Attachment 1
Green Infill-Clean Stormwater Mini-Grant
Information Sheet/Project Application

Project Name: Marin Green Infrastructure Project Standards

Contact: *Provide a contact person, phone number, mailing address, and email*

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Participating Agencies: *List any other collaborating local governments/agencies*

Marin County Stormwater Pollution Prevention Program; City of Mill Valley; and Southern Marin Flood Protection and Watershed Program Technical Work Group (Comprised of the above-mentioned agencies with Flood Zone Advisory Boards No. 3 and 4, local community and watershed groups, water and sanitary district staff, and resource agency staff.)

Summary Description: *Provide a one-paragraph description of the project.*

The Marin Green Infrastructure Project Standards project will utilize GIS data and community input to develop criteria for identification and prioritization of green infrastructure projects on public lands. The Southern Marin Flood Protection and Watershed Program is comprised of municipal and agency staff from Mill Valley, Tam Valley, west Tiburon, and areas of unincorporated Marin County. The Program coordinates the necessary stakeholders from municipalities, community groups, service districts, and resource agencies to develop solutions for flood and stormwater management and habitat restoration. The criteria will provide necessary guidance to determine project opportunities at a local level; will be used throughout the County of Marin in their Watershed Stewardship Program; and will provide the Bay Area with criteria and considerations for identifying and prioritizing green infrastructure project construction.

Purpose & Need: *Provide a description of the purpose and need for the project. Include a discussion of the project's goals and objectives.*

Green infrastructure projects are necessary to improve stormwater quality, provide flood protection, and improve instream and riparian habitat. In areas with existing development and limited opportunity for restoration, green infill projects integrate solutions for storm and flood water pollution and control. While project specifications and products are readily available to design projects, guidance for determining feasibility, assessing benefits and assigning priority is a roadblock to project implementation. Given the restricted scope and size of potential projects in urban areas, a strategic approach is needed to identify multi-benefit projects that will alleviate flood or stormwater issues, while also providing benefits to habitat/water quality through in-stream restoration, connectivity improvement, and/or public outreach. Watershed-based

assessment and prioritization of potential projects is a critical step to ensure maximum benefit prior to implementation.

The project will utilize GIS information and analysis tools to identify potential green infrastructure projects and to assess their feasibility and benefits on public property in Mill Valley and west Tiburon. The project will develop a set of criteria to evaluate the feasibility and benefits of the potential green infill projects. An analysis of institutional opportunities and roadblocks will be included in the project assessment criteria. The project will follow existing protocol from Community Conservancy International and from the Alameda Countywide Clean Water Program's Hydrograph Modification Management Plan (2005). Community Conservancy International began the GIS analysis needed to prioritize projects in Los Angeles based on benefit, but did not have the input from the community to determine true feasibility of projects, which is needed to implement projects in Southern Marin.

Marin County Flood Control and Water Conservation District has partnered with the City of Mill Valley, Flood Zones No. 3 and 4 (Mill Valley and western Tiburon), and with the local community to create the Southern Marin Flood Protection and Watershed Project. The program was formed with the political and financial commitment to create a Watershed Master Plan, which will outline projects and studies necessary to support a coordinated approach to flood and stormwater issues and creek enhancement projects.

This project proposes to create a list of prioritized projects that can be moved into implementation phase as funding is obtained. The criteria used for prioritizing and assessing feasibility of green infrastructure projects could be used elsewhere in the Bay Area. Existing materials and the process developed through the GIS analysis will be compiled for use in other areas. The project will benefit from readily available project examples and design specifications from flood control districts, stormwater programs, municipalities, and NGOs throughout the Bay Area and California.

The institutional setting in Marin County supports implementation of green infrastructure projects. Examples of institutional opportunities (as opposed to roadblocks) in Marin include the following: Marin County Stormwater Pollution Prevention Program (MCSTOPPP) has developed guidance for Low Impact Development (LID) projects in the County; LID project elements have been incorporated into new and redevelopment projects; the City of Mill Valley has adopted an ordinance with drainage design guidelines to maintain stormwater on its natural path and to limit impervious area, and; Marin's Countywide Plan includes a policy to enhance water infiltration throughout watersheds to decrease accelerated runoff rates, enhance groundwater recharge, and to maintain or increase a site's predevelopment infiltration to reduce downstream erosion and flooding.

Project Status & Schedule:

Complete the projected (or actual) start & finish dates for each of the following project stages. If any stage does not apply, please enter N/A.

Stage	*Duration*	*Start Date*	*End Date*
Planning	9 months	Sept 2009	May 2010
Permitting	N/A		
Evaluation	3 months	June 2010	Sept 2010

Project Costs: *Identify costs of the project by area noted. Include any matching funds.*

Budget Area	*Grant Funds*	*Match Funds*	*Total Project*
Personnel	$27,457	$18,073	$45,531
Fringe			
Travel			
Supplies/Equipment			
Contractual			
Construction			
Other Direct			
Indirect			
Income			

Source(s) of the matching funds listed above:

In-kind staff time from the County of Marin.

Use of Contractors/Consultants: *List any tasks above to be conducted by contractors outside your agency. SFEP requires adherence with EPA contracting guidelines on women and minority contractors.*

Stetson Engineers, Inc. will be assisting with the criteria and draft project development. Stetson has an existing contract with the County and City to develop a Flood Assessment Study for Arroyo Corte Madera del Presidio in Mill Valley. They were selected in a competitive bid process and have knowledge and data that would be useful to this process. This would be an amendment to their scope to integrate their models and knowledge to the feasibility and prioritization process.

Athena Design Group will assist with loading content to the Marin Watershed Stewardship Program website (www.marinwatersheds.org). The consultant is women-owned and was selected for their expertise and ability to develop a website for the countywide program.

Documentation of Feasibility: *Identify any studies, reports, council actions, commission discussion minutes, etc., that support the proposal.*

The project will follow existing protocol from Community Conservancy International and from the Alameda Countywide Clean Water Program's Hydrograph Modification Management Plan (2005). The project will start with a review of existing GIS files to determine where County or City-owned properties are located within the watershed. These parcels will be analyzed to identify potential green infrastructure projects and feasibility for implementation, including an analysis of institutional roadblocks to implementation. Using GIS, parcel size and upstream watershed area will be calculated, current and future land use on each parcel will be determined, and then potential projects will be developed for the parcels. In addition to creating this set of data, we will identify the potential benefits to stormwater treatment, infiltration, water reuse, detention, flood attenuation, and habitat. The following criteria will be analyzed to guide project prioritization: location within the watershed; proximity to stormdrains, susceptibility of the downstream drainage network to negative impact from hydrograph change; and connectivity to wildlife corridors. Based on the feasibility and benefits achieved, projects will be prioritized.

Outputs & Outcomes: *What will be the outputs (i.e. deliverables) of your project?*

The project will develop guidance to determine feasibility and to prioritize green infill projects on publicly owned land using GIS data layers. The criteria will consider benefits for stormwater, flood attenuation, habitat value, and public outreach/education. Existing building guidance from

MCSTOPPP and local ordinances will be included to show how municipalities encourage low impact development.

What outcomes will your project achieve? How will you measure these outcomes?

The project will identify a prioritized list of feasible green infrastructure projects in the target watersheds. The list will be used for the following: to identify multi-benefit projects that will improve stormwater quality, reduce flood impacts, reuse water and/or decrease water demand; to guide future project selection, design and implementation; and to apply for and obtain implementation grant funding. The outcomes will be measured in the following ways: track project implementation over time; conduct a post-project survey of public agency staff who will use the list to guide project design and selection; track and document how the list is used to apply for and obtain implementation funds; and identify and define the water quality and quantity metrics that could be measured post-project.

Detailed Project Description:

Provide a detailed description of the tasks, outputs and outcomes of your project, including a task breakdown, task costs, and the relationship of the tasks to outputs (deliverables) and outcomes. Include any information relevant to how your project will benefit your community which was not already covered in information sheet.

Task 1 GIS Data Assembly
Identify publicly-owned parcels in the watershed that could be potentially retrofitted with multi-benefit stormwater and dry weather runoff treatment, detention, and/or infiltration green infrastructure (such as bioretention facilities).

Consult soil survey of Marin County (USDA/SCS 1978) and evaluate soils for compatibility with on-site retention and infiltration measures. Where soils are not compatible, use established criteria to identify suitable sites within the watershed where engineered bioretention facilities with underdrains may be installed. Existing parking lots may be identified that can be retrofitted using current LID design guidelines (MCSTOPPP Guidance for Applicants).

Assemble existing GIS data to aid the criteria development. Existing data includes: impervious area, topography, fish passage barriers, anadromous fish presence, stormdrain locations, the CNDDB, habitat type, land use zoning, aerial photos, topography, and areas of flooding.

Task 2 Criteria Development and Draft List of Projects
Once the GIS data is assembled, the Technical Work Group (TWG) of the Southern Marin Flood Protection and Watershed Program will review and develop criteria. The TWG is comprised of City and County staff, Flood Zone Advisory Board members, representatives from the resource agencies including DFG, RWQCB, Corps, and others, State Coastal Conservancy, Mill Valley Streamkeepers, Marin County Open Space District, Homeowner's Associations, and the Richardson Bay Audubon Center.

The criteria will evaluate projects based on multiple benefits for stormwater quality, infiltration, flood protection, habitat and instream restoration, and public outreach. GIS would then be used to show project area details such as proximity to the stormdrain network, location of existing flood areas, impervious area, salmonid habitat, etc. Each potential project site will be mapped with benefits identified.

Additionally, as part of an existing flood assessment and analysis, Stetson Engineers have developed Hydrology and Hydraulics calculations for the Arroyo Corte Madera del Presidio watershed. The H & H can be used to model rainfall and show changes to hydrograph changes at a sub-watershed scale. Flood benefits will be assessed using this model. Stetson will be consulted on project ideas as they have been identifying potential solutions to the flood issues in Mill Valley.

Technical Work Group: 3 meetings to develop draft criteria and sample project sites

Task 3 Outreach
The process used to develop criteria will be written up and presented on the Marin Watershed Program website. The sample criteria and GIS data sets used will also be included online.

Webpage development for criteria and process

Project Schedule & Budget:

The project schedule should include a timeline of activities to be performed and deliverables/outputs. The project budget should show how grant funds will be used. If other project partners or funding sources are involved, their role and contribution should be clearly defined. If consultants will be part of the project team, their role and costs should be identified.

Task		Schedule	Total Cost	Grant Request
1	GIS Data Assembly	September 2009 - November 2009	$14,930	$9,873
2	Criteria Development and Draft List of Projects	November 2009 – June 2010	$17,690	$11,603
3	Outreach	June 2010 – September 2010	$12,640	$5,981

Marin County staff time will be matched in-kind except for the GIS Resource Specialist, who will be doing a majority of the analysis and mapping.

	Task 1	Task 2	Task 3	Task Total	Grant Request	In-Kind Match
County of Marin						
GIS Resource Specialist	60	60	30	$8,532	$8,532	$0
County of Marin In kind						
Senior Engineer	*4*	*2*	*2*	*$734*		$734
Assistant Engineer (Zone 3)	*4*	*4*	*4*	*$872*		$872
Assistant Engineer (Zone 4)	*4*	*4*	*4*	*$804*		$804
Principal Planner	*15*	*20*	*20*	*$4,380*		$4,380
Senior Planner	*15*	*20*	*20*	*$3,689*		$3,689
Stormwater Program Administrator	*10*	*20*	*20*	*$3,450*		$3,450
Engineering Tech 3	*4*	*5*	*10*	*$1,145*		$1,145
City of Mill Valley						
Director	10	10	10	$3,000	$3,000	
Senior Civil Engineer	30	30	30	$9,000	$6,000	$3,000
Stetson Engineers, Inc.						
Senior Project Manager	20	30		$8,650	$8,650	
Athena Design Group			15	$1,275	$1,275	
TOTAL				**$45,531**	**$27,457**	**$18,073**