

Drainage Report

Linwood Acres 2nd Addition, To Wichita, Sedgwick County, Kansas



October 2007



516 S. Market
Wichita, Kansas 67202
(316) 264-0242

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LINWOOD ACRES 2ND ADDITION

Introduction

The subject property is located on the north side of Kellogg (U.S. 54), about one-half mile between 127th Street East and Greenwich Road, about ¼ mile north on Zelta. The property was platted but is undeveloped and has been for years. The tract of land is just under one acre and is zoned single family SF-5. We are platting the property into 5 single family lots, approximately 60'x125'.

Current Conditions

The site is served by City of Wichita utilities. Single family residential abuts the property on the west and south, and the north and east front streets. The property is a vegetated lot with no structures or paving. The soils are a Type D, mostly clay, with a high runoff coefficient. There are no signs of wetlands and the land is not in a floodplain. The land eventually drains to the south and east. The site drains at a slope of about 0.3%. The runoff discharges to the existing ditch on the east side of Zelta. The ditch in Zelta drains to Kellogg. The ditch in Kellogg crosses under the highway just east of Zelta, into a tributary of the Spring Branch of Fourmile Creek. The City has let a project to pave Zelta Street, with storm sewer. This will alleviate the current localized drainage problems in Zelta.

The attached plat with topography shows existing features including contours and utilities, and proposed easements.

Proposed Improvements

The site will be developed for single family residential use. The lots will drain from west to east as shown on the attached grading plan. To keep a 1% minimum grade running between lots, Deeter curb castings will and PVC pipe will be used to drain the lots to the pavement in Zelta.

Best management practices for erosion control will include seeding disturbed areas and installing city approved measures for single-family residences. Since the total disturbed area is less than 1 acre, a notice-of-intent will not need to be filed with KDHE. The attached calculations show the existing and developed peak runoffs, including assumed coefficients and conditions.

Site Hydrological Analysis

Existing and proposed site conditions have been modeled using the rational method. The Values for Rainfall Intensity and Runoff Coefficients were established using the *Drainage and Storm Sewer Policy for Design Criteria and Documentation, City of Wichita, Kansas*. A time of concentration of 15 minutes was used as the minimum inlet time. A proposed time of concentration of 15 minutes was also used. Results are shown on the drainage plan.

Future Development

There will be no future development of this plat after the 5 structures are complete.

Appendix A

Drainage Plan
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Aerial Photograph

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Public Works, Eng. Div. Storm water checklist

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