



**BMP Implementation Plan**  
**Levi Jackson State Park Property**  
**London, Laurel County, KY**  
**Third Rock Consultants, LLC**  
**June 20, 2008**

**Technologies to be Installed**

The proposed Best Management Practices (BMP) project described in this BMP Implementation Plan (BMP IP) is the creation of a stormwater treatment wetland within an approximately 1-acre site. The proposed project site is within Levi Jackson State Park, and within the immediate floodplain of the Little Laurel River. When flooding occurs, stormwater will enter the proposed wetland. During smaller storm events the wetland will receive runoff from an adjacent parking lot. This is a small-scale project relative to the size of the Little Laurel River, but the project will provide ecological and water quality benefits and takes advantage of an available and unused property with convenient access to the public. The proposed stormwater wetland will provide storage and infiltration of water, sediment and organic matter retention, nutrient cycling, wetland plant diversity, wildlife habitat, and an aesthetically pleasing buffer for the adjacent Little Laurel River. It will also offer opportunities for community education. Levi Jackson State Park has agreed to protect the site with a management agreement upon construction of the proposed stormwater wetland.

**One BMP is proposed for this site:**

1. Wetland Creation (NRCS code 658) on an approximately 1-acre site that is in floodplain of the Little Laurel River. Specific tasks include:
  - Excavate areas within the site to create a diversity of wetland habitats (e.g. floating aquatic, emergent aquatic, shrub marsh, bottomland hardwood).
  - Install native vegetation (hardwood and/or herbaceous species) appropriate for each wetland zone.
  - Install public access (such as viewing platform and/or boardwalk) and educational signs.
  - Public information and educational signs will be submitted to the Kentucky Division of Water (KDOW) for review.
  - All access structures installed should utilize low impact technologies.

**BMP Selection Process and How BMP is Targeted to Specific Location**

Data gathered and presented in the approved Corbin Reservoir Watershed Plan indicate that runoff from the City of London is the most significant source of pollution to the Corbin reservoir. Goals of the subsequent Implementation Plan are to reduce pollutants (nutrients and sediment) resulting from the

London urban area through a series of BMPs. BMPs are being selected and located in and around London in order to reduce the amount of sediment and nutrients entering the Little Laurel River and ultimately the Corbin City Reservoir. The type and location of BMPs are based on the data gathered from the Watershed Plan.

The proposed BMP project described in this BMP IP is the creation of a stormwater treatment wetland within Levi Jackson State Park and adjacent to the Little Laurel River. The Little Laurel River within Levi Jackson State Park is downstream of London, and therefore downstream of many of the sources of pollutants noted in the Watershed Plan, including the wastewater treatment plant discharge. This segment of the Little Laurel River is on the 303(d) list of impaired waters. This segment is impaired for Aquatic Life (Nonsupport) and Primary Contact Recreation (Nonsupport) uses due to pollution by pathogens and nutrients/eutrophication/organic enrichment. Suspected sources of this pollution are municipal point source discharges and agriculture.

In regard to treatment efficiency, it is difficult to predict an exact amount of TSS and TP reduction from the BMP installation. This is a small-scale project relative to the size of the Little Laurel River, but it does enhance the capacity of the area to store and treat stormwater. By enhancing the floodplain and including depressions, vegetation, and woody debris, a streamside wetland has the capability to store runoff and filter out sediment and other particulates. Pre- and post-construction storm monitoring may be used to determine the effective reduction of sediment and nutrients by the streamside wetland.

The stormwater wetland will be monitored for sustained stability and function as a part of the larger Implementation Plan through the grant period. Permanent stations will be established for photographing the site. Site inspections will evaluate site stability, soils, hydrology, and vegetation. Success will be indicated by stability and a high rate of vegetation survival. Vegetation survival will be a good indication of wetland hydrology. A vegetation survey will be completed after the wetland area has been planted and subsequently at the end of the grant period to determine percent survival of installed plant material.

Third Rock Consultants, LLC (Third Rock) will secure all required federal and state permits and will adequately address comments made by the state permitting agencies. A Third Rock representative will be on site during construction.

At a minimum, this BMP will comply with the Kentucky Agriculture Water Quality Act and/or the Forest Conservation Act.

### **Financial Plan of Action**

The cost associated with the stormwater wetland BMP is estimated to be \$40,440. Levi Jackson State Park has offered the property for the project. The property will be secured and the wetland protected through a management agreement with Levi Jackson State Park. Greater than 25 percent of the cost includes in-kind donation of labor for completing the project. Funding for construction costs has not been secured at this time, but in-kind labor and equipment donations from the City of London or Levi Jackson State Park is expected. Plants and planting costs may be secured through donations and volunteers (such as Friends of Levi Jackson).

### **Maintenance Agreement with Landowner**

Minimal maintenance will be required of the landowner (Levi Jackson State Park) once the BMP is established. The constructed wetland will be self-sustaining, but the educational components of the project (boardwalks, signs) will need maintenance. If any undesirable or invasive species begin to threaten the planted species, they will need to be removed or cautiously treated with herbicide approved for aquatic use. It is possible that over the long term, sediment deposited in the wetland may require periodic removal to regain wetland treatment capacity. A management agreement with Levi Jackson will ensure these maintenance activities are provided and will prevent destruction of the stormwater wetland.

### **KDOW Notification**

Third Rock will notify KDOW by email and/or phone prior to BMP implementation. Specific design of the project will be created and submitted to KDOW prior to implementation.