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DESIGN INFO SHEET

If you provide the following information, we can give you a design cut sheet for your application and water quality calculations based on your jurisdiction. *(Most of the data requested below can be found on your pipe chart; specifically, for the pipe flowing to the CST water quality device.)*

<p>SITE DESCRIPTION (Developed): _____</p> <p>SITE ADDRESS: _____</p> <p><u>CONTRIBUTING AREAS</u> (Flowing in pipe to Water Quality Unit)</p> <p>ON-SITE AREA: (Total to WQ Unit) = _____ ACRES</p> <p style="padding-left: 20px;">IMPERVIOUS = _____ ACRES OR _____ % OR _____ RAT. C (PICK ONE)</p> <p>OFF-SITE AREA: (Total To WQ Unit) = _____ ACRES</p> <p style="padding-left: 20px;">To Be Treated? <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p style="padding-left: 20px;">IMPERVIOUS = _____ ACRES OR _____ % OR _____ RAT. C (PICK ONE)</p> <p>PIPE IN SIZE _____ TYPE _____ SLOPE _____ (EX. 18" CMP @ 1.50%)</p> <p>PIPE OUT SIZE _____ TYPE _____ SLOPE _____ (EX. 18" CMP @ 1.50%)</p> <p>PIPE INVERT INTO DEVICE: _____ PIPE INVERT OUT: _____ (SEE NOTE)</p>	<p>DATE _____</p> <p>ENGINEER'S UNIT DESIGNATION _____</p> <p>SURFACE TYPE:</p> <p><input type="checkbox"/> TRAFFIC</p> <p><input type="checkbox"/> NON-TRAFFIC</p> <hr/> <p>SURFACE ELEVATION AT DEVICE (RIM): _____</p> <p>UNIT LOCATED BELOW POND:</p> <p><input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>UNIT CONFIGURATION _____ (SEE CST ENGINEERING NOTES)</p> <p>Time of Concentration: _____ minutes</p>
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NOTE: Site descriptions can help us lower your treatment flow rates, and the lower your percentage of impervious, the lower your water quality flow requirement will be in most areas. A sketch with some pipe slope information can let us set an invert in, if you are not sure of that parameter. Invert out of our device will normally be 0.10 or 0.20 feet below the invert in. We can make this less, if your pipe slopes are < 1 percent, but larger drops disrupt the treatment process.

Calculated Maximum flow in pipe to WQ unit: _____ cfs in _____ year storm. Method – RAT , SCS

Water Quality Rule: _____ Flow (if specified): _____

Review Agency (City/County, State or other) _____

NOTE: Maximum flow is from your pipe chart, such as, "25-year peak flow is 10.3 cfs." We will research the exact water quality flow standard for your jurisdiction and state; if a "generic" specification, such as a, "1 inch first flush" depth standard is utilized.

Design Firm _____ Contact: _____

Phone: _____ Fax: _____

Email: _____

Engineer's Job Name: _____

Engineer's Job Number: _____ Engineer's AutoCAD version _____

Note: We will email you a drawing file of your site-specific design and your site calculations if you provide an email address; otherwise, we will fax the data. Any important information you can add, such as details on receiving waters, etc. will help us provide you with a more powerful presentation to your local jurisdiction. Visit www.crystalstream.com for more details.

Sending a "PDF" or "DWG" file can facilitate design. Email or fax pertinent information to: engineering@crystalstream.com. Normal turnaround is 2 to 10 business days. Please call us if you have a deadline date to meet.

CST ENGINEERING NOTES:

SIZING: The CrystalStream Water Quality Units are designed by analyzing two specific parameters, the 25-year storm flow and the water quality flow. The water quality flow parameter assures that the required particles are collected and the 25-year storm flow parameter assures that resuspension of the collected particles does not occur prematurely. These criteria usually result in the same size Unit so using the 25-year storm flow is a good rule of thumb for a preliminary Unit sizing.

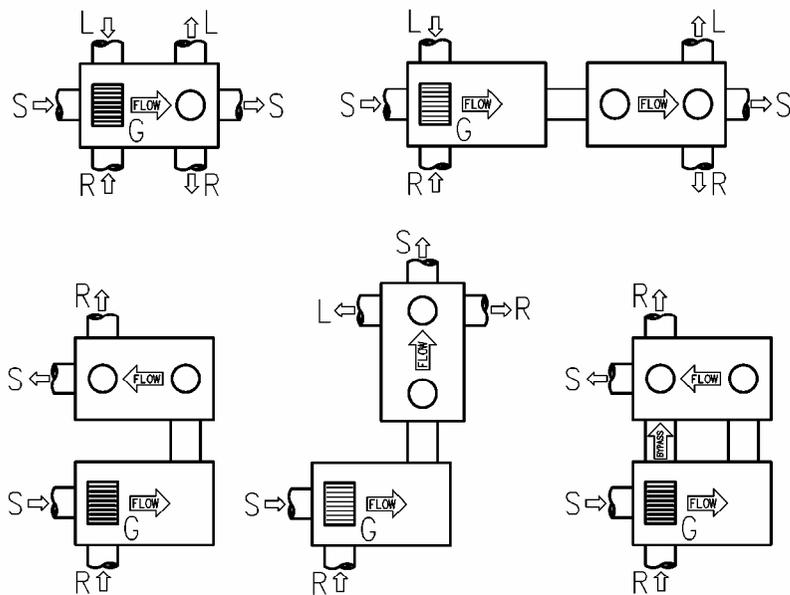
LOCATION: When the CST Water Quality Unit is used in conjunction with a detention facility, it performs the best service when it is placed upstream of the detention facility. In this orientation, the Unit is able to remove floating items of ¼" and greater as well as all but the very smallest soil and organic particles. This "filtering" greatly increases the time between pond cleanings (especially important for underground detention) and makes the cleaning required much easier as the CST Unit is very easy to maintain.

Placing the CST Unit downstream of the detention facility negates the "filtering" aspects noted above without any reduction in Unit size or cost. The water quality requirements remain the same for either location and therefore the Unit remains the same size. Many times the Unit is placed below the pond because there are multiple inlets to the detention facility. In actuality, a number of smaller Units placed above the facility can prove to be about the same cost as a larger Unit below because there is a close correlation between cfs and Unit cost.

CONFIGURATION: The CST Unit is very versatile. The smallest Unit (646) will accommodate a 25-year flow of up to 6 cfs and the largest Unit (2466) a flow of 36 cfs. Arrays of multiple Units (usually 2056 or 2466) can accommodate even larger flows.

The Units can accept and release flows in a number of different directions. Some of the various pipe and inlet orientations are illustrated to the right. Mirrored versions (where applicable) are also possible but are not

illustrated. Multiple pipe inlets, while rare, are possible. The illustrations show all possible inlet and outlet possibilities for these orientations. S=Straight, L=Left, etc. The Unit configuration is a two or four letter sequence that indicates the flow entry and flow exit locations. For example, a single box with flow coming in straight and exiting to the right would be an SR configuration. A double box unit with flow coming in straight, passing into the second box straight and exiting to the left would be an SSSL configuration.



CUSTOMER SERVICE: CrystalStream Technologies is extremely customer oriented. We consider ourselves a part of your design team in assisting you to provide the most efficient design for your Client at the lowest possible cost. Please contact us at the earliest point possible in your design process to allow us time to respond in the most beneficial manner.