



Strengthening OEM and Supplier Relationships through SP

**SP Meeting
September 8, 2011**

Ford's Commitment to Environmental Sustainability

- Ford is committed to environmental sustainability in its manufacturing, product development, and supply chain
- In 2010, Ford made significant progress on the environmental aspects of its products and operations. The next slide provides a few examples.

Ford's Progress in 2010

- Ford introduced packaging guidelines for the transport of parts and materials used in Ford vehicles.
- For the sixth consecutive year, Ford received the Energy Star Sustained Excellence Award from the U.S. Environmental Protection Agency and the U.S. Department of Energy.
- Ford is continuing to expand corporate standards and requirements for sustainable materials and in-vehicle air quality and is continuing to develop new applications for sustainable materials. As of 2011, all vehicles produced in North America use soy foam seating.
- Ford developed and adopted a global water strategy and began implementing this strategy in 2011.
- Ford continued its leadership in facility greenhouse gas reporting. Voluntary GHG reports were developed for all four Ford manufacturing sites in China. Ford also joined the Supply Chain Program of the Carbon Disclosure Project (CDP). Ford was the only automotive company to participate in the CDP Supply Chain Program in 2010.

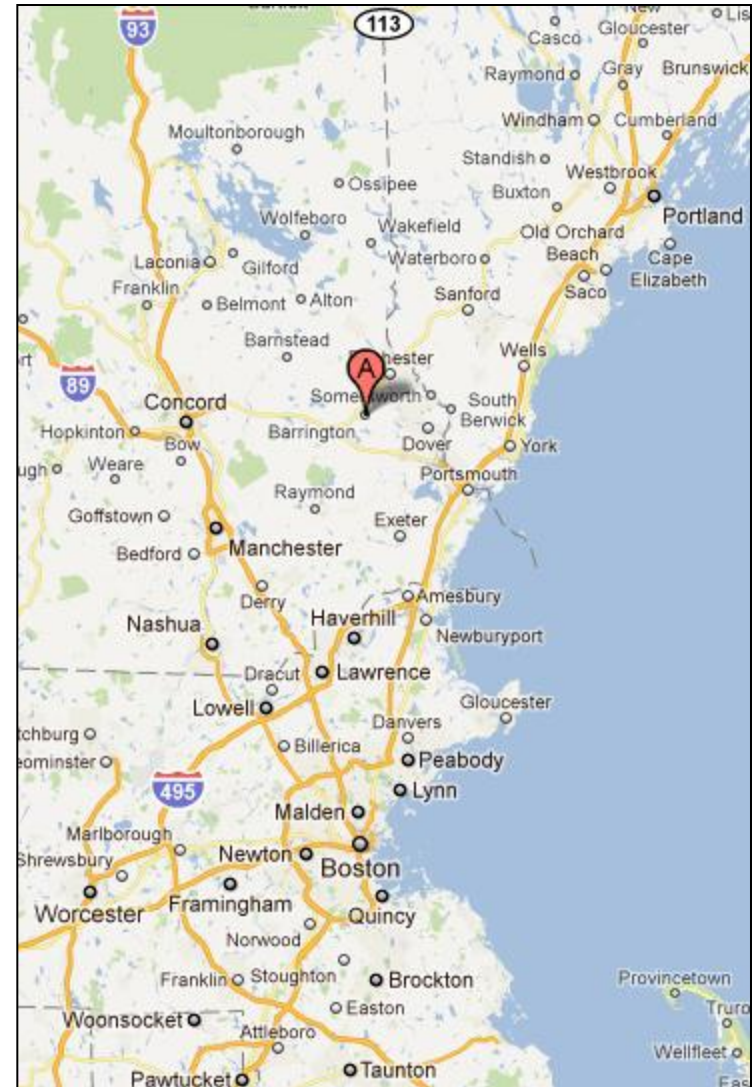
Suppliers Partnership for the Environment

- Ford's participation in SP enables the company to share best practices with our suppliers and also to learn from them.
- The breadth of membership in SP (parts suppliers, laboratories, consultants) is a great benefit.
- Ford would now like to share a remediation case study, which will be presented by SP member Arcadis.

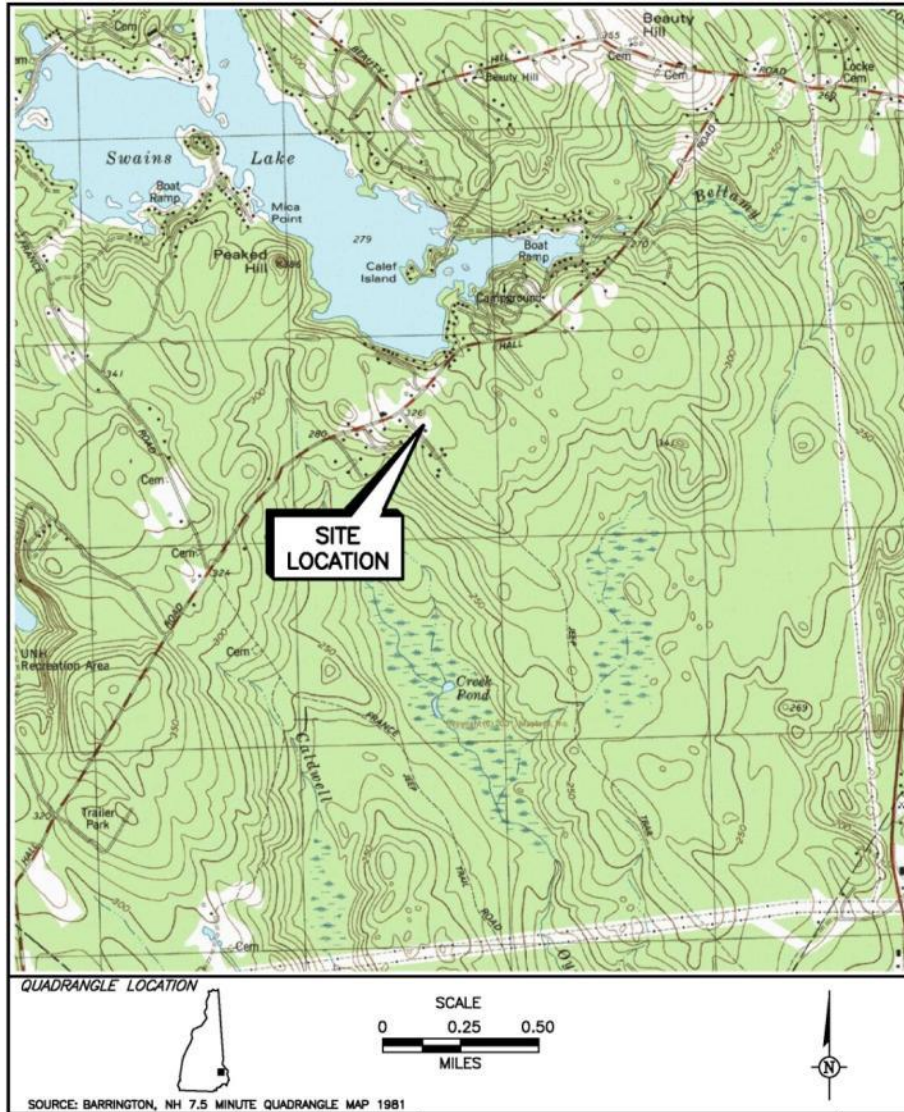
Progressive Environmental Cleanup

Site Background

- Located in the village of Barrington, NH (about 75 miles north of Boston)
- Investigation and cleanup activities since 1994
 - Waste and debris removal
 - VOCs in shallow groundwater treated in 3 hot spot areas with Vacuum Enhanced Recovery (VER)
- Long-term successful partnership between Ford and ARCADIS (consultant)



Progressive Environmental Cleanup



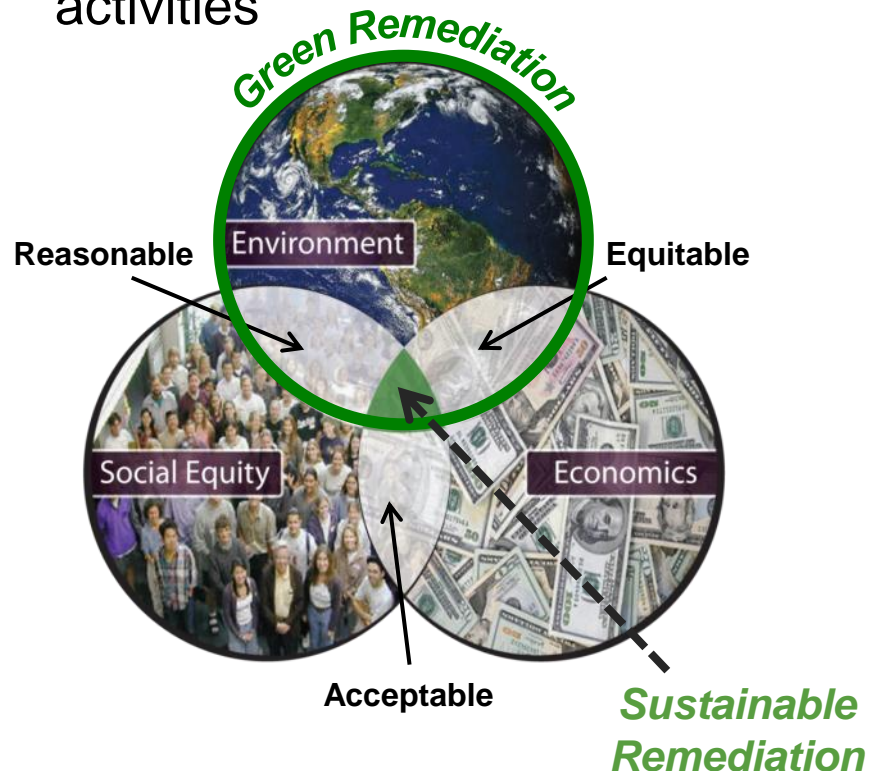
Recent Site Goals

- Ford desired a long-term solution in harmony with the rural, residential setting.
- ARCADIS incorporated progressive green and sustainable remediation (GSR) actions into project planning and implementation.

Defining GSR

Sustainable Remediation

- An integrated assessment of the environmental, economic, and social impacts of remedial activities



Green Remediation

- “Considering all environmental effects of remedy implementation and incorporating options to minimize the environmental footprints of cleanup” (USEPA, 2010)



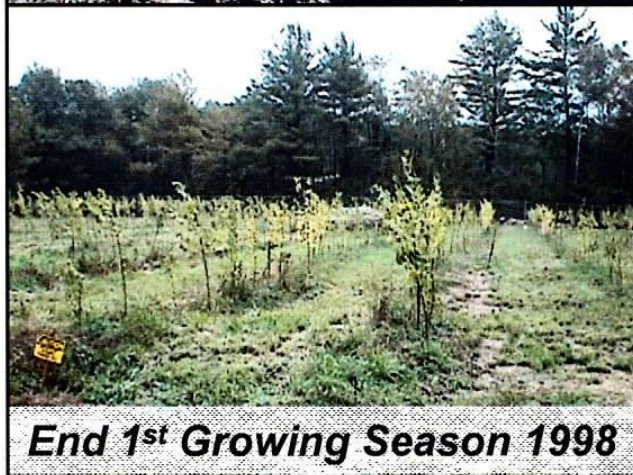
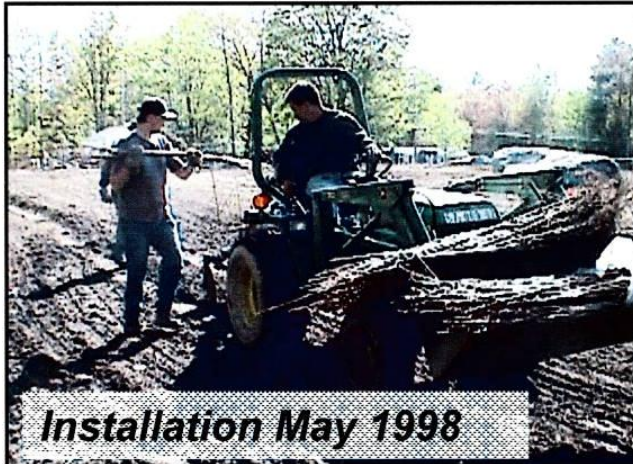
Green Remediation Elements identified by USEPA

GSR Practices at the Site for VOC Treatment

- 1995 – 1997: VER system removes 800 pounds of VOCs in three hot spot areas of the Site
 - ✓ Operated seasonally and in pulse-mode removing 800 pounds of VOCs with a 25% energy reduction and system O&M savings
 - ✓ Discharge of treated groundwater from investigation and remedial activities onsite and not to a POTW
 - ✓ Recondition and reuse of granular activated carbon for groundwater/vapor treatment onsite, eliminating landfilling and being cost effective
 - ✓ Reuse of soil cuttings from drilling activities for onsite roadways
- 1998 – Current: VER system shut-down and implemented phytoremediation with hybrid poplar trees
 - ✓ Use of low-flow groundwater sampling techniques to reduce groundwater extracted during sampling
 - ✓ Carbon sequestration by 1,600 trees

These GSR approaches were implemented over a decade before GSR was widely recognized in the remediation industry.

Phytoremediation



Objectives

Install hybrid poplar trees to:

- Return the Site to its natural state
- Provide infiltration control
- Increase soil porosity and oxygen levels
- Reduce migration by evapotranspiration
- Reduce residual compounds in soil and shallow groundwater by contaminant uptake

Phytoremediation

Benefits

- Reached cleanup objectives faster
- Returned site to beneficial use sooner
- Significantly less electric consumption over conventional technologies
- Reduced costs
- Aesthetically-pleasing
- Fully-embraced by local community
- Site now proposed to be further developed into a Wildlife Habitat and Educational Center



GSR Decision-making

Decision-making framework to consider alternatives to:

- Reduce carbon footprint;
 - Reduce water consumption;
 - Minimize wastes and waste streams;
 - Maximize use of recycled products;
 - Enhance and incorporate natural systems; and,
 - Maximize use of alternative renewable energy sources...
- ...to achieve balanced and greener remedial solutions.



Broaden our perspective with sustainability to:

- Identify key areas of improvement to develop highly innovative and cost effective remedies
- Reduce costs by reducing or eliminating consumption and waste of resources
- Minimize regulatory permitting requirements with reduced environmental impacts
- Reduce risk by minimizing hazards to workers, environment, and community

The project location today



July 2010

Conclusion

- We hope you found this case study illuminating.
- If you are not an SP member, we encourage you to consider joining SP.