

## PW-SWS Stormwater Treatment Facilities

### Vegetation Management Policy

#### Goals

- Public safety
- Prevent erosion
- Protect and improve water quality and ecological function
- Slow water movement, hold or convert pollutants, and enhance infiltration and evapotranspiration
- Conduct preventive maintenance for longevity of infrastructure
- Control invasive species (non-native and selected native species) growth and prevent the production and dispersal of seed
- Create wildlife habitat
- Provide a neat appearance

#### Herbicide Policy

Public Works – Surface Water & Sewers Division (PW-SWS) has adopted the Integrated Pest Management (IPM) Policy formulated by the Minneapolis Park and Recreation Board (MPRB) to guide the use of herbicides on public lands under their charge. Herbicide use shall be limited as directed in this document.

#### Management Guidelines

- Perpetuate the original intent of the species planted. On many sites the original intent was to establish a simplified native grassland community. Plant species were selected for their resilience, habitat value and beauty. These plants shall be managed for their proliferation.
- Control <sup>1</sup> all species listed on the MN Noxious Weed List and comply with the MN Noxious Weed Law.
- Control invasive species in order to prevent Public Works sites from becoming sources of invasive weed seed that can disperse and establish on neighboring properties. An example is Canada thistle, which produces copious amounts of wind-blown seed that can easily become a problem on nearby public and private lands.
- Control aggressive species that if allowed to exist on a site will quickly spread and overwhelm the site. Aggressive native species include but are not limited to Canada goldenrod, sandbar willow and cottonwood. Non-native species include but are not limited to Canada thistle,

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<sup>1</sup> Control means manage or prevent the maturation and spread of propagating parts of noxious weeds from one area to another by a lawful method that does not cause unreasonable adverse effects on the environment. *MN Noxious Weed Law 2013 MS 18.75-18.91*

crown vetch, bird's-foot trefoil, reed canary grass, *Phragmites australis*, spotted knapweed, smooth brome, sweet clover, purple loosestrife, Siberian elm, buckthorn, and Tartarian honeysuckle.

- Control non-native cattails (hybrid and narrow-leaf). They are common weeds in stormwater treatment facilities that may clog inlet and outlet structures, and they reduce habitat function. They are to be controlled when a threat to structures occurs, primarily by cutting the plant below the water surface. Where this is not feasible, as a last resort wick application of an aquatic-safe herbicide may be warranted, however herbicide application over water shall be avoided where practicable.
- Control fast growing, rank, woody species such as willow, Siberian elm and box elder that can quickly establish and form a thicket around stormwater treatment facilities or can cause a public safety issue.
- Control species that are allelopathic <sup>2</sup>. These include but are not limited to spotted knapweed, garlic mustard, and leafy spurge.

**Invasive Plant Management Tools** (where feasible, use mechanical means such as pulling and mowing, in order to minimize chemical usage)

- Herbaceous Plantings
  - Pulling (preferred)
  - Mowing (preferred)
    - Flail mowing
    - Spot mowing
  - Herbicide application
    - Spot spraying
    - Wick application
- Woody Plants
  - Pulling (preferred)
  - Cutting with stump application of herbicide

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<sup>2</sup> **Allelopathic means to produce a chemical in plant tissue that releases into the soil and prevents the growth of most other species**

## **INTEGRATED PEST MANAGEMENT – ADAPTED FROM MINNEAPOLIS PARK AND RECREATION BOARD POLICY (Revised July 24, 2008)**

Integrated Pest Management (IPM) is a pest management strategy that focuses on long-term prevention or suppression of pest problems with minimum impact on human health, the environment and non-target organisms. In most cases, IPM is directed at controlling pests that have an economic impact on commercial crops; however, in the instance of mosquito control, IPM is used to control nuisance and potentially dangerous mosquito populations. The guiding principles, management techniques and desired outcomes are similar in all cases.

A number of concepts are vital to the development of a specific IPM policy goal:

1. Integrated pest management is not a predetermined set of practices, but a gradual stepwise process for improving pest management.
2. Integrated pest management programs use a combination of approaches, incorporating the judicious application of ecological principles, management techniques, cultural and biological controls, and chemical methods to keep pests below levels where they cause economic damage. (Laws of MN, 1989)
3. Implementing an integrated pest management program requires a thorough understanding of pests, their life histories, their environmental requirements and natural enemies, as well as establishment of a regular, systematic program for surveying pests, their damage and/or other evidence of their presence. When treatments are necessary, the least toxic and most target-specific plant protectants are chosen.

The four basic principles of IPM used in designing a specific program are:

1. Know your key pests.
2. Plan ahead.
3. Scout regularly.
4. Implement management practices.

### **Selection of Management Strategies**

Selection of Management Strategies pest management techniques include:

- Encouraging naturally occurring biological control.
- Adoption of cultural practices that include cultivating, pruning, fertilizing, maintenance and irrigation practices that reduce pest problems.
- Changing the habitat to make it incompatible with pest development.
- Using alternate plant species or varieties that resist pests.
- Limiting monoculture plantings where possible.
- Selecting plant protectants with a lower toxicity to humans or non-target organisms

The criteria used for selecting management options include:

- Minimization of health risk to employees and users.
- Minimization of environmental impacts (e.g. water quality, non-target organisms).
- Risk reduction (losses to pests, or nuisance/threshold level).
- Ease with which the technique can be incorporated into existing management approaches.
- Cost-effectiveness of the management technique.

### **Posting of Plant Protectant Applications**

Comply with the City of Minneapolis ordinance regarding pesticide application (Minneapolis Code of Ordinances Title 11 [Health and Sanitation] Chapter 230 [Pesticide Control])

### **Recordkeeping**

Produce and maintain the necessary records of all pest management activities as required by the Minnesota Department of Agriculture.

### **Weed Control in Upland Plantings, Shrub Beds and Around Trees**

Plants are selected and/or replaced in order to provide disease and insect resistant plantings, thereby reducing plant protectant applications. Weeds listed on the State of Minnesota's Noxious Weed List must be controlled as per state statute, and species will be controlled as listed in Management Guidelines above. Mechanical or manual means of weed control will be tried first when feasible. However, due to global climate change, increasing populations of tap-rooted and other perennial weeds are being transported by birds and other means. Pulling or digging of these weeds is usually not successful. Spot spraying of these tap-rooted weeds with a low toxicity herbicide will help prevent flowering, seeding and further dispersal of these pest weeds. Appropriate mulching of upland plantings, shrub beds and around trees will help decrease the number of pest weeds. If control of annual weeds in pathway or mulched areas is required, the proper pre- or post-emergent low toxicity herbicide will be applied on a spot spray basis. Posting of any plant protectant applications will be carried out according to City ordinance.

### **Turf Areas**

PW-SWS follows the Minneapolis Park and Recreation Board's General Parks and Parkways threshold of 50% for broadleaf and/or grassy weeds in turf areas. When it has been determined that this percentage has been reached or exceeded, the appropriate post emergent or pre-emergent herbicide may be applied, preferably on a spot spray basis. Selection of the appropriate herbicide of choice will be determined by trained staff after evaluating the site, the hazard rating of the product and the specific location.

### **Future Pest Control Issues**

With changes in climate, the environment will be subject to many changes, including the arrival of additional pests within open space areas. Following IPM principles, the City will refer to updates in MPRB policy and practice and will work with the appropriate local, state or national agencies to determine the best control approach for these new pests.