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MEMORANDUM

Date: July 30, 2025
To: Michael Elabarger
From: Jacqueline Thompson, PE
Subject: Merritt Reserve
CID-25-02, 2nd Submittal
Town of Rolesville, NC

This memo summarizes the review of Construction Infrastructure Drawings submitted by American Engineering, dated July 1, 2025 (received 7/3/2025).

Based on the comment responses, this review was done to check only the items that have been marked as completed and therefore no markups have been provided. A number of comments are repeat comments due to on-going design work by American Engineering and being noted that they have not been addressed at this time. The full plans will be reviewed thoroughly when all comments have been noted as addressed in the comment response.

Cover:

1. REPEAT: All comments provided as part of the 3rd PSP submittal still apply and should be completed in the next CID submittal. Comments can be addressed in writing in the PSP re-submittal.
2. REPEAT: A signing and striping plan is required in CID submittals. Please provide this plan as part of the next submittal.

Sheet G-004:

3. REPEAT: Please confirm the construction sequence for Phase 1 - Stage 1.
 - a. Does the construction of the SCMs include only the pond grading?
 - b. Will storm sewer pipes and structures be installed and connected later?
4. REPEAT: The construction sequence for Phase 2 and 3 - Stage 1 appears to be truly focused on Phase 2 & 3, but the EC plans show additional grading and work in Phase 1. Please review the construction sequence and the plans to ensure phasing is clear for what is being constructed and when; there currently appears to be an overlap with Phase 1 into Phase 2 & 3.
5. REPEAT: For Phase 1 - Stage 2 construction sequence Step 10, please confirm if sewer is included as a utility that will be installed during this phase. If yes, please add to that step of the construction sequence.

Sheet CE-114:

6. NEW: Please confirm why the connection to The Point on the west side of the site is not included in Phase 1. It seems that including the 255 LF of the roadway to form the connection would flow well, as well as avoid having construction equipment driving over new infrastructure to build a small section of roadway between two already constructed pieces.



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Sheet CE-130:

7. REPEAT: The white color in the NPDES Stabilization Legend is everything not in Area 1 and 2, but this also indicates area outside of the project area and/or areas not disturbed. Please consider this and confirm if this was the intent.
 - a. This applies to all NPDES Plan Sheets.

Sheet CE-140:

8. NEW: The temporary pipe crossing is missing; please add into the profile.
9. NEW: The dimension near the stream crossing between MH-119 and MH-118 doesn't appear to be labeling anything; please adjust.
10. NEW: Add stationing to the profiles.

Sheet CE-211:

11. REPEAT: Label all easements on all sheets.

Sheet CS-101:

12. REPEAT: Please confirm if a construction and/or maintenance easement is needed since the sidepath is outside of the right-of-way.
 - a. This comment applies to all portions of the sidepath outside of the right-of-way.
13. REPEAT: Label the length of the taper as Fowler Road approaches the entrance of the subdivision.

Sheet CS-200:

14. REPEAT: Confirm if a storm drainage easement will be needed where the storm pipe comes close to the right-of-way / property line.
15. REPEAT: Label the existing water line size and material. Consider revising the line type so it is clear that it is a water line.
16. REPEAT: Is Fowler Road being constructed to the centerline of the existing roadway? Please end the profile where actual construction will start/stop.
17. REPEAT: Add labels for the offsets to specify the minimum separation; specifically near Station 35+25, Sheet CS-202, but review all profiles.
18. REPEAT: Label all pipes on all profile sheets (sewer, water, storm) and label all pipe crossings.
 - a. This comment applies to all profile sheets.
 - b. NEW: It appears CS-200 to CS-202 is still missing storm labels; they appear on other sheets.

Sheet CS-210:

19. REPEAT: Please provide more information on the water line connection at the Merritt Reserve Drive entrance, as to how the connection will occur/fittings/etc., through descriptive labeling and/or reference to appropriate details.



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20. REPEAT: Label the existing water line size and material. Consider revising the line type so it is clear that it is a water line.
21. REPEAT: It appears the storm crossing near Station 20+75 may be in conflict with sewer. Please confirm and adjust accordingly.
 - a. NEW: According to the profile, it appears there is still a conflict for the crossing pipe. The storm pipe schedule says the pipe is 375.50 to 375.70 and the sanitary sewer at this location is approximately 376.
22. REPEAT: Please confirm if the profile reflects the actual grading intention of the roundabout. Usually, the roundabouts have a crown/high point in the center for drainage.
 - a. There does not appear to be any roundabout design information provided in the plan set. Please provide either plan/profile or spot grading detailed information.
23. REPEAT: Is Merritt Reserve Drive being constructed to the centerline of the existing roadway? Please end the profile where actual construction will start/stop.

Sheet CS-211:

24. REPEAT: Update stationing for all sewer and storm structures on all sheets.
25. REPEAT: Review and adjust the waterline offsets along Merritt Reserve Drive at approximate Stations 31+75 and 33+75.
 - a. NEW: According to the profile, it appears there is still a conflict for the crossing pipe. The storm pipe schedule says the pipe is 335.40 to 3350.78 and the water at this location is approximately 335; check near Station 33+75 as well.
26. REPEAT: On all profiles, stop the alignment/profile at the center/center and show proposed grades. The proposed grades don't seem to be the correct grades. If they are, 5% is too steep for the sidewalk.
 - a. This comment applies to multiple profiles, specific to cul-de-sacs, dead-ends, tie-ins to existing.

Sheet CS-212:

27. REPEAT: Confirm that Station 16+63.95 is the end of the alignment where it ties into Merritt Reserve Drive.

Sheet CS-220:

28. REPEAT: Since the Fowler Road, as planned in this plan set, is a temporary condition (it will eventually be widened), show how tying into the existing grade will occur.
29. REPEAT: The profile ends here but picks up on Sheet CS-221 at station 17+25.89. Please fill in the missing profile for the stretch of alignment between Station 16+05.89 and Station 17+25.89 or provide a separate profile/design for the roundabout.

Sheet CS-222:

30. NEW: Add labels for offsets and crossings to ensure separation is being met.



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31. NEW: An effort needs to be made to meet the Town's requirements on this project for the K values. This is a repeated conversation and the Town's requirements are clearly defined in the Town's Standards Manual. While we understand this was not enforced prior to this document being published, it is the Town's requirement and will be upheld.
 - a. For a roadway to be defined as rolling, the grades have to be shown (in an exhibit if needed) to meet rolling grades.
 - b. As of now, all comments related to K-values are repeat comments and have not been removed until an effort has been made to meet the Town's requirements.
32. REPEAT: The minimum K-value for vertical curves is 30 for "level" roadways; the minimum K-value for stopping conditions on a "level" roadway is 14. Please revise design accordingly to meet minimum design requirements.
 - a. This comment applies to multiple sheets.

Sheet CS-260:

33. REPEAT: Ensure the proposed grade is tying into the existing grade where Strips Drive connects to the offsite roadway.
 - a. NEW: A response was provided that the design "should be tying to the existing road profile based on design profile information received from the Point plans." This information should be reflected in the plans.

Sheet CS-280:

34. REPEAT: Consider trying to get the K value to a minimum of 30 along Split Granite Court; due to the steep grades on the right, we understand if this can't occur, but please check.
 - a. NEW: Your response states that you believe this area is considered rolling terrain, and yet you are showing grades less than 3%.
35. REPEAT: Since the end of Strips Drive is a dead-end, please try to get a minimum K-value that would meet the stopping condition to provide a smoother condition for users. Due to the "rolling conditions" this would be a minimum K-value of 9.
 - a. This comment also applies to Toothed Chisel Way on Sheet CS-295 and Deep Canyon Court on Sheet CS-298. For "level conditions" the minimum K-value is 14.
36. REPEAT: Provide invert information for MH 120 in the profile view.

Sheet CS-291:

37. REPEAT: Dead-ending a roadway with an 11% grade could be potentially dangerous, especially in the winter. While barricades are normally required at a dead-end roadway, this specific condition may need something more (such as a guardrail) to prevent cars from going off the roadway. While the existing conditions are shown at or greater than the 11% grade, consider grading/usability of this roadway with the steep grades and the driveways off this roadway.



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38. REPEAT: A retaining wall is referenced in the profile but not shown or labeled in the plan view. Please add to the plan view for clarification of location; this retaining wall should also be shown on the grading plan with top and bottom of wall elevations.
 - a. NEW: Adding a sheet reference would be extremely helpful for navigating the plans since you are showing different information on different sheets.
39. REPEAT: Add the station number to the Fetching Place "End of Roadway".
40. REPEAT: Confirm if the proposed grade shown is the future grade, and revise the callout accordingly. Show property line/limit in the profile.
41. REPEAT: Since MH 107 is shown, please also show MH 170A.

Sheet CS-300:

42. REPEAT: The 8.30% grade on the greenway does not provide ADA compliance; reference the Town's Standards Manual for requirements of vertical design on greenways.
 - a. NEW: Your response is acceptable but landings are not currently shown, labeled, or represented in the plans or profiles. Please either add a note, or grade the landings in to ensure the greenway is constructed correctly to meet this requirement.
43. REPEAT: Label the greenway width and material and show and label the easement.
44. REPEAT: Boardwalks require a 10' concrete pad on each end that is less than 2% in any direction; based on the hatching and lack of labels, it is unclear if the path is concrete or asphalt.

Sheet CS-301:

45. REPEAT: Label the dark line (pipe?) shown in the profile.
 - a. NEW: It appears the pipe(?) is being cut off in the profile as well as the newly added label.

Sheet CU-101:

46. REPEAT: Review the plans to ensure there are no conflicts with sanitary sewer services and storm.
 - a. NEW: A number of locations do not appear to have been adjusted. If you are confident there are not conflicts and separation requirements are being met, then we have no further comments since we can only scale off the PDF plan. The responsibility of this design falls to the engineer on record.
47. REPEAT: Review plans to ensure the minimum separation requirements between storm and water are being provided.
 - a. NEW: A number of locations do not appear to have been adjusted. If you are confident there are not conflicts and separation requirements are being met, then we have no further comments since we can only scale off the PDF plan. The responsibility of this design falls to the engineer on record.

Sheet CU-201:

48. NEW: Label the separation between the sanitary and storm on the profile for MH-106 to MH-116
49. NEW: Label all pipe crossings on all CU profiles.



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Sheet CU-300:

50. REPEAT: Label all pipes with size, length, slope, material, on all profiles.
- a. NEW: This information is provided on some profiles but not others. Provide for consistency and easy to navigate the plans. The pipes and profiles are shown. Rather than having to flip back and forth, it is easy to include the pipe labels like has been done on other sheets.
 - b. NEW: Review the profiles and adjust the grade labels to align with the surface in the profiles.
 - i. This comment applies to multiple sheets.

Sheet CU-306:

51. REPEAT: The proposed grade does not cover the pipe between stations 4+50 and 8+00. Please revise accordingly. If an aerial sewer is intended, please add the appropriate labels, notes, details, etc.
- a. NEW: Provide labels showing/defining the cover over pipes on all profiles. It appears there is still lack of cover near the proposed grade label on CU-306.

Sheet CU-307:

52. NEW: Please confirm if riprap will be provided at the outlet pipes to prevent erosion.

Sheet CG-101:

53. REPEAT: General comments for all grading sheets:
- a. Confirm that there is no proposed grading that is steeper than 3:1 slopes.
 - b. Provide and label (top of wall and bottom of wall) retaining walls as needed.
 - c. Label proposed and existing contours with frequency on all grading sheets.
 - d. Label stormwater pipe size, length, material and slope.
 - e. Show and label all drainage easements and access easements, including around the SCMs.
 - f. NEW: This comment has remained due to the on-going work of the grading plans.

Sheet CT-300:

54. REPEAT: For the dedicated turn lanes, please confirm the taper lengths are correct. Generally, you see 100' tapers, or even footage requirements.
55. REPEAT: There appears to be 2 centerlines shown within Rolesville Road. If not relevant, clean up and remove unnecessary linework.
56. REPEAT: Remove any unnecessary labels throughout plans.
57. REPEAT: Dimension labels do not align with the sidewalk they seem to be dimensioning; review and adjust accordingly.
58. REPEAT: Review plans for any extra and/or extraneous lines; label any lines that are relevant and needed.



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59. REPEAT: There is an existing driveway shown on the plan that encroaches into the expanded Rolesville Road. Label if it will remain and adjust linework to tie to the widened roadway.
60. REPEAT: Label all linework within the plan (underground utilities, edge of pavement, etc.; include widths and material).
 - a. This comment applies to multiple sheets.
61. REPEAT: There is a section cut "B-B" on the plan, but the view is not provided; please adjust accordingly.
62. REPEAT: Consider renaming this sheet to a more clarifying sheet title like "Rolesville Road Striping Plan".
 - a. Please clarify if there is a reason the striping plan is coming first / before the existing conditions and proposed improvements.

Sheet CT-301:

63. REPEAT: Align labels and text to the sheet and make sure they are legible.
64. REPEAT: Please confirm if all labels currently shown are necessary. If not, remove them from the plan.
65. REPEAT: Label the existing watermain with size and material information.
66. REPEAT: Adjust the linework to show existing features. There is a dimension label that appears to be labeling an existing sidewalk, but that isn't clear.
67. REPEAT: Show the entire limits of the street improvements. Currently, the plan cuts off some of the proposed pavement.

Sheet CT-200:

68. REPEAT: The linework for the plan view hard to follow due to the multiple lines and hatches. Please try to clean up and add additional labels for clarity and legibility.
 - a. This comment applies to all sight line plan views.
69. REPEAT: Show proposed roadway location on profiles. Label heights on profiles.
 - a. This applies to all sight line profiles.

Drainage Report – Part 1:

Page 1:

70. Change the address from "Roseville" to "Rolesville"

Page 5:

71. Provide a drainage area map for the proposed storm drainage network.
72. Provide page numbers for each appendix to make it easier to find and jump to different sections.

Page 330:

73. Provide road names on gutter spread calculation sheets that match the site plan (versus Road A, B, C, etc.). Applies to all gutter spread sheets.



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Drainage Report – Part 2:

Page 45:

74. The HGL drops off at the start of this pipe run. Review and revise as necessary.

Page 120:

75. Confirm that the HGL remains in the pipe. This comment applies to all pipes in the network for the 10-yr storm condition.