

COA Review Comments

Euclid / Wilson Storm Drain Improvement Project, 60% Submittal
Subproject I.D. No. 5789.035

Comments by Arthur Romero, P.E. (Local Flood Hazard Mitigation)

1. Sheet CU-122 & CS-122: Will the existing SD system at STA 8+30 tie into the proposed 66" RCP? It appears the existing SD will be within the excavation of the manhole. Note: This is a comment from the 30% review that has not been addressed.
2. Sheet CU-122 & CS-122, STA. 8+14: There is conflict with 8" conc. WW. What is proposed?
3. Sheet CS-125: There needs to be a manhole at or near STA 17+80 or 17+ 92, sites of lateral connections. The downstream manhole is at 15+25 and the pipe has traversed two 45⁰ bends with another bend at STA 18+32. One option might be to move MH JB-A1-08 to STA 15+32 with the lateral connection and place a manhole at the bend at STA 18+32. This would maintain the 300ft maximum manhole spacing.
4. Sheet CS-125, STA 17+90: Please remove the old, existing SD from the roadway (curb to curb).
5. Sheet CS-127, STA 21+50: Leader should read 'Existing RCP SD to be removed from roadway'.
6. Sheet CS-128, STA 21+94: There is a conflict with a 4" gas line.
7. Sheet CS-128 & 129, STA 21+86 to 23+45: Please show existing SD in the profile.
8. Sheet CS-129: Upper left corner, the note starting with "Existing Pavement ..." is illegible.
9. Sheet CS-130, STA 2+75: Please remove 42" RCP from roadway.
10. Sheet CS-130, STA 2+24 & 4+30: The manholes are not drawn in the profile.
11. Sheet CS-132, STA 4+75 & 4+95: Please remove the existing perpendicular SD within the roadway.
12. Sheet CS-134, STA 5+06 to 6+57: Please show the existing SD on the profile.
13. Sheet CS-135, STA 4+20: Please have both existing laterals removed.
14. Sheet CS-137, STA 6+22: Please have both existing laterals removed.

15. Sheet CS-137, STA 8+60: Please remove the existing perpendicular SD within the roadway.
16. Sheet CS-138, STA 12+25: Please have the existing lateral removed.
17. Sheets CS-140, CS-142, CS-143: Plan North is in the wrong direction.
18. Sheet CS-140 & CS-141, Roughly STA 4+10: Please make a note that the existing SD crossing Oltorf will not be tying into the new system, at that point.
19. Sheet CS-143, STA 1+35 to 2+35: Callout indicates removal of a 30" RCP SD. Our records indicate this pipe to be 24" coming from Oltorf.
20. Sheet CS-143: STA 2+35, Plan shows existing 24" coming from Oltorf to tie into a new 21" SD at STA 2+35. This connection is contrary to DCM 5.2.0.B.
21. CS-164 & CS-166: There are multiple references to 'Storm Sewer' in connection with curb inlets. Please change these to 'Storm Drain'.
22. CS-163, STA 9+58: There is a 7'x 3' box going into a 5'x 4' box. Technically this is a larger pipe flowing into a small pipe, which is contrary to DCM 5.2.0.B. Note: This is a comment from the 30% review that has not been addressed.

Comments by John Driscoll, P.E. (Local Flood Hazard Mitigation)

Construction Plans

23. Please remove the funding identification number (CIP No. 8602-6307-6837) from the plans.

StormCAD Models

LAN_Reroute_ebo_8-15-08_Proposed1_Executable.stc

24. Please provide justification for the headloss coefficients used at junctions with an incoming lateral. Many of the headlosses computed using LAN's coefficients and the Standard Headloss Method are 1/2 the headlosses computed using the coefficients and methodology of the City of Austin's DCM. It is very important not to underestimate system headlosses.
25. Conduits SD-A6-01 and SD-A6-02 in the main trunk line do not meet the minimum velocity requirement. Please correct.
26. Headloss coefficients at bends appear to be too low when compared to Bentley's recommended headloss coefficients for the Standard Headloss Method. Please revise the model, or justify the headloss coefficients used. Please provide justification for the headloss coefficients used at the other transitions.

27. Some of the profiles provided in the model need clarification:

- “Wilson Line through South Euclid Cross System U/S to Open Pipe behind Apartments – 25 YR Proposed”
- “Wilson Line from Confluence with South Euclid Cross System u/s through South End of Wilson System – 25 YR Proposed” Several pipes have inverse slopes.
- “South Euclid System – 25 YR Proposed 1” Pipes have inverse slopes
- “North HEB New System”
- “Durwood system – 25 YR Proposed 1”

Line_B_60%.stc

28. Conduit SD-B1-19 does not meet the minimum velocity requirement of 2.5 ft/sec.
(Repeat Comment)

29. The bypass flow at inlet IN-B1-B03 is 6.29 cfs, resulting in a cross flow at the Cumberland / Euclid intersection that exceeds the allowable maximum of 3 cfs.
(Repeat Comment)

30. Manholes MH-B1-01, MH-B1-06, MH-B1-07 and MH-B1-08 are modeled with no headlosses. Bentley recommends using a headloss coefficient of 0.5 for manholes on the trunk line with no bends when using the Standard Headloss Method. Please revise the model, or justify why these structures are modeled with no headlosses.
(Repeat comment)

31. Transitions WC-B1-02, PC-B1-02, WC-B1-01 and PT-B1-02 are modeled with no headlosses. Please revise the model or justify why there are no headlosses at the transitions. (Repeat comment)

32. Headloss coefficients used in the model at PC-B1-01, PC-B1-03 and WC-B1-07 appear to be too low when compared to Bentley’s recommended headloss coefficients for the Standard Headloss Method. Please revise the model, or justify the headloss coefficients used.

33. Please provide justification for the headloss coefficients used at junctions with an incoming lateral.

34. The time of concentration for DA-B11 is 6.98 minutes for the 25-yr event, and 7.40 minutes for the 100-yr event. Why aren’t the times of concentration the same for both storm events? (Repeat comment)

35. Why are conduits shown with reverse slopes in profiles “Congress Avenue,” “Proposed Line B Revisions,” and “System B – Main Trunk Line?”

Excel Workbooks

36. Submit Time of Concentration calculations for the proposed system reflecting LAN's layout revisions. Show flow paths for each contributing drainage area, identifying sheet flow, shallow concentrated flow, and channelized flow segments. (Repeat Comment)

Excel Workbook 2010-10-19_CB_Spread Analysis

37. The calculations for clear width are incorrect, accounting for spread on one side of the street only. The clear width at the crown of the street must take into account the spread on both sides of the roadway.

Comments by Andrea Henry, P.E. (Creek Flood Hazard Mitigation)

38. The creek flood group can provide steady flow files for the 2-yr, 10-yr, and 100-yr flows for the future condition storm events. Please include these flows as well as the 25-yr event in your RAS analysis.
39. Please clarify whether the RAS model geometry named "East Bouldin COA Future Conditions" reflective of the stream bank stabilization shown in the 60% design plans.
40. A technical memo should be prepared once the water quality pond design is ready that shows how the hydrographs at Outfalls A and B overlap the hydrograph in the creek for the 2, 10, 25, and 100-yr COA storm events. This memo should include a table that shows water surface elevation in the creek pre- and post-improvement conditions.

Comments by Kristin Kasper Pipkin, P.E. (Stream bank Stabilization)

41. Sheet SB-103:

- Rock riprap thickness to greater than 2xD50 but standard detail mentions that the rock riprap thickness is 2xD50. Adjust thickness or remove description.
- What is the gradation for the granular filter?
- What is the purpose of the rock riprap transition next to the limestone headwall? Potentially tie in soil lifts directly into limestone headwall.
- Show bank stabilization features below 'creek invert' in profile view.

42. Sheet SB-104:

- Show bank stabilization features below 'creek invert' in profile view.
- Is vegetated rock riprap necessary between STA 12+70 and STA 13+70? Consider using soil lifts.

43. Sheets SB-105 & 106

- Describe analysis that supports using a 4' - 6' concrete footer.
- Show location of trees in XS where rock riprap is used for tree protection (i.e. 3312).
- Show rock riprap around tree in plan view.
- How will the rock riprap be vegetated?
- Show rock riprap thickness in XS (i.e. STA 13+50).
- How will the slopes be protected above the vegetated rock riprap?

44. Sheet L101:

- Broadcast seed underneath soil retention blanket; do not hydromulch.
- Use 609S instead of 604S for all applications.
- Consider more rooted plants along top of slope between sidewalk and top of bank to create an attractive, visual corridor along sidewalk.

45. Meet with SRP staff to walk through comments and further discuss design.

Comments by Tom Franke, EIT (StormWater Treatment)

46. As previously agreed upon, SWT comments regarding the redesign of the splitter box structure and the water quality pond will be provided with the 90% design plans submittal.