Engineering has reviewed the plans for the Bradley Creek Station project submitted June 13, 2018 and have the following comments:

Bradley Creek Station Drainage Area Calculations

DA1

1. Provided Storage Volume and Surface Area of Infiltration are not consistent with the routing calculations.

DA2

2. Provided Storage Volume is not consistent with the routing calculations.

Stormwater infiltration No.1

3. Provide the calculations for determining the pre and post peak discharge runoff coefficients. Pre-development (Woods-good condition): Sandy Soils and Clay Soils runoff coefficient ranges per the technical standards are 0.10 to 0.15 and 0.15 to 0.20, respectively. Select the appropriate pre-development runoff coefficients based on the results of the soils reports.
4. There appears to be a 16 foot weir at elevation 20.80'. Please provide the location of the weir.
5. Please review the chainsaw outputs. The peak outflows and peak storages do not appear to be supported by the output values for the design storm events. I'll use the 2-year storm as an example. The values do not show any type of peak but for the inflow. The peak outflow and elevation cannot be determined based on the output values. If I am misunderstanding the table, please forgive me as I am not very familiar with the chainsaw method.

Stormwater infiltration No.2

6. The drainage area is not consistent with the DA2 Drainage Area Calculations.
7. Provide the calculations for determining the pre and post peak discharge runoff coefficients. Pre-development (Woods-good condition): Sandy Soils and Clay Soils runoff coefficient ranges per the technical standards are 0.10 to 0.15 and 0.15 to 0.20, respectively. Select the appropriate pre-development runoff coefficients based on the results of the soils reports.
8. There appears to be a 16 foot weir at elevation 19.90'. Please provide the location of the weir.
9. Please review the chainsaw outputs. The peak outflows and peak storages do not appear to be supported by the output values for the design storm events. Same issue as trench #1.

10- and 50-year HGL Calculations

10. Please provide an appropriate tailwater condition for the 10 and 50-year HGL calculations. The bottom of the trench is not an appropriate tailwater condition.
11. Expand the tables to include the inverts of the structures for both analyses.

General

12. An emergency outlet or overflow device shall be designed such that in the event of a system failure (i.e. storm water will not infiltrate) during the 10-year storm, storm water will be conveyed to an existing drainage way or structure and not damage property. An emergency outlet or overflow device for the 50-year storm shall be provided (i.e. piped system, driveway, overland flow, etc.). I need the calculations to support this technical standard.

Supplements

13. The supplements values entered do not appear to be consistent with the calculations.

Plans

14. C3:
    a. Show how the proposed r/w at the intersection of Oleander and 58th ties back into the Oleander r/w.
    b. Please revise label to the 5' public pedestrian access easement.

c. Public sidewalk installed at the back of curb must have a width of 6 feet per the technical standards. Public pedestrian access easement will be needed for any portion of sidewalk outside of the public r/w.
d. Per Planning, sidewalk is required along Park Avenue.

15. C4:
    a. The 3:1 grassed swale does not have any grading associated with it. Cannot tell the direction of flow. Where does the swale outfall?
    b. Spot grades are required along both sides of public sidewalk to demonstrate constructability and compliance with ADA standards.
    c. The grading looks really tight around the wetlands. Provide spot grades or contours to demonstrate that the parking can be constructed without grading into the wetlands.
    d. Grading onto adjacent parcels is prohibited without the consent of the adjacent property owner. The eastern one-way drive and parking look to be really close to the property line and may require grading into the adjacent property.
    e. The Park Avenue outfall must have a FES and an energy dissipater. Please provide sizing calculations for the energy dissipater.
    f. Show that the Park Avenue outlet pipe empties into a clearly defined appropriate outfall. Is there a ditch there? Is a ditch cleanout along Park Avenue necessary to ensure positive drainage?
    g. How is the runoff generated by 58th Street improvements being handled?
    h. Show how pipe CI 7-SDMH 6 will be constructed adjacent to the trench system. Same for pipe CI 1-CI2.
16. C5: Provide more spot grades along 58th Street improvements for constructability.
17. C7: The swale detail needs to provide a required depth that is consistent with the swale calculation. Calculations show a required depth of 0.95 feet while the detail only requires a minimum depth of 6 inches.
18. C9: Please provide details that show how the curb inlets that are over the tank system will tie in. Do the same for pipes (both inflow and outflow) that tie into the tank system.
19. DA1: How much on-site newly constructed impervious area is being left untreated? Can these areas be collected and treated?
20. DA2: Add the swale drainage area to the sheet.

Please submit one complete set of plans, the stormwater narrative, application, calculations and any other supporting documentation to Engineering for additional review. Please call or email if there are any questions. Thank you.