STORM WATER POLLUTION PREVENTION
SOURCE CONTROL BEST MANAGEMENT
PRACTICES HANDBOOK

UNIVERSITY OF CALIFORNIA
SAN DIEGO

UPDAtED 2018
THE PURPOSE OF THIS HANDBOOK IS TO DOCUMENT THE NON-STRUCTURAL SOURCE CONTROL BEST MANAGEMENT PRACTICES TO BE IMPLEMENTED AT THE UNIVERSITY OF CALIFORNIA, SAN DIEGO (UC SAN DIEGO). THE MATERIALS CONTAINED IN THIS HANDBOOK ARE INTENDED FOR USE BY UC SAN DIEGO FACILITIES MAINTENANCE, CUSTODIAL, AND GROUNDS AND LANDSCAPING STAFF, AS WELL AS FACULTY, SCIENTISTS, STUDENTS AND OUTSIDE CONTRACTORS WHO CONDUCT ACTIVITIES THAT CAN POTENTIALLY POLLUTE STORM WATER DISCHARGING FROM UC SAN DIEGO. THE PRACTICES DESCRIBED IN THIS HANDBOOK ARE APPLICABLE TO: OUTDOOR WORK AND STORAGE AREA MANAGEMENT; VEHICLE, EQUIPMENT, AND BOAT MANAGEMENT; MATERIAL AND WASTE MANAGEMENT; AND FACILITIES AND GROUNDS MANAGEMENT.
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# BMP A01: Housekeeping

## Pollutants of Concern:
- Sediment
- Trash & Debris
- Metals
- Equipment Fluids
- Oil & Grease
- Bacteria
- Non-Storm Water Discharge (NSWD)
- Vehicle Fluids

## Purpose:
To prevent or reduce the discharge of pollutants from outdoor work and storage areas from going into storm drains

## Application:
Outdoor work and material and equipment storage areas

## Practices:
1. Keep outdoor work and storage areas clean and orderly
2. Use dry cleaning methods (e.g., sweeping or vacuuming) to remove all loose debris (e.g., metal or wood shavings), discarded materials, sediment, rags, etc.
3. Use absorbent materials to clean up spilled oil or other liquid chemicals and place used absorbents in a properly labeled container for pick up by EH&S. Fax or email collection request to (858) 534-9708 or hazwaste@ucsd.edu.
4. Do not store machinery, equipment, or vehicles over storm drains
5. Store equipment with exposed oily/greasy parts or other potential pollutants (e.g., metals) in a covered area or on pallets or in bins and under plastic sheeting/tarps to prevent contact with rainwater
6. Prevent surface flow from contacting raw materials, equipment, or machinery by storing them on pallets or blocks, or by surrounding the objects with berms
7. Cover/protect storm drain inlets from outdoor work activities as needed
8. Keep outdoor trash cans/bins closed
9. If water is used to clean, do not allow wash water to get into storm drains. Review outdoor washing BMP for appropriate wash water disposal options.

## Frequency & Maintenance:
1. Sweep or vacuum outdoor work and storage areas where pollutants have accumulated weekly during the wet season (October through May)
2. Using street sweeper, clean asphalt covered parking lots and streets weekly

## Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the "Annual Shop & Studio Environmental Compliance & Hazards Training" which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

## Additional Information:
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
# BMP A02: Spill Prevention, Control & Cleanup

## Pollutants of Concern:
- Oil & Grease
- Equipment Fluids
- Vehicle Fluids
- Non-Storm Water Discharges (NSWDs)
- Hazardous Materials

## Purpose:
To prevent or reduce the discharge of pollutants from spills into storm drains

## Application:
Outdoor material storage areas, outdoor maintenance/work areas, and fueling areas

## Practices:
1. Locate chemical and/or hazardous materials storage and handling areas away from storm drains and natural watercourses.
2. All containers of hazardous materials and waste must be kept closed when not in use, stored with secondary containment, and stored under cover to prevent exposure to rain water.
3. Store and maintain appropriate spill cleanup materials in a location known to all personnel
4. **Spill Response:**
   1. Safety first! Review the Safety Data Sheet (SDS) for information regarding proper personal protective equipment, appropriate spill cleanup materials, and proper disposal of used cleanup materials (e.g., absorbents and rags)
   2. Try to stop or control the release at the source
   3. Use appropriate materials in spill kit to block the flow and prevent the release from discharging into a storm drain
      a. Sweep dry spills -- do not wash or hose
      b. Absorb wet spills on concrete or asphalt. If used cleanup materials are hazardous, collect and dispose of through EH&S. Fax or email collection request to: (858) 534-9708 or hazwaste@ucsd.edu
      c. Do NOT leave used absorbent (e.g., dry sweep) on the ground
      d. Dig up wet spills on soil, including all exposed soils. Properly dispose of the soil through EH&S (see above)
   5. EH&S can provide cleanup assistance for large spills and the disposal of contaminated materials. Contact EH&S immediately if a spill enters a storm drain: (858) 534-3660

## Frequency & Maintenance:
1. Visually inspect material use and storage areas for spills and to verify containers are in good condition on a regular basis.
2. Inspect spill kit provisions on a regular basis and replace as needed.
3. Maintain equipment to prevent leaks and spills

## Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; SDSs; and hazardous materials and waste management.

## Additional Information:
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
BMP A03: Marine Activities

Pollutants of Concern:
- Paint
- Metals
- Bacteria
- Oil & Grease
- Vehicle/Boat Fluids
- Non-Storm Water Discharges (NSWDs)

Purpose: To prevent or reduce the discharge of pollutants from over-the-water activities from going into the ocean

Application: Marine activities conducted over the water

Practices:

**Boat and Pier Maintenance**
1. Perform maintenance and repair activities in a designated area on-shore when possible to reduce the potential for direct pollution to water bodies. Use non-toxic materials/chemicals for maintenance when possible.
2. Provide tarps or solid covers for work areas and shroud any sandblasting and spray painting activities to prevent dust and overspray from escaping. This may include a plywood barrier and/or tarps, shrink-wrap, or plastic sheeting to help prevent fugitive material from entering surface waters.
3. Use secondary containment on paint cans, do not mix paint over the water, and perform painting activities in a manner consistent with BMP D05.
4. Store boats with exposed oily components or other potential pollutant sources off of the ground (e.g., on racks, etc.) and under cover to prevent contact with storm water.
5. Vacuum or sweep up loose paint chips, paint dust, abrasive blast material, and metal shavings, etc., from outdoor work areas and properly dispose of it.
6. Notify EH&S immediately at (858) 534-3660 if there is a spill/release into the ocean.
7. Provide regular training to employees and/or contractors regarding storm water pollution prevention for over water activities.

**Boat Washing/Cleaning**
1. Perform boat washing and cleaning activities in a designated wash station at SIO. There are six outdoor wash stations at SIO (base of Pier, Hydraulics Lab, Keck, MESOM, Seaweed Canyon, and Birch Aquarium at Scripps). These stations discharge to the sanitary sewer system.
2. Do not wash or use wash station during rain or when the red light on the wash station control panel is on.
3. Sweep sand/marine debris that collects on wash station pad and dispose of in trash.
### Pier, Deck, and Floor Washing/Cleaning

1. Do NOT dump or sweep debris and wastes into outdoor drains, between planking, or over the side of the pier.
2. Repair or replace leaking connections, valves, pipes, hoses, and equipment that come into contact with storm water.
3. Collect discharge water from pressure washing and properly dispose of in accordance with BMP B01.

### Marine Equipment/Instrument Cleaning

1. Perform marine equipment and instrument washing and cleaning activities in a designated wash station at SIO. There are six outdoor wash stations at SIO (base of Pier, Hydraulics Lab, Keck, MESOM, Seaweed Canyon, and Birch Aquarium at Scripps). These stations discharge to the sanitary sewer system, not the storm drain. Do NOT wash during rain.
2. Do not wash or use wash station during rain or when the red light on the wash station control panel is on.
3. Sweep sand/marine debris that collects on wash station pad and dispose of in trash.

### Fueling Operations

1. Fueling of equipment and boats is to be conducted in a manner consistent with BMP B02 Fueling Operations.

### Marine Life Handling

1. DO NOT dump or sweep fish waste into outdoor drains or over the side of the pier. Bag and dispose of in a solid waste dumpster.
2. Dispose of unwanted bait properly or freeze and use on the next trip.

### Sewage and Bilge Water (Refer to the Storm Water Management Plan for the Nimitz Marine Facility)

**Frequency & Maintenance:**

1. Monitor over water activities to ensure pollutants are not being discharged into the water.
2. Keep outdoor work areas clean. Use dry cleaning methods (e.g., sweeping, vacuuming) to collect loose materials. Do NOT hose down the area to the ocean or to a storm drain inlet. Perform housekeeping in accordance with BMP A01.
3. Maintain spill response material (e.g., spill kit) in a location that is easy to access and is known to personnel. Inspect spill kit provisions on a regular basis and replace as needed.

**Training:**

Maintenance, shops, trades, and SIO staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the "Annual Shop & Studio Environmental Compliance & Hazards Training" which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

**Additional Information:**

UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
**BMP A04: Loading Dock Management**

**Pollutants of Concern:**
- Trash & Debris
- Hazardous Materials
- Non-Storm Water Discharges (NSWDs)
- Oil & Grease
- Vehicle Fluids
- Equipment Fluids

**Purpose:**
To prevent or reduce the discharge of pollutants to storm water from outdoor loading/unloading of materials.

**Application:**
Material loading/unloading activities and loading dock area management.

**Practices:**
1. Keep loading dock areas clean and clean up spills promptly.
2. Train employees on proper spill response procedures in accordance with BMP A02.
3. Prevent wash water or other non-storm water discharges from going into storm drains in the loading dock area (See BMP D06).
4. Regularly inspect equipment for leaks and place drip pans under leaking equipment.
5. Load/unload only at designated loading areas.
6. Limit the exposure of materials with a potential to contaminate storm water. Store outdoor materials with the potential to contribute pollutants to storm water runoff under cover and off the ground (e.g., on pallets) to prevent exposure to storm water runoff.
7. Do not store dumpsters over storm drains.
8. Avoid loading and unloading during wet weather, whenever possible.
9. Design new loading docks to include a covered and bermed enclosure for trash and recycling dumpsters.

**Frequency & Maintenance:**
1. Regularly inspect equipment for leaks and needed repairs. Repair or replace leaking components as needed.
2. Dry sweep the loading dock area regularly.
3. Maintain spill response material (e.g., spill kit) in a location that is easy to access and is known to personnel. Inspect spill kit provisions on a regular basis and replace as needed.
4. Schedule trash/recycling collections frequently enough to prevent dumpsters from overfilling.

**Training:**
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

**Additional Information:**
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
# BMP B01: Outdoor Washing / Cleaning

### Pollutants of Concern:
- Trash & Debris
- Oil & Grease
- Non-Storm Water Discharge (NSWD)
- Residual Chlorine
- Sediment
- Vehicle Fluids
- Equipment Fluids
- Bacteria

### Purpose:
To prevent the discharge of wash water from going into storm drains.

### Application:
Outdoor equipment, vehicle, and boat washing areas.

### Practices:
1. Do NOT perform outdoor washing or cleaning when it is raining!
2. Do NOT discharge wash water or cleaning products into a storm drain.
3. Cover/protect storm drain inlets from outdoor washing activities as needed.
4. Collect wash water for proper disposal to one of the following:
   a. The sanitary sewer system (e.g., indoor drain) if the wash water does not contain any grease, oil, hazardous chemicals/materials or sediment/sludge;
   b. If wash water does not contain cleaning chemicals or other pollutants, it may be discharged to a landscaped area where it can infiltrate into the ground if there are no storm drain inlets nearby; or
   c. Collect and dispose of wash water through EH&S if it contains grease, oil, solids, sludge, floatable debris, or a hazardous chemical. Store wash water in a container labeled “wash water” for pick up by EH&S. Fax or email collection request to (858) 534-9708 or hazwaste@ucsd.edu.
5. Wash University vehicles at the car wash located at the Campus Services Complex.
6. Perform outdoor equipment washing in areas designed to collect and hold the wash and rinse water generated or at one of the designated outdoor wash stations at the following locations: Grounds and Landscaping at the Campus Services Complex, Theater District, Birch Aquarium at Scripps, Seaweed Canyon at SIO, Keck, Hydraulics Lab at SIO, MESOM, and base of Scripps Pier. These discharge to the sanitary sewer system.
7. Perform boat washing and cleaning activities in one of six designated wash stations at SIO (base of Pier, Hydraulics Lab, Keck, MESOM, Seaweed Canyon, and Birch Aquarium at Scripps). These stations discharge to the sanitary sewer system.
8. Train employees on proper cleaning and wash water disposal procedures, and conduct “refresher” training on a regular basis.
9. Pollutants/debris generated during washing activities must be collected and properly disposed of to avoid potential discharge into a storm drain.
10. Use dry cleaning methods (e.g., sweeping or vacuuming) whenever possible.
| Frequency & Maintenance: | 1. Sweep or vacuum outdoor wash areas where pollutants have accumulated regularly and before a forecasted rain.  
2. Inspect wash areas for evidence of discharges into storm drains and if found, contact EH&S: (858) 534-3660. |
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<td>Additional Information:</td>
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# BMP B02: Fueling Operations

**Pollutants of Concern:**
- Vehicle fluids
- Oil & Grease

## Purpose:
To prevent or reduce the discharge of pollutants from fueling operations from going into storm drains.

## Application:
Equipment, vehicle, and boat fueling operations.

## Practices:
1. Fueling activities must be overseen by the equipment operator at all times. Do NOT leave fueling operations unattended.
2. During fueling operations, visually monitor the liquid level indicator or equipment to prevent the tank from being overfilled.
3. The maximum amount of product received shall not exceed 95% capacity of the receiving tank.
4. Do not run vehicles, tanker trucks, or equipment during fueling operations.
5. Do not park machinery, equipment, vehicles, or boats over storm drains.
6. Block nearby storm drain inlets with rubber mats or absorbent rolls during large fueling operations.
7. Restrict access to fueling equipment and maintain equipment to prevent leaks.
8. Maintain clean fuel-dispensing areas using dry cleanup methods such as sweeping for removal of litter and debris, or use of rags and absorbents for leaks and spills. Do not wash down areas with water. Clean up used absorbent and put it in a container labeled “Used Absorbent” for proper disposal through EH&S, do not leave it on the ground (see BMP A02).
10. Train employees on proper fueling procedures (these management measures) and spill response procedures (see BMP A02).

## Frequency & Maintenance:
1. These procedures must be implemented during all fueling operations.
2. Maintain spill response material (e.g., spill kit) in a location that is easy to access and is known to personnel. Inspect spill kit provisions on a regular basis and replace as needed.
3. Repair or replace leaking or damaged fuel-dispensing equipment as needed.

## Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

## Additional Information:
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
# BMP B03: Equipment, Vehicle, & Boat Maintenance

## Pollutants of Concern:
- Oil & Grease
- Paint
- Vehicle Fluids
- Equipment Fluids

## Purpose:
To prevent or reduce the discharge of pollutants from equipment, vehicle, and boat maintenance activities from going into storm drains.

## Application:
Equipment, vehicle, and boat maintenance operations

## Practices:
1. Conduct equipment, vehicle, and boat maintenance indoors whenever possible (see BMP A03 for additional guidance on maintenance activities at SIO).
2. Do not park machinery, equipment, vehicles, or boats over storm drains.
3. Use non-toxic chemicals for maintenance when possible. Choose cleaning agents that can be recycled. Minimize use of solvents. Recycle used oil, diesel oil, and other recyclable materials.
4. Block nearby storm drain inlets with rubber mats or absorbent rolls during fluid transfers and fueling operations.
5. Use drip pans or other form of secondary containment under leaking equipment.
6. Keep equipment, boats, and parts with oily components or other pollutant sources that must be stored outside for long periods of time off of the ground (e.g., on a tarp, pallet, blocks, rack, etc) and cover with plastic sheeting or a tarp to avoid contamination of storm water or surface water flow.
7. Properly dispose of or recycle obsolete or inoperable equipment and vehicles. Drain all fluids from equipment and vehicles prior to disposal or recycling.
8. Designate an area to drain or replace hazardous fluids from equipment and vehicles where there is no connection(s) to the storm drain or sanitary sewer and drips and spills can easily be controlled.
9. Train employees on proper spill response procedures in accordance with BMP A02.

## Frequency & Maintenance:
1. Regularly inspect equipment, vehicles, and boats for leaks. Repair or replace leaking components as needed.
2. Maintain spill response material (e.g., spill kit) in a location that is easy to access and is known to personnel. Inspect spill kit provisions on a regular basis and replace as needed.

## Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the "Annual Shop & Studio Environmental Compliance & Hazards Training" which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

## Additional Information:
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
### BMP B04: Preventative Maintenance

#### Pollutants of Concern:
- Oil & Grease
- Vehicle Fluids
- Equipment Fluids

#### Purpose:
To prevent or reduce the discharge of pollutants from shuttles, vehicles, or equipment from going into storm drains

#### Application:
Equipment, vehicle, and boat maintenance operations

#### Practices:
1. Conduct equipment, vehicle, maintenance indoors whenever possible
2. Visually inspect shuttles, vehicles, equipment, or systems which may malfunction and cause spills, leaks, or other situations / conditions that could lead to contamination of storm water runoff
3. Promptly repair or replace defective equipment found during inspection and/or testing
4. Replace worn parts prior to failure
5. Keep spare parts for equipment that needs frequent repair
6. Train employees on proper spill response procedures in accordance with BMP A02

#### Frequency & Maintenance:
1. Regularly inspect equipment, shuttles, and vehicles for leaks. Repair or replace leaking components as needed.
2. During regularly scheduled work activities involving equipment that could leak outside, inspect identified equipment and implement preventative maintenance as needed.
3. Maintain spill response material (e.g., spill kit) in a location that is easy to access and is known to personnel. Inspect spill kit provisions on a regular basis and replace as needed

#### Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the "Annual Shop & Studio Environmental Compliance & Hazards Training" which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

#### Additional Information:
- UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
- Refer to BMP-B03 for Equipment and Vehicle Maintenance
# BMP C01: Trash Management

## Pollutants of Concern:
- Trash & Debris
- Oil and Grease
- Bacteria

## Purpose:
To prevent or reduce the discharge of pollutants from trash storage areas into storm drains.

## Application:
Outdoor trash storage areas (dumpsters, bins, and other large refuse containers)

## Practices:
1. Keep outdoor trash and recycling dumpsters closed when not in use.
2. Empty outdoor trash and recycling bins/cans frequently to prevent spillage.
3. Place trash and recycling receptacles in appropriate locations. Do NOT store receptacles over storm drain inlets.
4. Label recycling and trash receptacles to ensure appropriate materials are placed in appropriate containers.
5. Contain food and animal wastes in tied plastic bags or closable containers.
6. Clean receptacles as needed and keep areas around receptacles clean and orderly.
7. Use absorbent materials to clean up any spilled liquid garbage waste (e.g., grease or cooking oil) and dispose of used absorbent in the trash.
8. Use “dry” cleaning methods (e.g., sweep or vacuum) whenever feasible.
9. If water is used to clean, do **not** allow wash water to get into storm drains:
   1. Collect and dispose of wash water through EH&S if it contains grease, oil, solids, or floatable debris. Store wash water in a container labeled “wash water” for pick up by EH&S. Fax or email collection request to (858) 534-9708 or hazwaste@ucsd.edu.
   2. Wash water may be disposed of to the sanitary sewer system (indoor drain) if it does not contain these wastes.
10. Do NOT dispose of any hazardous waste in a trash receptacle! If hazardous waste is observed in a trash receptacle, notify EH&S immediately: (858) 534-3660

## Frequency & Maintenance:
1. Inspect trash receptacles and storage areas regularly to confirm they are not leaking, overfilled, or spilling and increase pick-up schedule if needed. Keep storage areas clean and lids closed.
2. Repair or replace leaking or damaged receptacles as needed.

## Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “**Annual Shop & Studio Environmental Compliance & Hazards Training**” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

## Additional Information:
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
BMP C02: Hazardous Materials Management

Pollutants of Concern:
- Hazardous Materials

Purpose:
To prevent or reduce the discharge of hazardous materials into the storm water conveyance system during material handling and storage

Application:
Hazardous materials management and storage areas

Practices:

**Safety Data Sheets (SDSs)** must be readily available for hazardous materials that are used/stored and should be followed for details regarding labeling, storage, handling, cleanup, and proper disposal.

**Labeling**
1. Label all containers of hazardous materials with the following:
   - The identity of the substance as shown on the SDS
   - The appropriate hazard warning (health and physical hazards)
2. Labels must be legible and written in waterproof, permanent marker.
3. All unlabeled products that cannot be identified must be disposed of through EH&S. Fax or email collection request to (858) 534-9708 or hazwaste@ucsd.edu

**Storage**
1. Containers used to store hazardous materials will be in good condition and not leaking.
2. Containers will be kept closed except when adding or removing hazardous materials.
3. Store hazardous materials in areas not susceptible to rain and provide secondary containment in case of leaks or spills. Storage areas should be impervious, covered, bermed, and located away from storm drain inlets.
4. Locate hazardous materials storage and handling areas away from natural watercourses and storm drains.
5. The storage of toxic, corrosive, reactive, or ignitable materials shall comply with local and state fire codes.
6. Paved storage areas shall be maintained in impervious condition. Cracks and gaps will be covered to maintain the integrity of the secondary containment.
7. Store and maintain appropriate spill cleanup materials in a location known to all (near storage and maintenance areas).
8. Incompatible hazardous materials shall be stored at least 20 feet apart and shall be separated by a non-combustible partition.
9. Used lead acid batteries must be stored in accordance with EH&S guidance provided on: [http://blink.ucsd.edu/ehs](http://blink.ucsd.edu/ehs)

**Secondary Containment**
1. Inspect secondary containment systems for cracks, leaks, open drain valves. Drain valves must be kept closed and leaks must be repaired immediately.
2. If rain water accumulates inside secondary containment, inspect water before draining/pumping it out. Rainwater that is contaminated must be pumped into a container, labeled, and disposed of through EH&S.
**Material Compatibility**
1. Review SDS for chemical compatibility guidance. In general, corrosive and reactive materials should not be stored with flammable or combustible materials.
2. Ensure each container is compatible with its contents (e.g., store corrosive materials such as acids in plastic containers/drums NOT in metal containers).
3. Mixed materials within a container shall be compatible with each other.
4. Materials stored on the same pallet should be compatible with one another.

**Training**
1. Train employees on proper hazardous materials management, including how to obtain information from SDS.
2. Train employees on proper spill containment and cleanup. Make sure employees know where spill response equipment is located and how to use it.
3. EH&S provides annual training on hazardous materials management (see Training below)

**Mixing**
1. Transfer or mixing of oils, paints, solvents, and other liquid materials shall be performed in areas with secondary containment in place.
2. When mixing paint, open containers must be under observation at all times and never left unattended.
3. Materials must be mixed away from heat, flame, sparks, or other sources of ignition.

**Spill Prevention and Response**
1. Minimize working quantities stored on hand (e.g., use 1 to 5 gallons containers instead of large drums)
2. Store and maintain appropriate spill cleanup materials in a location known to all personnel and near the material use and storage areas.
3. Review **BMP A02 – Spill Control and Cleanup** for additional guidance

<table>
<thead>
<tr>
<th>Frequency &amp; Maintenance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regularly inspect containers for leaks, deterioration, and proper labeling, and ensure they are closed and secure. Transfer materials out of any containers that are leaking, corroded, or otherwise deteriorating into safe containers.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Training:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the &quot;Annual Shop &amp; Studio Environmental Compliance &amp; Hazards Training&quot; which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC San Diego’s Storm Water Management Program: <a href="http://stormwater.ucsd.edu">http://stormwater.ucsd.edu</a></td>
</tr>
</tbody>
</table>
### BMP C03: Hazardous Waste Management

**Pollutants of Concern:**
- Hazardous Waste

| Purpose: | To prevent or reduce the discharge of hazardous waste into the storm water conveyance system during waste handling and storage |
| Application: | Hazardous waste management and storage areas |
| Practices: | **Labeling** |
| | 1. Label all containers of hazardous waste stored on-site with the 90-day accumulation label. The following information must be included on this label: |
| | - Contents, composition, and physical state of the waste |
| | - Hazardous properties of the waste |
| | - Accumulation start date (the date the waste is first placed in the container) |
| | - Name of the hazardous waste generator |
| | 2. Labels must be legible and written in waterproof, permanent marker. |
| | 3. Labels must be visible for inspection on each container. |
| | 4. All unlabeled products that cannot be identified must be disposed of through EH&S. Fax or email collection request to (858) 534-9708 or hazwaste@ucsd.edu |
| | 5. EH&S can provide assistance with hazardous waste labeling questions (858) 534-2753 |
| Storage | **Storage** |
| | 1. Hazardous waste containers must be in good condition and not leaking. |
| | 2. Containers must be kept closed except when adding or removing hazardous waste. |
| | 3. Store hazardous wastes in areas not susceptible to rain, and provide secondary containment in case of leaks or spills. |
| | 4. Locate hazardous waste storage and handling areas away from storm drains and waterways (e.g., concrete culverts). |
| | 5. Do NOT store more than 55-gallons of any hazardous waste or 1 quart of extremely hazardous waste. |
| | 6. Do NOT store hazardous waste for more than 90 days. |
| | 7. The storage of toxic, corrosive, reactive, or ignitable wastes shall comply with local and state fire codes. |
| | 8. Paved storage areas shall be maintained in impervious condition. Cracks and gaps will be covered to maintain the integrity of the secondary containment |
| | 9. Keep hazardous waste storage areas clean! |
### Practices (continued):

<table>
<thead>
<tr>
<th>Practices</th>
<th><strong>Material Compatibility</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Ensure each container is compatible with its contents (e.g., a corrosive waste such as acid should be stored in a plastic container not metal).</td>
</tr>
<tr>
<td></td>
<td>2. Mixed wastes within a container shall be compatible with each other.</td>
</tr>
<tr>
<td></td>
<td>3. Incompatible hazardous wastes must be separated by a dike, berm, wall, or secondary containment device.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Secondary Containment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If rain water accumulates inside secondary containment, inspect water before draining/pumping it out. Rainwater that is contaminated must be pumped into a container, labeled, and disposed of through EH&amp;S. Fax or email collection request to (858) 534-9708 or <a href="mailto:hazwaste@ucsd.edu">hazwaste@ucsd.edu</a>.</td>
</tr>
<tr>
<td>2. Visually inspect hazardous waste storage area and secondary containment. Leaks in primary or secondary containment must be repaired immediately.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Training</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Train employees on storm water pollution prevention measures</td>
</tr>
<tr>
<td>2. Employees that generate hazardous waste must receive hazardous waste management training on an annual basis.</td>
</tr>
<tr>
<td>3. Train employees on proper spill containment and cleanup. Make sure employees know where spill response equipment is located and how to use it.</td>
</tr>
<tr>
<td>4. EH&amp;S provides annual training on hazardous waste management, storm water pollution prevention, and spill prevention, control, and countermeasures (see Training below).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Spill Prevention and Response</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Store and maintain appropriate spill cleanup materials in a location known to all personnel and near the waste storage areas.</td>
</tr>
<tr>
<td>2. Schedule EH&amp;S waste collections frequently to minimize quantity of stored waste</td>
</tr>
<tr>
<td>3. Review BMP A02 – Spill Control and Cleanup for additional guidance</td>
</tr>
</tbody>
</table>

| **Frequency & Maintenance:** | 1. Inspect hazardous waste storage areas and containers on a weekly basis to ensure the containers are properly labeled, closed, and secure and are not leaking or deteriorated. Replace leaking or damaged containers or secondary containment as needed. |
|                            | 2. Inspect spill cleanup materials on a regular basis and replace supplies as needed. |

<table>
<thead>
<tr>
<th><strong>Training:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop &amp; Studio Environmental Compliance &amp; Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.</td>
</tr>
</tbody>
</table>

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<tr>
<th><strong>Additional Information:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>UC San Diego’s Storm Water Management Program: <a href="http://stormwater.ucsd.edu">http://stormwater.ucsd.edu</a></td>
</tr>
</tbody>
</table>
### BMP C04: Onsite Transportation of Materials/Waste

**Pollutants of Concern:**
- Vehicle Fluids
- Hazardous Materials/Waste
- Oil & Grease
- Trash & Debris
- Metals

**Purpose:**
To prevent or reduce the discharge of pollutants from transporting materials and waste from going into storm drains

**Application:**
Onsite transportation of materials and waste

**Practices:**
1. Review Safety Data Sheets (SDSs) for details regarding labeling, storage, handling, cleanup, and disposal of hazardous materials.
2. Prior to transport, containers must be properly labeled and secured. Check caps, lids, bungs, etc., to make sure containers are closed and leak proof.
3. Materials being transported on the same pallet should be compatible with one another.
4. Keep loads to a reasonable size during transportation.
5. Provide some form of secondary containment during transport whenever possible (e.g., secondary containment pallets) to prevent a spill from reaching the ground.
6. Do NOT place material or waste containers directly on the ground (e.g., place containers on containment pallets)
7. Do NOT leave materials or wastes unattended during transport
8. Store and maintain appropriate spill cleanup materials in a location known to all personnel (near storage and maintenance areas).
9. Secure drums transported with a forklift in a “trap” to prevent the drum from falling off
10. Avoid transporting materials or wastes during wet weather if possible

**Frequency & Maintenance:**
1. Maintain SDSs and records of materials and wastes transported onsite
2. Inspect spill response provisions on a regular basis and replace as needed

**Training:**
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous material and waste management.

**Additional Information:**
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
**BMP C05: Food Service Management**

**Pollutants of Concern:**
- Trash & Debris
- Oil & Grease
- Bacteria
- Non-Storm Water Discharge

**Purpose:** To prevent or reduce the discharge of pollutants from food preparation and cleaning activities from going into storm drains.

**Application:** Cleaning and waste disposal activities associated with food services.

**Practices:**
1. Do NOT dispose of grease or cooking oil to any storm drain or sanitary sewer system drain! Waste grease and cooking oil must be collected in labeled containers/bins and stored for pick-up and disposal by an appropriate vendor/contractor.
2. Collect grease and used cooking oil in labeled containers that can be securely closed.
3. Keep containers closed except when adding grease or cooking oil to prevent spillage. Do not store containers near a storm drain. Provide secondary containment (e.g., berms) and a cover for all outdoor waste containers to prevent them from coming into contact with rain water or surface water flows.
5. Keep waste collection areas clean and orderly. Use “dry” cleaning methods (e.g., absorbents and sweeping or vacuuming) to clean spills whenever feasible.
6. If water is used to clean equipment or areas outside, do not allow wash water to get into storm drains. Review outdoor washing BMP (BMP B01) for appropriate wash water disposal options.
7. Do NOT dispose of ice to storm water drains. Ice may be disposed of in a landscaped area where the water can infiltrate into the ground such as a lawn or dirt area with plants.
8. Store and maintain appropriate spill cleanup materials in a location known to all personnel.

**Frequency & Maintenance:**
1. Inspect grease storage areas and outdoor trash receptacles and compactors on a daily basis for leaking containers. Repair or replace leaking waste receptacles as needed.
2. Inspect grease interceptors weekly. Schedule regular cleaning of grease interceptors to prevent clogging or overflowing. Schedule regular pickups for the grease containers to ensure there is sufficient capacity available.
3. Inspect outdoor storm drains for evidence of improper disposal of grease, cooking oil, or other food waste. If found, contact EH&S at (858) 534-3660.
4. Inspect spill kit provisions regularly and replenish as needed.

**Training:** HDH, University Center, Faculty Club, and campus restaurant staff/vendors that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention and spill prevention, control, and cleanup.

**Additional Information:** UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
# BMP C06: Outdoor Sanitary Sewer Overflows & Cleanup

## Pollutants of Concern:
- Bacteria
- Non-Storm Water Discharge (NSWD)

## Purpose:
To prevent or reduce the discharge of sanitary sewer overflows into storm drains

## Application:
Sanitary sewer system operation and maintenance

## Practices:
Do NOT dispose of any of the following into the sanitary sewer system:
1. Concentrated chemicals with a pH less than 5 or greater than 12.5.
2. Substances that may obstruct flow like greases and oils
3. Hazardous substances or waste
4. Heated waste streams equal to or greater than 150 °F
5. Storm water
6. Batch discharges or imported flows (e.g., seawater) without prior approval from EH&S

## Response Procedures for Sanitary Sewer Overflows into the Environment:
1. Notify EH&S IMMEDIATELY: (858) 534-3660 or UCSD PD if after hours (858) 534-HELP
2. Try to stop or control the release at the source
3. Block nearby storm drains
4. Call a vectored truck company for assistance to collect the overflow if release cannot be quickly stopped or contained

EH&S can provide cleanup assistance for large spills and the disposal of contaminated materials. Contact EH&S immediately if a spill reaches a storm drain: **(858) 534-3660**

## Frequency & Maintenance:
1. Maintain sanitary sewer system to prevent blockages and/or overflows in accordance with UC San Diego’s Sanitary Sewer Management Plan: [http://blink.ucsd.edu/go/sewerplan](http://blink.ucsd.edu/go/sewerplan)
2. Inspect spill kit provisions on a regular basis and replace as needed.

## Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention and spill prevention, control, and cleanup.

## Additional Information:
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
**BMP- D01: Storm Water Conveyance System Management**

<table>
<thead>
<tr>
<th>Pollutants of Concern:</th>
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<tbody>
<tr>
<td>Sediment</td>
</tr>
<tr>
<td>Trash &amp; Debris</td>
</tr>
<tr>
<td>Bacteria</td>
</tr>
<tr>
<td>Oil &amp; Grease</td>
</tr>
<tr>
<td>Non-Storm Water Discharge (NSWD)</td>
</tr>
</tbody>
</table>

**Purpose:**
To prevent or reduce the discharge of pollutants into the storm water conveyance system.

**Application:**
Storm drain inlets and storm water conveyance systems (e.g., culverts).

**Practices:**

1. Mark/label existing storm drains with “NO DUMPING” vinyl markers (available from EH&S) or equivalent marking. Mark new storm drains with concrete stamp.
2. Ensure personnel are aware that only rain should go into storm drains.
3. Clean storm drain inlets/catch basins in high pollutant load areas just before the wet season to remove accumulated sediment and debris.
4. Materials that are extracted from the storm drains must be disposed of correctly so that pollutants are not reintroduced to the storm drain system. The following guidelines outline proper disposal:
   a. **Carefully remove debris**- As much debris, silt, trash, and sediment as possible shall be removed from the storm drain system when cleaning. Implement measures to avoid reintroducing the removed debris/pollutants back into the storm drain during cleaning.
   b. **Temporarily contain debris**- Provide proper containment for the temporary storage of removed debris during cleaning (store in bin or on concrete, asphalt, tarp, or other impervious material).
   c. **Dewater debris**- Waste collected from the storm drain system may be wet, in which case it shall be dewatered as necessary. Dewatering sites should not drain to storm drains.
   d. **Properly dispose of debris**- Dewatered and dry debris shall be disposed of in a landfill.
5. Remove water in the conveyance system when performing maintenance activities into a landscaped area or the sanitary sewer, away from storm drains. Water may be disposed of as follows:
   a. Potable cleaning water can be discharged into the sanitary sewer if discharge does not exceed 35 gallons per minute and/or 6,500 gallons per day. The water should be treated with an appropriate filtering device to remove all sediment and vegetative debris if being pumped into the sanitary sewer.
   b. Small volumes of clean storm water (less than 25 gallons) may be discharged to a pervious vegetated area where the water can infiltrate into the ground if it will not cause erosion or reach a storm drain. Cover/protect nearby storm drain inlets as needed.
6. Report dumping or other non-storm water discharges (NSWDs) into storm drains by calling **EH&S: (858) 534-3660** or emailing: **ehsea@ucsd.edu**.
7. Do not store machinery, equipment, or vehicles over storm drains.
**Frequency & Maintenance:**

1. Conduct visual storm drain inspections annually in high pollutant load areas where sediment, trash, or other pollutants accumulate more often.

2. Clean storm drain conveyance system at least once before the wet season (October – May).

3. Maintain records of inspections and maintenance.

4. If non-storm water discharges (also referred to as “dry weather flows”) are observed, notify EH&S at (858) 534-3660 or email ehsea@ucsd.edu and try to identify and eliminate the source.

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**Training:**

Maintenance, Facilities Management, Grounds and Landscaping, and HDH staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

**Additional Information:**

UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
## BMP D02: Landscape Management

### Pollutants of Concern:
- Sediment
- Trash & Debris
- Bacteria
- Fertilizers
- Nutrients
- Pesticides
- Non-Storm Water Discharges (NSWDs)

### Purpose:
To prevent or reduce the discharge of pollutants from landscaped areas from going into storm drains

### Application:
All areas where landscaping activities occur

### Practices:
1. Monitor irrigation system to prevent non-storm water discharges. DO NOT over-irrigate. Reduce run times to prevent runoff if needed.
2. Repair leaks in the irrigation system as soon as they are reported.
3. Use erosion control measures on exposed soils such as: hydraulic, straw, or wood mulch; hydro seeding; soil binders; and rolled erosion control products.
4. Berm and cover stockpiled materials (e.g., dirt from trenching activities). Place stockpiled material away from storm water conveyance system inlets.
5. DO NOT dispose of collected vegetation into the storm water conveyance system.
6. Safety data sheets (SDSs) are to be followed for details regarding labeling, storage, handling, disposal, and cleanup of fertilizers and pesticides.
7. DO NOT apply fertilizers or pesticides prior to expected rain or in high winds and minimize off-target application (overspray).
8. Use hand or mechanical weeding methods where practical.
9. Use non-toxic pesticides when possible. Avoid using copper-based pesticides.

### Frequency & Maintenance:
1. Inspect and clean out storm water conveyance system before the start of the wet season (October 1st). Document inspections and resultant activities.
2. Monitor irrigation system at least once during the dry season (May – September) for discharges into the storm water conveyance system. Adjust irrigation system as needed. Document inspection.
3. Monitor areas prone to erosion at least once during the wet season and mitigate as necessary. Document inspection.
4. Regularly inspect landscaping equipment for leaks and repair as needed.

### Training:
- Maintenance, FM, Grounds and Landscaping, and HDH staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the "Annual Shop & Studio Environmental Compliance & Hazards Training" which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

### Additional Information:
- UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)

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University of California, San Diego
BMP D03: Surface Cleaning/Pressure Washing

Pollutants of Concern:
- Sediment
- Trash & Debris
- Bacteria
- Residual Chlorine
- Oil & Grease
- Non-Storm Water Discharges (NSWDs)

Purpose:
To prevent the discharge of wash water or pollutants generated from washing activities from going into storm drains. In addition to the pollutants contained in the wash water, pollutants on the ground (e.g., oil and grease, food waste, sediment, litter/debris, and dust) can also be picked up by the wash water as it drains towards the storm water system.

Application:
This BMP applies to any exterior building surface cleaning (e.g., pressure washing) that generates wash water including but not limited to steps, plazas, patios, sidewalks, entryways, parking lots, trash storage areas, roofs, loading docks, and bleachers. This BMP also applies to cleaning equipment and material such as food racks/trays, floor mats, and rooftop equipment.

Practices:
1. Clean up as much as possible using dry cleaning methods (e.g., sweeping or vacuuming) before washing.
2. Do NOT discharge any wash water or cleaning products into a storm drain.
3. Identify nearby storm drains and protect them from wash water.
   a. Use sand bags or a portable berm to block off storm drain
   b. Temporarily plug storm drains in vicinity using specially designed mats or by covering with a weighed down plastic liner
4. Contain and collect wash water
   a. Use a wet/dry vacuum to collect the wash water
   b. If very little wash water is generated, use a mop
5. Dispose of wash water appropriately:
   a. The sanitary sewer system (e.g., indoor drain) if the wash water does not contain any grease, oil, hazardous chemicals/materials or sediment/sludge;
   b. If wash water does not contain cleaning chemicals or other pollutants, it may be discharged to a landscaped area where it can infiltrate into the ground if there are no storm drain inlets nearby; or
   c. Collect and dispose of wash water through EH&S if it contains grease, oil, solids, sludge, floatable debris, or a hazardous chemical. Store wash water in a container labeled “wash water” for pick up by EH&S. Fax or email collection request to (858) 534-9708 or hazwaste@ucsd.edu.
6. Pollutants generated during washing activities (e.g., oil & grease, sediment, trash/debris, food waste) must be collected and properly disposed of to avoid potential discharge into a storm drain.

7. During cleaning activities, ensure that the measures taken to contain the water are working adequately.

8. Surface cleaning should not occur during rain events.

9. Train employees on proper surface cleaning and wash water disposal procedures, and conduct “refresher” training on a regular basis.

<table>
<thead>
<tr>
<th>Frequency &amp; Maintenance:</th>
<th>1. Sweep or vacuum high pollutant load areas prior to any washing activities.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Notify EH&amp;S of any discharges of wash water into storm drains by calling: (858) 534-3660 or emailing: <a href="mailto:ehsea@ucsd.edu">ehsea@ucsd.edu</a>.</td>
</tr>
<tr>
<td></td>
<td>3. Sweep all asphalt covered parking lots and streets weekly with the street sweeper during the wet season. Establish frequency of parking lot sweeping during the dry season based on usage and field observations of waste accumulation.</td>
</tr>
</tbody>
</table>

Training: Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

Additional Information: UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
**BMP D04: Fire Sprinkler and Hydrant Testing/Flushing**

**Pollutants of Concern:**
- Non-Storm Water Discharges (NSWDs)
- Residual Chlorine

<table>
<thead>
<tr>
<th>Purpose:</th>
<th>To prevent the discharge of water from fire sprinkler or hydrant flushing and testing from going into storm drains.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application:</td>
<td>Fire sprinkler and hydrant testing and flushing activities</td>
</tr>
</tbody>
</table>
| Practices: | 1. Do NOT drain water from fire sprinkler or fire hydrant testing or flushing into a storm drain or onto an area that will discharge into a storm drain.  
2. Cover/protect nearby storm drain inlets from outdoor work activities as needed.  
3. Collect water into a portable tank or a tanker truck (collection tank capacity must be greater than the volume of water being flushed/discharged) and dispose of as follows: |
|  | a. Fire sprinkler water must be disposed of to the sanitary sewer system. Discharge must not exceed 35 gallons per minute and/or 6,500 gallons per day.  
|  | b. Fire hydrant water may be collected and taken to the UC San Diego Central Utilities Plant for use in the cooling towers in coordination with EH&S (ehsea@ucsd.edu) or may be disposed of to the sanitary sewer system. Discharge to the sanitary sewer must not exceed 35 gallons per minute and/or 6,500 gallons per day.  
|  | c. Small volumes (less than 25 gallons) of clean water may be discharged to a pervious vegetated area where the water can infiltrate into the ground if it will not cause erosion or reach a storm drain. Cover/protect nearby storm drain inlets as needed |
| Frequency & Maintenance: | Notify EH&S of any observed discharges of water from fire sprinklers or fire hydrants into storm drain inlets by emailing ehsea@ucsd.edu. |
| Training: | Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management. |
| Additional Information: | UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu) |
**BMP D05: Outdoor Painting & Sandblasting**

### Pollutants of Concern:
- Paint / Paint Chips
- Metals
- Non-Storm Water Discharge (NSWDD)

### Purpose:
To prevent the discharge of pollutants associated with outdoor painting and sandblasting (e.g., paint, rinse water) from going into storm drains.

### Application:
This BMP applies to any exterior building painting (minor touch up painting or architectural coating) or sandblasting on areas including but not limited to building walls, steps, plazas, patios, sidewalks, entryways, parking lots, roofs, and loading docks.

### Practices:
1. Place tarps/plastic sheeting under objects prior to painting, scraping, or sandblasting to contain and collect paint and particulate waste.
2. Prior to spray painting or sandblasting, shroud work area with plastic sheeting or plywood to contain airborne overspray or dust/particulates. During these activities, inspect the containment measures to ensure they are working.
3. Protect nearby storm drains from activities with rubber mats, filter fabric, or by covering with a weighed down plastic liner.
4. Only minor touch up painting or architectural coating (e.g., painting a stationary structure) may be performed. All other painting must be performed either at the campus paint shop or by a vendor in accordance with Air Pollution Control District regulations.
5. Sweep, vacuum, shovel, and if necessary, use absorbent materials to collect particulate wastes or paint not contained on tarps. Refer to BMP A02 for spill response procedures.
6. Pollutants/debris generated by activities such as paint or metal chips, sediment/particulates, trash/debris must be collected and properly disposed of to avoid potential discharge into a storm drain.
7. Collect and contain rinse water from ALL painting activities (including water based paint) for disposal through EH&S. Fax or email collection request to (858) 534-9708 or hazwaste@ucsd.edu.
8. Avoid sanding or painting in windy weather.

### Frequency & Maintenance:
Implement these procedures for all exterior painting and sandblasting activities.

### Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

### Additional Information:
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
### BMP D06: Non-Storm Water Discharges/Dry Weather Flows

#### Pollutants of Concern:
- Oil & Grease
- Sediment
- Bacteria
- Non-Storm Water Discharges (NSWDs)
- Residual Chlorine

#### Purpose:
To prevent non-storm water discharges to the storm water drainage system by implementing measures to detect, correct, and enforce against illicit connections and discharges.

#### Application:
Irrigation systems, outdoor public use areas, and outdoor cleaning activities

#### Practices:
Anything that discharges into a storm drain that is not composed entirely of storm water is a **non-storm water discharge** (e.g., irrigation water runoff, wash water).

1. Mark storm drains with “No Dumping” signage to prevent people from dumping water or other pollutants into them.
2. If you see water going into a storm drain and it isn’t raining (dry weather flow), try to identify the source and stop it if possible.
3. Report non-storm water discharges into UC San Diego storm drains:
   - During business hours:
     - Report a water leak, broken pipe or sprinkler, or irrigation problem online at [wsc@ucsd.edu](mailto:wsc@ucsd.edu) or call Facilities Management Customer Relations help desk at (858) 534-2930
     - For hazardous materials spills call (858) 534-3660
     - For other non-storm water discharges, email [ehsea@ucsd.edu](mailto:ehsea@ucsd.edu) or call (858) 534-3660
   - After business hours: Call UCSD Police: (858) 534-HELP (4357)
4. See BMP A02: Spill Prevention, Control and Cleanup for spill response activities.

#### Frequency & Maintenance:
1. Look for non-storm water discharges/dry weather flows into storm drains during routine maintenance and grounds keeping activities.
2. Monitor irrigation system at least once a year for discharges into the storm water conveyance system. Adjust irrigation system as needed.
3. Maintain equipment to prevent leaks and spills.

#### Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the **“Annual Shop & Studio Environmental Compliance & Hazards Training”** which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

#### Additional Information:
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
## BMP D07: Integrated Pest Management

### Pollutants of Concern:
- Pesticides
- Trash

### Purpose:
To coordinate multiple measures (e.g., biological, mechanical, cultural, chemical) to facilitate the long term elimination of unwanted pests from landscapes, minimizing the need for chemicals that could be harmful to people and the environment.

### Application:
Grounds and landscaping, outdoor storage areas, and other pest control areas.

### Practices:
1. Keep outdoor storage areas clean and orderly.
2. Eliminate pest attractants such as food, water, debris, shelter and infested plant material.
3. Frequently remove weeds from plant beds that may become invasive or attract unwanted pests.
4. Maintain irrigation systems to eliminate irrigation runoff, possible water sources for pests and breeding sites for insects.
5. Use proper fertilizing, sanitation and watering techniques to maintain plant health.
6. Utilize pest resistant plants to eliminate the necessity for chemical based pesticides.
7. Create physical barriers around plant beds to limit the access of rodents and other pests.
8. Use mechanical elements, such as soil solarization, heat treatments, or traps to prevent pests from propagating.
9. Strategically cultivate plant species that will attract competitive organisms in order to reduce the survival potential and expansion of a particular pest species.
10. Cultivate plant species that are drought tolerant to reduce the amount of irrigation required and potential runoff.
11. Use organic materials and mulch to control irrigation runoff and reduce the need for chemical controls.
12. Use the least toxic, most effective and pest specific pesticides when necessary.
13. Empty trash receptacles frequently, clean dishes immediately after use, reduce clutter, seal areas where pests may enter buildings, and keep premises free of trash and overgrown vegetation in order to reduce the possibility of attracting indoor pests.

### Frequency & Maintenance:
1. Monitor irrigation system at least once during the dry season (May – September) for discharges into the storm water conveyance system. Adjust irrigation system as needed.
2. Regularly inspect grounds and landscaping for evidence of pests.
3. Visually inspect for trash and remove as needed.

### Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

### Additional Information:
UCSD’s Storm Water Pollution Prevention Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
# BMP D08: Building Maintenance, Repair, or Remodeling

## Pollutants of Concern:
- Hazardous Materials
- Non-Storm Water Discharges (NSWDs)
- Oil & Grease
- Trash & Debris
- Paint

## Purpose:
To prevent or reduce the discharge of pollutants to storm water from building maintenance and remodeling activities by preventing dry weather flows, cleaning up spills promptly, keeping debris from entering the storm drains, and maintaining the storm water conveyance system.

## Application:
Building maintenance and renovation projects

## Practices:
1. Recycle residual paints, solvents, lumber and other material as much as possible.
2. Do NOT dump waste on the pavement, the ground, or toward a storm drain. Do not discharge non-rain water into a storm drain.
3. Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
4. Paint brushes and tools covered with water-based paints should be rinsed twice and the rinse water collected in buckets and managed as hazardous waste. Subsequent rinses must be into a sink or drain that goes to the sanitary sewer. 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 as hazardous waste.
5. Use a storm drain cover, filtering 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. 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.
6. When de-watering of an excavation site, water is filtered using filter fabric or other sediment filters/traps before discharging to a catch basin or off-site.
7. Keep hazardous materials containers closed and stored under cover (e.g., tarps or other temporary cover material) with secondary containment during precipitation events and when not in use.
8. Keep dirt/soil stockpiles covered during rain or high wind conditions.
9. Clean up spills promptly; refer to BMP A02 for spill response and prevention protocols.
<table>
<thead>
<tr>
<th>Frequency &amp; Maintenance:</th>
<th>Inspect the project site daily and keep project area clean, free of trash/litter and loose materials that may be blown offsite or that might get into a storm drain during a rain event.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training:</td>
<td>Maintenance, facilities management, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the &quot;<strong>Annual Shop &amp; Studio Environmental Compliance &amp; Hazards Training</strong>&quot; which includes storm water pollution prevention; spill prevention, control, and clean-up; and hazardous materials and waste management.</td>
</tr>
</tbody>
</table>
| Additional Information: | UC San Diego’s Storm Water Pollution Prevention Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)  
Latex Paint Disposal Information: [http://blink.ucsd.edu/safety/research-lab/hazardous-waste/latex.html](http://blink.ucsd.edu/safety/research-lab/hazardous-waste/latex.html) |
BMP D09: Parking Lot and Storage Area Maintenance

Pollutants of Concern:
- Vehicle Fluids
- Trash & Debris
- Sediment
- Oil & Grease

Purpose:
To prevent or reduce the discharge of pollutants from parking lots and outdoor storage areas

Application:
Parking and materials storage areas that can contribute pollutants to storm water runoff

Practices:
1. Keep parking lots and storage areas clean and orderly. Remove trash and debris in a timely fashion.
2. Provide an adequate number of litter receptacles
3. Empty and cover litter receptacles frequently to prevent spillage.
4. Use dry cleaning methods to prevent the discharge of pollutants into the storm water conveyance system.
5. Using the street sweeper, clean parking lots once a week.
6. Inspect parking lots, storage areas, and cleaning equipment for leaks regularly.
7. Do not store machinery, equipment, or vehicles over storm drains
8. Store equipment with exposed oily/ greasy parts or other potential pollutants (e.g., metals) in a covered area, on pallets, or in bins and under plastic sheeting/tarps to prevent contact with rainwater
9. If surfaces must be repaved, block off storm drains to prevent contamination of the storm water conveyance system.
10. Maintain treatment controls that are installed to treat sheet runoff in accordance with their design standards and operation and maintenance recommendations.
11. See BMP A02 for spill prevention, control, and cleanup protocols.

Frequency & Maintenance:
1. Parking lots and storage areas should be cleaned on a regular basis, during routine maintenance rounds, to prevent accumulated wastes and pollutants from being discharged into conveyance systems.
2. Storm water treatment controls in parking lots should be maintained on an as needed basis and following heavy rain events.

Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

Additional Information:
UC San Diego’s Storm Water Pollution Prevention Program: http://stormwater.ucsd.edu
### BMP D10: Maintenance on Equipment Containing Water (e.g., eyewash showers, boilers, condensate drain lines, rooftop HVAC equipment, and drainage sumps)

#### Pollutants of Concern:
- Non-Storm Water Discharges (NSWDs)
- Residual Chlorine
- Bacteria

#### Purpose:
To prevent the discharge of water or chemicals from maintenance on boiler drain lines, condensate drain lines, rooftop HVAC equipment, or drainage sumps from going into storm drains.

#### Application:
Emergency eyewash/shower testing or maintenance and maintenance activities on boilers, condensate drain lines, rooftop HVAC equipment, and drainage sumps.

#### Practices:
1. Do NOT discharge water from safety showers, boiler drain lines, condensate drain lines, rooftop HVAC equipment, or drainage sumps into a storm drain or onto an area that will discharge into a storm drain.
2. Collect water from eyewash shower testing and deposit in a vegetated area away from storm drains.
3. Cover/protect nearby storm drain inlets from outdoor work activities as needed.
4. Collect water from equipment into a portable tank, a tanker truck, or wet/dry shop vacuum (collection tank capacity must be greater than the volume of water being flushed/discharged) and:
   - For large volumes, water must be disposed of to the sanitary sewer system. Discharge must not exceed 35 gallons per minute and/or 6,500 gallons per day.
   - For small volumes (less than 25 gallons), discharge to the sanitary sewer system or, if the water is clean and does not contain any chemicals, to a pervious vegetated area where the water can infiltrate into the ground if it will not reach a storm drain or cause erosion and the water does not contain any chemical additives or cleaning products. Cover/protect nearby storm drain inlets as needed.
5. If chemicals are drained from equipment (e.g., ethylene glycol), collect and properly recycle or dispose of as a hazardous waste (see BMP C03)
6. If water is used to clean, do **not** allow wash water to get into storm drains. Review outdoor washing BMP B01 for appropriate wash water disposal options.
7. Keep areas around outdoor safety showers clean of bird droppings and sediment. Review housekeeping procedures in BMP A01 and outdoor washing and cleaning procedures in BMP B01.

#### Frequency & Maintenance:
Notify EH&S of any observed discharges of water from emergency eyewash/showers, boilers, condensate drain lines, rooftop HVAC equipment, and drainage sumps into storm drain inlets by emailing ehsea@ucsd.edu or calling (858) 534-3660.

#### Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

#### Additional Information:
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)

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**University of California, San Diego**
**BMP D11: Potable Water System Flushing or Chlorination**

**Pollutants of Concern:**
- Non-Storm Water Discharges (NSWDs)
- Residual Chlorine

<table>
<thead>
<tr>
<th>Purpose:</th>
<th>To prevent the discharge of water from potable water system flushing/testing or chlorination of new lines from going into storm drains.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application:</td>
<td>New potable water line chlorination and water system flushing/testing activities</td>
</tr>
</tbody>
</table>
| Practices: | 1. Do NOT discharge water from potable water system flushing/testing or new line chlorination into a storm drain or onto an area that will discharge into a storm drain.  
2. Cover/protect nearby storm drain inlets from outdoor work activities as needed.  
3. **System Flushing:**  
   a. Before beginning the flush, collect any chemicals from the system (e.g., propylene glycol, inhibitors, etc.) into drums for proper disposal as hazardous waste (see BMP C03).  
   b. Collect water and detergent from flushing activities into a portable tank or a tanker truck (collection tank capacity must be greater than the volume of water being flushed/discharged) and dispose of to the sanitary sewer system. Discharge must not exceed 35 gallons per minute and/or 6,500 gallons per day.  
4. **Chlorination of New Water Lines:**  
   a. Collect chlorinated water and de-chlorinate prior to discharge to the sanitary sewer system. Discharge must not exceed 35 gallons per minute and/or 6,500 gallons per day. |
| Frequency & Maintenance: | Notify EH&S of any observed discharges of water from water lines into storm drain inlets by emailing ehsea@ucsd.edu |
| Training: | Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup, and hazardous materials and waste management. |
| Additional Information: | UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu) |

University of California, San Diego
### BMP D12: Pools, Decorative Fountains, and Other Water Features

#### Pollutants of Concern:
- Residual Chlorine
- Bacteria
- Non-Storm Water Discharges (NSWDs)

#### Purpose:
To prevent the discharge of water from pools, decorative fountains, or other outdoor water features from going into storm drains.

#### Application:
Cleaning and maintenance activities on pools, decorative fountains, or other outdoor water features

#### Practices:
1. Do NOT discharge water from pools, decorative fountains, and other outdoor water features into a storm drain or onto an area that will discharge into a storm drain.
2. Cover/protect nearby storm drain inlets from outdoor work activities as needed.
3. When removing water from a pool, decorative fountain, or other outdoor water feature, collect water into a portable tank, a tanker truck, or a wet/dry shop vacuum (collection tank capacity must be greater than the volume of water being removed) and:
   a. For large volumes, water must be de-chlorinated and may be collected and taken to the UC San Diego Central Utilities Plant for use in the cooling towers in coordination with EH&S (ehsea@ucsd.edu) or may be disposed of to the sanitary sewer system. Discharge to the sanitary sewer must not exceed 35 gallons per minute and/or 6,500 gallons per day.
   b. For small volumes (less than 25 gallons), discharge to the sanitary sewer system or, if the water is clean and does not contain any chemicals or residual chlorine, to a pervious vegetated area where the water can infiltrate into the ground if it will not reach a storm drain or cause erosion and the water does not contain any chemical additives or cleaning products. Cover/protect nearby storm drain inlets as needed.
4. If water is used to clean, do **not** allow wash water to get into storm drains. Review outdoor washing BMP B01 for appropriate wash water disposal options.
5. Cover/protect nearby storm drain inlets from outdoor work activities as needed.
6. Control algae with chlorine or other alternatives such as sodium bromide. Do not use copper-based algaecides.
7. Properly clean and/or dispose of filters. DO NOT clean a filter in the street or near a storm drain. Rinse cartridge filters and backwash diatomaceous earth filters onto a dirt area and work filter residue into the soil. If there is not a suitable dirt area, discharge filter backwash or rinse water to the sanitary sewer.
1. Notify EH&S of any observed discharges of water from pools, fountains, or safety other outdoor water features by emailing ehsea@ucsd.edu

2. Keep areas around pools, decorative fountains, and other outdoor water features clean of bird droppings and sediment. Review housekeeping procedures in BMP A01 and outdoor washing and cleaning procedures in BMP B01.

**Training:**

Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

**Additional Information:**

UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
# BMP D13: Erosion and Sediment Control

## Pollutants of Concern:
- Sediment

## Purpose:
To prevent erosion and reduce the discharge of sediment from landscaped areas to the storm drain system.

## Application:
Slopes prone to erosion and dirt stockpiles

## Practices:
1. Use erosion control measures such as fiber rolls, rocks, or soil binders on exposed soils where erosion occurs to keep sediment in place.
2. Provide effective stabilization for erodible areas prior to a forecasted storm event.
3. As applicable, berm and cover stockpiled materials (e.g., dirt from trenching activities). Place stockpiled material away from storm water conveyance system inlets.
4. Do NOT dispose of vegetative debris into the storm water conveyance system.

## Frequency & Maintenance:
Monitor areas prone to erosion during the rainy season and after large rain events and implement mitigation measures as necessary.

## Training:
Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the “Annual Shop & Studio Environmental Compliance & Hazards Training” which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

## Additional Information:
UC San Diego’s Storm Water Management Program: [http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)
## BMP E01: Employee Training

**EDUCATION AND OUTREACH:**
- Storm Water Pollution Awareness
- Behavior Change

### Purpose:
To prevent or reduce the discharge of pollutants from entering into storm drain systems by providing staff with the knowledge, skills, and tools they need in order to minimize the impacts of pollution related to their business practices.

### Application:
To be implemented by UC San Diego EH&S staff to instruct Facilities Management staff and other operations and maintenance staff about storm water pollution prevention and source control BMP implementation.

### Practices:
- Maintenance, shops, trades, and theater staff that perform outdoor work activities that could contribute pollutants to the campus storm water system must take the **“Annual Shop & Studio Environmental Compliance & Hazards Training”** which includes storm water pollution prevention; spill prevention, control, and cleanup; and hazardous materials and waste management.

- Select staff from SIO and Birch Aquarium at Scripps must take the EH&S provided training on SIO’s NPDES permit which includes storm water pollution prevention.

- Staff from Fleet Services and from the Nimitz Marine Facility that are on the Pollution Prevention Team and who are responsible for implementing the Storm Water Pollution Prevention Plan (SWPPP) for the facility must take the EH&S provided Industrial General Permit storm water training annually that covers storm water sampling, monitoring, and BMP effectiveness evaluation.

### Frequency
Annually

### Additional Information:
UC San Diego’s Storm Water Management Program:
[http://stormwater.ucsd.edu](http://stormwater.ucsd.edu)

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