

## Agricultural High Tunnels

### Stormwater Management Technical Guidance

**INTRODUCTION:** Act 15 of 2018 amends the state’s Storm Water Management Act of 1978 to exempt certain agricultural high tunnels from the requirement to develop a stormwater management plan. Although all municipalities are required to amend their ordinances to comply with Act 15, many local ordinances were passed prior to this amendment and do not reflect the current exemption.

This and the lack of a full understanding of agricultural high tunnels have led some municipalities to treat high tunnels as typical buildings. Although high tunnels are impervious to the extent that the plastic covering is impervious, there are other distinctions between high tunnels and permanent structures:

1. There is no excavation or impaction of the soil during construction or use of high tunnels.
2. There are no footers. Rainwater running off the cover infiltrates the soil outside the high tunnel walls and often drains to the immediate interior of the tunnel walls.
3. High tunnels are temporary structures on the landscape. The land can be cropped after a high tunnel is removed. Requiring permanent infiltration practices such as stone trenches would interfere with the typical one-to-five-year rotation of high tunnels on a property.

Professionals experienced in erosion control and high tunnel operation assert that high tunnels should be treated as a field practice -- typical NRCS soil runoff practices can be applied. If there’s a slope, there could be erosion potential. Grassy areas or swales around the high tunnel walls are often enough to manage the stormwater runoff.

The following guidance will help you get started in the siting of an agricultural high tunnel as it relates to managing stormwater runoff.

**Find out if there is a local permit requirement.** Check with your municipality to inquire about all permit requirements for high tunnels – building permit, Subdivision and Land Development Ordinance requirements, and stormwater management.

**Obtain and review a copy of your municipality’s stormwater management ordinance.** It is important to be familiar with how your local zoning officer may interpret the application of your local stormwater management ordinance. If it does not reflect Act 15 of 2018, become familiar with what is required under the ordinance so that you are prepared to discuss how low impact stormwater practices can sufficiently address runoff from the proposed high tunnel.

**Siting requirements. Understand the state exemption and definition for high tunnels as enacted by Act 15 of 2018.**

For purposes of Act 15 of 2018, a high tunnel is legally defined as a structure that:

- 1) Is used for the production, processing, keeping, storing, sale or shelter of an agricultural commodity, or for the storage of agricultural equipment or supplies; **and**

- 2) (i) Has a metal, wood or plastic frame; and (ii) when covered, has a plastic, woven textile or other flexible covering; and (iii) has a floor made of soil, crushed stone, matting, pavers or a floating concrete slab.

Not all high tunnels are exempt from the stormwater management plan requirement. Your high tunnel is exempt if:

- 1) The impervious surface is less than or equal to 25% of ALL structures on your total contiguous land area; AND
- 2) It meets one of these 3 conditions:
  - a. On slopes  $\leq$  7 percent, it's 35 feet from a watercourse, public road, or property line;
  - b. On slopes  $>$  7 percent, it's 100 feet from a watercourse, public, road, or property line;
  - c. It has a buffer/diversion system that does not directly drain into a stream or other watercourse by managing runoff in a manner that meets Storm Water Management Act requirements.

Keep in mind that your high tunnel must still comply with other state requirements to protect waterways, such as PA's Chapter 102 regulations (Erosion & Sedimentation Control) and Chapter 105 regulations (governing activities along or across waterways).

**Consider low-impact best management practices to control potential soil erosion.**

Because high tunnels will generate some sheet flow from canopy runoff, there is a need to install conservation measures around the structures to manage or infiltrate the runoff. Examples include vegetative filter areas, grass swales, diversion, and tree/plant buffers particularly if a stream or watercourse is downhill of the high tunnel. Your local NRCS or Conservation District office can provide design assistance.

**Request assistance or contact your county resource professionals.**

If you live in Lancaster or York counties, the following conservation professionals may be able to conduct a site visit or provide technical expertise on appropriate stormwater controls:

Lancaster County:

Heather Grove, District Conservationist, NRCS – [heather.grove@pa.usda.gov](mailto:heather.grove@pa.usda.gov); phone – 717-874-2530  
Kent Bitting, Engineer, Lancaster County Conservation District - [kentbitting@lancasterconservation.org](mailto:kentbitting@lancasterconservation.org);  
phone – 717-299-5361 Ext 2540

York County:

Eric Samus, District Conservationist, NRCS – [eric.samus@pa.usda.gov](mailto:eric.samus@pa.usda.gov); phone – 717-894-3001  
Jeff Spangler, Engineer, York County Conservation District – [jspangler@yorkccd.org](mailto:jspangler@yorkccd.org); phone - 717-840-7430