City of Santee

Water Quality Features and Treatment Control Best Management Practices (TCBMPs)

A Guide for Maintenance and Upkeep

Tips for :

- Common BMPs
- Plant Care
- Weeding
- Mulching
- Debris Removal
- Soil Health
- Drain Maintenance

Costco, Santee

Logan Avenue, San Diego

Panera Bread, Santee

For more information, visit www.SanteeH2o.org

Introduction

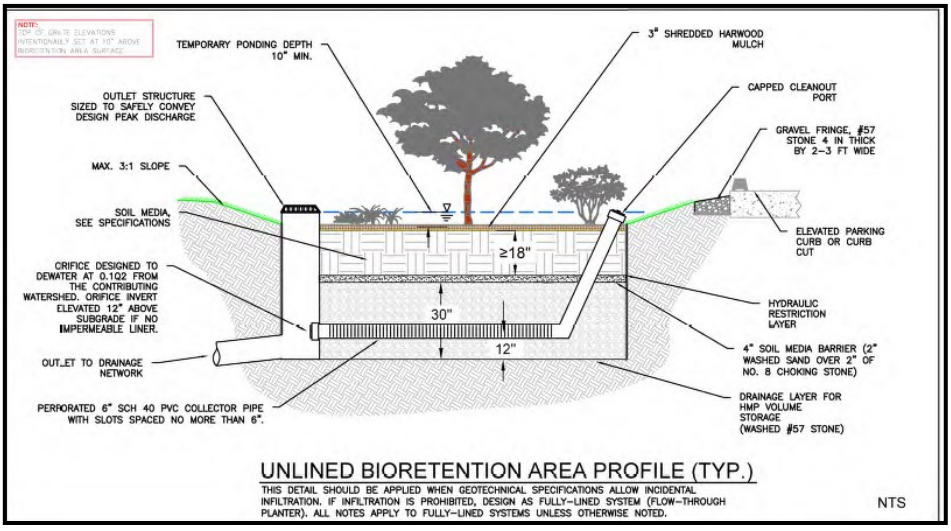
What are storm water quality features and why are property owners and managers required to maintain and certify them?

Certain properties and developments in Santee are required to implement and maintain permanent water quality treatment features, also known as Treatment Control Best Management Practices (TCBMPs). These features treat runoff from rain events and can also decrease the flow of water into the City's Storm Water Drainage System and the San Diego River. When properly maintained, the likelihood of property flooding decreases and the amount of pollution entering the San Diego River is reduced. These features help keep ecosystems downstream healthy and help keep our waterways clean. Each property with water quality treatment features has a Storm Water Quality Management Plan (SWQMP), which details the maintenance schedule and procedures for each feature. These water quality treatment features are permanent, cannot be removed, and are passed down to each new property owner.

The City of Santee is required to comply with its Municipal Storm Water Discharge Permit and other requirements set in place by the California Water Board. Therefore, the city maintains a list of all properties that have water quality treatment features and implements programs to ensure that they are properly maintained and functioning as intended. All properties with water quality treatment features are required to certify that these features have been properly maintained every year prior to September 15th. Properties with these water quality treatment features are also subject to complete property inspections by the City to ensure proper upkeep and maintenance. This process allows the City to inventory all water quality treatment features and encourage good housekeeping throughout the year. The annual certification packet contents and forms can be found at www.SanteeH2o.org, or be sent via email upon request.

How are these different from lawns and gardens?

Water quality treatment features are engineered and designed to be more than a garden or a lawn. Each element (i.e. types of vegetation, soil, etc.) are selected to survive both wet and dry conditions. Each element performs specific functions that facilitate improved storm water quality. Lastly, these features are also designed to increase water infiltration throughout the property and prevent flooding.



Profile of a Permanent Water Quality Feature

Can I remove this water quality treatment feature?

No, you cannot remove any water quality treatment features. These are permanent features which were a condition of approval for the development on your property. Contact the City of Santee Storm Water Program to find out if you have water quality features on your property, or if your would like to discuss options for modifying your facility.

Common Permanent Water Quality Features

What is a bioswale?

A bioswale is a shallow depression in the land that collects water from roofing or paved surfaces and allows it to soak into the ground, thereby reducing the amount of runoff leaving the property. The plants and specialized soil help clean the runoff naturally, aids with soil health, allow for infiltration, and helps to reduce the velocity of water runoff. In steeper areas, some bioswales have stone or concrete 'check dams' across the width to help slow the flow rate, promote infiltration, and prevent erosion. During large storms, bioswales can direct extra runoff to other stormwater features or the storm drain system. Bioswales are commonly found along roads, parking lots, or between properties of some residential lots.

Some common bioswales are listed below:

1)Vegetated swales **2)Biofiltration swales** **3)Bioretention swales**

Collectively, these features are often called "Bioswales." Although, these bioswales have slight design differences, routine maintenance needs are generally the same.

Market Street Family Resource Center, San Diego

Vision Systems, Santee

Why is it important to maintain your bioswales?

By maintaining your bioswale, you are doing your part to help the environment and protect your local waterways. Routine maintenance is required for your bioswale to function properly.

An unmaintained bioswale may:

1) Cause rainwater to pool on the surface and become a breeding place for mosquitos and other insects.
2) Stop filtering the rainwater and allow the pollutants to enter our local streams.
3) Block the flow of water and cause local flooding.

You can prolong the life of your bioswale and save on maintenance and replacement costs by regularly inspecting and properly maintaining the water quality treatment feature to ensure it is functioning properly. The following sections describe how to maintain the various components of a bioswale.

Plant Care

Planting Selection for Storm Water Features:

Reference the Approved Plantings within your development's landscape plans or see Appendix E of the City of Santee's BMP Manual for an approved plant palette. The plants and trees contained on this list can tolerate frequent flooding (in lower areas), and drought (on side slopes). In addition, they have been specifically selected for their ability to clean the water. Other plants may be selected with City approval.

Maintenance

Prune dead stems and branches to maintain the health and appearance of trees and shrubs. Grasses need to be trimmed and/or thinned regularly so that they do not block the flow of water. Some grasses and plants need to be divided (thinned out) every few years for best growth and to prevent thatching. Dividing plants promotes their survival and appearance. Try to divide spring-flowering plants in the fall, and fall-flowering plants in the spring for the best blooms. Soak the plants the day before dividing them to reduce the shock.

Do not…

1. Do not allow the facility to go bare, with little or no vegetation. Plants help to absorb pollutants from storm water runoff, increase infiltration, shade the ground, and protect the specialized soil matrix.
2. Do not plant species that are considered invasive or aggressive (see Appendix E of the City of Santee's BMP Manual).
3. Do not trim plants or grasses shorter than six inches tall.

Grasses

Mowing

Mowing in and around water quality features is not like mowing a regular lawn. Remove all grass clippings and point blowers away from the facility. Avoid 'scalping' the edge of the grass when mowing steep edges, as this can lead to erosion. Maintain a clean edge between grass and planted areas with mulch and by edging the grass. Avoid turf unless the storm water facility was specifically designed to have turf.

Do Not...

1. Do not over mow or clip too close to the water quality treatment feature. By mowing too close, grass can be removed and bare soil exposed on edges, leading to erosion and soils entering the drainage system. Mowing too short can also cause the grass to thatch, or develop a large root mass, limiting water infiltration.
2. Do not ignore the water quality treatment feature. If these facilities fail due to damage or neglect, the cost to repair it will be much greater than the original cost of maintenance.

Torrey Del Mar Park, San Diego

Weeding

Why weed?

Weeds are visually unappealing and can limit the functionality of the bioswale. Weeds and invasive plants compete with native plants and can eventually take over the bioswale if not removed early on.

When should weeding take place?

Weeding should take place as needed (Reference the facility's Operations and Maintenance Plans for site specific details.) Hand pull weeds before they take root—when they are small and the soil is damp.

What to keep and what to pull:

Many weeds are considered invasive. Get to know the plants that were originally planted in the bioswale so that the original species are not pulled by mistake. For more information on invasive and native plant species in California, visit, www.cal-ipc.org and click on the invasive plants tab.

Do not…

1. Do not treat weeds and invasive plants with chemical treatments. Those chemicals coat the plants and soil. When it rains, the water runoff picks up these chemicals and carries them to our water ways.
2. Do not remove just the top of the weed. Make sure to remove the roots as well, or the weeds can grow back.

Type of weed species from left to right: Dandelion and Thistle.

Mulching

What does mulch do and why is it important?

Mulching keeps roots cool and damp, and prevents aggressive weeds from competing with plants for sunlight, water, and nutrients. Mulch promotes plant growth, holds the soil in place, retains moisture, and protects the soil.

When should mulching take place?

Mulch should be replenished at least once per year, or as the mulch becomes dried out or thin. The mulch layer should be at least three inches deep throughout the facility and should not bury small plants. Do not apply compost in lieu of mulch as the addition of organic materials can clog and prevent proper drainage. If the mulch is disturbed, rake it back into place.

Town Center Parkway, Santee

Do not…

1. Do not over-mulch. The mulch layer should be evenly dispersed; about three inches is all that is needed.
2. Do not add leaves, grass, or compost to the mulch, as these additives can reduce infiltration.

Call an expert if there is standing water in the facility for more than three days. This could be an indicator that the facility is not functioning properly and requires more in depth maintenance or repairs. Standing water can lead to potential breeding grounds for mosquitoes and other insects.

Debris Removal

Maintenance

Remove trash on a regular basis. Trash build up can clog and block storm water inlets on the property.

Sediment: Sediment can wash into a storm water feature, and build up around the mouth of inlets and behind check dams. Sediment should be removed on a regular basis by digging out sediment piles, removing it from swales, and cleaning it out from the rock. Dispose of sediment in the trash, not in the garden or compost as sediment can contain pollutants from cleaning the water runoff.

Remove leaves, grass clippings, weeds, and dead plant material. Vegetation and organic material can block drainage and contribute to nutrient pollution in the waterways.

Do not…

1. Do not leave pet waste in the facility. Pet waste can contain bacteria that may contaminate storm water runoff.

2. Do not put sediment removed from the facility back into the compost or gardens as it may contain heavy metals, oil and grease, or other pollutants from storm water runoff.

Poorly managed debris and litter end up clogging storm drains and polluting our water ways!

Landscaping Tasks

Standing Water and Mosquitos

The most effective method to control insects is to make sure there is no standing water in the water quality treatment feature. Mosquitoes need only three days of standing water to breed. Remember to check the water quality treatment feature after each storm to ensure water is draining properly. If the water quality treatment feature does not have standing water, but the property has a mosquito problem, look for other sources of standing water (i.e. inside a storm drain, roof gutters, bird baths, fountains, toys, or furniture).

Soil Health

Improve the health of your soil by...

1) Use mulch to protect soil from becoming dried out and hardened.

2) Use beneficial insects instead of pesticides.

3) Water in five minute intervals or less to allow time for the water to soak in, instead of pond or runoff.

4) Do not use fertilizers in a water quality treatment feature.

5) Regularly till the soil to loosen it up and restore its ability to absorb water.

All of these tips will improve the health of your plants and prevent erosion.

Drain Maintenance

Most drain problems are caused by excess sediment or debris such as leaves, wood sticks, stones, mulch, or litter which can block the grate and drain. Be sure to…

1) Routinely inspect your drains and properly remove and dispose of debris blocking the grate and drain. While debris accumulation occurs year round, it is a particular problem in the fall when trees lose their leaves quicker.

2) If water is needed to clean the system, hire a professional company which has the ability to capture and reclaim all water.

What if I use a landscaping service?

Remember, the property owner is ultimately responsible for maintaining storm water quality features and hiring qualified contractors.

Summary

What happens if maintenance is not performed?

City and State regulations require all water quality treatment features to be properly maintained so that the feature functions as intended and protects our local waterways from pollution. The City also inspects some of these properties annually to ensure that these features are being maintained. If violations are identified, the property management and owner will be sent a Courtesy Notice, Notice to Comply, and/or Notice of Violation (NOV), along with a copy of the inspection report, and photo report documenting any deficiencies. A Corrective Action Response (CAR) means a written response submitted to the City, which acknowledges the violation, states corrective measures taken, and describes preventative measures to be implemented, including supporting documentation such as photos, receipts, etc. If the deficiencies are not fixed, enforcement can escalate and administrative citations may be issued.

Can the storm water facility be removed?

No, storm water facilities cannot be removed. Operation and Maintenance requirements are passed down to each new property owner through the Facilities Maintenance Agreement document, a legally binding document that details the maintenance agreement between the City and the property owner.

Troubleshooting

Symptoms	Possible Cause	Solution
Standing water in the swale	If standing water occurs for over 48 hours, the swale could be clogged or the underdrain pipe may be blocked.	The surface of the swale may need to be tilled and replanted, or the pipe needs to be cleaned.
Erosion	The runoff is moving too fast and/ or the vegetation has died.	Stabilize the soil by planting new vegetation. Replenish the mulch layer to protect the soil. Use rocks if needed to slow the flow of runoff.
Dead Vegetation	Irrigation not functioning properly, and/or poor soil health.	Routinely monitor irrigation schedules, soil health, and vegetation health.

What if I need help or have additional questions?

The City of Santee Storm Water Program can answer your questions and provide additional guidance about maintaining your bioswale. Please visit www.SanteeH2o.org for additional resources or give us a call at (619)-258-4100.

CLEAN WATER

City of Santee
STORM WATER
PROGRAM

Annual Certification Process

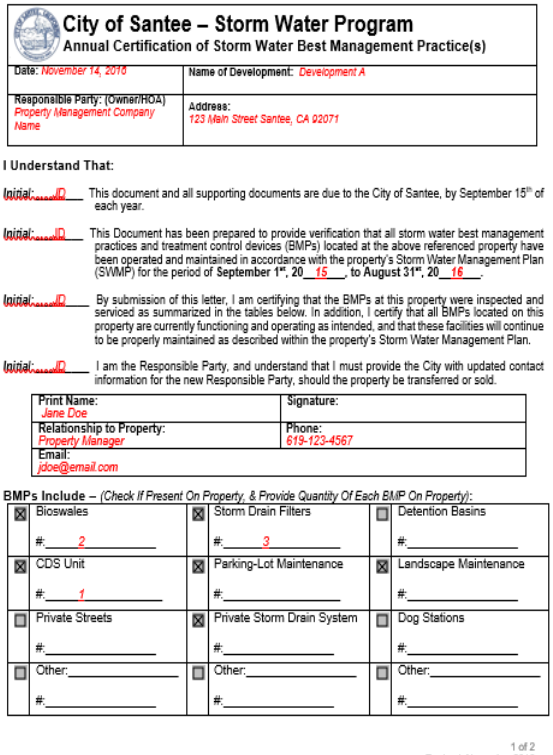
Upon project completion, and once occupancy has been granted, the property owner (Legally Responsible Party) will be required to complete a self certification form and submit it to the City annually. The annual certification confirms that all water quality treatment features on the property have been properly operated and maintained per approved plans.

These water quality treatment features, which were reviewed and approved by the City, are identified within the property's Storm Water Quality Management Plan (SWQMP). This plan includes an Operation and Maintenance Section which describes the locations and required maintenance procedures for all BMPs on the property. Please contact the City if you have questions regarding maintenance activities, location, or quantity of such water quality treatment features at your property.

Properties with a water quality treatment feature require:

1) Maintenance to be conducted throughout the year per the schedule outlined in the property's SWQMP. Paperwork should document continued operation and maintenance of all water quality features on the property from September 1st - August 31st of each year.

2) Submittal of all documentation is due to the City by September 15th. Please note that the City is not responsible for sending annual reminders.



City of Santee – Storm Water Program
Annual Certification of Storm Water Best Management Practice(s)

Date: *November 14, 2016*	Name of Development: *Development A*
Responsible Party: (Owner/HOA) *Property Management Company Name*	Address: *123 Main Street Santee, CA 92071*

I Understand That:

Initial:__JD__ This document and all supporting documents are due to the City of Santee, by September 15th of each year.

Initial:__JD__ This Document has been prepared to provide verification that all storm water best management practices and treatment control devices (BMPs) located at the above referenced property have been operated and maintained in accordance with the property's Storm Water Management Plan (SWMP) for the period of **September 1st, 20__15__, to August 31st, 20__16__.**

Initial:__JD__ By submission of this letter, I am certifying that the BMPs at this property were inspected and serviced as summarized in the tables below. In addition, I certify that all BMPs located on this property are currently functioning and operating as intended, and that these facilities will continue to be properly maintained as described within the property's Storm Water Management Plan.

Initial:__JD__ I am the Responsible Party, and understand that I must provide the City with updated contact information for the new Responsible Party, should the property be transferred or sold.

Print Name: *Jane Doe*	Signature:
Relationship to Property: *Property Manager*	Phone: *619-123-4567*
Email: *jdoe@email.com*	

BMPs Include – *(Check If Present On Property, & Provide Quantity Of Each BMP On Property):*

☒ Bioswales #: 2	☒ Storm Drain Filters #: 3	☐ Detention Basins #:
☒ CDS Unit #: 1	☒ Parking-Lot Maintenance #:	☒ Landscape Maintenance #:
☐ Private Streets #:	☒ Private Storm Drain System #:	☐ Dog Stations #:
☐ Other: #:	☐ Other: #:	☐ Other: #:

1 of 2
Revised: November 2016

Where Can I Find the Annual Certification Form?

The Annual Self Certification form can be found at www.SanteeH20.org under "Development Planning." The form is used to demonstrate that all water quality treatment features have been maintained per the SWQMP and are functioning as intended.

Where do I send in my Annual Certification Form?

Please address all Annual Certification forms to City of Santee Storm Water Program: *10601 Magnolia Ave, Santee, CA 92071.*

Tips

1) Set an annual reminder on your calendar of required maintenance activities and the annual certification form deadline, September 15th.

2) Save the annual certification form in your files and explain maintenance requirements to new property owners, tenants, and or contractors.

3) Be sure to include any supporting documentation such as photos, receipts, and service records.

If annual certification forms are not submitted by September 15th, the City may issue a Notice of Violation or initiate escalating enforcement actions.

What happens after I submit my Annual Certification form?

Submittal of an annual certification form is required for all properties that maintain water quality treatment features. Following the submittal of annual certification, you will receive an email acknowledging receipt and you will be notified whether the submittal is accepted as complete. In addition, the city performs unannounced inspections of water quality treatment facilities. The purpose of these inspections is to cross verify that the water treatment facilities appear to be functioning and maintained properly.