



# Green Infrastructure & Stormwater Management CASE STUDY

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## PrairieView Pond & Dragon Fly Landing

**Location:** Lisle, IL

**Client:** Village of Lisle

**Design Firm(s):** Planning Resources Inc.

**Landscape architect/Project contact:** Darrell Garrison, ASLA

**Email:** [dgarrison@planres.com](mailto:dgarrison@planres.com)

**ASLA Chapter:** Illinois

### Project Specifications

**Project Description:** PrairieView Pond & Dragon Fly Landing is a great example of the Village of Lisle's reuse of valuable municipal land through reclamation and restoration. This open space park site is a 4.5-acre parcel is one part of Lisle's downtown revitalization program. The site provides stormwater detention and compensatory storage to allow development in the downtown area, and incorporates a variety of green stormwater features as well as recreational components that have made this site a gateway into the downtown area. Using conservation design practices, the site incorporates an extensive use of nature, trees, shrubs, grasses and flowers that reflect the diversity of the Illinois indigenous landscape. Pervious concrete pavement and renewable surfaces provide an accessible surface while promoting groundwater recharge and reducing stormwater runoff.

#### **Project Type:**

Open space - park

Part of a redevelopment project

**Design features:** Bioretention facility, rain garden, bioswale, green roof, porous pavers, and wetland enhancement.

#### **This project was designed to meet the following specific requirements or mandates:**

State statute, county ordinance, local ordinance, to meet funding criteria, IDOT, Army Corp of Engineers, IEPA Water Quality Certification, DuPage County Stormwater, Village of Lisle building permit.

**Impervious area managed:** 1 acre to 5 acres

**Amount of existing green space/open space conserved or preserved for managing stormwater on site:** 1 acre to 5 acres. Detention Storage - 7.8 acre/ft and compensatory storage volume - 9.4 acre/ft.

**The regulatory environment and regulator was** supportive of the project.

**Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements?** Downtown urban renewal/property values were a priority item and goal for the project. The reclamation of this site has always been looked to as the catalyst for urban renewal of the downtown. Likewise, open space was considered priority due to its stormwater function.

### Cost & Jobs Analysis

**Estimated Cost of Stormwater Project:** \$1,000,000-\$5,000,000 (Public funding: State - OSLAD funds were used on this project)

#### Related Information:

- Phase 1 - Basing Development & Native Plantings, \$2 million
- Phase 2 - Recreational Amenities, \$800,000.00
- IDNR OSLAD Grant Reimbursement, ( \$400,000.00)
- Grand Total: \$2.4 million

**Was a green vs. grey cost analysis performed?** No - no green versus gray cost analysis was performed as this project was designed specifically for this purpose.

**Cost impact of conserving green/open space to the overall costs of the site design/development project:** Conservation/preserving existing green/open space & development of this stormwater detention facility resulted in a substantial cost savings of municipal infrastructure and tree clearing. However, the Village needed to develop the stormwater facility to address the existing and proposed stormwater concerns of the downtown. The landscape/recreation amenities provided the aesthetics and recreation component that created the gateway to the new downtown but also impacted the development budget approx. \$515,000.00.

**Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)?** Did not influence costs.

**Number of jobs created:** A variety of trades were used to create numerous jobs

#### Job hours devoted to project:

Planning and Design: +/- 950 man hours

Construction: +/- 8,000 manhours  
Annual Maintenance: Not available

## Performance Measures

### Stormwater reduction performance analysis:

The stormwater basin was designed to detain a 100-year 24-hour storm event . 1CFS rate to accommodate the existing downtown and plans for future development.

**Community & economic benefits that have resulted from the project:** The community and economic benefits resulting from the project primarily is the great sense of community spirit/pride that has come with the new development which has increased business to the downtown (urban renewal) The development of this project also has produced better air quality from the expansive open space, increase in wildlife habitat and bio diversity from native plants that produce food and shelter; a variety of planting zones along the basin slopes with safety shelf decreases erosion and maintenance from the emergent shoreline providing protection from wind and wave energy; the wetland enhancement area filters pollutants from the adjacent parking lot and road while replenishing the supply of groundwater and supporting diversity of the environment; the green roof structure reflects less heat into the surrounding environment than does conventional roof system, holds rainwater, and provides habitat for dragonflies, birds, and butterflies; the permeable paver surfaces allows water to soak into the ground, recharge groundwater, and produce less water runoff; aeration of the ponds adds oxygen to the water while at the same time support plant and aquatic life, moves water through he pond and reduces “dead spots” in the water. Public education through interpretive signs around the pond explains the stormwater facility’s function and green features providing good public relations and understanding of the Village’s newest commodity.

## Additional Information

**Links to images:** If selected, photographs will be provided and uploaded as required for use.