



Chagrin River Watershed Partners, Inc.

P.O. Box 229 Willoughby, Ohio 44096-0229 Phone: 440.975.3870 www.crwpp.org

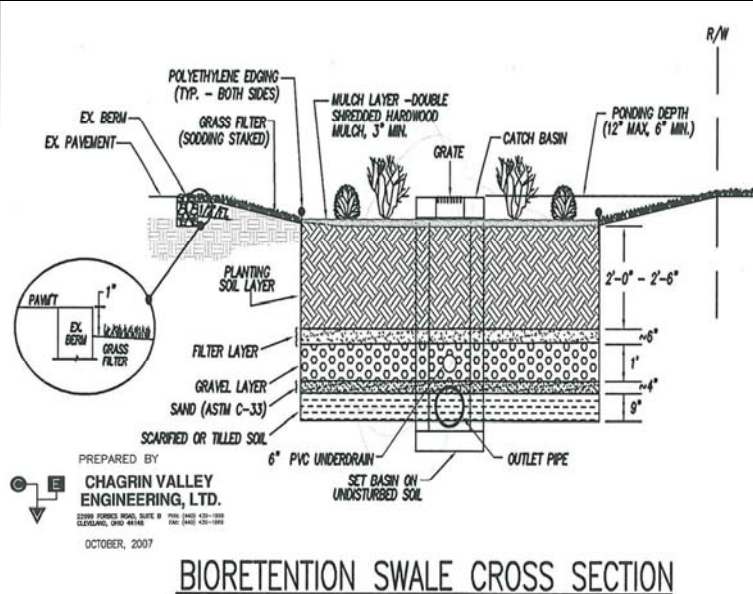
City of Pepper Pike Bioretention Retrofit Project Chagrin Boulevard and Fox Hollow Drive

Demonstrating Innovative Approaches to Storm Water Management in Northeast Ohio
USEPA National Community Decentralized Demonstration Project

Pepper Pike Bioretention Retrofit Project Goal:

- ◇ Modify existing drainage swale to install a bioretention system within the right-of-way along a residential street to demonstrate its use to manage road runoff.
- ◇ Designed to distribute, reduce, and treat storm water runoff before connecting to a storm sewer system.

Chagrin Boulevard and Fox Hollow Drive Bioretention Design



Design Considerations

Retrofit swale system requirements:

- Construct around existing utilities, including water and sewer lines.
- Connect to existing storm sewer system.
- Reduce flow to storm sewer connection.
- Construction within existing right-of-way.
- Integrate into current landscaping design.

Chagrin Boulevard Construction - July 2008





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Bioretention Design Details

- Design includes a perforated storm sewer pipe below soil mix to aid drainage.
- The soil mix consists of 70% sand, 30% peat/leaf compost.
- Runoff into the bioretention area filters through soil mix preventing standing water for longer than 48 hours.
- Soil mix and plants acts as a filter system to remove pollutants.
- Stormwater runoff will pond around the catch basin to a maximum of 6”.
- Pondered runoff will overflow into the catch basin during larger storm events to prevent street flooding.

1 New York Aster
(*Aster novi-belgii*)

Height: 4-5 feet

Blooms: Midsummer to Frost



2 Bee Balm; Bergamont
(*Monarda fistula*)

Height: 2-3 feet

Blooms: May to Frost

3 Happy Returns Daylily
(*Heemerocallis 'Happy Returns'*)

Height: 1-3 feet

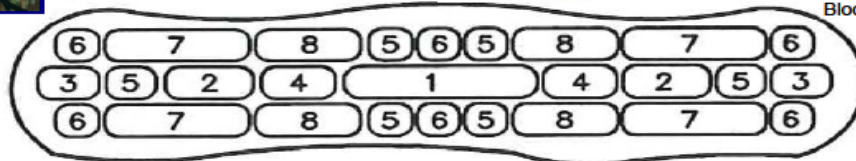
Blooms: Midsummer



4 Western Sunflower
(*Helianthis occidentalis*)

Height: 1-2 feet

Blooms: summer



5 May Night Salvia
(*Salvia X Suprbia 'Mainacht'*)

Height: 2 feet

Blooms: Midsummer to Frost



6 Stella de Oro Daylily
(*Heemerocallis 'Stella de Oro'*)

Height: 15 inches

Blooms: May to frost

7 Moonbeam coreopsis
(*Coreopsis verticillata 'Moonbeam'*)

Height: 12 inches

Blooms: All summer



8 Autumn Joy Sedum
(*Sedum x 'Autumn Joy'*)

Height: 18 inches

Blooms: Late Summer to Frost



Fox Hollow Drive—2009

