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Stormwater Control Plan

# Stormwater Control Plan

Prepared for:

Bouchaine Vineyards, Inc.  
1075 Buchli Station Road  
Napa, CA 94559

Prepared by:

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*Date:*

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## I. Project Data

This Study was developed based upon the recommendations and templates in the current edition of the BASMAA Post – Construction Manual, Dated July 14, 2014.

Table 1: Project Data Form

Project Name / Number	Bouchaine Vineyards, Inc. / P14-00408
Application Submittal Date	December 18 <sup>th</sup> , 2014
Project Location	1075 Buchli Station Road, Napa County, CA 94559
Project Phase No.	Preliminary design for the Use Permit Modification
Project Type and Description	Commercial re-development and extension of an existing winery production building, a new Hospitality Center and associated facilities.
Total Project Site Area	209,105 SF or 4.80 Acres
Total New and Replaced Impervious Surface Area	46,668 SF or 1.07 Acres
Total Pre-Project Impervious Area	64,622 SF or 1.48 Acres
Total Post-Project Impervious Area	100,702 SF or 2.31 Acres

## II. Setting

### II.A Project Location

Project located on un-incorporated land of Napa County. Site coordinates are:

Latitude: 38°13'34" North, Longitude: 122°19'52" West

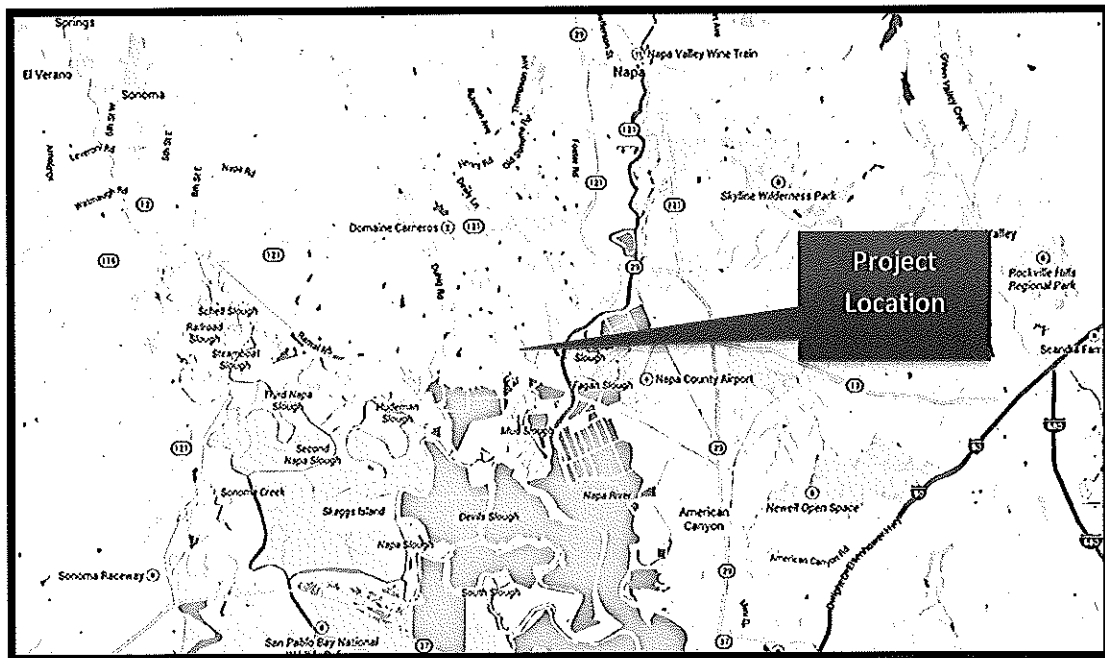


Figure 1: Location Map

## II.B Existing Site Conditions and Proposed Development

Bouchaine Vineyards, Inc. owns and operates the existing winery and winery water system located at 1075 Buchli Station Road, in Napa (APN: 047-320-031).

The existing development consists of a Production Building, Visitor Center, and associated facilities. The Bouchaine Winery Improvement Project Use Permit Modification (UP MOD) application is to construct a new Hospitality Center/Office building, modify/expand the existing production building to include additional interior dry storage area and expand the exterior crush pad and bin storage area, and modify the interior of the existing Visitor Center/office/storage building.

## III. Low Impact Development Design Strategies

Among strategies used in developing the proposed site improvements, the following have been used in design:

- Limitation of development envelope
- Preservation of pre-development drainage ways, and discharge points
- Minimizing the proposed impervious surfaces
- Use of drainage features as a design component

Permeable pavement:

- Several drainage management areas (DMAs) have been specified to use permeable surface, in order to minimize stormwater runoff, and allow percolation into the soil.

## IV. Documentation of Drainage Design

Table 2: Description of DMAs

DMA Name	Description	Areas
Re-development of the existing facilities		
DMA - 1B	Remove existing pavement and roofed areas at maintenance yard and replace with new roof	1,084 sq.ft.
DMA - 1C	Replace in kind existing pavement east of Production Building. Impervious area to be directed into the Bio-Retention DMA-1K.	1,087 sq.ft.
DMA - 1D	Remove existing temporary office. Pavement surface.	502 sq.ft.

DMA – 1F	Remove un-even AC-Pavement and replace in kind, per proposed development plans. This area drains towards existing landscaped, self-treating surface located south of existing Visitor Center.	1,389 sq.ft.
DMA – 1G	Existing landscaped area to remain and be counted as self-treating area.	360 sq.ft.
DMA – 1H	Existing landscaped area to remain and be counted as self-treating area.	296 sq.ft.
DMA – 1i	Replace existing AC Pavement south of Production Building, with new pavement, after installing new retaining wall, per proposed development plans.	3,684 sq.ft.
DMA – 1J	Construct covered trash enclosure, with downspouts discharging into landscaped, self-treating area, located northeast of Production Building.	573 sq.ft.
DMA – 1K	Existing process water basin	13,308 sq.ft.
DMA – 1L	Existing vines to be irrigated with water from the process water basin	26,750 sq.ft.*
Note: * designates minimum area dedicated for irrigation		
<b>New development</b>		
DMA – 2A	Asphaltic concrete pavement, at new parking lot, located west of proposed Hospitality Center (HC). Runoff sheet-flows to the drainage catch basin located along easterly side of the parking lot. From here, the runoff is being conveyed through subgrade drainage system to the Bio-Retention Facility, DMA-2L	12,049 sq.ft.
DMA – 2B	Decorative pavement at HC – entrance. Sheet flows towards the parking lot where is captured into the catch basin and conveyed through proposed pipe-system to the Bio-Retention Facility, DMA-2L	1,297 sq.ft.
DMA – 2C	Asphaltic concrete pavement, at driveway lying north of the Hospitality Center. The runoff generated on this impervious surface is carried along the alignment with the help of swales, to the Bio-Retention Facility, DMA-2L	10,652 sq.ft.
DMA – 2D	Hospitality Center roof surface. Conveyed with via downspouts into the subgrade drainage system to the Bio-Retention Facility, DMA-2L	4,895 sq.ft.
DMA – 2E	Landscape area between proposed parking area and Hospitality Center. Self-treating area, with overflow being connected to the site stormdrain system.	1,610 sq.ft.
DMA – 2F	Decorative pavement at Hospitality Center open area.	789 sq.ft.

	Sheet flows towards self-treating area, and drained through the stormdrain system to the Bio-Retention Facility, DMA-2L	
DMA – 2G	Decorative pavement at Hospitality Center open area. Sheet flows towards landscaped, self-treating area, and conveyed through the stormdrain system to the Bio-Retention Facility, DMA-2L	2,795 sq.ft.
DMA – 2H	Concrete staircase located east of the Hospitality Center. Drain to landscaped, self-treating area DMA-2i	709 sq.ft.
DMA – 2i	Landscaped area, self-treating, located east of Hospitality Center. Sheet flows towards surface drainage swale at the bottom of slope, and conveyed to the Bio-Retention Facility, DMA-2L	15,799 sq.ft.
DMA – 2J	Asphaltic concrete pavement, at driveway lying south of the Hospitality Center. The runoff generated on this impervious surface is carried along the alignment with the help of swales, to the Bio-Retention Facility, DMA-2L	10,185 sq.ft.
DMA – 2K	Landscaped area, self-treating, located west of HCs parking area. Sheet flows towards surface drainage swale at the bottom of slope, and behind the pavement curb, and conveyed to the Bio-Retention Facility, DMA-2L	2,277 sq.ft.
DMA – 2L	Bio-Retention Basin	2,436 sq.ft.

#### IV.A Table of Drainage Management Areas

Table 3: Detention Facility

Total Project Area (square feet)	Total SF
DMA – 1K	13,308 sq.ft.
DMA – 2L	2,436 sq.ft.

Table 4: Landscape Area

Total Project Area (square feet)	Total
DMA – 1G	360 sq.ft.
DMA – 1H	296 sq.ft.
DMA – 2E	1,610 sq.ft.
DMA – 2i	15,799 sq.ft.
DMA – 2K	2,277 sq.ft.

Table 5: Self - Treating Area

Total Project Area (square feet)	Total SF
DMA – 1G	360 sq.ft.
DMA – 1H	296 sq.ft.
DMA – 1L	26,750 sq.ft.

Table 6: Areas Draining to Bio-Retention Facilities

DMA Name	DMA Area "A" [sq.ft.]	Post-Prj. Surface Type	DMA Runoff Factor "C"	A x C	Facility Name		
					DMA – 2L		
DMA-2A	12,049	AC Pav.	1.0	12,049	Sizing Factor	Minimum Facility Size [sq.ft.]	Proposed Facility Size [sq.ft.]
DMA-2B	1,297	Decor. Pav.	1.0	1,297			
DMA-2C	10,652	AC Pav.	1.0	10,652			
DMA-2D	4,895	Roof	1.0	4,895			
DMA-2E	1,610	Landscape	0.1	161			
DMA-2F	789	Decor. Pav.	1.0	789			
DMA-2G	2,795	Impervious	1.0	2,795			
DMA-2H	709	Conc. Pav.	1.0	709			
DMA-2i	15,799	Landscape	0.1	158			
DMA-2J	10,185	AC Pav.	1.0	10,185			
DMA-2K	8,290	Landscape	0.1	829			
<b>Total:</b>				<b>44,519</b>			

Table 6a: Areas Draining to Process Water Pond

DMA Name	DMA Area "A" [sq.ft.]	Post-Prj. Surface Type	DMA Runoff Factor "C"	A x C	Facility Name		
					DMA – 1K		
DMA-1G	360	Landscape	0.1	36	Sizing Factor	Minimum Facility Size [sq.ft.]	Proposed Facility Size [sq.ft.]
DMA-1i	3,684	Pavement	1.0	3,684			
DMA-1B	1,084	Roof	1.0	1,084			
DMA-1C	1,087	Pavement	1.0	1,087			
<b>Total:</b>				<b>5,891</b>	<b>0.04</b>	<b>236</b>	<b>26,750</b>



## V. Source Control Measures

Table 7: Site Activities and Potential Sources of Pollutants

Potential source of runoff pollutants	Permanent source control BMPs	Operational source control BMPs
<ul style="list-style-type: none"> <li>■ On-site storm drain inlets</li> </ul>	<ul style="list-style-type: none"> <li>• Mark all inlets with the words “No Dumping  Flows to the Bay” or similar.</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain and periodically repaint or replace inlet markings</li> <li>• Provide storm water pollution prevention information to new site operators</li> <li>• See CASQA fact sheet SC-44, “Drainage System Maintenance”, under Appendices.</li> </ul>
<ul style="list-style-type: none"> <li>■ Food Service</li> </ul>	<ul style="list-style-type: none"> <li>• Location of new Grease Interceptors indicated on the site plan.</li> </ul>	<ul style="list-style-type: none"> <li>• See maintenance schedule for Grease Interceptor, under Appendixes.</li> </ul>
<ul style="list-style-type: none"> <li>■ Industrial Process</li> </ul>	<ul style="list-style-type: none"> <li>• Majority of process activities to be performed under covered areas or indoors. No process water to drain to exterior or to storm drain system.</li> </ul>	<ul style="list-style-type: none"> <li>• See CASQA fact sheet SC-10, “Non-Stormwater Discharges”, under Appendixes.</li> </ul>
<ul style="list-style-type: none"> <li>■ Loading Docks</li> </ul>	<ul style="list-style-type: none"> <li>• Loading Docks identified per Site Plan, under Attachments.</li> </ul>	<ul style="list-style-type: none"> <li>• Move loaded &amp; unloaded items indoors as soon as possible</li> <li>• See CASQA fact sheet SC-30, “Outdoor Loading and Unloading”, under Appendixes.</li> </ul>
<ul style="list-style-type: none"> <li>■ Fire Sprinkler Test Water</li> </ul>	<ul style="list-style-type: none"> <li>• Fire sprinkler test water, inside the Hospitality Center to be captured and directed to sanitary sewer.</li> </ul>	<ul style="list-style-type: none"> <li>• See CASQA fact sheet SC-41, “Building and Grounds Maintenance”, under Appendixes.</li> </ul>
<ul style="list-style-type: none"> <li>■ Plazas, sidewalks, and parking lots</li> </ul>		<ul style="list-style-type: none"> <li>• Sweep plazas, sidewalks and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to the storm drain.</li> </ul>

## VI. Stormwater Facility Maintenance

The Applicant is committed to maintain the storm water system, as detailed under the Operation and Maintenance Manual.

The applicant accepts responsibility for interim operations and maintenance of stormwater treatment and flow-control facilities until such time as this responsibility is formally transferred to a subsequent owner.

## VII. Construction Checklist

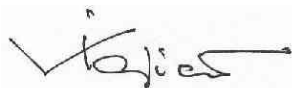
Table 8: Construction Best Management Practices Recommended

Stormwater Control Plan Sheet #	Source Control or Treatment Control Measure	For Detail and Specifications see see Plan Sheet #
UP-7.0	Fiber Roll, BMP: SE-5	UP-7.1 And Appendices
	Silt Fence, BMP: SE-1	
	Storm Drain Inlet Protection, BMP: SE-10	
	Slope Protection, BMP: EC-7	
	Gravel Bag Flow Diversion, BMP: SE-6	
	Stabilized Construction Entrance, BMP: TC-1	
	Concrete Waste Management	
	Tree Protection	

## VIII. Certifications

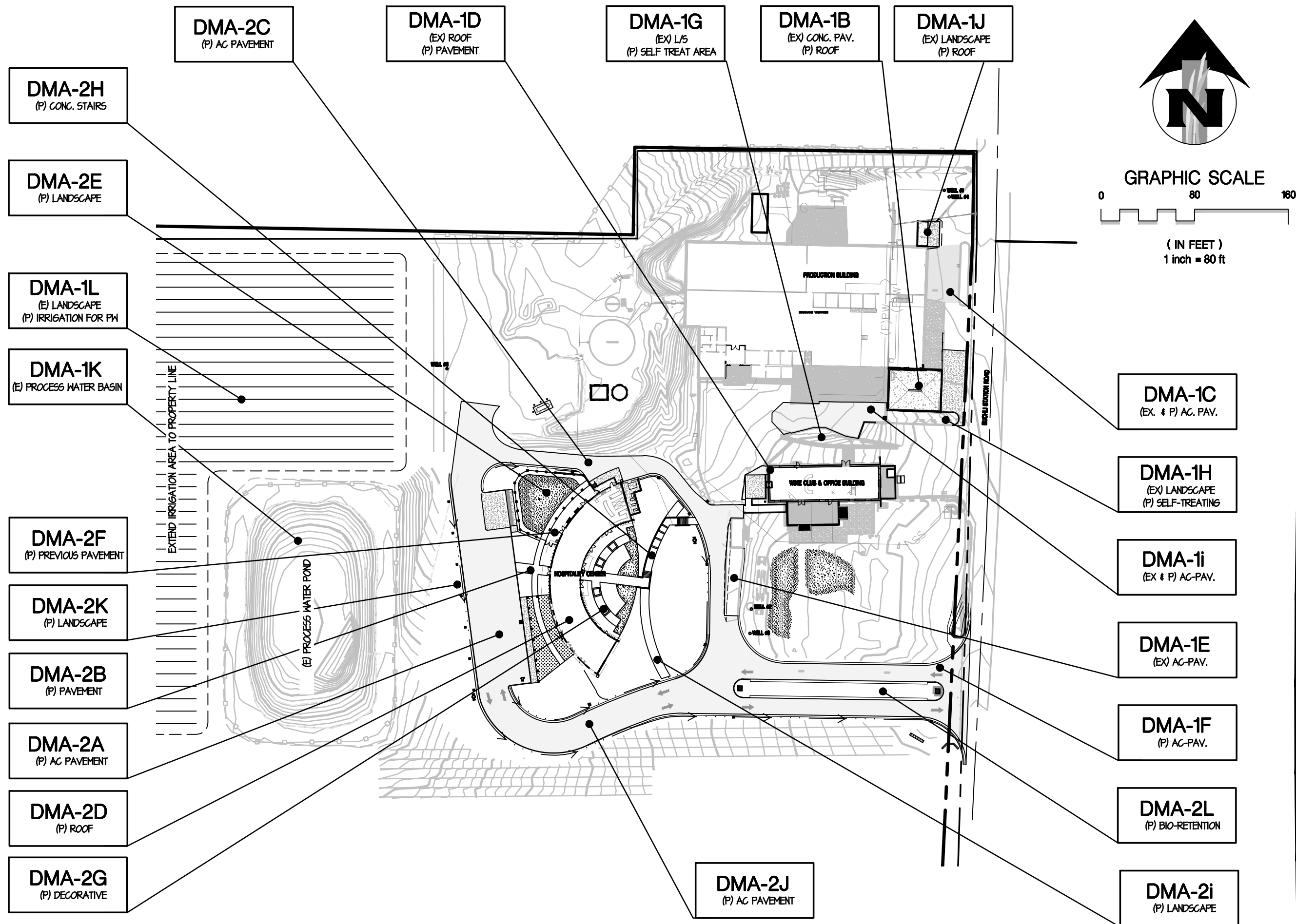
The preliminary design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the BASMAA Post-Construction Manual.

**Firma Design Group**



**Vlad G. Iojica, P.E.**  
Registered Civil Engineer

**Appendices**



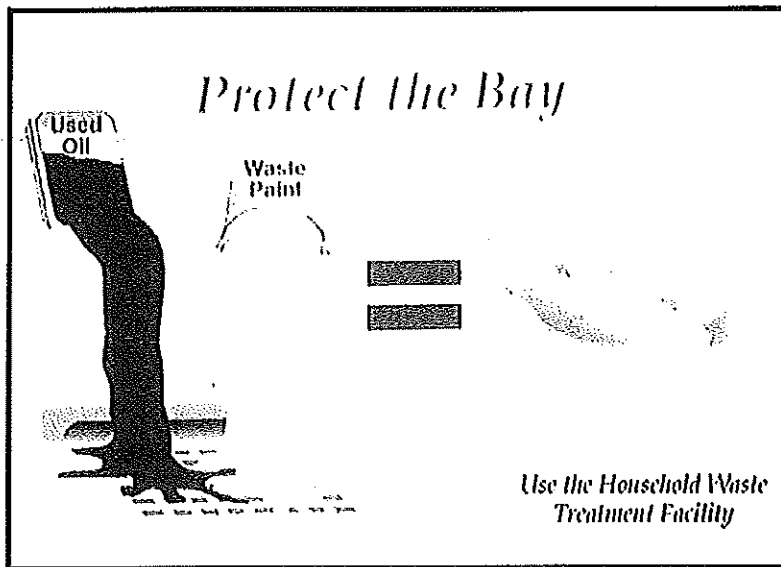
BOUCHAINE VINEYARDS, INC. APN 047-320-031  
1075 BUCHLI STATION ROAD, NAPA, CALIFORNIA 94559

# STORMWATER PLAN

## DRAINAGE MANAGEMENT AREAS

**Operations Best Management Practices (BMPs)**

**Non-Stormwater Discharges (SC-10)**



## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Description

Non-stormwater discharges are those flows that do not consist entirely of stormwater. Some non-stormwater discharges do not include pollutants and may be discharged to the storm drain. These include uncontaminated groundwater and natural springs. There are also some non-stormwater discharges that typically do not contain pollutants and may be discharged to the storm drain with conditions. These include car washing, air conditioner condensate, etc. However there are certain non-stormwater discharges that pose environmental concern. These discharges may originate from illegal dumping or from internal floor drains, appliances, industrial processes, sinks, and toilets that are connected to the nearby storm drainage system. These discharges (which may include: process waste waters, cooling waters, wash waters, and sanitary wastewater) can carry substances such as paint, oil, fuel and other automotive fluids, chemicals and other pollutants into storm drains. They can generally be detected through a combination of detection and elimination. The ultimate goal is to effectively eliminate non-stormwater discharges to the stormwater drainage system through implementation of measures to detect, correct, and enforce against illicit connections and illegal discharges of pollutants on streets and into the storm drain system and creeks.

## Approach

Initially the industry must make an assessment of non-stormwater discharges to determine which types must be eliminated or addressed through BMPs. The focus of the following approach is in the elimination of non-stormwater discharges.

## Targeted Constituents

Sediment	
Nutrients	✓
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓



***Pollution Prevention***

- Ensure that used oil, used antifreeze, and hazardous chemical recycling programs are being implemented. Encourage litter control.

***Suggested Protocols******Recommended Complaint Investigation Equipment***

- Field Screening Analysis
  - pH paper or meter
  - Commercial stormwater pollutant screening kit that can detect for reactive phosphorus, nitrate nitrogen, ammonium nitrogen, specific conductance, and turbidity
  - Sample jars
  - Sample collection pole
  - A tool to remove access hole covers
- Laboratory Analysis
  - Sample cooler
  - Ice
  - Sample jars and labels
  - Chain of custody forms
- Documentation
  - Camera
  - Notebook
  - Pens
  - Notice of Violation forms
  - Educational materials

***General***

- Develop clear protocols and lines of communication for effectively prohibiting non-stormwater discharges, especially those that are not classified as hazardous. These are often not responded to as effectively as they need to be.
- Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" stenciled or demarcated next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.



- See SC44 Stormwater Drainage System Maintenance for additional information.

### *Illicit Connections*

- Locate discharges from the industrial storm drainage system to the municipal storm drain system through review of “as-built” piping schematics.
- Isolate problem areas and plug illicit discharge points.
- Locate and evaluate all discharges to the industrial storm drain system.

### *Visual Inspection and Inventory*

- Inventory and inspect each discharge point during dry weather.
- Keep in mind that drainage from a storm event can continue for a day or two following the end of a storm and groundwater may infiltrate the underground stormwater collection system. Also, non-stormwater discharges are often intermittent and may require periodic inspections.

### *Review Infield Piping*

- A review of the “as-built” piping schematic is a way to determine if there are any connections to the stormwater collection system.
- Inspect the path of floor drains in older buildings.

### *Smoke Testing*

- Smoke testing of wastewater and stormwater collection systems is used to detect connections between the two systems.
- During dry weather the stormwater collection system is filled with smoke and then traced to sources. The appearance of smoke at the base of a toilet indicates that there may be a connection between the sanitary and the stormwater system.

### *Dye Testing*

- A dye test can be performed by simply releasing a dye into either your sanitary or process wastewater system and examining the discharge points from the stormwater collection system for discoloration.

### *TV Inspection of Drainage System*

- TV Cameras can be employed to visually identify illicit connections to the industrial storm drainage system.

### *Illegal Dumping*

- Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- On paved surfaces, clean up spills with as little water as possible. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.

- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.

Once a site has been cleaned:

- Post "No Dumping" signs with a phone number for reporting dumping and disposal.
- Landscaping and beautification efforts of hot spots may also discourage future dumping, as well as provide open space and increase property values.
- Lighting or barriers may also be needed to discourage future dumping.
- See fact sheet SC11 Spill Prevention, Control, and Cleanup.

#### *Inspection*

- Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- Conduct field investigations of the industrial storm drain system for potential sources of non-stormwater discharges.
- Pro-actively conduct investigations of high priority areas. Based on historical data, prioritize specific geographic areas and/or incident type for pro-active investigations.

#### *Reporting*

- A database is useful for defining and tracking the magnitude and location of the problem.
- Report prohibited non-stormwater discharges observed during the course of normal daily activities so they can be investigated, contained, and cleaned up or eliminated.
- Document that non-stormwater discharges have been eliminated by recording tests performed, methods used, dates of testing, and any on-site drainage points observed.
- Document and report annually the results of the program,
- Maintain documentation of illicit connection and illegal dumping incidents, including significant conditionally exempt discharges that are not properly managed.

#### *Training*

- Training of technical staff in identifying and documenting illegal dumping incidents is required.
- Consider posting the quick reference table near storm drains to reinforce training.
- Train employees to identify non-stormwater discharges and report discharges to the appropriate departments.

- Educate employees about spill prevention and cleanup.
- Well-trained employees can reduce human errors that lead to accidental releases or spills. The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur. Employees should be familiar with the Spill Prevention Control and Countermeasure Plan.
- Determine and implement appropriate outreach efforts to reduce non-permissible non-stormwater discharges.
- Conduct spill response drills annually (if no events occurred to evaluate your plan) in cooperation with other industries.
- When a responsible party is identified, educate the party on the impacts of his or her actions.

### ***Spill Response and Prevention***

- See SC11 Spill Prevention Control and Cleanup.

### ***Other Considerations***

- Many facilities do not have accurate, up-to-date schematic drawings.

### **Requirements**

#### ***Costs (including capital and operation & maintenance)***

- The primary cost is for staff time and depends on how aggressively a program is implemented.
- Cost for containment and disposal is borne by the discharger.
- Illicit connections can be difficult to locate especially if there is groundwater infiltration.
- Indoor floor drains may require re-plumbing if cross-connections to storm drains are detected.

#### ***Maintenance (including administrative and staffing)***

- Illegal dumping and illicit connection violations requires technical staff to detect and investigate them.

### **Supplemental Information**

#### ***Further Detail of the BMP***

##### ***Illegal Dumping***

- Substances illegally dumped on streets and into the storm drain systems and creeks include paints, used oil and other automotive fluids, construction debris, chemicals, fresh concrete, leaves, grass clippings, and pet wastes. All of these wastes cause stormwater and receiving water quality problems as well as clog the storm drain system itself.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - Illegal dumping hot spots

- Types and quantities (in some cases) of wastes
- Patterns in time of occurrence (time of day/night, month, or year)
- Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
- Responsible parties

One of the keys to success of reducing or eliminating illegal dumping is increasing the number of people at the facility who are aware of the problem and who have the tools to at least identify the incident, if not correct it. Therefore, train field staff to recognize and report the incidents.

What constitutes a "non-stormwater" discharge?

- Non-stormwater discharges to the stormwater collection system may include any water used directly in the manufacturing process (process wastewater), air conditioning condensate and coolant, non-contact cooling water, cooling equipment condensate, outdoor secondary containment water, vehicle and equipment wash water, sink and drinking fountain wastewater, sanitary wastes, or other wastewaters.

#### *Permit Requirements*

- Facilities subject to stormwater permit requirements must include a certification that the stormwater collection system has been tested or evaluated for the presence of non-stormwater discharges. The State's General Industrial Stormwater Permit requires that non-stormwater discharges be eliminated prior to implementation of the facility's SWPPP.

#### *Performance Evaluation*

- Review annually internal investigation results; assess whether goals were met and what changes or improvements are necessary.
- Obtain feedback from personnel assigned to respond to, or inspect for, illicit connections and illegal dumping incidents.

#### **References and Resources**

California's Nonpoint Source Program Plan <http://www.swrcb.ca.gov/nps/index.html>

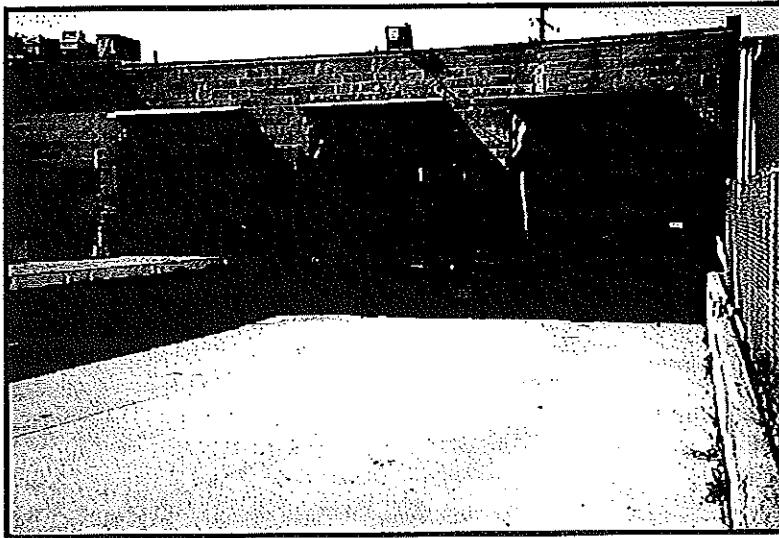
Clark County Storm Water Pollution Control Manual  
<http://www.co.clark.wa.us/pubworks/bmpman.pdf>

King County Storm Water Pollution Control Manual <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Santa Clara Valley Urban Runoff Pollution Prevention Program <http://www.sevurppp.org>

The Storm Water Managers Resource Center <http://www.stormwatercenter.net/>

**Outdoor Loading/Unloading (SC-30)**



## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Description

The loading/unloading of materials usually takes place outside on docks or terminals; therefore, materials spilled, leaked, or lost during loading/unloading may collect in the soil or on other surfaces and have the potential to be carried away by stormwater runoff or when the area is cleaned. Additionally, rainfall may wash pollutants from machinery used to unload or move materials. Implementation of the following protocols will prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

## Pollution Prevention

- Keep accurate maintenance logs to evaluate materials removed and improvements made.
- Park tank trucks or delivery vehicles in designated areas so that spills or leaks can be contained.
- Limit exposure of material to rainfall whenever possible.
- Prevent stormwater run-on.
- Check equipment regularly for leaks.

## Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓



***Suggested Protocols******Loading and Unloading – General Guidelines***

- Develop an operations plan that describes procedures for loading and/or unloading.
- Conduct loading and unloading in dry weather if possible.
- Cover designated loading/unloading areas to reduce exposure of materials to rain.
- Consider placing a seal or door skirt between delivery vehicles and building to prevent exposure to rain.
- Design loading/unloading area to prevent stormwater run-on, which would include grading or berming the area, and position roof downspouts so they direct stormwater away from the loading/unloading areas.
- Have employees load and unload all materials and equipment in covered areas such as building overhangs at loading docks if feasible.
- Load/unload only at designated loading areas.
- Use drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections. Several drip pans should be stored in a covered location near the liquid transfer area so that they are always available, yet protected from precipitation when not in use. Drip pans can be made specifically for railroad tracks. Drip pans must be cleaned periodically, and drip collected materials must be disposed of properly.
- Pave loading areas with concrete instead of asphalt.
- Avoid placing storm drains in the area.
- Grade and/or berm the loading/unloading area to a drain that is connected to a deadend.

***Inspection***

- Check loading and unloading equipment regularly for leaks, including valves, pumps, flanges and connections.
- Look for dust or fumes during loading or unloading operations.

***Training***

- Train employees (e.g., fork lift operators) and contractors on proper spill containment and cleanup.
- Have employees trained in spill containment and cleanup present during loading/unloading.
- Train employees in proper handling techniques during liquid transfers to avoid spills.
- Make sure forklift operators are properly trained on loading and unloading procedures.

## *Spill Response and Prevention*

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Contain leaks during transfer.
- Store and maintain appropriate spill cleanup materials in a location that is readily accessible and known to all and ensure that employees are familiar with the site's spill control plan and proper spill cleanup procedures.
- Have an emergency spill cleanup plan readily available.
- Use drip pans or comparable devices when transferring oils, solvents, and paints.

## *Other Considerations (Limitations and Regulations)*

- Space and time limitations may preclude all transfers from being performed indoors or under cover.
- It may not be possible to conduct transfers only during dry weather.

## **Requirements**

### *Costs*

Costs should be low except when covering a large loading/unloading area.

### *Maintenance*

- Conduct regular inspections and make repairs as necessary. The frequency of repairs will depend on the age of the facility.
- Check loading and unloading equipment regularly for leaks.
- Conduct regular broom dry-sweeping of area.

## **Supplemental Information**

### *Further Detail of the BMP*

#### *Special Circumstances for Indoor Loading/Unloading of Materials*

Loading or unloading of liquids should occur in the manufacturing building so that any spills that are not completely retained can be discharged to the sanitary sewer, treatment plant, or treated in a manner consistent with local sewer authorities and permit requirements.

- For loading and unloading tank trucks to above and below ground storage tanks, the following procedures should be used:
  - The area where the transfer takes place should be paved. If the liquid is reactive with the asphalt, Portland cement should be used to pave the area.
  - The transfer area should be designed to prevent run-on of stormwater from adjacent areas. Sloping the pad and using a curb, like a speed bump, around the uphill side of the transfer area should reduce run-on.



- The transfer area should be designed to prevent runoff of spilled liquids from the area. Sloping the area to a drain should prevent runoff. The drain should be connected to a dead-end sump or to the sanitary sewer. A positive control valve should be installed on the drain.
- For transfer from rail cars to storage tanks that must occur outside, use the following procedures:
  - Drip pans should be placed at locations where spillage may occur, such as hose connections, hose reels, and filler nozzles. Use drip pans when making and breaking connections.
  - Drip pan systems should be installed between the rails to collect spillage from tank cars.

**References and Resources**

California's Nonpoint Source Program Plan <http://www.swrcb.ca.gov/nps/index.html>

Clark County Storm Water Pollution Control Manual  
<http://www.co.clark.wa.us/pubworks/bmpman.pdf>

King County Storm Water Pollution Control Manual <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Santa Clara Valley Urban Runoff Pollution Prevention Program <http://www.sevurppp.org>

The Storm Water Managers Resource Center <http://www.stormwatercenter.net/>

Building Grounds Maintenance (SC-41)



## Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, abnormal pH, and oils and greases. Utilizing the protocols in this fact sheet will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

### *Pollution Prevention*

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	
Organics	



# **SC-41 Building & Grounds Maintenance**

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- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.

## ***Suggested Protocols***

### ***Pressure Washing of Buildings, Rooftops, and Other Large Objects***

- In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used, and the surrounding area is paved, wash runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement.

### ***Landscaping Activities***

- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils.

### ***Building Repair, Remodeling, and Construction***

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paintbrushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. This is particularly necessary on rainy days. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.

# **Building & Grounds Maintenance SC-41**

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- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. If directed off-site, you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

## *Mowing, Trimming, and Planting*

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures when soils are exposed.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water: do not put it in the storm drain; pour over landscaped areas.
- Use hand weeding where practical.

## *Fertilizer and Pesticide Management*

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Use less toxic pesticides that will do the job when applicable. Avoid use of copper-based pesticides if possible.
- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g., spray drift) of pesticides, including consideration of alternative application techniques.
- Apply pesticides only when wind speeds are low.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Dispose of empty pesticide containers according to the instructions on the container label.

# **SC-41 Building & Grounds Maintenance**

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- Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

## *Inspection*

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering and repair leaks in the irrigation system as soon as they are observed.

## *Training*

- Educate and train employees on pesticide use and in pesticide application techniques to prevent pollution.
- Train employees and contractors in proper techniques for spill containment and cleanup.
- Be sure the frequency of training takes into account the complexity of the operations and the nature of the staff.

## *Spill Response and Prevention*

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials, such as brooms, dustpans, and vacuum sweepers (if desired) near the storage area where it will be readily accessible.
- Have employees trained in spill containment and cleanup present during the loading/unloading of dangerous wastes, liquid chemicals, or other materials.
- Familiarize employees with the Spill Prevention Control and Countermeasure Plan.
- Clean up spills immediately.

## *Other Considerations*

Alternative pest/weed controls may not be available, suitable, or effective in many cases.

## **Requirements**

### *Costs*

- Cost will vary depending on the type and size of facility.
- Overall costs should be low in comparison to other BMPs.

### *Maintenance*

Sweep paved areas regularly to collect loose particles. Wipe up spills with rags and other absorbent material immediately, do not hose down the area to a storm drain.

## **Supplemental Information**

### *Further Detail of the BMP*

#### *Fire Sprinkler Line Flushing*

Building fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water, though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping, but it is subject to rusting and results in lower quality water. Initially, the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, polyphosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time (typically a year) and between flushes may accumulate iron, manganese, lead, copper, nickel, and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.

## **References and Resources**

California's Nonpoint Source Program Plan <http://www.swrcb.ca.gov/nps/index.html>

Clark County Storm Water Pollution Control Manual  
<http://www.co.clark.wa.us/pubworks/bmpman.pdf>

King County Storm Water Pollution Control Manual <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Mobile Cleaners Pilot Program: Final Report. 1997. Bay Area Stormwater Management Agencies Association (BASMAA). <http://www.basmaa.org/>

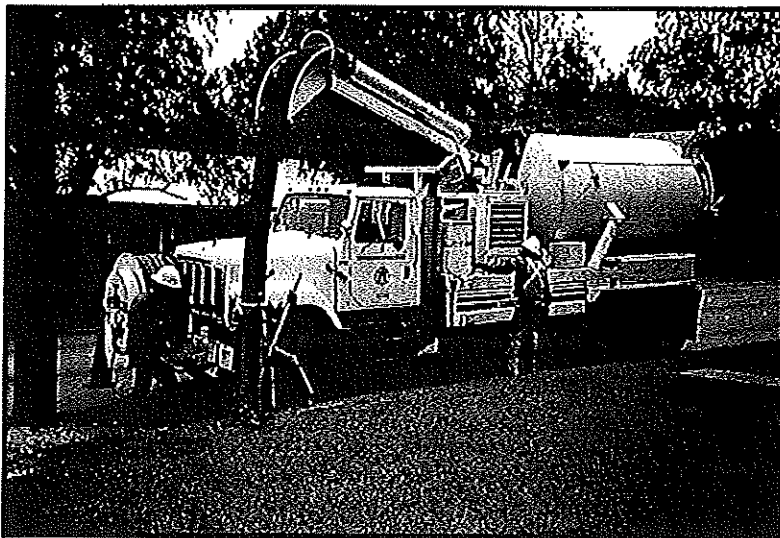
Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA). <http://www.basmaa.org/>

Santa Clara Valley Urban Runoff Pollution Prevention Program <http://www.sevurppp.org>

The Storm Water Managers Resource Center <http://www.stormwatercenter.net/>

**Drainage System Maintenance (SC-44)**





## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

## Description

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff and stormwater that may contain certain pollutants. The protocols in this fact sheet are intended to reduce pollutants reaching receiving waters through proper conveyance system operation and maintenance.

## Approach

### *Pollution Prevention*

Maintain catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.

### *Suggested Protocols*

#### *Catch Basins/Inlet Structures*

- Staff should regularly inspect facilities to ensure compliance with the following:
  - Immediate repair of any deterioration threatening structural integrity.
  - Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.
  - Stenciling of catch basins and inlets (see SC34 Waste Handling and Disposal).

## Targeted Constituents

Sediment	✓
Nutrients	
Trash	✓
Metals	
Bacteria	✓
Oil and Grease	
Organics	



- Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove sediments and debris accumulated during the summer.
- Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Clean and repair as needed.
- Keep accurate logs of the number of catch basins cleaned.
- Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed. Do not dewater near a storm drain or stream.

#### *Storm Drain Conveyance System*

- Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Collect and pump flushed effluent to the sanitary sewer for treatment whenever possible.

#### *Pump Stations*

- Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- Do not allow discharge to reach the storm drain system when cleaning a storm drain pump station or other facility.
- Conduct routine maintenance at each pump station.
- Inspect, clean, and repair as necessary all outlet structures prior to the wet season.

#### *Open Channel*

- Modify storm channel characteristics to improve channel hydraulics, increase pollutant removals, and enhance channel/creek aesthetic and habitat value.
- Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural (emphasis added) state of any river, stream, or lake in California, must enter into a Steam or Lake Alteration Agreement with the Department of Fish and Game. The developer-applicant should also contact local governments (city, county, special districts), other state agencies (SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Federal Corps of Engineers and USFWS.

#### *Illicit Connections and Discharges*

- Look for evidence of illegal discharges or illicit connections during routine maintenance of conveyance system and drainage structures:
  - Is there evidence of spills such as paints, discoloring, etc?

- Are there any odors associated with the drainage system?
- Record locations of apparent illegal discharges/illicit connections?
- Track flows back to potential dischargers and conduct aboveground inspections. This can be done through visual inspection of upgradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
- Eliminate the discharge once the origin of flow is established.
- Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

### *Illegal Dumping*

- Inspect and clean up hot spots and other storm drainage areas regularly where illegal dumping and disposal occurs.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - Illegal dumping hot spots
  - Types and quantities (in some cases) of wastes
  - Patterns in time of occurrence (time of day/night, month, or year)
  - Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
  - Responsible parties
- Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

### *Training*

- Train crews in proper maintenance activities, including record keeping and disposal.
- Allow only properly trained individuals to handle hazardous materials/wastes.
- Have staff involved in detection and removal of illicit connections trained in the following:
  - OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).

- OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and Federal OSHA 29 CFR 1910.146).
- Procedural training (field screening, sampling, smoke/dye testing, TV inspection).

***Spill Response and Prevention***

- Investigate all reports of spills, leaks, and/or illegal dumping promptly.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) or dig up, remove, and properly dispose of contaminated soil.
- Refer to fact sheet SC-11 Spill Prevention, Control, and Cleanup.

***Other Considerations (Limitations and Regulations)***

- Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.
- Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, liquid/sediment disposal, and prohibition against disposal of flushed effluent to sanitary sewer in some areas.
- Regulations may include adoption of substantial penalties for illegal dumping and disposal.
- Local municipal codes may include sections prohibiting discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the storm drain system.

**Requirements*****Costs***

- An aggressive catch basin cleaning program could require a significant capital and O&M budget.
- The elimination of illegal dumping is dependent on the availability, convenience, and cost of alternative means of disposal. The primary cost is for staff time. Cost depends on how aggressively a program is implemented. Other cost considerations for an illegal dumping program include:
  - Purchase and installation of signs.
  - Rental of vehicle(s) to haul illegally-disposed items and material to landfills.
  - Rental of heavy equipment to remove larger items (e.g., car bodies) from channels.
  - Purchase of landfill space to dispose of illegally-dumped items and material.

- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary.

## *Maintenance*

- Two-person teams may be required to clean catch basins with vacuum trucks.
- Teams of at least two people plus administrative personnel are required to identify illicit discharges, depending on the complexity of the storm sewer system.
- Arrangements must be made for proper disposal of collected wastes.
- Technical staff are required to detect and investigate illegal dumping violations.

## **Supplemental Information**

### *Further Detail of the BMP*

#### *Storm Drain Flushing*

Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in storm drainage systems. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as an open channel, another point where flushing will be initiated, or the sanitary sewer and the treatment facilities, thus preventing resuspension and overflow of a portion of the solids during storm events. Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediments. Deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, thereby releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce impacts of stormwater pollution, a second inflatable device placed well downstream may be used to recollect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to recollect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75% for organics and 55-65% for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used or that fire hydrant line flushing coincide with storm sewer flushing.

**References and Resources**

California's Nonpoint Source Program Plan <http://www.swrcb.ca.gov/nps/index.html>

Clark County Storm Water Pollution Control Manual  
<http://www.co.clark.wa.us/pubworks/bmpman.pdf>

Ferguson, B.K. 1991. Urban Stream Reclamation, p. 324-322, Journal of Soil and Water Conservation.

King County Storm Water Pollution Control Manual <http://dnr.metrokc.gov/wlr/dss/spem.htm>

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program <http://www.scvurppp.org>

The Storm Water Managers Resource Center <http://www.stormwatercenter.net>

United States Environmental Protection Agency (USEPA). 2002. Pollution Prevention/Good Housekeeping for Municipal Operations Storm Drain System Cleaning. On line:  
[http://www.epa.gov/npdes/menuofbmps/poll\\_16.htm](http://www.epa.gov/npdes/menuofbmps/poll_16.htm)

## Operation & Maintenance Plans

RECORDING REQUESTED BY AND  
AFTER RECORDATION RETURN TO:

County of Napa  
1195 Third Street, Second Floor  
Napa, CA 94559

Exempt from payment of recording fees  
pursuant to Government Code 27383.

THIS SPACE FOR RECORDER'S USE ONLY

**MAINTENANCE AGREEMENT FOR STORMWATER TREATMENT MEASURES**

**RECITALS**

This Maintenance Agreement for Stormwater Treatment Measures ("Agreement") is entered into this \_\_\_\_ of \_\_\_\_\_, 2015 by and between the County of Napa ("County") and Bouchaine Vineyards, Inc, ("Property Owner"), a property owner of real property described in this Agreement.

**WHEREAS**, On October 14, 2009, the Regional Water Quality Control Board, San Francisco Bay Region, adopted Order R2-2009-0074, the Municipal Regional Stormwater Permit (MRP) (CAS612008); and

**WHEREAS**, Provision C.3.h. of this MRP, and as it may be amended or reissued, requires the permittee public agencies to provide minimum verification and access assurances that all treatment measures shall be adequately operated and maintained by entities responsible for the stormwater treatment measures; and

**WHEREAS**, the Property Owner, Bouchaine Vineyards, Inc, is the owner of real property commonly known as 1075 Buchli Station Road, Napa, CA (the "Property"), and more particularly described in the attached legal description (Exhibit A); and

**WHEREAS**, attached hereto as Exhibit B and Exhibit C are legible reduced-scale copies of the Site Plan and the Bioretention Area Maintenance Plan or comparable documents showing the stormwater treatment measures that have been constructed and are to be maintained on the Property; and

**WHEREAS**, the County is the permittee public agency with jurisdiction over the Property.

**WHEREAS**, the Property Owner recognizes that the stormwater treatment measure(s) more particularly described and shown on Exhibit B, of which full-scale plans and any amendments thereto are on file with the Community Development Department of the County of Napa County must be installed and maintained as indicated in this Agreement and as required by the MRP.

**WHEREAS**, the County and the Property Owner agree that the health, safety and welfare of the citizens of



the County require that the stormwater treatment measure(s) detailed in the Site Plan or comparable document be constructed and maintained on the Property; and

**WHEREAS**, the County's Stormwater Management Ordinance, guidelines, criteria and other written directions require that the stormwater treatment measure(s), as shown on the approved Site Plan or comparable document, be constructed and maintained by the Property Owner

**THEREFORE**, in consideration of the benefit received by the Property Owner as a result of the County's approval of the Site Plan, the Property Owner hereby covenants and agrees with the County as follows:

### **SECTION 1: CONSTRUCTION OF TREATMENT MEASURES**

The on-site stormwater treatment measure(s) shown on the Site Plan or comparable document shall be constructed by the Property Owner in strict accordance with the approved plans and specifications identified for the development and any other requirements thereto which have been approved by the County in conformance with appropriate County ordinances, guidelines, criteria and other written direction.

### **SECTION 2: OPERATION & MAINTENANCE RESPONSIBILITY**

This agreement shall serve as the signed statement by the Property Owner accepting responsibility for operation and maintenance of stormwater treatment measures as set forth in this Agreement until the responsibility is legally transferred to another person or entity. Before the Property is legally transferred to another person or entity, the Property Owner shall provide to the County at least one of the following:

- 1) A signed statement from the public entity assuming post-construction responsibility for treatment measure and that the treatment measures meet all local agency design standards; or
- 2) Written conditions in the sales or lease agreement requiring the buyer or lessee to assume responsibility for operation and maintenance (O&M) consistent with this provision, which conditions, in the case of purchase and sale agreements, shall be written to survive beyond the close of escrow; or
- 3) Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning O&M responsibilities to the home owners association for O&M of the treatment measures; or
- 4) Any other legally enforceable agreement or mechanism that assigns responsibility for the maintenance of treatment measures.

### **SECTION 3: MAINTENANCE OF TREATMENT MEASURES**

The Property Owner shall not destroy or remove the stormwater treatment measures from the Property nor modify the stormwater treatment system in a manner that lessens their effectiveness, and shall, at Property Owner's sole expense, adequately maintain the stormwater treatment measure(s) in good working order acceptable to the County. This includes all pipes, channels or other conveyances built to convey stormwater to the treatment measure(s), as well as all structures, improvements, and vegetation provided to control the quantity and quality of the stormwater. Adequate maintenance is herein defined as maintaining the described facilities in good working condition so that these facilities continue to operate as originally designed and approved. The maintenance plan shall include a detailed description of and schedule for long-term maintenance activities.

### **SECTION 4: SEDIMENT MANAGEMENT**

Sediment accumulation resulting from the normal operation of the stormwater treatment measure(s), if any, will be managed appropriately by the Property Owner. The Property Owner will provide for the removal and disposal of accumulated sediments. Disposal of accumulated sediments shall not occur on the Property, unless provided for in the maintenance plan. Any disposal or removal of accumulated sediments or debris shall be in compliance with all federal, state and local law and regulations.

## **SECTION 5: NECESSARY CHANGES AND MODIFICATIONS**

At its sole expense, the Property Owner shall make changes or modifications to the stormwater treatment measure(s), as may be determined as reasonably necessary by the County to ensure that treatment measures are properly maintained and continue to operate as originally designed and approved.

## **SECTION 6: ACCESS TO THE PROPERTY**

The Property Owner hereby grants permission to the County; the San Francisco Bay Regional Water Quality Control Board (Regional Board); the Napa County Mosquito Abatement District (Mosquito Abatement District); and their authorized agents and employees to enter upon the Property at reasonable times and in a reasonable manner to inspect, assess or observe the stormwater treatment measure(s), in order to ensure that treatment measures are being properly maintained and are continuing to perform in an adequate manner to protect water quality and the public health and safety. This includes the right to enter upon the Property whenever there is a reasonable basis to believe that a violation of this Agreement, the County's stormwater management ordinance, guidelines, criteria, other written direction, or the MRP, and any amendments or reissuances of this permit, is occurring, has occurred or threatens to occur. The above listed agencies also have a right to enter the Property when necessary for abatement of a public nuisance or correction of a violation of the ordinance guideline, criteria or other written direction. The County, Regional Board, or the Mosquito Abatement District shall provide reasonable (as may be appropriate for the particular circumstances) notice to the Property Owner before entering the property.

## **SECTION 7: FAILURE TO MAINTAIN TREATMENT MEASURES**

In the event the Property Owner fails to maintain the stormwater treatment measure(s) as shown on the approved Site Plan or comparable document in good working order acceptable to the County and in accordance with the maintenance plan incorporated in the Agreement, the County shall provide written notice of such failure to the Property Owner, and if the Property Owner does not cure such failure within 30 business days of receipt of the notice, County, and its authorized agents and employees with reasonable notice, may enter the Property and take whatever steps it deems necessary and appropriate to return the treatment measure(s) to good working order. Such notice will not be necessary if emergency conditions require immediate remedial action. This provision shall not be construed to allow the County to erect any structure of a permanent nature on the Property. It is expressly understood and agreed that the County is under no obligation to maintain or repair the treatment measure(s) and in no event shall this Agreement be construed to impose any such obligation on the County.

## **SECTION 8: REIMBURSEMENT OF COUNTY EXPENDITURES**

In the event the County, pursuant to this Agreement, performs work of any nature (direct or indirect), including any reinspections or any actions it deems necessary or appropriate to return the treatment measure(s) in good working order as indicated in Section 7, or expends any funds in the performance of said work for labor, use of equipment, supplies, materials, and the like, the Property Owner shall reimburse the County, or shall forfeit any required bond upon demand within thirty (30) days of receipt thereof for the costs incurred by the County hereunder. If these costs are not paid within the prescribed time period, the County may assess the Property Owner the cost of the work, both direct and indirect, and applicable penalties. Said assessment shall be alien against the Property or may be placed on the property tax bill and collected as ordinary taxes by the County. The actions described in this section are in addition to and not in lieu of any and all legal remedies as provided by law, available to the County as a result of the Property Owner's failure to maintain the treatment measure(s).

## **SECTION 9: INDEMNIFICATION**

The Property Owner shall indemnify, hold harmless and defend the County and its authorized agents, officers, officials and employees from and against any and all claims, demands, suits, damages, liabilities, losses, accidents, casualties, occurrences, claims and payments, including attorney fees claimed or which might arise

or be asserted against the County that are alleged or proven to result or arise from the construction, presence, existence or maintenance of the treatment measure(s) by the Property Owner or the County. In the event a claim is asserted against the County, its authorized agents, officers, officials or employees, the County shall promptly notify the Property Owner and the Property Owner shall defend at its own expense any suit based on such claim. If any judgment or claims against the County, its authorized agents, officers, officials or employees shall be allowed, the Property Owner shall pay for all costs and expenses in connection herewith. This section shall not apply to any claims, demands, suits, damages, liabilities, losses, accidents, casualties, occurrences, claims and payments, including attorney fees claimed which arise due solely to the negligence or willful misconduct of the County.

#### **SECTION 10: NO ADDITIONAL LIABILITY**

It is the intent of this agreement to insure the proper maintenance of the treatment measure(s) by the Property Owner; provided, however, that this Agreement shall not be deemed to create or effect any additional liability not otherwise provided by law of any party for damage alleged to result from or caused by storm water runoff.

#### **SECTION 11: PERFORMANCE FINANCIAL ASSURANCE**

The County may request the Property Owner to provide a performance bond, security or other appropriate financial assurance providing for the maintenance of the stormwater treatment measure(s) pursuant to the County's ordinances, guidelines, criteria or written direction.

#### **SECTION 12: TRANSFER OF PROPERTY**

This Agreement shall run with the title to the land and any portion thereof. The Property Owner further agrees whenever the Property or any portion thereof is held, sold, conveyed or otherwise transferred, it shall be subject to this Agreement which shall apply to, bind and be obligatory to all present and subsequent owners of the Property or any portion thereof.

#### **SECTION 13: SEVERABILITY**

The provisions of this Agreement shall be severable and if any phrase, clause, section, subsection, paragraph, subdivision, sentence or provision is adjudged invalid or unconstitutional by a court of competent jurisdiction, or the applicability to any Property Owner is held invalid, this shall not affect or invalidate the remainder of any phrase, clause, section, subsection, paragraph, subdivision, sentence or provision of this Agreement.

#### **SECTION 14: RECORDATION**

This Agreement shall be recorded by the Property Owner within ten (10) days after the execution date of this Agreement in the County Recorder's Office of the County of Napa, California at the Property Owner's expense. The County reserves the option to record this Agreement.

#### **SECTION 15: RELEASE OF AGREEMENT**

In the event that the County determines that the stormwater treatment measures located on the Property are no longer required, then the County, at the request of the Property Owner shall execute a release of this Maintenance Agreement, which the Property Owner shall record in the County Recorder's Office at the Property Owner's expense. The County reserves the option to record such release of this Maintenance Agreement. The stormwater treatment measure(s) shall not be removed from the Property unless such a release is so executed and recorded.

**SECTION 16: EFFECTIVE DATE AND MODIFICATION**

This Agreement is effective upon the date of execution as stated at the beginning of this Agreement. This Agreement shall not be modified except by written instrument executed by the County and the Property -Owner at the time of modification. Such modifications shall be effective upon the date of execution and shall be recorded.

County of Napa

By: \_\_\_\_\_ Date \_\_\_\_\_

Bouchaine Vineyards, Inc

By: \_\_\_\_\_ Date \_\_\_\_\_  
[Name]  
[Title]

STATE OF CALIFORNIA )  
 )  
COUNTY OF \_ ) SS.

ON \_\_\_\_\_ BEFORE ME, \_\_\_\_\_,  
A NOTARY PUBLIC, PERSONALLY APPEARED  
\_\_\_\_\_, WHO PROVED TO ME ON THE BASIS OF  
SATISFACTORY EVIDENCE TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE  
SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT  
HE/SHE/THEY EXECUTED THE SAME IN HIS/HER/THEIR AUTHORIZED  
CAPACOUNTY(IES), AND THAT BY HIS/HER/THEIR SIGNATURE(S) ON THE  
INSTRUMENT THE PERSON(S), OR THE ENTITY UPON BEHALF OF WHICH THE  
PERSON(S) ACTED, EXECUTED THE INSTRUMENT.

I CERTIFY UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF  
CALIFORNIA THAT THE FOREGOING PARAGRAPH IS TRUE AND CORRECT.

WITNESS MY HAND AND OFFICIAL SEAL.

\_\_\_\_\_  
Signature of Notary

(THIS SPACE FOR NOTARY SEAL)

STATE OF CALIFORNIA )  
 ) SS.  
COUNTY OF \_ )

ON \_\_\_\_\_ BEFORE ME, \_\_\_\_\_,  
A NOTARY PUBLIC, PERSONALLY APPEARED  
\_\_\_\_\_, WHO PROVED TO ME ON THE BASIS OF  
SATISFACTORY EVIDENCE TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE  
SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT  
HE/SHE/THEY EXECUTED THE SAME IN HIS/HER/THEIR AUTHORIZED  
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WITNESS MY HAND AND OFFICIAL SEAL.

\_\_\_\_\_  
Signature of Notary

(THIS SPACE FOR NOTARY SEAL)

**Exhibit A**

**Legal Description**

The Land referred to herein is situated in the State of California, County of Napa County, described as follows:

**Exhibit B**

**Reduced Copy of Plan**

**See copy attached**



Exhibit C

Bioretention Area<sup>1</sup> Maintenance Plan for  
Bouchaine Vineyards, Inc.

June 21, 2015



Project Address and Cross Streets: \_\_\_\_\_

1075 Buchli Station Road, Napa County, CA

Assessor's Parcel No.: 047-320-031

Property Owner: Bouchaine Vineyards, Inc

Designated Contact: Michael Cook

Phone No.: (707) 792-1800

Mailing Address: \_\_\_\_\_

1425 N. McDowell Blvd, Suite 130, Petaluma, CA 94954

*Bioretention areas function as soil and plant-based filtration devices that remove pollutants through a variety of physical, biological, and chemical treatment processes. These facilities normally consist of a grass buffer strip, sand bed, ponding area, organic layer or mulch layer, planting soil, and plants.*

The property contains two (2) bioretention area(s), located as described below and as shown in the attached site plan<sup>2</sup>.

**I. Routine Maintenance Activities**

The principal maintenance objective is to prevent sediment buildup and clogging, which reduces pollutant removal efficiency and may lead to bioretention area failure. Routine maintenance activities, and the frequency at which they will be conducted, are shown in Table 1.

No.	Maintenance Task	Frequency of Task
1	Remove obstructions, debris and trash from bioretention area and dispose of properly.	Monthly, or as needed after storm events
2	Inspect bioretention area to ensure that it drains between storms and within five days after rainfall.	Monthly, or as needed after storm events
3	Inspect inlets for channels, soil exposure or other evidence of erosion. Clear obstructions and remove sediment.	Monthly, or as needed after storm events
4	Remove and replace all dead and diseased vegetation.	Twice a year

<sup>1</sup> Bioretention areas include linear treatment measures designed to filter water through biotreatment soils. A bioretention area that has no waterproof liner beneath it and has a raised underdrain in the underlying rock layer to promote infiltration, as shown in Section 6.1 of the C.3 Technical Guidance, may also be called a "bioinfiltration area".

<sup>2</sup> Attached site plan must match the site plan exhibit to Maintenance Agreement.

Table 1 Routine Maintenance Activities for Bioretention Areas		
5	Maintain vegetation and the irrigation system. Prune and weed to keep bioretention area neat and orderly in appearance.	Before wet season begins, or as needed
6	Check that mulch is at appropriate depth (3 inches per soil specifications) and replenish as necessary before wet season begins.	Monthly
7	Inspect bioretention area using the attached inspection checklist.	Monthly, or after large storm events, and after removal of accumulated debris or material

**II. Prohibitions**

The use of pesticides and quick release fertilizers shall be minimized, and the principles of integrated pest management (IPM) followed:

1. Employ non-chemical controls (biological, physical and cultural controls) before using chemicals to treat a pest problem.
2. Prune plants properly and at the appropriate time of year.
3. Provide adequate irrigation for landscape plants. Do not over water.
4. Limit fertilizer use unless soil testing indicates a deficiency. Slow-release or organic fertilizer is preferable. Check with municipality for specific requirements.
5. Pest control should avoid harming non-target organisms, or negatively affecting air and water quality and public health. Apply chemical controls only when monitoring indicates that preventative and non-chemical methods are not keeping pests below acceptable levels. When pesticides are required, apply the least toxic and the least persistent pesticide that will provide adequate pest control. Do not apply pesticides on a prescheduled basis.
6. Sweep up spilled fertilizer and pesticides. Do not wash away or bury such spills.
7. Do not over apply pesticide. Spray only where the infestation exists. Follow the manufacturer's instructions for mixing and applying materials.
8. Only licensed, trained pesticide applicators shall apply pesticides.
9. Apply pesticides at the appropriate time to maximize their effectiveness and minimize the likelihood of discharging pesticides into runoff. With the exception of pre-emergent pesticides, avoid application if rain is expected.
10. Unwanted/unused pesticides shall be disposed as hazardous waste.

Standing water shall not remain in the treatment measures for more than five days, to prevent mosquito generation. Should any mosquito issues arise, contact the Napa County Mosquito Abatement District, as needed for assistance. Mosquito larvicides shall be applied only when absolutely necessary, as indicated by the District, and then only by a licensed professional or contractor. Contact information for District is provided below.

**III. Mosquito Abatement Contact Information**

Napa County Mosquito Abatement District 1351

Bioretention Area Maintenance Plan  
Property Address: \_\_\_\_\_

Date of Inspection: \_\_\_\_\_  
Treatment Measure No.: \_\_\_\_\_

**IV. Inspections**

The attached Bioretention Area Inspection and Maintenance Checklist shall be used to conduct inspections monthly (or as needed), identify needed maintenance, and record maintenance that is conducted. These checklists shall be submitted to the Public Works Director, with a copy to the Community Development Director, County of Napa County, 610 Napa County Blvd., Napa County, CA 94404 for review.

Bioretention Area Maintenance Plan  
Property Address: \_\_\_\_\_

Date of Inspection: \_\_\_\_\_  
Treatment Measure No.: \_\_\_\_\_

**Attachment: Site Plan Showing Bioretention Areas**

See Grading Plan Sheet, reduced scale attached here:

## Bioretention Area Inspection and Maintenance Checklist

Property Address: \_\_\_\_\_ Date of Inspection: \_\_\_\_\_ Property Owner: \_\_\_\_\_

Treatment Measure No.: \_\_\_\_\_ Type of Inspection:  Monthly  Pre-Wet Season  
 After heavy runoff  End of Wet Season  
 Other: \_\_\_\_\_

Inspector(s):	Defect	Conditions When Maintenance Is Needed	Maintenance Needed? (Y/N)	Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)	Results Expected When Maintenance Is Performed
	1. Standing Water	When water stands in the bioretention area between storms and does not drain within five days after rainfall.			There should be no areas of standing water once inflow has ceased. Any of the following may apply: sediment or trash blockages removed, improved grade from head to foot of bioretention area, or added underdrains.
	2. Trash and Debris Accumulation	Trash and debris accumulated in the bioretention area.			Trash and debris removed from bioretention area and disposed of properly.
	3. Sediment	Evidence of sedimentation in bioretention area.			Material removed so that there is no clogging or blockage. Material is disposed of properly.
	4. Erosion	Channels have formed around inlets, there are areas of bare soil, and/or other evidence of erosion.			Obstructions and sediment removed so that water flows freely and disperses over a wide area. Obstructions and sediment are disposed of properly.
	5. Vegetation	Vegetation is dead, diseased and/or overgrown.			Vegetation is healthy and attractive in appearance.
	6. Mulch	Mulch is missing or patchy in appearance. Areas of bare earth are exposed, or mulch layer is less than 3 inches in depth.			All bare earth is covered, except mulch is kept 6 inches away from trunks of trees and shrubs. Mulch is even in appearance, at a depth of 3 inches.
	7. Miscellaneous	Any condition not covered above that needs attention in order for the bioretention area to function as designed.			Meet the design specifications.

