

Naturalized Stormwater Systems



Native Plant Solutions (NPS) pioneered the movement towards naturalized stormwater retention basins in Canada by creating functional and sustainable stormwater systems. From our first naturalized pond in 2002, 90 percent of new stormwater basins built in Winnipeg are a NPS naturalized design.

Why Naturalize?

- It's good for the community.
- It's good for the environment.
- It's good for the bottom line.

Community Benefits

Naturalized stormwater retention basins create attractive and inviting places that support biodiversity. They also enhance the living space of communities, connecting residents with nature.

Unlike conventional stormwater basins that struggle with urban goose problems, a naturalized system is designed with an understanding of waterfowl behavior. NPS systems are designed with deterrence and goose management in mind, ensuring fewer concerns with loafing Canada geese.

Naturalized systems also support a variety of songbirds, dragonflies and other wildlife species. This not only enhances a visitor's experience, but it also acts as a natural mosquito population control.

Environmental Benefits

Unlike conventional stormwater retention basins, naturalized basins are living ecosystems that incorporate natural biological processes designed to improve watershed health. Environmental benefits include:

- better water quality;
- no toxic algal blooms or unwanted submersed vegetation; and
- increased carbon sequestration and decreased greenhouse gas emissions.



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Financial Benefits

The construction and long-term maintenance costs are less than the cost of conventional retention basins because:

- ✓ less soil is removed;
- ✓ rock or soil does not need to be imported to a site;
- ✓ construction time is reduced;
- ✓ basin construction can occur during slower times of the year;
- ✓ maintenance of surrounding native grass uplands is a fraction of the cost of maintaining sod; and
- ✓ no maintenance is required to remove or manage unwanted algal blooms or submersed vegetation.

Data shows higher property values around naturalized basins, as compared to conventional basins. The end result is greater revenue opportunities for developers and local governments.

By creating naturalized stormwater basins in your community you capitalize on biological processes that Mother Nature has naturally perfected.

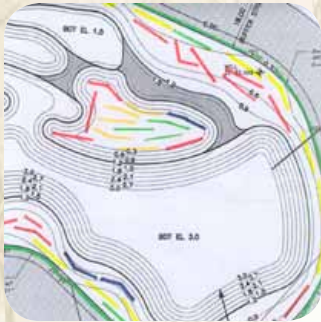
Why Native Plant Solutions?

NPS takes a natural systems approach to the work it undertakes. In order to ensure successful naturalized stormwater management, an understanding of biological systems and their processes is required.

NPS is the most experienced company in Canada with respect to naturalized stormwater design, construction and management. Factors that determine the success of naturalized stormwater systems include:

- ✓ correctly contoured vegetation zones to promote the growth of emergent and wet meadow species;
- ✓ appropriate plants that respond to a site's range of environmental gradients and hydraulic conditions;
- ✓ vegetation selection and installation by wetland experts; and
- ✓ managed water levels to encourage the spread of desirable vegetation and reduce the spread of weeds.

We understand the significance of these factors and incorporate them into designing and building a product that meets our clients' needs.



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Our Expertise

- ✓ NPS staff are specialists in the upland, wetland, aquatic and environmental sciences.
- ✓ We employ cost-effective techniques that provide the highest quality of habitat possible according to your engineering requirements. In creating a naturalized area, we modify the design from the core channel to the freeboard.
- ✓ Depending on the project, we offer original designs that meet your needs. Our experienced specialists provide concepts that work.
- ✓ Our experience and proven track record allows us to provide sound advice about the timing and type of post-installation management required that significantly reduces your long-term maintenance costs.

We offer...

- ✓ Site assessment
- ✓ Design
- ✓ Plant selection and procurement
- ✓ Tender package preparation
- ✓ On-site supervision
- ✓ Construction and plant installation
- ✓ Ongoing consultation and management
- ✓ Scientific and communication support for our clients and the residents of their communities

EXAMPLES OF OUR WORK

Native Plant Solutions has naturalized more than 50 stormwater basins in Winnipeg since 2002. Sage Creek is just one example.

Sage Creek

Project proponent: Qualico® Communities

Location: Winnipeg, Manitoba

Project description: A six-phase housing development on 365 hectares in southeast Winnipeg. NPS was contracted to construct 11 stormwater retention and two backflow basins. In addition to designing and constructing the stormwater basins, 13 hectares of native grasses were planted upslope of the basins. Another 20 hectares of hydro corridor associated with the development was also planted with native grasses. Our plantings included wetland species for basins, wet meadow species for transition areas and site-appropriate upland native grasses.

NPS provided a full range of services from advisory, consulting, and design to on-site basin commissioning, weed and erosion control, and vegetation planting and monitoring.



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Native Plant Solutions is a consulting branch of Ducks Unlimited Canada and draws on over 70 years of wetland and native grassland knowledge, research and restoration experience. We use sound science to restore and create sustainable landscapes.