

March 2026

Constraints and Remedies to Planting 1,300 Trees on Steep Slopes

Connecticut Association of
Wetlands Scientists



Davey Resource Group

Industry leader providing professional natural resource ecological and urban forestry services to communities across the United States.



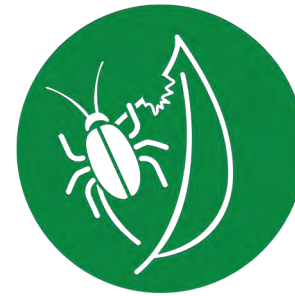
Wetlands & Stream



Environmental Design & Restoration



Urban & Community Forestry



Invasive Species Management



Stormwater

Patti Burns, PWS, CERP, ECCR

Principal Consultant—Ecological Services

Patti Burns is a Professional Wetlands Scientist and Certified Ecological Restoration Practitioner and holds a certificate in Ecological Collaboration and Conflict Resolution. Patti oversees DRG's New England area wetlands and ecological projects. She brings stakeholders together to resolve land-use issues surrounding wetlands and natural areas.

Patti has managed ecological restoration from analysis to design, permitting, installation, construction oversight, monitoring, and maintenance in the northeast. She has provided expert testimony, taught principles of ecological restoration at Temple University, served on NJ's Wetlands Mitigation Council, and played a pivotal role in conserving 1,695 acres of NH greenways. Patti received a B.S in Natural Resource Studies from UMass Amherst and a M.S. in Forest Science (Soils) from Michigan Technological University.



Project Background

- ▶ DRG subcontracted for Post-Remediation Restoration
- ▶ Banks of the Tidal Hudson River
- ▶ Rensselaer County, NY
- ▶ Restoration Plan: Install over 1000 trees/shrubs and seed.
- ▶ Steep slopes up to 28%



Collaborate with Stakeholders Toward a Safe & Sustainable Approach

- ▶ Evaluate the Stakeholders Interests
- ▶ Be Sensitive to Shifting Regulations
- ▶ Compromise on Program Agenda (1:1 tree Replacement)
- ▶ Identify Outdated Technology on Older Plans
- ▶ Support the Contractor and Identify their Interests:
- ▶ Consider: Safety, Budget, Feasibility, Warranties
- ▶ Adapt and Celebrate Agreements



Constraints & Remedies

Constraint

Steep slopes and large trees—unsustainable for staff or trees.

Remedies

- Steep slope safety training for staff
- Extra staffing
- Equipment to transfer heavy loads
- Trees re-sized



Constraints & Remedies

Constraint

Steep slopes and large trees—unsustainable for staff or trees.

Remedies

- Steep slope safety training for staff
- Extra staffing
- Equipment to transfer heavy loads
- Trees re-sized



B&B Trees

Appreciated for their developed root systems but look closer...

Size (Caliper)	1.5- to 2-inch	2.5- to 3-inch	3.5- to 4-inch
Root ball (inches)	20 to 28	28 to 30	36 to 48
Root ball tree pit (inches wide)	40 to 84 <i>(3.3-7 feet)</i>	56 to 90 <i>(4.6 to 7.5 feet)</i>	72 to 144 <i>(6 to 12-feet)</i>
Average weight (lb.)	200 to 400	475 to 850	1,200

Compromise on Tree Size & Spacing



Decrease Quantity of Large B&B Trees



Substitute with #5 & #7 Containerized Trees

Constraints

Installing coir ECB on densely planted slopes.

Limited aftercare/watering.

Remedies

- Hydroseed
- Aftercare
- Watering



Constraints

Installing coir ECB on densely planted slopes.

Limited aftercare/watering.

Remedies

- Hydroseed
- Aftercare
- Watering



When needed:
Apply thoughtful
assumptions to the
warranty!



Key Takeaways

Perseverance, Skills & Teamwork





Thank you!

Patti Burns

Principal Consultant
Ecological Services

patti.burns@davey.com | 774.493.0008