

CHAPTER EIGHT

Trees and Vegetation Management

VISION

More than any other natural resource, trees and natural vegetation mark the rural character of Franklin Village. The preservation of healthy trees and the regular replacement of dead or dying vegetation assure the Village of the continued visual and ecological benefits provided by a mature, diverse tree canopy.

Wooded areas and tree-lined streets contribute an invaluable benefit to the character of the Village. Trees and vegetation provide an experience for all the senses and mark Franklin as a unique community within the region. Pressures of growth and development, coupled with age and disease, compel foresight and sound management plans to maintain this fragile, critical resource.

HISTORY

The 1977 Master Plan included a map of the major stands of vegetation in the Village. During the 1996 Plan update, it was determined that these stands had changed little over the past twenty years. Four major patterns of vegetation were apparent in the Village:

- Over-mature deciduous canopy and evergreen trees, with an understory of ornamental trees and shrubs on maintained turfgrass lawns.
- Mature deciduous canopy trees with mixed evergreens and a naturally-occurring understory of shrubs and small trees.
- Mixed-age and mixed-species stands of vegetation, primarily on undeveloped portions of residential lots.
- Semi-mature deciduous and evergreen trees on smaller lots with turfgrass lawns.

The recent availability of the pressure sanitary sewer to owners of undeveloped property in Franklin meant that areas that were previously unbuildable could now be developed. This put major tree stands in the Village at increased risk.

Because of the great importance of trees and vegetation to residents, a Vegetation Management Report was completed in 1997, based on field surveys performed in the spring of the previous year. The report outlined the status of vegetation in Franklin, noting the age, relative health, and potential threats to trees and vegetated areas throughout the Village. The field data collected gave a general picture of the Village as a whole and was not intended to be exhaustive.



However, the data were not encouraging. It suggested that the tree canopy and other vegetation so important to Villagers was at great risk of disappearing in the next few decades and would result in drastic change in the microclimate and visual character of the Village.

RELEVANT ISSUES

Four major issues were identified. First, much of the existing vegetation was decades-old and mature or over-mature. The effects of developed

areas (higher temperatures, compacted soils, increased pollution) can significantly shorten a plant's life expectancy. Trees can be in a state of decline for many years and still appear healthy, but they will eventually succumb to the pressures of age, development, disease, and weather.

Second, the low diversity of vegetation species and ages in the Village is a concern. Many canopy trees are one of only a few species (silver maple, Colorado spruce, Norway spruce). In the chance that a pest or disease appears that affects a particular species (e.g., Dutch Elm Disease or the Emerald Ash Borer), a significant portion of the Village's tree cover and vegetation may be quickly lost. Additionally, same-aged stands of trees become susceptible to the effects of age (weak branches or roots leading to vulnerability to wind or ice) at the same time, creating a potential for one severe event to wipe out numerous trees.

Third, there was no replacement plan to provide young trees that will grow and provide a canopy when the existing trees are gone, or to replace trees removed because of development and redevelopment. Trees are slow growing, and decades of time will be required to replace the current canopy and undisturbed areas with newly planted vegetation.

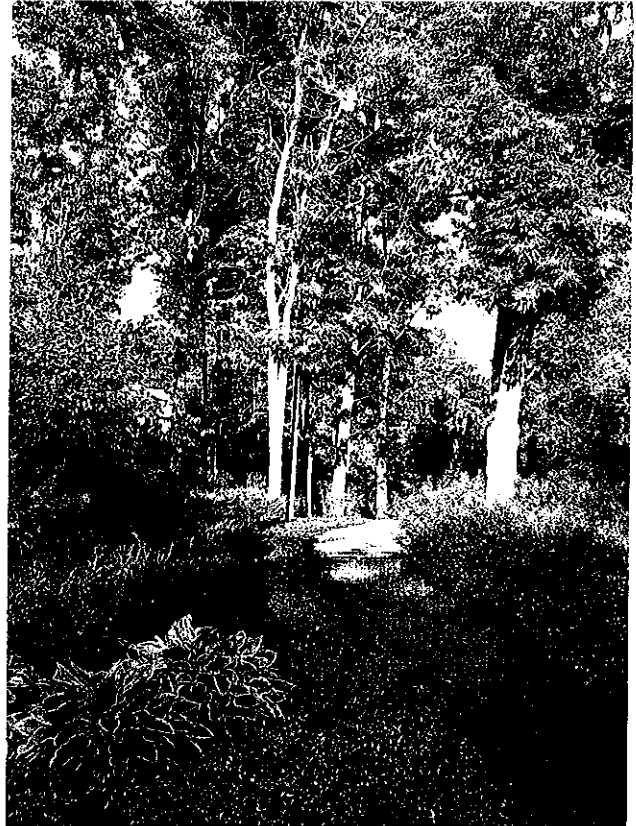
The fourth issue of concern to Franklin's vegetation was its location in road and utility rights-of-way. As companies and agencies outside the Village make decisions on road improvements or utility maintenance, the existing trees and vegetation that are "in the way" can suffer removal or irreparable damage. Adverse effects of location near roadways (high salt concentrations, automotive pollutants, physical damage from vehicles) also contribute to the decline of vegetation in rights-of-way.

ACCOMPLISHMENTS SINCE 1997

Tree Protection Ordinance

In 2001, the Village Council adopted an ordinance to promote the health, safety and general welfare of Village residents through a regulatory program of tree protection. This program was designed to protect, preserve and conserve mature trees, to manage and provide oversight of the removal of problem trees, and to provide for the subsequent replacement of trees removed in the Village.

The ordinance requires a permit for removal of any protected tree, mandates physical barriers to prevent damage to trees during construction activities, and regulates the replacement of removed trees on a one-for-one basis. Penalties for violation of the ordinance include stop-work orders, liability for a civil suit brought by the Village, and such penalties as accompany a municipal civil infraction.



Heritage Tree List

The heritage tree list, adopted in 1970 and revised in 2001, lists trees that by virtue of their size (and therefore, age) are regarded by the Village to be of unique importance and worthy of special protection. Consideration was given to removing from the list trees that are undesirable as street-side plantings or that do not contribute to the rural character of the Village, such as crabapple or honey locust.

Tree City USA

The Village of Franklin received Tree City USA designation in 2004 from the National Arbor Day Foundation. As a Tree City, the Village promotes trees as an important element of local character and is eligible for grant funding and educational materials related to planting and maintaining trees. To maintain its status as a Tree City USA, the Village must satisfy the following requirements:

- Issue an annual Arbor Day proclamation by the Village Council and organize an Arbor Day celebration. National Arbor Day is the last Friday in April.
- Appoint a citizen tree committee or park board that has responsibility for the care of trees within public right-of-ways and other public spaces.
- Adopt guidelines specifying appropriate species for planting within the Village and typical planting details.
- Spend at least \$2 per capita on trees, whether on purchase or maintenance. A cycle of pruning street trees and trees on public property on a three to five year basis is often satisfactory. Inspection of street trees and trees on public property should occur several times a year.

Contextual Zoning

Prior to 2005, residential zoning regulations were quite generous, allowing up to 35% lot coverage and substantial grading. Grading was permitted to allow construction of a lower level walkout, even when not warranted by the natural topography. Overbuilding, out of scale construction, and widespread loss of tree cover were often the result.

A measure of control over these impacts was achieved in 2005 with the adoption of contextual zoning regulations. These regulations disallow significant altering of grade. Equally significantly, the regulations establish increased side setback requirements, requiring minimum total side setbacks to be not less than one third of the lot width. The significance of the contextual zoning regulations with respect to trees and vegetation management is that less of the total lot will now be impacted by construction activity.

Tree Survey and Tree Planting Program

The Village has taken proactive steps to study and document the health characteristics of trees in the Village. A study was completed in 2004 in which twenty percent (20%) of the trees in the right-of-way or on public spaces were surveyed to determine species, health, age, and other pertinent characteristics.

A tree planting program was initiated in 2005, using a grant from the Michigan Department of Natural Resources, resulting in the planting of trees in road rights-of-way and on public lands, such as the Village Green. The Village followed up with a second tree planting in the summer of 2006, resulting in a total of 250 trees being planted. The MDNR grants paid for \$20,000 of cost and the Village paid \$60,000 of the cost of the tree planting.

Energy Considerations

The landscape which knits Franklin together not only contributes to the Village's unique visual character, but also provides health and energy benefits. The rich vegetative cover cleans polluted air via the process of photosynthesis, taking in carbon dioxide and releasing oxygen. Dust and other airborne particles adhere to leaf surfaces, leaving the air clearer and cleaner.

Transpiration through leaves provides moisture in the air which, in combination with summer breezes, provides natural air conditioning. The summer comfort level in the wooded Village is noticeably different than the hot, dry "heat island effect" of more developed cities nearby. Trees, both large and small, provide a cooling shade canopy and respite from the summer sun. During the winter, evergreen vegetative cover blocks harsh winter winds, protecting buildings from heat loss and providing wind breaks for drifting snow. Deciduous trees which provide cooling shade in the summer allow radiant heat to passively warm south-facing buildings during the winter months.

RECOMMENDATIONS

Maintain and enhance the Village’s vegetative cover through the tree planting and replacement program, which is already underway.

- Implement a shrub and tree replacement program so that the natural, vegetative look of Franklin is maintained as existing plantings must be removed.
- Promote the extensive planting of trees now to ensure sufficient canopy replacement as existing trees decline or die over the next ten to twenty years.
- Replace dead, dying, or nuisance vegetation in utility rights-of-way with shrubs, grasses, and shorter trees that provide habitat and groundcover without interfering with overhead utility lines.
- Select trees and vegetation to be planted in the Village from the adopted Rural Landscape Character Plant List.

In selected areas, plant mixed stands of native vegetation (not exotic or ornamental species). These would be thickets of various species of shrubs and trees related to oak-hickory forests, such as exist elsewhere in the Village.

- Use such thickets (considering such species as ninebark, chokeberry, New Jersey tea, witch hazel, potentilla, fragrant sumac, Michigan rose, steeple bush, and spicebush) to enhance Franklin’s rural character.
- Other benefits include privacy screening and provision of wildlife habitat.

Take practical action to minimize damage to vegetation from pests, disease, and human activity.

- Ensure that trees planted along Village streets are located outside the right-of-way to prevent damage from road repairs and utilities maintenance.
- Coordinate with utility companies regarding the location and long-term maintenance of new plantings near

underground and overhead utility rights-of-way. Encourage utility crews to use sound pruning techniques to maintain a proper form for trees in the Village.

- Prevent major pest or disease infestation through regular vegetation inspection and spot treatment of identified problems.
- Review the current Tree Protection Ordinance and update as necessary to achieve desired results.



- Revise the ordinance pertaining to Dutch elm disease, C.O. Section 1024.01, to eliminate the reference to DDT as a pretreatment to burning infected elm logs. Less-harmful insecticides, such as malathion, are sufficient to kill elm bark beetles to prevent their escape from cut logs and branches.
- Consider adding a new section to Chapter 1024 to address the proper management of ash trees (*Fraxinus* spp.) and ash wood products in light of the regional Emerald Ash Borer epidemic.

Promote vigorous tree growth through the proper care and maintenance of vegetation.

- Protect the root zone by limiting impervious surfaces (drives, parking areas) near mature and maturing trees.

- Place mulch 4" - 6" deep over the root zone of shrubs and trees, but not more than an inch thick next to tree trunks, to maintain soil temperature and moisture.
- Provide supplemental water and nutrients to trees growing in high heat areas, such as roadsides, parking lots, and large lawns. Water vegetation thoroughly during times of drought, employing smart water management techniques.
- Hire experienced specialists to perform routine pruning and inspections of trees.
- Ensure that fertilizers are used judiciously and correctly. Perform regular soil tests to determine the relative need for fertilizing nutrients.

Promote a robust green infrastructure with a mix of species and ages of trees and vegetation.

- Advocate the use of native trees and vegetation in mixed-species stands.
- Encourage a variety of tree species to avoid the potential catastrophic loss of monoculture plantings.

Preserve the visual rural character of the Village through education and careful management.

- Protect existing vegetation, trees, hedges, and mixed plantings to retain the rural look of Franklin.
- Develop educational materials for landowners regarding proper tree and vegetation management. Include the adopted Rural Character Plant List.
- Prepare design guidelines for property owners to illustrate how to keep the large lot scale, spacing, rural character and vegetation of existing neighborhoods.

Encourage the preservation of the simple rural character of the Village by enhancing and preserving the rural scenic nature along main roads and boundaries, enhancing and protecting large open areas, and planting and maintaining vegetation along roads in public areas that contribute to rural character.