

CNU Stormwater Pollution Prevention (SWPPP) Training

Provided by:
Grounds Department
&
Environmental Health and Safety



Agenda

- Stormwater 101
- Stormwater Pollution Prevention
- Illicit Discharges
- General Best Management Practices (BMPs)
- Spill Response
- Quiz



Stormwater Video



<https://www.youtube.com/watch?v=OTPVFKx8RmA>

CHRISTOPHER NEWPORT UNIVERSITY



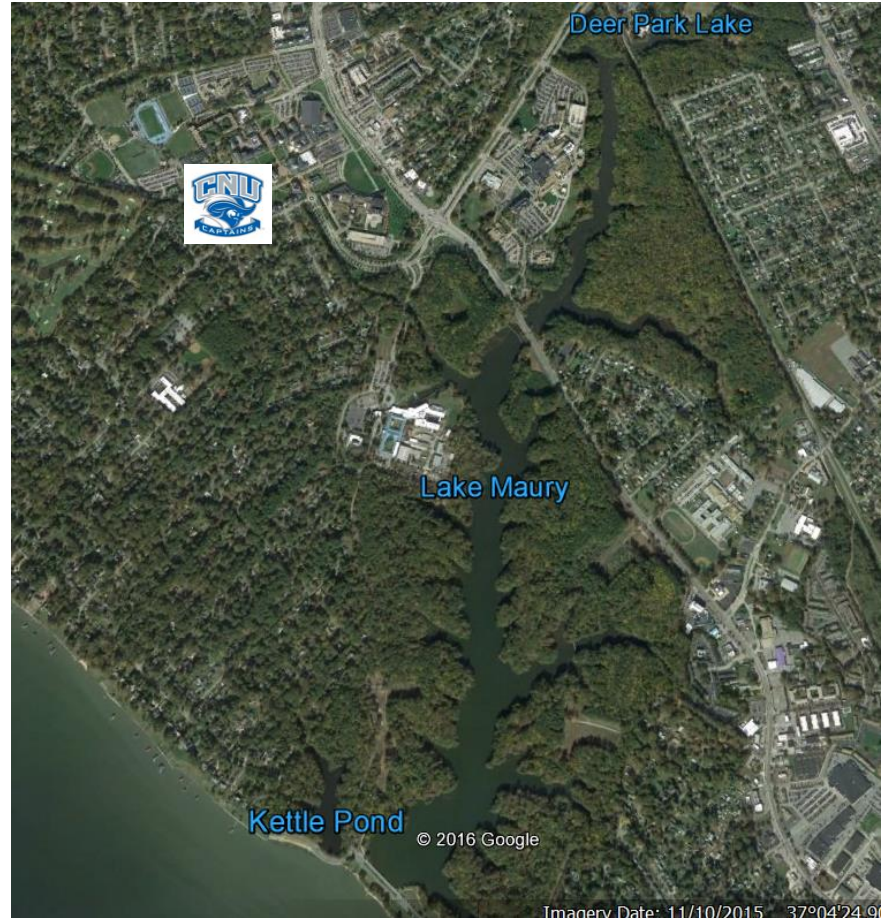
What is Stormwater?

- Stormwater is rainwater or snowmelt that runs off of rooftops, streets, sidewalks, etc. It can carry oil, grease, trash and other pollutants with it into storm drains.



Where does that drain go?

- At CNU, stormwater flows through underground piping directly to Lake Maury and then to the Bay without any filtration or treatment.



Why is it necessary to protect stormwater?

- Pollutants can contaminate the habitats of plants and animals and the local water quality.



Photo :<http://chesapeake.news21.com/blog/index.php/category/pollution/>



Stormwater Pollution Prevention



Regulatory Information



- CNU is registered with the VA Dept. of Environmental Quality (DEQ) as an owner and operator of a small MS4
 - MS4 = Municipal Separate Storm system
 - General Permit VAR040090
 - Covers roads with drainage, catch basins, curb gutters, manmade channels and drains that are owned and/or operated by CNU



Stormwater Pollution Prevention Plan (SWPPP)

- Written Document
- Identifies a Pollution Prevention Team
- Identifies Potential Pollutants
 - Where are they located?
 - What are the pollutants?
 - What activities could contribute to pollution?
- Establishes Best Management Practices (BMPs)
- Outlines MS4 Permit Compliance



MS4 & Pollution Prevention Team

- MS4 Contact & SWPP Coordinator
 - **Dean Whitehead - Director of Grounds**
- Pollution Prevention Team:
 - Senior Assoc. V.P. for Administration & Finance
 - Asst. Director of Grounds
 - Director of Facilities Management
 - Environmental Health and Safety Manager
 - Sustainability Coordinator



Illicit Discharges



Illicit Discharge Policy and Reporting

- Illicit Discharge Detection & Elimination (IDDE) Policy
 - Online: Grounds.cnu.edu
- Purpose
 - Prevent pollutants from getting into the stormwater



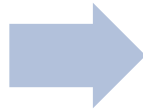
Photo: <http://www.aacounty.org/sebin/t/IllicitDischargePhotoMerge.JPG>



Illicit Discharge Policy and Reporting

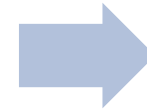
You witness an Illicit Discharge

- Immediately inform your supervisor
- Where is it?
- What is going on?



You're informed of an Illicit Discharge

- Immediately report it to Grounds
- Where is it?
- What is it?
- Who is involved?



Grounds will respond

- Stop work order
- Investigate the incident



Allowed Discharges

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Discharges from drinking water sources
- Foundation drains
- Air conditioning condensation
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Flows from streams and wetlands
- Street wash water
- Discharges of flows from firefighting activities



Photo: https://upload.wikimedia.org/wikipedia/commons/6/6c/2011-02-12_Fire_hydrant_flushing_1.jpg



Photo: <http://automaticraininc.com/communities/6/000/001/375/886//images/4144093.jpg>



Illicit Discharges

- An illicit discharge is when any of the following enter a storm drain:
 - Chemicals
 - Vehicle Fluids
 - Oil
 - Grease
 - Paint
 - Wash Water
 - Animal Waste
 - Garbage
 - Dirt
 - Salt



Image: <http://urbanaininois.us/stormwater%20illicit%20discharges>



Illicit Discharge Examples

[Courtesy of VDOT's IDDE Field Guide \(2014\)](#)



Sanitary wastewater from showers, sinks, etc.



Discharge of Oil, Fuel from Vehicles and Equipment



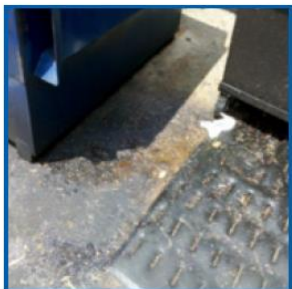
Paints



Mismanaged / Excess Road Salt



Sediment



Cooking Oil and Grease



Grass Clippings and Leaves when Intentionally Blown Into Drains



Nonresidential Vehicle Wash Water



Improper Disposal of Radiator Fluid



Cleaning Chemicals



Best Management Practices (BMPs)



General BMPs

- Clean up your area on a regular basis
 - Sweeping and picking up litter
- Know how to report a spill or leak
- Never pour or wash anything down the stormdrain



Potential Pollutant Sources

- Dumpster Sites
- Buildings and Grounds Maintenance and Repair
- Equipment Maintenance and Repair
- Outdoor Handling and Storage of Materials
- Loading/Receiving Areas
- Equipment Fueling



Waste Management

- Dumpsters must be covered at all times
- Do not allow containers to overflow
- Do not store trash (even temporarily) on the ground
- Sweep and pick up any litter on a regular basis



Buildings and Grounds Maintenance and Repair

- Use dry cleaning methods where possible (e.g. sweep or vacuum)
- Locate materials, equipment, and activities away from storm drains
- Schedule washing and painting for dry days
- Ensure that all washwater, drains to a sanitary sewer, sump, or other proper collection system (i.e. not the stormwater drainage system)
- Clean up spills and leaks promptly



Equipment Maintenance and Repair

- Store leaky vehicles and equipment indoors or, if stored outdoors, store on concrete surfaces and use drip pans until repaired
- Perform all vehicle and/or equipment cleaning on the wash pad
 - Do not wash on a rainy day
- Drain fluids from equipment and vehicles that are no longer in service or will remain unused for extended periods of time



Handling and Storage of Materials

- Properly label containers
- Ensure that containers are in good condition
- Place materials in low traffic areas to prevent accidents
- Store materials in appropriate weather proof containers
- Shelter materials that must be stored outside
- Clean up spills and leaks promptly



Loading & Receiving Areas

- Keep area free of trash or other debris
- Schedule deliveries of potentially polluting materials on dry days
- Ensure that delivery vehicles are parked away from unprotected storm drains
- Clean up spills and leaks promptly



Equipment Fueling

- Don't top off fuel tanks to prevent spills due to overfilling.
- Keep absorbent materials on site for use in prompt cleanup of spills.
- Periodically clean fueling areas using approved methods to remove accumulated fuel and grease.
- Transport equipment to a designated fueling area (e.g. concrete surfaces)



Spill Response



Spill Response Procedures

- Spills include, but are not limited to, releases of oil or hazardous substances in reportable quantities
 - 1) If possible, shut off the source
- Notify your supervisor (if a danger or threat to people or property call CNU Police)
 - 1) *What spilled, how much, where is it*
 - 1) Use proper PPE
 - 2) Contain the spill
 - 3) Cover/block and storm drains



Liquid Spills

- Use absorbent materials or mop up small liquid spills. Do not hose the spill to a storm drain.
- Remove the absorbent materials promptly and follow procedures for proper disposal.



Photo:<http://kentwa.gov/assets/0/185/532/8464/40802189445/c58fb2b7-62d0-4ba7-9e49-9fb356311160.jpg?n=6387>



Dry Material Spills

- Cover a powder spill with plastic sheeting to keep it from blowing until the spill can be cleaned up.
- Do not hose the spill to a storm drain.
- If usable, place spilled material in original or properly marked container.
- Follow procedures for disposal of spilled material that cannot be used.



FAQS

- Is there information specific to what I do at my job?
 - Yes: In the SWPPP there is information on BMPs, good housekeeping, site maps, and activity specific standard operating procedures
- Where can I learn more about stormwater?
 - The SWPPP contains a lot of information about stormwater, our permit, and our requirements
 - Feel free to email grounds@cnu.edu for more information or schedule an appointment with us



Questions?

To report an illicit discharge please contact CNU Grounds: 757-594-8700

Please do not forget to sign the sign-in sheet!



Quiz



Question 1

Stormwater is:

- a) Water that is only produced by severe thunderstorms
- b) Water that comes from the faucet
- c) Rainwater or snowmelt that runs off rooftops, streets, sidewalks, etc.
- d) Water that has been contaminated with pollutants (ex. Oil, trash, chemicals, etc.)



Question 2

Where does CNU's stormwater go:

- a) A wastewater treatment plant where it is filtered and treated
- b) Through underground drainage to Lake Maury and the Bay
- c) Recycled back to the water fountains
- d) Into the ground



Question 3

If you have a stormwater question which department should you ask?

- a) CNU Police
- b) Grounds
- c) Plant Operations
- d) Office of Student Activities



Question 4

A stormwater pollution prevention plan (SWPPP) does which of the following:

- a) Identifies a pollution prevention team
- b) Identifies potential pollutants
- c) Identifies activities that could contribute to pollution
- d) Establishes Best Management Practices (BMPs)
- e) All the above



Question 5

Which of the of the following are allowed discharges:

- a) Landscape irrigation
- b) Fire Hydrant flushing
- c) Air conditioning condensate
- d) All the above



Question 6

Which of the of the following in **NOT** an illicit discharge:



Question 7

Which of the following is a general Best Management Practice (BMP) that applies to any area of the University:

- a) Regularly sweep your area
- b) Regularly pick up litter
- c) Knowing how to report a leak or spill
- d) Never pouring anything down a stormdrain
- e) All the above



Question 8

When reporting a spill you need relay the following information:

- a) What time you start and end your shift
- b) What season of the year it is
- c) What spilled, how much, where is it
- d) Spills don't need to be reported



Question 9

If instructed to clean up the spill, the best way to do it is:

- a) Hose it down the drain immediately
- b) Let it dry, then power wash it away
- c) Use dry methods like absorbents (ex. Oil-dri, kitty litter, etc.)
- d) Spills never have to be cleaned



To receive credit for this training please submit
your answers to the quiz questions to the
Grounds Department.

Grounds@cnu.edu

Thank You

