V4 - CID-23-06 - Response to V3 ENGINEERING memo comments.

December 1, 2023

Town of Rolesville, NC

Re: Parker Ridge
CID-23-06, 3rd Submittal, Memo
Response to Comments

We have received comments for the above referenced project and offer the following information and responses for your consideration:

Sheet C0-0

1. Sheet C4-9 in the sheet list table shows additional text in their sheet titles that should be removed.

Response: This sheet has been removed and is no longer in the sheet list.

Sheet 1/4

2. These existing condition sheets appear to match those from the first submittal; were the correct sheets included? The comments from the first submittal still apply and will need to be addressed before approval. Typical across existing conditions sheets. First submittal comments were left in, unnumbered, as a reference.
    a. The existing conditions sheets that were included in the PSP submittal were different than the ones submitted with this CID submittal.

Response: The previous sheets were inadvertently placed in this set. The PSP submittal existing conditions are now provided.

Sheet C1-5

3. Clean up overlapping text so everything is legible to read. Clean up leaders so plans are easy to read and follow, preventing overlapping leaders is ideal.
    a. This comment applies to all plan sheets.

Response: The overlapping text has been fixed and the tree label size has been reduced to clean up the sheets.

4. Tree protection fence is running through preserved trees. Please adjust the tree protection fence.

Response: This has been revised.

Sheet C1-6

5. REPEAT: Label the existing easement and ensure the existing conditions sheets match what is shown on the demolition sheets.

Response: This has been labeled.

6. Clarify if sidewalks are to be removed at the locations indicated on the markups. If so, add sidewalk removal to the legend or as a call out on the sheet.
    a. This comment applies to all demolition plan sheets.

Response:

7. Sidewalk should be demo'd to closest joint (perpendicular).

Response: Labels have been added to show the sidewalk to be removed.

Sheet C2-0

8. The minimum curve radii is 230' for residential local roads and 310' for residential collectors per NCDOT Subdivision Public Road ROW Roads Minimum Construction Standards. Several curves radii fall below these minimums; please adjust based on NCDOT standards.
    a. This comment applies to all site plan sheets.

Response: Per the TRC meeting, it was discussed that since the alley design dimensions are not listed in Rolesville or NCDOT and the solid waste and fire trucks can maneuver through the development, the current alley radii were acceptable. In addition, the collector was agreed to be a wider section during master plan review, but was not agreed to be designed per the collector standards since it is not shown on the Town's transportation plan as a collector. During the TRC meeting, it was agreed by staff that this will be acceptable. The fire truck and solid waste truck turning exhibits are included in the submittal.

Sheet C2-1

9. Please review all pedestrian ramp layouts to combine or reduce the number of ramps. All ramps need to be ADA compliant. Follow NCDOT requirements and types.
    a. This comment applies to all site plan sheets.

Response: The intersection ramps have been laid out per the NCDOT guidelines per detail 1205.07. There are some directional ramps that are types 1-7 in the NCDOT guidelines though in the parking areas or in other areas.

Sheet C2-2

10. Please show how curbs will transition/end. In addition, some lines appear to be missing for curb end points. Include a detail for curb transitions.
    a. This comment applies to all alleys.

Response: These are now shown.

11. Trees to be preserved appear to conflict with the proposed dog park fence. Adjust the dog park fence limits to provide adequate spacing between the trees and fence.

Response: The fence has been moved to be further away from the trunk of the tree.

12. Check/adjust leaders and plot style for legibility.

Response: The lineweights have been revised.

Sheet C2-3

13. Label/ dimension the width of the easement running along the back side of Lots 205-219.

Response: This has been labeled.

Sheet C2-4

14. The typical section for the cul-de-sac does not align with the rest of the roadway. Please clarify the width of the grass strip. Will grass grow? Please confirm the design/intent; if different than the roadway, it will need to be approved by the town.

Response: The culdesac is from the NCDOT standard and the sidewalk has been moved to the back of curb instead of having a small grass strip between the curb and sidewalk.

15. Adjust the label to the outlet structure out of Lot 12.

Response: This has been moved.

16. The access ramp at the parking lot on the north end of Tree Moss Court should align with the walk; adjust the ramp to align.

Response: This has been adjusted.

17. There is currently a light within the storm easement at the parking lot on the south end of Tree Moss Court; please relocate outside of the storm easement.

Response: The light has been relocated.

Sheet C2-5

18. Please confirm the intent of not extending the curb through the pedestrian ramp at the west cul-de-sac on Granite Knoll Ct. It is recommended to extend curb through the pedestrian ramp as appears to be done elsewhere across the site.

Response: The curb has now been extended.

Sheet C2-7

19. Storm collection for a portion of phase 1B is shown going into a pond that won't be built until Phase 2. This will need to be considered as part of the phasing plan. Consider including an SCM as a part of Phase 1B.

Response: The phaseline has been modified to include SCM 3.

Sheet C2-8

20. Please confirm if there will be any stop bars throughout the site. If so, show them on plans and label.

Response: The UDO requires stop bars so they have been added.

21. Consider including a speed limit sign on road segments along Long Melford Drive.

Response: Two additional speed limit signs have been added along Long Melford Drive for drivers entering the collector from Redford Place and the Young street connector.

22. Please confirm if crosswalks will be stripped on collectors throughout the site. If so, show them on plans and label.

Response: The high visibility crosswalks have been added for the collector only and the striped.

Sheet C3-1

23. There are several instances where waterline, tees/crosses, and valve sizes differ between Utility plan sheets and Plan and Profile sheets. Please make the necessary adjustments to ensure that waterlines, connections, and valves have the correct sizes and remain consistent throughout all sheets.
    a. This comment applies to all Utility Sheets and Plan and Profile Sheets.

Response: The waterline elevations have been adjusted on these sheets to match the other profiles.

Sheet C3-2

24. A 8"x6" reducer is placed on top of the water service to Lot 13. Please adjust the reducer away from the service.

Response: This reducer was moved.

25. The west leg of the cul-de-sac at Redford Place Drive and Water Nest Drive call out an existing 12" water line but an 8" cross and gate valve. A reducer is needed if the surrounding labels are correct.

Response: A reducer has been added.

Sheet C3-5

26. The demolition of the road and walk are required for the water tap and valve installation.
    a. This should be shown on Sheet C1-8.

Response: The connection is no longer required.

27. Is a waterline needed for future amenity/clubhouse? Sanitary service is shown but no waterline. Please confirm.

Response: The existing meter is to be used for the clubhouse.

28. Label the 8" waterline on Cavalera Way.

Response: The line is 12" now.

29. There is not enough separation between structure SMH-29 and the adjacent storm pipe. Please adjust to meet separation requirements.

Response: The MH has been moved.

30. The 15' retaining wall 3, north of SCM 2, requires guardrails. Please show on plans.

Response: The rail is shown and is labeled.

31. Can the hydrant be moved outside of the wall influence to prevent any potential conflict with the wall grid?

Response: The hydrant has been moved.

Sheet C4-1

32. REPEAT: A proposed drainage easement is required on swales crossing more than two lots.
    a. This comment applies to all relevant grading sheets.

Response: Easements have been added.

33. The grading inside the private access easement is steep for a future access path to the park on the west side of the project. Review and adjust as needed.

Response: This has been discussed with town and our client is only dedicating easement in the event of a future connection. There is no need to grade as town will grade onto their site if needed.

34. Verify that the easement behind Lots 170 through 174 will cover both storm pipes and drainage swale.

Response: This has been verified.

35. REPEAT: Please review the angle of the pipes within the storm system and the direction of flow. Redirecting flow less than 90 degrees is not ideal. Reverse flow conditions can be considered if a

detailed study is provided and the drop between inverts is equal to or greater than the diameter of the pipe out.

a. This comment applies to all grading sheets.

Response: The upstream structure was not necessary and has been removed .

36. Clarify whether the existing driveway on the north side of the project is to be abandoned or kept. We noted an easement but the driveway is leading to a structure that will be demo'd.

Response: The existing driveway will be abandoned. The easement was requested by the Town in the event they want to provide an access point.

37. Ensure slope requirements are being met. Grades should not be steeper than 3:1 unless sufficient stabilization measures are taken. Please adjust grading as necessary.
    a. This comment applies to all grading sheets.

Response: The grades have been revised.

38. Verify the grades at Stone Overlook Court for storm and sidewalk. Are they steeper than the road? The sidewalk must be ADA accessible.

Response: The grades have been revised to be 5%.

39. Clarify how the section of pipe behind Lots 195 and 196 will be handled. Will it be removed?

Response: A note has been added to require removal of a portion of it.

40. If the trees located at SCM 3 are to be preserved, the proposed grading cannot extend into their location. Please revise grading/ the SCM or remove the trees.

Response: SCM 3 has been moved to preserve the trees.

41. Verify the grades at wall #7 for drainage outlets.

Response: This has been verified.

42. Please clarify the purpose of structure YI-3004 and the corresponding pipe. Is it a bypass storm? There are no calculations for this pipe; please include.

Response: It is a bypass storm and is included in the calculation book.

43. REPEAT: All proposed contours need to tie into the existing contours.
    a. This comment applies to all grading sheets.

Response: This has been updated.

44. Ensure the grading for the proposed grade along Zanning Drive occurs within the LOD.

Response: The LOD has been updated.

45. Clarify how water will be kept from flowing over the top of the retaining wall east of SCM3, behind Lots 210-212. If no measures are in place, provide a swale or another solution to prevent this.

Response: A swale has been added.

46. Please confirm if there is a low point behind Lot 203. Adjust the grading as needed to promote drainage to storm structures.

Response: The grading has been revised here.

47. A large portion of the swales between buildings appear to be steeper than 3:1. Grading should be adjusted to meet minimum slope requirements.

Response: The grading has been adjusted.

48. Additional contour labels should be added to provide clarity as to where the surface water is draining, particularly at high and low points.
    a. This comment applies to both proposed and existing contours on all sheets that have contours shown.

Response: Labels have been added.

Sheet C4-2

49. Provide design information for the culvert design in the storm chart. Include pipe size, IE, and riprap needed.

Response: The chart has been revised.

50. Verify the contours are correct at the north end of Tree Moss Court; there appears to be a 1' jump.

Response: The jump has been removed.

51. Provide calculations for the greenway culvert north of the Tree Moss Court cul-de-sac. Include structure DI-B103 in the storm table.

Response: The calculations are included and the structures are in the storm table.

52. FES-B102 is located at a tree base. Please adjust the outlet away from the tree.

Response: The outlet has been adjusted.

53. Verify the contours north of the Tree Moss Court cul-de-sac; it is not clear if it is a swale with breaks or broken contours.

Response: This has been updated.

54. Label the contour behind Lot 32 and show how it is tying in. Verify a low point isn't being created without proper drainage.

Response: This has been labeled.

55. Check the contour on Water Nest Drive near Culvert 1. No crown is shown; this differs from the rest of Water Nest Dr.

Response: There should not be a crown since it is in super here. As explained previously, it is not possible to crown here due to existing sewer main.

56. Verify the contour on Water Nest Drive near Culvert 1. If this is a low point another structure will be needed on the other side of the road, across from structure CB-129.

Response: As explained above and from previous submittals, there is no low point there.

57. Verify the proposed contours are shown correctly near the cul-de-sac on Redford Place Drive, east of the alley; they appear very closer together/ steep in some locations.

Response: The grades are tying in at3:1

58. Show stairs in site plan or adjust the grading behind Lots 55 and between 50 and 51.

Response: The stairs have been removed.

59. Adjust the tree protection fence and LOD so it does not run through dog park.

Response: The trees are to be protected inside the dog park and the fence will be

60. Structure SMH-15 runs too close to the storm by CB-221. Adjust the storm or sewer to meet horizontal separation requirements.

Response: This has been updated.

Sheet C4-3

61. Riprap should remain inside of the silt fence and LOD.
    a. This comment applies to all grading sheets.

Response: This has been adjusted.

62. Verify if there is a structure located at the end of the proposed pipe stub being shown, west of SCM 4. Add a structure label.

Response: The label has been added.

Sheet C4-4

63. Label the contour at the south cul-de-sac of Tree Moss Court and verify that this is not a low point.

Response: This has been added.

64. The grading surrounding the building pads do not appear to match up with FFE's. Please verify if the grading is correct and add labels.

Response: The individual lot grading is to be completed outside of construction drawing review and is shown from their lot grading requirements to allow the builder to determine whether he will need to construct a stem wall to make the grading work. The final lot grading will achieve the 3:1 or flatter slopes.

Sheet C4-5

65. Label all storm structures.

    a. This comment applies to all grading sheets.

Response: Structures have been labeled.

66. Show a hydrant (if applicable) on the east side of the Redford Place Drive cul-de-sac at Cavalera Way.

Response: The hydrant is shown.

67. Show wall elevations at the north end of the wall near Lot 127.

Response: The elevations are shown.

68. Verify the side yard swale slope for Lot 142 between the FFE and retaining wall. Adjust the grading as needed to meet slope requirements.

Response: The grading has been adjusted.

69. Adjust the storm easement to be centered around the pipe running from CB-202 to FES-200.

Response: This has been adjusted.

70. The area of dam at SCM 2 has steep slopes; this requires Wake County approval.

Response: The slopes have been adjusted to be 3:1.

Sheet C4-7

71. The current waterline running below the pipe between structure CB-133 and CB-132 is close to 10' deep. Avoid waterlines running this deep; the waterline should be able to pass above the storm pipe. Consider flattening the slope from CB-133 to CB-132. Additionally, the slope running from CB134 to CB-133 can be increased. See profile C6-5 for reference.

Response: The waterline has been modified here.

72. If possible, refrain from using the same numbers to name different types of structures (CB-147, YI-147) to avoid confusion.

Response: The numbers have been revised.

73. Include rip rap for major culvert design (culverts 1-4) in the "Minimum Rip Rap By Pipe Size" table.

Response: These have been added.

74. Several rim elevations shown on these tables don't match what the contours indicate. Per the notes, provide a note on storm chart sheets for how rims for catch basins should be set (top of curb or other).
    a. This comment applies to all storm/ stormwater tables.

Response: The note has been there (bottom left corner) for each submittal.

75. There are several drops between inverts, across all tables, that do not adhere to industry standard drop requirements. 0.2' drop is required when a change in alignment is 45-90 degrees or pipe size increases. A 0.1' drop is allowed if the alignment change is between 0-45 degrees. This applies to all storm/ stormwater tables.

Response: This has been revised.

76. Ensure minimum cover requirements are being met. A minimum of 2' cover above the top of pipe is required for all pipes in paved areas. This applies to all storm/ stormwater tables.

Response: This has been verified.

77. The minimum allowable slope for storm pipes per NCDOT design is 0.5%. The Town recommends 1.0% min in Lot drainage areas. This applies to all storm/ stormwater tables.

Response: Slopes have been revised to be a minimum of 0.5%.

78. There are a few areas that have culverts/storm system (BYPASS). Provide a table and design in the storm package. This applies to all storm/ stormwater tables.

Response: The bypass pipes are now listed on the storm tables.

Sheet C4-9

79. Storm drainage pipes within the ROW shall be RCP with a 15" minimum diameter. Please adjust pipes designed to be 12".

Response: These have been adjusted.

80. Outlet structures should be shown for SCM 1, 2, and 4. Clarify the reason for tying into the SCM outfall pipe with the outfall and bypass. These should be separate, or calculations should be provided for the SCM so flow does not cause conflicts.

Response: The 2 outfalls have been separated.

Sheet C5-0

81. Ensure Wake County is present at the preconstruction meeting (Construction Sequence note 1) and Wake County conducts the onsite inspection (Construction Sequence note 4). Include Wake County in the construction sequence as needed.

Response: The sequence has been provided by Wake County and the erosion control plans are currently in review by Wake County. As such, I appreciate the review and markup of these sheets, but I will only be responding to Wake County's comments since they are the approving authority now.

Sheet 6-0

102. Please ensure the dimensions are in the correct location and it is clear what is being dimensioned. Some dimensions don't seem to line up with the top/bottom of pipes. If crossings do not meet minimum requirements, the design will need to be adjusted. Minimum separation requirements should be shown at all pipe crossings.
    a. This comment applies to all profile sheets.

Response: Separation dimensions have been updated.

103. REPEAT: Please verify minimum separation between pipes is provided at all pipe crossings. There are several locations where pipes do not appear to meet separation requirements. The minimum separation should be shown and labeled on the profile view. If a concrete cradle is required, please ensure that it is clearly shown and labeled.

Response: Separations have been verified.

104. All structures/ waterlines relevant to the profile should be labeled in both plan and profile views.
    a. This comment applies to all profile sheets.

Response: This has been updated.

105. The vertical curve for roadways should be in 50’ increments. Several vertical curves exceed this. Please adjust as required.
    a. This comment applies to all profile sheets.

Response: This has been updated.

106. REPEAT: Waterline connections need to line up across profiles. Please ensure that the elevations at the tees and crosses remain consistent between profiles.
    a. This comment applies across all profile sheets.

Response: This has been checked and adjusted where necessary.

107. Continue the Street A profile to include the waterline connection into existing Redford Drive waterline.

Response: The waterline connection has been removed from this street so this is not necessary.

108. The sheet label should read “Carved Stone CT Plan and Profile.”

Response: This has been updated.

Sheet C6-1

109. Verify rim elevations for storm structures perpendicular to the road alignment with a standard cross section. Rim elevations should be the same.
    a. This comment applies across all profile sheets.

Response: This has been verified.

110. The inside drop manhole structure SMH-17 is labeled on the profile but not shown. Show structure on the profile to see conflict; extend the alignment if needed.

Response: Manhole has been shown.

Sheet C6-2

111. Previous sheets show storm structures on both sides of the street. This sheet does not show structures on both sides of the street; consider revision for consistency throughout plans.
    a. This comment applies to all profile sheets.

Response: These have been labeled for both structures.

112. Pipe and structure CB202 are not shown; please show it on the profile sheet. Extend the alignment if needed.

Response: This has been updated.

Sheet C6-3

113. When a concrete cradle is being used, the pipe material should be DIP. Adjust pipe material from SDR to DIP at the saddle shown near station 18+50.

Response: The line has been updated and no cradle is necessary.

114. After passing structure SMH33, the Granite Knoll CT alignment turns in the cul-de-sac. After the turn, there appears to be no change in proposed grade on the profile. Please verify this is correct.

Response: This has been modified.

Sheet C6-4

115. Show existing sanitary sewer conflict on the profile. Please provide invert and rim elevations for existing structures SMH13329 and SMH40466.

Response: The invert is shown and does not appear to be in conflict with the storm.

Sheet C6-5

116. A 8" cross shown on the profile near station 11+25 is labeled as a tee. Please correct.

Response: This has been updated.

117. A minimum cover of 3' is required for waterlines. Please verify the waterline has adequate ground cover or adjust the waterline to meet minimum requirements.
    a. This comment applies to all profile sheets.

Response: This has been verified.

Sheet C6-6

118. FES-100 has an invert elevation of 383.0' on sheet C4-7 as a part of the storm structure table. The actual invert appears 2' higher in plan view. Verify what is correct; the pipe may need to be extended.

Response: The pipe has been extended.

119. The 3' min cover label is measured to the sewer on the profile (which is correct with the use of DIP pipe) but not typically labeled. Clarify whether this dimension is supposed to measure to the waterline.

Response: It is meant for the waterline and has been moved.

120. Ensure catch basins are located at low points. There appears to be a low point just before station 12+50 with no structure in place. Adjust storm/ grading as needed.

Response: The low point has been moved.

121. An 8”x6” reducer is shown on the plan view, unlabeled, and not shown on the profile view. Add reducer to profile view and label on both plan and profile view.

Response: The reducer was shown at an earlier station.

122. A proposed horizontal and vertical bend occurs in the waterline at the same location, near station 17+00. Verify there is enough space for the horizontal bend. Adjust as needed so horizontal and vertical bends are not proposed for the same location.

Response: The bend has been moved.

Sheet C6-8

123. Verify the extents of the waterline are properly shown in the profile view. Per the plan view, the waterline should not be extending beyond the tee connecting into Long Melford Drive.

Response: This has been updated.

124. Please show and label the blowoff assembly at the end of the waterline on Zanning Drive, in the profile view.

Response: The blowoff assembly has labeled.

125. COR to approve a 6” waterline. This seems undersized for future extension.

Response: The city requested 12” which is what we’re showing.

126. Extend waterline to property line at Zanning Drive.

Response: The blowoff assembly has been moved to 10’ of the property line

127. Verify if the dark line extending past the property line on Zanning Drive is proposed sewer. If it is, show connections and note what the connection will be for clarity.

Response: It was previously but has since been revised.

Sheet C6-10

128. The fire hydrant around station 17+80 appears to be connecting in right where a vertical bend is. Please verify that this connection will not interfere with the bend, or update plans as needed.

Response: The plans have been updated.

129. There are two labels for CB-215. Update one label to reflect the other structure (CB214).

Response: CB214 has been added.

Sheet C6-11

130. Label the street names in plan view shown on this sheet.

Response: Street names have been labeled.

131. Sanitary sewer requires 5' minimum ground cover unless the pipe material is DIP, which requires a minimum of 3' ground cover. Areas with less than 5' ground cover require the pipe material to be DIP. Adjust to meet minimum requirements.
    a. This comment applies to all profile sheets.

Response: The street has been raised in this area.

132. Verify if the waterline has room to run over the storm, preventing vertical bends.

Response: The waterline has been adjusted to be over the storm where possible.

Sheet C6-12

133. Update the street name from "Street H".

Response: The name has been updated.

Sheet C6-15

134. REPEAT: A minimum cover of 24" is required for storm. Please adjust storm as needed to meet minimum requirements.

Response: The grades have been updated but the pipe specified Class IV RCP due to depth.

135. Show structures CB131 and CB132 to verify conflicts. Extend the alignment if needed.

Response: We typically don't show the structures that are not on the street in the profile but showed them for this instance only.

Sheet C6-26

136. Please correct the rim of structure DHSMH42 to be at proposed grade.

Response: The rims of MHs that are not in traffic areas are to be 1' above grade so no correction is necessary for this rim.

Sheet C7-2

137. REPEAT: The invert out elevation in the profile for OCS-3000 does not match the details. Please revise accordingly.

Response: It matches what is on the details and the storm chare.

Sheet C7-4

138. REPEAT: A minimum cover of 24" is required for storm. Please adjust storm as needed to meet minimum requirements.

Response: This has been updated as much as possible. The NCDOT culvert should be structurally sufficient for the vehicle loads.

139. Culvert 2 is below grade. Please adjust pipes/grading so the culvert outlet isn't partially buried.

Response: Per NCDEQ/USACOE guidelines, culverts are supposed to be partially buried.

Drainage and Erosion Control Calculations

140. The drainage areas shown in the SCM drainage area maps don't appear to line up with the proposed contours. As these are construction drawings, it is expected that the drainage areas take into account the drainage that is to occur onsite. This includes expected roof drainage as well as current proposed grading. Please look into updating the drainage areas to ensure they are accurately representing where drainage will flow so that all storm pipes and structures can be properly sized. A more thorough review can be done once contours are clearly labeled and areas updated. This is a repeat comment.

Response: The grading has been updated to show approximate lot grading and what would flow into the SCMs.

141. Utilities and stationing should not be shown on this sheet so it is easier to see the contours and drainage areas. There are several areas where the structure labels and drainage areas are not legible.

Response: The sheet has been revised.

142. Please ensure all contours match what is shown on plans.

Response: The contours match now.

143. If this is the low point then another structure will be needed on the other side of the road. If not, drainage areas need to be adjusted.

Response: The drainage area has been adjusted.

144. There are 3 catch basins for one hatched drainage area CB102B. Where is CB102B? No CB102B shown on plans.

Response: This is now shown.

145. If this is the low point then another structure will be needed on the other side of the road. If not, drainage areas need to be adjusted.

Response: The drainage area has been revised.

146. Ensure a minimum slope of 0.005 ft/ft is being met for all storm pipes. This applies to all relevant drainage calculation sheets.

Response: Minimum slope of .5% has been met.

147. Please clarify what pipe (348) and Pipe (349) refer to?

Response: This has been clarified.

148. Please include CB-153 to FES-152 in storm profiles.

Response: This has been included.

149. Ensure all structures and proposed grades are shown properly in profiles. Ensure proposed grade and structure rim do not take a large jump down as seen with a couple structures. This applies to all relevant drainage calculation sheets.

Response: This has been updated.

150. Ensure rim is set to grade and minimum cover requirements are being met for all storm structures and pipes. This applies to all relevant drainage calculation sheets.

Response: The grades have been modified to ensure the minimum cover has been met or Class IV is specified.

151. Inlet spread should not exceed one half of a lane width. There are a few inlets that are not meeting these requirements. Please update design to meet minimum requirements.

Response: This has been updated.

152. Sheet C4-5 indicates additional structures on Carved Stone CT. Add a drainage area for this structure.

Response: Area has been added.

153. The divide between drainage areas for CB-216 and CB-223 are unclear. Please adjust accordingly (hatch color) to distinguish the separate drainage areas.

Response: This has been revised.

154. Please clarify what pipe (346), pipe (344), pipe (345) and pipe (343) refer to?

Response: These pipes have been labeled.

155. Structure DI-368 does not have a drainage area. Show a drainage area for structure DI-368.

Response: This has been revised.

156. Please verify structures (CB413, CB414). They are not shown on plan sheets.

Response: These have been verified.

157. Please verify CN, composite CN was shown to be 77.

Response: This has been verified.

158. Pull drainage area back to correct limits. This section appears to be flowing off-site.

Response: The areas have been corrected.

159. Basins should be designed to a dewater time between 3-5 days. Update to keep dewatering time within range.

Response: This has been updated.

<u>Stormwater Management Calculations</u>

160. The impervious shown in Table 1 Impervious Area does not match what is shown on the cover sheet. Please ensure values are correct and consistent.

Response: The total impervious shown on the cover sheet matches the table in the SWMP.

161. Update SCM's drainage area on the post development drainage area map to reflect contours.

Response: This has been updated to reflect what will be draining to the SCMs.

Let me know if you have any questions.

Sincerely,

Debbi Ferm, PE
BGE, Inc