

Standard Specification **VERSION B: FOR GROUND DISTURBING ACTIVITIES LESS THAN ONE ACRE**

This section is required for any project that has exterior work that would disturb soil, i.e., grading, excavation, trenching, etc.

Required forms follow this section - Exhibit 34

SECTION 01 57 23 STORM WATER POLLUTION PREVENTION

PART 1 - GENERAL

1.1 APPLICABILITY

- A. Construction projects resulting in land disturbance of less than one acre: Contractor shall comply with the Small Municipal Separate Storm Sewer System (MS4) General Permit, Waste Discharge Requirements Order No. 2013-0001-DWQ NPDES Permit No. CAS 000004 by submitting an Erosion Control Plan in accordance with this section.

1.2 SCOPE

- A. Discharge of pollutants (any substance, material, or waste other than clear, uncontaminated storm water) from the project into the storm drain system is strictly prohibited by the Central Valley Regional Water Quality Control Board's (RWQCB) Water Quality Control Plan (Basin Plan).
- B. Provide all material, labor, equipment for installation, implementation, and maintenance of all surface-water pollution prevention measures. This work includes the following:
1. Provide, place, and install effective measures for preventing runoff of soil, silts, gravel, hazardous chemicals or other materials prohibited by the Central Valley RWQCB from entering the storm water drainage system.
 2. Management of on-site construction materials in such a manner as to prevent said materials from contacting storm water or wash water and running off into the storm drain system.
 3. Complying with applicable standards and regulations specified herein.
 4. Maintain the most current revised Erosion Control Plan at the Contractor's work site in hard copy. An electronic copy of the original and each revision shall be forwarded to the University's Representative.
 5. Review any changes in the Erosion Control Plan each week at the weekly meetings with University's Representative and others. At each weekly meeting, the Contractor shall submit a numbered checklist of the current status of each identified corrective action measure on the job site.
 6. Installation of Post-Construction Best Management Practices (BMPs) in accordance with California Stormwater Quality Association's (CASQA's) *New Development and Redevelopment Stormwater Best Management Practice Handbook* and *Municipal Stormwater Best Management Practice Handbook*.
- C. In this section, the term "storm drain system" shall include storm water conduits, storm drain inlets and other storm drain structures, street gutters, channels, ditches, and the Arboretum waterway.
- D. Sanitary sewer discharge regulations are intended to provide protection of the sanitary sewer system and the campus Waste Water Treatment Plant (WWTP). In this section, "sanitary sewer" shall include any sanitary sewer manhole, clean out, sewer laterals or other connection to the WWTP.
- E. Contractor shall have storm water pollution prevention measures in place and conduct inspections year-round. It is the responsibility of the Contractor to be prepared for a rain event in the non-rainy season, and to be aware of weather predictions. The University is not responsible for informing the Contractor of rain predictions.
- F. Sanitary sewer blockages can result in a back-up and discharge to the storm drain system. Contractor shall immediately notify the University's Representative if they become aware of a clogged sanitary sewer associated with the project.

- G. Contractor shall not allow any non-storm water from the project to enter the storm drain system. Examples of non-storm water include water used for dust suppression, pipe flushing and testing, and domestic supply water used to wash streets, painting and drywall equipment, vehicles, or other uses. Contractor shall immediately notify the University's Representative if they become aware of non-storm water entering the storm drain system.
- H. Water resulting from de-watering an excavation may be discharged to a storm drain only if it is free of pollutants, including sediment. Contractor shall use methods such as a settling basin or filter to ensure that dewatering discharges are free of pollutants.
- I. All permanent structural and nonstructural control measures that are planned for the project to control pollutants in storm water discharges after construction is completed shall be delineated on a post-construction BMP Map. In this section "post-construction BMPs" shall include features designed to minimize pollutant discharges to the storm drain system such as bioswales, rain gardens, bioretention basins, and permeable pavement. Contractor shall provide operation and maintenance manuals for post-construction storm water management controls installed as part of this project.

1.3 REGULATIONS AND STANDARDS

- A. Contractor shall comply with the following applicable regulations:
 - 1. Clean Water Act, United States Environmental Protection Agency, and Porter-Cologne Water Quality Control Act, State of California.
 - 2. Central Valley Basin (Region 5) Water Quality Control Plan (Basin Plan), California Regional Water Quality Control Board, 1998 Edition including revisions.
 - 3. Small Municipal Separate Storm Sewer System (MS4) General Permit, Waste Discharge Requirements Order No. 2013-0001-DWQ NPDES Permit No. CAS 000004. WDID # 5S57M200002 (Phase II MS4 Permit)
- B. Contractor shall comply with the following standards and guidelines on storm water pollution prevention:
 - 1. California Stormwater Quality Association (CASQA) - Construction BMP Handbook Portal. This document is available for a fee from the CASQA website at <http://www.casqa.org/>

1.4 QUALITY ASSURANCE

- A. The Erosion Control Plan shall be prepared utilizing the UC Davis template, included as Exhibit 34, and shall be approved by the UC Davis Office of Environmental Health & Safety (EH&S) representative.

1.5 SUBMITTALS

- A. Submittals shall comply with requirements specified in Section 01 33 23 Shop Drawings, Product Data and Samples. The Erosion Control Plan shall be submitted to the University's Representative 7 days prior to groundbreaking to allow for review and acceptance by UC Davis EH&S. No sitework may occur prior to review and approval of the submittals by EH&S.
- B. Contractor shall amend the Erosion Control Plan whenever there is a change in construction or operations that may affect the discharge of pollutants to surface waters.

1.6 TRAINING REQUIREMENTS

- A. The Contractor shall train its employees working on the project on the requirements contained in this Section. The Contractors shall document this training in writing.

PART 2 - PRODUCTS

2.1 MATERIAL

- A. General: Provide materials as required for execution of the work.

PART 3 - EXECUTION

3.1 GENERAL

The Contractor shall ensure that the Erosion Control Plan is current. The Erosion Control Plan shall list all implemented BMPs. The Contractor shall revise the Erosion Control Plan if the University's Representative or a RWQCB representative determines that the BMPs are not effective at meeting the applicable regulations and the scope of this section.

- A. The Contractor shall be responsible for the implementation of the Erosion Control Plan until the site has been re-stabilized. All BMPs shall be implemented in accordance with *CASQA's Construction Best Management Practice Handbook*.
- B. Installation and design of all post-construction BMPs shall be in accordance with *CASQA's New Development and Redevelopment Stormwater Best Management Practice Handbook* and *Municipal Stormwater Best Management Practice Handbook* and all local post-construction storm water management requirements.
- C. Retention of Records - Contractor shall provide copies of all storm water documents to the University's representative at project completion.

3.2 ENVIRONMENTAL ENFORCEMENT

- A. The Central Valley RWQCB has authority to enforce, through codified regulations, any portions of this Section that may violate applicable regulations. Agency enforcement may include but is not limited to: citations, orders to abate, bills for cleanup costs and administration, civil suits, and criminal charges. Contract compliance action by the University shall not be construed to void or suspend any enforcement actions by these or other regulatory agencies.
- B. Contractor shall notify the University's Representative within 24 hours after issuance of any citation(s) issued by any regulatory agency and shall be responsible for all fines and costs necessary to correct the conditions listed in the citation(s) to include all legal fees and University expenses.

END OF SECTION 01 57 23B

EXHIBIT 34
EROSION CONTROL PLAN

To Comply with the terms of the MS4 General Permit	
(Construction activity that disturbs less than one acre of land surface)	
CONTRACTOR INFORMATION	
Contractor:	Contact Person:
Mailing Address:	Title:
City:	Phone:
State:	Zip:
Emergency Phone:	Email:
PROJECT INFORMATION	
DCM PM:	Phone:
DCM IOR:	Phone:
EH&S Storm Water Contact:	Phone:
Project Physical Address:	
Total size of construction site: (Acres)	Total area to be disturbed: (% of total)
Imperviousness Pre-Construction (sq ft):	Imperviousness Post-Construction (sq ft):
Construction commencement date:	Construction completion date:
EROSION CONTROL PLAN REQUIREMENTS	
<input type="checkbox"/>	All required Best Management Practices checked below will be fully implemented.
<input type="checkbox"/>	Site Map: - Include storm water drainage patterns, areas of proposed disturbed soil, areas of existing vegetation, areas of existing impervious surface, drain inlets, material storage areas, and proposed BMP locations for each construction phase
<input type="checkbox"/>	Post-Construction BMP Site Map: - Include drainage management areas, final impervious surface, vegetated areas, and all post-construction BMPs for the final project design
<input type="checkbox"/>	The Erosion Control Plan will be overseen by:
	Name: _____ Company: _____
CONTRACTOR CERTIFICATION:	
<i>"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations. In addition, I certify that the provisions of the permit, including the development and implementation of an Erosion Control Plan will be complied with."</i>	
Name:	Title:
Signature:	Date:
UNIVERSITY'S REPRESENTATIVE:	
Name:	Title:
Signature:	Date:

REQUIRED MINIMUM BEST MANAGEMENT PRACTICES (BMPs) <i>Provide rationale for any minimum BMP which is not implemented</i>	
<i>Construction Siting and Phasing</i>	
	Identify all storm drains, drainage swales and creeks located near the construction site and make sure all subcontractors are aware of their locations to prevent pollutants from entering them.
	Preserve existing vegetation, where required and when feasible, to the maximum extent practicable.
	Phase grading operations, to the extent possible, to limit areas of disturbance and time of exposure
	Avoid and/or minimize impacts of excavation and grading during wet weather and immediately preceding expected wet weather.
<i>Erosion and Sediment Control</i>	
	Implement measures to minimize erosion, manage storm water runoff, and prevent pollutants from construction activities from entering storm drains. Identify planned BMPs in the following section.
<i>Non-Storm Water Management</i>	
	Spills and illicit discharges shall be immediately reported to The University's Representative and UC Davis's Inspector of Record.
	When stripping or cleaning building exteriors with high-pressure water, cover or berm storm drain inlets. Collect (mop or vacuum) building cleaning water for disposal in a pre-authorized manner.
	When making saw-cuts in pavement, use as little water as possible. Cover potentially affected storm drain inlets completely with filter fabric during the sawing operation and contain the slurry by wet vacuuming, or by placing straw bales, sandbags, or gravel dams around the catch basins. After the liquid drains or evaporates, shovel or vacuum the slurry residue from the pavement or gutter and remove from site.
<i>Housekeeping</i>	
	Before it rains, sweep and remove materials from surfaces that drain to storm drains, creeks, or channels.
<i>Training</i>	
	Train your employees and inform contractors and subcontractors about storm water management requirements. Retain training sign-in sheets.

SELECTED BEST MANAGEMENT PRACTICES		
Check if Used	EROSION CONTROL MEASURES	CASQA BMP No.
	Hydroseeding	EC-4
	Soil Binder	EC-5
	Straw Mulch	EC-6
	Geotextiles/Mats	EC-7
	Wood Mulching	EC-8
	Earth Dikes/Drainage Swales	EC-9
	Velocity Dissipation Device	EC-10
	Streambank Stabilization	EC-12
	Compost Blankets	EC-14
	Soil Preparation/Roughening	EC-15
	Non-Vegetative Stabilization	EC-16
Check if Used	SEDIMENT CONTROL MEASURES	CASQA BMP No.
	Silt Fence	SE-1
	Sediment Basin	SE-2
	Sediment Trap	SE-3
	Check Dam	SE-4
	Fiber Rolls	SE-5
	Gravel Bag Berm	SE-6
R	Street Sweeping and Vacuuming	SE-7
	Sandbag Barrier	SE-8
	Straw Bale Barrier	SE-9
R	Storm Drain Inlet Protection	SE-10
	Temporary Silt Dikes	SE-12
	Compost Socks and Berms	SE-13
	Biofilter Bags	SE-14
Check if Used	TRACKING CONTROL MEASURES	CASQA BMP No.
	Stabilized Construction Entrance/Exit	TC-1
	Stabilized Construction Roadway	TC-2
	Entrance/Outlet Tire Wash	TC-3

R – Required Best Management Practice

All designs shall be in accordance with CASQA’s Stormwater BMP Handbook, Construction.

Check if Used	NON-STORM WATER MANAGEMENT BMPS	CASQA BMP No.
	Water Conservation Practices	NS-1
	Dewatering Operations	NS-2
	Paving and Grinding Operations	NS-3
	Clear Water Diversion	NS-5
	Illicit Connection/Discharge	NS-6
	Potable Water/Irrigation	NS-7
R	Vehicle and Equipment Cleaning	NS-8
R	Vehicle and Equipment Fueling	NS-9
R	Vehicle and Equipment Maintenance	NS-10
	Pile Driving Operations	NS-11
	Concrete Curing	NS-12
	Concrete Finishing	NS-13
R	Material and Equipment Use	NS-14
	Demolition Adjacent to Water	NS-15
	Temporary Batch Plant	NS-16
Check if Used	Materials Management	CASQA BMP No.
R	Material Delivery and Storage	WM-1
R	Material Use	WM-2
R	Stockpile Management	WM-3
R	Spill Prevention and Control	WM-4
R	Solid Waste Management	WM-5
	Hazardous Waste Management	WM-6
	Contaminated Soil Management	WM-7
	Concrete Waste Management	WM-8
	Sanitary/Septic Waste Management	WM-9
	Liquid Waste Management	WM-10

R – Required Best Management Practice

All designs shall be in accordance with CASQA's Construction Stormwater BMP Handbook. Attach the CASQA specifications for each BMP to this Erosion Control Plan, which are available at www.casqa.org.

LOW IMPACT DEVELOPMENT (LID)			
One of more of the following LID measures are required for projects creating or replacing 2,500 sq. ft. of impervious surface. Check which LID measures will be implemented:			
Check if Used	LID Measure	Description	
	Stream Setbacks and Buffer	Not applicable at UC Davis unless construction is being implemented adjacent to Putah Creek.	
	Soil Quality Improvement and Maintenance	New Landscaped Area (ft ²)	
		Average Depth of landscaped soil media (in)	
		Average Bulk Density of added soil media	
	Tree Planting and Preservation	Number of Proposed Deciduous Trees	
		Number of Proposed Evergreen Trees	
	Rooftop Disconnection	Rooftop Surface Area with Disconnected Downspouts (ft ²)	
		Is the roof runoff from disconnected downspouts fully contained in a landscaped area?	
	Impervious Area Disconnection	Impervious area draining to landscaped area (ft ²)	
		Capacity of landscaped area (ft ³)	
	Porous Pavement	Type of Porous Pavement	
		Base Depth and Type	
	Green Roofs	Describe:	
	Vegetated Swales	Acreage of contributing impervious area:	
		Design Capacity:	
	Rain Barrels and Cisterns	Total Capacity (gallons)	

PROJECT TITLE
CONTRACT TITLE
UNIVERSITY OF CALIFORNIA, DAVIS
CITY, CALIFORNIA

PROJECT NO: 0000000

	Other Techniques:	
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All designs shall be in accordance with CASQA's Stormwater BMP Handbook, New Development and Redevelopment.

PROJECT TITLE
 CONTRACT TITLE
 UNIVERSITY OF CALIFORNIA, DAVIS
 CITY, CALIFORNIA

PROJECT NO: 0000000

POST-CONSTRUCTION BMPS		
For projects creating or replacing more than 5,000 sq ft of impervious surface, fill out this section and provide basis of calculations.		
	Increase in runoff volume from a 24-hour 85 th Percentile Storm Event due to installation of impervious surface (cubic feet)	
	<i>For the UCD campus, the 24-hour 85th Percentile Storm Event based on the Davis 2 WSW Exp Farm Rain Gauge is 0.65 inches.</i>	
	Runoff Addressed from LID measures (cubic feet)	
	Remaining Runoff (cubic feet)	
	Capacity of Retention Basins	<i>Attach design of retention basins</i>
	Design basis for Retention Basins (Check One)	Flow Based
		Volume Based

All designs shall be in accordance with CASQA's Stormwater BMP Handbook, New Development and Redevelopment.