



CITY OF  
WICHITA

**Department of Public Works**

August 11, 2005

Mr. Phil Meyer, LA  
Baughman Company, P.A.  
315 Ellis  
Wichita, KS 67211

SUBJECT: Drainage Plan  
Falcon Falls 3<sup>rd</sup> Addition  
Wichita, Kansas

Phil:

We have completed our first review of the submittal for the subject site with regards to the City of Wichita's stormwater and floodplain policies. The items submitted for our review were as follows:

1. Plan sheet entitled "Drainage Plan, Falcon Falls 3<sup>rd</sup> Addition, Wichita, Sedgwick County, Kansas" prepared by Baughman Company and submitted August 1, 2005. (two sheets).
2. Plan sheet entitled "Grading Plan, Falcon Falls 3<sup>rd</sup> Addition, Wichita, Sedgwick County, Kansas" prepared by Baughman Company and submitted August 1, 2005. (two sheets).
3. Bound Report entitled "Drainage Plan, Falcon Falls 3<sup>rd</sup> Addition, Wichita, Sedgwick County, Kansas" prepared by Baughman Company and submitted on August 1, 2005.

Based upon the above items, we offer the following comments:

1. A project narrative should be supplied which details the proposed work. This narrative should include, but not limited to: information on the existing site condition, total site area, proposed conditions, and total area to be disturbed. In addition to the above items, a detention summary should be included in the narrative which details the following: off-site flows, on-site flows, detention requirements, release rates for the storm events modeled under both existing conditions and proposed conditions. The information should be included in the bound report.
2. The plan sheets and report should be stamped and signed by a Kansas Licensed Professional Engineer, including the P.E. expiration date.

**Engineering Division**

City Hall • 7th Floor • 455 North Main • Wichita, Kansas 67202-1620

T 316.268.4501 F 316.268.4114

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3. A copy of the Flood Insurance Rate Map and FIS profile with the site location marked should be included for review.
4. It appears the floodplain limits are per scaled location. These boundaries should be shown per the effective FEMA flood elevations as they relate to the natural grade. An exhibit should be included with the submittal that locates every individual lot that is located in the effective floodway and floodplain.
5. A minimum pad elevation should be shown for Lot 8, Block A.
6. A FEMA Conditional Letter of Map Revision (CLOMR), DWR permit, and COE permit will be required for this subdivision. Please note the permits that have been applied for and their status. Include any letters of approval that would support this development. As a reminder, all necessary permits will be required to be approved prior to submitting a project to bid. However, that portion of the subdivision located outside of the special flood hazard area may begin construction prior to the permits being approved.
7. Any fill in the 100-year floodplain will be required to provide compensatory storage equal to at least the volume of fill displaced. Please provide fill and excavation volumes in table format that demonstrate that the volume displaced by fill is being replaced by excavation at the same incremental elevation.
8. The channel improvements, existing contours, and grades should be shown in Reserve "C" as necessary for the proposed development.
9. A project limits should be identified on the USGS quadrangle map.
10. Please provide a summary table for the storm sewer design, including, but not limited to, catchment areas for each inlet, slope, rainfall intensity, hydraulic grade line elevations, and design flow velocities.
11. The PondPack calculations should include an exhibit of the overall tributary areas and delineate the 7, 19.2 and 8,000 acres basins. A schematic of each basin and pond should be shown with the drainage variables included at each node. (An example could be provided if necessary)
12. The following method should be followed to demonstrate effective detention for this development:
  - i. Develop existing condition outflow hydrographs for the 2-, 5-, 10-, 25-, 50-, and 100-year 24-hour events.
  - ii. Develop proposed condition outflow hydrographs for the 2-, 5-, 10-, 25-, 50-, , and 100-year 24-hour events. Separate hydrographs must be developed for the full range of downstream conditions.
  - iii. Demonstrate that the outflow from the proposed detention facility does not exceed the existing condition outflow for all storm events (2-, 5-, & 100-year, 24-hour storm events.) This analysis must also consider the full range

of downstream conditions. This means that the pond has sufficient storage volume necessary to detain the site's runoff under maximum tailwater conditions.

iv. A narrative description, summary table(s) and calculations clearly demonstrating conformance with all of the requirements listed above must be provided.

13. The existing and proposed contours should be clearly labeled and coincide with the areas used in the stage-storage-discharge relationship. This relationship should be included on the plan sheet.

14. Detailed calculations should be provided for each detention that shows the stage-storage-discharge relationship used for the pond outfalls. It appears that the pond routings are only for the 100-year storm event and not sized for all ranges of events.

15. The detention facilities shall provide an overflow structure and overflow path that can safely pass excess flows through the development site. The location of the proposed overflow from the detention facility should be shown on the plan set.

16. A detail of the overflow weir should be included on the plan set including all relevant dimensions and elevations.

17. The City of Wichita requires a minimum of one-foot free board to be provided on all detention facilities.

18. It appears that runoff in the basins tributary to stormwater system 1, 2, 3, 6 and the Peregrine Street Crossing (48" RCP) may be draining to the creek channel undetained. The detention pond outfall may be required to be more restrictive to account for these areas draining unrestricted.

19. Drainage Easements need to be provided over/about the on-site storm sewer system, and over land drainage swales, which are necessary to convey the 100 year storm runoff to either detention facility, unless otherwise located in a dedicated reserve for said purpose.

20. The drainage and grading within Reserve "E" is unclear and needs additional information.

21. The grading plan should include spot elevation grades between the lots that are downstream of the street's sump inlet locations.

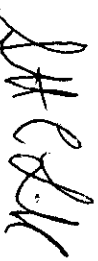
22. The view-out elevations for the following lots should be a minimum of 1.3 feet above the proposed street elevation to provide an adequate factor of safety:

Lots 1-3, 6-7, 13-15, & 29-36, Block A  
Lots 5-10, & 19-25, Block B  
Lots 2, 5, & 8, Block D  
Lots 1-7, 9-13, & 16-22, Block E

23. The entrance culvert required in the 45<sup>th</sup> Street right-of-way should be shown on the drainage plan and provide the necessary calculations to demonstrate that it has the capacity for the 100-year storm event.
24. Please remove note number seven of the lot grading plan.
25. An electronic copy of the drainage plan, grading plan, supporting documentation, and input files for the modeling should be included on a CD and enclosed in the bound report.

We are requesting a comment and response letter to be bound behind the cover of the resubmitted drainage report. If you have any questions or concerns regarding this review, please contact me by phone at 268-4624 or email at [silindebak@wichita.gov](mailto:silindebak@wichita.gov).

Sincerely,



Scott C. Lindebak, P.E.  
Civil Engineer

cc: file  
Vicky Huang, Subdivision Engineer

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