



Application No. PL2020198
Application Type: Engineering Plan Review
Application Name: Napa Valley

Responses to City comments are in bold below.

Engineering Review - Corrections

1. The "Macro Storm Water Drainage Study" dated July 8, 2020 (hereinafter referred to as the drainage study) show weir C setup in what appears to be an incorrect configuration. For instance, the setup page appears to show the 10 inch orifice within the baffle as a weir, rather than a culvert/orifice. **The 10" orifice is designated under column [B] in the Culvert/Orifice Structures Section on the Pond Report page.** In addition, the weir shown on the top of the baffle wall appears to be shown as a culvert, when it should be a weir. **The internal 60" weir located at the crest of the orifice wall has been removed from column [C] of the Culvert/Orifice Structures Section and has been modeled under column [A] of the Weir Structures Section as shown on the Pond Report page.** Even more concerning is the configuration of the weir/orifice geometry in relation to the permanent pool. Since the outlet structure is being placed lower than the permanent pool, it would appear the routing calculations "break down", and once the outlet structure is filled with water, the flow dynamics will not mirror what is shown in the report. At that point (i.e, when the outlet structure is fully-submerged), it would appear the only control structure acting on the outlet structure is the weir structure, above the 10 inch opening. **Both the 10" inch orifice and the internal weir will be in operation during the 2, 10 and 100 year storm events. The 10" orifice's primary purpose is to attenuate runoff from the water quality storm event in order to meet 40 hour extended detention requirements.** In other words, the routing results appear questionable using this particular geometry.
2. The drainage study appears to show weir B as the emergency spillway. **Correct, Weir B has been shown for completeness. Weir [B] has been revised to 74.00' and represents the portion of the emergency spillway consisting of an earthen broad crested weir. Weir [C] has been added to the Pond Report and depicts the rectangular overflow weirs connected to the control structure. Weirs [B] and [C] will act together to convey the consecutive 100-year storm assuming zero storage available in the basin. Emergency overflow calculations pertaining to the consecutive 100-year storm may be found in Exhibit I – Emergency Spillway Calculations.** It appears to have been included in the routing calculations. **The emergency overflow weirs have not been included in the routing calculations but have been shown for completeness.** The emergency spillway should never be included in the routing calculations, unless it is calculated separate from the outlet structure. Flow within the emergency spillway should be calculated separately assuming 100% clogging and zero available storage within the basin. **See response above.**
3. Sheet C.300: Why is this sheet labeled "Utility Plan"? **Sheet has been re-labeled to "Retention Plan".**
4. Sheet C.300: This sheet appears to be focused on the detention basin, and should be titled appropriately. Since the focus of this sheet is the detention basin, where are the specific labels showing the emergency spillway, and the elevation of the emergency spillway? **Emergency spillway labels have been added for reference. Emergency spillway labels are still being shown on the Grading Plan, Sheet C.200 for construction purposes.** Why does this emergency spillway slightly differ from the drainage study? **The Retention Plan Exhibit in the study has been replaced with the updated Retention Plan from the construction documents for consistency of detail.**
5. The emergency release structure shown on the inset appears to be calling out instructions as if this were a siphon. It does not appear this design is capable of acting as a siphon. **Notes referring to siphon operation have been removed and the upstream wye, riser and valve have been removed.** In addition, where is the trenching detail for this pipe, since it will not be acting as a siphon? **Trench detail added.**



- Are there any plans to prevent the occurrence of "piping" around the annulus of the pipe? **Added note for concrete anti-seep collars to be added to drawdown pipe.**
6. Sheet C.300: Section A-A appears to show a 30 inch HDPE pipe, but isn't this a 36 inch HDPE pipe? **Revised label to 36 inch.**
 7. Sheet C.300: Where are the calculations for the rip rap at the end of the discharge pipe? **Riprap calculations have been added to Sheet C.300.**
 8. Sheet C.300: The top of the concrete outlet structure shows a four (4) sided weir structure with an elevation set at the emergency spillway elevation. This is not acceptable, unless the primary outlet structure is intended to work in tandem with the earthen emergency spillway. Is this the case? **They are to work in tandem as discussed in Section 6.1 - Retention of the storm drainage study. Emergency overflow calculations pertaining to the consecutive 100-year storm may be found in Exhibit I – Emergency Spillway Calculations.** If so, why was this not discussed within the body of the drainage study? **See response above.** Although it is shown within body of the report within a summary table, it is never explicitly discussed this is the case.
 9. The permanent pool elevation is shown at 983.0. The interior baffle wall orifice is shown at an elevation of 981.80. It would appear the permanent pool, therefore, would be 981.80. Without a plan and profile view, however, of the incoming 36 inch pipe, it is impossible to determine what the permanent pool elevation will be. Is the incoming pipe to be placed at 983.0 flowline elevation? **The flowline in of the 36" influent pipe shall be 983.00, which shall set the permanent pool elevation, as discussed and shown in the report in addition to being labeled and shown graphically on the retention plan section view on Sheet C.300 of the construction set.** Details such as this are critical to a review of these plans.
 10. The emergency discharge pipe shows a valve to be installed on the 8 inch line. Please show on the profile view, in addition to the plan view. **The valve has been enlarged in the plan view and shown in the profile view.**
 11. Detention Sheets and Sheet C.200: Please clearly label the 100 year water surface elevation is in relation to the property lines. Ensure there is a minimum of 20 feet between this elevation and any property line. In this instance, it will be acceptable to use the nominal (i.e., fully-functioning) elevation. **The 100-year water surface elevation has been depicted on both the C.200 and C.300 sheets along with dimensions detailing the distance from the calculated 100-year surface to adjacent property lines.**
 12. Where are the calculations for the 100% clogged, zero available storage? **Emergency overflow calculations pertaining to the consecutive 100-year storm may be found in Exhibit I – Emergency Spillway Calculations.** This will need to include calculations showing the maximum water surface elevation, and minimum freeboard of 1.0 feet between this elevation, and the top of the dam. **The dam is to be constructed between two elevated lots therefore the top of the actual dam is the spillway crest.**
 13. Please see the KCAPWA requirements for anti-clogging measures. 5608.4E(5) and (6). There did not appear to be any anti-clogging measures shown for the outlet structure. **An anti-clogging measure note has been added to the Retention Plan for the influent pipe.**

Feel free to contact me should you have any additional questions regarding this project.

Thank You,

Matt Schlicht