

OVERVIEW OF INTEGRATED SITE DESIGN

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APPLICABLE REGULATIONS AND INITIATIVES

2.1 Overview

As a result of the need to address the potential negative impacts of development and stormwater runoff, a number of federal, state, and regional regulations have been created to regulate stormwater runoff and manage floodplains. The purpose of this section is to provide a brief overview of the regulations and programs that can impact new developments and redevelopments.

2.2 Federal Regulations

2.2.1 National Flood Insurance Program

Established under the National Flood Insurance Act of 1968 and broadened with the passage of the Flood Disaster Protection Act of 1973, the National Flood Insurance Program (NFIP) provides federally supported flood insurance to residents in communities that voluntarily adopt and enforce regulations to reduce future flood damage. As part of the program, the Federal Emergency Management Agency (FEMA) defines minimum standards for land development in floodplain areas. The City of Wichita and Sedgwick County participate in the NFIP and have adopted floodplain development standards as part of this program. Floodplain development requirements and policies for the City and County can be found in each jurisdiction's local floodplain regulations and in this manual.

Error! Reference source not found. provides a general guide to indicate regulations, programs and initiatives that are relevant to land development.

As this is not intended to be a detailed analysis of each requirement, site designers are advised to obtain a copy of the specific administrative rules for each program from the appropriate regulatory agency.

Section 2.2 – Federal Regulations

Table 2-1 Regulatory Framework for Local Stormwater Management in Kansas

Basis of Regulation	Quantity Based Regulations		Quality Based Regulations						
	Flood Control	Dam Safety	Municipal Stormwater	Construction Stormwater	Water Quality Standards	Water Supply Protection	Groundwater Protection	Stream and River Protection	Wetland Protection
Objective	Flood prevention and property protection	Protect the safety of Kansas residents	Management of municipal stormwater	Control of stormwater (erosion and sedimentation) from construction sites	Control of point and nonpoint loads so that quality standards are met	Protection of municipal drinking water supplies	Protection of municipal groundwater aquifers	Protect water quality, control of erosion, reduction of flood hazards	Protection of wetlands and waters
Federal Legislation	Flood Insurance & Floodplain Management Program (1)	National Dam Inspection Act of 1972	Clean Water Act			Safe Drinking Water Act		NA	Clean Water Act: Rivers and Harbors Act
State Legislation	NA	Dam Safety Program	Kansas Rules and Regulations			Kansas Statutes for Public Water Supply	Groundwater Exploration and Protection Act	Kansas Rules and Regulations; Kansas Environmental Coordination Act	
Enforcement Agency(s)	Local agencies that issue building permits	Kansas Department of Agriculture	Local MS4 and Kansas Department of Health and Environment (2)			Groundwater Management Districts and Kansas Department of Health and Environment (2)		Kansas Department of Agriculture - Division of Water Resources	
Enforcement Mechanism	Local floodplain regulations	Permits for dam construction and inspections	NPDES Phase I and II Municipal Stormwater Permits	NPDES Permits for construction sites, SWPPP	NPDES Permits for industrial activities and watershed assessment req'ts; TMDLs (3)	Water supply watershed regulations; SWAP program (4)	Groundwater recharge area criteria; Wellhead Protection program	Section 401/404 Permits (5)	

Notes:

- 1) Broadened and modified with passage of the Flood Disaster Act of 1973 and National Flood Insurance Act of 1994
- 2) Final enforcement authority for federal laws under the Clean Water Act and Safe Drinking Water Act rests with the U.S. EPA
- 3) Refers to the federal and state Total Maximum Daily Load (TMDL) initiative
- 4) Refers to the federal and state Source Water Assessment Program (SWAP)
- 5) Section 401 deals with water quality certifications intended to assure that the permitted activity will not result in a violation of Kansas water quality standards. 404 Permits authorize the U.S. Army Corps of Engineers to administer a program of permitting the discharge of dredge and fill material to the nation's waterways.

2.2.2 Waters of the U.S./Wetlands – Federal Section 404 Permits

The U.S. Army Corps of Engineers administers a permit program for activities in, on, or around waters of the United States. Regulated activities include excavating or depositing fill materials in waters of the United States. Waters of the United States include all surface waters, such as navigable inland waters, lakes, rivers, streams, and their tributaries; interstate waters and their tributaries; wetlands adjacent to the above (e.g. swamps, marshes, bogs, or

other land areas); and isolated wetlands and lakes, intermittent streams, and other waters where degradation could affect interstate commerce.

Section 404 permits are required for stormwater activities that may impact waters of the United States, including natural wetlands. Section 10 permits (Section 10 Rivers and Harbors Act) are also required for navigable waters of the United States.

The Kansas Department of Health and Environment (KDHE) is responsible for conducting water quality certification reviews for 404 permits in Kansas. The certification reviews are required by Section 401 of the Clean Water Act. Water quality protection plans may be required by KDHE to ensure that proposed projects comply with state water quality standards.

2.2.3 National Environmental Policy Act, Council on Environmental Quality

Congress established the Council on Environmental Quality within the Executive Office of the President as part of the National Environmental Policy Act of 1969 (NEPA). NEPA establishes the Federal government's environmental policy to help public officials make decisions based on an understanding of the environmental consequences of their actions, and to take actions that protect, restore, and enhance the environment. NEPA requires Federal agencies to prepare written assessments that describe the environmental consequences of a proposed project, reasonable alternatives to avoid environmental impacts, and any mitigation measures necessary to minimize an unavoidable impact.

If a project is either directly or indirectly funded by a federal source, then the agency providing funds to the project owner is responsible for seeing that the appropriate level of environmental assessment is performed. There are three levels of analysis depending on whether or not an undertaking could significantly affect the environment. These three levels include: categorical exclusion determination; preparation of an environmental assessment/finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS).

EPA Region VII staff is the first point of contact for NEPA reviews in Kansas.

2.2.4 Endangered Species Act

The mission of the U.S. Fish and Wildlife Service (USFWS) is to conserve, protect, and enhance fish and wildlife, and their habitats for the continuing benefit of the American people. USFWS activities affecting land development include enforcing the federal Endangered Species Act (ESA) and insuring compliance with the National Environmental Policy Act (NEPA).

The Kansas Department of Wildlife and Parks (KDWP) coordinate closely with USFWS to administer the Endangered Species Act within Kansas. KDWP staff has mapped areas of critical habitat for threatened and endangered species throughout the state. Any action which will impact threatened/endangered species or their critical habitats and is totally or partially funded with public money or requires a permit from a state or federal agency must be permitted through KDWP.

2.3 State of Kansas Regulations and Programs

2.3.1 KDHE MS4 Stormwater Permit Program (Phase I and II)

The National Pollutant Discharge Elimination System (NPDES) was originally established by the Clean Water Act of 1972 to control wastewater discharges from various industries and wastewater treatment plants known as “point” sources. Congress amended the Clean Water Act with the Water Quality Act of 1987 to expand the NPDES permit program to address “nonpoint” source pollution through schedules for permitting municipal stormwater discharges. The Municipal Separate Storm Sewer System (MS4) stormwater discharge permit establishes requirements for municipalities to minimize pollutants in stormwater runoff to the “maximum extent practicable.”

KDHE is the authority that administers the NPDES program. Under the KDHE MS4 permit program, local governments and public entities in regulated areas are required to establish and implement a comprehensive Stormwater Management Program (SWMP) to control potential pollutants in stormwater runoff discharging to Waters of the State to the maximum extent practicable and to eliminate non-stormwater discharges entering the stormwater system.

KDHE has two active MS4 general permits, one for rural areas (G-UNA-0604-S001) and one for urbanized areas (G-UA-0604-S001). There are six elements, termed “minimum control measures” that each SWMP must address for the MS4’s coverage under the state general permit. The measures are as follows:

1. Public Education and Outreach;
2. Public Involvement and Participation;
3. Illicit Discharge Detection and Elimination;
4. Construction Site Stormwater Runoff Control;
5. Post-Construction Stormwater Management in New Development and Redevelopment Projects; and,
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

For the City of Wichita and Sedgwick County compliance with the MS4 permit is accomplished through a stormwater program which includes the implementation of structural and non-structural stormwater practices to protect stormwater quality. Local stormwater management, erosion and sediment control and other development-related regulations provide enforcement authority and criteria for controlling significant components of the SWMP. This Stormwater Manual is a part of the overall SWMPs for the City and County. This Manual was created through public involvement (#2), helps to prevent illicit discharges (#3), gives some guidance on construction runoff control (#4) and sets enforceable standards for post-construction stormwater management (#5).

2.3.2 KDHE Stormwater Permits for Construction Activities

The KDHE State General Permit for Construction Activities is directed toward controlling the quality of stormwater runoff from construction. The permit requires the preparation of a construction Stormwater Pollution Prevention Plan (SWPPP) that emphasizes the application of BMPs to control erosion and sedimentation processes during the construction phase of development. Construction site waste must also be addressed in the SWPPP.

Operators of construction sites disturbing one acre or greater are required to obtain coverage under the General Permit by developing a SWPPP and filing a Notice of Intent (NOI) and other supporting documents. KDHE will review the SWPPP and provide a Notice of Coverage (NOC) to the land disturber once any deficiencies in the SWPPP have been corrected. The NOC must be obtained prior to initiating construction activities. A copy of the SWPPP and NOC must be submitted to the local jurisdiction prior to construction.

Permittees on sites with a NOC are further required to submit a Notice of Termination (NOT) to KDHE when final stabilization has been achieved on all portions of the site. Refer to KDHE Bureau of Water General Permit No. S-MCST-0701-1 for specific permit requirements.

2.3.3 KDHE Total Maximum Daily Load (TMDL) Program

Under Section 303(d) of the Clean Water Act, the State of Kansas is required to develop a list of impaired waters that do not meet water quality standards. KDHE must then establish priority rankings for waters on the list and develop Total Maximum Daily Loads (TMDLs) for listed waters. The TMDL specifies the maximum amount of a specific pollutant of concern that a stream segment can receive and still meet water quality standards. The TMDL also allocates pollutant loadings among point and nonpoint pollutant sources, including stormwater runoff. If a TMDL has been established for a water body, the impact of new point and nonpoint sources must be assessed prior to KDHE approval of new or amended discharge or stormwater permits.

The TMDL program has a broad impact on the City of Wichita and Sedgwick County, because nonpoint sources of pollutants must be addressed at the local level. The following local waters are on the 303(d) impairment list:

Table 2-2 TMDL Regulated Parameters for Sedgwick County in 2010

TMDL Regulated Parameter	Associated Stream or Lake
Phosphorus	Little Arkansas River, Cowskin Creek, Cheney Lake & Afton Lake
Nitrate	Little Arkansas River & Cowskin Creek
Ammonia	Little Arkansas River & Cowskin Creek
Biochemical Oxygen Demand Pollutants	Little Arkansas River & Cowskin Creek
Suspended Solids (Sediment)	Little Arkansas River, Cowskin Creek & Cheney Lake
Fecal Coliform Bacteria	Arkansas River, Whitewater River & Little Arkansas River
Nitrogen	Lake Afton

For each pollutant identified, a TMDL implementation plan has been developed. The implementation plans provide a list of actions or management measures needed to reduce the pollutant, a schedule for implementing controls or measures, milestones for implementation, and a monitoring program to measure progress. MS4s are considered a point discharger. KDHE ensures MS4 cooperation with the TMDL implementation through adding requirements to the MS4’s permit. For example, the City of Wichita is required to implement at least one stormwater management facility for each of the TMDL regulated pollutants found in **Error! Reference source not found.** Controls and management measures need to be in place two years after the plan is developed.

Table 2-3 TMDL Regulated Parameters for the City of Wichita in 2010

TMDL Regulated Parameter	Associated Stream or Lake
Total Phosphorus	Little Arkansas River & Cowskin Creek
Total Nitrogen	Little Arkansas River & Cowskin Creek
Biochemical Oxygen Demand Pollutants	Little Arkansas River & Cowskin Creek
Suspended Solids (Sediment)	Little Arkansas River & Cowskin Creek
Bacteria	Little Arkansas River & Cowskin Creek & Arkansas River & Whitewater River

2.3.4 KDHE Industrial Stormwater Permit Program

KDHE requires that the discharge of stormwater from certain types of industrial facilities be covered under the State General Permit (S-ISWA-0507-1) for Industrial Stormwater. Industrial stormwater is defined as water discharged from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. Currently, eleven categories of industrial facilities identified in the State’s General Permit are required to have an NPDES permit for their stormwater discharge.

Regulated industrial facilities are required to develop a SWPPP and submit a NOI for permit coverage under the KDHE General Permit. Components of the SWPPP include identification and elimination of potential sources of stormwater contamination, stormwater monitoring at each stormwater outfall, employee training, and other stormwater protection activities.

2.3.5 KDHE Confined Animal Feeding Operations

The Livestock Waste Management Section of KDHE Bureau of Water administers laws regarding livestock waste. Any confined animal feeding operation (CAFO) with more than 1,000 animal units must write a nutrient management plan to protect state waters from nutrient enrichment. KDHE issues Livestock Waste Management Permits after the nutrient management plan is approved. Annual reports and permit renewals are required to keep the permit active.

2.3.6 Water Well Program

The purpose of the Water Well Program is to provide for the exploration and protection of groundwater through the licensing and regulation of water well contractors in Kansas and to protect the health and general welfare of the citizens of Kansas. The program oversees the proper construction, reconstruction, treatment and plugging of water wells and to provide data on potential water supplies in Kansas. This is done by requiring well logs for all water well construction, reconstruction, and plugging of wells within the state. Any landowner wishing to install a well must work through the water well program to permit and properly construct a well.

2.3.7 KDA Water Structures Program

The Kansas Department of Agriculture (KDA) Division of Water Resources (DWR) regulates a number of in-stream and near-stream structures under the Water Structures Program. This program regulates manmade activities affecting the flow and overflow of any stream by ensuring that such activities are properly planned, constructed, operated and maintained for their authorized purpose without adversely affecting the environment, public health and welfare, and public and private property.

Examples of activities regulated by the Water Structures program include:

- bridges, culverts;
- weirs;
- low-water crossings;
- dams;
- intake/outfall structures;
- boat ramps;
- pipeline/cable crossings;
- grassed waterways;
- channel modifications;
- levees;
- placement of fill within the floodplain; and,
- gravel/sand dredging.

Levee construction in Kansas is regulated by the provisions of The Levee Law. The law states that no entity or individual shall lawfully construct or maintain any levee or any such improvement on, along, or near any stream in the state that is subject to floods, freshets or overflows, so as to control, regulate or otherwise change the flood waters of that stream without first obtaining approval of plans by the chief engineer of the division of water resources.

Stream channel protection in Kansas in the form of a vegetated buffer is regulated by Water Structures Statutes and Regulations, specifically K.A.R. 5-41-6. This regulation is enforced by the Kansas Department of Agriculture (KDA).

The construction of dams in Kansas that are 25 feet high and greater, or 6 feet high or greater and impound 50 acre-feet or more of water, requires approval from the KDA Division of Water Resources. Plans and specifications are required for KDA review. The KDA also has the authority to inspect existing dams, and if necessary, require unsafe dams to be upgraded or removed. The Dam Safety Program is administered under the KDA Division of Water Resources.

2.3.8 Kansas Historical Society

The Kansas Historical Society (KHS) is the state agency for historic preservation. KHS staff consults with citizens and organizations to preserve Kansas's architectural, archaeological, and cultural landmarks. The agency maintains the Kansas Historic Resources Inventory (KHRI), a directory of historic records, and the Register of Historic Kansas Places. Projects that include the disturbance of existing features such as buildings or other manmade structures should include a search of the KHS databases to screen for potential historic significance. Projects that include ground disturbance, such as new construction or pipeline installation, should include an assessment of the potential for disturbance of archaeological or other culturally significant sites.

2.4 City and County Regulations and Programs

2.4.1 Local Stormwater Management Regulation

The stormwater management regulations for the City of Wichita and Sedgwick County are provided in Appendix A of Volume 1 of this manual. (The user of this Manual should check with the City of Wichita and Sedgwick County to ensure that the user has the latest version of this regulation since the version included in this manual may not reflect more recent revisions.) The regulations regulate the design and construction of storm drainage facilities for purposes of water quality and quantity control. The regulations strive to limit the dangers of personal injury, and/or property or environmental damage that may be caused by stormwater runoff.

2.4.2 Floodplain Regulation

The floodplain regulations for the City of Wichita and Sedgwick County are provided in Appendix A of Volume 1 of this manual. (The user of this Manual should check with the City of Wichita and Sedgwick County to ensure that the user has the latest version of these regulations since the versions included in this manual may not reflect more recent revisions.) The regulations regulate development in and around Special Flood Hazard Areas, as designated by the Federal Emergency Management Agency (FEMA), in the City and County for general purposes of floodplain management and flood damage prevention and the protection of life, health, commerce, property and public funds that can be impacted by

flooding. The regulations were developed in accordance with the minimum standards required of communities that participate in the NFIP.

2.4.3 Local and Regional Watershed Plans

Stormwater master planning is an important tool used to assess and prioritize both existing and potential future stormwater problems and to consider alternative stormwater management solutions. Stormwater master plans are prepared to consider, in detail, what stormwater management practices and measures are to be provided for an urban drainage area or a large development project.

Stormwater master plans are most often used to address specific single functions such as drainage provision, flood mitigation, cost/benefit analysis, or risk assessment. These plans prescribe specific management alternatives and practices. Multi-objective stormwater master planning broadens this traditional definition to potentially include land use planning and zoning, water quality, habitat, recreation, and aesthetic considerations.

The City of Wichita has several stormwater master plans providing detailed guidance on required stormwater management practices for individual watersheds. Those required practices may differ from the general standard put forth in this manual. Those watershed-specific standards must be followed for developments occurring in master-planned areas. This is also true if and when similar master plans are developed for other communities, such as Sedgwick County.

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