

# **RFP for Residential Stormwater Consultation Program**

**Job #20-16-PW**

**May 10, 2016**

## **Questions and Answers**

- 1. We tried to find out more information about the pilot program online, but we couldn't seem to find anything. Would it be possible for you to give us more information about it and who is/was involved in it?**

Since this was a small pilot program, we did not make the link to the program page readily accessible to the public. You can find the main page here -

[http://www.kirklandwa.gov/depart/Public Works/Utilities/Storm Surface Water/Yard Smart Rain Rewards - Rebate Program.htm](http://www.kirklandwa.gov/depart/Public%20Works/Utilities/Storm%20Surface%20Water/Yard%20Smart%20Rain%20Rewards%20-%20Rebate%20Program.htm)

The pilot program recruitment area was an area of 200 single-family homes in the Finn Hill Neighborhood. 12 homeowners in that area participated in stormwater consultations.

- 2. Can we get the existing stormwater consultation questionnaire that is mentioned in the RFQ? What about the template for consultation report? The RFQ includes the need to refine both of them and we would like to see what the city has currently if allowed to do so.**

I have attached the consultation questionnaire and an example report (they all had the same format) to this email.

- 3. Are the 100 homeowners for on-site consultations pre-selected or is that something to be done as part of this project?**

The homeowners for the project are being recruited from a target area, mapped out by the City of Kirkland. The City will manage the recruitment process.

- 4. The RFQ specifies a total project budget, but the Submission Requirements does not address the subject. Do you want to see a budget in my submission? Is there a preferred format?**

A budget is not required as part of your submission. Budget and pricing will be negotiated with the firm that the City determines to be the best qualified for the work.

Issued on May 11, 2016

Barry L. Scott, C.P.M.  
Purchasing Agent

Attached: Questionnaire and Report Template

## Kirkland's Yard Smart Rain Rewards – On-site Audit Form

Data will be collected using an iPad and Survey Monkey, an online survey tool. The auditor will bring paper audit collection sheets as a back-up and printed maps of the property showing the impervious surface to sketch the current layout of the property, utility lines, downspouts onto. Once finalized, talking points will be incorporated into the survey monkey form for use in the field.

Owner and Property Information	
Name:	Address:
Telephone:	
Interest, Program Name, and Messaging	
Motivation (part of verbal evaluation): What motivated you to participate in the Yard Smart Rain Rewards program? <input type="checkbox"/> Concern for the environment <input type="checkbox"/> Potential incentives and rebates for installing landscape features <input type="checkbox"/> Successful rain garden projects nearby <input type="checkbox"/> Free gardening advice Other:	
Program Name (part of verbal evaluation): This is a pilot program, so we're still testing program names. When you first saw the name "Yard Smart Rain Rewards," what did you think the program was about?  What do you like about the program name? What do you dislike about it? Like Comments: Dislike Comments:	
Messaging (part of verbal evaluation): We're testing three tag lines. Which of the following phrases resonates with you the most? <input type="checkbox"/> A smart yard works for you and your environment. <input type="checkbox"/> A smart yard slows rain water down, spreads it out, and soaks it in. <input type="checkbox"/> Enjoy the rewards of a smart yard. Comments:	
Understanding the Homeowner and their Yard	
Is there an area where you spend most of your time?	
Is there a section of your garden (or feature) that you really like or dislike?	
What kind of activities do you do in your garden (sports, games, entertaining, relaxing, food, children, pets):	
Do you grow food in your garden?	
Do you currently have any plans to renovate your garden? (please explain)	
What about renovations to your house or structures that might affect the garden?	
Do you have ideas of how you want to renovate your garden?	
Do you have any specific site needs (access, ADA compliance):	
What garden style do you like (formal, relaxed, modern)? :	
Homeowner Level of Participation in Yard Care	
How would you describe yourself as a gardener? <input type="checkbox"/> I am not a gardener	Who is responsible for the yard care at your home?

<input type="checkbox"/> I do as little gardening as possible <input type="checkbox"/> I only garden when I have to <input type="checkbox"/> I enjoy gardening <input type="checkbox"/> I am an avid gardener	<input type="checkbox"/> Myself <input type="checkbox"/> Someone else in household <input type="checkbox"/> Hired lawn service <input type="checkbox"/> Hired full yard service Other:	
What is the current level of effort that you put into yard care? <input type="checkbox"/> No effort <input type="checkbox"/> A little effort <input type="checkbox"/> A moderate amount of effort <input type="checkbox"/> A lot of effort	What is the desired level of effort that you put into yard care? <input type="checkbox"/> No effort <input type="checkbox"/> A little effort <input type="checkbox"/> A moderate amount of effort <input type="checkbox"/> A lot of effort	
Do you enjoy the time you spend caring for your garden? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Other:		
<b>Water Related Issues</b>		
Do you have any existing stormwater management systems? <input type="checkbox"/> None <input type="checkbox"/> Rain garden or bioswale <input type="checkbox"/> Pervious paving <input type="checkbox"/> French drain <input type="checkbox"/> Cobble trench <input type="checkbox"/> Rain barrel(s) <input type="checkbox"/> Cistern Other: If so, where: Photos (enter photo numbers):		
History of site issues (flooding, erosion):  Photos of site issues (record photo number and location):		
Surrounding natural areas (research completed prior to consultation): <input type="checkbox"/> Stream / creek <input type="checkbox"/> Forested area <input type="checkbox"/> Wetland <input type="checkbox"/> NGPA <input type="checkbox"/> Critical area <input type="checkbox"/> Slope / bluff <input type="checkbox"/> None		Avg annual rainfall (research completed prior to consultation):
<b>Area</b>		
Mapped area of property (sq', measured prior to consultation):		
Structures on-site (house, garage, shed):	Existing hardscape (walls, rockery, paths, patios):	
Mapped impervious surface (sq', measured prior to consultation):	Accurate:    Yes <input type="checkbox"/> No <input type="checkbox"/>	
If No, measure area: Roof:	Surrounding impervious area (streets, paths, neighboring properties):	

Paths: Driveway: Patio: Other (pool, sport courts):	
<b>Utilities</b>	
Description of utility locations (distance from property line, draw on map) Electric: Sewer:	Gas: Water: Telephone: Photos of markings(enter numbers):
Over-head utilities (where, draw on site map):	
Septic: Yes <input type="checkbox"/> No <input type="checkbox"/> If so, where:	Oil Tank: Yes <input type="checkbox"/> No <input type="checkbox"/> If so, where:
Irrigation: Yes <input type="checkbox"/> No <input type="checkbox"/> Type of irrigation: <input type="checkbox"/> Drip <input type="checkbox"/> Sprinklers on a timer <input type="checkbox"/> In ground sprinkler system Other:	
<b>Downspouts</b>	
Downspouts tied-in (enter # and if they are tied in):	Photos of downspouts (take photos starting at front left corner of house - enter photo numbers):
Opportunity for disconnection (describe slope around each downspout):	
<b>Drainage</b>	
Slope/Grade Front: Side 1 (left): Side 2 (right): Back: Other:	Where does water drain to and from? Front: Side 1 (left): Side 2 (right): Back: Other:
Hydrologic Features: <input type="checkbox"/> None <input type="checkbox"/> Pooling water <input type="checkbox"/> Springs <input type="checkbox"/> Seeps	Man-made water features (ponds, pools): <input type="checkbox"/> Pool <input type="checkbox"/> Pond Other:
Describe: Photos:	Photo:
<b>Soil</b>	
Regional soil type (will be completed prior to consultation):	
Soil texture test: <input type="checkbox"/> Sand <input type="checkbox"/> Loamy Sand <input type="checkbox"/> Loam <input type="checkbox"/> Sandy Clay Loam <input type="checkbox"/> Silty Loam <input type="checkbox"/> Clay Loam <input type="checkbox"/> Sandy Clay <input type="checkbox"/> Silty Clay Loam <input type="checkbox"/> Clay <input type="checkbox"/> Sandy Loam <input type="checkbox"/> Silty Clay	
Compaction (use soil probe and shovel to test soil)	

<b>Infiltration Test</b> Hard pan: Yes <input type="checkbox"/> No <input type="checkbox"/> 2 <sup>nd</sup> fill drain time: hrs      min 3 <sup>rd</sup> fill, inches fallen in 1hr: Inches fallen from hr 1 to hr2:	in several areas and describe location) Front: Back: Side 1 (left): Side 2 (right):
<b>Mulch (type):</b> Front: Back: Side 1(left): Side 2 (right):	<b>Compost (type):</b> Front: Back: Side 1(left): Side 2 (right):
<b>Existing Vegetation</b>	
<b>Front</b> Trees (species, maturity):  Lawn: Yes <input type="checkbox"/> No <input type="checkbox"/> Shrubs: Yes <input type="checkbox"/> No <input type="checkbox"/> Perennials: Yes <input type="checkbox"/> No <input type="checkbox"/> Vegetable: Yes <input type="checkbox"/> No <input type="checkbox"/> Comments (drought tolerance, maturity, general health condition, lawn vs planting beds):	<b>Back</b> Trees (species, maturity):  Lawn: Yes <input type="checkbox"/> No <input type="checkbox"/> Shrubs: Yes <input type="checkbox"/> No <input type="checkbox"/> Perennials: Yes <input type="checkbox"/> No <input type="checkbox"/> Vegetable: Yes <input type="checkbox"/> No <input type="checkbox"/> Comments (drought tolerance, maturity, general health condition, lawn vs planting beds):
<b>Side 1 (left side)</b> Trees (species, maturity):  Lawn: Yes <input type="checkbox"/> No <input type="checkbox"/> Shrubs: Yes <input type="checkbox"/> No <input type="checkbox"/> Perennials: Yes <input type="checkbox"/> No <input type="checkbox"/> Vegetable: Yes <input type="checkbox"/> No <input type="checkbox"/> Comments (drought tolerance, maturity, general health condition, lawn vs planting beds):	<b>Side 2 (right side)</b> Trees (species, maturity):  Lawn: Yes <input type="checkbox"/> No <input type="checkbox"/> Shrubs: Yes <input type="checkbox"/> No <input type="checkbox"/> Perennials: Yes <input type="checkbox"/> No <input type="checkbox"/> Vegetable: Yes <input type="checkbox"/> No <input type="checkbox"/> Comments (drought tolerance, maturity, general health condition, lawn vs planting beds):
<b>Rain Water Management Opportunities</b>	
<b>Restore compacted soil</b> Add soil amendment: Yes <input type="checkbox"/> No <input type="checkbox"/> What kind: Where: Aerate lawn: Where:	<b>Mulch planting beds</b> What kind:  Where:  Photo (record number):
<b>Remove impervious surface</b> (paths, patios, middle of driveway) Description:  Where: Photo(record number):	<b>Plant trees</b> Type (conifer, deciduous):  Where: Photo (record number):
<b>Rain Garden</b> Potential site(s):	<b>Permeable Pavement</b> Potential site(s):

Potential restrictions:	Potential restrictions:
<b>Cistern</b> Potential site(s):	<b>Downspout disconnection</b> Potential site(s):
Potential restrictions:	Potential restrictions:
<b>Areas recommended for protection:</b>	
<b>Experience</b>	
<p>How difficult or easy was it to register for the program?</p> <input type="checkbox"/> Very difficult <input type="checkbox"/> Somewhat difficult <input type="checkbox"/> Somewhat easy <input type="checkbox"/> Very easy Comments:	<p>How difficult or easy was it to schedule the consultation?</p> <input type="checkbox"/> Very difficult <input type="checkbox"/> Somewhat difficult <input type="checkbox"/> Somewhat easy <input type="checkbox"/> Very easy Comments:
<p>To what extent was the consultation useful to you in deciding what to do with your yard?</p> <input type="checkbox"/> Not at all useful <input type="checkbox"/> Slightly useful <input type="checkbox"/> Moderately useful <input type="checkbox"/> Very useful Comments:	<p>How could we improve the consultation?</p> Comments:



## Yard Smart Rain Rewards

*A smart yard works for you and your environment!*

Dear NAME,

Thank you for participating in the Yard Smart Rain Rewards program. At your consultation we collected a lot of information on the existing characteristics of your landscape to help us identify the best ways to make your yard smart. In this report, you will find a summary of your property's current site conditions and recommendations for Yard Smart features.

### **Current conditions at: ADDRESS**

The key features of your landscape that affect how water moves through your property are the amount of impervious surface onsite, the grade of the property, how the downspouts are connected, the soil quality, and existing vegetation.

At the consultation you mentioned that you installed a dry well to the east of the garage to capture water that was collecting in front of the driveway. You did not report having any other problems with water on your property. Below is more information on the existing conditions of your property followed by recommendations to manage stormwater onsite.

### **Impervious (hard) surface:**

- The property is 9,000 square feet with 2,892 square feet of impervious surface, including the roof, driveway, and patio. King County gets an annual average of 38 inches of rain. That amount of rain falling on your property's impervious surfaces generates approximately 65,935 gallons<sup>1</sup> of runoff each year.

### **Downspouts:**

- There are four downspouts, one on each corner of the house. The two downspouts at the front of the house are connected to the storm drain. The downspout on the front southwest corner has disconnected from the gutter and needs to be reconnected. At the back of the house, the downspout on the northeast corner was connected to the storm drain but the underground pipe connecting this downspout to the storm drain has become blocked, causing the downspout to back up and rust out. This downspout can be permanently disconnected – see the recommendations section below for more information. The downspout on the northwest corner of your house does not connect to the storm drain; instead, it is directed into a pipe that disperses in your backyard. The opening of the pipe is obstructed by soil and grass and should be cleared out to allow proper drainage.

### **Topography:**

- The property slopes away from the house in all areas except in front of the garage on the driveway where it slopes slightly toward the house.



<sup>1</sup> We calculated this figure using the Seattle Public Utilities rain water harvesting formula, found at:

[http://www.seattle.gov/util/EnvironmentConservation/MyLawnGarden/Rain\\_Water\\_Harvesting/index.htm](http://www.seattle.gov/util/EnvironmentConservation/MyLawnGarden/Rain_Water_Harvesting/index.htm)



## Yard Smart Rain Rewards

### Soil Quality:

- The soil texture test indicated your soil is a clay loam. The infiltration test showed a drainage rate of approximately 3.5 inches per hour, which is a fast draining soil.

### Exposure:

- The property gets full to partial sun.

### Existing Vegetation:

- The front of the property is landscaped with arborvitae, corkscrew willow, rhododendron, and thread cypress. The backyard has a Douglas fir, maple, birch, sweet gum, and rhododendron. You expressed wanting to increase the planting in the back of the property to reduce the amount of lawn you have to care for and to increase privacy.

### *Opportunities to become Yard Smart!*

Based on the above information, the Yard Smart Rain Rewards Program recommends installing the following features on your property.

#### ✓ **Downspout Disconnection**

The downspouts at the southeast corner of your home should remain connected to the storm drain to prevent any flooding problems in front of your garage. The northeast downspout can be permanently disconnected from the storm drain and directed at least 10 feet away from the house toward the back of the property. The downspout at the southwest corner can also be disconnected and either directed to the lawn at least 10 feet from the house or to a rain garden in front of the house. Use the instructions at [goo.gl/5hfwoi](http://goo.gl/5hfwoi) to properly disconnect your downspouts.

#### ✓ **Rain Garden**

Consider placing a rain garden at the front of the property on the west side of the driveway to manage stormwater from the downspout at the southwest corner of the house. There are utility lines running along the west side of the property; take care to avoid these lines when building the garden. It would be best to have 811 mark them again before starting any projects. The square footage of the contributing impervious area from the roof is approximately 180 square feet. A rain garden with a ponding depth of 12 inches and a top surface ponding area of 45 square feet will capture most (more than 95%) of the water from the southwest downspout. The overflow of the rain garden will have to be carefully chosen as the driveway slopes toward the house. The overflow may have to be connected to the storm drain to avoid overwhelming your drywell, in heavy rain events. See the Rain Garden Handbook that was included in the packet we provided to you at the time of the consultation for more information.

#### ✓ **Conservation Landscaping**

Planting trees and shrubs in the backyard will help to absorb water, provide privacy, and shade out weeds. Evergreen species, both coniferous and broad leaved, are the best at managing water year round. Use a



## Yard Smart Rain Rewards

mix of plants including ground covers, understory plants (shrubs), and canopy plants (trees). You have space for 2-3 small to large trees depending on the species that you choose.

Please do not install trees along the north and east parcel boundary (within 5 feet), because their roots may disturb the existing water and gas lines in those areas and could disrupt your service. Keep at least a 5 foot setback between new trees and underground utilities.

Choose plants that fit the space in width and height, that are drought tolerant, and prefer full to partial sun. Use slow release watering bags like Treegator to water trees in the first three years after planting.

- **Large trees:** shore pine – *Pinus contorta* v. *contorta*, grand fir – *Abies grandis*
- **Small to medium trees:** mountain hemlock – *Tsuga mertensiana*, vine maple – *Acer circinatum*, dwarf strawberry tree – *Aurbutus unedo* "Compacta", Pacific wax myrtle – *Morella californica*
- **Shrubs:** low Oregon grape – *Mahonia nervosa*, evergreen huckleberry – *Vaccinium ovatum*, salal – *Gaultheria shallon*, snowberry – *Symphoricarpos albus*, baldhip rose – *Rosa gymnocarpa*, red flowering currant – *Ribes sanguineum*
- **Ground covers:** sword fern – *Polystichum munitum*, coast strawberry – *Fragaria chiloensis*, wild ginger – *Asarum caudatum*, Pacific bleeding heart – *Dicentra Formosa*, wood sorrel – *Oxalis oregano*, common camas – *Camassia quamash*, tough-leaf iris – *Iris tenax*

### ✓ **Improve Soil Quality**

Improve the soil quality in your garden by turning 2-3 inches of compost into the top 8-12 inches of the soil and by applying 2-3 inches of mulch around the plants in the garden bed. Amending the soil with compost prior to planting will help plants successfully establish by adding nutrients to the soil, improve moisture retention, and block weeds. The best mulch to use is arborist chips.

### ✓ **Cistern**

Cisterns can help reduce damaging peak stormwater runoff during rain events and store water for use in drier summer months. A cistern is like a large rain barrel that holds 200 to 1000 gallons of water or more. A cistern can be placed at the northeast corner downspout, which captures water from approximately 315 square feet of roof area. Sizing of a cistern is based on the available space and the size of tank that you would like to install. A tank with a greater capacity will more effectively manage peak stormwater runoff and store a larger amount of water for use in summer. See the handout in your packet or visit <http://goo.gl/IMkqR1> for more information on cisterns.

### ✓ **Pervious Pavement**

You expressed interest in converting your driveway to pervious pavement at the consultation. Unfortunately, there are a few constraints that do not make pervious pavement a good solution for your driveway. The first constraint is that water and gas utility lines are buried along the east side of the driveway, within a utility easement. We do not recommend pervious pavement over utilities and within the easement. Second, pervious pavement can be installed on surfaces that have a 5% (1 foot drop over 20



## Yard Smart Rain Rewards

feet) grade or less, and the slope of the driveway is approximately 5%. Even though the slope of your driveway may allow for pervious pavement, the driveway slopes toward your house, and the rock base below pervious pavement could provide a path for runoff to flow toward the house and adversely impact your house foundation.

We encourage you to install one or more of the Yard Smart solutions described above. See the last page for a map of where we recommend installing these solutions. Find more information on each solution in the program packet that you received at the time of your consultation.

### ***Additional Resources***

In addition to the resources found in the Yard Smart Rain Rewards packet, here are some resources that will help with the specific conditions of your yard:

- Conservation landscaping, page 4 of the Shoreline Soak it Up Program Overview <http://goo.gl/WjQR6Q>
- King County's Go Native website <https://green.kingcounty.gov/GoNative/Index.aspx>
- Great Plant Picks <http://www.greatplantpicks.org/>
- Planting Factsheet, Dr. Linda Chalker-Scott <http://puvallup.wsu.edu/~linda%20chalker-scott/FactSheets/Planting%20fact%20sheet.pdf>
- Plant Amnesty, Guide to Pruning <http://www.plantamnesty.org/assets/docs/guide-pnw-2011.pdf>

### ***How to Get Started***

Once you decide which of the recommended Yard Smart Rain Rewards solutions will work for you, please complete the Enrollment Form found here: <http://goo.gl/XUilDF>. Upon completion of the online form, the City of Kirkland will contact you within one week to discuss rebate options.

### ***Contact Us***

If you have any questions about these recommendations please contact your Yard Smart Expert Katherine Taylor at 206.449.1157 or [katherine@cascadiaconsulting.com](mailto:katherine@cascadiaconsulting.com).



# Yard Smart Rain Rewards

## Yard Smart Opportunities

NAME, ADDRESS

Property Area: 9,000 SF  
Impervious Surface Area: 2,892 SF

