

LENEXA, KANSAS

Overview

Lenexa, Kansas is a growing suburb in metropolitan Kansas City that faces increasing pressure from the impacts of new development, including more homes, roads and other impervious surfaces that create more runoff. In an effort to protect local water quality, as well as prevent flooding and improve the quality of life for residents, Lenexa's comprehensive plan, Vision 2020, initiated Rain to Recreation, an innovative and integrated watershed protection program.

Rain to Recreation outlines a number of policies and programs to protect land from future development and introduce new green infrastructure practices that limit imperviousness and manage runoff on site. Since the program began in 2000, it has grown to include both regulatory and non-regulatory approaches as well as major capital projects and land acquisitions. From protection of priority natural resource areas in the watershed, to creation of riparian greenways through application of the stream setback ordinance, down to requiring low-impact development practices on site, Lenexa is investing in green infrastructure at all three scales, including the watershed, neighborhood and site levels.

Regulatory Changes

In 2001, as part of the larger comprehensive plan, Lenexa established an integrated Stormwater and Watershed Management Master Plan that focuses on correcting existing problems in developed areas, building new facilities to minimize runoff and protecting undeveloped lands. In 2004, Lenexa increased its requirements in favor of stormwater management practices that infiltrate, reuse and evapotranspire runoff by passing a stormwater ordinance and design manual to comply with its new NPDES Phase II permit¹.

Lenexa's updated post-construction stormwater ordinance applies to both new and redevelopment projects and prioritizes water quality by assigning rankings for different stormwater management practices based on their value for water quality performance. Developers are thinking creatively about how to meet the new standards selecting LID practices that are both functional and aesthetically pleasing for residents and tenants. These natural and functional green infrastructure designs complement neighborhood revitalization plans and gain multiple benefits for the environment and community.

Land Acquisition and Restoration Projects

Lenexa is not just motivated by water quality improvements, but is also driven to use green infrastructure practices and plans to address flood concerns, stream erosion and quality of life improvements for local citizens. Water quality and water quantity are addressed through different policy mechanisms. While the new stormwater ordinance deals directly with water quality, water quantity is being minimized through large-scale projects that the City builds on its own.

¹ To access Lenexa's Phase II NPDES Permit, go to <http://www.raintorecreation.org/SWMP%20final.pdf>

PARKS AND TRAILS PLAN



Lenexa's Parks and Trails Plan outlines existing and future projects to protect and preserve open space, especially right around streams (shown in green as protected by the setback ordinance) and sensitive sub-watersheds.

The City purchases land in priority areas to provide flood mitigation, stream protection, water quality improvements and recreational amenities. For example, Lake of the Prairie and Mize Lake are two projects that restore and stabilize damaged sections of streams, create new wetland areas and include plans to construct large recreational and educational amenities. The largest project in Lenexa is a \$26 million project called Lake Lenexa, which includes a 35-acre lake at the center of a nearly 350 acre public park. The comprehensive design for Lake Lenexa includes wetlands, rain gardens, stream restorations, trails and boardwalks, recreational space and art and education areas. The City bought the property to protect the land from potential development and to enhance existing natural resources.

Creative Funding

Lenexa uses creative and long-term funding for these major land purchases and projects, as well as for the day-to-day staffing and management of the Rain to Recreation program. In 2000, Lenexa taxpayers voted for a ballot to add a 1/8 of a cent sales tax levy to support building stormwater facilities that repair existing infrastructure problems and protect against future flooding events. In addition, Lenexa established a stormwater utility to provide sustainable funding for its new programs. The stormwater utility charge is based on the amount of runoff surface on each parcel of land. Each property is charged \$5.50 (in 2008) per equivalent dwelling unit (EDU), which is measured at 2750 square feet, or about the average runoff surface area of a house with a driveway. Commercial and non-residential properties are charged based upon amount of storm water runoff generated and rates are calculated by dividing total runoff surface area by the number of square feet in an EDU (2750) to more closely charge these larger properties by runoff contributions to the public system.

In 2004, the Lenexa City Council adopted the Systems Development Charge to require new developments to pay a one-time fee at the time of building permit as a means for recovering costs for capital improvement activities. This charge works like a fee-in-lieu mechanism where developers are paying the City to manage water quantity that is created by the addition of new impervious surfaces.

Continued grants from state and federal sources, such as Clean Water Act Section 319 Nonpoint Source monies for park construction and Surface Transportation Project (STP) funding for roadway projects have assisted with capital and demonstration projects like Lake Lenexa. Other sources of funding also support Lenexa's stormwater program, including Johnson County Stormwater Management Advisory Council (SMAC) funding supported by a 1/10th cent sales tax

and basic permitting fees charged to developers. Together, these funding sources ensure long-term watershed protection through the continued creation, operation and maintenance of green infrastructure practices.



Overall, Lenexa wields strong local control to require more rain gardens, bioswales and other forms of green infrastructure in private development projects. At the same time, through the Rain to Recreation program, the City invests heavily in large land preservation and restoration projects that provide key neighborhood and watershed scale green infrastructure.

A constructed 1st order intermittent stream in a neighborhood development slows and infiltrates stormwater runoff, while adding aesthetic value for residents. Plant selection and landscape transition plantings were carefully considered for acceptance.