

# PA Dirt and Gravel Road Maintenance Program 2,500 projects and counting



# PA Dirt and Gravel Road Maintenance Program 2,500 projects and counting



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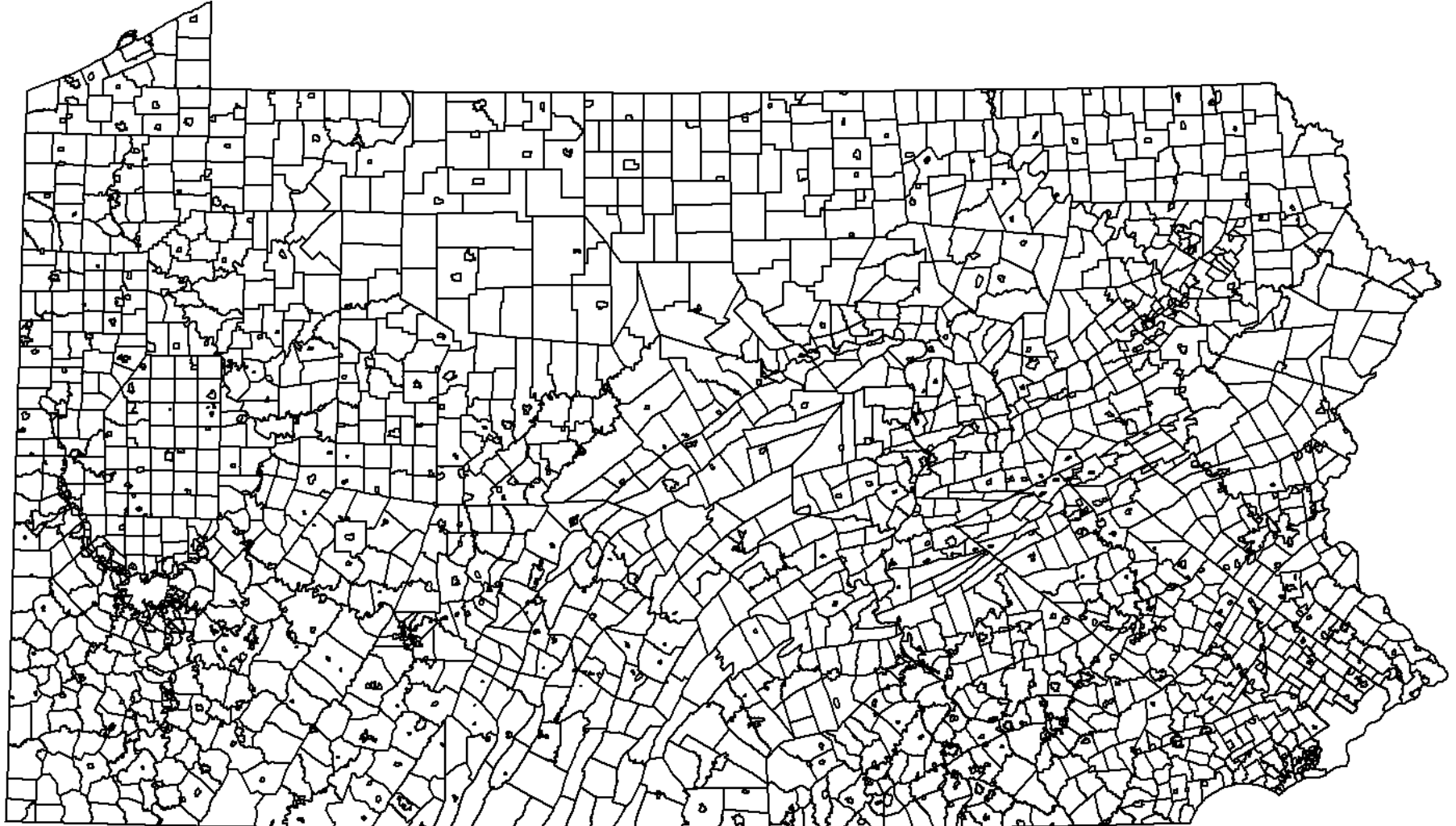
# TOPIC OUTLINE

- **Program Overview**
- **Sample Projects**
  - 2001
  - 2008
  - 2012
  - Big Picture
- **Sediment Quantification**
- **Moving Forward**

06/13/2010



- 54% owned by 2,500+ local municipalities**
- total of 67,000 miles of public road (twps 51K, boroughs 9K, cities 7K)**
- Many are rural townships with small road departments and limited budgets**



- Began in 1997 (Trout Unlimited initiative)



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- **\$5 Million per year in grant funding**
- Run Statewide through PA State Conservation Commission (Agriculture)
  - Run locally by County Conservation Districts
  - Local road owning entities apply for grant to District.

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- **GOAL: Long term solutions to reduce stream pollution and maintenance costs from roads.**

## Traditional Stormwater

- **Collection**
- **Armoring**
- **Transport**

## Traditional Stormwater

- ~~Collection~~
- ~~Armoring~~
- ~~Transport~~

## Environmentally Sensitive Maintenance

- **Dispersal**
- **Sheet flow**      *“disconnect the rural storm water system”*      *“restore natural drainage”*
- **Infiltration**

## Environmentally Sensitive Maintenance

- Reduce concentrated drainage.
- Reduce sediment pollution.
- Reduce impact of road on the land.
- **Reduce long-term maintenance costs.**

*“Better Roads,  
Cleaner Streams”*

# More information: Handout 1

## PA Dirt and Gravel Road Maintenance Program 2014 Annual Summary Report



### DIRT AND GRAVEL ROAD PROGRAM OVERVIEW

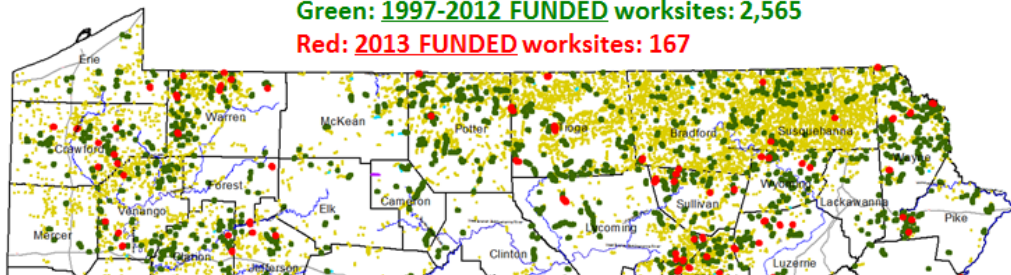
Pennsylvania's Dirt and Gravel Road Program provides grant funding to local municipalities in order to reduce environmental impacts and long-term maintenance costs associated with public unpaved roads. The Program was enacted into law in April 1997 as Section 9106 of the PA Vehicle Code, with \$4 million in annual funding for "environmentally sensitive road maintenance." Each year, the State Conservation Commission allocates this funding based on identified need to County Conservation Districts. Townships and other road-owning entities then apply to their local District to address identified pollution problems using environmentally sound road maintenance practices. All grant applicants must complete a 2-day "Environmentally Sensitive Road Maintenance" training course focusing on lowering maintenance costs and reducing stream pollution.

**Funding Increase for 2014-15!** Dirt and Gravel Road Program funding increases from \$4M to \$20M annually, with an additional \$8M component for paved low-volume roads. *details on back*

### 2013 Summary:

Since it began in 1997, the Program has funded a total of 2,565 local road improvement projects spanning 65 Counties and 691 municipalities across Pennsylvania. In 2013 alone, nearly \$3.1 million was spent on 167 completed worksites spanning 47 Counties and 122 municipalities.

**2013 Status Map:** Yellow: **Unfunded identified worksites: 14,195**  
Green: **1997-2012 FUNDED worksites: 2,565**  
Red: **2013 FUNDED worksites: 167**



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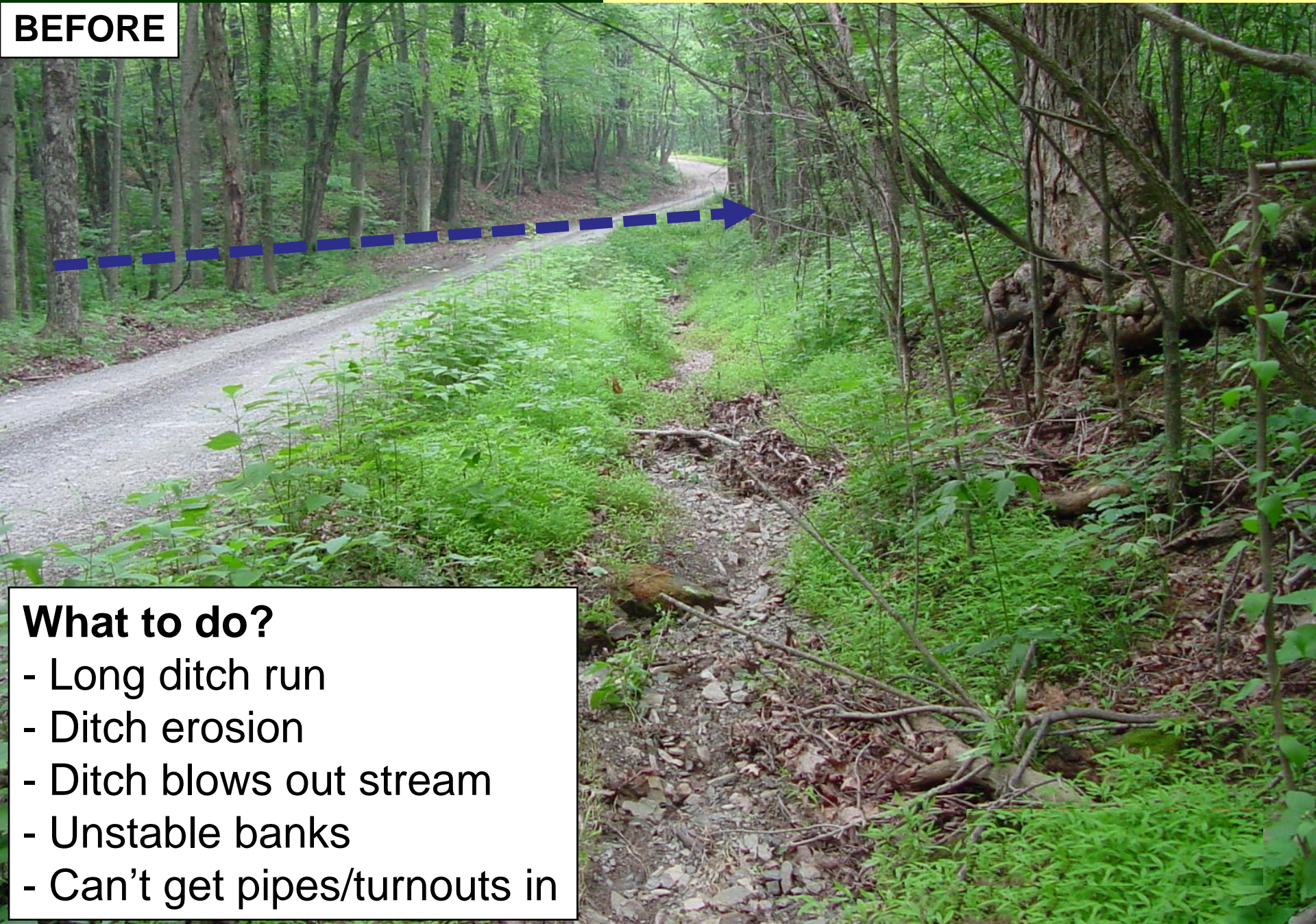
**BEFORE**



**What to do?**

- Long ditch run
- Ditch erosion
- Ditch blows out stream
- Unstable banks
- Can't get pipes/turnouts in

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**Ditch erosion is a  
symptom,  
not the problem.**



**BEFORE**



**IDEAL  
ELEVATION**

Fill and Compact



**IDEAL  
ELEVATION**

2001 9 29

Fill and Compact



**IDEAL  
ELEVATION**

2001 10 3

Fill and Compact



IDEAL  
ELEVATION  
ACHIEVED!

The best ditch  
is no ditch!

2001 10 4

**PLACING AGGREGATE**



**No ditch!**

**PLACING AGGREGATE**



**No ditch!**



2010- 9 Years Later



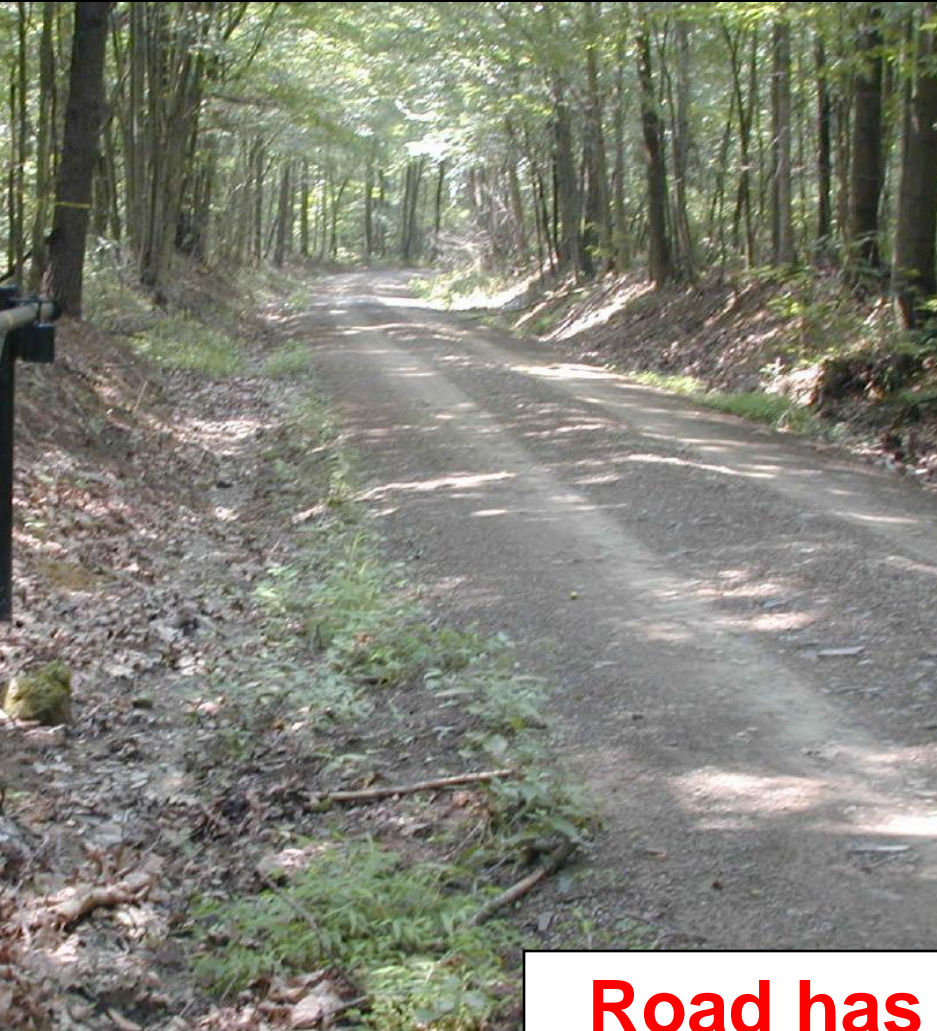
No ditch!

**2012- 13 Years Later**  
**Taken 2 days ago!**

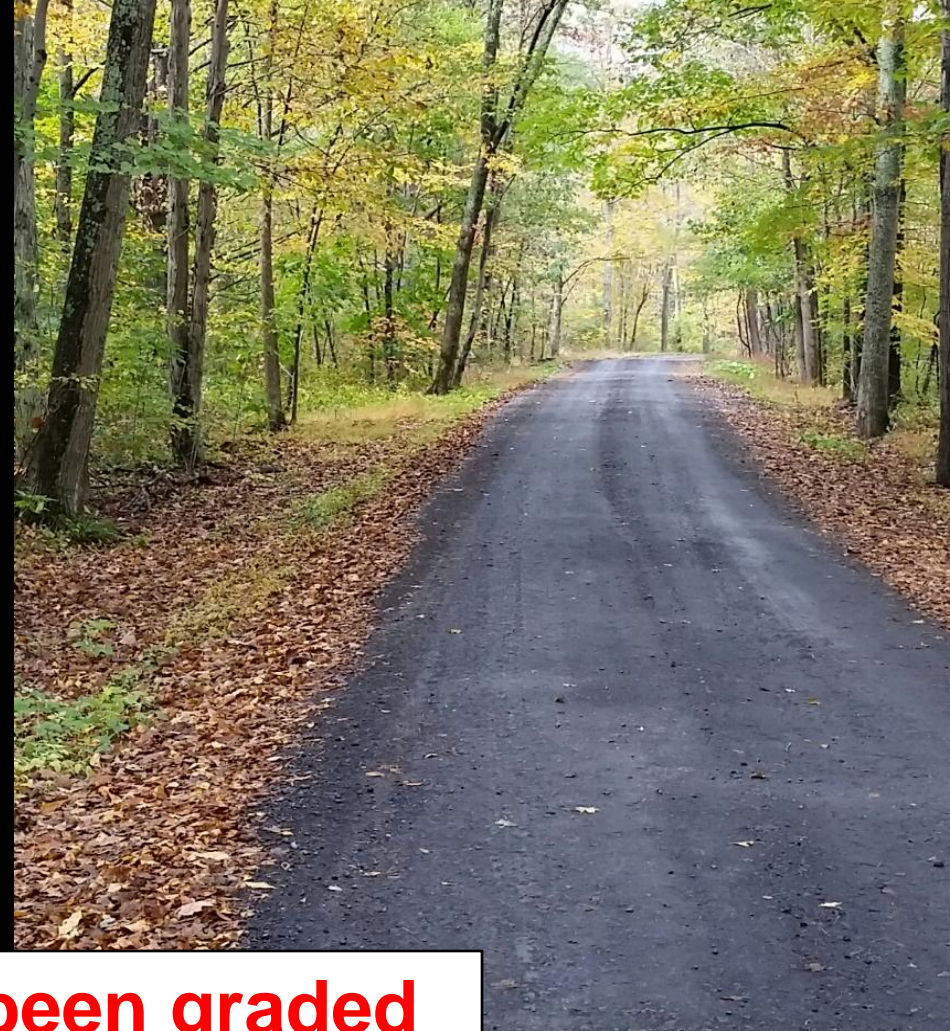


**No ditch!**

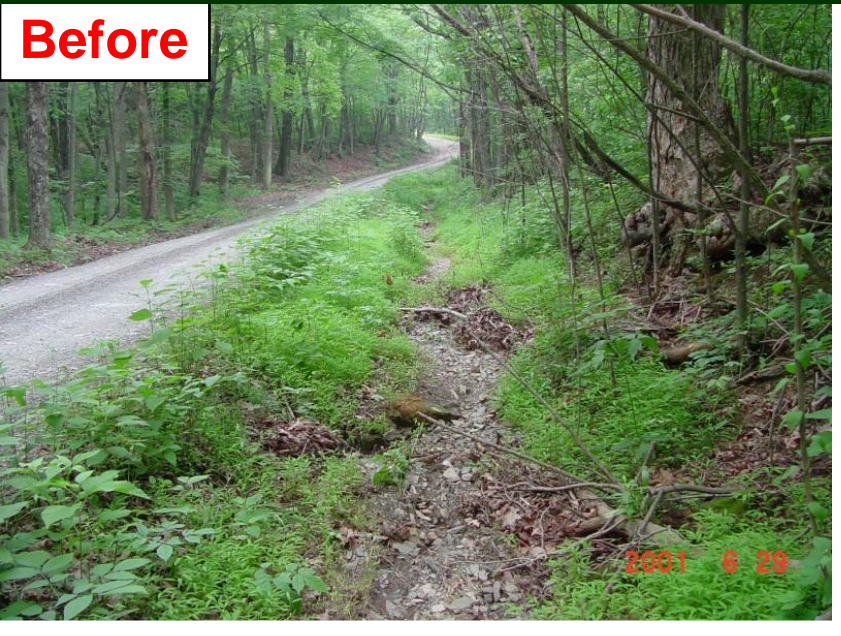
**2001**



**2012**



**Road has been graded  
twice in 12 years!**

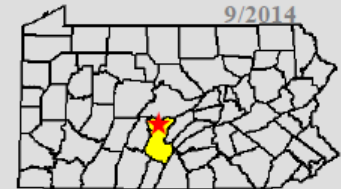


**No ditch!**

# More information: Handout 2

## Worksite in Focus

### Red Rose Revisited *2001 – 2014: thirteen years later*



#### Project Overview:

Red Rose Road was an extensive road rehabilitation project that was completed in 2001, with Driving Surface Aggregate placed on the road in 2002. This demonstration project was completed in cooperation with the Huntingdon County Conservation District, the Penn State Experimental Forest, and Barree Township.

#### The Problem:

Red Rose Road was a severely “entrenched” roadway. The road elevation had been lowered over time by traffic, erosion, and maintenance activities. Over 1,200 feet of road was acting like a stream channel, collecting water from the surrounding land and funneling it to the small stream below. The long ditch drainage overwhelmed the small stream with excessive flows and sediment. The road also had a steep drop-off to the stream after the crossing, and was heavily shaded.

#### The Solution:

The best permanent solution for Red Rose Road was to restore a more natural drainage pattern by raising the road elevation. An on-site shale pit was used to raise over 1,000 linear feet of road 3 to 6 feet in elevation in compacted 8” lifts. (See photo sequence on reverse) Raising the road eliminated the downslope ditch, and provided necessary cover for crosspipes to be installed to drain the upslope ditch.

In addition to raising the road elevation, several other Environmentally Sensitive Maintenance Practices were implemented. Trees around the road

#### Project Facts

Project: Red Rose Road  
 Project Owner: Barree Township  
 Watershed: Shavers Creek (HQ)  
 Project Length: 2,500 feet  
 Date Completed: 2001, DSA in 2002

#### Cost Summary:

Road Fill & Drainage: ~\$35,000  
*Included road filling (shale free on site), pipes, shale pit retirement, tree thinning, and bank stabilization.*

DSA: ~\$10,000  
*6” compacted depth, paver placed, roller compacted*

This project was funded by Growing Greener

#### Maintenance

The road has only been “lightly graded” twice since aggregate placement in 2002. Occasional potholes have been patched near the stream crossing where the road lacks crown. The road is scheduled to be graded again in October 2014.

#### For More Information:

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**New pipes are one of the simplest tools out there to “divide and conquer” drainage issues.**

**Program has installed 6,000+ new drainage pipes to date.**