



Natural Landscaping Design Guidelines

A Guide For Developers:

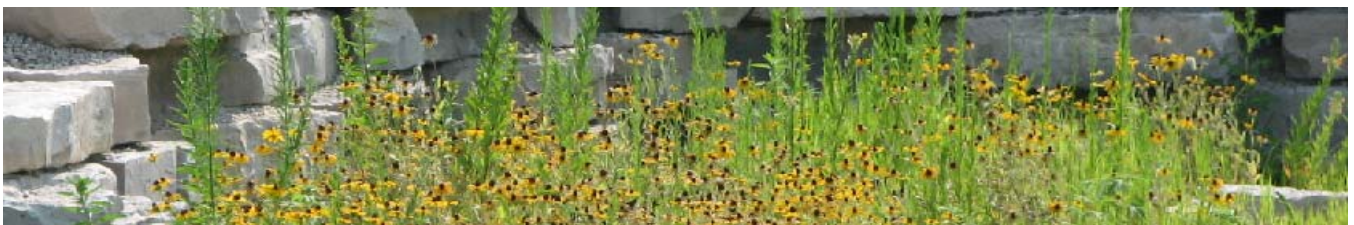
Illustrating The Benefits And Beauty Natural
Landscaping Can Bring A Community





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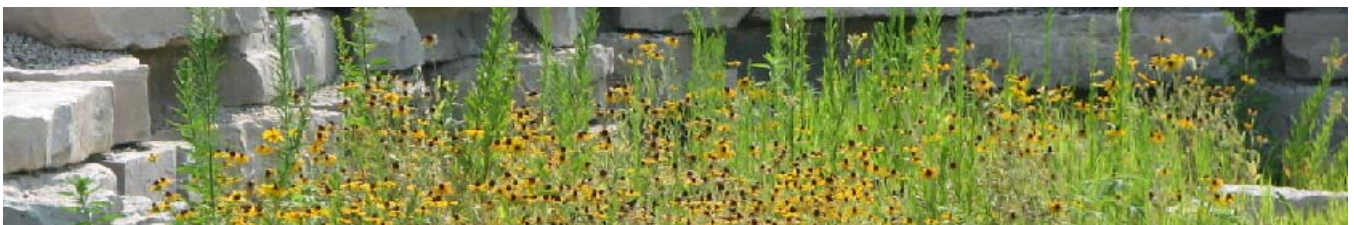
NATIVE PLANTS

The native plants that make up naturally landscaped areas are plants that evolved naturally in a region over thousands of years, before plants from other areas were introduced by people. These plants grew in areas where they could adapt to soil, moisture, and weather conditions. Over time they become resilient to most pests and diseases, and strong enough to survive cold winter months and intense summer heat. Naturally landscaped areas are low maintenance and provide aesthetic benefits year-round.



BENEFITS OF NATIVE PLANTINGS

- Improving storm water management and controlling flooding.
- Reducing air pollution and the amount of chemicals needed for landscape maintenance.
- Increasing regional biodiversity and decreasing the amounts of pests and diseases.
- Conserving water and preserving its quality.
- Providing historical and cultural interest by restoring and connecting residents to the original landscapes of the area.



This naturalized bike path is a good example of how native landscaping can be incorporated in a development. It provides benefit to the environment, while giving nearby residents a scenic recreational opportunity.

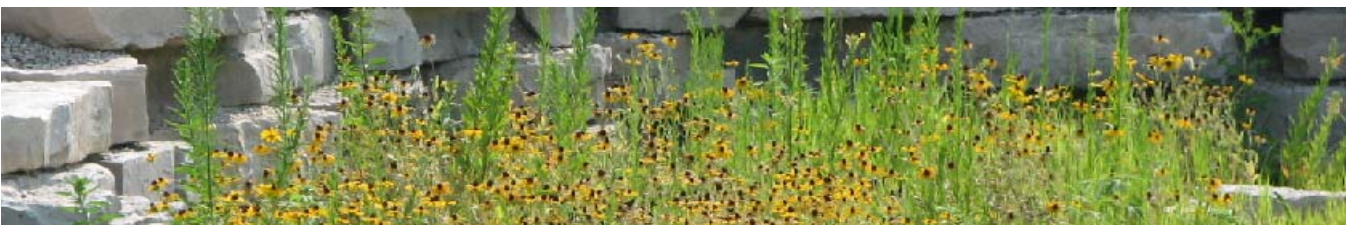


This detention pond illustrates how native plants can be incorporated around a detention pond, while still leaving residents the opportunity to enjoy the pond with recreational activities such as canoeing or fishing. Native landscaping does not prohibit the use of the pond, but enhances it.

DEVELOPMENT AND THE IMPORTANCE OF NATURAL LANDSCAPING

As sites are developed within the Village, the amounts of impervious surfaces are increased considerably. When storm water lands on an impervious surface it becomes runoff and flows towards a lower point or detention basin. By incorporating Natural Landscaping into a development, this runoff can be held and filtered better than it would be with turf grass or another type of landscaping. Natural landscaping can mitigate the adverse impacts development may have on the environment by maintaining and/or restoring the site's capacity to control storm water prior to development.

Each detention basin or naturally landscaped area incorporated in developments should be designed with the aid of a trained professional. Storm water detention areas will vary between developments based on each development's topography and soil penetration characteristics.



GUIDING PRINCIPALS OF NATURAL LANDSCAPING

Environmental Protection and Enhancement: The Village has already incorporated several environmental protection and enhancement features into design guidelines. Greenways and pocket parks, boulevards, and nature preserves are examples of how the Village is creating environmentally friendly development. Having naturally landscaped areas will further complement these design elements, while enhancing and preserving the area's historical origin.

Energy Conservation: Studies indicate that areas that are naturally landscaped, especially retention ponds, use significantly lower amounts of energy for storm water management and flood control than traditional, manicured landscaping does.

High-quality Construction and Aesthetic Design: Other communities have received national attention for their beauty and design that combines town and landscape planning. While staff does not see the Village reaching the intensity of some of these towns, there are opportunities to incorporate and encourage natural landscaping in both existing and future developments.

Creating a Sense of Place: The Village is rooted in a Midwest prairie location, where architecture and landscaping are often inspired by the natural areas (prairies, farms, and marshes) that once covered the region. There are many historic buildings throughout that give residents a sense of place and times past, and natural landscaping will help further guide this concept by connecting residents and visitors to the areas natural origin.

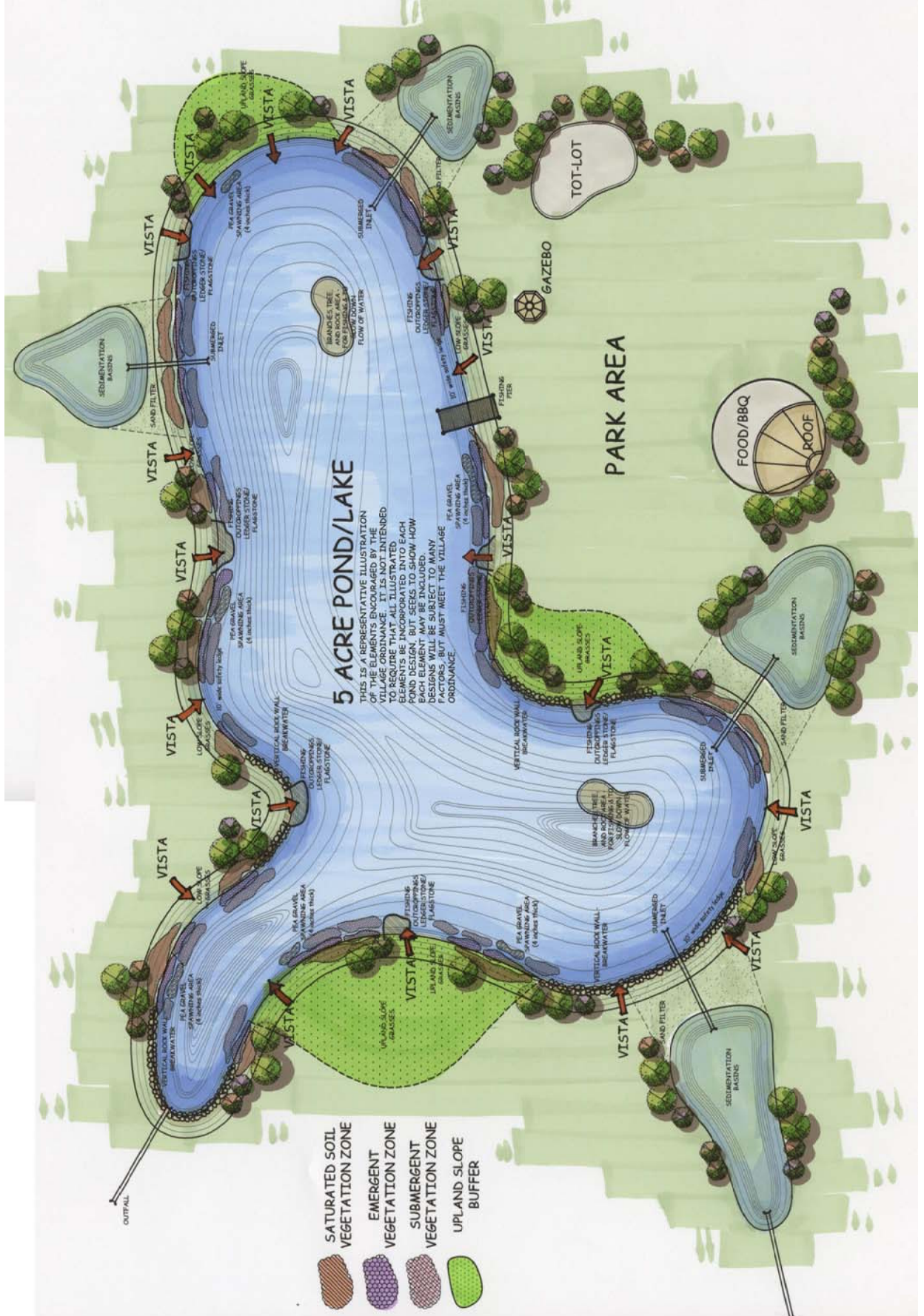
VILLAGE DENSITY BONUS

The Village's Design Guidelines for Planned Developments identifies native or natural landscaping as a BMP (Best Management Practice) to aid in handling storm water issues and to preserve water quality levels above ordinance requirements. Developers may or may not be aware that incorporating this BMP, among others, can result in a density bonus for their developments. Appropriate residential densities for each new subdivision in Plainfield will be determined on a case by case basis, but a maximum ten percent (10%) density bonus can be achieved for the incorporation of Best Management Practices and/or restoration of natural areas to handle storm water issues and preserve water quality levels above ordinance requirements. This would include the establishment of a functional ecosystem including prairie, streams or wetlands to allow for aquifer recharge and wildlife habitat.

These design guidelines are intended to vividly illustrate how natural landscaping may be incorporated around detention ponds, as well as emphasize that there are many alternatives to green grasses and reeds that one may incorporate into a naturally landscaped site. These design guidelines will prove useful for natural areas that are not adjacent to detention ponds as well by providing illustrations of plant species and simple descriptions of conditions these species thrive in. Furthermore, these design guidelines will illustrate the bright colors native plants can have and attractive flowers to inspire visual interest among those that are unaware of the options natural landscaping can offer.



DETENTION POND DESIGN WITH NATURAL LANDSCAPING



DETENTION POND DESIGN DEFINITIONS

Emergent Vegetation Zone: An area where vegetation grows in periodically or permanently flooded areas and the plants' leaves and stems extend above the water's surface. It is typically encouraged in the zone from the normal water's edge to a water depth of six (6) inches.

This zone, along with the saturated soil vegetation zone, is important in stabilizing the shoreline.

Saturated Soil Vegetation Zone: An area where vegetation can grow in saturated or flooded conditions such as in or near a pond, or in wet marsh. This zone, along with the emergent vegetation zone, is important in stabilizing the shoreline.

Sedimentation Basins: These basins are constructed to collect stormwater runoff and store it so that suspended particles may settle. They can be constructed as separate ponds near a larger pond/lake, or may consist of a barrier near the inlet.

Submergent Vegetation Zone: Aquatic plants that grow predominately beneath the water's surface or has floating leaves. This plant community provides important habitat for fish and wildlife, but too much cover of this plant community can choke a pond, decrease fish habitat, and increase annual maintenance costs. Random plantings of this plant community are encouraged.

Upland Slope Buffer: Plants that grow above the shoreline or saturated soil vegetation zone of a pond or stream and are rarely inundated by water. This zone includes the non aquatic plant regimes.

Vista: An area overlooking a pond that provides a panoramic or pleasant view. It may include turf grass and manicured landscaping.

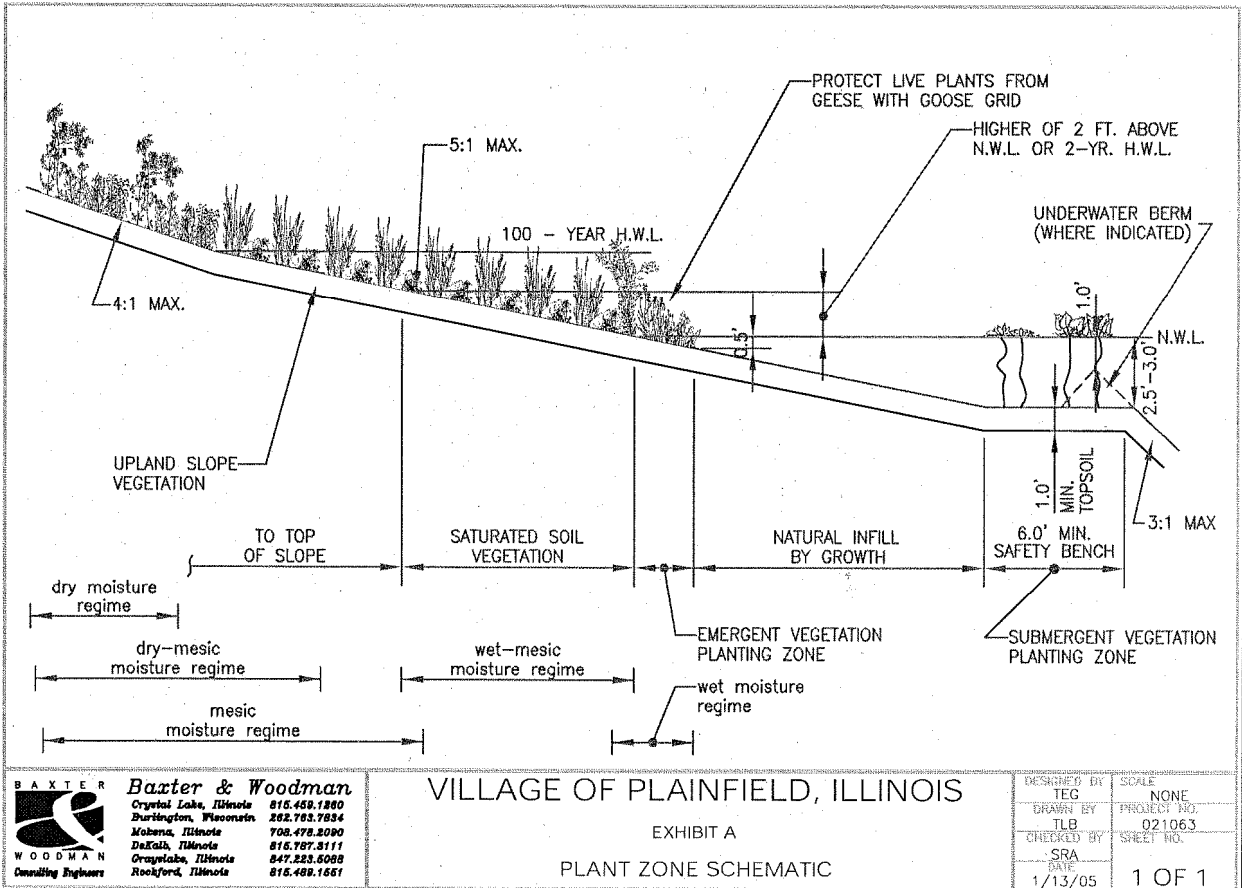
EXPLANATIONS

Stormwater runoff is the most common cause of water pollution. As stormwater runoff flows to lower points, or detention basins, it collects and carries suspended solids, which then settle and pollute bodies of water. Village staff encourages Sedimentation Basins be located around a larger detention pond to capture and hold the water until the suspended solids settle out. The solids will have a chance to sink and be filtered out. Then, the cleaner water can travel through an additional inlet into the larger pond/lake. Incorporating this type of filtration practice improves the water quality of the larger detention pond.

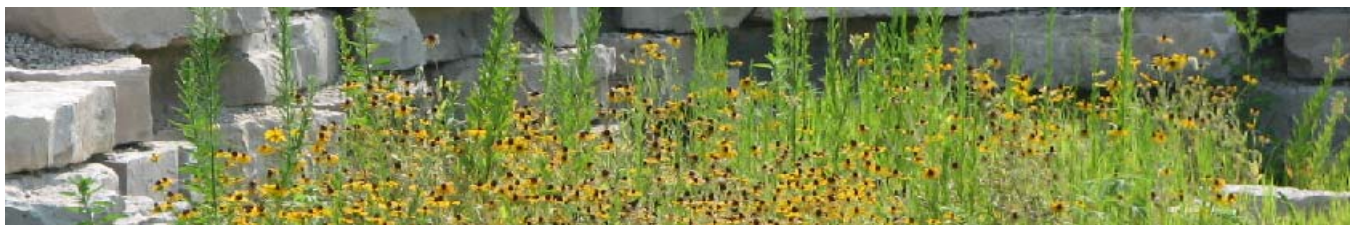
Vistas are another element that Village staff believes is important to incorporate around detention ponds. This breaks up the natural landscaping so that there is not a continuous ring around the entire pond preventing surrounding residents and visitors from approaching the pond. The vistas are areas that have manicured landscaping in between the naturally landscaped areas. These manicured sections allow opportunities for people to sit next to the pond to fish, observe the wildlife, take in an attractive view, or participate in other recreational activities. By incorporating vistas around detention pond areas, the pond will be enjoyed by all. With the help of the sedimentation basins, park goers will be able to enjoy cleaner, healthier ponds and landscapes.

*PLEASE NOTE THAT THESE GUIDELINES ARE LANDSCAPE ORIENTED AND MAY NEED TO BE MODIFIED FOR ENGINEERING REASONS. EACH NATURAL DETENTION POND WILL BE SUBJECT TO A PLANNING REVIEW **AND** AN ENGINEERING REVIEW.*

GENERAL ENGINEERING GUIDELINES



This illustration was prepared by the Village Engineer as a general guideline in detention pond construction.



SUGGESTED PLANT SPECIES

Village staff has put together a general list of plant species to guide aquatic and non-aquatic natural landscaping. A more detailed list is available in the Appendix. These guidelines are given to illustrate the variety of colors that can be incorporated in naturally landscaped areas. Typically when one thinks of a natural area, images of long grasses and reeds come to mind. This is an inaccurate representation of native plant species as there are many other possibilities. Flowers of all colors can be incorporated into natural landscaping to add to the beauty of site.



Naturally landscaped detention pond consisting mainly of grasses and reeds.



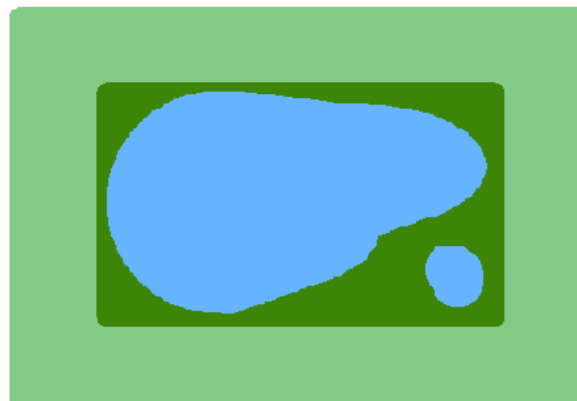
Colorful Sweet Black-Eyed Susans.

Aquatic Environment Plants

Generally, the plants illustrated in this section prefer a few inches of standing water to moist soil, and can tolerate some fluctuation in water levels. Seeds of these plants are often eaten by song birds and waterfowl, while the plants may be eaten by small to medium sized mammals. These plants often provide cover for ducks and spawning habitats for sunfish. They are often used in upper and lower shoreline zones and vegetated swales.

Non-Aquatic Environment Plants

Generally, the plants illustrated in this section thrive in damp soil. Naturally they are cultivated in marshlands and prairies. These plants can grow well in full sun or lightly shaded areas and provide homes and food for a variety of animals.

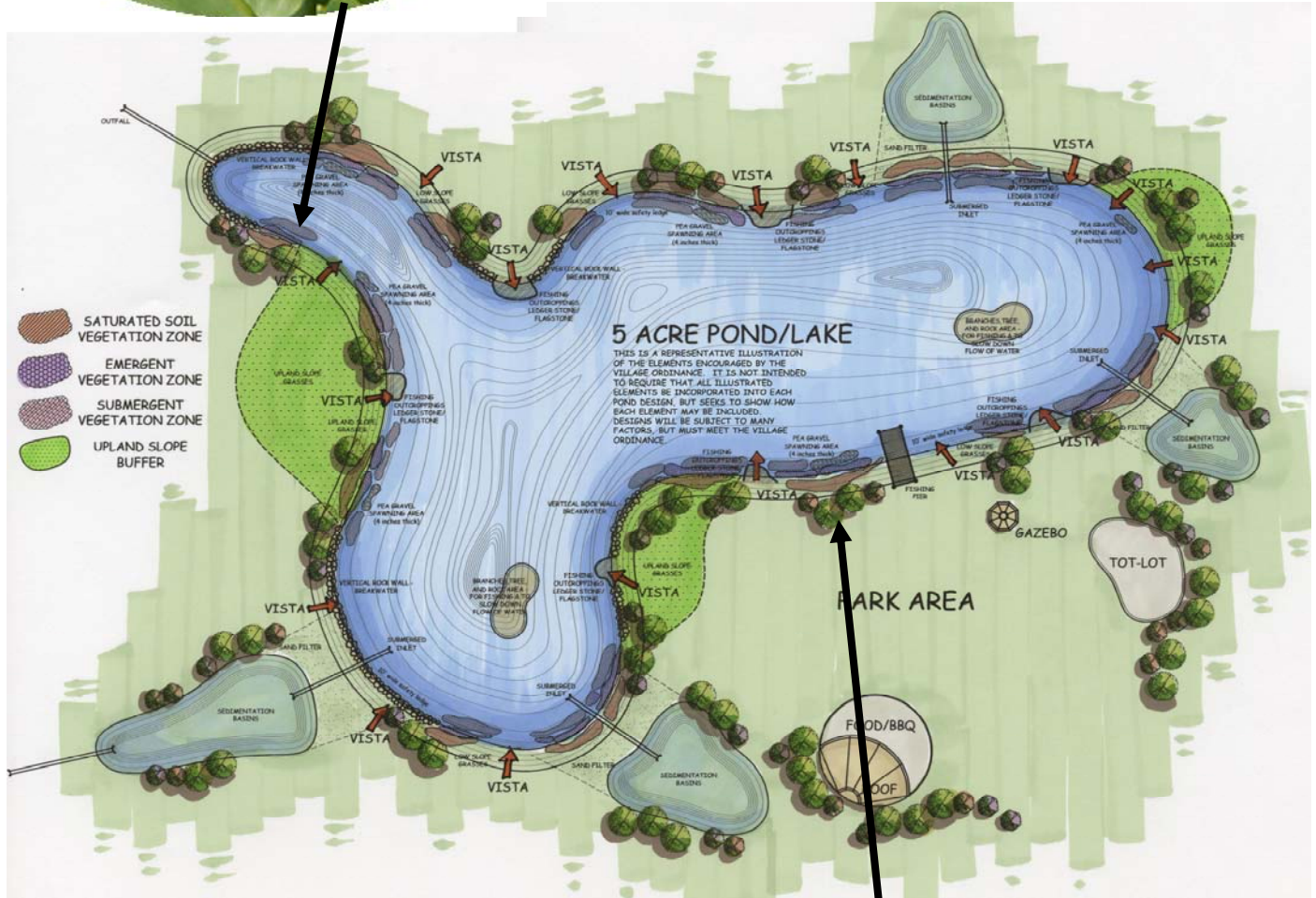


- POND
- AQUATIC ENVIRONMENT SPECIES
- NON-AQUATIC ENVIRONMENT SPECIES

ATTRACTIVE PLANT SPECIES



Aquatic Environment Species



Non-Aquatic Environment Species



AQUATIC ENVIRONMENT PLANTS



Blue Flag Iris



Common Arrowhead



Bristly-Sedge



Common Water Plantain



Common Rush



Common Hop Sedge



Common Burr Reed



Porcupine Sedge



Pickeral Weed

AQUATIC ENVIRONMENT PLANTS Continued



Long Bracted Tussock
Sedge



Three-Square Bulrush



Sweet Flag



Swamp Loosestrife



Swamp Dock



NON-AQUATIC ENVIRONMENT PLANTS



Sweet Black Eyed Susan



Swamp Rose Mallow



Prairie Cordgrass

NON-AQUATIC ENVIRONMENT PLANTS Continued



Obedient Plant



New England Aster



Fowl Manna Grass



Dark Green Rush



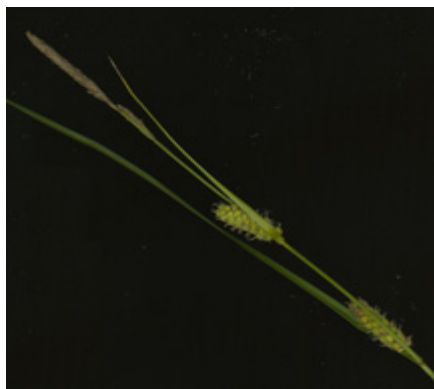
Cup Plant



Common Fox Sedge



Common Bur-Reed



Broad Leaved Woolly Sedge



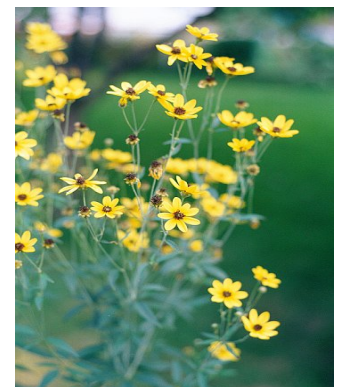
Blue Flag Iris



Autumn Sneezeweed



Woundwort



Tall Coreopsis

COMMERCIAL DESIGN GUIDELINES

Maintaining traditional landscaping on commercial properties (along with industrial and residential) demands a considerable amount of time and money from business owners. As mentioned previously, natural landscaping reduces maintenance costs and efforts, and is more environmentally friendly. One of the main reasons many commercial sites do not include natural landscaping is that there are often not large, expansive areas to create a “prairie-like” feel. One does not need a large area to incorporate natural landscaping on his/her property. Rather, commercial areas can focus on incorporating it ornamentally on parking lot islands, or landscaping beds. Below are a couple of suggestions to incorporate natural landscaping on commercial properties:

- **Substitute turf grass around trees with native plantings.**

Several trees on commercial properties die or become sick because of diseases that result from shallow root systems. These root systems are repeatedly disturbed by lawnmowers and landscaped pruning equipment. Installing natural landscaping around these trees is attractive and reduces the disturbances to trees from lawnmowers and other equipment. It reduces the costs and need to replace the trees. Furthermore, business owners will save themselves time and money on maintaining the traditional landscaping.



The Andreasen Building in Downtown Plainfield does a great job of incorporating natural landscaping around the building foundation to provide for an aesthetically pleasing site.

- **Plant native plants in areas that are often shaded.**

Native plants that can thrive with partial sun or shade will grow in these areas better than traditional turf grass can. Turf grass typically needs a lot of sunlight to grow, which can be shielded from trees or building shadows. Select species of native plants will be able to flourish here while adding color to the site.

- **Plant native plants on landscaping islands, curbs, and streets.**

Native plants work wonderfully as buffers to prevent erosion and runoff. By incorporating them along curbs, streets, and on landscaping islands, one will be minimizing adverse environmental impacts of development, while displaying a colorful landscape. The color will help frame the commercial building to attract potential customers, and look more elegant and unique than other businesses with traditional turf grass and shrubs dominating the property.

RESIDENTIAL GUIDELINES

When trying to incorporate natural landscaping onto residential properties, Village staff suggests some general guidelines to aid in the process. These suggestions are not required, but encouraged, especially if your neighbors are unfamiliar with what natural landscaping is and the benefits it can bring to a community.

- Landscape small areas at the beginning. Consider planting native plants around decks and porches, or around trees.
Remember: The Village of Plainfield only allows 25% of residential properties to have natural landscaping on them, unless the property is part of a Conservation Development.
- Let your neighbors know what your intentions are ahead of time so that they will understand benefits of natural landscaping and possibly be motivated to construct their own areas. This will help relay the message that natural landscaping is allowed and encouraged in the Village.
- Consider installing a sign near the area so that others know that the area should not be mowed, and the area will be clearly defined.



Above: Attractive residential garden;
Right: A Butterfly Garden at The Plainfield
Public Library



NATIVE PLANTINGS TO ATTRACT WILDLIFE

Many residents may wish to attract wildlife to their yards by means of natural landscaping. The Environmental Protection Agency has identified several different species to attract butterflies, song birds, and hummingbirds as listed below (EPA, "Landscaping With Native Plants," 2002) :



Butterflies

Milkweed
Aster
Purple coneflower
Blazing star
Native phlox
Black-eyed Susan
Dogbane
New Jersey Tea
Coreopsis
Joe-Pye Weed
Goldenrod
Vervain
Ironweed

Song Birds

Sunflowers
Blazing Star
White Prairie Clover
Compass Plant
Prairie Dock
Big Bluestem
Sideoats Grama
Switch Grass
Prairie Dropseed
Downy Serviceberry
Hackberry
Dogwood
Juniper
Elderberry
Hawthorn

Hummingbirds

Columbine
Jewelweed
Native Phlox
Native Honeysuckle
Cardinal Flower

MAINTAINING NATURAL LANDSCAPES

While naturally landscaped areas are lower maintenance than manicured and traditionally landscaped areas, they still do require some maintenance. The maintenance performed is much less costly than the maintenance for other types of landscaping over time. Native plants are considered a low-maintenance species. Once established, they can grow and flourish without irrigation and fertilization – just as they once did in the wild. To get to this point, a small amount of help is needed. Landscaping maintenance procedures for naturally landscaped areas include, but are not limited to: spot herbicide treatments, mowing, prescribed burns, and planting additional seeds.

Prescribed burns are the most desirable maintenance procedure as they recreate the natural process of prairies. These burns require a permit from the Illinois Environmental Protection Agency, along with collaboration with the appropriate Fire Protection District, and the Plainfield Police Department. These burns are rapid and dramatic processes that are intended to kill off undesirable plant material. The undesirable plant material has short roots, so when the fire sweeps past the plant is killed. The native plants are stronger and have a more complex root system, so they are able to survive the controlled burns. Prescribed burns are best on large tracts of land.



In this sequence of photos by Joe Nowak, for the *Chicago Wilderness Magazine*, Spring 2007 issue, the changes the ecosystem goes through during and after a burn are vividly illustrated. The flourishing photo in the bottom right is how the prairie appeared the summer after the burn. It grew back more lush and beautiful than ever (Nowak, Jon. "Burn and Rebirth." *Chicago Wilderness Magazine*, Spring 2007.).

MAINTAINING NATURAL LANDSCAPES Cont.

In an urban environment, prescribed burns are not always an option due to municipal regulations, and the close proximity of businesses and houses. If burning is not an option, a naturally landscaped area can be maintained through spot herbicide treatments, timely mowing events, weeding and planting additional native seeds/species.

Mowing maintenance is encouraged, especially on larger tracts of lands to keep invasive weeds down and prevent them from smothering new prairie plants. Herbicide treatments and weeding will complement the mowing and make it more efficient. On smaller parcels, such as private residences, weeding and herbicide applications are encouraged to keep invasive species at a minimum. Once this has been done periodically, the native plants will form a strong community that will be able to fight off invasive species as they come.

An additional maintenance procedure that will speed the maturity of a naturally landscaped site, is the planting of additional native species in bare areas. As weeds are removed, areas will open up allowing new weeds to come in. To prevent this from happening, more native plants should be planted in these bare locations. This will help strengthen the native species, and provide an additional barrier to invasive species that attempt to grow there.

As with any type of landscaping, the weather and species of native plants located in an area will dictate how often maintenance procedures must be performed. There is no set formula, and each naturally landscaped area will have its own requirements. The Village requires that areas have all necessary ecological maintenance procedures performed on them to ensure the area's health and the health and safety of adjacent uses.



Left: A member of the Rose Bowl Riders tending to some of their native plants. The Rose Bowl Riders identified ground improvements including re-landscaping with native plants as one of their main goals. (www.rosebowl-riders.org/about.html)

Right: An existing pond in Plainfield with sign stating “Do Not Mow” this area. In this instance, maintenance procedures other than mowing are likely used. Also, this prohibits any other person from coming in and mowing the area when it is not needed. By erecting a sign such as this one, people who feel the area is not maintained will know that they cannot mow the area themselves. The sign serves two purposes: to keep people from taking it upon themselves to cut the area down, as well as to let people know that it is a special area and it is being maintained differently than traditionally landscaped areas.



ADDITIONAL INITIATIVES ENCOURAGING NATURAL LANDSCAPING WITHIN THE VILLAGE

CONSERVATION PLAINFIELD

Conservation Plainfield is a cooperative venture of various government agencies in the Plainfield community that includes the Village of Plainfield, Plainfield Township, Plainfield Library District, Plainfield Park District, Plainfield School District 202, and Plainfield residents. This group is aimed towards discussing ecological issues and increasing environmental awareness. Their missions, as stated in their brochure, include increasing public appreciation of the environment and being proactive in planning for a sustainable future. By encouraging developers, businesses, and residents to incorporate natural landscaping into their developments, it is believed that the Village would be taking a positive step forward regarding both of these issues.

Conservation Plainfield, along with other groups, takes pride in the Village's natural areas. In 2006, Plainfield was awarded the Urban Conservation Community Award by Will/South Cook Soil and Water Conservation District. Upon receiving this recognition, a tour was given that highlighted many of the Village's natural areas. Areas highlighted included Prairie Knoll, Mather Woods, Lily Cache Creek, Arris Architects, Andreasen Travel Building, private residential lots off of Indian Boundary Road, the Plainfield Public Library and more. Each of these areas incorporated elements of natural landscaping in different settings to give tour goers an attractive assortment of how conservation may be done in different areas. Adding more natural landscaping to the Village will further strengthen its reputation of having good urban conservation.

WATER RESOURCES INITIATIVES

The goal of these initiatives is: to enhance the quality of life by building a relationship between human activities and the environment that minimizes the adverse impacts of development on environmental resources and natural areas. To achieve this goal, several objectives have been identified. The majority of these objectives revolve around natural landscaping and what can be done with it to eliminate pollutants, preserve natural resources, improve ground water quality and employ Best Management Practices. The publication discusses the potential Plainfield has to preserve open space and incorporate natural landscaping around storm water drainage and detention areas.

VILLAGE'S SMART GROWTH & SUSTAINABLE DEVELOPMENT PRACTICES

In recent years, the Village's planning efforts have been refined to encourage green development. Early on, Village staff worked to improve the environmental profile of developments by clustering homes on smaller lots relative to the conventional minimum lot size to provide shared, open space. The expanded open space afforded by clustering homes could be centrally located or could allow for the preservation of existing environmental resources within the project, such as hedgerows and stands of mature trees, wetlands, and creek banks. The expansive open space areas were typically restored to, or left in, a natural state. This greatly reduces the amount of landscaping maintenance and irrigation when compared with a traditional subdivision.



SMART GROWTH & SUSTAINABLE DEVELOPMENT PRACTICES Continued

Additionally, rather than provide conventional, rip-rap-lined detention ponds in isolated locations, the Village encouraged developers to install naturalized ponds with native landscaping in their developments. These ponds were to be integrated into the surrounding area as a desirable amenity. The ponds improve quality, provide enhanced aquatic habitat, and offer opportunities for stormwater to infiltrate into the ground via natural landscaping.

The Village takes pride in its green areas. The Village has been, and will continue, working towards incorporating more greenery in its developments. In addition to encouraging natural landscaping, Main elements that are incorporated include pocket parks and boulevards.

RECOGNITION

The Village of Plainfield has been recognized and won various awards for ecological practices and designs. Among these include being named a Tree City, and being awarded the Urban Conservation Community Award by Will/South Cook Soil and Water Conservation District. The Village hopes to be recognized with more environmental or urban sustainability awards and hopes that by promoting natural landscaping and other green practices this may be achieved.

NURSERIES THAT SELL NATIVE PLANTS

Contrary Mary's Plants & Designs

2735 Rt. 52, Minooka, IL 60447
815-521-9535

Lizzie's Garden

24254 111th Street, Naperville, IL 60564
630-904-1066

Natural Garden Inc.

38W443 Highway 64, St. Charles, IL 60175
630-584-0150

Rizzis Flower Garden (Limited Selection)

16250 S. Rt. 59, Plainfield, IL 60544
815-436-3090

Floribunda Gardens (Limited Selection)

2093 Collins Rd., Oswego, IL 60543
630-554-4688

Menards(Limited Selection)

13441 S. Rt. 59, Plainfield, IL 60544
815-577-5202

Possibility Place Nursery

7548 W. Monee-Manhattan Rd., Monee, IL 60449
708-534-3988

Shop Online: JFNew - www.jfnew.com

Special Thank You To:

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Environmental Protection Agency
Illinois Environmental Protection Agency

For contributing ideas to Village Guidelines.

APPENDIX

