

SUSTAINABLE
LANDSCAPE FOR
AFFORDABLE
HOUSING

Orleans Homes

PROJECT TEAM:

- Great River Greening
- MN Brokerage Group

FUNDING

PARTNERS:

- Home Depot Foundation
- MN Brokerage Group
- Bush Foundation
- MN Pollution Control Agency
- Brown's Creek Watershed District

SITE AREA:

- 10 acre site

PROJECT SCOPE:

- 124 units, combination of 1, 2, & 3 bedroom units. 75% of the units are below 60% of the Twin Cities median income.

SUSTAINABLE PRACTICES:

- Native Planting
- Permeable Pavers
- Rain Gardens
- Tree Placement
- Prairie Restoration

COSTS:

- Installation \$81,000
- Yearly Maintenance After Establishment \$1,500 (approx.)



Rain garden planting

SITE DESCRIPTION

Since being developed in 1987 the 10-acre site had received few updates since construction. All sidewalks, parking stalls and drive lanes were constructed in a manner so all stormwater flowed off site to the adjacent collector streets and municipal storm sewer. The current owner is committed to performing updates on the site in order to improve the quality of life for residents, as well as providing ecological and stormwater benefits to the site.

OBJECTIVES

- A** Retrofit on-site infiltration practices. Attempt to capture as much as possible from 1 1/2 inch storm events from building surfaces and paved surfaces in a cost-effective and sustainable manner.
- A** Provide parking lot alternatives. Owner plans to add 20 parking spaces while also providing additional stormwater infiltration. Additional spaces should be designed so that stormwater is kept within new infiltration areas.
- A** Focus on the use of native plant materials as a means to provide ecological and hydrological benefit. Create positive outdoor spaces, and provide a relationship between the site and its context.
- A** Create shared community spaces.

- A Create usable outdoor spaces for daily living.
- A Use trees and plants materials to create space, provide shade, capture and treat stormwater, and define community focal points.
- A Provide aesthetically pleasing places for residents.
- A Commit to low-maintenance landscapes after establishment.
- A Relate design to ecological context.
- A Work as project partners with residents, owners, and agencies to design, maintain, and fund a model project.
- A Engage volunteers and youth with the installation of the project to provide education of sustainable design and practices.



Volunteers planting a rain garden

For the rain gardens watershed areas were delineated to calculate the amount of water flowing to the rain garden area. With the highly permeable sandy soils on site the rain gardens were sized to receive a 2.25 inch storm event. A simple plant palette for all the rain gardens was created to aid in plant identification when

DESIGN

For Orleans Homes an overall concept design was created for the site denoting specific areas where stormwater Best Management Practices could be implemented as well as restoration planting areas. Individual site-specific designs were then drawn up for those areas that the property owner wished to move forward with at this time. The main design calls out areas where there is the possibility of infiltrating water



Permeable paver patio



Bottle Gentian



Blue Flag Iris

through rain gardens, shrub and tree trenches, or permeable pavement.



Prairie Smoke



Blue Grama



At the two southern most entrances, examples of permeable paver systems were installed adjacent to rain gardens. One of the installations was a patio area and the other replaced the parking stalls in the parking lot. The patio utilized conventional pavers laid in a pattern to create a permeable surface, while the parking stalls utilized permeable unit pavers.

Trees were also planted on site as part of the installation, sited along edges of parking lots and around the structures. When mature, the trees will help shade buildings and parking areas. This in turn will help cool some of the parking lots and residences.

CHALLENGES

- A Watering of newly installed plants and seed**
 After seeding the prairie and installing plants, shrubs, and trees in rain garden areas, their watering became the responsibility of property managers. Without guidance, the plants were over-watered and the prairie was erroneously watered. Subsequently Greening learned to work with and educate the property managers as to the needs of the plantings.
- A Transition of Site Maintenance**
 During the first year of establishment of rain gardens a system was in place to use volunteers to help weed all planted areas. The transition to property maintenance to continue with weeding and remulching faltered as the property managers assumed that the planting areas required no further maintenance. This required educating property staff that even low-maintenance landscaping does require some periodic maintenance.

LESSONS LEARNED

- A The goal for the prairie restoration was for the property managers to work with the lawn maintenance company to take care of the maintenance through establishment. A time line was created for this purpose. Lacking knowledge about prairie establishment, the managers and maintenance company unknowingly allowed the prairie to be over- taken with weedy species.

Thus, the prairie needed to be started again. When establishing a naturalized area, a professional with experience in the maintenance needs of restored areas should be retained to properly train staff on what is needed for establishment success.

- A It became apparent through working on the site that resident's did not know of nor understand what was being implemented. As a response to this signs and informational flyers were designed and produced to help educate residents of the process. The flyers also help as handouts to potential residents.

CONTACT INFORMATION

Great River Greening
Wayne Ostlie - Conservation Director
35 West Water Street, Suite 201
Saint Paul, MN 55107
651.665.9500
wostlie@greatrivergreening.org
www.greatrivergreening.org