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George Binger, City Engineer
220 SE Green Street
Lee's Summit, Missouri 64063

Dear Mr. Binger:

As local residents who will be affected, we are writing out of concern for the current plans that are under way by Inspired Homes in the New Longview area. We are also civil engineers with over 25 years of experience each. As you probably know, Inspired Homes is planning on removing established wetlands, a drainage channel, and a tributary to Old Longview Lake as part of their development of the Longview Farm area. The plans that have been distributed consist of adding a 72-inch storm water pipe, and filling in all the wetlands and tributary. The 72-inch drain pipe will discharge directly into Old Longview Lake. Another 24-inch storm water pipe will also discharge into the lake.

In looking over the scope of this project, our questions and concerns are enumerated below. Questions and concerns requiring a response have been identified in italics.

The Dam on Old Longview Lake

Storm water from the above project will discharge into Old Longview Lake. The dam on the south end of Old Longview Lake is currently in a state of breach. The emergency spillway has collapsed and sealed itself off. The primary overflow (consisting of cast iron pipes from an overflow weir in the lake) appears to have also collapsed. The dam is being overtopped regularly during rainstorms, with the current volume of runoff. A new "spillway" has formed at one point on the dam, where a channel has cut through the dam. This channel effectively is a slow breach in the dam structure, but future overtopping could easily cause a catastrophic collapse.

Current runoff from the developed areas is being retarded by the wetlands along the north end of the lake, and the tributary channel. These drainage channels in the wetlands increase the time of concentration of rainfall events, slowing the water flow into the lake. As things currently stand, it does not appear that the dam can handle even the current runoff.

The drainage being currently worked on by Inspired will lower the time of concentration significantly, which will increase the flow into the lake. With the area also being newly developed, there will be increased runoff due to increases in impermeable areas. While storm water drainage through the areas to be developed has been engineered, there is no indication in any of the plans that the increase in flow into Old Longview Lake has been considered. All appearances are that the dam structure will not be able to handle increased flow.

We would like your assurances that the integrity of the dam structure has been included in the evaluation process for approval of this construction activity. We strongly question the advisability of moving forward with any modifications that will increase flows into Old Longview Lake, until such time that the long-term viability of the

dam and outfall structures has been evaluated and any required repairs are made. We believe this to be a public safety issue.

Water Quality

The current drainage ways, tributary, and wetlands filter out trash and urban pollutants, and appears to be currently working well for all storm events. With the proposed removal of the wetlands area, trash and urban pollutants such as sediments and dissolved solids, including soils, road salt, pesticides, and oil and grease from road surfaces upstream will flow directly into Old Longview Lake.

It is unclear if the degradation of water quality in Old Longview Lake associated with removal of the wetlands area has been evaluated. The vegetation in wetlands can do a great job of reducing pollutants. *Can you tell us if anyone has considered the potential for water quality degradation in Old Longview Lake?*

Storm Water Volumes and Their Potential Impacts

Along with the current New Longview development, and the proposed Phases 1 and 2 of the New Longview development, there is additional development occurring across Longview Road for the Kessler Ridge development. Storm water from a portion of this development will drain toward Old Longview Lake. *Can you confirm for us that this development has been included in the storm water calculations that have been performed?* While it is unfortunate, we have lived in areas before where uphill development has not been fully considered; this has resulted in certain homes needing to be removed due to recurring flooding problems.

Documents that we have seen indicate that the proposed 72-inch outfall into Old Longview Lake will enter adjacent to and to the west of the historic pergola. We are not finding that prevailing water level in the lake is included on the drawings. I would assume that the flow line for the outfall pipe is at or above prevailing water level, but the grading plan does not indicate is the outfall will be partially submerged. *Can you confirm prevailing water level for the lake surface, please?*

Design documents further indicate that flow from that outfall structures during a 100 year rain event will be:

	72-inch outfall	24-inch outfall
Total Flow (cfs)	253.10	30.10
Velocity (fps)	9.74	11.59
Flow Depth (ft)	4.94	1.86

Has the potential for scour within the lake and around the foundation for the historic pergola from this volume of flow been considered? While there are details for riprap for the 24-inch outfall with an apron length of 35.33 feet, I do not see that similar calculations were performed for the 72-inch outfall. I understand that there are plans to restore the pergola. I would hate to see pergola restored only to be undermined by an almost 5-foot tall wall of water flowing from this proposed outfall structure.

Proposed Site Grading for the Installation of the Storm Water Conveyance System

Proposed grading, as indicated on the proposed Storm Sewer Plan and Profile indicates ground surface to cover the piping will be raised along the flow path in amounts between 2 and 7 feet. While this only identifies the grading directly above the proposed storm water pipe, it appears that this plan will basically put the historic pergola into a "hole," at least along the western half of the pergola. *Has the overall proposed grading plan been*

reviewed with respect to the restoration efforts for this historic structure and changes to drainage around the pergola? This is an important feature of the neighborhood, and I would hate to see it get hidden behind a hill.

Ownership

Sheet 1 of a document entitled "Final Plat of Pergola Park – 4th Plat" by Olsson Associates and with a revision date of 08-22-2017 indicates the following within the notes: "All storm water conveyance, retention or detention facilities to be located on common property shall be owned and maintained by the property owners' association in accordance with the standards set forth in the Covenants, Conditions and Restrictions."

This seems highly unusual to us. In our experience in other cities, typically the ownership of storm water systems reverts to the city, an entity with the tools, machinery, and expertise in dealing such infrastructure that a property owners' association would not possess. This also seems strange given that the storm water structures will apparently be collecting storm water from another neighborhood, as well.

Is it indeed true that the property owners' association will be responsible for maintenance of storm water systems? If so, at what point will the association be required to take over such maintenance? Are there set items of maintenance and schedule for their completion? If so, who provides this information to the property owners' association? If there are deficiencies in the design for the storm water system that cause localized flooding issues or dam failure occurs in the future, who is liable?

Your response to these questions/concerns will be greatly appreciated. If you do not have the answers to any of these concerns, perhaps you can point us in the right direction to find those answers?

Sincerely,



John Schumann
Registered Professional Civil Engineer (OK and TX)



Paula Schumann
Civil Engineer

Cc: Mayor Randy Rhoads
City Council Member Craig Faith
City Council Member Trish Carlyle