



**POE & ASSOCIATES, INC.**

**CONSULTING**

**ENGINEERS**

5940 E. Central, Suite 200

(316)

685-4114

Wichita, Kansas 67208

FAX: (316)

685-4444

February 13, 2013

Mr. Scott Lindebak, P.E.  
City of Wichita  
Stormwater Engineer  
455 N. Main Street  
Wichita, KS 67202

Re: Mac West Addition – Preliminary Drainage Study

Dear Scott:

We have received your comments dated February 11, 2013 related to your review of the preliminary drainage study for Mac West Addition at the southwest corner of MacArthur and West Street in Wichita, KS. As requested, we have revised our drainage study accordingly. Please allow me to address each of your comments individually.

*1. Identify the offsite drainage and discharge rates. This includes the ditches adjacent to the street so drive culverts can be sized, appropriately.*

Drainage culverts for proposed drives and/or public street connections will be designed during final site design. In an effort to identify offsite drainage for future pipe sizing calculations, we have identified offsite drainage areas and quantified runoff rates from these areas to the MacArthur Road and West Street ditches.

*2. Identify the discharge points and rates where drainage leaves the site.*

Our intent is to encourage all off site runoff to percolate to the groundwater table once site runoff is discharged to the proposed detention cell. This will be done through a series of vertical pipes and gravel media. Site water quality requirements are not proposed to be addressed within the dry detention cell. Rather, water quality measures such as bio-swales, inlet filters, filtering manholes or other mechanical or vegetative devices approved by the City of Wichita will be considered and designed to meet water quality standards as required by the City of Wichita/Sedgwick County Stormwater Management Design Manual for each individual site within the property. In the event we find this design methodology inadequate after completing soils borings and determining probable percolation rates, a pumped discharge will be designed to discharge flow near the southwest corner of the property as shown on the proposed drainage plan. This point of discharge will reroute existing drainage patterns slightly as concentrated flow currently exits the site near the south-central portion of the site as shown on the existing drainage

plan. In rerouting point flows to the southwest corner of the property, site discharge will be more conducive to future development in that the property to the site will not be divided by a proposed drainage easement. Flow will be routed to the existing floodway as shown on the attached plat of Lot 1, Block A Duling Industrial 2<sup>nd</sup> Addition.

*3. Provide an easement for offsite drainage, if necessary.*

We are currently in negotiations with the property owner to the south to secure the requested easement. We feel that given the proposed detention and our plan to reroute our site discharge to the existing platted floodway on the property to south, we will be able to effectively demonstrate that this development will improve drainage conditions for downstream properties.

*4. Site must handle its own drainage, internally, and not take it directly out to the ROW.*

We have acquired topographic survey of this site by GPS to support our argument that the north and east approximately 100' of this property currently drains to MacArthur Road and West Streets. The proposed drainage areas that drain to these roadside ditches will be detained within proposed parking lots and/or detention cells prior to draining to said ditches. Water Quality measures will also be put in place to filter runoff from these drainage basins prior to entering the MacArthur Road and West Street ditches.

*5. The detention pond should have 5-ft, minimum, separation between the expected high elevation for the groundwater table and the bottom of the infiltration pond.*

As previously mentioned, we plan to address water quality requirements through mechanical and vegetative means separate from the proposed detention basin. It is our understanding that the "5-ft rule" only applies to those basins which also serve to meet water quality requirements. All site runoff will be filtered by various means to be determined during site design before entering the proposed detention basin.

*6. An infiltration pond should provide a pump, in case the infiltration does not work as intended.*

The design of the requested pump station will be completed during final site design as requested.

*7. The site needs a minimum pad table, based on the pond elevations.*

We have added this table to our final plat as requested.

*8. A reserve or easement can go around the pond at the time of the development, but a note needs to be included with the drainage plan and in the narrative stating it will be provided.*

We have added this note to the drainage plan and the narrative as requested.

*9. A wet pond can be used (enough acreage to justify calling it a wet pond?), but it too will need a pump, likely. Pumped basin must be sized to dewater within 4 days.*

This comment will be taken into consideration during final site/detention cell design.

*10. The emergency overflow path and elevation needs to be identified and provided.*

We have added this information to the drainage plan as requested.

11. *Is there a cross-lot drainage agreement or easement to the south? Discharge runoff to the south must be done in a way that is not erosive to downstream properties.*

As previously mentioned, we are currently in negotiations with the property owner to the south to secure a drainage easement/cross lot drainage agreement as requested. We will make provisions to design the site discharge in such a way to ensure said discharge will not be erosive to downstream properties. One option, depending on costs, may be to pipe site discharge to the existing floodway as platted to the south.

12. *Site is greater than five acres and would be required to provide the downstream bank protection standard.*

Channel bank protection will be designed and constructed with the final site design.

If you have any questions or further comments regarding these drainage study revisions, please do not hesitate to call.

Yours truly,

POE & ASSOCIATES, INC.

Scott R. Servis, P.E.  
Sr. Project Engineer

## **Lindebak, Scott**

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**From:** Scott Servis [Scott.Servis@poeandassociates.com]  
**Sent:** Wednesday, February 13, 2013 10:44 AM  
**To:** Lindebak, Scott  
**Cc:** Tim Austin  
**Subject:** Mac West Addition  
**Attachments:** trans to S Lindebak 2-11-13.doc

Attached is our response to your comments for the Mac West Drainage Study. I will deliver a bound copy of the drainage study early this afternoon. Please call if you have any questions.

**Scott R. Servis, PE**  
***Poe & Associates, Inc.***  
5940 E. Central, Suite 200  
Wichita, KS 67208  
316-685-4114 (O)  
316-685-4444 (F)  
316-680-6661 (C)

[scott.servis@poeandassociates.com](mailto:scott.servis@poeandassociates.com)