

Compost in Erosion Control and Landscaping

Use of compost in erosion control
and landscaping at Issaquah
Highlands

Overview of Today's Discussion

- The development at Issaquah Highlands
- How the developer uses compost
- Compost procurement, cost, and availability in our area
- Application and installation
- The results

Issaquah Highlands



Uses Of Compost

We use compost many different ways

- In conjunction with rolled erosion control products (RECP)
- In lieu of RECP
- As a cover mulch in landscape areas
- In erosion control work as a ground cover, slope stability blankets
- As a berm or in a “sock” in lieu of silt fence
- Anytime we need permanent ground cover or vegetation establishment



Compost with RECP

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Installing RECP over blower-applied compost

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Compost in lieu of
RECP

Compost as Slope Protection



Compost as a Cover Mulch in Landscape



Hydroseeding Over Compost for Permanent Re-vegetation



Compost Procurement

- The Seattle area has an aggressive compost and recycling program
- Residential and commercial food and yard waste are collected and composted at regional facilities
- Price is around \$15/20 a cubic yard picked up at the source
- 3" blanket is about \$15,000/AC
- Demand is strong due to Washington State Dept. of Transportation's heavy usage

Application Rates

- We have applied up to six inches for slope protection
- We found two inches to be sufficient for erosion control protection and good vegetation establishment
- Complete cover is important; no bare spots
- King County recommends 2.5 inches applied when tilling into soil for amendments

Installation Methods

- Surface preparation VERY important, especially for slope work
- Track walk for texture
- Install with:
 - Blower truck
 - Excavator
 - Dozer
 - By hand for small areas



Blower Truck Installed

A precision method of installation in that workers can place material exactly where it is needed



Why use a blower?

- Blower trucks work excellently
- Accurate and precise control over coverage and area
- Blowers can deliver material up-slope and over difficult terrain
- You can reach areas where no other equipment can reach

Blower Equipment Can Reach Difficult Terrain

This landslide repair in the woods is a good example





Blower delivered compost can be placed up-slope. This 2:1 slope has over 90' of rise and material was placed successfully.

Excavator Installed Compost



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Why use an excavator?

- Fast and easy
- Readily available, everyone has one or two
- Multi-purpose machine so an excavator does not have to sit between compost deliveries
- Reliable (blowers do break more often) meaning less down time

Is there a down side to excavator placement?

- Not as precise as a blower
- Limited access in tough terrain
- Limited reach up-slope
- May need hand placement and raking for finish work

Dozer Placement Works

If delivery access is close enough, pushing with a dozer is a great option



Why use a dozer?

- Dozer placement is the most cost-effective way to place compost
- Effectiveness depends on operator proficiency
- Mixes material in to existing sub-grade
- Leaves surface textured for better erosion control
- Covers large areas quickly

Results

- Slope protection is improved with compost
- Two inches of compost outperforms other BMPs we have used
- Re-vegetation is faster, thicker, more successful
- Thicker, healthier, vegetation crowds out invasive species
- Looks better

Results

- Composted soil more closely mimics the natural, pre-developed soil conditions, resulting in better stormwater management and improved water quality
- Much less plant material die-back, fewer call backs
- Prevents erosion by:
 - Better plant establishment
 - Raindrop impact protection
 - More water retention/slower runoff

Results

- Helps provide sediment control by trapping silt and filtering runoff
- Helps water quality by removing metals and other pollutants
- Looks great!
- Anything that looks great increases customer satisfaction
- Increased satisfaction=more customers

Before and After



Before



After



04.19.2005

Today





Compost and Seeded Fall 2008



Five Years of Slope Stability



Wild Flower Beauty



In the end . . .

Compost is much more than a stormwater BMP to Port Blakely. It is an organic, sustainable product that can be used both as erosion control and as a part of our permanent landscape projects. All in all, the use of compost as soil enhancement is the kind of sustainable practice we had in mind when we set out to “do it better”.