

# 2010 CROOKED LAKE RAIN GARDENS



Rain Gardens



## Project Summary

A demonstration project by the City of Andover resulted in the installation of three curb-cut rain gardens in a neighborhood draining storm-water directly to Crooked Lake. Crooked Lake is a popular recreational lake in the cities of Andover and Coon Rapids and has relatively good water quality for this region. The goals of this demonstration project were to provide examples of modern water quality improvement practices as well as preserve the current conditions of Crooked Lake by infiltrating stormwater runoff.

The Coon Creek Watershed District (CCWD) provided a demonstration grant and project designs were completed by Anoka Conservation District (ACD). Project promotion and construction oversight were conducted by the City of Andover. Long term maintenance will be conducted by the landowners.



### Project Specs

Rain Gardens Installed ..... 3  
 Date Installed.....June 2010  
 Total Planting Area ..... 978 ft<sup>2</sup>  
 Total Capacity ..... 826 ft<sup>3</sup>  
 Watershed Treated ..... 7.69 acres

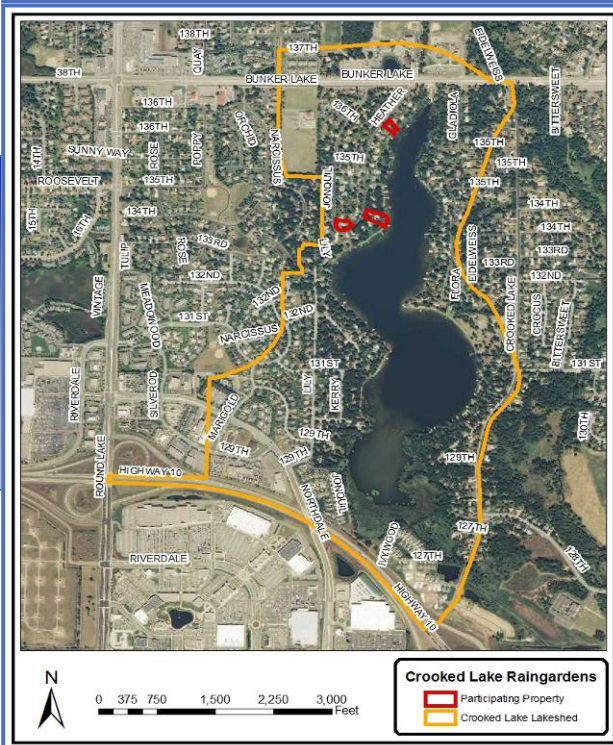
### Installation Funding

CCWD..... \$8,400  
 City of Andover ..... \$5,000  
 Total Installation Cost ..... \$13,400

### Other Funding (Source)

Design (Andover) ..... \$1,200  
 Const. Oversight (Andover) ...\$3,000  
 Promo./Admin. (Andover).....\$2,000  
 Yr. 1 Maint. & Mon. (ACD).....\$900  
 Maintenance (Landowner).. \$300/yr

## Crooked Lake Drainage Area



The three curb-cut rain gardens were installed to treat stormwater from the participating properties, neighboring properties, and the street. Prior to installation, rain falling on impervious surfaces within the rain garden drainage areas was channeled via the curb and gutter system directly to Crooked Lake untreated. This excess runoff can cause:

- An influx of sediments, nutrients, and pollutants,
- Algae blooms and unwanted aquatic vegetation, and
- An increase in water temperatures that can harm fish and other wildlife.

## Installation

A total of three curb-cut rain gardens were installed in 2010. The figure to the right highlights the properties on which rain gardens were installed and the corresponding drainage areas.



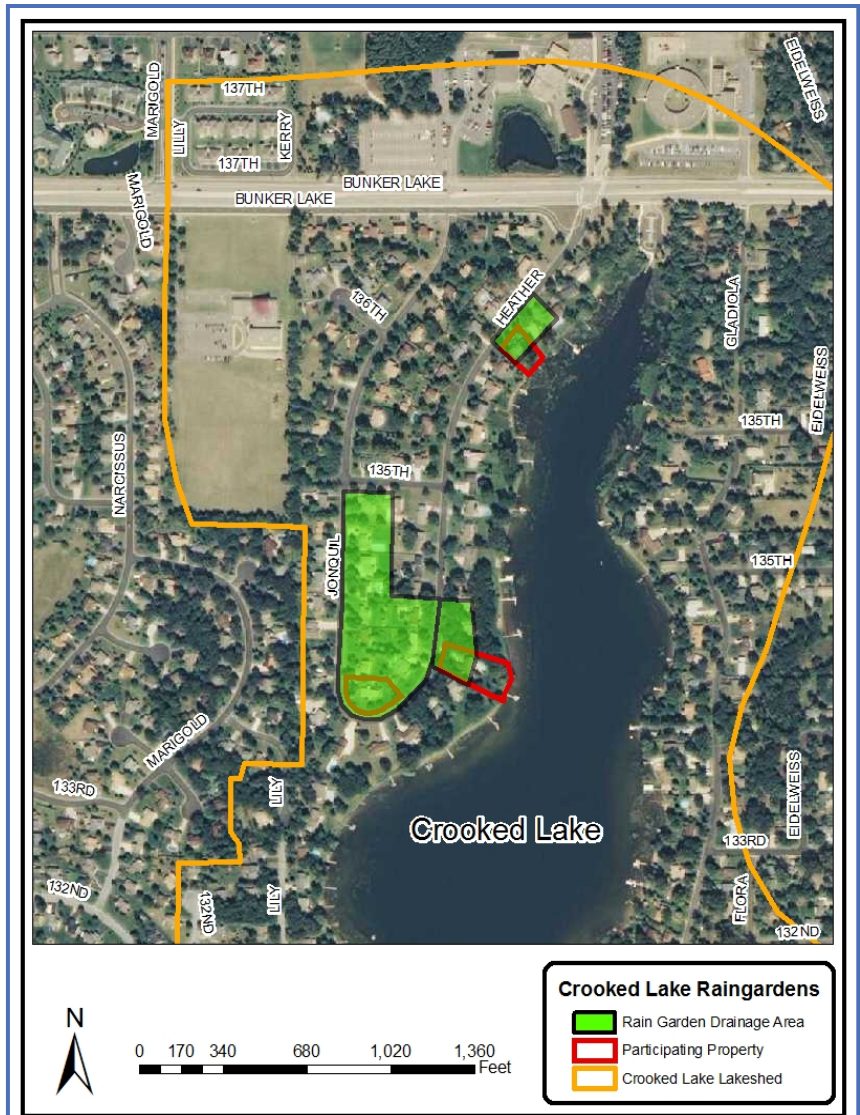
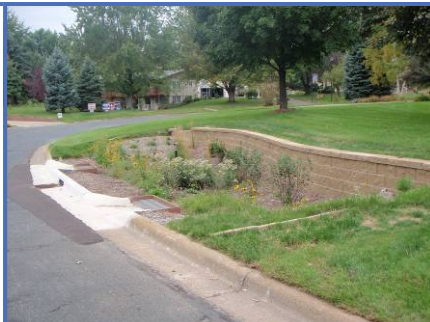
Site preparation and soil excavation to achieve desired side slopes and 1 ft. maximum ponding depth.

Retaining wall construction, as well as soil amendment with rain garden soils to promote treatment and infiltration.



Placement and installation of pretreatment chamber and plant positioning.

Curb-cut construction to accept offsite runoff from curb and gutter system.



Properties with rain gardens and corresponding drainage areas.



Fully functioning curb-cut rain garden. Note the properly installed pretreatment chamber that filters incoming runoff and also prevents debris and sediment from entering or exiting the rain garden when filled to capacity.

## Site Monitoring/Post-Project

Post-project monitoring by ACD verified acceptable rain garden infiltration rates and proper pretreatment chamber function following storm events. Monitoring will continue during the 2011 growing season to ensure proper garden function and successful plant establishment.