

Case Examples Where Low Impact Development/Green Infrastructure Supplemented Flood Risk Management Planning

<p>Capitol Region Watershed District, MN - In a watershed retrofit, CRWD implemented a successful low-impact development (LID) solution that not only addressed the flooding concerns and saved money over conventional pipe drainage, but also improved water quality in the economically-significant impaired Como Lake. http://www.capitolregionwd.org/our-work/water-resource-improvement-projects/arlington-pascal-stormwater-improvement-project/</p>	<p>2010 Grand Award from the Minnesota Chapter of the American Council of Engineering Companies</p>
<p>Watershed Retrofit, Sun Valley Watershed, Los Angeles, CA - In a community historically impacted by chronic flooding, a watershed management plan is being implemented to reduce flooding, capture storm water, improve water quality, increase recreational opportunities, and increase wildlife habitat in the Sun Valley Watershed (a tributary to the Los Angeles River). The captured storm water is recharged in to the local groundwater aquifer, which supplies local drinking water. The Los Angeles County Flood Control District, the City of Los Angeles, and local NGOs such as TreePeople are continuing to work together to carry out the projects outlined in the Sun Valley Watershed Management Plan which was adopted by the Los Angeles County Board of Supervisors in 2004. The adopted watershed management plan and programmatic EIR can be found here: http://www.sunvalleywatershed.org/ceqa_docs/plan.asp</p>	<p>Recognized in 2006 as one of the "Top Environmental Achievements in the Environmental Community" in Southern California</p>
<p>Greenstreets Retrofit, Edmonston, MD - Runoff from parking lots and roofs was flooding Decatur Street, the main residential street. The Anacostia River historically caused riverine flooding, and now stormwater runoff must be pumped past a levee to the river, incurring pumping costs. This flooding was the primary driver for the "green street" renovation. The project infiltrates the first 1.33" rainfall from 90% of the impervious area. http://edmonstonmd.gov/GoingGreen.html</p>	<p>Mayor Ortiz - <i>Although we're on the Anacostia River ... we never once flooded from it. We flooded from the runoff of parking lots and shopping centers, roofs, buildings and streets. We wanted to show that there's another way to build.</i></p>
<p>Watershed Retrofit Modeling, Nashville, TN - LID was the only solution that eased smaller storm chronic flooding while maintaining summer base flow for an endangered species, and also saved expensive land from large retention ponds, in a 2007 Corps modeling effort for Nashville. In response to catastrophic 2011 floods, the Mill Creek study focus is now on large storm management, and ecological considerations is a lesser priority.</p>	
<p>Kane County, IL - In 1996, flooding prompted formation of the Blackberry Creek Watershed Resource Planning Committee, and preparation of the <i>Blackberry Creek Watershed Management Plan</i> (Plan). A focus of the Plan was prevention of further flooding and resource degradation as the watershed urbanizes. In addition to the Plan, the Blackberry Creek Alternative Futures Analysis documented the benefit of conservation type development and infrastructure versus conventional development and infrastructure. A Fiscal Impact Study on comparing environmentally sensitive land development and fiscally responsible land development found that conservation development, using LID for stormwater, imposes a lower public cost than the conventional alternative. As a result, the stormwater ordinance now includes small storm retention requirements. Also, the Blackberry Creek Alternative Futures Analysis completed a review of all local governments within the watershed to recommend updated language to their respective subdivision and zoning ordinance to encourage best management practices within each jurisdictional boundary. http://www.co.kane.il.us/kcstorm/blackberry/ReportSummary.pdf</p>	
<p>Storm water Ordinance, Maricopa County, Greater Phoenix, AZ - The Phoenix region's desert environment is conducive to flash flooding, due to unique alluvial soil and topography characteristics, winter and summer rainy seasons, and a widespread network of natural riverbeds, washes and channels. Among adopted standards was a requirement for new development requirement to retain the entire runoff from the 100-year 2 hour storm. The system has been so effective that within many watersheds, hydrologists are demonstrating via future condition models that localized flooding issues will be diminished or eliminated as the area develops and the retention standard is implemented in new development. http://www.maricopa.gov/planning/BuildingServices/docs/pdf/Drainage_Regs.pdf</p>	
<p>Papillion Creek Watershed Partnership, Greater Omaha area, NE - The Partnership has developed a comprehensive watershed management plan to establish common goals and to evaluate options to address existing and future flooding damage and water quality impairments. Modeling full build-out conditions enables the community to plan for development in ways that can mitigate flooding, and modeling here determined that incorporation of LID/GI in the master drainage plan, implemented via stormwater ordinances, would contribute significantly to reducing flooding impacts of a fully built-out watershed. While LID for flood control was evaluated for up to the 100-yr event, the Partnership jurisdictions selected LID sized for the 2-yr event for implementation. http://www.papiopartnership.org/resources/publications_2_1102865415.pdf</p>	
<p>Flood Reduction Task Force Recommendations, Asheville, NC - The Flood Damage Reduction Task Force's high priority action list of flood mitigation strategies lists LID as one of the elements to mitigate flood damage. The Task Force has recommended that the City adopt requirements and incentives for LID standards with the goal of mimicking the site's pre-development hydrology. Asheville has now implemented many LID/GI pilots, and is featuring an LID parking lot and bioswales on a showcase redeveloped Brownsfield industrial site for newly-attracted New Belgium Brewing Company as a site amenity. http://www.ashevilenc.gov/portals/0/city-documents/Stormwater/FDRTFWhitePaper.pdf</p>	

