

Blackhawk Watershed Assessment

Introduction

Material presented in the following summary documents current stormwater management and flooding issues for the Blackhawk Watershed. Information presented is based on a review of available information related to current conditions in the drainage basin. No comprehensive analysis of stormwater management and flooding issues in the watershed has been performed in the last 20 years.

Watershed Description

Description and Land Use

The Blackhawk watershed is located in the northern part of the City of Rockford on the east side of the Rock River. The watershed drains approximately 1,200 acres at its mouth. 100 % of the watershed is located within the City of Rockford. The watershed is tall but compact.

The Blackhawk watershed is completely developed. The majority of the current land use is about equal parts commercial, industrial, and residential. The commercial development is in the north, the industrial to the south, and the residential to the east. The watershed also contains a large recreational park area along the Rock River, called Blackhawk Park. The park satisfies two functions, as being an appropriate use of flood susceptible area, and as a large park area even containing a small baseball stadium.

Watershed Statistics: Blackhawk	
Total Area:	1,190 ac.
Total Area within City:	1,190 ac.
% of City within Watershed:	3.0%
Other Stakeholders:	None
No. of Detention Facilities	1
No. of Outfalls	8

Topography and Soils

The topography of the Blackhawk watershed is typical of a relatively flat and compact watershed on the East bank of the Rock River. Ground elevations within the watershed range from about 730 feet NAVD near 6th Street to about 680 feet NAVD near the watershed's boundary with the Rock River. This is another low-lying, flat watershed.

Soils within the Sinnissippi watershed consist primarily of type B and type D soils, with a very small amount of type A soils. Type B soils are soils with moderately low runoff potential when thoroughly wet. Water can be transmitted through these soils without impediment. Type B soils

typically have less than 20 percent clay, and between 50 and 90 percent sand with a loamy sand or sandy loam textures. These soils have moderately fine to moderately coarse textures. Type A soils have a high infiltration rate even when very wet. They consist of well-drained sands and gravels, and have less than 10% clay. The runoff potential is low, as water absorbs quickly into these soils. Type D soils are characterized by properties that restrict water movement through the soil. Type D soils typically have greater than 40 percent clay, less than 50 percent sand, and have clayey textures. They have high runoff potential when thoroughly wet.⁵ The predominance of type B and D soils in the Sinnissippi watershed pose dual runoff characteristics to the watershed. The more permeable type B soils should facilitate infiltration of rainfall in pervious areas, but it is important to note that the areas of type D soils will be prone to surface runoff and ponding due to little infiltration.

Primary Receiving Stream

The Rock River is the receiving stream for the Blackhawk watershed. The watershed is flat and the gentle slope to the River is the direction of runoff flow.

Due to the lack of a receiving stream within the watershed itself, there are no impoundments or gauging stations in Blackhawk.

There is no readily available flow data for the Blackhawk watershed as the watershed's contribution to the Rock River can not be feasibly measured.

Given the character of the watershed, flooding within Blackhawk is primarily caused by pooling due to wet weather events. As shown in Figure SI-1, the floodplain along the Rock River is very small, and along the Blackhawk boundary, it does not enter any developed area. An area where the mapped floodplain appears to include developed properties is the Rock River Water Reclamation District Treatment facilities south of Brook Road.

Records maintained by the Federal Emergency Management Agency (FEMA), indicate that no letters of map revision (LOMRs) have been issued for development projects in the Blackhawk watershed during the past 30 years.

Water Quality and NPDES Discharges

The SCORE water quality sampling program did not look at all watersheds within the MS4 service area and did not include sampling sites within the Blackhawk watershed. Water quality data under this program were not collected for the Blackhawk watershed.

Table BH-1 provides the NPDES-permitted point sources within the watershed.

⁵ Burke, Christopher and Thomas Burke. HERPICC Stormwater Drainage Manual. West Lafayette, Indiana: Purdue Research Foundation, 1994.

**TABLE BH-1
 NPDES POINT SOURCES LOCATED WITHIN THE BLACKHAWK WATERSHED
 ROCKFORD, ILLINOIS**

NPDES Permit #	Facility Name	Receiving Water
IL0003891	G.C. Electronics Incorporated	Rock River
IL0037877	Quaker Oats Company	Rock River
IL0046850	Counselor Company	Rock River
IL0050091	Barnes Drill Company	Kent Creek
IL0054178	Galt Crafted Products, Inc.	Rock River
IL0055697	Rockford Spring Company	Not listed
IL0059498	Clark Manufacturing Co.	Storm Sewer
IL0059714	Rockford Products – Plant 2	Rock River via storm sewer
IL0060003	Dasco Products	Rock River
IL0060186	Hamilton Sundstrand - Aerospace	Rock River via drainage ditch
IL0060194	Sundstrand Corporation	Rock River
IL0060968	Amerock Corporation	Rock River
IL0061824	Green Press	Rock River
IL0063983	Camcar/Textron, Inc.	Rock River
IL0064190	Rockford Molded Products	Rock River
IL0067300	Textron Inc. – LDR Operations	Rock River
IL0069817	Testor Corporation - Rockford	Storm sewer to Rock River

Runoff from industrial sites is a potential pollutant source for receiving waters. Table BH-2 lists seven industrial sites within the Blackhawk watershed. One CERCLA, or Superfund, site on the National Priorities List (NPL) is located within the watershed. This 2.8-acre site, Interstate Pollution Control, Inc. (IPC), is located in an industrial area northwest of Magnolia and Peoples Avenues. This property was originally a sand and gravel quarry. The City of Rockford used the quarry for waste disposal from 1942 until 1972, receiving residential, commercial, and industrial wastes. Between 1974 and 1982 IPC operated as a hazardous waste storage facility for 30 to 40 local industries. Various cleanup and removal activities were begun in 1976 and continued until

1999 when the State of Illinois determined the final cleanup actions for the site. Final cleanup actions were completed in 2006 with regular groundwater monitoring continuing today.⁶

**TABLE BH-2
 INDUSTRIAL SITES LOCATED WITHIN THE BLACKHAWK WATERSHED
 ROCKFORD, ILLINOIS**

Name	Street	Land Use Code	Description
Subsource, Inc.	15 th Ave.	3400	Fabricated Metal Prod. (wet)
Textron Fastening Systems	18 th Ave.	3400	Fabricated Metal Prod. (wet)
Aramark Uniform & Career Apparel	18 th Ave.	7218	Laundries & Cleaners - Industrial
Unison Industries, Inc.	Blackhawk Park Ave.	3500	Machinery Mfg. (wet shop)
Rogers Brothers, Inc.	Kishwaukee St.	3400	Fabricated Metal Prod. (wet)
Gunit Corporation	Peoples Ave.	3300	Foundries, Mills & Heat Treat
Fibro, Inc.	Harrison Ave.	3500	Machinery Mfg. (wet shop)

Existing Drainage Network

Drainage within the Blackhawk watershed occurs through a mix of surface drainage paths, storm sewers, and creek channels. In the northeastern part of the watershed, there is a gravity storm sewer network. The southwestern and central portions of the Blackhawk watershed are drained by extensive networks of storm sewers as shown in Figure BH-2.

Figure BH-2 also shows the general location of identified detention basins and storm sewer outfalls within the Blackhawk watershed. The Blackhawk watershed has 1 identified detention facility including the regional Spring Lake impoundment. These facilities are distributed through the central and northeastern part of the watershed. The 8 identified storm sewer outfalls within the watershed are located generally south of Quaker Road, with the largest number concentrated in the area between on the bank of the Rock River.

⁶ Source: U.S. EPA. www.epa.gov/region5superfund/npl/illinois/ILT180011975.htm. Accessed 12/11/08.

Available Data Resources

Previous Drainage Studies

A review of available data identified no recent, comprehensive studies of drainage issues within the Blackhawk watershed.

Historic Flow Data

No source of historic flow data has been identified for the Blackhawk watershed.

Historic Water Quality Data

No source of historic water quality data has been identified for the Blackhawk watershed.
(pending input from David Pott)

Other

Floodplain and Floodway:

Flood Insurance Study: Winnebago County and Incorporated Areas, (FEMA, 2006)

Soil Characteristics:

“Soil Survey Geographic (SSURGO) database for Winnebago County, Illinois.”

Fort Worth: U.S. Department of Agriculture, Natural Resources Conservation Service, 2007.

URL:<<http://SoilDataMart.nrcs.usda.gov/>>

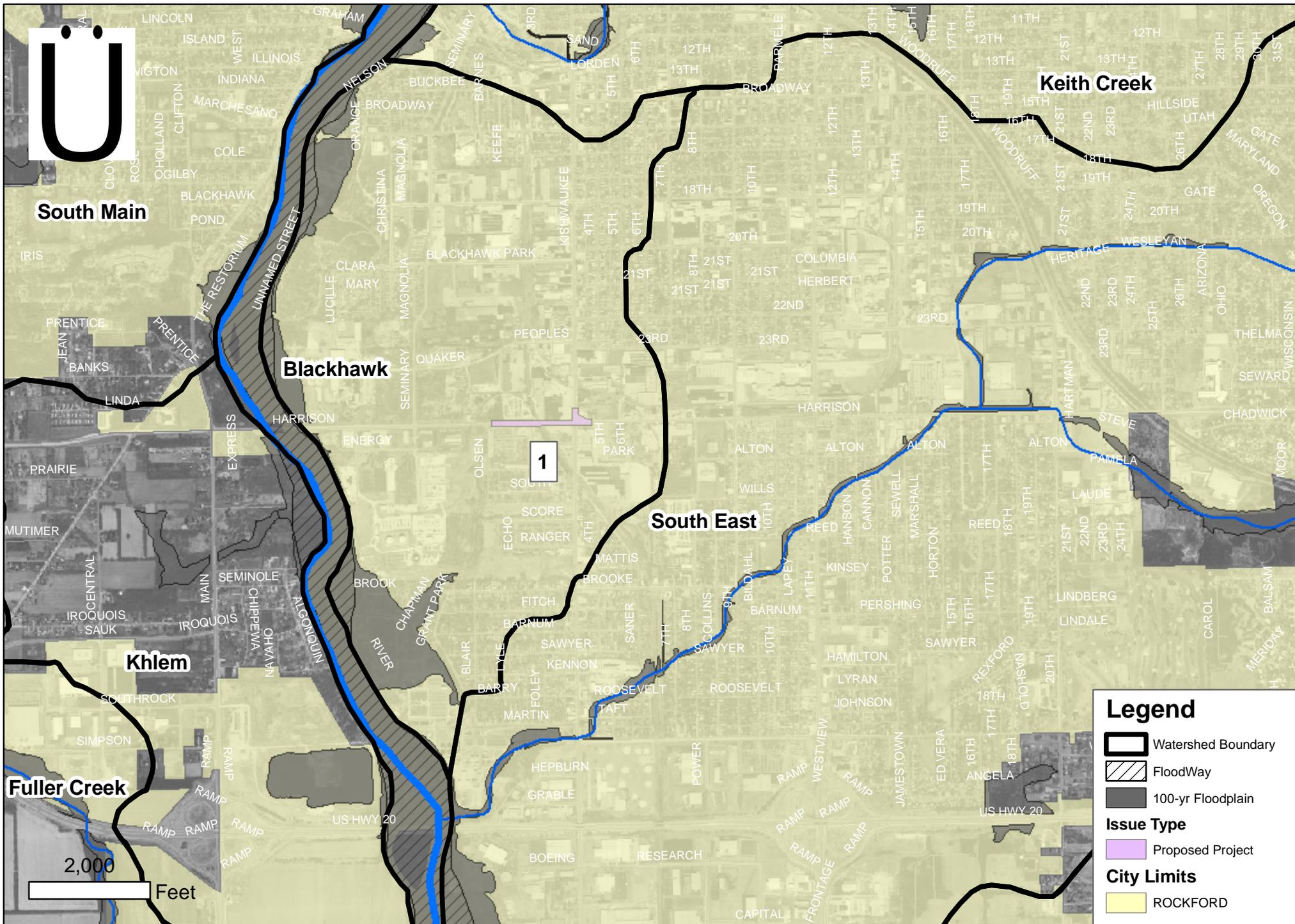
Drainage Issues

Table BH-3 (on the following page) provides a summary listing of current identified drainage issues and projects within the Blackhawk watershed. The general locations of these issues and projects are shown on Figure BH-1.

There are little to no significant stormwater management/flood control problems in the Blackhawk Watershed. The City may receive backyard flooding complaints from residents in response to major storm events and responds to the best of their ability. Further evaluation of site-specific stormwater management/flood control improvement needs is required to provide a basis for effective planning, budgeting, and prioritization of potential projects.

Table BH-3
SUMMARY OF STORMWATER/FLOOD CONTROL ISSUES AND PROJECTS
BLACKHAWK WATERSHED, ROCKFORD, ILLINOIS

		Issue Type				Action			
		Overbank Flooding	Major Surface Flooding	Localized/Nuisance Flooding	Water Quality Impacts	Improvements Completed	Maintenance Required	Future Projects	Proposed Project
#	Brief Description of Issue								
1	Intersection of Harrison Avenue and Kishwaukee Street - IDOT installed (2) 48-inch storm sewers under Kishwaukee.					•			



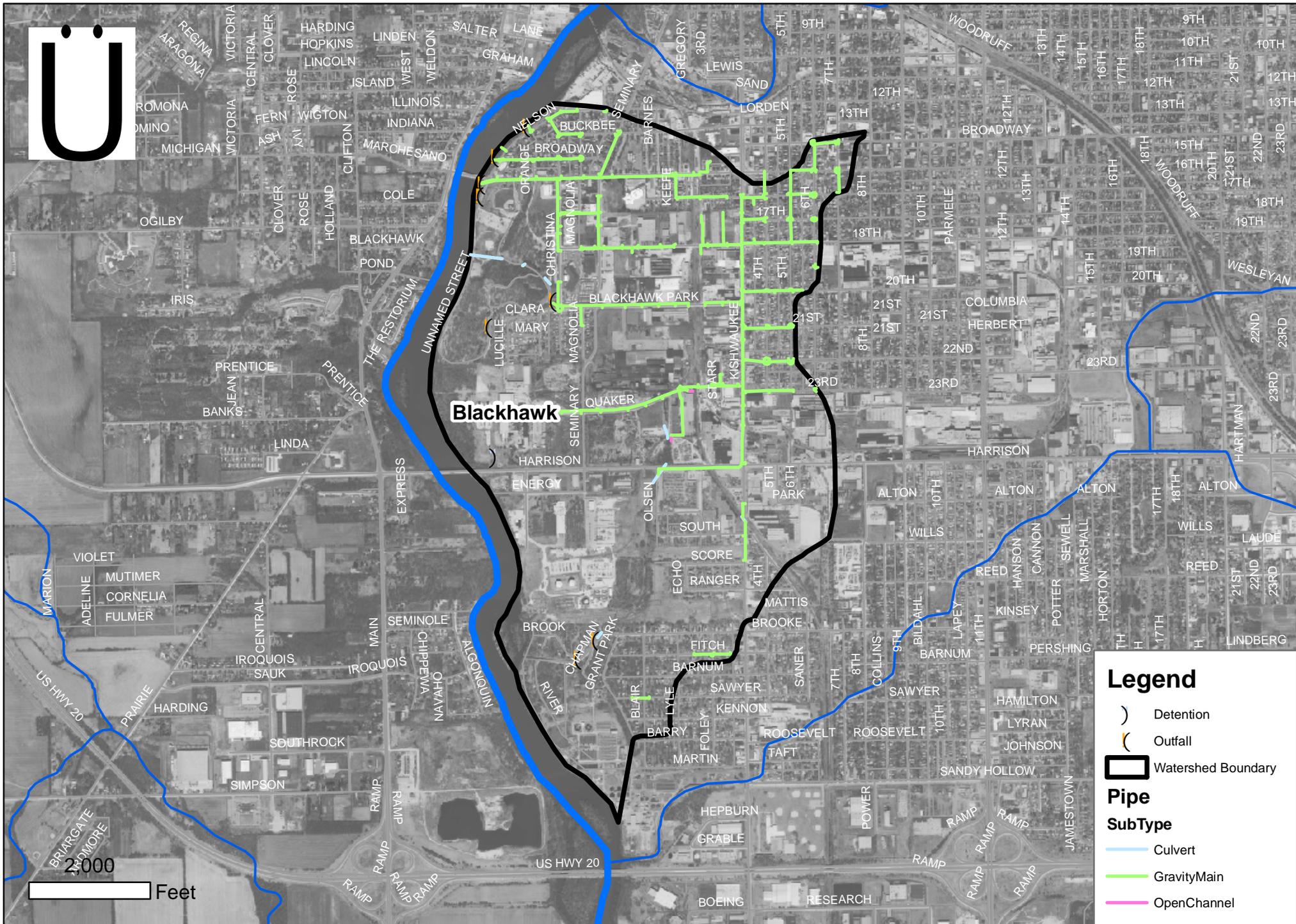


Figure BH - 2

Blackhawk Outfalls, Detention and Storm Sewer
 City of Rockford, Illinois
 Current Data as of Autumn 2008