Request for Applications

District of Columbia Department of Transportation
Infrastructure and Project Management Administration (IPMA)

I. Purpose

The District of Columbia Department of Transportation Infrastructure and Project Management Administration (IPMA) is soliciting applications from qualified organizations located and licensed to conduct business within the District of Columbia to conduct water quality monitoring of stormwater run-off along Nannie Helen Burroughs Avenue, N.E., between 44th Street and Division Avenue, N.E. The purpose of this Grant is to assist in developing an institutional framework and action plan to restore urban watersheds through the use of Green Highways Initiative (GHI) principals and Low Impact Development (LID) while revitalizing an urban arterial.

II. Background

In FY 2007, the District Department of Transportation (DDOT) applied for and was awarded a grant by the U.S. Department of Environmental Protection Agency (EPA) This EPA Grant will be utilized to fund pre-construction monitoring as part of a larger project to design and construct infrastructure improvements along the Nannie Helen Boroughs corridor in the District of Columbia (Project).

The Project is funded through the D.C. Government Capital Improvements Program, and is currently under design, which includes Streetscape, Streetlights, Traffic Signals and Best Management Practices for water quality along the entire 1.5 mile long corridor. Both the community and DDOT want the Nannie Helen Burroughs Project to become the city's first model "green street" and replicated throughout the city. DDOT will utilize innovative GHI and LID approaches to exceed water quality requirements within the available budget.

The technical GHI and LID approaches will be implemented at the overall road plan level and the design level. The overall planning will include evaluating a "road diet" that may reduce the roadway width and travel lanes while maintaining transportation throughput and mobility. "Surplus" space will be available to expand non-motorized transportation facilities such as sidewalks and bicycle lanes, and provide space for additional street trees and bioretention facilities. Portions of the existing concrete and/or asphalt roadway will be removed to create these facilities. The design concepts will be developed and then presented to the community for input and the final design. It is anticipated that current conditions will be assessed and several LID techniques that demonstrate the range of listed objectives will be incorporated, throughout the corridor.

DDOT is coordinating with D.C. Department of the Environment (DDOE) and D.C. Water and Sewer Authority (WASA) in determining which LID projects will be selected. The basic concepts behind these LID techniques are part of the Anacostia Waterfront Initiative and Great Streets Transportation Plans. The acceptance and buy-in of these concepts by the community is well documented. Therefore, they have a high probability of feasibility and

long-term acceptance by the community. The techniques will be selected through the collaborative effort of the partners, led by the DDOT. The criteria will include environmental effectiveness, community acceptance, and the feasibility of the technique to achieve the listed multiple objectives. This includes potential maintenance scenarios, which involve community partnerships, to determine the long-term effectiveness. The selected practice will be incorporated into the design. Monitoring sites will be selected so that the effectiveness of the practice can be demonstrated.

Figure 1 Project Area Map

The Nannie Helen Burroughs Avenue corridor, (see Figure 1), is adjacent to the Watts Branch and riparian buffer to Watts Branch, but lacks street trees along long segments that could provide vital canopy, shade, habitat, and stormwater management. The roadway has more travel lanes than is required for the volume of traffic demand currently on the corridor and thus has more impervious surface area than necessary. There are a number of storm sewers running under Nannie Helen Burroughs that discharge directly into Watts Branch. The driving force behind the physical, chemical, and biological degradation of Watts Branch is enhanced stormwater flow and rate of flow. Vast areas of impervious surface cause these flows by prohibiting infiltration, leading to flashy, intense flow conditions in the stream channel, even during moderate storm events. It is envisioned that Watts Branch will become a quality community stream and park system comparable to the National Park Service's Rock Creek Park in Northwest DC. Improving the infrastructure along the Nannie Helen Burroughs Avenue corridor will assist in achieving this vision of restored habitat, water quality, and aesthetics. This combination of environmental and community issues provides multiple opportunities and a platform to successfully demonstrate the tenants and principles of GHI

and LID. The following Scope of Work provides a description of the tasks to be performed as part of this extensive Project.

III. Scope of Work

The Scope of Work for the Grantee is to sample and analyze the quality of stormwater runoff from within a specified drainage area of Nannie Helen Burroughs Avenue, N.E. using either a grab or automatic method. The methodology of sampling location(s) and analytical requirements will be jointly determined by the Grantee, DDOE, WASA, and DDOT. The Grantee will be responsible for obtaining stormwater samples for all rain events, regardless of the time of day.

The Grantee will collect and analyze stormwater in a Certified EPA Lab to evaluate and to determine which pollutants are present, to quantify the amount of each pollutant, and to collect further analytical data. Below is a sample list of analytical data that DDOT has collected in other monitoring projects:

1. pH
2. Temperature
3. Total suspended solids (TSS)
4. Total Phosphorus
5. Total Nitrogen
6. Bacteria (Escherichia Coli (E. Coli))
7. Heavy metals (e.g. Cadmium (Cd), copper (Cu), lead (Pb), and Zinc (Zn))
8. Flowrate

IV. Water Quality Monitoring

The design for the Project, incorporating GHI and LID principals, will include innovations such as rain gardens, bioretention cells, creative street tree facilities, and other measures that will improve water quality in the watershed. In order to evaluate the effectiveness of these efforts, DDOT will need to know the existing and post-construction pollutant loads.

The Grantee is expected to commence water quality monitoring in Summer 2010 and may include analysis for pH, temperature, total suspended solids (TSS), total nitrogen, total Phosphorus, Bacteria (E. Coli) and heavy metals (e.g. Cadmium (Cd), Copper (Cu), Lead (Pb), and Zinc (Zn). In addition, the Grantee shall document the flowrate and volume of flow which will be measured with submerged probes within the micro-watersheds of interest.

To achieve this task, the Grantee shall collect water samples at several locations in the drainage area prior to construction. Sampling will occur for four (4) months to determine the pollutant load from this watershed. This data will possibly be combined with information collected by other agencies within the District of Columbia. The monitoring locations are being evaluated based on the design and placement of LID structures. The locations will be selected, to the greatest extent possible, to monitor water quality from only drainage areas where LID has been placed.

Prior to the commencement of field monitoring, the Grantee shall develop a Quality Assurance Project Plan (QAPP), and gain approval from EPA, to assure that proper protocols