



LEE'S SUMMIT MISSOURI

DESIGN & CONSTRUCTION MANUAL DESIGN CRITERIA MODIFICATION REQUEST

PROJECT NAME: 100 NE Douglas

ADDRESS: 100 NE Douglas Lee's Summit, MO 64063

PERMIT NUMBER: TBD

OWNER'S NAME: Anthony E. Smith & Jennifer E. Smith

TO: Deputy Director of Public Works / City Engineer

In accordance with the City of Lee's Summit's Design and Construction Manual (DCM), I wish to apply for a modification to one or more provisions of the code as I feel that the spirit and intent of the DCM is observed and the public health, welfare and safety are assured. The following articulates my request for your review and action. (NOTE: Cite specific code sections, justification and all appropriate supporting documents.)

We are requesting a waiver of Stormwater Detention and Retention Allowable Release Rates for the 2, 10 and 100-year storms as identified in KC Metro APWA Section 5608.4.C.1. Comprehensive Control. An onsite attenuation system is being proposed to reduce proposed peak discharge rates below existing peak discharge rates for all regulatory design storms. However, due to the size, geometry and topography of the drainage sub-basin allowable peak discharge rates will not be met at the POI for any of the regulatory design storms. See attachment A for additional information which supports the requested waiver. The proposed detention pit will act as infiltration basin helping improve overall water quality in the drainage sub-basin.

SUBMITTED BY:

NAME: Engineering Solutions
ADDRESS: 50 SE 30th Street
CITY, STATE, ZIP: Lee's Summit, MO 64082
Email: mschlicht@es-kc.com

OWNER OWNER'S AGENT
PHONE #: 816-623-9888

SIGNATURE: *Marina Smith*

SUE PYLES, P.E.
DEVELOPMENT ENGINEERING MANAGER
SIGNATURE: _____

APPROVAL DENIAL
DATE: _____

JEFF THORN, P.E.
DEPUTY DIRECTOR OF WATER UTILITIES
SIGNATURE: _____

APPROVED DENIAL
DATE: _____

GEORGE M. BINGER III, P.E.
DEPUTY DIRECTOR OF PUBLIC WORKS / CITY ENGINEER
SIGNATURE: _____

APPROVED DENIAL
DATE: _____

COMMENTS: _____

Attachment A

The Table below provides a comparison of peak discharge data between Proposed, Existing and Allowable Conditions for Sub-basin A.

Point of Interest Peak Discharge Comparison

POI	Condition	Q2 (cfs)	Q10 (cfs)	Q100 (cfs)
A	Proposed	0.43	0.64	0.96
	Existing	0.60	0.88	1.33
	Difference	-0.17	-0.24	-0.37
	Allowable	0.15	0.60	0.90
	Difference	0.28	0.04	0.06

Peak discharge rates at POI A consisting of the Combined POI A Hydrograph (Sub-basin A + A1) will be reduced below Existing for all regulatory design storms. However, Allowable Peak Discharge Rates will not be met based on the sub-basin size, geometry and topography. It is not practical to convey runoff from certain parts of the unimproved tributary area to the detention pit.

The majority of the proposed improvements will be constructed in Sub-basin A1 where runoff traditionally drains via overland flow to the west property boundary. No concentrated flows will be released directly to any of the adjacent neighboring properties. The detention pit will release excess flows via a 50 lineal foot broad crested weir. Discharge will be released in a northwesterly direction via the proposed 90-degree weir helping minimize any potential impacts to surrounding properties. A consecutive 100-year storm would have a peak discharge of approximately 1.05 cfs across the 50' broad crested weir equating to 0.04' of depth at 0.52 fps.

The detention pit is designed to hold the 100-year storm volume. Infiltration was not figured in the reduction of proposed peak discharge rates but is being employed to provide water quality benefits. The detention pit design allows for any excess water not drained to percolate underground through clean rock into the surrounding soil minimizing if not eliminating any vector nuisances.

See Proposed Drainage Map attached on next Sheet



