

Drainage

The Problem with Water!

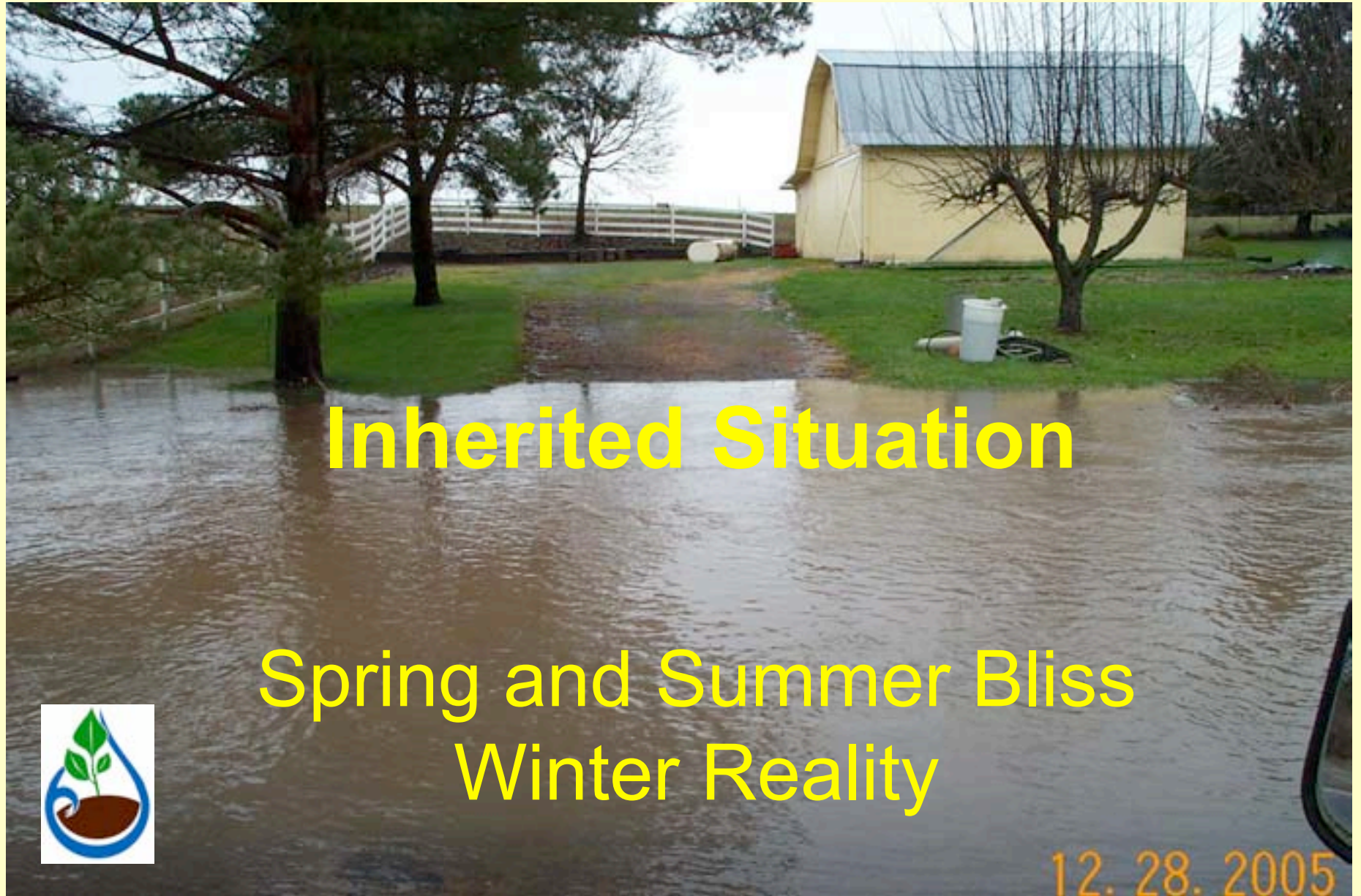
Clair Klock

Conservation Specialist



CLACKAMAS COUNTY

Soil and Water Conservation District



Inherited Situation

Spring and Summer Bliss
Winter Reality



12.28.2005

Beware!!!!!!



Water runs downhill

12.28.2005

Created Situations



4.15.2005

Conservation Practices are the same!

No matter what the Size

Just a Matter of Scale



Drainage and Health

Manure is the same - Cows, horses, dogs, cats

Buffer between livestock/agr. operations and wells

Wells User are on your own for health!



Look Before Leaping

Where is the Water Coming From?

Correcting the problem

Consider the Neighbors

**Living with the Problem –
Lemonade from Lemons**



Effects of Fill *or old landslides*

Take advantage of the Situation



Naturescaping





8.25.2004



Make a wet spot or roof water into wildlife habitat



Conservation District has
wetland plan lists

8.25.2004

Drainage Solutions

Wet Yards

Basements/Crawl spaces

Ditches – Tank traps

Fields – changing landscape

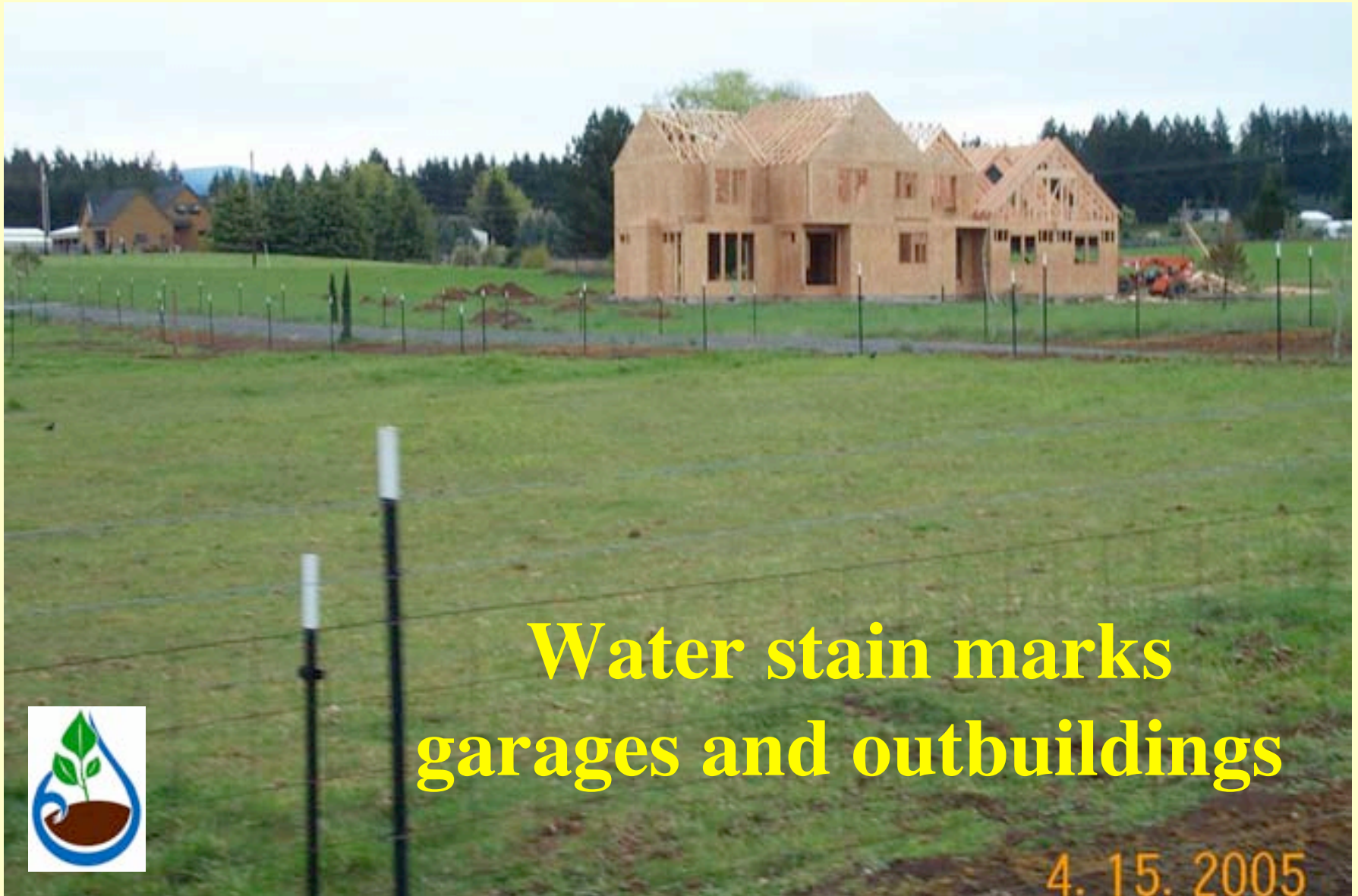


Spring or “June” pastures



Create late summer pastures.

Basement or Crawl Spaces Sump Pumps



**Water stain marks
garages and outbuildings**



4.15.2005

Heavy Use Areas

Driveways



Path

and Walkways



Livestock



Overburdening filled area



Any building on a hill

**Is it Fill or is it bermed into the
hill?**



The land has Changed!





2.28.2006



2.28.2006



2.28.2006

Extreme Example



Large scale land movement

A geo technical report may pay off!



Hazardous slope maps

1. 26. 2006

Solutions







Drainage to your advantage!



2.27.2004

Dumping on the Neighbors – Excellent way to litigation!



Know When to Engineer!



FEMA Floodplain Maps



Designs make a Difference



Walking Trails or Dirt Bike Tracts

Debris Lines - Beware of high Water



**Roads – Cut waterbar ditches sloped
slightly downhill**



Take advantage of the rain, catch it.



7. 1. 2005



CLACKAMAS COUNTY

Soil and Water Conservation District

Knowing Where to Look for What!

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