



Model Ordinances for Tree Protection, Weed Management, and Native Plant Encouragement



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Introduction

Gould Evans (GE) and the Center for Neighborhood Technology (CNT) have partnered to produce a model ordinance for the Mid-American Regional Council (MARC), the metropolitan planning organization for the Kansas City region that promotes native vegetation and trees to benefit community beautification, stormwater management, improve climate resistance and for overall local ecosystem health. This brief report accompanies a workshop led by the partnering organizations that included relevant stakeholders brought to the table by MARC. The report discusses the community benefits of green stormwater infrastructure, the strengths and limitations of ordinances focusing on public versus private land, and various ordinance types.

Community Benefits of Native Plants, Trees, and Green Infrastructure

The MARC region is on the land of the Kiikapoi (Kickapoo) People and Osage Nation. Before European settlement and subsequent waves of development, stormwater flowed naturally through watersheds into rivers and lakes and other environmental processes were managed naturally. Plants and trees indigenous to the region played a huge role in those processes. With development came the removal of many such plants, some of which were replaced with plants that serve aesthetic and other purposes, and the sometimes-accidental introduction of invasive plant species. Today, many are attempting to reintroduce and cultivate native plants because of their ability to manage stormwater and provide other community benefits. The same can be said for trees. Meanwhile, green stormwater infrastructure (GSI) utilizes nature-based processes, such as infiltration, to manage stormwater and provide other community benefits.¹ Examples include rain gardens, street trees, bioswales, and permeable pavement that utilize native plants, trees, and soil. The benefits of GSI are not limited to the environment, and communities can see multiple benefits in a variety of categories.

Climate Adaptation/Resilience

GSI can help communities to be better equipped against riverine and urban flooding, droughts, and heat waves. Flooding threatens both the water quality and properties of communities. GSI can mitigate the damage of flooding by improving drainage through infiltration. Permeable pavement, rain gardens, and bioswales all improve infiltration and reduce the risk of combined sewer overflows and stormwater runoff. In 2011, the Environmental Protection Agency (EPA) studied the benefits of expanding GSI to prevent flooding in areas where flooding occurs on average every 5 or 10 years. The EPA concluded that the U.S would save \$63 to \$136 million annually in flood losses by 2040. Further, GSI can increase shade and improve evapotranspiration, or the transfer of water by evaporation from soil and plants to the air, which cools temperatures in the summer during extreme heat.²



¹ CNT. (2020). Green Values Strategy Guide [PDF]. Retrieved from <https://www.cnt.org/sites/default/files/publications/Green%20Values%20Strategy%20Guide.pdf>

² Ibid.

Climate Mitigation/Avoidance

Not only are there benefits in fighting present climate concerns but implementing GSI also offers long-term benefits by reducing the chances of severe weather in the future. GSI can reduce greenhouse gases (GHG), with urban trees, or street trees, absorbing 0.8 tons of carbon per hectare of tree cover annually. Reducing GHG can reduce climate change's impact and severity in the future. Permeable, green, shaded, and heat-reflecting surfaces are components of GSI that can mitigate urban heat island effects. Shaded surfaces alone can be 20 to 45°F cooler than unshaded surfaces, and improved evapotranspiration from green surfaces can reduce temperature peaks by 2 to 9°F. These benefits mitigate severe climate events and decrease the severity of these events in the future.³



Health Benefits

The environmental benefits of green infrastructure tie closely to its health benefits. With more native plants, trees, and green infrastructure measures, the impact of ozone air pollution, extreme heat, and flooding on health increased. GSI measures such as street trees and buffer parks can increase absorption of pollutants on roads and other areas where air pollutants are released in large quantities. Mitigating exposure to these pollutants can decrease hospitalizations and premature deaths due to toxic exposure. Street trees can provide shade, reducing health risks of extreme heat including cardiovascular, kidney, and respiratory disorders. Rain gardens and other GSI measures mitigate potential dampness and mold in households and water-borne diseases by improving drainage through infiltration.⁴

Economic Benefits

Advancing GSI offers multiple economic benefits including improved workforce development, vacant land reactivation, sales revenue and increased property and recreational value. GSI increases the presence and demand for green jobs, or jobs that offer services with environmental benefits, support GSI, and conserve natural resources. In Portland, the installation of GSI since the 1990s has led to green jobs employing 5% of its workforce. GSI projects require installation and maintenance, which demand a variety of jobs such as landscapers or heavy equipment operators. Increasing demand for these jobs offers can fill in the “missing middle” in employment, or jobs that pay more than retail but don't require a post-secondary education. GSI can put vacant land such as brownfields to use and encourage investment that can raise sales and recreational revenue in communities. GSI can also provide more green space, which can raise property values, although this benefit should have a well-panned strategy to avoid displacing existing residents.⁵

Transportation Benefits

Communities with GSI benefit from less traffic collisions, and complete streets that are safe and accessible to multiple modes of transportation. GSI can mitigate flooding on streets, making transportation during rain events safer. GSI measures like parkway bioswales or bioretention planters along roads and parking lots can make streets friendlier to different modes of transportation and lower risks of collision. These measures can create barriers between cyclists, pedestrians, and vehicles that can prevent accidents. Studies also show that green spaces on roads can lower stress and decrease chances of road rage or accidents due to speeding.⁶

Ordinances That Focus on Public Land

Public land, including streets, sidewalks, parkways, public parks, natural areas, and sites of government buildings, offers municipalities the opportunity to consider GSI, especially if developed in collaboration with the public.

³ Ibid.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

Opportunities

The key benefits of public land-based ordinances involve their scale, networking, and sustainability. Public lands such as roads, natural areas, parks, and other areas that are widely available across communities provide ample space to implement GSI. Some public lands are linear, like roads, or cover a large area, like parks, which can allow for GSI to be connected. Connecting GSI improves its impacts compared to multiple disconnected GSI projects. Ensuring maintenance of performance standards of GSI in public land would be easier to sustain given that ownership of public lands does not frequently change. Further, public land owners, usually local governments, will likely be earning revenues from GSI based on the aforementioned economic benefits. Increased revenue can potentially encourage consistent maintenance by municipalities. GSI also requires less large-scale and costly maintenance compared to gray infrastructure, since it is based in natural processes. The city of Seattle reduced costs of pavement management by 49% after increasing GSI in its streets.⁷

Weaknesses

A key concern of public land-based ordinances is that additional operation and maintenance costs may become a burden for municipalities. GSI projects are similar to municipal capital projects, which have calculated costs of operation and maintenance. Determining returns on investment from GSI may be difficult since short-term benefits may be difficult to quantify/value. The San Francisco Public Utilities Commission tackled these challenges by developing a Green Infrastructure Maintenance Cost Model.⁸ This model calculates the cost of labor, materials, and number of visits required for maintenance to identify cost.⁹ It is intentionally flexible and customizable to accurately convey the costs of different regions and GSI projects.¹⁰ Another concern is public perception of green infrastructure and the native plants. In some cases, community members may prefer the aesthetic of mowed grass and highly manicured gardens to taller, larger native plant. These perceptions could lead to misunderstandings by the public that the municipality is not properly conducting maintenance. Education campaigns at the community level are critical to ensure early support for native plants.

Ordinances That Focus on Private Land

Privately held land is frequently the lion's share of property in a community. Municipalities can implement ordinances regulating the use and development of private land in order to minimize costs borne by local governments. Municipalities should make sure that systems are implemented to support effective cooperation / shared responsibility from private landowners.

Opportunities

A key benefit of private land-based ordinances is that they increase the share of community benefit costs with the private sector. The private sector will contribute to the financing of GSI on their property which benefits the entire community without the costs of these benefits being the burden of the government alone.



⁷ American Rivers, The Water Environment Federation, The American Society of Landscape Architects, & ECONorthwest. (2012). Banking on Green: A Look at How Green Infrastructure Can Save Municipalities Money and Provide Economic Benefits Community-wide [PDF]. Retrieved from <https://lincoln.ne.gov/city/ltu/watershed/cwp/pdf/banking-on-green.pdf>

⁸ Logsdon, W. (2019). Green Infrastructure Maintenance Cost Model [PDF]. Retrieved from <http://www.12000raingardens.org/wp-content/uploads/2019/05/GI-Maintenance-Model-Webinar-050719.pdf>

⁹ Ibid.

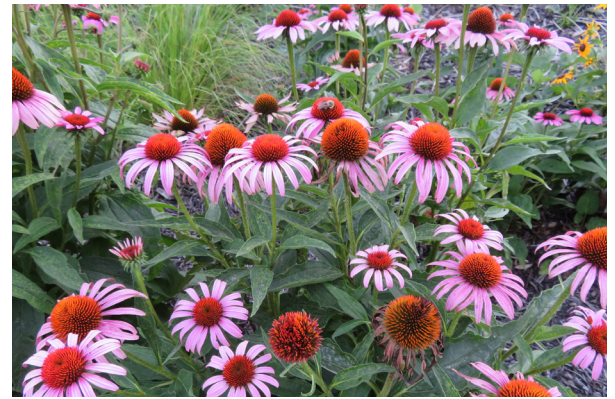
¹⁰ Ibid.

A recent National Resources Defense Council (NRDC) study discusses different approaches municipalities can take to develop financial incentives to property owners to lower the cost of installing GSI.¹¹ Given that communities often have more private than public land, focusing on private land will provide the opportunity to develop GSI across a larger portion of the community. Further, these spaces are diverse, with solutions being possible from a microscopic scale, ranging from a backyard or lawn to a large bio-infiltration solution in an industrial or office park.



Weaknesses

A primary concern with private land-based ordinances involves working with property owners. To ensure the integrity of the investment and maintain performance standards for the sake of the public good, owners need to be accountable to the medium- and long-term maintenance of plants, soil, and grading. Further, owners of private property are more likely to change than public property. A dedicated owner can easily be replaced with a less dedicated one, which would make ensuring the maintenance of performance standards even more difficult. Any ordinance should consider incorporating a transition plan.



Public Land Ordinances and Policies

Public land ordinances and policies can take a variety of forms. For example, all federally funded transportation projects are mandated to include a drainage plan to compensate for lost pervious land area. The Northwest Indiana Regional Plan Commission (NIRPC) requires that any project proposals for federal transportation funding utilize natural solutions such as bio-infiltration to manage drainage or justify their inability to use these natural solutions.¹² Federal funds could also be used as a subsidy for natural solutions on public lands. However, these subsidies would cover costs of implementing these solutions but not operating and maintaining them, which leaves a key financial concern unanswered for local governments.

Capital Improvement Plan (CIP)

A CIP can be a useful vehicle to promote green infrastructure in communities. To date, CNT is not aware of traditional capital improvement planning being used to promote GSI. A CIP treats green infrastructure and other natural solutions like a public asset, similar to roads and pipes. Given that CIPs usually identify alternatives and conduct an assessment on the best alternative, should a natural solution be found as the best alternative it will become part of the CIP. Engineering studies on green infrastructure initiatives and an analysis of costs and community benefits would also be provided through a CIP. As part of the CIP, green infrastructure and other natural solutions would receive a portion of municipalities' budget.

¹¹ Valderrama, A., Lochner, J., & Koval, M. (2017). Catalyzing green infrastructure on private property: Recommendations for a Green, Equitable, and Sustainable New York City [PDF]. Retrieved from <https://www.nrdc.org/sites/default/files/catalyzing-green-infrastructure-on-private-property.pdf>

¹² NIRPC. (2011). 2040 Comprehensive Regional Plan: A Vision for Northwest Indiana Plan Summary [PDF]. Retrieved from https://nirpc.wpengine.com/wp-content/uploads/2017/02/CRP_Summary_Corrected_02_2017_Compressed.pdf⁸ Logsdon, W. (2019). Green Infrastructure Maintenance Cost Model [PDF]. Retrieved from <http://www.12000raingardens.org/wp-content/uploads/2019/05/GI-Maintenance-Model-Webinar-050719.pdf>

Public/Private Ordinances – Tree Ordinances

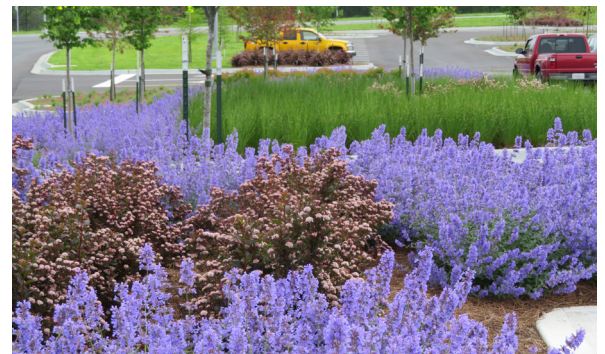
Tree ordinances can operate as either public or private land-based ordinances. There are three types of tree ordinances: street tree, tree protection, and view ordinances. Street tree ordinances, which are public land-based, focus on the planting and removal of trees in public lands, particularly rights of way. These ordinances include removal of trees that are hazardous to the public and requirements for planting trees. Tree protection ordinances can be either public or private land-based and focus on protecting historically significant trees or ones that provide benefits. Any action involving these trees under this ordinance would require a permit. View ordinances are entirely private land-based and focus on solving altercations between property owners over trees that can block sunlight or views. The International Society of Arboriculture (ISA) provides a useful guide on the development of effective tree ordinance.¹³

Private Land Ordinance

Private land ordinances regulate what can and cannot be done on private property and are diverse in both focus and approach. Although this diversity is beneficial, there are strengths and limitations to each type.

Stormwater Management

Stormwater management ordinances focus on increasing GSI-based stormwater management measures on private property. These ordinances set a standard for the volume of stormwater a private property is required to manage on-site. These standards are often determined by a scientific assessment of a community's risk of stormwater runoff. Private property can be existing, re-developed, or a proposed development. Stormwater management ordinances are easier to implement when developed for new, proposed developments, rather than those developed for pre-existing developments built prior to the ordinance. Planned developments would have to acquire permits confirming their plan is in line with the required amount of stormwater volume that a private property should retain. Recurring inspections can ensure maintenance of the GSI. Nonetheless, ensuring consistent quality of maintenance across all developments and properties can be difficult since they are private. Stormwater management ordinances targeting new developments also rely on private development markets, which can be a limitation for communities that have few new developments or are not seen as investment worthy. It is worth noting that stormwater management ordinances were voted of highest interest by attendees to the MARC-hosted workshop in August 2020.



¹³ ISA. (2001). Guidelines for Developing and Evaluating Tree Ordinances [PDF]. Retrieved from <https://www.isa-arbor.com/Portals/0/Assets/PDF/Certification/Tree-Ordinance-Guidelines.pdf>



Low-Impact Development (LID) Ordinances

LID ordinances are similar to stormwater management ordinances but are not as strongly driven volumetric management of stormwater runoff. The premise of LID ordinances is to install GSI measures that replicate nature-based processes to manage stormwater (like infiltration, retention, etc.). These measures are defined as best management practices (BMP) and range from rain gardens to pervious pavement. Traditionally, these ordinances require developed areas to achieve a particular number of points in their implementation of BMPs. Each BMP has a different number of “points” which increase based on the impact/benefit of the BMP. The town of Merrillville in Indiana has established an LID ordinance, which mandates that developments implement enough BMPs to achieve at least 100 points, with a minimum of three different BMPs required.¹⁴ The town offers fifteen different potential BMPs, presenting a benefit of LID ordinances which is the diversity of approaches to implement it. This flexibility can improve implementation and maintenance by property owners. Although not as impactful as stormwater management ordinances, LID ordinances may be more acceptable to property owners.



Native Plants Ordinances

Native plant ordinances focus on planting native plants on private property. Native species have characteristics that make them more suitable to local weather patterns, soil strata, and other geophysical characteristics.¹⁵ Native plant ordinances often update existing property maintenance guidelines to include or require native species. The township of Lower Makefield in Pennsylvania, for example, amended its land and subdivision development code to include native plants.¹⁶ These ordinances may also include a required minimum area that must contain native plants on private property.¹⁷ A key concern with native plant ordinances is that they tend to place the onus on property owners to select and install native vegetation. Municipalities should ensure there are educational resources and technical assistance available as needed. It should be noted that not all property owners may be receptive of planting native plants due to aesthetic or simply lack of interest. While this could limit the impact of these ordinances, it’s important for communities to accommodate a variety of property owner preferences and abilities.



¹⁴ Town of Merrillville. The Town of Merrillville Indiana Storm Water Management Ordinance: Manual 1 [PDF]. Retrieved from http://merrillville.in.gov/document_center/Management_Ordinance_Manual.pdf

¹⁵ Massner, K., Rosenbloom, J, & Duerksen, C. (n.d.). Use of Native Plants/Vegetation. Sustainable Development Code. Retrieved from <https://sustainablecitycode.org/brief/require-use-of-native-plants-vegetation-7/>

¹⁶ Township of Lower Makefield. Ordinance No.368 [PDF]. Retrieved from http://pa.audubon.org/sites/default/files/static_pages/attachments/native-plant-ordinance-final-2017.pdf

¹⁷ Ibid.



Invasive Plants Ordinance

Invasive plant ordinances are similar in nature to native plant ordinances, except they regulate invasive plant species. These ordinances may mandate removing or containing invasive species on private property. Unlike native species, invasive species are not suited for the environment they are in and can hinder native plant growth, disrupt ecosystems, and negatively impact nature-based stormwater management processes. Invasive plant ordinances share the same limitations as native plants ordinances, but there are examples of their successful implementation in cities across the U.S. For example, the city of Chesterfield in Missouri implemented a nuisance ordinance that allows planting native species that are free of weeds, grasses, or invasive species.¹⁸

Cost Sharing Program

Cost-sharing programs are another approach to implementing GSI in private properties. These programs encourage property owners to invest in GSI by offering a financial incentive in which the local government reimburses property owners for a portion of the installation costs. A key concern with this type of approach is that the degree of maintenance is difficult to maintain and private property owners can frequently change. Missouri Department of Conservation, Johnson County, KS, Lenexa, Overland Park, Olathe and other local municipalities have stormwater cost sharing programs. CNT's RainReady program in Oak Park offers a useful example of cost-sharing benefits for GSI. RainReady assesses households and provides recommendations for GSI. Household owners receive a grant that covers 50% of the costs of the GSI project's installation with grants going up to around \$1,500.¹⁹ Homeowners are supported in the financing of GSI, benefiting them as private property owners and the larger community by improving stormwater management.

¹⁸ Native Landscaping Ordinances [PDF]. (2013). Retrieved from <https://www.marc.org/Environment/Air-Quality/pdf/NativeLandscapingOrdinances-4pg-June2013.aspx>

¹⁹ CNT. RainReady Oak Park: Frequently Asked Questions [PDF]. Retrieved from https://www.cnt.org/sites/default/files/pdf/RainReadyFAQ_2019.pdf

Tree Protection Model Ordinance

Why does your community need a tree preservation ordinance?

Trees are a key component to enhancing the livability and environmental quality of a community. Trees provide shade that lowers summer temperatures, saving energy and adding comfort. Trees near the street create safe and comfortable places to walk. This makes walking a reasonable option, which can improve physical health and increase neighborhood social interaction. Trees increase revenues for commercial property by creating safer, more comfortable places to linger and shop. Trees reduce flooding by intercepting a large volume of rainfall during storm events. Trees provide weather protection to pedestrians. Light rains, scorching sun and wind are shielded by tree canopies. Temperature reductions up to 15 degrees may be experienced thanks to shade and evapotranspiration.

Trees reduce pollution. Carbon dioxide, volatile organic compounds, nitrogen oxides and particulate matter are reduced by trees, easing asthma and health concerns. Trees are aesthetically pleasing. They soften the harsh urban & suburban elements and make the neighborhood more beautiful. Shade from street trees can extend the life of asphalt as much as an additional

50%. Expansion/ contraction and UV exposure caused by direct sunlight works to shorten the life of pavements. Trees provide habitat and contribute to the food web.

Trees make places more valuable. These benefits all contribute to making a place more desirable and raising property values. This, in turn, generates more property taxes, causes more re-investment, and creates a more stable neighborhood.

All trees produce benefits, but older and larger trees produce them at far higher levels. Therefore, it is important for municipalities to enact tree protection ordinances.

This model ordinance provides municipalities with approaches for different levels of tree protection for communities with differing tree protection needs or desires. Each section includes several levels of tree protection. Select the level that best matches your municipalities tree protection goals.



Section 1. Intent

Section 2. Applicability

- A. Property and Threshold activity
- B. Exemptions

Section 3. Protected Trees

- A. Protected Trees
- B. Trees Prohibited From Removal
- C. Exceptions – Authorization For Removal
- D. Non-Protected Trees
- E. Mitigation for Removal

Section 4. Protections & Prohibitions

- A. Protective Fencing
- B. Prohibited Activities
- C. Options & Incentives

Section 5. Procedures

- A. Tree protection and preservation plan
- B. Tree Removal Permit
- C. Appeals

Section 6. Enforcement and Penalties

Section 7. Definitions



Section 1. Intent

[Be clear, succinct, and specific about the objectives and benefits. Intent sections establish expectations, and are used to guide any interpretation or flexibility in the standards. If this ordinance is integrated into a broader development or city code, do not duplicate general purposes of those codes. If this ordinance is integrated with a specific landscape ordinance or landscape section of the development code, build on those intent statements.]

The intent of this ordinance is to preserve and advance the aesthetic, economic, and environmental benefits of a high-quality urban forest, by protecting mature trees, and mitigating any unnecessary removal of trees. Mature trees provide numerous benefits such as stormwater management, runoff infiltration and air quality improvement that will take replacement trees decades to match, making them critical to retain.

The standards have the following specific objectives: *[Select any or all items below that relate to your municipality's needs, or add others that may be unique to your plans and policies on tree protection.]*

- A. To preserve the City's character by preventing indiscriminate removal or destruction of trees.
- B. To improve property values through implementation and management of street trees, and through maintaining an acceptable tree canopy over all property.
- C. To increase the environmental performance of streetscapes and site design, recognizing the air quality, stormwater filtering and infiltration, habitat maintenance, and energy reduction benefits provided by mature trees.
- D. To establish and preserve the aesthetic and comfort afforded by trees to residents.
- E. To enhance compatibility of different projects with established buffers that mitigate impacts of development or other natural ambient conditions.
- F. To retain high priority trees and limit unnecessary tree removal on redeveloped or undeveloped sites.
- G. To establish tree protection measures during development and reward tree protection efforts by with flexible development standards.
- H. To preserve exceptional trees that are unique, native, possess exceptional aesthetic value, or are otherwise considered a valuable community resource.

Section 2. Applicability

[Defines when and how a property owner is subject to these standards.]

A. Property and Threshold Activity.

The provisions of this ordinance shall apply to: *[select in ascending order]*

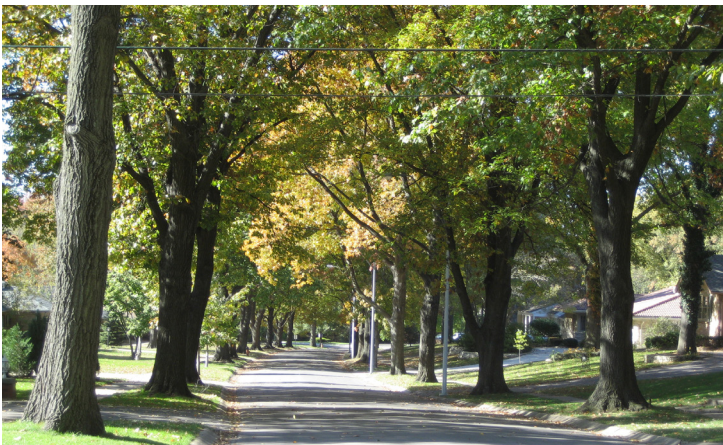
- **All public right-of-way or other municipal property, including parks, open spaces and municipal grounds.** *[Basic Regulation – protects city property against private or quasi-public actions.]*
- **All non-residential development that requires a site plan or plat.** *[Basic Regulation – applies to significant private development investment.]*
- **Any residential plat or residential development that disturbs more than 5,000 square feet of land.** *[Basic Regulation – applies to significant residential development.]*
- **Any residential lot that builds a new structure or expands the footprint of an existing structure by more than 200 square feet.** *[Moderate Regulation – applies to infill residential development.]*
- **Any demolition permit or land disturbance activity, including grading or any removal of trees protected by this ordinance.** *[Advanced Regulation – eliminates loopholes that allow removal prior to formal applications, and proactively protects eligible trees through non-development activities.]*

[The applicability should be tailored to your development context and priorities. For example, cities facing infill development pressure may prioritize applying this to all single-family or residentially zoned property; while cities experiencing growth may prioritize applying to subdivisions over a certain size or all commercial property. Alternatives to this approach could be based purely on specific zoning districts, based on square footage of land disturbance, based on existing permit types (i.e. building permit, grading permit, ROW excavation permit), or based on specific areas or priorities established in a plan to protect identified resources.]

B. Exemptions.

[This section should include properties or specific development activities that would otherwise be included in subsection A above. Property and Threshold Activity, may be exempt for other practical or policy reasons. This is different from specific circumstances where a tree may be authorized for removal (with or without mitigating), despite otherwise being protected. (3.C.2). Some examples may include:

- *Municipal CIP projects (i.e. streets, storm water, etc.; although city standards and specifications should include tree and landscape provisions that emphasize incorporating trees as a key portion of infrastructure design and storm water BMPs.)*
- *Emergencies (i.e. storm damage or other public safety events; however, after-the-fact permitting and processing should be required to see if mitigation is required)*



- Utility work is often exempt; however proper tree management and utility operations are not mutually exclusive, and often utilities are some of the more indiscriminate in cutting or clearing trees to ensure that all work is as easy as possible. Jurisdictions should consider qualifying any utility exemption with only that necessary to ensure the safe operation or protect utilities from immediate damage. This should also be accompanied with guidelines on location, types, and species for how to successfully plant trees in association with utility easements.
- Competing, priority projects (affordable housing; solar or wind energy, floodplain management).
- Agriculture activities, orchards, nurseries or tree farms, golf courses or other large managed landscapes.]

Section 3. Protected Trees

[Define what and how are trees protected?]

A. Protected Trees.

[What types of trees are protected? - certain size, certain species, certain classifications, certain locations? This can be varied dependent on the applicability provisions in 2.A., with different protection levels for different locations:]

The following trees are protected and shall be mitigated if removed, as provided in this ordinance. *[select in ascending order; sizes may be varied or uniform]*

- **All trees of any size in the public right-of-way.** *[Basic Regulation– protects public property from private disturbance]*
- **All trees greater than 4” DBH that are within 20 feet of the front lot line.** *[Basic Regulation – protects trees that are most visible and have an impact on community; coordinates with well-designed streetscapes]*
- **All trees greater than 6” DBH that are within 10 feet of a non-street property line.** *[Basic Regulation – protects trees that protect and enhance transitions with adjacent property]*
- **All trees greater than 8” DBH that are on other property areas not within the buildable area established by building setbacks.** *[Moderate Regulation – begins to protect the established tree canopy from development related activity]*
- **All trees greater than 12” DBH that are within the buildable area established by building setbacks.** *[Advanced Regulation – protects the established tree canopy from any activity]*
- **Any grouping of trees.** *[review / research significant standards of trees – i.e. canopy of 5K s.f. or more where over 50% are more than 2.5” caliper/DBH][Advanced Regulation – protects significant stands of trees that can impact sensitive areas such as stream corridors, steep slopes or other habitats]*

[Thresholds can be raised depending on community desires and policy and can be uniform for all areas to make administration easier. Generally between 6” and 20” DBH is the common thresholds for protection – 20” DBH being “basic” and 6” DBH being “advanced.”]

Note: this section does not prohibit the removal; it only establishes the baseline for mitigation under #.#. 3.E. Further, any tree may be removed (with or without mitigation) for reasons justified and as authorized in 3.C. For communities with staff resources and expertise, a more complete list can be created or more administrative judgment on protected vs. exempt trees can be based on a qualitative analysis considering factors such as species; condition of root system, trunk structure, canopy or crown; relative health or life expectancy.]



B. Trees Prohibited From Removal.

The following trees shall not be removed except as authorized by section C. *[select in ascending order; sizes may be varied or uniform]*

- All trees greater than 4" DBH in the right of way. *[Basic Regulation – protects public property from private disturbance]*
- All trees greater than 24" DBH on private property but outside the buildable area established by building setbacks. *[Moderate Regulation – protects large trees from disturbance related to development]*
- All trees greater than 30" DBH that are within the buildable area established by building setbacks *[Advanced Regulation – protects largest or best trees from development and considers altering development prior to removal]*
- Any specimen tree regardless of where it is located. *[Advanced Regulation – protects largest or best trees from development and considers altering development prior to removal]*

[This section provides a heightened review and criteria for removal of more established trees. Additionally, it can require increased mitigation measures to encourage applicants to make all efforts preserve trees and recognizes the difficulty in replacing mature trees.]

C. Exceptions – Authorizations for Removal

The (municipal staff position) may consider an exception to remove a tree prohibited from removal under Section 3.B. only upon a written request indicating the specific tree and documentation establishing justification for removal. The (municipal staff position) shall generally grant the exception for the following reasons:

1. The tree is dead;
2. The tree is diseased or dying, and constitutes a threat to healthy trees, property, or public safety; or
3. Removal of the tree is necessary for construction, development or redevelopment under the following criteria:
 - a. All reasonable efforts have been made to avoid removing the tree through comparable alternative designs;
 - b. The presence of the tree places an undue financial burden on the property owner or applicant; and
 - c. No other reasonable accommodations, including adjustments to the otherwise allowable building footprint can be made to preserve the tree.
4. Emergency situations such as storm damage, emergency access or other safety measures make it necessary to remove or alter the tree. In such cases, no permit or authorization is needed at the time of the occurrence, but a permit and any necessary mitigation shall be processed after the emergency situation is addressed.

[A municipality may choose to require a tree assessment report from a certified arborist.]

D. Non-protected Trees

An “Undesirable Tree Species” list is available from the (municipal staff position). These trees are not protected and should be removed from all sites, whether through development or property maintenance. No mitigation or specific authorization is required for their removal.

[Some species of trees are not desired under any circumstances due to their noxious, invasive or other land management difficulties they present. This list of undesirable trees should be included in an appendix and managed by the administrator of the tree protection ordinance.]

E. Mitigation for Removal.

[Defines what is required if a protected tree is removed. Mitigation is in addition to any fines or other penalties for violating the ordinance.]

Any protected tree that is removed, whether authorized or in violation of this Section, shall be replaced according Table 1: Mitigation for Removal. In general, replacement trees shall be required for any tree removed. However, when replacement could involve the loss of substantial tree canopy or removal of significant DBH of existing trees, and where replacement of multiple smaller trees to account for this would lead to trees planted too close together, a fee en lieu of replacement may be paid into the Tree Fund according to the fee rate established in Table 1. Mitigation may be waived or reduced to any reasonable replacement for trees that are destroyed by an act of God, that die in ordinary conditions, or that otherwise reached the end of their useful life through no act of the owner.

This section proposes a “per caliper” mitigation strategy, for the ease of administration. Other options could include a “tree density” evaluation (total caliper / acre) or a tree canopy replacement (% of lot coverage). These methods are more nuanced and comprehensive, but require more data, analysis and administrative capacity than the “per caliper” method. For example, an ordinance based on tree canopy coverage could require preservation of the existing canopy based on decreasing levels the larger the current coverage is: current coverage = 0% - 25% - maintain/replace at least 100% of existing; current coverage = 26% to 50% - maintain/replace 80% of existing coverage; current coverage = 51% to 75% -- maintain 70% of current coverage; current coverage = 76% to 100% - maintain at least 60% of coverage. Alternatively if a landscape or development code establishes canopy coverages for particular land uses, zoning districts or other designations, those levels can be targeted as a base line for removal/replacement requirements.]



Table 1: Mitigation for Removal

Protected Trees Removed	Tree Replacement Rate*	Fee En Lieu Option \$ per Caliper Inch
Low Priority: < 4" caliper	1 for 1 tree replacement	\$100.00
Moderate Priority: 4" - 12" caliper/DBH	50% of caliper/DBH inch	\$200.00
High Priority: 12"-24" caliper/DBH	75% of caliper/DBH inch	\$300.00
Other: Trees prohibited from removal by 3.B, except as authorized in 3.C.	100% of caliper/DBH inch	\$400.00

* All replacement trees shall be at least 2.5" caliper and selected from the species list managed by (the municipal official).

[Although the replacement rate is on a "per caliper/DBH" basis, the allowed replacement tree may be as small as 2.5". The remainder would be made up in additional trees or where that is not reasonable a fee en lieu per section 5.B. A tree larger than 2.5" may be used to reduce the additional trees or fees. However, generally trees over 2.5" are significantly heavier and require substantial equipment and costs to plan property, beyond the capacity of most property owners. Some municipalities may choose to allow smaller trees at 1.5" or 2" caliper.]

[This graduated fee structure tries to accomplish two things – first, serve as a deterrent to removing higher priority trees and encourage integrating them into the site plan; and second, to recognize the value lost in more substantial trees (i.e. loss of a 20" DBH trees is not adequately compensated by eight new 2.5" trees. In such cases, a more reasonable mitigation may be two 2.5" trees and a \$4,500 fee - \$300 x 15 replacement inches. Fees may be more directly calibrated to the market rate of comparable trees, but include the time value lost of more mature trees and incentives to preserve them. Typical ordinances using a per-caliper/DBH inch fee range between \$100 to \$600 per caliper/DBH inch. The valuation is a generalization for ease of administration; studies place the ecosystem value of trees between \$100 and \$300 per tree annually, and some studies place the total value of mature trees – in terms of ecosystem services, aesthetics, and property value impacts between \$6,000 and \$10,000 per tree. The municipal forester or a consulting certified arborist should review any fee schedule before discussion by a municipal board.]



Section 4. Protections & Prohibitions

[Defines how is the tree protected, and what activities are prohibited? Protected trees are often lost in the subsequent years after construction impacts. Protection is important for the trunk, the branches and the feeder root zone. Equipment and construction activities should be prohibited in the areas with the most roots.]



A. Tree Protection Fencing.

All protected trees that will be retained through development activity shall be protected by the following measures.

1. Protective/temporary fencing shall be required for all eligible trees to prevent infringement on the root system from any construction-related activities.
2. The protective fencing shall be installed at the dripline of the tree or 1' for every 1" diameter breast height (DBH) away from the trunk, whichever is greater.

[Dripline extents may be adjusted to reflect level of root injury concerns. Another viable option may be: 75% of dripline or 1' for every 1" DBH, whichever is greater. A standard dimension such as 10' to 25' diameter may also be considered.]

3. Fences shall be 4' in height with posts located to ensure the above protection zone.
4. Fencing shall exclude any preexisting structures, foundations, slabs, roadways, highways, and driveways.
5. The fencing shall be installed along the edge of the driveways, streets or sidewalks encompassing the tree to restrict access.
6. All fencing shall appear on construction documents the tree preservation and removal plan and be installed prior to any other construction-related activity.
7. The fencing shall remain in place at all times until all other construction-related activity has been completed or final grade achieved.
8. Fencing must be erected before the commencement of any land disturbance, demolition or construction. Tree protection fences must remain in place and upright until such time as final landscaping of a site requires their removal.

[Defines construction activities that are prohibited from fenced tree protection areas to limit the damage to roots and compaction of soils]

B. Prohibited Activities.

Except for work that is necessary related to utility lines or activity that merely disrupts the surface of the ground, the following activities are prohibited within the protective fencing area.

1. No materials for construction or waste accumulated due to excavation, demolition, or construction activities.
2. No equipment shall be cleaned or other materials or liquids deposited or allowed to flow over land within the protective fencing area, including paint, old solvents, asphalt, concrete, mortar, or similar materials.
3. No signs, wires or other attachments other than those of a protective nature shall be attached to any protected tree.
4. No vehicular and/or construction equipment traffic or parking.
5. No grade changes (cut or fill).
6. No new paving with asphalt, concrete, or other impervious materials.
7. No other act by which soil is removed, compacted or land changed that may result in the movement of sediments.



C. Options & Incentives.

[Defines what other benefits or incentives are available for protecting trees or going beyond the requirements, - contribution to landscape requirements and with a bonus; reduction in stormwater impact fees; administrative adjustments to buildable areas are some methods to be considered]

1. **Landscape Plan Credits.** All trees that are retained and protected through construction per this ordinance may be credited to the landscape requirements for the site based on the following:
 - a. 1:1 for trees under 4" caliper
 - b. 1.5:1 for trees 4" – 12" DBH
 - c. 2:1 for trees 12"-24" DBH
 - d. 3:1 for trees more than 24"+ DBH
2. **Administrative Adjustments.** In order to save a protected tree, the *[municipal staff designee]* is authorized to adjust development standards according to the following:
 - a. Reduction of parking by up to 15% or other standard impacting impervious surfaces
 - b. Adjustment in the location of accessory structures or impervious surfaces by up to 10 feet.

- c. Adjustments to building setbacks by up to 20%, but never more than 10' and never closer than 5' to an adjacent property line.
- d. In any case, the adjustment shall be the minimum necessary to preserve the tree, and shall otherwise be determined to not have negative impacts on adjacent property.



Section 5. Procedures

[What steps are involved in protecting trees, and according to what information?]

A. Tree Protection and Preservation Plan.

[Defines how to document the location, quality, size and eligibility of existing trees. Is this a routine part of all site plans and landscape plans? Are there certain threshold activities (see 2.B) that would not otherwise have these submittals, where documentation is required? Does the city have a good data source for this information, or an individual capable of assessing submitted information?]

A tree protection and preservation plan shall be provided for any activity that triggers the applicability of these standards in Section 2.A. This shall include the following:

1. A tree survey shall provide the location, quantity, types and DBH of all protected trees to remain or to be removed.
2. Protection plans that show the location of tree protection fencing with dimensions.
3. All existing and proposed buildings and structures, driveways and parking areas, drainage structures, water detention areas, utilities, construction material staging grounds and all areas of required cut and fill.
4. A mitigation plan showing all replacement trees, or a reference to an associated landscape plan, or a statement calculating the fee en lieu for mitigation.
5. The name, contact information, and position for the site manager responsible for all tree protection measures.

[Tree protection and preservation plans specifically regulate trees, but a municipality may choose to go beyond just trees. A natural resource management plan that protects and preserves non-tree natural resources will advance green infrastructure and ecological goals. A municipality may also choose to require that all reports shall be prepared by a certified arborist]

B. Tree Removal Permit.

A permit is required to remove, destroy, or injure trees listed in Section 3.B, Trees Prohibited From Removal. The (Municipal official) may authorize a permit based on the criteria in Section 3.C. Each application shall include a silvicultural prescription that is prepared by a certified arborist and a site plan noting the location of all trees under the permit. All permits shall be posted for public inspection on site.

C. Appeals.

[Defines path of recourse or relief. Do I have a recourse or is there relief if I disagree with a particular decision, or the administrative official is not authorized to exercise discretion? Would this be to an expert official (City Arborist), to an appointed expert body (Tree Board), or to a general planning body – (Planning Commission or BZA)? Note: be sure to list specific criteria for these appeals so that whatever entity they go to, their discretion is guided appropriately to this particular issue and subject matter. Appeals should not rely on “variances” and statutory variance criteria.]

Section 6. Enforcement & Penalties

[Defines what happens if someone violates the ordinance – fines, stop work orders, civil offenses, etc. Note: if this topic is located in a broader landscape or zoning ordinance, do not repeat enforcement sections; after verifying the general enforcement provisions of that broader ordinance, refer to it here and only add any supplemental information – i.e. penalty going to a Tree Fund and/or additional fines to that fund; violations escalating any mitigation requirements (See 3.D.).]

The (municipal official) shall be charged with the enforcement of this ordinance. They may issue citations for the violation of any provision of this ordinance. In instances in which an individual or company is found cutting, topping or otherwise destroying a tree without a permit to do so in their possession, the (municipal official) may issue a stop work order until a permit is obtained. Removal, damage or impairment of any eligible tree, except as noted, is a violation of this ordinance, and each eligible tree shall be considered a separate incident. Any fines and penalties shall be in addition to the mitigation measures required for removal of eligible trees.

Any eligible tree that is removed, whether authorized or in violation of this Section, shall be replaced according to the following:

1. One or multiple deciduous trees that equal the caliper/DBH of the eligible tree removed;
2. An additional fine equal to \$100.00 for each inch of caliper/DBH removed and not replaced; or
3. A combination of each of the above.



Section 7. Definitions

[Defines any specific or technical terms. Note: if this topic is located in a broader landscape or zoning ordinance, definitions should be integrated in a general definition section of the code rather than scattering definitions throughout the code. Verify that terms already defined will work for this subject matter. Avoid “over-defining” – writing in a “plain language” style can reduce the need to define things, which often results in unintended consequences or legalistic codes that are more difficult to interpret or administer. Definitions should be reserved only for terms that have a specific, unique, or technical meaning under this section, or that are necessary for clear and easy interpretation.]

- a. **Municipal Official:** *Municipal Forester, Forestry Department, City Horticulturist, Parks Director, Tree conservation commission, Tree board or other positions or committees that are mentioned in this ordinance that do not appear elsewhere should be defined here.*
- b. “DBH” means the diameter of the trunk at breast height (4.5 feet above ground level).
- c. “Drip line” means an area encircling the base of a tree, the minimum extent of which is delineated by a vertical line extending from the outer limit of a tree’s branch tips down to the ground.
- d. “Feeder root zone” means an area encircling the base of a tree equal to twice the diameter of the drip line.
- e. “Hazardous tree” means any tree or tree part that poses a high risk of injury or damage to persons or property, and that is designated as such by the (Municipal Official).
- f. “Native Species: means any plant occurring naturally in within the municipality *(or The Midwest or North America)* and not introduced by man; indigenous. *Determine which definition best suits the preferences of your community.*
- g. “Pruning” means to remove tree limbs to standards set forth by ANSI A300. At no time shall topping, tipping or flush cutting of trees be deemed a form of “pruning.”
- h. “Saved tree” means any tree that is to be protected from destruction or injury during construction as required by this article.
- i. “Specimen tree” means a tree that meets the following criteria: A tree in fair or better condition with a DBH equal to or greater than 30 inches *(determine the size that best fits your community)* and lesser-sized trees of rare species, exceptional aesthetic quality, or historical significance as designated by the *(Municipal official or committee)*.
- j. “Topping” means the cutting back of limbs to stubs within the tree’s crown, to such a degree as to remove the normal canopy and disfigure the tree; or the cutting back of limbs or branches to lateral branches that are less than one-half ($\frac{1}{2}$) of the diameter of the limb or branch that is cut.
- k. “Tree” means any plant, alive or dead, that is at least twelve feet (12’) in height.
- l. “Tree protection” means the fencing surrounding the tree to protect the soil and root structure below.
- m. “Tree removal” means removal of a tree(s), through either direct or indirect actions including, but not limited to, clearing, topping or cutting, causing irreversible damage to the tree’s health.

Noxious Weeds, Invasive Species & Native Plants Model Ordinance

Weed ordinances can encourage native landscaping while prohibiting “weedy” landscapes.

Landscape regulations establish standards for quantities and location of plant and landscape materials.

They often primarily focus on aesthetics but less on encouraging plant types that provide higher levels of environmental or ecosystem services. Many nuisance regulations inadvertently discourage the use of native plants or native landscape design styles. Improved weed and invasive species regulations are necessary to enhance a community’s natural landscape goals.

Native plants provide an underappreciated number of benefits to a community. Native plants have existed over centuries to adapt to the challenges of our local climate and soils. They have evolved with other living organisms to provide a complete and healthy ecosystem.

Municipalities have an opportunity to encourage the use of these plants to achieve more sustainable landscapes that benefit both community and natural systems, and hydrology of a particular area. The use of appropriate native vegetation in local landscaping can help achieve water conservation goals and reduce maintenance costs for landscaping. This model ordinance provides a

framework against which existing ordinance provisions can be evaluated, including those which allow the use of invasive plants that are detrimental to the environment or inadvertently prohibit native plants.

Municipalities can derive substantial benefits from promoting and protecting vegetation that are native to the area while balancing the desires and needs of the community for turf and non-native ornamental plantings. Native vegetation is suited to the soil, topography and that provides environmental benefits, such as pollinator habitat or improved air and water quality. The following model ordinance includes provisions that prohibit harmful plants and promote the retention or use of native plants. In each section, you will find options to choose from that best match your municipality’s goals.



Section 1. Intent

Section 2. Applicability

- A. Threshold activity
- B. Exemptions

Section 3. Landscape Standards

- A. Invasive Species
- B. Noxious Weeds
- C. Planned Sustainable Landscapes
- D. Native Vegetation
- E. Unmanaged Plant Growth
- F. Landscape Design Elements

Section 4. Plant Lists

Section 5. Specifications

Section 6. Procedures

Section 7. Enforcement & Penalties

Section 8. Definitions



Section 1. Intent

[Defines the objectives and benefits of a certain ordinance. Be clear, succinct, and specific about the objectives and benefits. This will guide any interpretation or flexibility in the standards. Do not duplicate general purposes and intent of other topics. If integrating with other landscape sections, build on those intent statements.]

The intent of this ordinance is to prohibit the unmanaged growth of noxious weeds and invasive species, and encourage the preservation, planting, and maintenance of native vegetation and sustainable landscape design.

The standards have the following specific objectives:

- A. To enhance the City’s environmental health and aesthetic character by promoting plants that are native to the area;
- B. To protect the City’s environmental health by prohibiting plants that are likely to cause environmental harm or harm to human health;
- C. To require reasonable control and action to prevent the excessive growth of vegetation, eradicate noxious weeds, and prevent the growth of invasive plants.

[Additional priorities of the municipality may exist and should be mentioned here. Some examples may be:

- *Low water regulation to address conservation, efficiency, and xeriscape concerns. The City recommends the use of only plants that can survive local conditions without supplemental water after establishment to promote water conservation efforts.*
- *Low Maintenance / High Survival landscapes to address landscape longevity or maintenance concerns from excessive mowing or trimming. The City recommends the use of only plants that can survive local conditions without supplemental water and require no regular maintenance after establishment.*
- *High Infiltration, Low Erosion & Sedimentation concerns to address stormwater and water quality. The City recommends the use of only plants with deep, extensive roots that reduce soil erosion and contribute to better groundwater infiltration*
- *Environmental and Energy conservation from passive heating/cooling/pollutant remediation. The City recommends the use of only plants that provide added pollution remediation or passive heating/cooling benefits.]*

Section 2. Applicability

[Defines when and how is a property owner is subject to these standards.]

A. Threshold Activity.

[When developing thresholds, consider the following: Do they apply to private and public property; do they apply to residential and non-residential property; do they apply to certain zoning districts or other specific areas identified as particularly valuable or notably at risk? Do they apply to any landscape activity; do they apply only when there is new development, and then at a specific level of development?]

- **Noxious Weeds, Invasive Species, & Unmanaged Plant Growth** are prohibited and shall apply to all public and private buildings, developments, and land within the incorporated areas of the Municipality.
- **Native Plants** are required, and the standards herein shall apply to all newly developed public and private buildings, developments, and land within the incorporated areas of the Municipality. This ordinance shall also apply to the expansion or renovation of any existing property or development when the total square footage of a structure is expanded by twenty-five percent (25%) or greater.
- The minimum landscaping requirements for single-family residential, multi-family residential, commercial, industrial and/or municipal properties shall be fulfilled by appropriate native trees, shrubs, and groundcovers, as specified in Section 3 Landscape Standards.

B. Exemptions.

[The purpose of the exemptions section is to allow uses that could be restricted by the appropriate native vegetation requirement. Consider the following when developing exemptions: Are any specific properties exempt for other policy reasons? Are certain activities exempt for over-arching health and safety concerns, or for practical administrative reasons such as ordinary maintenance, hazard abatement, emergency activity, utility work, or misalignment with intended use? In these areas, however, appropriate native vegetation should be used in landscaping unless there is no appropriate native plant that will serve the intended use of the area. The Municipality shall encourage the protection and implementation of appropriate native vegetation in these areas to the maximum extent practicable.]

The following areas are exempt from this ordinance: non-invasive food plants on residential properties, golf course play areas, turfgrass in public rights-of-way, agricultural lands, plants for scientific and educational purposes and cemeteries.



Section 3. Landscape Standards

[Defines allowable and prohibited vegetation and landscape types, and outlines landscapes are designed and managed]

A. Invasive Species.

[Invasive species plants are prohibited from use due to negative long-term impacts. Because Invasive species are likely to spread rapidly from the subject property into surrounding natural and landscaped properties and degrade them, they fit appropriately within the definition of a “public nuisance”.]

Invasive plants are a public nuisance that degrade natural and maintained landscape areas. Invasive species are prohibited in all public or private areas. The municipality may require the owner or responsible party to remove any plant that is deemed a public nuisance.

B. Noxious Weeds.

[Noxious weeds are public nuisance plants and it is a property owners’ / managers’ obligation to remove them from the landscape.]

Noxious weeds are a public nuisance that degrade natural and maintained landscape areas. Noxious weed species are prohibited in all public or private areas. The municipality may require the owner or responsible party to remove any plant that is deemed a public nuisance.

C. Planned Sustainable Landscapes.

[Defines what sustainable landscape practices are recommended (by eliminating unintended regulatory barriers); promoted (by developing incentives or emphasize multiple benefits or meet multiple design and regulatory requirements); or required (by incorporating requirements into the landscape standards for all development. These planned sustainable landscapes are plant massings that create a beneficial plant community that considers criteria beyond each and every plant.)



1. The owner is responsible for ensuring that all landscape material in a planned sustainable landscape is maintained in a healthy condition. Invasive plants or noxious weeds shall not exist in any planned sustainable landscape. More than 50% of all plants must be native. If at least 25 percent of the managed natural landscape contains invasive plants or noxious weeds, it must be cut and kept to a height of no more than eight inches to prevent propagation.
2. A minimum of 20% of pervious surface area of the parcel shall be landscaped as a Managed Natural Landscape.
3. Managed natural landscapes must be maintained at least once a year through mowing or, if appropriate, through burning after obtaining a prescribed burn permit.
4. A three- foot setback shall be provided along all public paved surfaces. Setback landscape shall be no taller than six inches in height. A three- foot side and rear setback is required unless abutting:
 - a. An opaque fence at least four feet in height;
 - b. A public park, restoration area, open lot, vacant lot, or a natural area;

D. Native Vegetation.

[This section recognizes the importance of expanding the use of appropriate native vegetation by requiring their 100% use in all newly- landscaped publicly owned areas and requiring a minimum level of appropriate native vegetation that must be used in all newly landscaped private areas. The minimum landscaping requirements for private areas promotes the use of appropriate native vegetation but also allows land owners the ability to plant non-invasive, non-native vegetation.]

- a. The City shall require the use of only appropriate native vegetation in all newly-developed, publicly-owned landscaped areas within the City limits. The City shall encourage the use of appropriate native vegetation in all existing landscaped areas, while recognizing that any plant in the proximity of structures may create a wildfire hazard.
- b. The City shall require a minimum coverage of appropriate native vegetation in all newly landscaped private areas, However, at no time shall the minimum coverage of appropriate native vegetation be less than 50%.



E. Unmanaged Plant Growth.

[Distinguishes between property maintenance, aesthetics and general “weed” abatement (plants in the wrong place or poor upkeep) vs. proactive management and prohibitions of noxious weeds (wrong plants in all cases due to larger health, safety and welfare issues).]

Plants and landscapes deemed as unmanaged plant growth by the municipal official shall be removed or trimmed. This shall include, but is not limited to, traditional turfgrass taller than 12” in height.

F. Landscape Design Elements.

[Creates connections to the landscape and street design standards OR integrates the invasive species and native plant provisions into the landscape code. If the landscape code is well-organized around different typical site components, different design goals, objectives, planting techniques or sustainability priorities for different areas can be developed. Similarly, for the design of streetscapes in conjunction with street design, including plantings, street trees, public spaces and connectivity of people. Some typical site elements are listed below.]

Design of public and private spaces shall adhere to the standards put forth in this ordinance for the prohibition of weeds, noxious species, and unmanaged growth; and the inclusion of native plant species.

1. Streetscape
2. Lot Frontages
3. Building Area Accents & Foundation Plants
4. Parking Areas
5. Buffers – Proactive *[designing landscape to separate and limit development impacts]*
6. Buffers – Reactive *[preserving or restoring landscape to limit environmental impacts or protect sensitive areas]*
7. Open Spaces
8. Other Unbuilt Areas / General Ground Cover

Section 4. Plant Lists

[References to regionally appropriate lists; rather than codify these in the ordinance, consider referencing a list or appendix to the ordinance, including delegating authority to an expert to administer so that it can be periodically updated based on relevant data and resources without needing code changes.]

Kansas Noxious Weed Law K.S.A. 2-1314:

https://www.ksrevisor.org/statutes/chapters/ch02/002_013_0014.html

Missouri State Noxious Weed by the United States Department of Agriculture:

<https://plants.usda.gov/java/noxious?rptType=State&statefips=29>

Invasive plant species by the Kansas Native Plant Society:

https://www.kansasnativeplantsociety.org/invasive_plants.php

Native herbaceous plants by the K-State Johnson County Extension:

<https://www.johnson.k-state.edu/lawn-garden/extension-publications-and-videos/perennials.html>

Native trees, shrubs, vines, grasses & perennials by Kansas Native Plants:

http://www.kansasnativeplants.com/guide/plant_search.php?grp=tree

Grow Native Native Plant Database:

<https://grownative.org/native-plant-database/>



Section 5. Specifications

[Defines how do you ensure that all plants are installed properly, have early maintenance programs, and are in locations that ensure their viability?]

Section 6. Procedures

[Depending on where these provisions are incorporated – either a stand-alone noxious weed / invasive species ordinance; incorporated into landscape standards; included with property maintenance code; or other – procedures may need to be developed. They should account for both the pro-active inspection, management, and enforcement of undesirable plants, but also integrate with regulations that manage the active design and review of landscape implementation.]

- A. Abatement: When the Municipality determines that a violation exists, it may issue an Order to Abate to the Owner.
- B. Order To Abate Requirements: Such Order to Abate shall include the following:
 - 1. That the Property Owner is ordered to cut, destroy or remove the unmanaged plant growth, invasive species or noxious weeds within ten (10) days from the date of the Order;
 - 2. That upon written request received within ten (10) days of the date of the Order, the Owner may request an administrative hearing before a designated hearing officer on the issue of whether the property is in violation and subject to abatement;
 - 3. That if the Property Owner neglects or fails to abate the unmanaged plant growth, invasive species or noxious weeds within the ten (10) day period, and fails to request a hearing, the City may immediately proceed with abatement and/or municipal court prosecution, and assess any abatement costs incurred by the Municipality, including a reasonable administrative fee, against the Owner;
 - 4. That if the Owner fails to timely pay the costs and fees, they may be assessed against the property as a special assessment;
 - 5. That no further notice will be given prior to removal of unmanaged plant growth, invasive species or noxious weeds on the property, in the event it is again in violation during the current calendar year;
 - 6. That the Municipality and its authorized contractor(s) are expressly authorized to enter upon private property at all reasonable hours for the purpose of cutting, destroying, and/or removing the unmanaged plant growth, invasive species or noxious weeds;

7. That if the Owner believes the property qualifies for an exemption pursuant to this Article, he or she must provide evidence of the exemption in writing to the Municipality within ten (10) days of the date of the Order; and
8. That permitting the unmanaged plant growth, invasive species or noxious weeds is a violation of the City Code and is punishable by a fine of not more than two thousand five hundred dollars (\$2,500.00), imprisonment for not more than one (1) year or both such fine and imprisonment. Each day that a violation continues shall constitute a separate offense.

C. Service of Order to Abate:

1. The City shall serve the Order to Abate upon the Owner by certified mail, return receipt requested, at his or her address of record or by personal service. If the Owner's address of record is different from the address where the violation exists and the property is occupied, a copy shall also be sent first class mail to the address where the violation exists.
2. If the Owner neglects or fails to abate the nuisance or to request a hearing within ten (10) days from the date of the Order to Abate, the Municipality may proceed with abatement and/or municipal court prosecution.
3. It shall not be a defense to a prosecution or any administrative action taken under this Article that the Owner did not personally receive the Order to Abate, provided that it was served in substantial compliance with this Section.

D. Change in Ownership:

1. The Property Owner shall notify any potential buyer or transferee in writing of all active Orders to Abate or notices to pay costs issued by the City pertaining to such property prior to any sale or transfer of the property.
2. If there is a change in the record owner of title to property subsequent to the giving of notice pursuant to this subsection, the City may not recover any costs or levy an assessment for the costs incurred by the cutting or destruction of Excessive Growth of Vegetation or Noxious Weeds on such property against the new record owner, unless he or she is provided notice as required by this Section.
3. Nothing in this Section shall prevent the City from pursuing recovery of the costs and fees of abatement against the original owner through collections, restitution, or a civil action. If a civil action is filed, the City shall be entitled to also recover its attorney fees, court costs, and any applicable interest.





E. City Abatement; Costs:

1. Upon the expiration of the ten (10) day period in the Order to Abate, and in the event that the Property Owner has neglected or failed to comply with the requirements of this Article, the City and its authorized contractor(s) may cut, destroy and/or remove the unmanaged plant growth, invasive species or noxious weeds.
2. In the event the property is again found in violation of this Article in the same calendar year in which an Order to Abate has already been issued, no further notice to the Property Owner is required prior to the Municipality's abatement of unmanaged plant growth, invasive species or noxious weeds, or prior to issuing a Notice to Appear in municipal court.
3. For each abatement performed or initiated hereunder, the Municipality shall give notice to the Property Owner of the costs and fees incurred by certified mail, return receipt requested to the address of record for the Property Owner; or by personal service. The notice shall state the payment of the costs and fees is due and payable within thirty (30) days following the date of the notice.
4. If the costs of abatement remain unpaid after thirty (30) days following the date of the notice, the Municipality may file an affidavit of pending action with the County with respect to the property in violation, in an effort to recover said costs. In addition, the Municipality may cause such costs to be assessed against the particular lot or piece of land on which such nuisance was abated. The Municipal Clerk shall certify the assessment to the County Clerk at the time other special assessments are certified for spreading on the tax rolls of the County.

Section 7. Enforcement & Penalties

[Defines what happens if someone violates the ordinance – fines, stop work orders, civil offenses, etc.

Note: if this topic is located in a broader landscape or zoning ordinance, do not repeat enforcement sections; after verifying the general enforcement provisions of that broader ordinance, refer to it here and only add any supplemental information.]

- E. Implementation and enforcement of this ordinance by the municipal official, shall consist of:
1. **Notice of Violation.** If any provision of this ordinance is violated at any time, the municipal official shall issue a written notice of the violation to the owner of the landscaped area. The owner shall have thirty (30) days within which to correct the violation before any punitive action is taken.
 2. **Fines.** If any person who violates the provisions of this ordinance has not corrected the violation within thirty (30) days after receiving notice of the violation, the Municipality may issue a fine to such person.
 3. **Injunctive Relief.** If any person engages in landscaping activities regulated by this ordinance without the prior approval of a landscape plan by the staff, then the Municipality may file an action for injunctive relief in a court of competent jurisdiction.
 4. **Denial of Permits.** If any person fails to obtain approval of a landscape plan from the Municipality or implements a landscape plan contrary to the plan approved by the Municipality, the Municipality may deny such person additional development permits on the basis of failure to comply with the requirements of this ordinance.
 5. **Inspections.** The municipal official shall have the authority to make inspections at reasonable hours of all areas landscaped pursuant to this ordinance at any time during the development of a site, installation of the landscape plan at the site, and within the first year after the date that the landscaping is completely installed. The inspections may be made without notice, and refusal to allow such inspection will be a violation of this ordinance. Refusal to allow inspection will constitute grounds for a court of competent jurisdiction to issue an administrative warrant for the purposes of inspecting the landscaped area.



Section 8. Definitions

[It is important to define the terms that are unique to this ordinance to protect the municipality and the ordinance user from confusion. Select from the definition terms that apply to your edited ordinance. Define any specific or technical terms. Note: if this topic is located in a broader landscape or zoning ordinance, definitions should be integrated in a general definition section of the code rather than scattering definitions throughout the code. Verify that terms already defined will work for this subject matter. Avoid “over-defining” – writing in a “plain language” style can reduce the need to define things, which often results in unintended consequences or legalistic codes that are more difficult to interpret or administer. Definitions should be reserved only for terms that have a specific, unique or technical meaning under this section, or that are necessary for clear and easy interpretation.]

- A. **Invasive Species:** A plant species that is an aggressive, rapidly reproducing, non-native plant whose presence causes or is likely to cause economic or environment harm.
- B. **Municipal Official:** *[Municipal Forester, Forestry Department, City Horticulturist, Parks Director, or other positions or committees that are mentioned in this ordinance that do not appear elsewhere should be defined here]*
- C. **Noxious Weed:** any plant as defined as a noxious weed in the Kansas Noxious Weed Law K.S.A. 2-1314 et seq. or that is listed as a Missouri State Noxious Weed by the United States Department of Agriculture. Poison Ivy is also categorized as a Noxious Weed in this ordinance.
- D. **Managed Natural Landscape:** a planned landscape with a majority of native plants that are grasses, herbaceous plants or shrubs.
- E. **Native Plant Species:** are any plants occurring naturally within the municipality *(or The Midwest or North America)* and not introduced by man; indigenous. *Determine which definition best suits the preferences of your community.*
- F. **Owner:** is any person or entity that has title or interest in real property including the interests of a tenant or lessee. For the purposes of this Article, this includes any person or entity acting as the agent for or on behalf of the Owner and has authority over the property or is responsible for the maintenance or management of the property.
- G. **Unmanaged Plant Growth:** is any uncontrolled or uncultivated vegetation that is greater than 8” in height above the ground and many include grass, herbaceous plant, shrub or tree.
- H. **Tree:** is any self-supporting plant growing to a mature height of twelve (12) feet or greater above the ground.