



CITY OF  
WICHITA

**Department of Public Works**

August 16, 2005

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

**SUBJECT:** Drainage Plan  
Auburn Hills 16<sup>th</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, Auburn Hills 16<sup>th</sup> Addition, Wichita, Sedgwick County, Kansas" prepared by Baughman Company and submitted August 5, 2005. (Two sheets)
2. Plan sheet entitled "Grading Plan, Auburn Hills 16<sup>th</sup> Addition, Wichita, Sedgwick County, Kansas" prepared by Baughman Company and submitted August 5, 2005. (Two sheets)
3. Bound Report entitled "Drainage Plan, Auburn Hills 16<sup>th</sup> Addition, Wichita, Sedgwick County, Kansas" prepared by Baughman Company and submitted on August 5, 2005. (Two Books)

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**

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3. A copy of the Flood Insurance Rate Map with the site location marked should be included for review.
4. A project limits should be identified on the USGS quadrangle map and a current aerial photograph.
5. 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.
6. The stormwater sewer line for Valley Hi Ct. (Between Lot 7 & 8, Blk G) has not been sized. Please revise the plan as necessary.
7. It appears that Drainage Basins 11 & 7 and 3 & 5 should be combined based on the grading plan. Please review and change as necessary.
8. The PondPack calculations should include an exhibit of the overall tributary areas and delineate each separate detention 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)
9. It appears that this development is providing the necessary detention based on the PondPack calculations for the 100-year storm event. Please include the following additional information 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.
10. 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.
11. 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.

12. A detail of the overflow weir or emergency flow path should be included on the plan set including all relevant dimensions and elevations.

13. The City of Wichita requires a minimum of one-foot free board to be provided on all detention facilities. There is not enough information on the plan for the Reserve "C" pond to verify the freeboard requirements. In the future, please name multiple ponds by letter (A,B,C,D ...) for reference purposes.

14. 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. The following locations need to have easements:

- a) Between Lots 75 & 76, Blk A
- b) Between Lots 72 & 73, Blk A
- c) Between Lots 67 & 66, Blk A
- d) Between Lots 56 & 57, Blk A
- e) Between Lots 46 & 47, Blk A
- f) Between Lots 41 & 40, Blk A
- g) Between Lots 36 & 37, Blk A
- h) Between Lots 30 & 29, Blk A
- i) Between Lots 23 & 21, Blk A
- j) Between Lots 1 & 2, Blk A
- k) Along Lots 1 thru 10, Blk B
- l) Between Lots 4 & 5, Blk C
- m) Between Lots 15 & 14, Blk D
- n) Between Lots 9 & 10, Blk E
- o) Between Lots 15 & 14, Blk E
- p) Along Lots 11 thru 113, Blk E
- q) Between Lots 22 & 23, Blk E
- r) Between Lots 7 & 6, Blk F
- s) Clip Lot 3, Blk G
- t) Between Lots 4 & 5, Blk G
- u) Between Lots 16 & 17, Blk G
- v) Between Lots 18 & 19, Blk G
- w) Between Lots 26 & 27, Blk G
- x) Between Lots 37 & 38, Blk G
- y) Clip Lot 51, Blk G

15. The grading plan should include spot elevation grades between the lots that are downstream of the street's sump inlet locations. The following locations have been identified:

- a) Between Lots 76 & 75, Blk A
- b) Between Lots 72 & 73, Blk A
- c) Between Lots 56 & 57, Blk A
- d) Between Lots 40 & 41, Blk A

- e) Between Lots 1 & 2, Blk A
  - f) Between Lots 5 & 6, Blk B
  - g) Between Lots 4 & 5, Blk C
  - h) Between Lots 14 & 15, Blk D
  - i) Between Lots 14 & 15, Blk E
  - j) Between Lots 5 & 6, Blk G
  - k) Between Lots 16 & 17, Blk G
  - l) Between Lots 26 & 27, Blk G
  - m) Between Lots 43 & 44, Blk G
16. The lowest opening 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:
- a) Lots 1 & 45-5, Block A
  - b) Lots 4-8 & 11-20, Block D
  - c) Lots 2-4 & 6, Block F
  - d) Lots 16-20, 26-28, & 37, Block G
17. The entrance culvert required in the Maple 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.
18. The lot grading plan should include inlet rim elevations.
19. The existing topography should be extended a minimum of 100 feet offsite to verify offsite drainage conditions.
20. Stormwater from the rear lot line of Lot 8, Blk G appears to drain east, bypassing Reserve "C" pond. Please provide additional spot elevations.
21. Stormwater along rear lot line of Lots 29 thru 30, Blk A appear to drain south bypassing Reserve "E" pond. Please provide additional spot elevations within the lots to contain this developments runoff within the project limits.
22. The following locations appear not to have the minimum 1% grade in the backyard drainage swales:
- a) Along Lots 55 & 56, Blk A
  - b) Along Lots 52 & 53, Blk A
  - c) Along Lot 34, Blk A
  - d) Along Lot 6, Blk E
  - e) Look At the SE grade on Lot 4, Blk F
  - f) Look at the SW grade on Lot 17, Blk G
  - g) Along Lot 9, Blk G
23. 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.
24. The street grades and layout should be revised to reflect the current platted street right-of-way.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'SLC RL'.

Scott C. Lindebak, P.E.  
Civil Engineer

cc: file  
Vicky Huang, Subdivision Engineer

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