

Self-Guided Tour of Best Management Practices

1. Landscaping using native plants - Native plants are tolerant of local conditions, reducing maintenance and water use.

2. Rain Gardens - A shallow surface depression planted with specially selected native vegetation to treat and capture stormwater runoff from the parking lot.

3. Rain Barrels - A practice that captures and stores roof runoff for future beneficial use. Multiple rain barrels can be connected to provide for additional storage.

4. Stormwater Disconnect - Stormwater is minimized by eliminating curbs and allowing water to flow naturally across grassed areas.

5. Community Gardens - These gardens provide an opportunity for local residents to learn from each other as they grow their own fresh produce.

6. Garden Utility Building with Green Roof - This building was built to demonstrate how an existing shed can be retrofitted with a green roof. There are many benefits of a green roof including reduced stormwater runoff, increased roof life, improved insulation, and improved air quality.

7. Compost Demonstration - This active compost site is used for education as well as providing compost for the various projects on site.

8. Trial Gardens - This garden is planted and maintained by Master Gardeners for education and experimental purposes.

9. Vegetated Swale - A shallow channel designed to replace traditional curbing and pipes to convey stormwater. The swale allows water to infiltrate, and the grass provides filtering and treatment to improve water quality. On steeper slopes, Check Dams are used to further slow down runoff and enhance infiltration of stormwater.

10. Infiltration/ Detention Basins - Stormwater from smaller storm events is stored and infiltrated. Runoff from larger events is temporarily stored and slowly discharged over an extended period of time.

11. Solar Photovoltaic Array - This 2.8 kW system converts solar energy into electricity. The dual axis tracker follows the sun throughout the day. The tracker also adjusts to changes in the sun's path through the seasons.

12. Pervious Pavers - These pavers promote the infiltration of runoff and recharge groundwater. A variety of pervious materials are available including plastic, concrete and asphalt. A poured concrete example can be found across the street at the HACC - Gettysburg Campus.



13. Dry Well - Located under the grass is a pit lined with large rocks to provide storage of rooftop runoff for groundwater recharge. A special fabric between the soil and rock layer prevents the soil from settling between the rocks.

14. Riparian Buffer - This vegetated area adjacent to the stream was preserved to reduce the impact of the surrounding land use. Additional native trees and shrubs were planted to enhance the existing buffer.

15. Stream Bank Fencing & Livestock Crossing - Restricting livestock access to streams reduces stream bank erosion. Limited access to the stream is provided through stabilized stream crossings. This mock crossing uses concrete slabs to provide a stable surface for livestock.

16. Bio-retention Pond - Rooftop runoff is temporarily stored and the groundwater is recharged through infiltration. Native plants filter stormwater and provide habitat.

17. Solar Photovoltaic Array - This 8.4 kW system converts solar energy into electricity. This system is stationary, oriented to the sun angle and direction that captures the most solar energy without using a tracking system.

18. Air Conditioning System - The system produces ice during off-peak hours when energy costs are significantly lower. The ice is stored in underground tanks and used to cool the building during office hours.

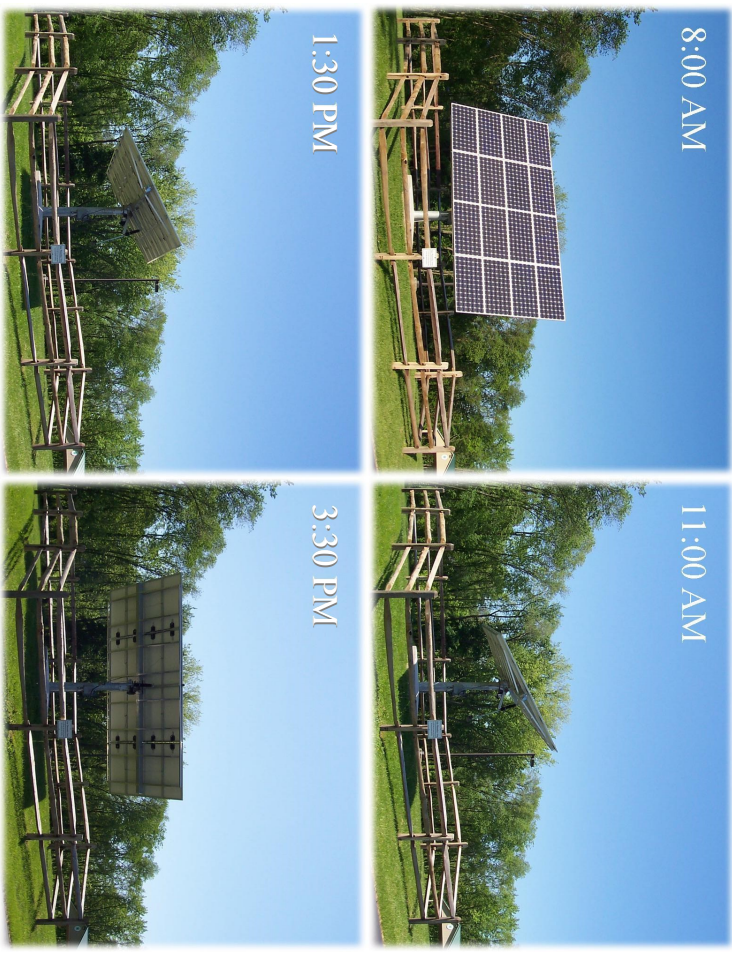
19. Solar Water Heater - Solar energy is absorbed by thermal panels to preheat water for the building. The system works throughout the year, as well as on cloudy days.

20. Meadow Planting - An alternative to a traditional lawn is demonstrated. There is less maintenance anticipated with an established meadow planting. There are considerable wildlife benefits as well.

21. Recycling - Facilities are provided to encourage recycling of everyday materials such as paper, plastic, metal and glass. There is also a facility to collect pesticide containers for proper recycling or disposal.

22. Bike Racks - Those who prefer to ride their bikes can use the convenient racks provided. Riding bikes is an obvious alternative to driving and is an easy way to conserve our natural resources.

23. Additional Stormwater Best Management Practices can be found across the street at the Harrisburg Area Community College.



BMP #11- Solar Panels with Dual Axis Tracker

Solar photovoltaic panels were installed in July 2008. A fixed ground mounted array composed of 48 separate panels is positioned facing south with no moving parts. A smaller dual-axis tracking array composed of 16 panels tracks the sun daily, as well as adjusts for the seasonal changes in the angle of the sun. Energy produced, money saved, and pollution that has been reduced by the two arrays can be compared by accessing a link through www.sunnyportal.com.

For questions concerning the various Best Management Practices, please contact the Adams County Conservation District at (717) 334-0636.

Self-Guided Tour of Best Management Practices at the Adams County Agricultural and Natural Resources Center

670 Old Harrisburg Road
Gettysburg, PA 17325

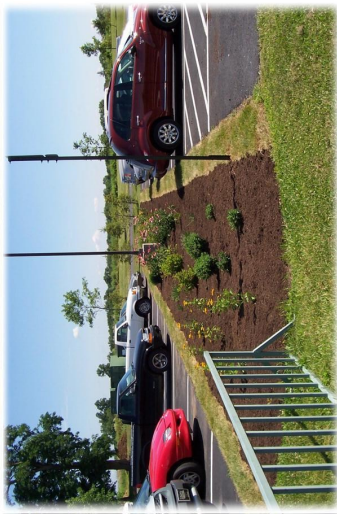


BMP #3- Rain Barrels

**Showcasing and Promoting Practices and Techniques
to Protect Our Natural Resources**

Stormwater Management

A common theme that should be noticed throughout the grounds is the minimal use of traditional piping and curbing for the conveyance of stormwater off the site. Stormwater runoff is “disconnected” from a direct discharge to the streams and waterways. Instead, water is allowed to infiltrate, or soak into the ground in a more natural fashion. Keeping water on site reduces the impact of downstream flooding and also helps with the recharge of our water table.



BMP #2- Rain Garden with and without rain

Recycle and Reuse

There was also considerable thought put into what materials were used in constructing the Ag Center. The carpeting throughout the building is made from recycled materials and is 100% recyclable. The carpet was installed in segments which will allow for selective replacement of damaged or worn sections rather than unnecessarily replacing large areas.

The office spaces are divided using a Demountable Partition System instead of traditional framed walls. This system allows flexibility for rearranging the office spaces and the ability to reuse the partition walls.

There are recycling containers in every office and public space. Plastic, glass, metal, cardboard and paper are recycled. There is also a facility to accept pesticide containers for proper recycling and disposal.

Energy Efficiency

A variety of products and practices were used in the building to reduce energy consumption. The air conditioning system is programmed to produce ice during off peak hours when energy costs are lower. The ice is stored in underground tanks. During office hours, the ice is used to cool air that is then circulated through the building. Programmable thermostats reduce the need to cool or heat the building when the offices are closed. Each room has individually controlled thermostats that can be manually adjusted for night or weekend events.

The Adams County Agricultural and Natural Resources Center

The various government agencies housed in the Adams County Agricultural & Natural Resources Center promote practices which conserve our natural resources. Commonly referred to as the “Ag Center,” considerable effort has been made to embody the spirit of conservation into this building.

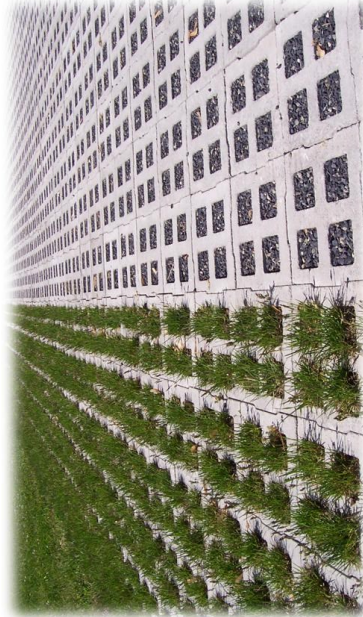
Ag Center Agencies are:

- Adams County Conservation District
- Penn State Cooperative Extension
- USDA Farm Service Agency
- USDA Natural Resources Conservation Agency
- Land Conservancy of Adams County

Site Design

Existing site conditions were taken into consideration during the design process. A riparian buffer, a vegetated strip adjacent to the stream, was preserved to provide habitat and a natural filter area. Rather than develop virgin land, the Ag Center was built on the former site of the county’s Alms House. The formerly unnamed tributary that runs through the property has recently received the official name of Alms House Run from the United States Geological Society.

Realizing there was an opportunity to showcase and promote practices that preserve our natural resources, a number of Best Management Practices (BMPs) and Green Technologies were used in the design and construction of the Ag Center. These BMPs reduce energy use and increase efficiency, reduce stormwater runoff and improve groundwater recharge.



BMP #12- Pervious Pavers