

The Urban Review

Stormwater and Erosion Control Newsletter

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www.franklinswcd.org

Central Ohio Roundtable / OSWA Education Event

Join us at our office for our last roundtable/OSWA workshop of 2017, where we will be discussing **"How to Recognize and Utilize the Existing Environmental Services at Your Site"**

Date: Thursday, October 19th

Time: 10am-12pm

Cost: Free, thanks to our sponsors!

Register at <https://fswcdroundtable.environmentalservices.eventbrite.com>

Contractor's Breakfast

Date: Thursday, November 2nd

Time: 7:00-8:30am

Cost: Free!

Join us at our office for an informative talk about installed site practices that control sediment and erosion during construction. Hear about common mistakes and issues with stormwater bmp's and steps you can take to avoid costly construction delays and potential fines.

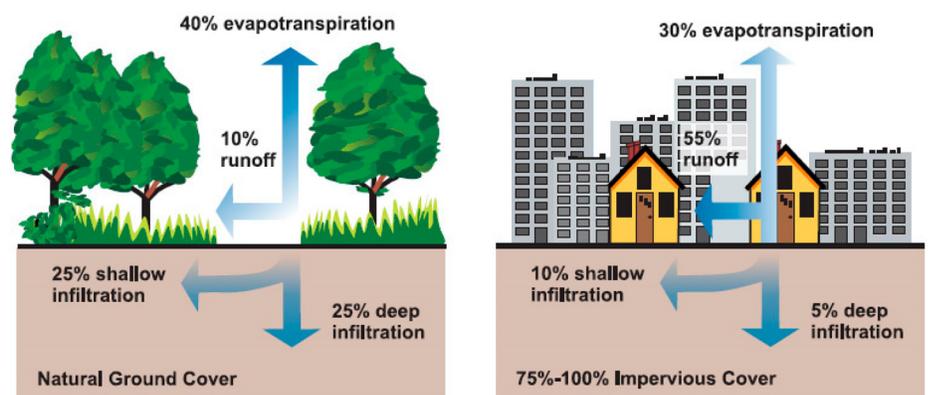
Register now at <https://fswcdcontractorsbreakfast.eventbrite.com>

Sponsored by the cities of Dublin & New Albany

Environmental Services

Defining environmental services needs to have limits placed on the scope of the subject in order to refine the intent of the discussion. The broad reaching scope of the environment and the myriad ways it affects our lives is wide. From economic to physical and emotional effects, we are a product of our environment. So to limit this discussion of environmental services, the meaning here is the natural physical processes in nature that are inclusive of the hydrological cycle which has produced the clean abundant fresh water so critical to our life on Earth. Emulating these processes in our built environment can make our footprint more sustainable into the future. These services include evapotranspiration, flood flow attenuation, and ground water infiltration. These processes are integral to the formation of soils, landforms and vegetative cover that have shaped the evolution of all life on Earth.

Consider evapotranspiration, this is the combined effect of water transformed from the liquid to the gaseous phase either through sublimation or transpiration. Surfaces become wet with rainfall and drying occurs relative



Relationship between impervious cover and surface runoff. Impervious cover in a watershed results in increased surface runoff. As little as 10 percent impervious cover in a watershed can result in stream degradation.

Reproduced from US Environmental Protection Agency Doc. No: [EPA 841-F-03-003](https://www.epa.gov/epaosopr/305a/b305a111.pdf)

to the humidity. Where rainfall is high, the development of triple canopy rainforest is essentially an enormous wetting surface. Vast amounts of plant transpiration and the latent heat storage of water vapor and resulting surface water maintains a high relative humidity. Temperate and boreal forests feature less transpiration and structure for evaporation because of the daily and seasonal fluctuations in humidity. Soils become more important to the hydrological processes as soil carbon content increases with leaf fall and soils are better able to store water. Desert environs, limited in rainfall, demand conservation of water resources through reduced structure and transpiration in plants. Soils tend to be low in organic content and infiltrate quickly.

Consider flood flow attenuation, this is essentially storage and reuse. Excess stormwater is sequestered from the runoff event to be used in other processes like evapotranspiration and infiltration. Tropical forests feature enormous river systems and forest floodplain areas where the evaporative processes can work. In the temperate zones soil capacity for water can be

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2017 Webcast Lineup: Save Money and Earn Free Credits

Bring your lunch and join us in our office this year as we view the 2017 Webcast Series offered by the Center for Watershed Protection. **All webcasts are free to attend and offer CEUs**



>>> Reserve your spot on [Eventbrite](#) or contact Brooke at bfrusher@franklinswcd.org

We are able to offer these webcasts free of charge thanks to the partner communities listed below. These communities help us provide outreach to the development community throughout the year and assist us in promoting responsible land use decisions for the conservation, protection and improvement of our soil and water resources.

City of Bexley | City of Canal Winchester | City of Columbus | City of Dublin | Franklin County Board of Commissioners | City of Gahanna | City of Grove City | City of Hilliard | City of New Albany | The Village of Obetz | City of Reynoldsburg | City of Upper Arlington | City of Westerville | City of Worthington

October 18th (1:00 - 2:30 p.m. EST) **Bringing Better Site Design into the 21st Century** 1.5 CEUs

Much has happened in the world of stormwater and site planning in the 18 years since the release of the Center's Better Site Design Handbook, including technical and regulatory advances that have changed how stormwater is managed and sites are developed. To respond to this need, the Center recently revised the handbook and related support products to reflect the latest in stormwater management technology and regulations such as MS4 permits, provide different versions of the COW for different site situations, update the supporting research, case studies, model code/ordinance library and more!

November 15th (1:00 - 2:30 p.m. EST) **Stream Restoration: Where are we now?** 1.5 CEUs

Recent efforts by an advisory panel to the Chesapeake Bay Program reviewed the latest available science to quantify the various benefits of stream restoration and develop a methodology to document that stream restoration projects are helping them to meet their TMDL targets. In this webcast we will examine the expert panel recommendations and discuss the role of stream restoration in meeting water quality goals and also discuss the results of WERF's National Stream Restoration as a BMP Guidance.

Professional Certification

If you are pursuing your CESSWI, CPESC, SMS4, or CPSWQ, remember to apply at least 45 days before a scheduled exam. For more details on each certification and dates for upcoming exams and review sessions visit <http://www.envirocertintl.org/>.

Events for Continuing Education

Contractor's Breakfast

November 2 | Columbus, Ohio

<https://fswcdcontractorsbreakfast.eventbrite.com>

2017 Storm Water Solutions Conference and Exhibition

November 7-9 | Chicago, Illinois

<http://swsconferenceexpo.com/>

Inspection & Maintenance Certification Course

November 2-3 and 15-16 | Various Locations

<https://sswcd.summitoh.net/node/35>

Partners in Community Forestry Conference

November 15-16 | Tulsa, Oklahoma

<https://www.arborday.org/programs/pcf/>

2017 Ohio Watershed Workshop

November 16 | Columbus, Ohio

www.ohiowea.org

Brownfields 2017

December 5-7 | Pittsburgh, Pennsylvania

<http://brownfields2017.org/>

Resource Links

Rainwater and Land Development Manual

http://soilandwater.ohiodnr.gov/portals/soilandwater/pdf/stormwater/3-3-14RLD_All.pdf

Construction General Permit (CGP)

http://epa.ohio.gov/Portals/35/permits/OHC000004_GP_Final.pdf

Ohio EPA Storm Water Program

<http://www.epa.ohio.gov/dsw/storm/index.aspx#108452491-forms-general-permits>

Ohio EPA's Office of Compliance Assistance and Pollution Prevention (A free resource for Ohio business owners.)

www.epa.ohio.gov/ocapp

Ohio Balanced Growth Program

<http://www.balancedgrowth.ohio.gov/>

County Engineers Association of Ohio

http://www.ceao.org/aws/CEAO/pt/sp/home_page

Ohio Stormwater Association

<http://www.ohioswa.com/>

Water Environment Federation (WEF)

www.wef.org

Ohio Woodland Stewards Program

<http://woodlandstewards.osu.edu/>

Ohio Certified Volunteer Naturalist Program

<http://ocvn.osu.edu/>

Ohio Ecological Food and Farm Association

<http://www.oeffa.org/>

US Green Building Council

<http://www.usgbccentralohio.org/>

Environmental Services *(continued from page 1)*

as high as 40%, banking water for later use or to become a part of the groundwater component that gradually feeds streams and river corridors. Desert areas are often low carbon soils with high infiltration rates to store runoff deep in the soils. Desert plants, that don't have deep roots, have storage organs in the plant tissues to bank their water resources.

Lastly, consider infiltration, the movement of water into the soil. Where soil wetting is reduced because of low carbon and low humidity, infiltration can become limited and runoff occurs. Deserts and tropical forests both share this problem. Desert areas suffer from flash flooding because surface wetting of the soils is difficult. Tropical forests rely less on infiltration because of the interception by the canopy, loss of the canopy results in rapid soil erosion and runoff. Temperate zones have increased soil carbon and high field capacities for water.

How then can we use these properties in our built environment? Rain water runoff is one of the major problems with the human change in land use. As we have congregated in larger concentrations, our need for industry and commerce with others has resulted in a proportional change in our landscape. Agriculture demand increases and urban centers expand with populations. The resulting landform transformations affect our water resources directly and more sustainable approaches are becoming the norm as we realize the significance.

Green infrastructure is an outgrowth of this realization. Incorporating aspects of the hydrologic cycle into our built environment creates stability and sustainability in the ecosystem we are a part of. Nature is not just the "outdoors". It is a large part of our daily lives that we take for granted daily. As you sip your morning coffee reading this, consider what you might do today to conserve and protect the environmental services that provided you with that clean abundant water. Be the Change! for clean water.org

Swimming Pools & Drainage



The water coming from this white pipe could be an illicit discharge and should be further investigated by simply tracing it back to its source.

We are sometimes asked by municipal folks and residents, "Can a pool be drained into the yard or street?" The answer depends on what's in the water. **Chlorinated** pool water cannot be discharged into the municipal storm water system, based on the NPDES permit conditions and many municipal ordinance. This does not mean pool water cannot be discharge onto private property, as long as it stays on private property and doesn't find its way to State waters or cause nuisance problems with neighbors. **De-chlorinated** pool water can be discharged to the nearest storm water system based on NPDES permit conditions but municipal ordinance may not make the distinction. Simply allow the water to sit for some time and the chlorine levels to dissipate before discharging it to a driveway or curb but check with your local zoning officer first.

Some new pool systems use salt to generate the chlorine needed to sanitize the water. This type of pool may have a salinity of 3000 ppm, about equivalent to saline solution used for contact lenses. This pool water cannot be discharged to the storm water system. Discharging this to your lawn may not affect it the first time, but salt will accumulate in the soil over time and eventually degrade the soil conditions and the ability to grow turf. **Salt water pools** should be discharged to the sanitary sewer system or properly disposed by a licensed contractor.

Many pools can be winterized and avoid draining the pool on a seasonal basis, saving you money and reusing a valuable resource.

Check the discharge point for your filter, back washing the filter and lowering the levels of the water may be causing problems if the discharge is saline or highly charged with chlorine, and it may not be allowed to be disposed in the storm water system. Be the Change! for clean water.org

BMP Review: Stabilization



Whether you prefer using seed & straw, hydroseed, mats & blankets, or sod, you are probably most likely using a mix of cool-season grasses to get the job done. And as their name implies, cool-season grasses most actively grow in the spring and fall when soil temperatures are 65 degrees or lower. That means right now is a great time to stabilize any areas that are at final grade or those that will need to sit idle for more than 14 days.



Vegetation density needs to reach a minimum density of 70% across 100% of the site before a Notice of Termination (NOT) can be filed with the Ohio EPA. So, if you anticipate wrapping up your construction project before winter hits, don't forget the vegetation! Otherwise, be prepared for the added cost of S&E inspections throughout the winter and spring until this requirement is met.



And don't skimp on the soil prep. Before installing seed or sod use a subsoiler, plow, or other implement to reduce soil compaction and improve infiltration; remove large rock or debris; and add topsoil and other amendments if lacking; and tamp/roll the area after installation to ensure good seed/root-to-soil contact.

Timely stabilization of disturbed areas is not only a requirement of the Construction General Permit (CGP), but also helps minimize maintenance of other BMPs, like silt fence, inlet protectors and street sweeping.

The recommended time frame for fall seeding is August 1 to September 30. If seeding occurs outside of these specified dates, additional mulch and irrigation may be required to ensure a minimum of 80% germination.

Dormant seeding applications should be done after November 20, and before March 15. And seeding rates should be increased by 50%.

For more guidance on stabilization methods Refer to Chapter 7 of the Rainwater and Land Development manual. You may download the entire manual or specific chapters at <http://soilandwater.ohiodnr.gov/water-conservation/stormwater-management>

Be the Change! [for cleanwater.org](http://cleanwater.org)

Stabilization of disturbed areas shall, at a minimum, be initiated in accordance with the time frames specified in the following tables.

Table 1: Permanent Stabilization

Area Requiring Permanent Stabilization	Time Frame to Apply Erosion Controls
Any areas that will lie dormant for one year or more	Within seven days of the most recent disturbance
Any areas within 50 feet of a surface water of the state and at final grade	Within two days of reaching final grade
Any other areas at final grade	Within seven days of reaching final grade within that area

Table 2: Temporary Stabilization

Area Requiring Temporary Stabilization	Time Frame to Apply Erosion Controls
Any disturbed areas within 50 feet of a surface water of the state and not at final grade	Within two days of the most recent disturbance if the area will remain idle for more than 14 days
For all construction activities, any disturbed areas that will be dormant for more than 14 days but less than one year, and not within 50 feet of a surface water of the state.	Within seven days of the most recent disturbance within the area For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s)
Disturbed areas that will be idle over winter	Prior to the onset of winter weather

Information adapted from page 9 of the Construction General Permit (CGP)



Proper Planting Technique

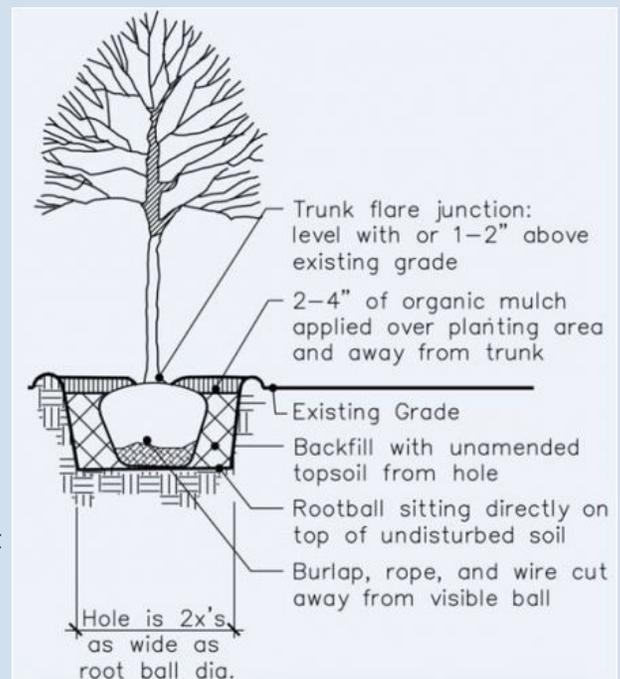
This time of year construction site managers are busy making the most of good weather and subcontractors are busy working to get sites stabilized and landscapes installed as fast as possible. Because of this hurried pace, it is important to make sure the details are not overlooked.

The tree to the left has been installed just as it came from the nursery, with the wire cage, burlap and twine all still in place (and mulched over). While these items do help provide stability to the root ball after being dug from the field and during transport, they can slowly kill a tree if left in place after planting. The burlap draws out moisture from the root ball, and the wire cage can damage roots as the tree grows, but the biggest threat is the twine. Left in place, twine will girdle the trunk and lead to the death of the tree.

Trees provide so many great benefits that proper planting is key to give them the best possible chance to survive the stressful conditions they are exposed to in our urban landscapes. Performing the steps below may take a few extra minutes at installation, but it's nothing compared to the added expense of having to re-visit a site to replace the entire tree later. **Be the Change! for clean water.org**

When planting balled and burlapped (B&B) trees and shrubs follow these simple steps:

1. Whether you are planting one tree or one-hundred, by law, everyone **MUST** contact the Ohio Utilities Protection Service, 8-1-1 or 1-800-362-2764, at least 48 hours but no more than 10 working days (excluding weekends and legal holidays) before beginning ANY digging project. For more information, visit <http://www.oups.org/>.
2. Dig a hole 2-3 times wider than the root ball, but no deeper than the depth of the root ball.
3. Carefully place the plant in the hole and position the top-most roots or trunk flare 1-2 inches above grade.
4. If a wire cage is present, use wire cutters and completely remove if possible. If stock is too large to remove the cage, cut off the cage to at least 12 inches below the top of the root ball.
5. Cut and remove all twine from the trunk and root ball.
6. Cut or pull burlap away from at least the top third of the root ball (can be pushed to the bottom of the hole where it can decompose).
7. Backfill hole with unamended, native soil and gently firm the soil six inches at a time. Organic matter and other amendments can be added to the backfill soil if needed, but applying too much may cause roots to "containerize" or hinder root spread beyond the planting hole. If organic material is needed, use well-aged material and thoroughly incorporate with native soil before backfilling.
8. Apply 2-3 inches of mulch (do not place directly against the trunk); stake and prune (if needed).
9. Water slowly with about 10 gallons of water for every inch of tree diameter. Repeat watering on a weekly basis for the first two growing seasons.
10. Need more Guidance? Contact us or look into training opportunities like those through the Ohio Nursery & Landscape Association <http://www.onla.org/>.



Many good tree planting diagrams can be found online for reference. This example comes from the Yale School of Forestry & Environmental Studies Urban Resources Initiative website <http://environment.yale.edu/uri/get-involved/plant-your-own-tree>

Planting guidance obtained from:

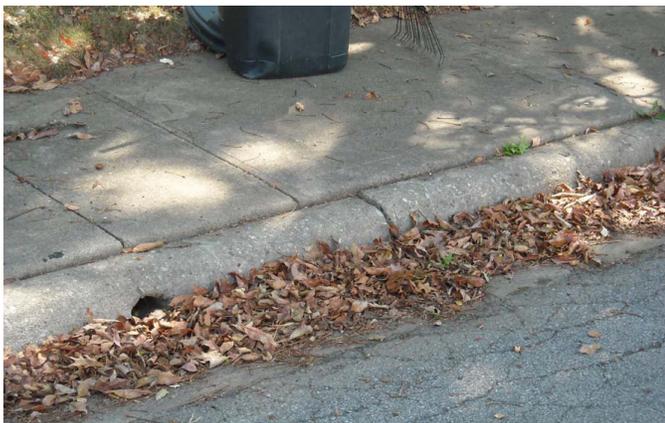
- The Ohio Certified Nursery Technician Landscape Training Manual (A Program of The Ohio Nursery and Landscape Association)
- Colorado Master Gardener Program (CMG GardenNotes #633) <http://www.ext.colostate.edu/mg/gardennotes/633.html>
- Planting Guidelines – Balled and Burlapped (B&B) Trees and Shrubs from Weston Nurseries <https://www.westonnurseries.com/planting-guidelines-balled-and-burlapped-bb-trees-and-shrubs/>

Fall Yard Work and Stormwater

With the changing of the seasons comes the beginning of nutrient recycling in nature. Damaged leaves and overstressed plants are already dropping leaves to become winters blanket and next years' leaf mold and spring fertilizer. Nutrient sinks, like forests, wetlands, streams, and stormwater basins, become loaded for next years' plant uptake and growth.

Managed and paved urban environments short circuit nutrient recycling through leaf removal and easily transported leaves to the stormwater system. Stormwater ponds, designed to accumulate runoff and water borne sediment and detritus, become the nutrient sink for large urban areas and nutrient enriched.

Small ponds react quickly with algal bloom, larger ponds may not show any signs until after winter when the conditions for photosynthesis are better.



The leaves that have accumulated along this curb can impact water quality if flushed to a nearby stream or pond and should be removed. The small circular opening in the curb is where roof gutters and basement sump pumps discharge, and if clogged can lead to property damage via gutter blockages, basement flooding, and ice dams

We can all do our part for better water quality through the year by recycling nutrients on our property.

Be the Change! [for clean water.org](http://for.cleantwater.org)

- use a mulching mower for grass and leaves
- clean up grass clippings or leaves that get blown into the street
- clean your curb line gutter regularly, it drains to a pond or creek near you!

Street Sweeping -- An under-appreciated BMP

Street sweeping has long been a service provided by municipalities to residents often as an aesthetic practice to remove trash, sediment buildup, and large debris from curb gutters. Streets, roads, highways and parking lots accumulate significant amounts of pollutants that contribute to stormwater pollutant runoff to surface waters.



A study conducted in Seattle found while streets only account for 16% of Seattle's surface area, they contribute to more than 40% of the pollution load in stormwater runoff. Street cleaning already is proving beneficial. In 2014, the program removed 18 kg (40 lb) of copper, 36 kg (80 lb) of zinc, 77 kg (170 lb) of phosphorus, and 27 Mg (130 ton) of fine particulate matter. During the past 4 years, street cleaning has intercepted one and a half times the amount of pollutants removed by all other water quality treatment facilities maintained by Seattle Public Utilities while costing four to ten times less than typical treatment technologies.

The City of Dana Point, California reported that when sweeping was conducted twice a month, the monthly debris intake was 23 tons. Dana Point then increased street sweeping frequency to a weekly basis and the monthly total increased to between 45 and 80 tons of debris illustrating the importance of understanding the loading and frequency needs of this bmp. [Be the Change! for clean water.org](http://for.cleantwater.org)



Thank You!

The 15th Annual Central Ohio Stormwater & Erosion Control Expo was held earlier this fall, and we would like to say thank you to all that attended and the partner communities, exhibitors, and sponsors that made the event possible!!

We revisited an older format and had a beautiful day for holding presentations inside and out, and even made time for some friendly competition on the Stormhole-Cornhole boards as well.

We saw a record-number of exhibitors and sponsors this year and received a lot of great feedback from attendees that will help us improve and grow the event next year!

If you are not already a partner or want to learn how you can get involved, please contact Brooke at bfrusher@franklinswcd.org or Dave at dreutter@franklinswcd.org

Sponsorships Provided by the Companies Listed Below



Franklin Soil and Water Conservation District is asking our supporters to participate in our Be the Change for Clean Water campaign. Our goals are to reach central Ohio residents through an aggressive clean water and pollution prevention marketing plan.

Our partners will pool resources and expertise while streamlining communications, and residents in agricultural, rural, suburban, and urban settings will be targeted. It will include paid advertising, graphics, presentations, educational materials, and even an interactive game show.

Participating collaborators span nine counties, and include fellow soil and water districts, local governments, several public planning or environmental agencies, and nonprofit organizations. We are confident that water quality messages deserve attention and ambitiously hope that grant funding will kick-start Be the Change for Clean Water into 2018.

Over the long term we envision this partnership coordinating not only messaging, but also securing additional resources and support to improve and protect our water resources throughout Central Ohio!



New Certification Course!

To help fill the growing demand to build a knowledgeable workforce that can confidently inspect and perform maintenance on storm-water facilities, The Ohio State University and Summit Soil and Water Conservation District have developed a curriculum based on Ohio’s maintenance standards and design specifications for SCMs.

This 2 day certifying course involves classroom modules on each SCM approved for use in Ohio, conducting realistic inspections of SCMs in a field-learning portion, and an exam. Participants will receive re-sources to assist with the classroom modules, and learn the basics about Ohio SCM specifications and their inspections.

Upon completion of the course and successfully passing the exam, the attendee will be awarded a certification and a personal certification number from The Ohio State University. The certification will be good for 3 years, and refresher courses will be offered to maintain certification and provide updates to the certified individual on changes to Ohio standards and new developments in maintenance techniques. The cost of this course and three year certification is \$200.00. **To learn more about this certification, please check out the website at <https://sswcd.summitoh.net>.**

November 2-3

Watershed Stewardship Center
2277 West Ridgewood Drive,
Parma, Ohio 44134

November 15-16

Franklin Soil and Water
1404 Goodale Blvd., Suite 100,
Columbus, Ohio 43212



Water Quality Partner Featured Practice Dumpster Maintenance

Did you know that “dumpster juice” can affect oxygen levels in bodies of water, causing fish kills and may contain high levels of nutrients, heavy metals, and other toxins that can find their way into the nearest stream?

Thankfully, there are some simple things that can be done to ensure your dumpster is not the source of an illicit discharge.

- Keep dumpster lids closed,
- Check drainage plugs,
- Keep liquid waste out of the dumpster, and
- Learn what qualifies as a hazardous waste at swaco.org.



Businesses can call Environmental Enterprises Incorporated at 614-294-1300 to inquire about associated disposal costs of hazardous materials.

If your dumpster is damaged or missing lids/plugs, contact your waste collection company for a replacement. Be the Change! for cleanwater.org

The communities below are participating in the Water Quality Partner Program

City of Bexley | City of Canal Winchester | City of Dublin | Franklin County Board of Commissioners | City of Gahanna | City of Hilliard | City of New Albany | Village of Obetz | City of Reynoldsburg | City of Upper Arlington | City of Westerville | City of Worthington

See which businesses are taking the pledge or learn how you can get involved by visiting <http://www.franklinswcd.org/programs-and-services/storm-water-program-management/businesses-pledging-to-be-water-quality-partners/>