflow preventer to the median. Move the tree to another location if possible. Label the maximum demand of the irrigation system. Label to install the 2" backflow preventer per detail D-410. Eliminate the unnecessary 8" valve next to tee for the irrigation line.

Utility Plan (C-407):

23. Label the pipe material of the existing water line and sanitary sewer.
24. Dpu normally use SDR35 instead of Schedule 40 pipe for gravity sewer.
25. Provide the deflection angle on the sanitary sewer at manhole 119.
26. Clarify what is above the force main. Is it a detention pond? Is the storm sewer outfall going to wash out the ground on the force main. Provide topo contour around this area. Is there any conflict between the force main and the storm sewer on the right side of the sheet? Profile it.

Utility Plan (C-401- C-407):

27. Label the station and the degree of bends on the force main.

Landscaping Plan (C500- C506):

28. No pavilion, tree, or any permanent structure should be within 10 feet of the existing or proposed water and sewer lines.

Storm Profile (C-700-C-706):

29. Show all the waterline and force main crossings. Update the water and sewer crossings on the storm profile per the comments made. Resolve any conflict between the utilities.
30. Show the waterline crossing between storm structure 79 and 80.
31. Show the waterline crossing between storm structure 44 and 280.
32. Show the waterline crossing between storm structure 38 and 39.

Water Line Profiles (C-707):

33. Maintain 3.5' of cover over the water line. It is unnecessary and costs more for the waterline to be deeper. It only needs to be deeper when you are doing the vertical adjustment on the waterline.

34. Show all the storm sewers and force main crossings. Update the water and sewer crossings on the storm profile per the comments made. Resolve any conflict between the utilities.
35. Show the 4" force main crossing in the Fountain Run profile.
36. Update the water main profile per comments made on the utility plan.

Sanitary Sewer Profiles (C-708):

37. Label the length, pipe size, pipe material, and slope of the sanitary sewer pipe from the building to clean-out 1(136).
38. Show all storm and waterline crossings in the sanitary sewer profile.
39. The force main from station 1+00 to station 9+00 has less than 3.5' of cover. Is it possible for the force main to go under the storm and provide more cover on the force main?
40. The force main from station 9+00 to station 23+00 has approximately 10 feet of cover. Is it possible to bring the force main up a little bit in this area?
41. Update the sanitary sewer profile per comments made on the utility plan.

DPU Standard Forms & Notes (C-806):

42. Revise the maximum demand for the rest room in the Domestic Meter Sizing Form.

General:

43. Turn in an updated hard copy of the engineering report. Review the water and sewer design calculations especially the peak flow. Does overestimating the peak flow increase the cost of the pump station? Revise the peak flow, and peaking factor. Provide the GIS downstream manhole. Revise the peak hour flow, total design peak flow, and the lowest pressure at total design peak flow not static.

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4601 or Nolan Ekers 501-4992.

Sincerely



Bob Dao
Utilities Engineer

cc: Steve Hart, County of Henrico

bc: Ralph Claytor
Marchelle Sossong
Scott Jackson, DPW
Daniel Ivy
Aimee Crady, Planning

BQD/djm