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**DESIGNING SUCCESSFUL FORESTED WETLANDS THAT CAN
PROVIDE FLOODPLAIN COMPENSATION IN URBAN AREAS**

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ABSTRACT: Outer Loop Recycling & Disposal Facility (OLRDF) is a solid waste landfill located in Louisville, Kentucky. Since 1993, OLRDF has created and/or restored over 500 acres of wetlands to offset impacts to on-site wetlands as part of several expansions of the facility. Currently, five of six mitigation areas have met all success criteria and were released from further monitoring. Two of these sites have been deeded to the state and are being used as a wildlife management area. Construction at the sixth mitigation area (under the most recent permit) began in the fall of 2010. Each of the sites is unique in that the areas were predominantly upland areas that were designed to replace forested wetland habitat in addition to serving as floodplain compensation areas. Mitigation efforts for these areas include excavation, grading to provide consistent hydraulic connection with the surrounding wetland areas and adjoining floodplains and provide the necessary floodplain compensation. Vegetative plantings and seeding is included for restoration of wetland functions and values. At two of the mitigation areas, which are located at the landfill, a stream relocation (approximately 7,000 linear feet) was also incorporated into the design. Considerations for each of the mitigation areas focused on the hydrologic features, including inundation periods and overbank flows, and the selection and placement of various wetland species. Additionally, OLRDF's most recent permit is unusual in that the period of performance extends for over 40 years (a completion end date is set at January 1, 2050). This is to allow phasing of construction at the final mitigation site, which is over 90 acres in size, and to allow time for the mitigation site to develop and be released by the regulatory agencies prior to impacting the on-site existing wetlands. Challenges to creating successful mitigation areas have included proximity to a major airport, invasive species control, control of erosion and sediment for the protection of adjoining habitat, waterways and wetland areas, large quantity management of excavated soils and a 100-year flood which occurred during mitigation efforts in 1997.

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