

Supplemental Drainage Response

1. Project narrative has been provided
2. The “Drainage Plan” has been sealed and dated by a Registered Professional Engineer, as required.
3. Copies of FEMA FIRM and flood profile has been provided showing the location of the project
4. HEC-2 cross-section locations have been shown, per scaled location from the PEC’s topographic workmap that was developed for the June 26, 1997 Letter of Map Revision.
5. The regulatory floodway along with the 100-yr and 500-yr floodplain limits have been shown on the plan sheet, based on scaled locations from the FEMA FIRM
6. The proposed project consists of excavation of two detention ponds within the 100-yr floodplain, as identified on the FEMA FIRM. Explicit compensatory storage volume has not been calculated. Hydrologic modeling shows that the peak discharge from the project does not exceed the pre-developed peak discharge. This is consistent with the City of Wichita’s Storm Water Design Criteria as specified in section II-1. This part states “The City desires that detention storage be sized to reduce and/or limit peak runoff for the 5-year and 100-yr frequency storms from urbanized areas to the peak runoff for such storms as if the area was not urbanized”.
7. This project was initiated prior to the City of Wichita’s adoption of the use of NGVD for all topographic exhibits and thus the topographic survey was performed using the City of Wichita Datum. To avoid confusion when comparing newer plans to those previously produced, we opted to maintain consistency and retain the topography in City of Wichita Datum.
8. A copy of the Sedgwick County Soil Survey map has been provided
9. A vicinity map was provided on the “Drainage Plan” sheet. This map represented the location of the project within the square mile bounded by Maize Road on the east, Maple Ave. on the north, 119th St. West on the west, and Harry Street on the south.

10. Calculations for the major storm water sewer systems have been provided. Internal private systems will be determined upon site specific grading conditions. The major storm water sewers have been calculated on the 5-yr and 100-yr frequency storms. The storm water sewers have been designed as pressure systems for the initial storm, as specified in the City of Wichita's Storm water Design Criteria, Section III-1, "Storm water sewer systems shall be designed as pressure systems for the initial storm when possible."
11. Hydraulic grade line calculations have been provided. Any surcharge during the 100-yr event shall be controlled by site grading to direct excess runoff into the detention facility.
12. Inlet capacity calculations have been provided.
13. Due to the magnitude of the Calfskin Creek, the time of concentration greatly exceeds that of the proposed development. The peak discharge occurring from the detention facilities will occur at significantly earlier than the peak flood flow generated by the Calfskin Creek's upstream drainage basin. Therefore, the analysis of the receiving stream is a moot point since the conditions of the site predict no increase in discharge, during a period of time when the peak flood flows are not coincident.
14. The HEC-HMS calculations have been re-submitted, along with the digital copies of the files, an itemization of the input variables has been included. The pond facilities represented on the plan sheet are for depiction of the general location of the pond. Final site grading will determine the exact location, configuration, and size of these facilities.
15. See Item 14.
16. The time of concentration for the site has been assumed according to the City of Wichita's design criteria as specified in Section D-8. "The minimum inlet time or time of concentration used shall be 15 minutes". Together with Section D-8-d, "When the inlet time or time of concentration computed by the above procedures is less than 15 min, the minimum of 15 minutes shall be used..."

17. As outlined in the City of Wichita's design criteria, Section II-1, "The City desires that detention storage be sized to reduce and/or limit peak runoff for the 5-year and 100-yr frequency storms from urbanized areas..." The original submittal of the drainage plan addressed these two return periods as well as the 2-year event. The City's design criterion does not currently require the analysis of the 10-yr, 25-yr, or 50-yr events. Additionally, as per the "Detention and Design Standards" developed by the Detention Subcommittee dated June 22, 1981, Section II-B explicitly states that the 100-yr, 6-hour storm be used in the analysis of a detention facility. We are providing a summary table of the three return periods that have been analyzed.
18. Contour mapping of the proposed finished grade has not been provided. Final site design will dictate the final grading of the property, and thus any contouring performed at this time would only be conceptual in nature and subject to change.
19. Detailed calculations of the outfall structures have not been provided. As with most computer modeling programs, the stage-discharge relationship is an internal calculation that is performed by the program itself.
20. Emergency spillways have been provided and the flow path has been depicted on the plan sheet.
21. A typical weir detail has been provided on the plan sheet.
22. The proposed detention facilities incorporate the City of Wichita's freeboard requirement.
23. The Drainage Plan has been revised to accommodate the south line of the project to redirect runoff to the detention facility.
24. A Quadrangle map showing the off-site drainage patterns has been provided
25. Necessary easements and/or drainage agreements will be provided at the time of recording the plat. Easements will overlay any storm water sewer systems that convey public right-of-way runoff through private property. Internal drainage design will dictate whether an easement is necessary or if a drainage agreement between private parties is more operative to the development.