

Saginaw County Public Works Landscape Maintenance

The Saginaw County Public Works Commissioner's Office uses licensed staff applicators with the application of pesticides/herbicides. Staff who are responsible for performing this application receive refresher courses annually for the proper techniques of applying pesticides/herbicides to any of their owned vegetated properties.

If the Saginaw County Public Works Commissioner's office contracts this activity out, the contractor will be required to read and sign a contractor stormwater compliance agreement for all landscape and lawn maintenance performed on County owned property. This standard operating procedure shall be updated/revised by either Saginaw County Public Works Commissioner's appointed Stormwater Program Manager and/or the Saginaw County Public Works Commissioner's designee when deemed necessary. Any updates will be included in future progress reports submitted to the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

Overview

Landscape maintenance include the following activities: vegetation removal, herbicide and insecticide application, fertilizer application, watering, and other gardening and lawn care practices. Vegetation control typically involves a combination of chemical (herbicide) applications and mechanical methods. All of these maintenance practices have the potential to contribute pollutants to the storm drain system. When applicable, to reduce or minimize the discharge of pesticides, herbicides, and fertilizers to the storm drain system and receiving waters, and to prevent the disposal of landscape waste into the storm drain system, the Saginaw County Public Works Commissioner's staff will review and apply the following approaches, protocols, and requirements below.

Approach

Pollution Prevention

- The pesticide applicator must be certified by the State of Michigan as an applicator in the applicable category, to prevent or reduce pollutant runoff from vegetated land.
- Implement an Integrated Pest Management (IPM) program, if applicable. IPM is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools.
- Choose low water using flowers, trees, shrubs, and groundcover.
- Consider alternative landscaping techniques such as naturescaping (planting native species) and xeriscaping (using drought tolerate plants).
- Conduct appropriate maintenance (i.e. properly timed fertilizing, weeding, pest control, and pruning) to help preserve the landscapes water efficiency.

- Consider grass cycling (grass cycling is the natural recycling of grass by leaving the clippings on the lawn when mowing. Grass clippings decompose quickly and release valuable nutrients back into the lawn).

Protocols

Mowing, Trimming, and Weeding

- Whenever possible use mechanical methods of vegetation removal (e.g. mowing with tractor-type or push mowers, hand cutting with gas or electric powered weed trimmers) rather than applying herbicides. Use hand weeding where practical.
- Avoid loosening the soil when conducting mechanical or manual weed control; this could lead to erosion. Use mulch or other erosion control measures when soils are exposed.
- Performing mowing at optimal times. Mowing should not be performed if significant rain events are predicted.
- Mulching mowers may be recommended for certain flat areas. Other techniques may be employed to minimize mowing such as selective vegetative planting using low maintenance grasses and shrubs.
- Collect lawn and garden clippings, pruning waste, tree trimmings, and weeds. Chip if necessary and compost (see waste management section of this fact sheet).
- Place temporarily stockpiled material away from watercourses, and berm or cover stockpiles to prevent material releases to storm drains.

Planting

- Determine existing native vegetation features (location, species, size, function, and importance) and consider the feasibility of protecting them. Consider elements such as their effect on drainage and erosion, hardiness, maintenance requirements, and possible conflicts between preserving vegetation and the resulting maintenance needs.
- Retain and/or plant selected native vegetation whose features are determined to be beneficial, where feasible. Native vegetation usually requires less maintenance (e.g. irrigation, fertilizer) than planting new vegetation.
- Consider using low water use groundcovers when planting or replanting.

Waste Management

- Compost leaves, sticks, or other collected vegetation or dispose of at a permitted landfill. Do NOT dispose of collected vegetation into waterways or storm drainage systems.
- Place temporarily stockpiled material away from watercourses and storm drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.

- Reduce the use of high nitrogen fertilizers that produce excess growth requiring more frequent mowing or trimming.
- Avoid landscape wastes in and around storm drain inlets by either using bagging equipment or by manually picking up the material.

Irrigation

- Where practical, use automatic timers to minimize runoff.
- Use popup sprinkler heads in areas with a lot of activity or where there is a chance the pipes may be broken. Consider the use of mechanisms that reduce water flow to sprinkler heads if broken.
- Ensure that there is no runoff from the landscaped area(s) if re-claimed water is used for irrigation.
- If bailing of muddy water is required (e.g. when repairing a water line leak), do NOT put it in the storm drain; pour over landscaped areas.
- Irrigate slowly or pulse irrigate to prevent runoff and then only irrigate as much as is needed.
- Apply water at rates that do not exceed the infiltration rate of the soil.

Fertilizer and Pesticide Management

- Utilize a comprehensive management system that incorporates IPM techniques, when applicable. There are many methods and types of IPM, including the following:
 - Mulching can be used to prevent weeds where turf is absent, fencing installed to keep rodents out, and netting used to keep birds and insects away from leaves and fruit.
 - Visible insects can be removed by hand (with gloves or tweezers) and placed in soapy water or vegetable oil. Alternatively, insects can be sprayed off the plant with water, or in some cases vacuumed off of larger plants.
 - Store-bought traps, such as species-specific, pheromone-based traps or colored sticky cards, can be used.
 - In cases where microscopic parasites, such as bacteria and fungi, are causing damage to plants, the affected plant material can be removed and disposed of (pruning equipment should be disinfected with bleach to prevent spreading the disease organism).
 - Small mammals and birds can be excluded using fences, netting, and tree trunkguards.
 - Beneficial organisms, such as bats, birds, green lacewings, ladybugs, praying mantis, ground beetles, parasitic nematodes, trichogramma wasps, seed head weevils, and spiders that prey on detrimental pest species can be promoted.
- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.

- Use pesticides only if there is an actual pest problem (not on a regular preventative schedule).
- Do not use pesticides if rain is expected. Apply pesticides only when wind speeds are low (less than 5 mph).
- Do not mix or prepare pesticides for application near storm drains.
- Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the pest.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Calibrate fertilizer and pesticide application equipment to avoid excessive application.
- Periodically test soils for determining proper fertilizer use.
- Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Purchase only the amount of pesticide that you can reasonably use in a given time period (month or year, depending on the product).
- Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Dispose of empty pesticide containers according to the instructions on the container label.

Inspection

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

Training

- Educate and train employees on use of pesticides and in pesticide application techniques to prevent pollution. Pesticide application must be under the supervision of a Michigan qualified pesticide applicator.
- Train/encourage municipal maintenance crews to use IPM techniques for managing public green areas.
- Annually train employees within departments responsible for pesticide application on the appropriate portions of the agency's IPM Policy, SOPs, and BMPs, and the latest IPM techniques.
- Employees who are not authorized and trained to apply pesticides should be periodically, at least annually, informed that they cannot use over-the-counter pesticides in or around the workplace.

- Use a training log, or similar method, to document training.
- Existing staff shall be trained once during the permit cycle and within the first year of hire for new staff.

Spill Response and Prevention

- Please refer to the Spill Prevention, Control & Cleanup section.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Requirements

Maintenance

- Not applicable.

Measurable Goals

- # of staff trained or read procedure
- # of staff trained as pesticide applicators per year.
- Quantity of material composted per year (cubic yards, bushels, other measurements accepted)
- Implementation of new Integrated Pest Management projects and outcome.

References

GLRC Municipal BMP Handbook
www.mywatersheds.org