Gaithersburg
A Character Counts! City

City of Gaithersburg

ENVIRONMENT

A Master Plan Element

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2003
MASTER PLAN

CITY OF GAITHERSBURG
2003 MASTER PLAN

ENVIRONMENT ELEMENT

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CITY OF GAITHERSBURG
2003 MASTER PLAN

CHAPTER 3
ENVIRONMENT

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1. INTRODUCTION

The *Maryland Economic Growth, Resource Protection, and Planning Act of 1992 (Planning Act)* altered the way citizens of the State of Maryland address land use by focusing planning efforts toward growth management and resource protection. In order to help local jurisdictions integrate environmental protection with plans for physical growth, the Planning Act requires jurisdictions to develop a sensitive areas element of the Comprehensive Master Plan. This element is one of the broadest elements of the Comprehensive Plan, encompassing three of the seven visions of the Planning Act: the protection of sensitive areas (Vision 2), stewardship of the Chesapeake Bay (Vision 4), and conservation of resources, including a reduction in resource consumption (Vision 5). Codified in Article 66B of the Annotated Code of Maryland, this element, at a minimum, is required to contain goals, objectives, principles, policies, and standards that are designed to protect sensitive areas, such as: streams and their buffers, 100-year floodplains, habitat of threatened and endangered species, and steep slopes. The Planning Act, in addition to protecting these four general categories of environmentally sensitive areas, also encourages local governments to identify and protect other natural resources unique to their jurisdiction.

In the City of Gaithersburg, the Environment Element of the Master Plan is intended to fulfill the sensitive areas requirements of the Planning Act as well as address the health of the urban environment and public welfare considerations. The term “public welfare” is used in a general context to encompass both human health and quality of life impacts. This element identifies the type and location of important environmentally sensitive areas (e.g., water and air resources, soils and steep slopes, open space and greenways, forests and landscapes, and wildlife) within Gaithersburg, and devises management strategies to continually protect and enhance these natural resources. Furthermore, this element extends beyond the requirements of the Planning Act and the traditional ideas of environmental planning by addressing the sustainability of the urban environment and the protection of public welfare by presenting management recommendations for smart growth, green building, sustainable redevelopment and historic preservation, noise pollution, light pollution, and solid waste and recycling.

Gaithersburg realizes that all aspects of the natural environment and urban environment are interrelated. For instance, transportation affects air quality; air pollution affects water quality; impervious surfaces impact groundwater recharge and stream flows; and solid waste management affects air, land, and water quality. These impacts extend well beyond the City’s boundaries. Consequently, Gaithersburg must collaborate with regional authorities, such as Montgomery County and the Metropolitan Washington Council of Governments to devise solutions. Gaithersburg recognizes that a plan for protecting and enhancing both the natural and urban environment, the Environment Element, is essential for protecting public welfare and ensuring a high quality of life for future generations.

1.1 Adoption of Environment (Sensitive Areas) Element

The Planning Commission at their July 21, 2004 meeting reviewed the proposed Master Plan Amendment MP-1-04 and approved this amendment to the General Plan for the City of Gaithersburg Master Plan revising the Environment (Sensitive Areas) Element by Resolution PCR-3-04.

On August 2, 2004, the Mayor and City Council adopted the amendment MP-1-04 to the General Plan for the City of Gaithersburg Master Plan revising the Environment (Sensitive Areas) Element by Resolution R-70-04.

2. BACKGROUND

There are numerous Federal, State, and local laws, policies, and regulations governing the environment. Appendix A provides a brief overview of the fundamental environmental regulations and policies guiding the planning process in Gaithersburg. Gaithersburg's City Code contains several local ordinances that are intended to protect and improve individual elements of the environment:

- Sediment and Erosion Control and Stormwater Management (Chapter 8);
- Floodplain Management (Chapter 10);
- Refuse and Garbage (Chapter 18);
- Trees and Vegetation (Chapter 21);
- Trees and Forest Conservation (Chapter 22); and
- Zoning (Chapter 24).

In 1995, Gaithersburg first employed a comprehensive view of the environment with the adoption of the *Environmental Standards.* These standards were designed to serve as guidelines in the development review process. However, it was determined that a more consistent and enforceable mechanism was needed to effectively protect the City's natural resources. Therefore in 2001, the 1995 standards were revised and adopted as the *Environmental Standards for Development Regulation, Regulation No. 01-01.* This regulation establishes an enforceable "benchmark" level of environmental protection, and any waiver of the standards requires approval by the Mayor and City Council. In effect, this regulation protects sensitive environmental areas during the development review process, as required by the *1992 Planning Act*.

Gaithersburg's first Master Plan Sensitive Areas Element was created in 1997 to identify and protect the City's sensitive environmental resources. As part of the 2004 Master Plan update, with citizen input, and the Mayor and City Council developed an Environment Theme (located in the Themes section of the Master Plan) which contains a series of environmental goals and objectives relating to both the natural and urban environment. The Environment Theme indicated an apparent need for a more comprehensive environmental plan. Therefore, in the 2004 Master

Plan update, the Sensitive Areas Element has been renamed the Environment Element, and now addresses the protection of sensitive areas, the health of the urban environment, and public welfare considerations.

Finally, the implementation of the Environment Element's recommendations relates directly to Strategic Direction #9 found within *Strategic Directions: An Overall Approach To Achieving The Vision of The City of Gaithersburg*. This Strategic Direction states that the City will "implement recommendations from on-going evaluations of natural resources and encourage the protection and enhancement of the environment (streams, parks, stormwater management, and other Capital Improvement Projects (CIP))." Updated annually, this strategic direction establishes goals, activities (e.g., CIP projects, new plans or programs, ordinance revisions, etc.), implementation schedules, and critical measures for assessing progress.

3. NATURAL ENVIRONMENT

This section provides an overview of the important natural environmental features (e.g., water and air resources, soils and slopes, open space and greenways, forests and landscapes, and wildlife) found within the City of Gaithersburg. Each of the subsequent sections follows a consistent format that: 1) defines the resource and explains why protection is important; 2) presents baseline geographic conditions; and 3) discusses management policies and strategies.

In summary, the City of Gaithersburg occupies approximately 10 square miles in the heart of Montgomery County, Maryland, and is home to more than 56,000 residents. The City's main sensitive areas and environmental resources include public parks and open space, wetlands, lakes and stream valley buffers, urban forests, and sensitive soils and slopes. Table 1 provides a brief overview of the important natural environmental features found in Gaithersburg. Acreage calculations are based on the most recent Geographic Information System (GIS) data available. Given the rate of new development and the naturally fluctuating state of the environment, these numbers should only be considered as general approximations.

Table 1: Summary of Gaithersburg's Environmental Resources

Attribute	Acres	Percent[1]
City of Gaithersburg	6,403	100%
Impervious Area[2]	2,059	32%
Tree Canopy Coverage[3]	1,657	26%
City-Owned (City-parks)	*381*	*6%*
Privately Owned	*1,276*	*20%*
Erodible/Hydric Soils[4]	1,543	24%
Lakes and Stream Valley Buffers[5]	860	13%
Publicly Owned	*297*	*4%*
Privately Owned	*563*	*9%*
Public Parks and Open Space[6]	719	11%
Floodplains[7]	451	7%
Steep Slopes[8]	297	5%
Wetlands[9]	191	3%

[1] Due to overlapping attributes and the exclusion of developed land, percentages are not cumulative.
[2] Impervious land cover analysis by University of Maryland and Montgomery County, 1999.
[3] M-NCPPC tree cover analysis, 1999.
[4] 1995 Soil Survey Geographic (SSURGO) database for Montgomery County.
[5] Includes lakes, streams, and 100 foot stream valley buffer (minimum). M-NCPPC, 1999.
[6] Includes State, County, and City-owned parks and open space.
[7] Federal Emergency Management Agency; based on 1979, 1984, 1991, and 1992 panel data.
[8] M-NCPPC planimetric topographic elevation contours.
[9] National Wetlands Inventory, 1995.

3.1 Water Resources

Water resources include streams, lakes, ponds, drainage courses, floodplains, groundwater resources, aquifers, wetlands, and riparian stream buffers. These resources provide numerous benefits and should be protected and enhanced.

Figure 1 The lakes at Kentlands and Lakelands enhance the natural beauty of the area, as well as provide valuable community amenities such as outdoor recreation.

- ***Surface water resources***, such as lakes, rivers, and streams, add beauty and diversity to the landscape, enhance the value of the property, provide recreational opportunities, serve as valuable habitat for plants and animals, and supply our drinking water.

- ***Wetlands*** play an important role in protecting water quality by trapping sediment, storing nutrients, and removing contaminants from surface water. Wetlands also serve as water storage areas, provide flood control, and supply habitat for a wide variety of plants and animals.

- ***Groundwater resources*** play an important role in the hydrological cycle and supply water for wells and springs. Although groundwater resources are not commonly associated with drinking water aquifers in Gaithersburg, groundwater is important due to its connection to surface water. During dry times of the year, groundwater feeds many of our perennial streams, thus sustaining aquatic ecosystems and surface drinking water supplies.

- ***Riparian areas*** are transitional zones between aquatic and terrestrial environments that occur along the banks of rivers, streams, and lakes. Riparian areas occurring along the banks of moving water (i.e., streams or rivers) are often called *lotic* systems whereas those occurring along the banks of stationary water (i.e., lakes, ponds, or pools) are called *lentic* systems. These areas slow or alleviate floods, recharge groundwater, stabilize stream banks, trap sediment eroded from upland areas, and remove nutrients and other contaminants from runoff. Riparian areas also serve as shelter, nesting, and foraging sites that are critical wildlife habitat. Riparian areas often include the stream valley buffer, which is defined by the *Environmental Standards* as the strip of land parallel to a perennial or intermittent stream that is 100 to 150 feet in width and may be expanded to include the floodplain, wetlands, wetland buffer, and hydraulic adjacent steep slopes.

- ***Watersheds*** include the geographic areas that drain to any given body of water. Watersheds supply our drinking water, provide critical habitat for plants and animals, serve as areas of natural beauty, and support recreation. Since watersheds intersect jurisdictional boundaries and ultimately affect the health of the Chesapeake Bay, it is important that local and regional governments coordinate watershed protection strategies.

Baseline Conditions

As illustrated in Map 1, Gaithersburg contains over 24 miles of predominately first and second order perennial streams located in the Muddy Branch Watershed (2,985 acres) and the Great Seneca Watershed (3,418 acres). These streams ultimately drain into the Potomac River and then into the Chesapeake Bay. Map 2 presents Gaithersburg's major tributaries and water resources, including: 1) Muddy Branch, 2) Long Draught Branch, 3) Whetstone Run, and 4) Seneca Creek.

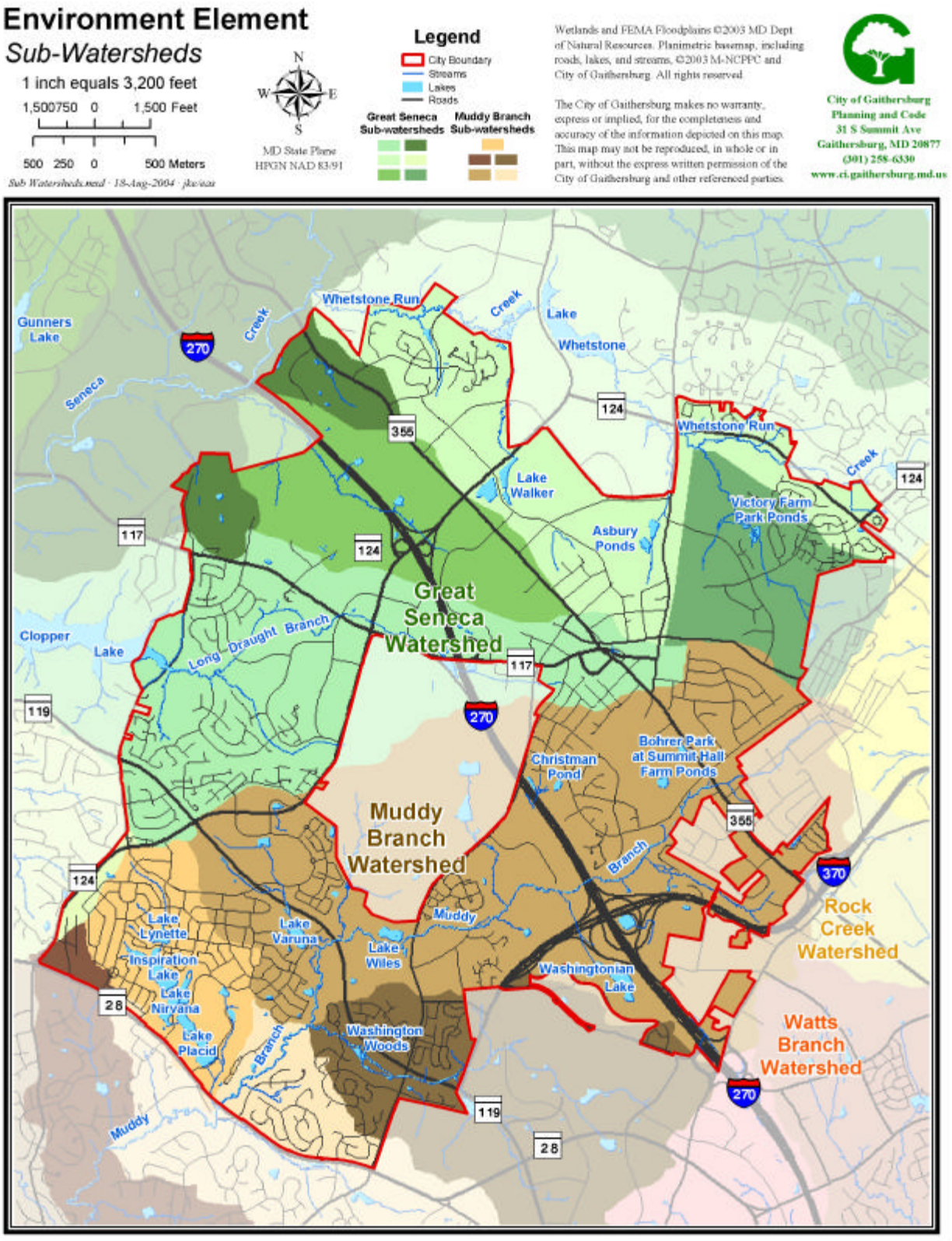
Figure 2 This Muddy Branch tributary is an example of "good" stream habitat. The stream is surrounded by a riparian forest buffer to provide shade and habitat; the banks are relatively stable and contain vegetation and fish cover; and there are riffles present to facilitate aeration.

Approximately 191 acres of nontidal wetlands are found interspersed along these stream valleys. Additionally, there are approximately 20 man-made lakes and ponds scattered throughout Gaithersburg. Unfortunately, in many of these lakes, the water quality is impaired by excess sediment loading and nutrient runoff. These factors can lead to eutrophication, a condition that occurs in an aquatic ecosystem when high nutrient concentrations (primarily phosphorus, nitrogen, and carbon) stimulate algae blooms that deplete oxygen and result in fish kills. For example, Clopper Lake, an impoundment on Long Draught Branch located within Seneca Creek State Park, near Gaithersburg, was identified on Maryland's 1998 list of Water Quality Limited Segments (WQLSs) as being impaired by sediment and phosphorus loading.

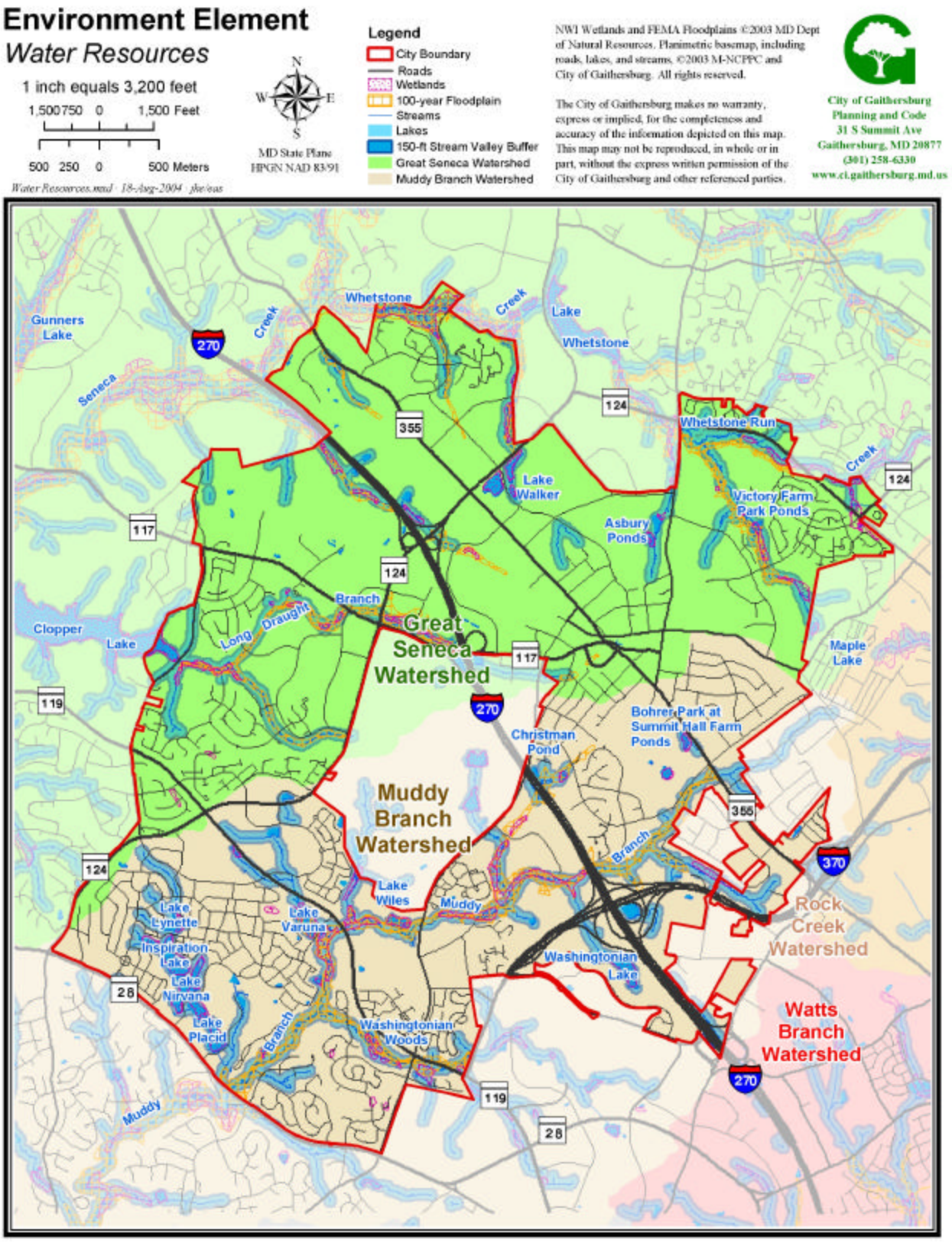
In order to comply with Federal and State regulations and Montgomery County stream monitoring guidelines, the City recently completed a stream assessment to:

- Update the stream assessment performed in 1996 by EQR in order to determine improvements or degradation in stream quality.
- Assess water quality and stream health, using monitoring protocols for physical habitat, biology, and water chemistry, consistent with Montgomery County and the State of Maryland protocol to facilitate data sharing and comparison.
- Identify potential stream restoration sites throughout the City, helping to prioritize restoration projects and efficiently utilize limited funds.
- Identify potential citizen stream monitoring sites where citizens can perform biological and chemical monitoring and therefore increase community watershed awareness and foster a continuous monitoring program.

Map 1: Sub-Watersheds



Map 2: Water Resources



The stream assessment's methodology and results were recorded by Versar Inc., and are in the report titled *An Ecological Assessment of Streams in Gaithersburg, Maryland: 2001-2002*. The assessment concluded that urban development (i.e., increased imperviousness, uncontrolled stormwater, and inadequate buffers) has severely degraded the City's watersheds and streams. The stream assessment sampled a total of 17 sites that were either selected at random or targeted by the City as a special area of concern. The sites were sampled throughout the year and evaluated according to a combination of physical and biological parameters. Generally, physical habitat degradation is an extensive problem, especially in areas of the City that lack or have inadequate stormwater controls. Uncontrolled storm runoff contributes to bank instability, channel incision, high sedimentation, and excessive channel widening. Other problems include inadequate stream buffers, invasive species, litter, and poor water quality. Table 2 summarizes the stream assessment ratings for physical habitat, benthic macroinvertebrate indices of biologic integrity (IBI), and fish indices of biologic integrity (IBI). As indicated in Table 2, the majority of streams sampled are classified as Fair or Poor condition. Map 3 provides a geographical depiction of the stream monitoring results. This map highlights stream sites rated as Good and Fair condition that are in need of protection and the sites rated as Poor and Very Poor condition that considered candidate enhancement sites.

Figure 3 Important components of stream monitoring, habitat assessment (on left) and benthic macroinvertebrate sampling (on right), help to determine the physiological and biological health of a stream. These characterize stream health and water quality under present conditions and establish a baseline for evaluating future conditions as new developments are built.

Table 2: 2002 Stream Monitoring Results

Rating	Physical Habitat *(percent of sites)*	Benthic Macroinvertebrate Indices of Biotic Integrity (IBI) *(percent of sites)*	Fish Indices of Biotic Integrity (IBI) *(percent of sites)*
Good	18 %	0 %	0 %
Fair	24 %	6 %	18 %
Poor	41 %	76 %	24 %
Very Poor	12 %	18 %	24 %
Not Rated	6 %*	0 %	35 %**

City of Gaithersburg, 2002.

*Stream monitoring sites were included in the assessment after physical habitat monitoring commenced; therefore consistent spring, summer, and fall data were not available to determine a rating.

**Catchment areas were too small (less than 300 acres) to support significant fish populations.

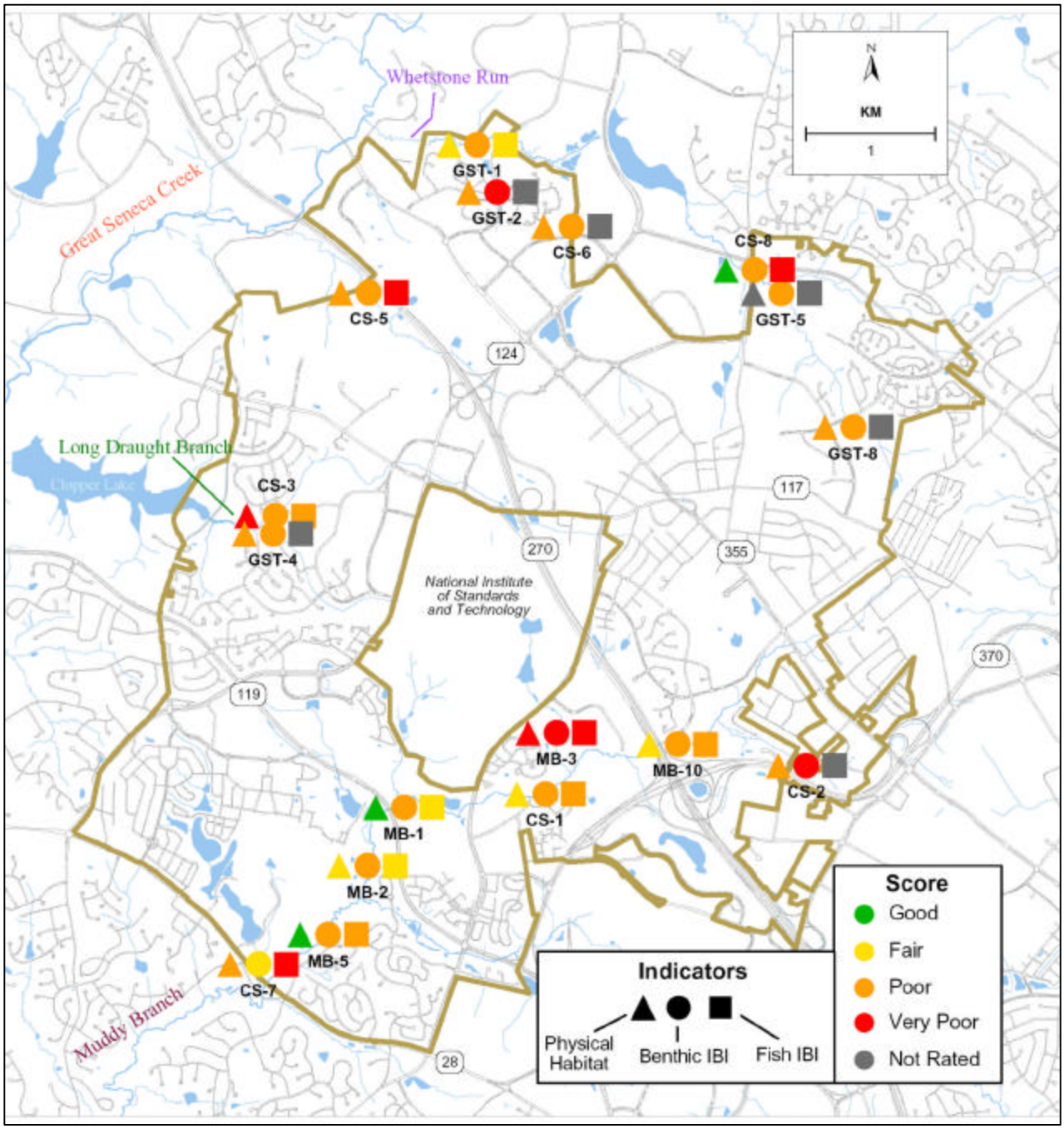
Figure 4 Excessive stream bank erosion and channel downcutting along a tributary of the Muddy Branch creates a high priority stream restoration candidate site.

The stream assessment identified and ranked approximately 52 **candidate stream restoration sites** based on several criteria (e.g., protection of public safety, property and infrastructure, environment and stream habitat; economic feasibility; and probability of success, etc.). Map 4 illustrates the stream restoration candidate sites. Sites labeled as "Very Good" are considered a high priority since there is a clear need for restoration and a high probability of success. Sites labeled as "Good" or "Moderate" indicate lower priority restoration opportunities. Although these rankings are based on a number of technical factors, it is anticipated that the continuously changing nature of stream conditions and other important factors may modify these rankings.

The stream assessment affirmed that the City's ***stormwater management*** **(SWM)** system performs an essential role in mitigating the effects of development on streams and surrounding environmentally sensitive areas. Gaithersburg's public and private storm drain system consists of more than 3,600 inlets, approximately 100 linear miles of pipe, over 500 outfalls, and over 300 SWM best management practices (BMPs) (e.g., wet ponds, dry ponds, infiltration trenches, underground quantity control structures, and water quality inlets). The stream assessment concluded that the City should ensure that properly functioning SWM structures are maintained, older SWM structures are retrofitted to better manage stormwater flows, and new SWM structures are created in older areas with inadequate SWM controls.

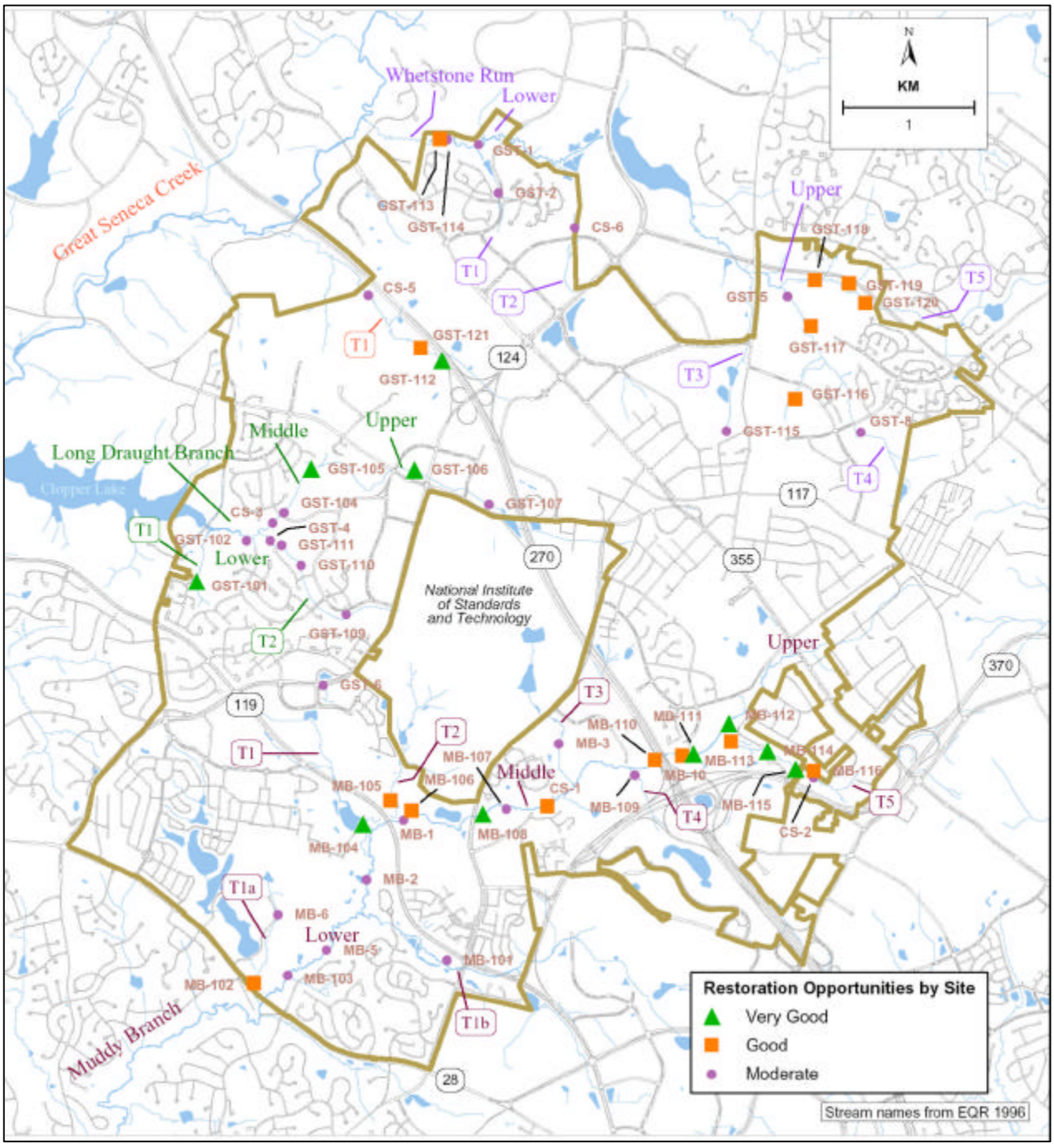
Figure 5 The stormwater management pond in Quince Orchard Park treats runoff, provides wetland habitat, and serves as a community amenity.

Map 3: 2002 Stream Assessment Results[10]



[10] Site names were assigned to reflect the site type and/or watershed location. Randomly selected sites in the Muddy Branch are named "MB" and those in the Great Seneca Tributary are named "GST". City-specified sites are named "CS". Each name is followed by a number designating the order in which the site was visited during field reconnaissance.
For more information regarding the stream assessment: City of Gaithersburg, 2002. *An Ecological Assessment of Streams in Gaithersburg, Maryland: 2001-2002.*

Map 4: Stream Restoration Candidate Sites[11]



[11] Site names were assigned to reflect the site type and/or watershed location. Randomly selected sites in the Muddy Branch are named "MB" and those in the Great Seneca Tributary are named "GST". City-specified sites are named "CS". Tributaries are labeled as "T". Each name is followed by a number designating the order in which the site was visited during field reconnaissance.
For more information regarding the stream assessment: City of Gaithersburg, 2002. *An Ecological Assessment of Streams in Gaithersburg, Maryland: 2001-2002.*

Watershed Protection and Enhancement Strategies

The following summarizes several important State and Federal regulatory measures aimed at protecting water resources in Gaithersburg.

- As required by the Federal Clean Water Act (CWA), the Maryland Department of the Environment (MDE) established a State Water Use Classification and Anti-degradation Policy for streams throughout the state. Streams in Gaithersburg are classified as *Use I-P: Water contact recreation, protection of aquatic life, and public water supply.* Streams in this category should be suited for water contact sports; play and leisure time activities where the human body may come in direct contact with the surface water; fishing; the growth and propagation of fish (other than trout), other aquatic life, and wildlife; agricultural water supply; industrial water supply; and public water supply.
- MDE also established a Total Maximum Daily Load (TMDL) for phosphorus and sediment entering Clopper Lake. Municipalities, including Gaithersburg, within Clopper Lake's watershed are required to focus on improving water quality by reducing sediment and nutrient loads. Future watershed protection efforts for tributaries of Long Draught Branch, draining into Clopper Lake, should concentrate on reducing sediment and nutrient loads and increasing opportunities for nutrient uptake.
- Under the Clean Water Act, another important Federal regulation affecting water resources in Gaithersburg is Phase II of the National Pollutant Discharge Elimination System (NPDES) Stormwater Program. Under Phase II, the City is required to obtain a permit from MDE to control flows from the municipal separate storm drain system.

In addition to Federal and State regulations, local policies are also important components of a watershed protection program. The following outlines basic strategies to protect watersheds and water resources.

Watershed Assessment and Planning

- **Partner with outside organizations, such as the U.S. Army Corps of Engineers and Montgomery County Department of Environmental Protection, to conduct watershed assessment and restoration plans for Great Seneca Creek and Muddy Branch. The watershed assessments will provide an in-depth analysis of land use, watershed conditions, impervious cover, and the adequacy of stormwater management controls in order to prioritize and design stream restoration and stormwater management retrofit projects and show where stream and stormwater management improvements should be made during infill and redevelopment. The watershed plans will incorporate the**

watershed protection and enhancement strategies identified in this plan and will be used as a basis for all future local actions and programs to preserve and revitalize watersheds.

- **Develop a prioritization and funding schedule for stream restoration and stormwater management retrofit CIP projects identified in the 2002 stream assessment, watershed feasibility studies, and stormwater management inspections.**
- **Whenever possible, incorporate bioengineering techniques in stream stabilization designs in order to restore the stream's pattern (bends and meanders), dimension (width, depth, and shape), profile (bed slope), and floodplain connection.**
- **Seek grant funding from MDE and other organizations to fund restoration and retrofit projects.**
- **Continue to fund professional stream assessments, similar to the studies conducted in 1996 and 2002, to detect ecological degradation or recovery.**

Land Conservation

- **During the development review process, continue to require new developments to establish conservation easements which protect stream valley buffers, forests, and other sensitive environmental areas; as stipulated in the *Environmental Standards* and *Forest Conservation* ordinances.**
- **Continue to enforce the 100-150 foot stream valley buffer setbacks.**
- **Utilize Program Open Space Funds and other grants to purchase lands to protect environmentally sensitive areas.**
- **Maintain and enhance riparian buffers on public lands by planting native vegetation along unforested buffers and increasing "no mow" zones.**
- **Obtain grants to conduct community-based riparian buffer restoration projects.**
- **Identify options, such as public-private partnerships and technical assistance programs, to improve riparian buffers on private property.**
- **Improve the City's stream buffer and conservation easement programs by increasing public education, delineating conservation areas, and enforcing existing regulations in order to prevent dumping and encroachment upon these areas.**

Better Site Design

- **Reevaluate green space, landscape, roadway, forest conservation, stormwater management, and other zoning requirements to promote**

low impact development (LID). The intention of LID is to produce innovative site designs that preserve vegetation, minimize impervious surfaces, maximize sheet flow and groundwater infiltration, and decrease the heat island effect on stream temperatures. Potential ordinance modifications involve increasing green space requirements, requiring parking lot and roof shading, disconnecting roof top runoff, clustering development, and incorporating "headwater streets" in design requirements.

- **Allow waivers involving stream, wetland, floodplain, or buffer encroachments, stormwater management quantity control requirements, forest conservation requirements, and open space requirements only when: (1) there are no other feasible alternatives; and (2) it is determined by the responsible government entity or official that the public interest benefits of the project outweigh the risks to the environment.**

Erosion and Sediment Control

- **Continue to reassess, per the NPDES Phase II Permit, structural and non-structural erosion and sediment control requirements; the plan review process and minimal acceptable standards; and inspection procedures to determine if current practices are effectively protecting water quality and habitat in City streams.**

Stormwater Management

- **Per the NPDES Phase II Permit, continue to implement, enforce, and improve Gaithersburg's stormwater management program; including implementing MDE's 2000 Stormwater Design Manual, Chapter 8 of the City Code, and the *Environmental Standards*.**
- **Inspect public and private aboveground and underground stormwater management structures and require maintenance and repairs as necessary (e.g., removal of trees and shrubs on dam embankments, "mucking out" of sediment and grit, removal of trash and debris, mowing, fencing, etc.).**
  - **Require commercial properties to perform necessary SWM maintenance and repairs.**
  - **Develop a Homeowner Association (HOA) SWM technical and cost assistance program to support major SWM maintenance and repair projects. Residential property, held in common ownership by HOAs, is generally not adequately financed for large costly SWM maintenance and repair projects; therefore, a program is needed to prioritize and provide financial and technical support. Due to the requirements of Montgomery County's Water Quality Protection Charge, this program should also provide the HOA**

with the option to transfer the structural maintenance responsibility to the City. The transfer will occur after the HOA makes the necessary repairs to bring the structure up to "as built" conditions. Thereafter, the HOA will continue to perform regular maintenance (mowing, trash removal, etc.) and the City will perform structural maintenance.

- **Continue to develop a maintenance and repair prioritization and funding schedule for publicly-owned SWM systems.**

- **Improve existing structures and add new structures in areas of the City that lack SWM.**
  - **Utilize stream assessments, watershed assessments, and inspection results to develop a prioritization and funding mechanism to improve SWM in areas lacking appropriate controls. Support the maintenance and performance of existing stormwater management structures through a multi-year City Capital Improvements Program.**
  - **Require redevelopment and new development to upgrade SWM controls (especially in older areas of the City that lack adequate SWM.**
  - **Require developers to complete stream restoration and stormwater management retrofit projects that are critical to improving the condition of streams and watersheds.**

Pollution Prevention

- **Per the NPDES Phase II Permit requirements, continue to develop and implement a plan to detect and eliminate illicit discharges into the storm drain system (e.g., sanitary wastewater, effluent from septic tanks, car wash wastewaters, improper oil disposal, radiator flushing disposal, laundry wastewaters, dry cleaning solvents, spills from roadway accidents, and improper disposal of auto and household toxics). Components of this plan include partnering with adjacent communities to investigate and resolve problems, promoting public education, updating the GIS-based storm sewer map, developing a GIS-based spills tracking system, and continuing to promote used oil and household hazardous waste collection and disposal programs.**
- **Update the City's Environmental Management System (EMS) to prevent and reduce pollutant runoff from all municipal operations.**
- **Encourage the reduction of fertilizer and pesticide runoff through the use of Integrated Pest Management (IPM).**

Watershed Stewardship

- **Develop and promote a public education campaign on the impact polluted stormwater runoff discharges have on water quality.**
- **Utilize citizen volunteers to conduct stream monitoring in order to promote education, identify problems that may otherwise go undetected, and supplement information collected by professional organizations.**
- **Organize community watershed enhancement projects (e.g., stream cleanups, Community Cleanup Day, stream monitoring, storm drain stenciling, tree plantings, rain gardens, etc.).**
- **Seek grant funding to support community-based education and restoration projects.**

3.2 Soils and Slopes

Different soil types possess dramatically different properties (e.g., texture, structure, and strength) and consequently demonstrate varying abilities to support development. Soil characteristics causing limitations to development include low permeability, high flood susceptibility, high shrink/swell potential, high susceptibility to erosion, and shallow depth to bedrock. Steeper slopes amplify the risk of costly hazards and therefore limit use and development. According to the City's *Environmental Standards for Development Regulation, a* steep slope is defined as 25 percent or greater. Identifying and protecting these vulnerable soils and steep slopes is important for a variety of public safety and environmental reasons.

Figure 6 Steep slopes and erodible soils hydraulically adjacent to streams, as indicated in the above photo of the Muddy Branch, illustrate why these are sensitive areas in need of special protection.

- Highly erodible soils and steep slopes, especially those adjacent to watercourses, are often associated with flooding, erosion, water quality deterioration, and aquatic ecosystem damage. Appropriate protection and land use considerations should be given to areas prone to geologic and hydrologic hazards.

- Sites containing sensitive soils and steep slopes present development limitations and construction challenges. Proper structural engineering and construction techniques are required to prevent environmental degradation and ensure the safety of buildings and infrastructure.
- Historically, sites containing poor soils and steep slopes are difficult to farm, log, and develop. Consequently, they tend to remain undisturbed and have a propensity to develop unique, diverse plant and animal communities that should be protected.
- Protection of the natural topography and unique geologic areas often provides aesthetically pleasing open spaces.

Baseline Conditions

Gaithersburg lies in the physiographic region known as the Piedmont Province. The Piedmont is characterized by gently rolling and hilly topography. Upland soils in this region, those outside of stream valleys, are generally suited for development on flat topography. The greatest limitations to development in upland areas are the slope of the land, the degree of soil erodibility, and the depth to bedrock.

Soils presenting the most significant limitations to development, such as hydric soils, are commonly found in the stream valleys and present severe structural engineering limitations due to severe wetness, seasonal flooding, and high erodibility. Development in these areas is essentially restricted by Federal, State, and City regulations designed to protect these fragile riparian ecosystems.

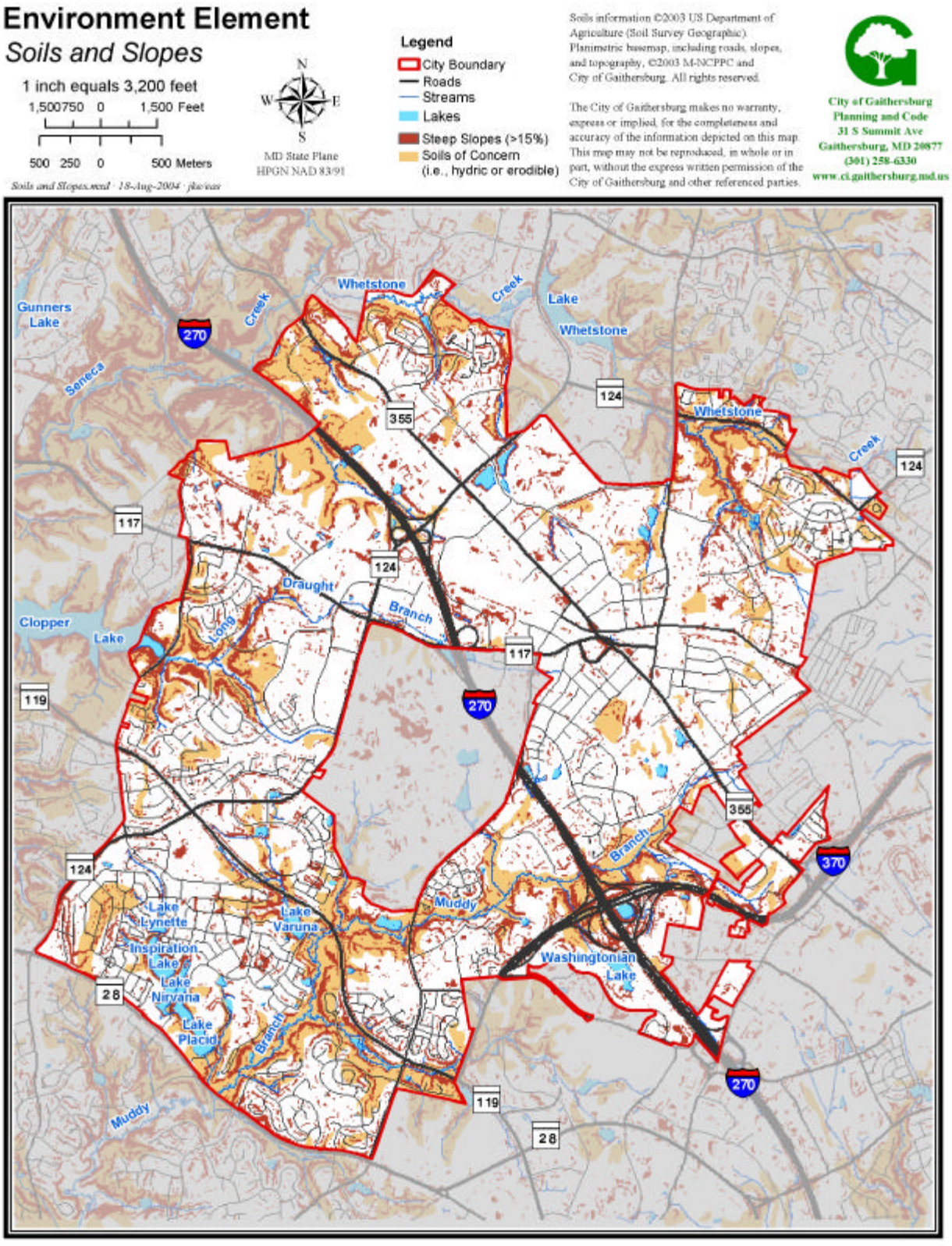
Table 3 provides a list of erodible soils within Gaithersburg classified as having a severe hazard of erosion by the Natural Resources Conservation Service (NRCS). These soils should be incorporated into the property's open space and carefully managed during construction. Map 5 illustrates where soils of concern and steep slopes are present and require special protection measures. This map is based on general data from the 1995 Montgomery County Soil Survey; certain sites within the City may require a geotechnical study and further analysis to determine if limitations to development exist.

Table 3: Erodible Soils within Gaithersburg[12]

Map Symbol	Soil Name and Description
16D	Brinklow-Blocktown channery silt loams, 15 to 25% slopes
18E	Penn silt loam, 15 to 45% slopes, very stony
21D	Penn silt loam, 15 to 25% slopes
21E	Penn silt loam, 25 to 45% slopes
21F	Nestoria-Rock Outcrop Complex, 25 to 50% slopes
57D	Chillum silt loam, 15 to 25% slopes
61D	Croom gravelly loam, 15 to 25% slopes
61E	Croom gravelly loam, 25 to 40% slopes
109E	Hyattstown channery silt loam, 25 to 45% slopes, very rocky
116E	Blocktown channery silt loam, 15 to 25%, very rocky

[12] Source: U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), *1995 Survey of Montgomery County, Maryland.*

Map 5: Soils and Slopes



Soil and Slope Protection Strategies

Identification and protection of sensitive soils and steep slopes will help protect Gaithersburg and downstream communities from hazards and costly maintenance. It is advisable to determine the steepness and erodibility of soils on slopes before deciding what grading can occur, whether buffers must be in place and whether any development can occur on the slope face. The following strategies should be employed to protect soils and steep slopes.

- **Continue to implement the *Environmental Standards* to identify and protect steep slopes and erodible soils during the development review process. When such areas are identified, they should be incorporated into the site's open space, protected with conservation easements, and carefully managed during construction.**
- **If development on sensitive soils or steep slopes cannot be avoided, a geotechnical study must be prepared to protect against development hazards. The site design should minimize disturbance to these areas, incorporate special construction measures as identified in the geotechnical report, and involve the maximum use of erosion and sediment control measures during construction until the site is stabilized.**
- **Man-made steep slopes and extensive retaining walls often present potential future concerns for safety, maintenance, and mowing. Therefore, new steep slopes and retaining walls should only be created when: (1) there are no other feasible alternatives; and (2) it is determined by the responsible government entity or official that the public interest benefits of the project outweigh the potential risks. Whenever possible, slopes should not be created that exceed the 3:1 guidelines for safe and efficient mowing and maintenance. Fences should be constructed in cases where public safety is of concern.**
- **Stabilize steep slopes and erodible soils as soon as practicable by planting and maintaining appropriate vegetation.**

3.3 Open Space and Greenways

Figure 7 Picnic pavilions, open space, ponds, and recreation pathways at Bohrer Park at Summit Hall Farm.

Open space and greenways consist of both public and private lands in cities, suburbs, and rural areas. Smart growth uses the term **open space** broadly to mean parks, woodlands, and other natural areas. These areas function as important community space, critical environmental areas, plant and animal habitat, recreation sites, agricultural lands, and places of natural beauty. **Greenways** are protected corridors of open space connecting environmental, cultural, historic, and recreational resources. Some greenways are pristine corridors that provide habitat and safe passage for animals and plants; others are trails for hikers and bikers that are designed for recreational use. Greenways may include a protected streambed, a forested corridor, a ridgeline, a stream valley park, or a converted railroad or utility right-of-way. This interconnected network of open space and greenways comprises Gaithersburg's **green infrastructure** that supports natural systems and contributes to our community's health and quality of life.

The preservation and management of the quality and supply of open space and greenways provides numerous fiscal, recreational, and environmental benefits that enhance our quality of life. Such benefits include:

- providing recreation opportunities;
- increasing local property values;
- preserving habitat and migratory corridors for plants and animals that support biodiversity;
- protecting areas of natural beauty;
- providing connections between City neighborhoods and reducing automobile dependency; and
- providing other indirect environmental benefits such as protecting water quality, storing water for flood control, mitigating air pollution, attenuating noise, controlling wind, providing erosion control, and moderating temperature.

Baseline Conditions

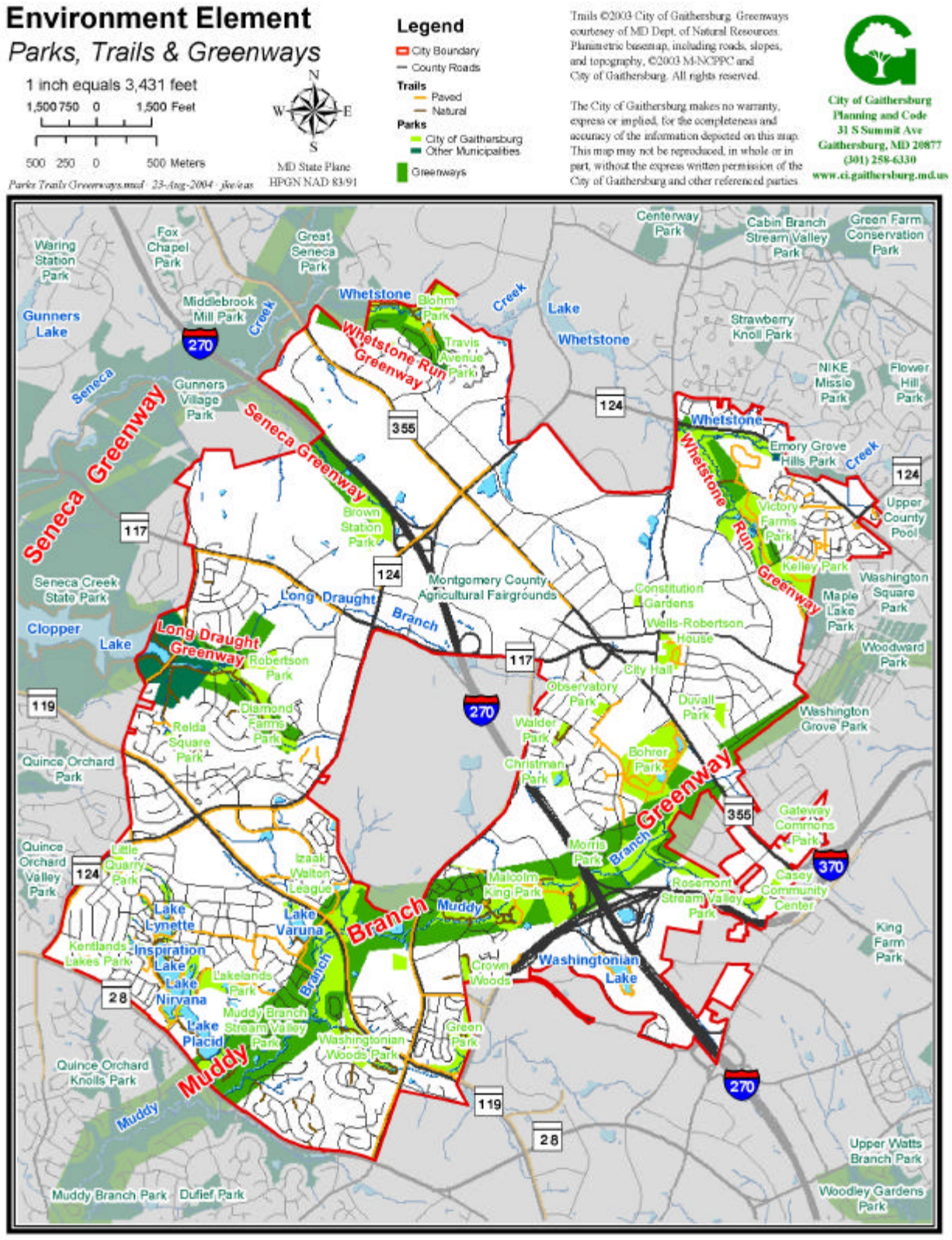
Map 6 illustrates Gaithersburg's existing open space and greenway network; including State and County parks, City-owned lands, privately-owned open space, and existing and proposed bikeways and pedestrian trails. Gaithersburg's greenways commonly follow stream valleys; providing important regional connections between Gaithersburg and the Potomac River.

- The **Muddy Branch Greenway** is the City's most extensive open space and greenway system. This greenway contains Bohrer Park at Summit Hall Farm, Morris Park, Malcolm King Park, Izaak Walton League conservation areas, and City-owned parcels within Washingtonian Woods and Lakelands. Extending outside of the City, this greenway connects to Muddy Branch Park and Blockhouse Point Park and ultimately reaches the Potomac River.

Figure 8 Duvall Park, located at the end of Holly Drive off of Gaither Street, contains three acres of recreational areas and woodlands.

- The **Seneca Creek Greenway** contains another large open space and corridor network. Beginning with the 21 acre parcel of City-owned parkland known as Casey-West, it follows a Seneca Creek tributary through a mixture of agriculture and forested lands in the Casey-Metropolitan Grove Study Area, west of Interstate 270. The greenway network continues to Seneca Creek State Park until it reaches the Potomac River. The protection of open space and the creation of a greenway path network in this area is an important priority to be considered in plan review for future development.
- The **Whetstone Run Greenway** occurs along two tributaries within the City. One greenway begins in Maple Lake Park in Washington Grove, runs through Kelley Park and Victory Farm Park, and extends north to Forest Oak Middle School. The second greenway begins at Watkins Mill Pond, continues through Blohm Park, and connects to Seneca Creek State Park.
- The **Long Draft Greenway** consists of Diamond Farms Park and Robertson Park and connects to Seneca Creek State Park.
- There are several sub-greenways within the City that provide important transportation connections between various neighborhoods throughout the City. Additional information about these resources is provided in the *Transportation* and *Community Facilities* elements of the Master Plan.

Map 6: Parks, Trails and Greenways



Open Space & Greenway Protection and Enhancement Strategies

Figure 9 Little Quarry Park provides a prime example of a "pocket park" tucked into a secluded woodland in the Kentlands neighborhood.

The development of a comprehensive open space and greenway network frequently involves multiple jurisdictions. Therefore, sharing information on future plans, progress, and known obstacles is essential for developing an extensive connected system. Gaithersburg will continue to work with regional and state governments, citizen groups, and private organizations to coordinate efforts to preserve and establish new open space and greenway corridors with linkages to the regional network. Greenway plans will emphasize connections to many destinations within and around Gaithersburg, including parks, community centers, schools, commercial centers, and public transportation centers. Challenges to developing an open space and greenway network include: 1) maintaining and enhancing existing resources; 2) identifying and prioritizing new lands needed to protect sensitive areas; 3) satisfying park and recreational needs; and 4) securing critical trail and pathway linkages. The following are strategies to protect, enhance, and promote Gaithersburg's open space and greenway network.

- **Ensure that new residential development has sufficient and appropriate recreation land and open space to meet the needs of new residents and integrates with the broader network. As an absolute *minimum*, developers shall be required to retain at least five percent of the developable area as open space or parkland suitable for active recreation use.**
- **Evaluate local planning and zoning requirements that have a major impact on open space and greenway corridors.**
  - **Examine the desirability and legal feasibility of adopting an open space zoning category.**
  - **Research existing subdivision regulations to review the subdivider's or developer's responsibilities for dedication of land for greenways and the compliance with Master Plan requirements.**
  - **Review and analyze existing and potential right-of-ways (ROW's) for greenway paths in order to develop a comprehensive greenway plan.**
  - **Evaluate the definitions and requirements for green/open space in each zone.**

- **Develop design standards to guide the development of parks, trails, and open space, including a consistent method for signage and a hierarchy of pathway sections for different pathway functions and environmental conditions.**
- **Consider cash-in-lieu of land ordinance that requires developers to pay into a City Parks and Recreation fund if they cannot provide adequate green space, parklands, and recreation facilities on-site as part of their development. The City fund will be used for parkland acquisition and the construction of new recreation facilities.**

- **Develop a plan to prioritize, identify funding sources, and implementation strategies for establishing additional parks, open space, and greenways.**
  - **Continue to develop a GIS-based inventory of public lands, easements, privately owned green space, and trails.**
  - **Determine gaps in the open space and greenway network and identify parcels appropriate for land acquisition, easements, land swaps, and cooperative agreements.**
  - **Pursue redevelopment strategies that will increase the availability of open space and parkland.**
  - **Redesign infrastructure to increase public green space in existing neighborhoods.**
- **Create safe pedestrian and bicycle routes between residential areas, parks, open space areas, commercial areas, and transportation centers, such as the Shady Grove Metro Station, Olde Towne/ Metropolitan Grove MARC Stations, and stops along the future Shady Grove-Clarksburg Transitway.**
- **Prepare and implement plans to maintain and enhance existing open space and greenways. These plans should include strategies to renovate and enhance existing recreation facilities and trails, restore stream banks and stream valleys buffers, and enhance the ecological and aesthetic value of ponds, streams, and other open spaces.**
- **Promote community awareness regarding the importance and availability of open space and greenways.**
  - **Produce a single user-friendly map of public parks and greenways in Gaithersburg.**
  - **Develop a greenway education program that includes a series of informative and interpretive signs that provide directional information, wildlife and plant life information, and trail identification.**

- **Continue to research and obtain state and federal funding to finance open space acquisition and development, trail enhancement and maintenance, and habitat restoration.**

3.4 Forests and Landscapes

Figure 10 Gaithersburg's landscape and forestry management programs have earned numerous awards.

The **urban forest** is comprised of trees and woodlands on undeveloped lands, public lands, private property, and along streets. **Landscaping** includes the trees, shrubs, and herbaceous species on parks and private lands that provide aesthetic value and habitat for wildlife. Not only is the size and availability of these areas important, the **species composition** within these areas is significant. Some species are better suited for a particular environment and provide greater ecological and aesthetic value. **Native plants,** for example, are better adapted to local physical, climatic, and ecological conditions. This results in lower use of fertilizers or pesticides, little supplemental watering or seasonal care, and greater wildlife and ecological value. **Invasive exotic plants** are species intentionally or accidentally introduced, by human activities, into a region where they did not originate. Since invasive exotic species have few natural controls, they frequently out-compete native plants, impact native wildlife, and change entire ecosystems.

A thriving urban forest and landscape network provides multiple ecological, economic, and aesthetic benefits:

- Creating a sense of place and making communities more attractive and livable with a tendency to increase property values.
- Providing habitat for wildlife and supporting ecosystems that otherwise would not exist in an urban area.
- Providing a connection with nature, in an urban setting, that creates recreation and education opportunities.
- Filtering the air by absorbing green house gases and trapping airborne particulates and other pollutants.

- Improving stream water quality and quantity management, by reducing stormwater runoff, filtering sediment and pollutants, providing stream bank protection, and preventing soil erosion.
- Supplying shade and other climate control measures to reduce the heat island effect,[13] which consecutively affects the ambient temperatures and thermal impacts of stormwater runoff, energy use, concentrations of ground level ozone, and human health.
- Reducing heating and cooling energy costs for buildings.
- Abating noise pollution by absorbing and blocking urban noise.

Baseline Conditions

Figure 11 Tree canopy covers approximately 26 percent of the City.

According to Maryland National Capital Park and Planning Commission's (M-NCCPC) 1999 tree cover analysis, Gaithersburg contains approximately 1,657 acres of urban forest. Map 7 displays Gaithersburg's forests and tree canopy coverage. Overall, forest resources within the City tend to be fragmented by developments, utilities, sewer lines, and road crossings. Despite this fragmentation, there are still a few remaining tracts of mature woodlands within the City. According to the map, it is apparent that the majority of forest resources are located along stream valleys and public parks. These areas generally contain steep slopes and wet soils that have historically limited logging, agriculture, and development. The *Environmental Standards* protect these sensitive areas. Other large tracts of forest are located in the Casey-Metropolitan Grove Study Area and along the Muddy Branch. Natural resource inventories indicate that these areas are potentially large enough to support forest interior dwelling species (FIDS) (see Wildlife section). Additional special protection measures are needed to protect these

[13] According the U.S. Environmental Protection Agency, heat islands form as vegetation is replaced by asphalt and concrete for roads, buildings, and other structures necessary to accommodate growing populations. These surfaces absorb – rather than reflect – the sun's heat, causing surface temperatures and overall ambient temperatures to rise. The displacement of trees and shrubs eliminates the natural cooling effects of shading and evapotranspiration (a natural cooling process in which water transpires from a leaf's surface and evaporates into the atmosphere, reducing ambient temperature).

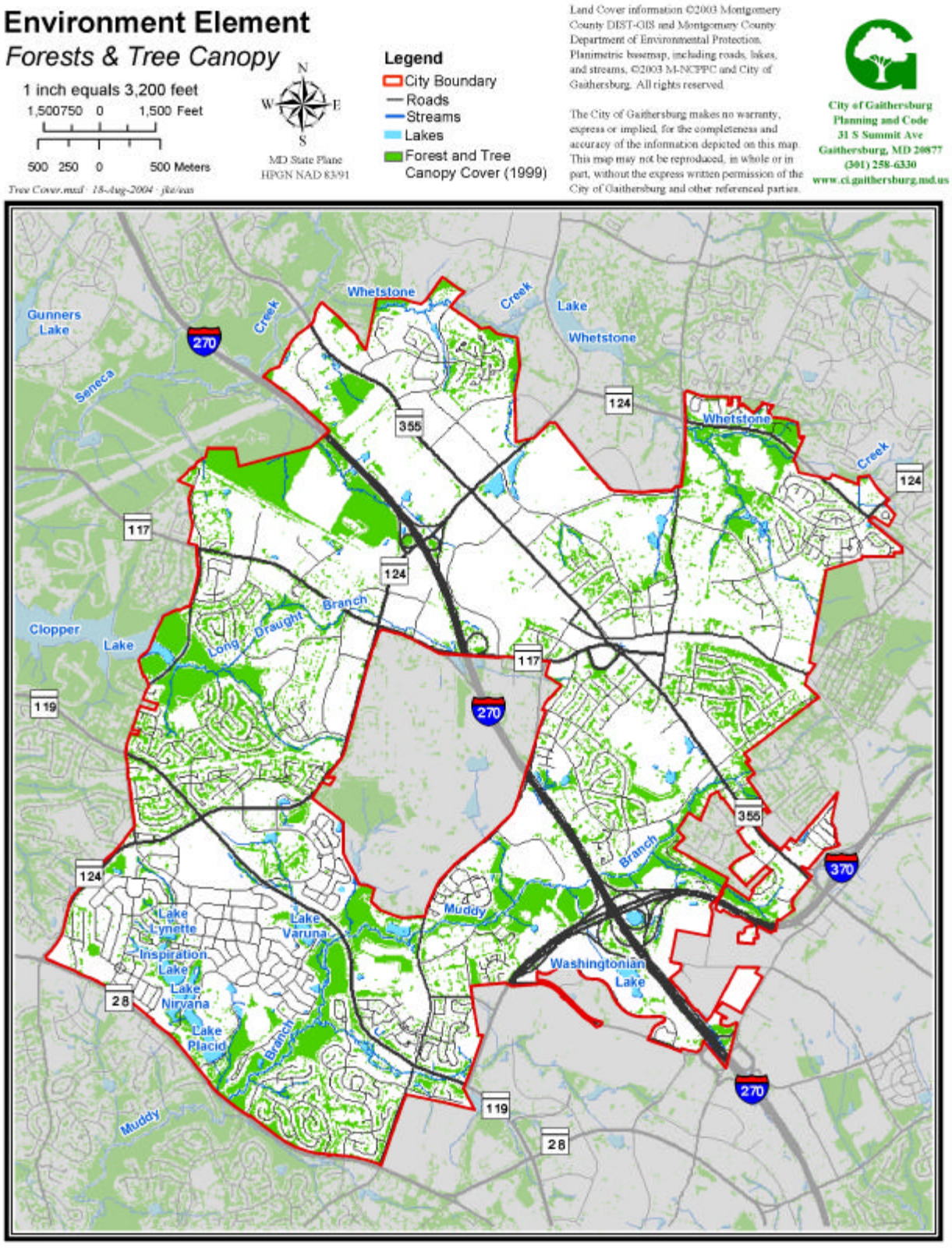
resources during development. Significant tree canopy coverage is also evident in older neighborhoods containing mature street trees.

The condition and species composition of Gaithersburg's urban forests are based on such factors as the type of land use, topography, soil, sun exposure, invasive plants present, and maintenance regimes. Gaithersburg's forests are typically categorized as mature deciduous forests, young mixed deciduous and coniferous forests, or early succession forests. Typical species include white oak (*Quercus alba*), northern red oak (Quercus rubra), red maple (*Acer rubrum*), silver maple (*Acer saccharinium*), sweetgum (*Liquidambar styraciflua*), green ash (*Fraxinus pennsylvanica*), eastern sycamore (*Platanus occidentalis*), black cherry (*Prunus serotina*), and the tulip tree (*Liriodendron tulipifera*). Other common native species are included in Appendix B.

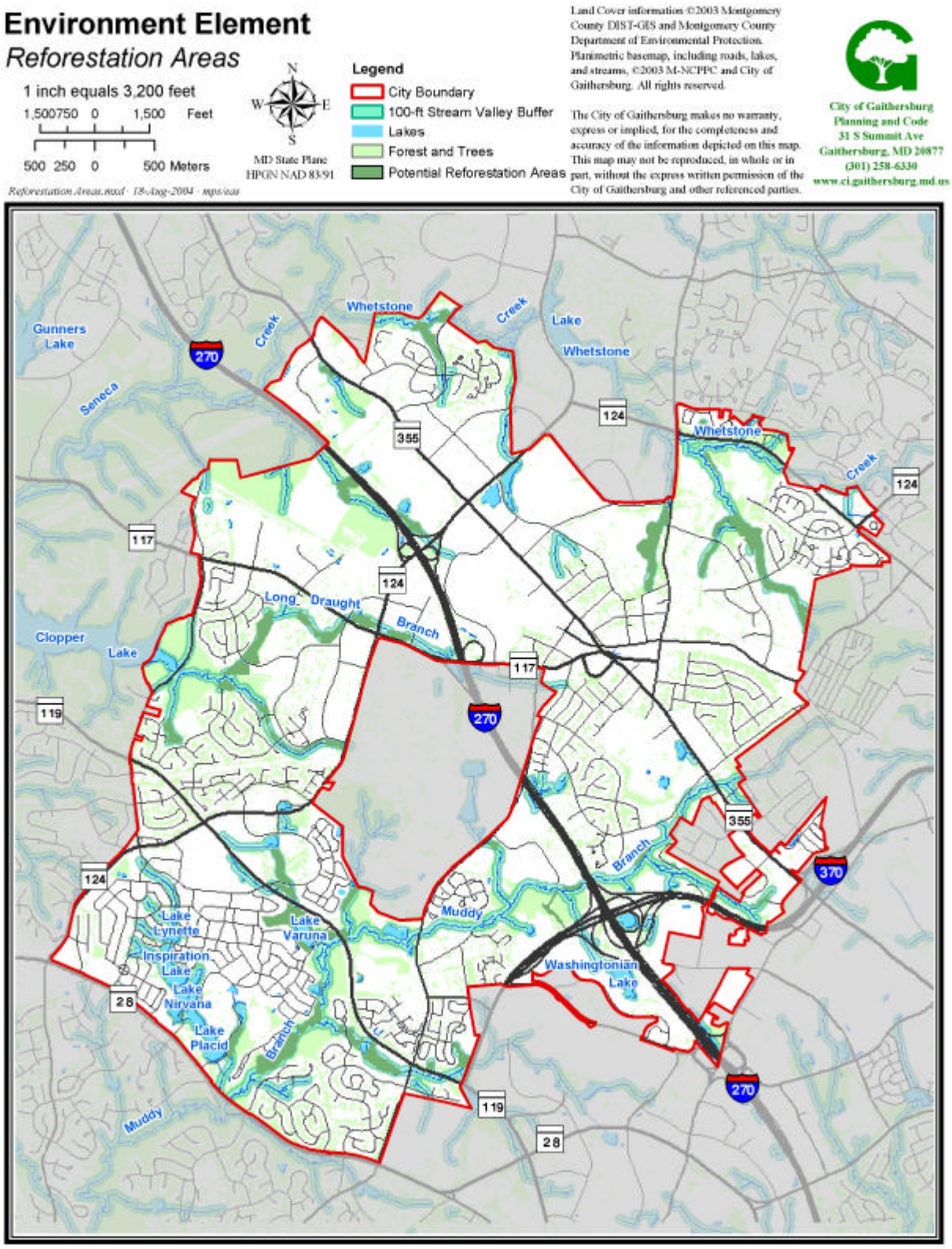
Agriculture and development disturbance have fragmented forests and created woodland "edge" areas. These edge areas are more susceptible to exotic invasive vegetation that rapidly grow, invade habitats, displace other species, and modify ecosystems. Such species include garlic mustard (*Alliaria petiolata*), multifloral rose (*Rosa multiflora*), Japanese honeysuckle (*Lonicera japonica*), mile-a-minute (*Polygonum perfoliatum)*, tree of heaven (*Ailanthus altissima),* Japanese stilt grass (*Microstegium vimineum*), and pampas grass (*Cortaderia selloana and C. jubata*). Appendix C provides a comprehensive list of common exotic invasive species found in Maryland. There is a regional effort to promote an education and maintenance program to deter the growth of invasive species and, whenever possible, utilize native plants in landscaping for new developments.

The City's Capital Improvements Program, Forest Conservation Fund, and Landscape and Forestry Program support reforestation, street tree planting and maintenance, and the enhancement of landscaped areas. In efforts to restore habitat and forest buffers, the City uses Forest Conservation Funds or works with developers to perform reforestation projects. Map 8 provides a preliminary overview of potential reforestation receiving sites throughout the City. Priority sites include stream valley buffers, steep slopes, public parks, connections between existing forest areas, potential habitat areas, and areas of scenic value. The City's tree planting and landscape enhancement projects, performed under the guidance of the Beautification Committee, have helped the City earn the "Tree City USA" designation for over fourteen years. An important component of this program is planting and maintenance of street trees. Map 9 provides a preliminary inventory of the street trees in Gaithersburg. Street sections are identified in this map that either lack street trees or have irregular planting patterns and therefore are priorities for future enhancement projects. A more comprehensive GIS-based inventory and analysis of the City's street tree network should be conducted to aid in future project planning and maintenance.

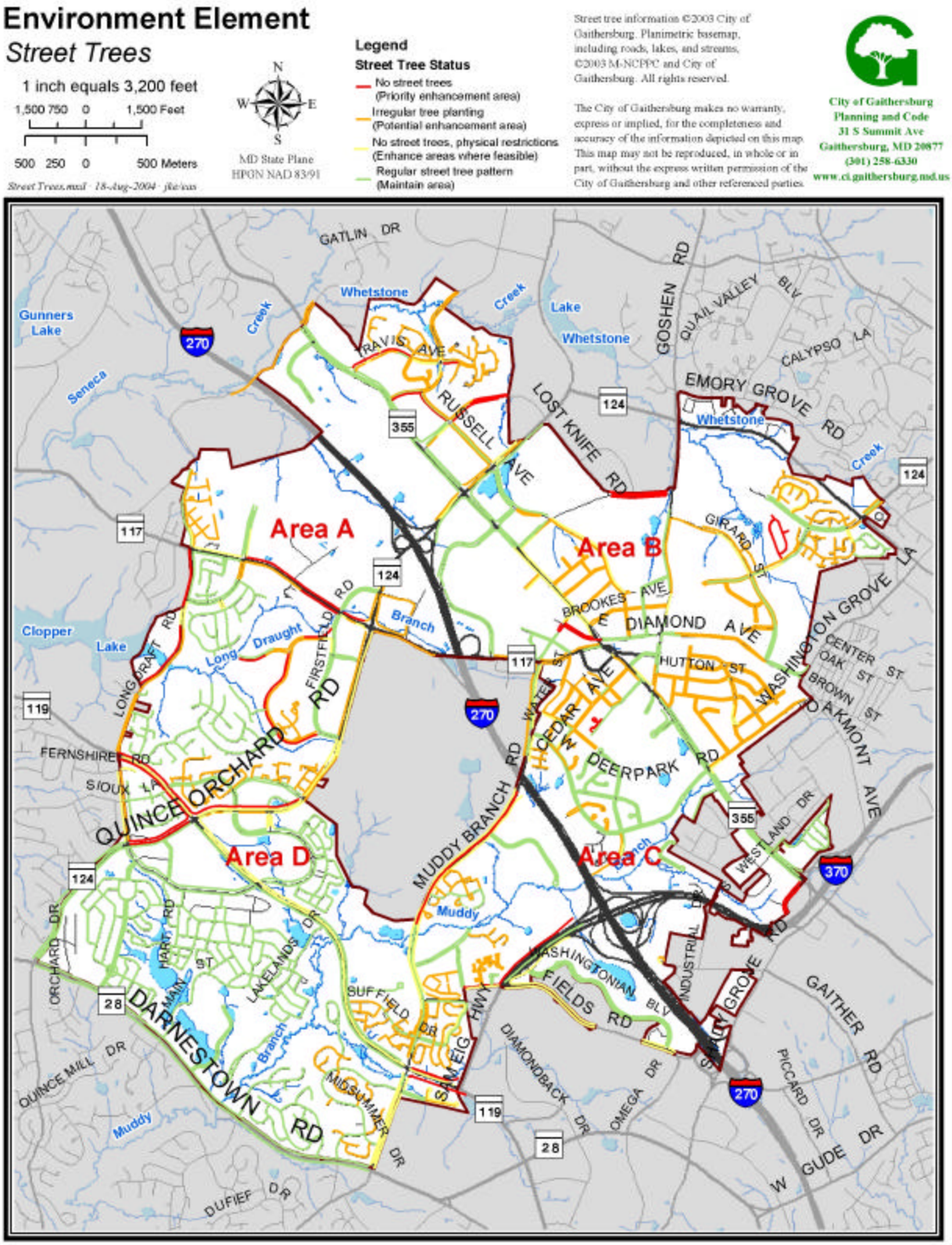
Map 7: Tree Canopy Coverage



Map 8: Potential Reforestation Receiving Areas



Map 9: Preliminary Street Tree Inventory



Environment Element

Street Trees - Area A

1 inch equals 1,542 feet

1,000 500 0 1,000 Feet

250 125 0 250 Meters

Street Trees.mxd - 18-Aug-2004 - jke/ras

MD State Plane
HPGN NAD 83/91

Legend

Street Tree Status

- No street trees (Priority enhancement area)
- Irregular tree planting (Potential enhancement area)
- No street trees, physical restrictions (Enhance areas where feasible)
- Regular street tree pattern (Maintain area)

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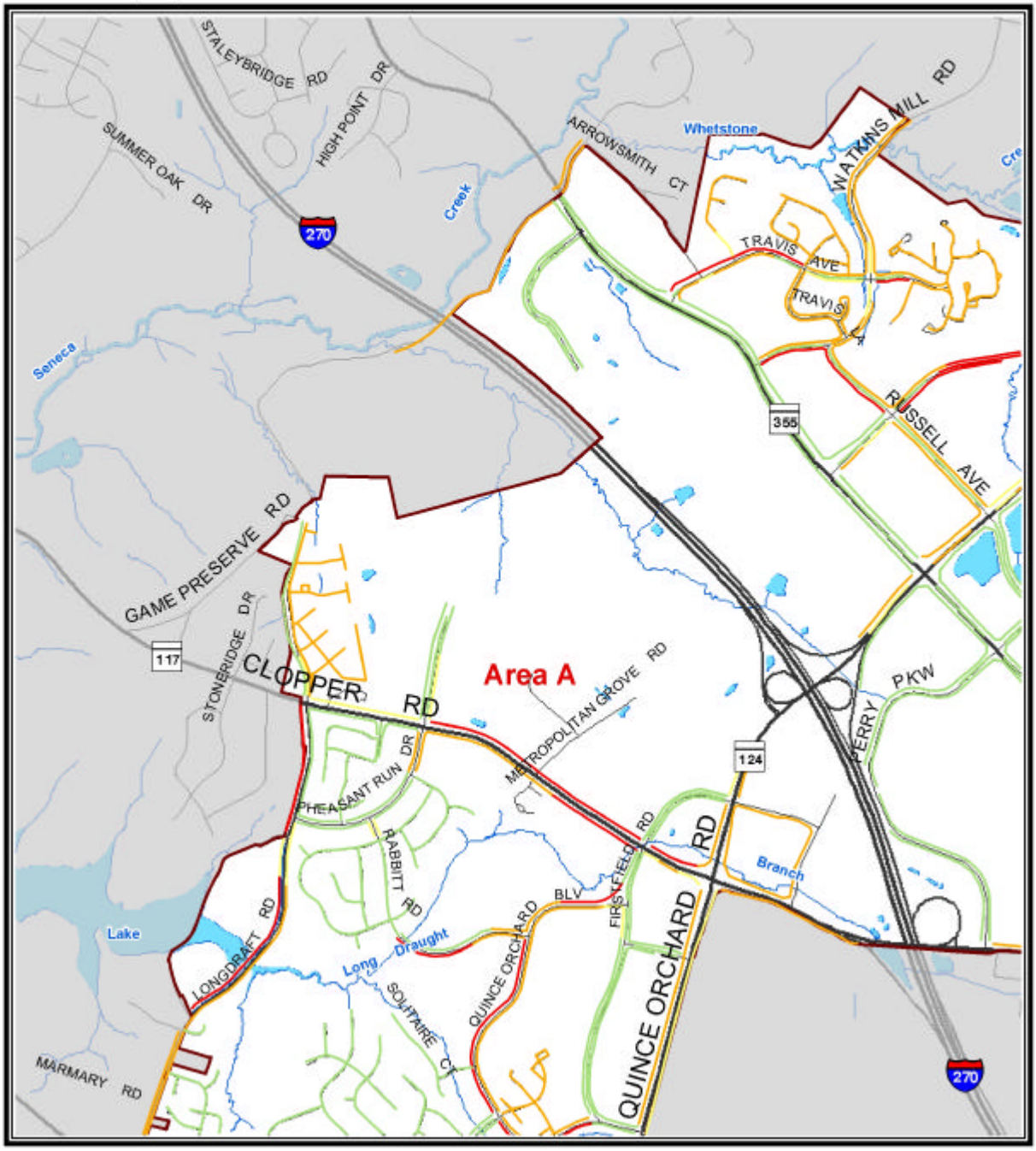

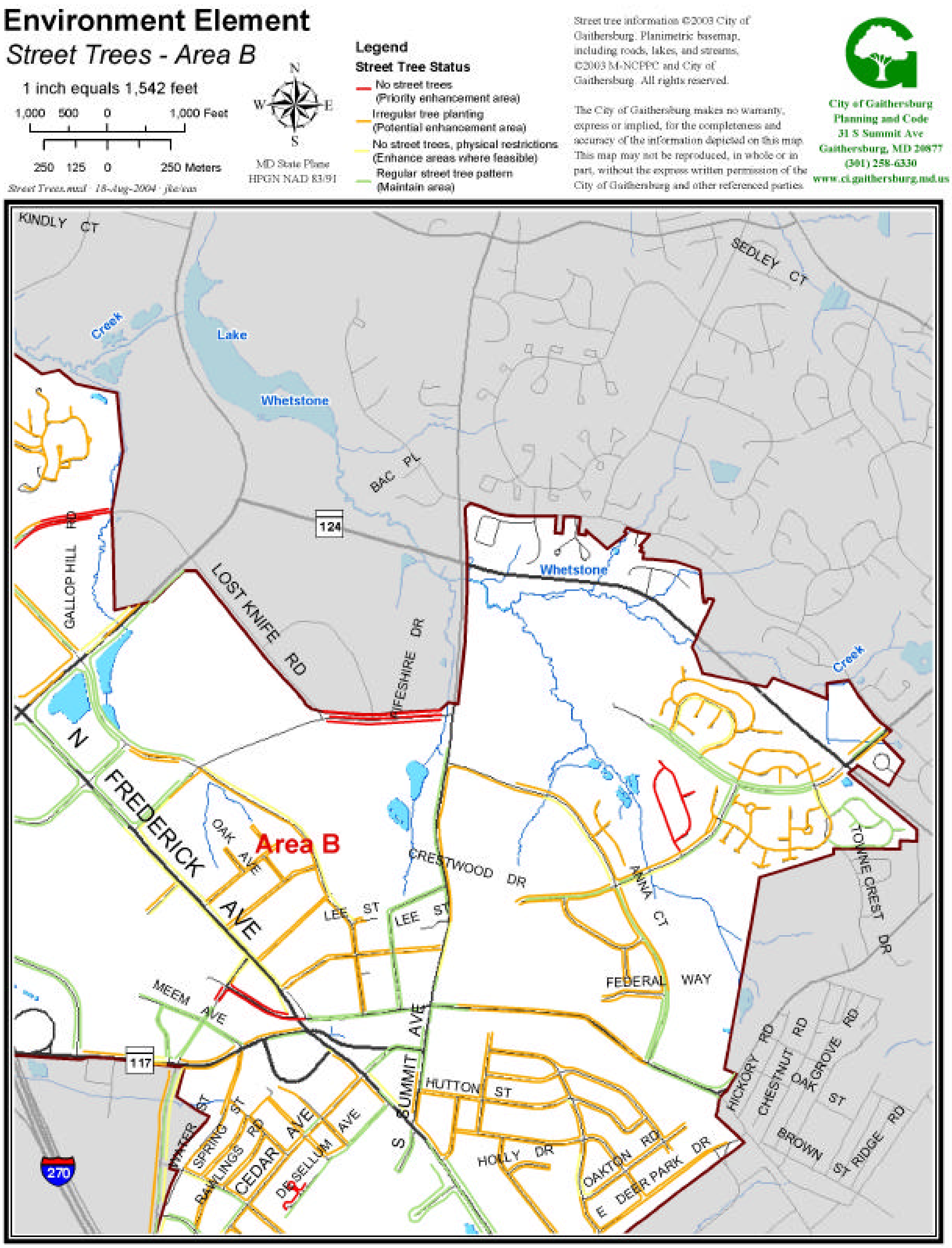
Environment Element
Street Trees - Area B
1 inch equals 1,542 feet
1,000 500 0 1,000 Feet
250 125 0 250 Meters
Street Trees.mxd · 18-Aug-2004 · jke/ean
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MD State Plane
HPGN NAD 83/91
Legend
Street Tree Status
No street trees
(Priority enhancement area)
Irregular tree planting
(Potential enhancement area)
No street trees, physical restrictions
(Enhance areas where feasible)
Regular street tree pattern
(Maintain area)
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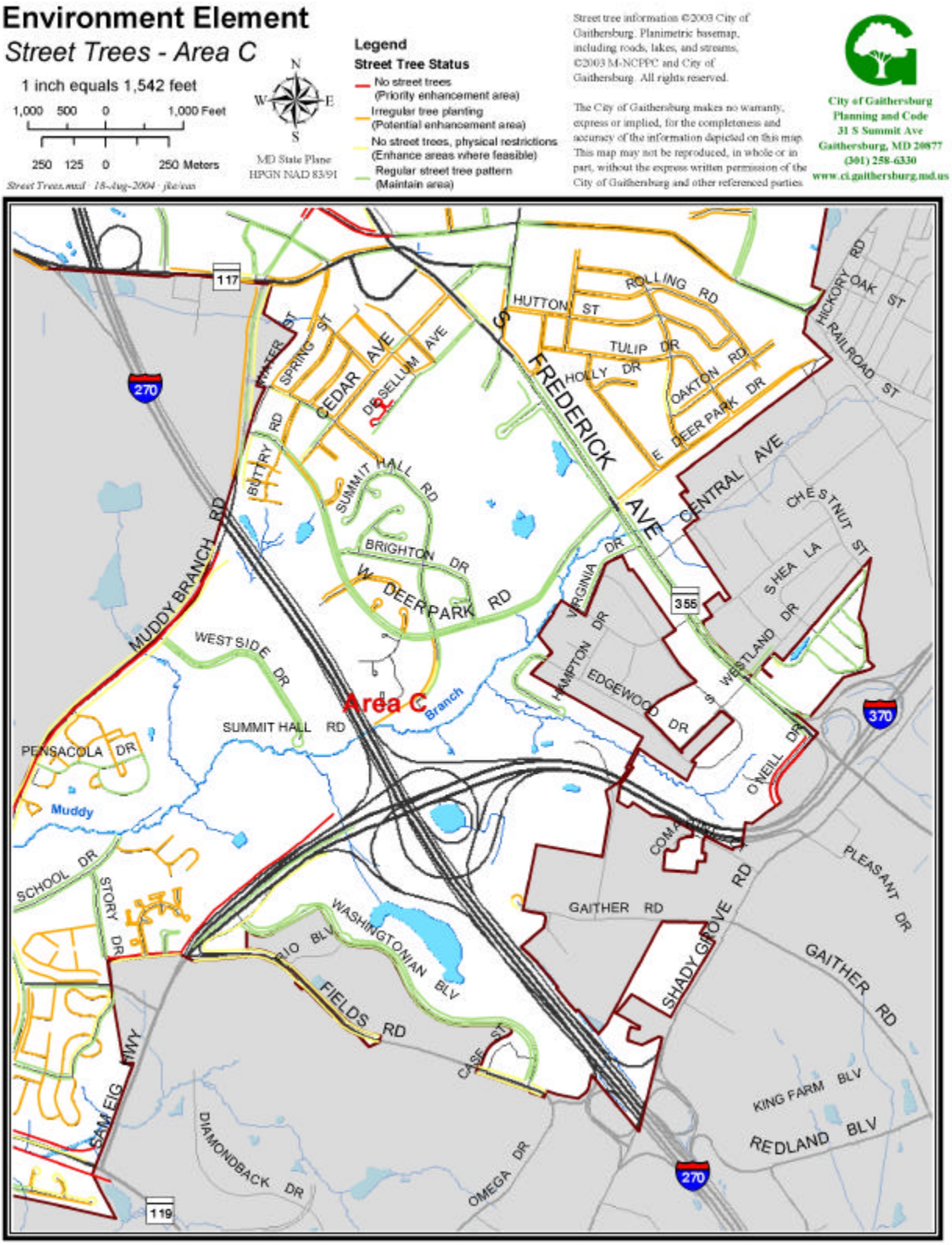
KINDLY CT
SEDLEY CT
Creek
Lake
Whetstone
BAC PL
124
Whetstone
LOST KNIFE RD
GALLOP HILL RD
FIFESHIRE DR
Creek
N FREDERICK AVE
OAK AVE
Area B
CRESTWOOD DR
ANNA CT
TOWNE CREST DR
LEE ST
LEE ST
FEDERAL WAY
MEEM AVE
SUMMIT AVE
117
HICKORY RD
CHESTNUT RD
OAK GROVE RD
OAK ST
HUTTON ST
BROWN ST
RIDGE RD
270
WATER ST
SPRING ST
RAWLINGS RD
CEDAR AVE
DESELLUM AVE
S SUMMIT
HOLLY DR
OAKTON RD
E DEER PARK DR


Environment Element
Street Trees - Area C
1 inch equals 1,542 feet
1,000 500 0 1,000 Feet
250 125 0 250 Meters
Street Trees.mxd - 18-Aug-2004 - jke/cas
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MD State Plane
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Legend
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Area C
MUDDY BRANCH RD
FREDERICK AVE
CENTRAL AVE
CHESTNUT ST
RAILROAD ST
HICKORY OAK ST
ROLLING RD
HUTTON ST
TULIP DR
HOLLY DR
OAKTON RD
DEER PARK DR
E DEER PARK RD
W DEER PARK RD
BRIGHTON DR
SUMMIT HALL RD
CEDAR AVE
DESELLUM AVE
SPRING ST
WATER ST
BUTTRY RD
VIRGINIA DR
SHEA LA
WESTLAND DR
HAMPTON DR
EDGEWOOD DR
O'NEILL DR
WEST SIDE DR
PENSACOLA DR
SCHOOL DR
STORY DR
Muddy Branch
GAITHER RD
SHADY GROVE RD
PLEASANT DR
WASHINGTONIAN BLV
FIELDS RD
CASEY ST
KING FARM BLV
REDLAND BLV
DIAMONDBACK DR
OMEGA DR
SAM EIG HWY
117
355
270
370
119

Environment Element

Street Trees - Area D

1 inch equals 1,542 feet

1,000 500 0 1,000 Feet

250 125 0 250 Meters

Street Trees.mxd - 18-Aug-2004 - jhovan

N W E S

MD State Plane
HPGN NAD 83/91

Legend

Street Tree Status

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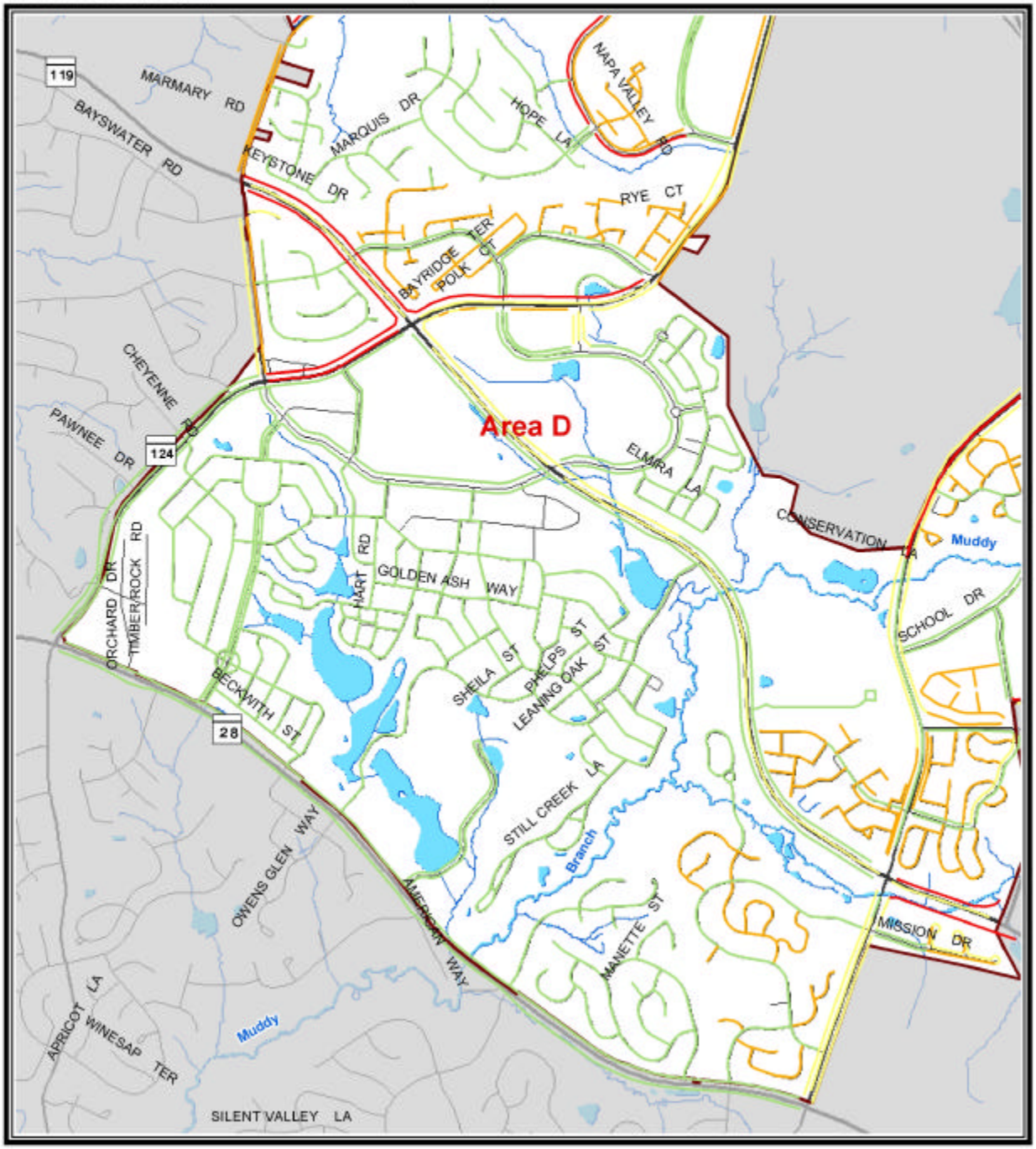

Forests and Landscapes Protection and Enhancement Strategies

Gaithersburg seeks to maintain a thriving "urban forest" that provides ecological, economic, and aesthetic benefits. Management of these resources involves protecting existing forests and specimen trees, reforesting priority planting areas, improving canopy coverage in streetscapes and landscape areas, requiring landscaping around buildings and in parking lots, controlling invasive species, and promoting the planting of native species.

The City's *Tree Manual* and Chapters 21 and 22 of the City Code govern the protection of forests and specimen trees. Forest conservation measures include minimizing tree clearing, retaining specimen trees, and requiring reforestation and tree replacement for areas that are unavoidably cleared. A major goal of the forest conservation program is to protect existing trees and to ensure that tree planting (afforestation/reforestation) occur onsite. However, when the requirements cannot be met on-site, there are provisions for conducting off-site planting and, as a last resort, paying a fee to the City's forest conservation fund for future reforestation projects. The following are strategies to protect and enhance Gaithersburg's forest and landscape network.

- **Continue to implement, enforce, and improve regulations and recommendations associated with the Maryland Forest Conservation Act, Chapter 21 of the City Code (Tree and Vegetation- Public Lands), Chapter 22 of the City Code (Tree and Forest Conservation), and the *Tree Manual* in order to better protect and enhance forest resources.**
- **Evaluate the definitions, requirements, and guidelines for forests and landscaping in local planning and zoning requirements. Make necessary modifications to improve forest and tree protection and to increase tree canopy coverage.**
  - **Create stronger requirements and incentives to protect specimen trees and forests located outside of stream valley buffers; especially significant upland forests and areas where forest interior dwelling species may live. Consider prohibiting developments with existing forests from clearing past the "break even point" and mandating developments without forests to meet afforestation requirements on site.**
  - **Create landscaping guidelines that require shade trees adjacent to buildings and in parking lots to reduce energy costs, shade paved areas, and reduce the "urban heat island" effect.**
  - **Require new development projects to place wooded stream buffer areas in a conservation easement and educate landowners on the importance of long-term conservation easements.**
  - **Require new development/redevelopment to preserve or create landscape buffers to provide visual separation and noise mitigation from major roads.**

- **Require a minimum percentage of native species in landscape plans, as found in Appendix B. The remaining plant materials in forest and landscape plans should not be exotic invasive, as found in Appendix C.**
- **Achieve "canopy closure" and biodiversity in street tree design by encouraging the use of a variety of shade trees that will prevent the risks associated with monoculture. The U.S. Department of Agriculture and the Center for Urban and Community Forestry recommend that no more than ten percent of any single genus be planted in a neighborhood to protect from the effects of disease.**
- **Adopt Thoroughfare Design Standards which include landscape standards and planting width standards by street type.**
- **Require underground utilities, whenever possible, to reduce the negative effects of overhead lines on tree health and canopy coverage.**

➢ **Create City Street Tree Enhancement and Reforestation Plans:**

- **Utilize Geographic Information System (GIS) to analyze Gaithersburg's forest network to determine the locations of existing forests, general forest health, forests protected by conservation easements or in public ownership, priority forest protection areas, and potential reforestation areas.**
- **Record a series of "standard" forest conservation easements that can be referenced on plats (similar to the Public Improvement Easement (P.I.E.) and Public Utility Easement (P.U.E) programs).**
- **Create a spatially-referenced inventory of forest conservation easements and identify locations of potential new areas.**
- **Utilize Geographic Information System (GIS) to develop a comprehensive inventory of street trees and specimen trees on public lands, including information on location, species diversity, condition, and maintenance needs. This inventory will also locate prominent specimen trees in need of protection and guide streetscape planning and maintenance. Until a more thorough assessment of street trees can be conducted, Map 9 provides a general overview of the presence of street trees throughout the City and provides preliminary guidance for future street tree enhancement projects. This map identifies areas containing uniform plantings, containing irregular or partial plantings (due to storm damage, die-off caused by age, or physical barriers such as overhead utility lines, narrow planting beds, paved medians, etc,), and lacking plantings along the curb or in the median.**
- **Coordinate with a landscape architect and the City Beautification Committee to develop a Street Tree Master Plan for all City streets to guide tree planting.**

- **Develop a comprehensive map that prioritizes reforestation and forest enhancement areas to improve the quantity and health of the urban forest network. This should include infill planting, trash removal, invasive species removal, and general maintenance needs. This map will prioritize reforestation projects funded by the Forest Conservation Fund or performed by developers to meet offsite planting requirements. Map 8 provides a preliminary overview of potential reforestation receiving sites throughout the City.**
- **Establish planting guidelines that encourage the use of native plants, providing aesthetic pleasure, wildlife habitat, and watershed protection benefits.**
- **Continue to research and obtain outside funding to support reforestation projects on public and private lands (i.e., Department of Natural Resources' Buffer Incentive Program, Urban and Community Forestry Funds, Chesapeake Bay Trust, etc.).**

- **Continue to educate the community about urban forestry, including proper maintenance of trees, plant selection, planting location, the importance/requirements of forest conservation easements, and management of native and exotic invasive species.**
- **Continue to support volunteer-based tree planting, invasive species removal, and stream and park clean-up projects.**
- **Adequately fund the City's Capital Improvements Program to plant and maintain public trees.**
- **Seek grant funding to support community education and reforestation projects.**

3.5 Wildlife

Urban wildlife is any wild creature that lives in an urban environment or an urban-rural interface, including birds, reptiles, amphibians, mammals, fish, and insects. Preserving wildlife habitat is important because of aesthetic, ecologic, educational, historic, recreation, scientific, and economic values associated with wildlife. For instance, recreational activities such as bird watching, hunting, and fishing are all dependent upon wildlife. Subsequently, these activities support the economic values associated with wildlife.

Figure 12 In recent years, Gaithersburg residents have seen more white-tailed deer (*Odocoileus virginianus*) than ever before.

Unfortunately, numerous wildlife and plant species, in the United States, have been rendered extinct or threatened as a consequence of development pressures and agricultural operations. These human actions have significantly reduced or fragmented habitat and migration corridors. For this reason, the federal Endangered Species Act (ESA) was created to protect endangered and threatened species, as well as their habitat. The purpose of the ESA is to "conserve the ecosystems upon which endangered and threatened species depend and to conserve and recover listed species." The Maryland Department of Natural Resources (DNR) maintains a list of species listed as rare, threatened or endangered, species in need of conservation, or a watchlist species[14]. In addition to ESA species, forest interior dwelling species (FIDS)[15], particularly birds, require large tracts of unfragmented woodland to supply their life requisites. These species are extremely vulnerable to the fragmentation of woodland areas. Consequently, special protection measures are needed to ensure the quantity and quality of their habitat. The key to protecting wildlife is protecting habitat. Wildlife habitat preservation is traditionally accomplished by federal regulation that is enacted once a species has been listed

[14] "Watchlist Species" are species that are uncommon and/or experiencing severe declines in population size or range in Maryland but are not actively tracked by the Heritage and Biodiversity Conservation Program. Total statewide populations of watchlist species are generally within the 21-100 range.

[15] Common FIDS species include songbirds, warblers, vireos and tanagers as well as some woodpeckers, hawks, and owls. According to Maryland Partners in Flight, the Chesapeake Bay Critical Area Criteria, and the Cornell Lab of Ornithology, there are numerous recommended management strategies to protect FIDS habitat. Management strategies should be evaluated on a case-by-case basis; however, some local strategies may include avoiding the loss of even small forests (less than 25 acres) and maximizing the amount of existing riparian forests (those of at least 300 feet in width which occur adjacent to streams and wetlands).

as “threatened” or “endangered”. Unfortunately, this after-the-fact protection method does not provide adequate prevention measures. A better approach is to incorporate wildlife habitat preservation into the local or regional planning process. Proper wildlife protection planning should ensure adequate space and habitat for basic life requirements:

- Safe, undisturbed areas for breeding, both on land and in the water;
- Shelter, which can be underground, in the soil, on the land surface, in water, or in trees and shrubs;
- Food supply, which may require suitable habitat for the plants and animals that provide the food supply;
- Migratory routes; and
- Over wintering areas for those species that require seasonal migration for shelter or breeding.

Baseline Conditions

The Maryland Natural Heritage Program (NHP), administered by the Department of Natural Resources (DNR), is the lead state agency responsible for the identification, ranking, protection, and management of nongame, rare, threatened, and endangered species (RTE) and their habitats in Maryland. Data collected by NHP ecologists, contractors, and cooperators provide the scientific foundation for the RTE species lists. According to NHP, there is evidence that the following ESA plant and animal species are found in Gaithersburg:

1. *Calystegia spithamea*, Low Bindweed - rare (1951)
2. *Cistothorus platensis*, Sedge Wren - threatened (1978)
3. *Lygodium palmatum*, Climbing Fern - threatened (1907)
4. *Scutellaria leonardii*, Leonard's Skullcap - threatened (1939)

Appendix D provides additional information regarding these potential RTE species. Natural resource inventories have also identified forested areas, such as the Casey-Metropolitan Grove Study Area, the Casey-Goshen tract, and along the Muddy Branch, with the potential to support watchlist species and FIDS bird species. The City should continue to identify the locations and habitats of such species and establish appropriate protection measures.

Other common urban wildlife include white-tailed deer, beaver, Canadian goose, raccoon, red fox, Virginia opossum, skunk, eastern cottontail rabbit, eastern gray squirrel, brown bat, and assorted bird species. These types of wildlife can add to the enjoyment of everyday life and provide many benefits in an urban setting.

Nevertheless, certain species of wildlife create management challenges. Widespread modifications to habitat, coupled with a lack of natural predators to control populations, have created problems with white tailed deer, Canadian geese, and beaver. For example, increased white-tailed deer populations have resulted in increased deer-auto collisions and damage to crops and landscaping. Beaver activity has increased in our stream valleys leading to tree damage and altered stream channels. There is also an increase in the number of Canadian geese that have taken up residence in this area; thus creating problems with territorial behavior, abundance of goose droppings, and a decline in water quality.

Figure 13 The conditions in Maryland are favorable for Canadian geese (*Branta canadensis*), there is an abundant food supply and no natural predators; consequently, their populations have increased significantly.

Wildlife Protection and Management Strategies

The challenge of wildlife protection and management is working within the community to enhance those parts of the urban environment that contribute to the survival and diversity of desirable wildlife while minimizing the effects of nuisance species. Standard wildlife habitat protection measures include land acquisition, establishing conservation easements, and forest restoration. Community-wide education programs are also encouraged to foster wildlife appreciation and tolerance. The following strategies are aimed at preserving and enhancing wildlife habitat and ensuring compatible human-wildlife interactions.

- **Utilize wildlife surveys, from organizations such as the Maryland Department of Natural Resources Heritage and Biodiversity Conservation Program, to identify and protect existing habitat locations for rare, threatened, and endangered species in need of conservation (RTE), forest interior dwelling species (FIDS), and State watchlist species.**
- **During the development review process identify, protect, and enhance wildlife habitat areas.**
  - **Collaborate with the National Heritage Program to review projects for proposed construction that could impact threatened or endangered habitats.**
  - **Provide special habitat protection measures for areas supporting RTE, watchlist, or FID species. Depending upon the species, the**

minimum area required to provide suitable habitat varies and must be evaluated on a case by case basis.

- **During plan review, maintain corridors for safe wildlife movement, prevent fragmentation of large undeveloped tracts of wooded and open parkland, and maintain structural and plant-species diversity within vegetated areas.**
- **When development will occur on a parcel with a listed species habitat, the development should be clustered on that portion of the parcel to minimize adverse impacts.**
- **Prevent the construction of fish migration barriers (e.g., man-made structures such as dams, culverts, or weirs) during development and remove existing fish barriers where feasible.**
- **Direct reforestation to stream valley buffers, floodplains, connections between and additions to forested areas, critical habitats, steep slopes, and land use buffers.**

- **Where development is expected to impact wildlife or habitat on a site, require site development packages to include a Wildlife Management Plan, as outlined in the *Environmental Standards for Development Regulation*.**
- **Collaborate with regional efforts to study and develop strategies to minimize human-wildlife conflicts.**
- **Develop habitat enhancement strategies to encourage desirable urban wildlife habitats on public and private land. Such strategies, like BayScapes, involve conservation landscaping, water conservation, wildlife habitat creation, and the use of Integrated Pest Management. Along with reducing pollution and protecting the quality of our streams, BayScapes provide diverse habitats for songbirds, small mammals, butterflies, and other creatures.**

3.6 Air Quality

Air pollution affects human health, soil and water quality (via deposition), forest and tree health, visibility, property, and agricultural productivity. Major criteria air pollutants in this region include ground level-ozone, carbon monoxide, nitrogen dioxide, particulates, and sulfur dioxide. Common greenhouse gases that contribute to climate change include carbon dioxide, methane, nitrous oxide, ozone hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6).

Figure 14 On-road mobile sources, such as the traffic on Interstate 270, account for 34 percent of nitrogen oxide emissions (NOx) and 35 percent of volatile organic compounds (VOCs) emissions in Montgomery County.

There are also toxic air pollutants, also known as hazardous air pollutants, which are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects. The U.S. Environmental Protection Agency has listed approximately 188 hazardous air pollutants, examples include: benzene, which is found in gasoline; perchloroethylene, which is emitted from some dry cleaning facilities; methylene chloride, which is used as a solvent and paint stripper by a number of industries; and metals such as cadmium, mercury, chromium, and lead compounds. The management of air quality is considered an important regional challenge since atmospheric pollutants travel long distances and cross geographical boundaries.

Baseline Conditions

The entire Washington Metropolitan Area, including Gaithersburg, falls into the “severe” non-attainment classification for EPA’s one-hour ozone standard. This means that, on average, ground level ozone in the region’s air shed greatly exceeds the federal standard for what constitutes healthful air. The ground-level ozone precursors, nitrogen oxides (NOx) and volatile organic compounds (VOCs), are of primary concern in Montgomery County. Figure 1 presents the sources responsible for contributing to NOx and VOC emissions in Montgomery County, according to the 1999 Periodic Emissions Inventory (PEI) compiled by the Metropolitan Council of Governments. Point sources are stationary sources that emit more than 10 tons per day of emissions. Area source emissions include small industries, such as bakeries, dry cleaners, paint works, printing facilities, and auto repair facilities. Non-road sources include construction and farming equipment, commercial and residential lawn and garden activities, and recreation boating. On-road or mobile sources are

emissions from transportation sources and are estimated from regional transportation models. As depicted in the pie chart in Figure 15, the main sources of NOx emissions are point source (45 percent), on-road mobile (34 percent), non-road (18 percent), and area (3 percent). While the main sources of VOC emissions are area (41 percent), on-road mobile (35 percent), non-road (23 percent), and point source (1 percent).

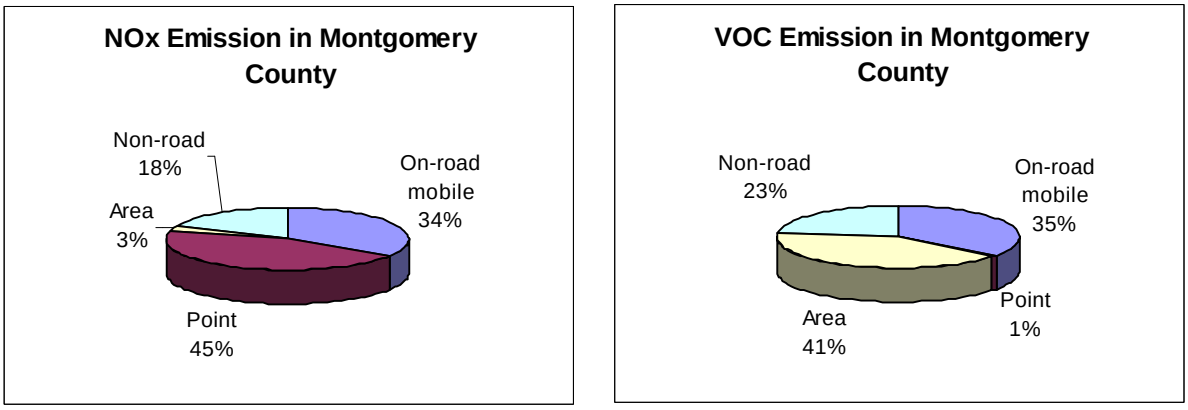

Figure 15 Nitrogen oxides (NOx) and volatile organic compounds (VOC) emissions in Montgomery County. Source: Montgomery County Department of Environmental Protection, 2003.

Similarly, it is expected that Montgomery County will be designated as a "nonattainment" area for the stricter 8 hour ozone standard and the new fine particulate matter (PM 2.5) standard. Montgomery County also has the highest levels of air toxins in Maryland. EPA's toxic database shows that Montgomery County and the surrounding areas have extreme levels, above the 95th percentile, of some notable air toxics such as perchloroethylene (from dry cleaners), diesel particulate matter, and mercury (from power plants).

Air Quality Improvement Strategies

Although Gaithersburg does not conduct its own independent air pollutant monitoring program and does not directly manage regional air quality, local policies can ensure that Gaithersburg is contributing its fair share to improve air quality. Gaithersburg can develop a "Clean Air Counts" initiative, modeled on programs from other localities, that incorporates many of the following strategies.

- **Participate in regional efforts to reduce air pollutants in the Washington, D.C. metropolitan area, such as Montgomery County's Air Quality Protection Strategy.**
- **Educate the community about ways to reduce emissions from public activities (e.g., avoiding outboard motors, car pooling, properly maintained automobiles, alternative transportation options, etc.).**

- **Coordinate with Montgomery County's "Environmental Partners Program" to reduce emissions from area sources, such as service stations, paint manufacturers, dry cleaners, and bakeries.**
- **Promote green building design methods and technologies that support energy efficiency in municipal, residential, and commercial buildings.**
- **Evaluate local government facilities and operations such as municipal buildings, street lighting, recreation facilities, and fleet management for ways to promote energy efficiency and reduce emissions.**
- **Reduce emissions from City fleet and operations by replacing passenger cars with hybrid-electric vehicles or other clean-technology vehicles.**
- **Reduce dependency on automobile travel by providing increased transit opportunities by encouraging development and redevelopment to provide bike lockers/ racks and dressing areas; and by creating sidewalks and biking trails that connect to centers for employment, shopping, and residential areas.**
- **Purchase power from zero emission sources through the County's joint procurement effort. The goal of this program is to purchase five percent of the power from zero emission sources, such as wind energy, that are located within sufficient geographic proximity to provide a local air quality benefit.**
- **Protect and increase tree canopy forest cover in order to remove air pollutants and reduce energy use for heating and cooling. For example, American Forests has developed tree canopy coverage goals for urban and suburban areas. These guidelines recommend: 1) 50 percent tree canopy coverage in suburban residential areas; 2) 25 percent tree canopy coverage in urban residential areas; 3) 15 percent tree canopy coverage in central business districts; and 4) 40 percent tree canopy coverage overall.**
- **Work with Maryland and Montgomery County to publicize such programs as the Small Business Pollution Compliance Loan Fund, Tax Credits for Employer-Provided Commuter Benefits Program, Ozone Action Days, and Commuter Services.**

4. URBAN ENVIRONMENT

Sustaining and enhancing the quality of life and environmental health in our community is a central goal of Gaithersburg's comprehensive plan. As stated in the Maryland Planning Act, a community master plan must include measures that foster resources conservation, including the reduction of resource consumption. Therefore, Gaithersburg must not only focus on protecting natural resources, but also where we build, how we build, and how we consume resources. Sustainable practices and policies are those that synergistically support environmental health and quality, economic well being, and community equity and vitality. Sustaining the quality of the urban environment involves smart growth, green building, sustainable redevelopment and historic preservation, air quality, noise pollution, light pollution, and solid waste and recycling. Through proper planning, Gaithersburg can conserve resources as well as enhance the community's quality of life.

4.1 Smart Growth

Maryland's 1997 General Assembly passed five pieces of legislation and budget initiatives- Priority Funding Areas, Brownfields, Live Near Your Work, Job Creation Tax Credits, and Rural Legacy – known collectively as "Smart Growth." Smart growth combines environmentally-sensitive land development with the goals of minimizing dependence on auto transportation, reducing air pollution, and making infrastructure investments more efficient. One of the key principles of smart growth is preserving open space, farmland, natural beauty, and critical and environmental areas.

Figure 16 Washingtonian Center is an award winning smart growth development that incorporates a mix of uses, a pedestrian friendly streetscape, structured parking, and attractive community spaces.

Baseline Conditions

The City of Gaithersburg, in July 1999, adopted the Smart Growth Policy to provide overall guidance to the City's Master Plan as it relates to land use, transportation, infrastructure, and funding priorities. Adopted as an element of Gaithersburg's Master Plan, the Smart Growth Policy is designed to act as an umbrella policy over all elements of the Plan, and serves to coalesce several existing City programs into a unified policy statement. It provides further guidance as to the quality of development that the City both encourages and anticipates for its future. Under the definitions of the State's Neighborhood Conservation and Smart

Growth legislation, the entire City of Gaithersburg is considered to be an "area appropriate for development."

Smart Growth Strategies

The City has demonstrated its commitment to Smart Growth by developing its own criteria that parallel the State's goals while also addressing the particular needs of Gaithersburg. Further discussion of State Smart Growth priorities and programs as well as Gaithersburg's goals and strategies is located in the *Smart Growth* section of the Master Plan (located elsewhere in the Master Plan).

4.2 Green Building

Buildings significantly impact our natural environment, economy, health, and productivity. Nationally, buildings account for 36 percent of all primary energy use, 65 percent of electricity use, 30 percent of raw materials consumed, and 12 percent of potable water consumed. In addition, building construction and demolition wastes generate 30 percent of all non-industrial waste. Due to the extent that buildings affect the environment, the principle of "green building" has gathered momentum throughout the country. Gaithersburg recognizes that changing the way that buildings are designed, constructed, and operated can have a profound impact on the environment and human health, and therefore encourages "sustainable" or "green" building practices to be applied in both public and private development.

Figure 17 The Chesapeake Bay Foundation's Philip Merrill Environmental Center, in Annapolis, Maryland, was the first building to receive a LEED Platinum Rating from the U.S. Green Building Council.

Green building is a collection of land use, building design, construction, and operation and maintenance strategies that maximizes environmental and economic performance. For example, green building principles and practices include minimizing site disturbance, conserving and reusing water, treating stormwater on-site, maximizing the use of local materials, purchasing recycled materials, optimizing energy performance by installing energy efficient equipment and systems, optimizing climatic control through site orientation and design, integrating natural day-lighting and ventilation, improving indoor air quality to enhance occupant health and comfort, and using renewable energy. At its best, green building regards a building as a

system, and choices made in construction or renovation consider the overall function of the system.

There is a growing body of research conclusively demonstrating that green building yields environmental, human health, and financial benefits. Studies show that students in "green schools" progress more quickly, workers in healthy buildings are more productive, and shoppers buy more in a naturally-lit store. Notable recent research confirms the tremendous cost benefits associated with efficient integrated design. In 2003, *The Costs and Financial Benefits of Green Building,* a report developed for the Sustainable Building Task Force, a group of over 40 Californian state government agencies, concluded that:

> *[A] minimal upfront investment of about two percent of construction costs typically yields life cycle savings of over ten times the initial investment. For example, an initial upfront investment of up to $100,000 to incorporate green building features into a $5 million project would result in a savings of at least $1 million over the life of the building, assumed conservatively to be 20 years.*

The financial benefits include lower resource consumption during construction and throughout the life of the structure which consequently reduces costs for energy, waste disposal, water, emission costs, and materials; lowers operation and maintenance costs; and provides savings from enhanced occupant health and productivity. These findings clearly support sustainable design and reinforce the fact that building green makes financial and environmental sense for both the public and private sector.

Baseline Conditions

Under the guidance of the Environmental Affairs Committee, the City of Gaithersburg is working to expand its programs for smart growth and environmental protection to include the promotion of green building. As one of the first steps in this process, Gaithersburg has become one of the first cities of its size to be accepted into the U.S. Green Building Council (USGBC). The USGBC is a national coalition of leaders from across the building industry that are working to promote buildings that are environmentally responsible, profitable, and healthy places to live and work. The USGBC has developed the Leadership in Energy & Environmental Design (LEED™) Green Building Rating System, as a nationally accepted standard for green buildings. LEED™ is a self-assessing system that allots points within seven specific categories; including site location, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality.

Gaithersburg continues to focus on educating staff and the community about green building. The City developed web pages for the community and organized green building training sessions and tours. The City also incorporated sustainability requirements in new building projects and is using architects and engineers with

green experience. Due to these changes in bid and contracting requirements, the City anticipates that the new Youth Center will receive LEED™ certification and become the City's first green building.

The City is also working to adopt policies and programs to encourage the development of green buildings without forcing excessive costs or other burdens upon developers, building owners, or occupants. In October of 2003, Gaithersburg's citizen-based Environmental Affairs Committee collaborated with the Mayor and City Council to adopt a Green Building Incentive Program to provide financial incentives to developers who make their projects more environmentally friendly. In order to promote green building awareness and assess a building's environmental performance, the City requires new commercial, institutional, or multi-family development to complete and submit a LEED™ checklist as part of the site plan and building permit application process. As found in Appendix E, this checklist allows the developer to assess the options for including green components in a project. The LEED™ points system corresponds to four different levels of certification that measure a project's overall environmental performance. The points generated by the LEED™ checklist are used to determine the reduction in building permit fees. Essentially, the more environmentally friendly the project, the larger the discount the developer will receive.

This program seeks to cultivate green building awareness in the local community and encourage developers to adopt design and construction techniques that reduce the environmental impact of buildings. Gaithersburg hopes that this program will benefit the building's owners, occupants, and the community by reducing operation and maintenance costs, creating healthier and safer indoor environments, and reducing the demand for natural resources, energy, water and sewer services, landfills, storm sewers, and transportation infrastructure.

Green Buildings Strategies

Gaithersburg's Green Building Program seeks to: 1) educate staff, the local development community, and citizens about the principles and benefits of green building; 2) promote green building in municipal projects; and 3) encourage builders and developers to incorporate "green components" in private construction projects. The following strategies are designed to accomplish these goals.

- **Train City staff, who review site plans and building permit applications, to review plans against LEED criteria and suggest alternatives and improvements.**
- **Train facilities personnel in green maintenance principles.**
- **Provide education and technical support to residents, business owners, developers, and contractors on a variety of green building topics (e.g., green building materials, innovative stormwater management practices, green specifications, improving energy efficiency, construction recycling, green renovation, etc.).**

- **Continue to promote the Green Building Incentive Program which requires commercial, institutional and high-rise residential buildings to complete and submit a LEED™ scorecard and offers a tiered building permit fee reduction incentive, per the LEED™ rating system, to developers who design and construct green buildings.**
- **Require that all municipal facilities, City funded projects, and infrastructure projects be constructed, renovated, operated, maintained, and deconstructed using green building, low impact development, waste management, and conservation landscaping principles and practices to the fullest extent possible.**
- **Continue to incorporate sustainable requirements in bid requests for new municipal building projects or renovations and utilize construction consultants with green experience.**
- **Continue to perform energy audits of existing City facilities and implement energy retrofits when appropriate.**
- **Develop green maintenance procedures (e.g., structural integrity, indoor air quality, mechanical and electrical system performance, basic cleanliness, pest control, and indoor/outdoor traffic patterns) for City facilities in order to determine best maintenance and retrofit options.**
- **Continue to investigate federal and state funding sources to promote training, technical support, and capital improvement projects. Likely funding sources include Maryland Energy Administration (MEA), U.S. Department of Energy (DOE), the Urban Consortium Energy Task Force (UECTF), U.S. Environmental Protection Agency (EPA), Maryland Community Energy Loan Program, Maryland Department of Natural Resources (DNR), Public Technology, Inc. (PTI), and the US Green Building Council.**
- **Investigate incentives and disincentives to minimize solid waste from new construction, renovation, remodeling, and demolition projects and develop tools and strategies (e.g., Solid Waste Management and Recycling Plans) to minimize such waste.**

4.3 Sustainable Redevelopment and Historic Preservation

While redevelopment and infill are desirable to improve economic performance, they should also strive to "re-naturalize" the built environment. This means protecting or re-engineering nature's ability to filter, store, infiltrate, evaporate, and cycle resources. When combined with effective watershed planning, these measures will not only help to protect or restore the local watershed, but they can also reduce overall development costs, make communities healthier and more attractive, conserve resources, and promote groundwater recharge. Gaithersburg promotes sustainable site design in redevelopment and infill projects in order to reduce pollutants and improve the environmental quality of the development site in an urbanized watershed.

Figure 18 The redevelopment of Olde Towne Gaithersburg improves economic performance, concentrates a mix of uses around public transit, and preserves open space for community recreation.

Historic preservation is another important factor to consider during redevelopment because our historic buildings, neighborhoods, and landscapes are important to our community's legacy. Historic resources may include buildings representative of a period or style; architecturally important buildings; sites of important events or activities; sites associated with important personages; sites with the potential for adaptive reuse; buildings, landscapes, or sites of historic or cultural value; and archeological sites. The *Historic Preservation Element* of the Master Plan provides an inventory of the City's historic and cultural resources and outlines protection, preservation, and reuse strategies. These resources should be identified in the site plan's Natural Resource Inventory (NRI) and protected during the development review process.

Sustainable Redevelopment Strategies

The following site development practices are techniques to protect and enhance natural resources, water quality, and habitat in the highly constrained setting of urban infill and redevelopment.

- **Require new development to comply with light pollution reduction guidelines, when feasible.**

- **Encourage adaptive reuse of buildings or reuse or recycling of building materials. This includes developing tools and strategies to reduce waste from renovation and remodeling projects.**
- **Strongly encourage shared parking/access options for redevelopment; especially sites in Olde Towne and along the Frederick Avenue Corridor.**
- **Require redevelopment to offer storage and collection facilities for recyclables.**
- **Require developers to complete stream restoration and stormwater management retrofit projects that are critical to improving the condition of streams and watersheds; especially in areas identified as critical in stream assessments and watershed studies.**
- **Require redevelopment to include Natural Resource Inventories (NRI) to identify existing natural resources and conditions and develop protection and restoration strategies where feasible.**
- **Encourage innovative design techniques to preserve vegetation, minimize impervious surfaces, maximize sheet flow and groundwater infiltration, and decrease the heat island effect on stream temperatures. Where possible, the amount of impervious cover should be reduced or kept the same. In situations where impervious cover does increase, sites should be designed to improve the quality of stormwater runoff at the site or in the local watershed.**
- **Plan and design sites to preserve existing specimen trees, landscape buffers, and natural vegetated areas and enhance landscaping in sites lacking vegetation.**
- **Establish mechanisms to guarantee long term management and maintenance of all vegetated areas.**
- **Manage rooftop runoff through storage, reuse, and/or redirection to permeable surfaces for stormwater management and other environmental benefits.**
- **Parking lots, especially surface lots, should be minimized and designed to reduce, store, and treat stormwater runoff.**
- **Design the streetscape to minimize, capture, and reuse stormwater runoff. Where possible, provide planting spaces to promote the growth of healthy street trees while capturing and treating stormwater runoff.**
- **Create courtyards, plazas, and amenity open spaces to provide quality community space, habitat, and stormwater management.**
- **Design sites to maximize transportation choices to reduce air pollution.**

4.4 Noise Pollution

Excessive noise can be a nuisance and is often considered an environmental problem. Excessive noise adversely affects the public welfare in a number of ways, such as interfering with sleep, conversation, and other activities. Intrusive noise may also significantly reduce the use and enjoyment of indoor and private outdoor areas. Additionally, excessive noise exposure causes a number of potentially serious health effects, including hearing loss, high blood pressure, heart disease, stroke, and ulcers.

Figure 19 Automobile and truck traffic along major roadways is a significant source of noise pollution. Noise walls, as illustrated above, are constructed to mitigate noise in severe circumstances.

Baseline Conditions

In Gaithersburg, sources of nuisance noise include public or quasi-public facilities such as highways, arterial roads, and railroads. These noise sources tend to be difficult to control. The most significant source of noise is generated by automobile and truck traffic along major roadways, such as Interstates 270 and 370. The *Environmental Standards* rely on Montgomery County standards for noise. The general guideline for the maximum outdoor noise levels, in a residential area, is an Ldn (day-night level) of 60 dBA. This is the guideline for the design and location of future development and is a goal for the reduction of existing noise when feasible.

Noise Management Strategies

The construction of noise barriers such as walls, berms, and/or vegetation have proven somewhat helpful in reducing noise from highways, but noise cannot be entirely eliminated. The following strategies are aimed at reducing the generation and effects of nuisance noise.

- **Require new development or redevelopment of land adjacent to a major noise source, such as mass transitways, interstates, or other major transportation routes, to conduct noise monitoring to determine ambient and peak noise levels prior to the submittal of a preliminary concept site plan.**
- **Require new development or redevelopments of land adjacent to a major noise source to utilize noise reduction and noise-compatible site design for noise abatement.**

- **Place parking lots, open spaces, garages, recreation areas, and other non-habitable uses of the property in the noise affected area between the noise sources and residential units.**
- **Require acoustical treatment (soundproofing materials, double glaze windows) on affected structures when feasible.**
- **Construct physical barriers such as landscaped berms and noise walls when other options are infeasible and when compatible with aesthetic concerns.**
- **Screen and control noise sources such as parking, outdoor activities, and mechanical equipment.**
- **Increase setbacks for noise sources from adjacent dwellings.**
- **Control hours of operation, including deliveries and trash pickup, to minimize noise impacts.**

4.5 Light Pollution

The objective of any outdoor lighting system is to maximize visibility in performing a given task, while minimizing the amount of energy and associated costs used in producing the light. Appropriately designed and properly installed, outdoor lighting contributes to the safety and welfare of residents, customers, and visitors by increasing pedestrian and vehicular safety, enhancing a community's nighttime character, advertising commercial businesses, and providing security. A well-designed lighting system should produce no more lighting than is necessary for a given task and direct the light only where it is needed. Unfortunately, inappropriately designed outdoor lighting applications in both rural and urban areas have created an extensive light pollution problem throughout the nation. "Light pollution" refers to the undesired consequences of inappropriate outdoor lighting: glare, over-lighting, light trespass, sky glow, and wasted energy. "Glare" is caused by overly bright lights in street lamps, parking lot lights, and building floodlights. "Light trespass" is the light crossing over property lines and shining into adjacent yards and windows. "Skyglow" is the dull ruddiness in the sky that is caused by uplighting from street lamps, signs, billboards, and buildings. As our population increases, light pollution becomes an increasing problem. Light pollution disrupts sleep patterns, is linked to some cancers, impairs star gazing, and is devastating to the breeding, hunting, and migration habits of wildlife. The intent of reducing light pollution is to eliminate light trespass from the building and site, improve night sky access, conserve energy, and reduce development impact on nocturnal environments.

Figure 20 Inappropriate lighting can result in glare, light trespass, sky glow, and wasted energy.

Baseline Conditions

In 2001, the City recognized the need to reduce light pollution and began to research and develop outdoor lighting standards. In addition, House Joint Resolution 14 of 2001 Regular Session of the Maryland General Assembly created the "Task Force to Study Lighting Efficiency and Light Pollution in Maryland." The purpose of the Task Force was to study the cost, extent, and consequences of inefficient public lighting and light pollution in the State, and the benefits of alternative improvements. In addition to the Task Force's recommendations, the US Green Building Council's LEED™ checklist, which the City requires for new commercial, institutional, and high rise residential development, also provides recommendations on ways to reduce light pollution. After holding a series of work sessions on outdoor lighting standards, the Mayor and City Council determined that the Task Force's March 2002 report and the outdoor lighting standards developed by staff should be used as criteria to evaluate lighting plans during the plan review process. Accordingly, developers are now required to submit a LEED checklist and photometric plans for most site plans.

Light Pollution Reduction Strategies

According to the Task Force to Study Lighting Efficiency and Light Pollution in Maryland, March 2002 report, there is no single best answer to achieve efficient/cost effective lighting because there are numerous appropriate applications and equipment technologies. Therefore, the following Task Force recommendations, the City's outdoor standards, and LEED™ strategies should be used as guidelines during plan review to prevent and reduce light pollution.

- **Meet or provide lower light levels and uniformity ratios than those recommended by the Illuminating Engineering Society of North America (IESNA) *Recommended Practice Manual: Lighting for Exterior Environments* (RP-33-99),**
- **Require development and redevelopment to choose luminaries that distribute the light only where it is needed, minimizing light pollution and unnecessary energy consumption.**
- **Lighting plans should evaluate and consider appropriate lamp source color; lamp types that maximize visibility per lumen output, as well as maximizing lumen output per input watt of energy; lamps with longer life ratings; and appropriate efficient ballasts.**
- **Layout lights to avoid spillover onto adjacent property, and choose appropriate pole heights.**
- **Cutoff type luminaries should be used wherever possible and appropriate. Light allowed to project skyward is wasted, both from an energy standpoint, and relative to maintaining a dark sky.**

- **Safety must be addressed as the primary concern; lighting should not be designed in such a way as to jeopardize safety.**
- **Residential, low wattage, and temporary lighting systems (such as those used for holidays or at nighttime work areas) should be exempted from such standards; but nonetheless, effort should be made to achieve energy efficiency and control of light.**

4.6 Solid Waste and Recycling

Solid waste management is an important environmental issue due to the fact that landfills and incinerators are often significant contributors to groundwater, soil, and air contamination. Practicing the 3 Rs- Reduce, Reuse, and Recycle; composting; and disposing of hazardous waste properly are important components of waste management.

Figure 21 Placing yard waste in paper bags for compost collection can significantly reduce the amount of solid waste that is sent to the incinerator and the landfill.

- ***Reduce*** the amount and toxicity of the trash discarded. Source reduction, often called waste prevention, means consuming and throwing away less. Source reduction includes purchasing durable, long-lasting goods and seeking products and packaging that are as free of toxics as possible. Because source reduction actually prevents the generation of waste in the first place, it is the most preferable method of waste management.
- ***Reuse*** containers and products, repair broken items, donate or sell used goods. When shopping, choose reusables over disposables and avoid using products that are designed to be used only once or a few times. Reusing, when possible, is preferable to recycling because the item does not need to be reprocessed before it can be used again.
- ***Recycle*** as much as possible, which includes buying products with recycled content. These practices will limit the amount of pollution generated and ensure that it does not enter the environment. Recycling transforms materials that would otherwise become waste into valuable resources and generates a host of environmental, financial, and social benefits.
- ***Composting*** is the controlled decomposition of biodegradable organic materials into a soil-like material. Yard trimmings and food scraps make up about 25 percent of the waste U.S. households generate, so composting can greatly reduce the amount of waste that ends up in landfills or incinerators.

- ***Household hazardous waste***, such as pesticides, car batteries, paint thinners and solvents, fluorescent bulbs, used motor oil, swimming pool chemicals, and oil-based paints can contaminate groundwater and soil and harm human health. Instead of putting hazardous materials in the garbage or pouring them down the drain, residents should bring them to Montgomery County's collection sites on the published dates, free of charge.

Baseline Conditions

Figure 22 Gaithersburg's used oil and antifreeze recycling collection center is a free and easy service located on Rabbitt Road.

The City of Gaithersburg promotes waste reduction and recycling. The City contracts with a private hauler for the collection of newspapers, mixed paper, corrugated cardboard, commingled cans, glass containers, and plastic bottles. The recycling contractor also collects brush, branches, grass clippings, leaves and other yard trimmings when placed in biodegradable brown paper bags and set at the curb on regularly scheduled recycling days. For residents without recycling services, the City encourages residents to use the free and convenient recycling drop-off service at the Public Works facility on Saturdays. The facility accepts newspapers, commingled cans, glass, plastics, corrugated cardboard, magazines, catalogues, and telephone books. In addition, in order to prevent illegal dumping of automobile fluids down the storm drain, the City offers free 24-hour used oil and antifreeze collection at the Public Works facility on Rabbitt Road.

Pollution Prevention Strategies

The following strategies are aimed at preventing and reducing solid waste.

- **Continue to participate in regional efforts to reduce solid waste.**
- **Require new development and redevelopment to provide accessible areas for the separation, collection, and storage of recyclables.**
- **Continue to educate and publicize recycling and the proper use and disposal of household hazardous wastes.**
- **Continue to publicize the used oil and antifreeze collection facility.**
- **Examine municipal operations and purchasing policies to reduce unnecessary consumption of natural resources.**
- **Develop a mandatory recycling program for multifamily apartments (e.g., research Montgomery County's policies, provide education and outreach, and evaluate enforcement options).**

- **Promote voluntary commercial recycling (e.g., survey existing operations, provide education and outreach, and consider incentives).**
- **Investigate incentives and disincentives to minimize solid waste from new construction, renovation, remodeling, and demolition projects and develop tools and strategies (e.g., Solid Waste Management and Recycling Plans) to minimize such waste.**

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6. APPENDICES

Appendix A: Overview of the Fundamental Environmental Regulations and Policies Guiding the Planning Process in Gaithersburg, Maryland

Environmental Goal	Federal, State, and Local Mandates and Programs
Maintain water quality	• Federal Clean Water Act • Resources Conservation and Recovery Act (RCRA) • Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) • MD Water Pollution Law (COMAR 26.08) • MD Erosion and Sediment Control Law (COMAR 26.17.01) • MD Stormwater Management Law (COMAR 26.17.02) • Countywide Stream Protection Strategies • Gaithersburg Environmental Standards for Development Regulation • Gaithersburg Sediment and Erosion Control and Stormwater Management Ordinance (Chapter 8) • Gaithersburg National Pollutant Discharge and Elimination System (NPDES) Phase II Permit
Preserve wetlands and sensitive areas	• Federal Clean Water Act • US Army Corps of Engineers Regulations • MD Non-tidal Wetlands Law (COMAR 26.23) • MD State Planning Act • Gaithersburg Environmental Standards for Development Regulation
Provide for water and sewer service	• MD Water Supply, Sewerage, Solid Waste, and Pollution Control Planning and Funding Law (COMAR 26.03) • Washington Suburban Sanitation Commission (WSSC)
Minimize erosion and sedimentation	• MD Erosion and Sediment Control Law (COMAR 26.17.01) • Gaithersburg Sediment and Erosion Control and Stormwater Management Ordinance (Chapter 8)
Protect against flooding	• Federal Emergency Management Agency • MD Stormwater Management Law (COMAR 26.17.02) • Gaithersburg Floodplain Management Ordinance (Chapter 10) • Gaithersburg Sediment and Erosion Control and Stormwater Management Ordinance (Chapter 8)
Plan for forest conservation	• MD Forest Conservation Law (COMAR 08.19) • Gaithersburg Trees and Vegetation Ordinance (Chapter 21) • Gaithersburg Trees and Forest Conservation Ordinance (Chapter 22)
Preserve unique and beautiful natural areas	• MD Scenic Rivers Act • MD Greenways Program • MD Rural Legacy Program

Environmental Goal	Federal, State, and Local Mandates and Programs
Preserve biodiversity	• Federal Endangered Species Act • MD Wildlife Law (COMAR 08.03) • MD Threatened and Endangered Species Law (COMAR 08.03.08) • Maryland Planning Act
Place utilities sensitively	• Gaithersburg Environmental Standards for Development Regulation • Gaithersburg Excavation of Underground Utility Facilities Ordinance (Chapter 9)
Protect air quality	• Federal Clean Air Act • Maryland Air Quality Law (COMAR 26.11) • Maryland State Implementation Plan (SIP) • Montgomery County Air Quality Control Ordinance (Chapter 3)
Provide for solid waste management	• Montgomery County Waste Management Plan • Gaithersburg Refuse and Garbage Ordinance (Chapter 18)
Manage noise	• Montgomery County Planning Board Technical Noise Guidelines • Gaithersburg Offenses—Miscellaneous Ordinance (Chapter 15)

Appendix B: Central Maryland Native Plants

This following is a general list of common native species found to Central Maryland. Plants highlighted with "*" indicate the plant species is highly ornamental and "**" indicate the plant species is of special importance for wildlife.

This information is adapted from Native Plants for Central Maryland Landscapes (Piedmont and Inner Coastal Plain), a 1999 publication compiled by Louisa Thompson for Maryland Cooperative Extension. The entire text is available online at: http://www.mdflora.org/publications/natplants.html.

Riverbank, Wetland, and Bottomland Native Plants

Type	Common Name	Scientific Name	Description
Tall Trees	Red Maple *	*Acer rubrum*	Orange to red fall foliage
	Silver Maple	*Acer saccharinum*	Grows only on riverbanks and near springs
	River Birch *	*Betula nigra*	Peeling, pinkish bark is interesting and attractive, especially in winter
	Bitternut Hickory	*Carya cordiformis*	
	White Ash	*Fraxinus americana*	
	Sycamore *	*Platanus occidentalis*	Peeling bark, snow-white crown stands out in winter
	Swamp White Oak	*Quercus bicolor*	Grows mainly on the coastal plain
	Pin Oak	*Quercus palustrus*	Pyramidal shape, lower branches droop to the ground
	American Elm	*Ulmus americana*	Still common in natural sites despite Dutch elm disease
Medium Trees	Box Elder (Maple)	*Acer negundo*	
	Persimmon	*Diospyros virginiana*	
	Green Ash	*Fraxinus pennsylvanica var. integerrima*	
	Sweetgum *	*Liquidambar styraciflua*	Star shaped leaves, bright fall foliage (yellow, orange, or red)
	Black or Sour Gum (Tupelo) *	*Nyssa sylvatica*	Bright red fall foliage
	Willow Oak	*Quercus phellos*	Leaves are willow like
	Black Willow	*Salix nigra*	
	Slippery Elm	*Ulmus rubra*	
Small Trees	Pawpaw	*Asimina triloba*	
	Ironwood/Hornbeam *	*Carpinus caroliniana*	Gracefully twisted trunk (slow growing)
	Serviceberry *	*Amelanchier canadensis*	Lovely white flowers in early spring
	Hackberry **	*Celtis occidentalis*	Larval host for 7 species of *Lepidoptera*; sole larval host for the rare Hackberry Butterfly
	Fringetree *	*Chionanthus virginicus*	Spectacular large clusters of aromatic white flowers in late spring
	Sweetbay Magnolia *	*Magnolia virginiana*	Evergreen, white flowers in June

Type	Common Name	Scientific Name	Description
Shrubs	Smooth Alder	*Alnus serrulata*	
	Buttonbush	*Cephalantus occidentalis*	
	Sweet Pepperbush * **	*Clethra alnifolia*	More common on Eastern shore– showy white flower spikes in summer, very attractive to butterflies
	Hazelnut	*Corylus americana*	
	Silky Dogwood	*Cornus amomum*	
	Witch Hazel	*Hamamelis virginiana*	
	Inkberry *	*Ilex glabra*	Evergreen holly, grows to 6-8'
	Winterberry *	*Ilex verticillata*	Deciduous holly, bright red berries in winter, grows to 6-10'
	American Elderberry	*Sambucus canadensis*	Huge cymes of white flowers in June
	Southern Arrowwood	*Viburnum dentatum*	Found on coastal plain
	Swamp Azalea *	*Rhododendron viscosum*	Beautiful, aromatic white flowers in June
	Swamp Rose *	*Rosa palustris*	Single pink flowers
Emergent Herbaceous Plants	Sweet Flag	*Acorus calamus*	
	Hardy Hibiscus *	*Hibiscus moscheutos*	Huge flowers
	Blue Flag *	*Iris versicolor*	Large blue flowers
	Yellow Pond Lily	*Nuphar advena*	
	Fragrant Water Lily *	*Nymphaea* odorata	White flowers; our only native water lily
	Lotus Lily *	*Nelumbo lutea*	Small pale yellow flowers; interesting seedpods
	Pickerelweed	*Pontederia cordata*	
	Arrowhead	*Sagittaria latifolia*	
	Lizard's Tail *	*Saururus cernuus*	Tail-like white flower spikes
Herbaceous Plants for Wet Soil	Green Dragon	*Arisaema dracontium*	
	Wild Ginger	*Asarum canadense*	A deciduous ground cover
	Swamp Milkweed **	*Asclepius incarnata*	Pink flowers, larval host for monarch butterfly
	New England Aster	*Aster novae-angliae*	Purple flowers bloom 2-3 months in fall
	Trout Lily (Dogtooth Violet)	*Erythronium americanum*	Small yellow lily-shaped flowers in early spring
	Boneset	*Eupatorium perfoliatum*	A shorter, white-flowered relative of Joe Pye weed
	Joe Pye Weed **	*Eupatorium fistulosum, E. maculatum, E. purpureum, E. dubium*	Extraordinary huge clusters of mauve flowers, up to 8' tall, very attractive to butterflies
	Cardinal Flower **	*Lobelia cardinalis*	Bright red flowers, attractive to hummingbirds
	Virginia Bluebells	*Mertensia virginica*	Striking blue flowers in spring
	Wild Blue Phlox	*Phlox divaricata*	Pale blue or pink flowers in spring
	Green Coneflower	*Rudbeckia laciniata*	Yellow flowers with green cones, tall
	New York Ironweed	*Vernonia noveboracencis*	Magenta to purple flowers in large clusters
	Yellow Violet	*Viola pennsylvanica*	
	Golden Alexanders	*Zizia aptera*	Yellow flowers in umbels (like parsley or Queen Anne's lace)

Native Plants for Rich, Moist Woods

Type	Common Name	Scientific Name	Description
Tall Trees	White Oak *	*Quercus alba*	Shaggy bark on the middle portion of the trunk makes it ornamental in winter; excellent shade tree; leaves have rounded lobes. White oak acorns are sweet and sprout quickly so are eaten in fall
	Southern Red Oak	*Quercus falcata*	Leaves have few lobes (pointed); bark appears striped; red and black oak acorns have a lot of tannin and are buried by squirrels to mellow before eating
	Northern Red Oak	*Quercus rubra*	Leaves have pointed lobes; bark appears striped
	Black Oak	*Quercus velutina*	Very large leaves with pointed lobes
	Red Maple *	*Acer rubrum*	Attractive tree with red/orange fall foliage, but now rapidly expanding out of its original swamp habitat
	Mockernut Hickory *	*Carya tomentosa*	Very large terminal leaflet, aromatic foliage turns gold in late fall
	American Beech * **	*Fagus grandifolia*	Pale gray bark; young trees keep their leaves through the winter; beechnuts are high-quality food for mammals and large birds
	White Ash	*Fraxinus americana*	
	Tulip Poplar	*Liriodendron tulipifera*	A "pioneer" tree, it needs full sun and shades out (and drops) its own lower branches. Don't allow it to grow close to a house.
Medium Trees	Persimmon *	*Diospyros virginiana*	Checkered bark and fruits hanging on tree provide winter interest
	American Holly *	*Ilex opaca*	Evergreen, handsome pyramidal shape when grown in the open, but found as an understory tree in the wild
	Black or Sour Gum (Tupelo) *	*Nyssa sylvatica*	Bright red fall foliage
	Black Cherry * **	*Prunus serotina*	Flowers are ornamental; fruits are staple food for many birds; leaves are larval host for spring azure, Eastern tiger swallowtail, and red-spotted purple butterfly and many other butterfly and moth species. Black cherry is a pioneer tree.
	Sassafras * **	*Sassafras albidum*	Mitten-shaped leaves, brilliant orange fall foliage; larval host for Spicebush Swallowtail butterfly
	Red Mulberry **	*Morus rubra*	Hard to find because of competition from non-native white mulberry. The native has large leaves with few or no lobes; the exotic has two or more lobes on most of its leaves, and usually has dark purple fruit.

Type	Common Name	Scientific Name	Description
Small Trees	Dogwood *	*Cornus florida*	
	Redbud *	*Cercis canadensis*	Deep pink, pea-like flowers all along stem, heart-shaped leaves
	Black Haw *	*Viburnum prunifolium*	Creamy white, flat flower clusters in May; extremely scaly light brown bark provides winter interest
	Serviceberry *	*Amelanchier canadensis*	Lovely white flowers in early spring
	Hackberry **	*Celtis occidentalis*	Larval host for 7 species of *Lepidoptera*; sole larval host for the rare Hackberry Butterfly
	Fringetree *	*Chionanthus virginicus*	Spectacular large clusters of aromatic white flowers in late spring
Shrubs	Spicebush * **	*Lindera benzoin*	Most common shrub in the piedmont – tiny yellow flowers all along stem in late March, red berries in winter; larval host for Spicebush Swallowtail butterfly
	Red Chokeberry *	*Aronia arbutifolia*	White flowers in spring, red berries often last all winter
	Strawberry Bush	*Euonymus americanus*	
	Virginia Sweetspire * **	*Itea virginica*	Fragrant white flower spires; height 3-5'; good butterfly nectar plant
	Smooth Arrowwood	*Viburnum recognitum*	
Herbaceous Plant for Shade-Ferns	Maidenhair Fern *	*Adiantum pedatum*	Leaves attached to an unusual semicircular stem
	Sensitive Fern	*Onoclea sensibilis*	Leaflets rather amorphous in shape
	Common Polypody	*Polypodium virginianum*	
	Christmas Fern *	*Polystichum acrostichoides*	Most common – evergreen
	New York Fern	*Thelypteris noveboracensis*	Narrows toward base as well as toward tip
Herbaceous Plant for Shade-Evergreen Ground Cover	Partridgeberry	*Mitchella repens*	Tiny leaves, covers ground slowly, thinly
	Golden Ragwort *	*Senecio aureus*	Handsome, scalloped, kidney-shaped leaves; golden dandelion-like flowers on tall stems in spring; covers densely, spreads quickly – may be too aggressive in sun

Type	Common Name	Scientific Name	Description
Spring Wildflowers*	Jack in the Pulpit	*Claytonia virginiana*	Corms provide winter food for small mammals
	Cut-leaved and Slender Toothwort	*Dentaria laciniata*	
	Dutchman's Breeches **	*Dicentra cucullaria*	Corms provide winter food for small mammals
	Wild Geranium	*Geranium maculatum*	
	Round- and Sharp-lobed Hepatica	*Hepatica americana*	
	Virginia Waterleaf	*Hydrophyllum virginianum*	
	Showy Orchis	*Orchis spectabilis*	
	Smooth Sweet Cicely **	*Osmorhiza longistylis*	Carrot family member, presumed to be a native larval host of Eastern black swallowtail butterfly; flowers small, not showy
	Mayapple	*Podophyllum peltatum*	
	Solomon's Seal	*Polygonatum biflorum*	
	Bloodroot	*Sanguinaria canadensis*	
	False Solomon's Seal	*Smilacina racemosa*	
	Star Chickweed	*Stellaria pubera*	
	Perfoliate Bellwort	*Uvullaria perfoliata*	
	Common Blue Violet	*Viola papilionacea*	
Summer Wildflowers*	Black Cohosh **	*Cimicifuga racemosa*	Larval host for the rare Appalachian Blue butterfly; blooms in June
Fall Wildflowers	Common Blue Wood Aster	*Aster cordifolius*	Blue flowers, often with pink centers
	Upland Boneset*	*Eupatorium sessifolium*	A white-flowered Joe Pye weed
	Blue-stem Goldenrod	*Solidago caesia*	One of the prettier goldenrods, with a long string of small flower clusters in the leaf axils

Native Plants for Steep, Rocky Slopes

Type	Common Name	Scientific Name	Description
Tall Trees	Chestnut Oak **	*Quercus prinus*	
	Pignut Hickory **	*Carya glabra*	
	American Beech **	*Fagus grandifolia*	
Medium Trees	Sassafras **	*Sassafras albidum*	Larval host for spicebush swallowtail butterfly
Small Trees	American Chestnut	*Castanea dentata*	Chestnuts still re-sprout from the roots, but rarely grow more than 20' tall before they are killed by the blight. However, research is under way to allow the trees to survive.
	Redbud * **	*Cercis canadensis*	Can grow on steep slopes as long as the soil is rich (e.g., has some limestone in it) and well-watered; the nectar source for Henry's elfin butterfly, larval host for several butterflies and moths.
Shrubs	Huckleberries	*Gaylussacia species*	Can tolerate acid soil but grow wherever there is little competition, e.g., on these eroded slopes
	Witch Hazel **	*Hamamelis virginiana*	Found next to streams, including on steep slopes – sole nectar source for the night-flying moth that pollinates it in fall.
	Mountain Laurel *	*Kalmia latifolia*	Important for erosion control, as it forms large colonies on the steepest slopes.
	Wild Pink Azalea *	*Rhododendron periclymenoides*	Deciduous, but a beautiful shrub.
	Highbush Blueberry	*V. corymbosum*	
	Maple-Leaf Viburnum	*Viburnum acerifolium*	
Groundcovers	Striped or Spotted Wintergreen	*Chimaphila maculata*	
	Trailing Arbutus *	*Epigaea repens*	
Herbaceous Plants	Maidenhair Fern	*Adiantum pedatum*	Fronds grow from outer side of semicircular stem
	Rue Anemone	*Anemonella thalictroides*	White flowers in spring
	Alumroot	*Heuchera americana*	Evergreen foliage, sprays of greenish or reddish flowers in spring
	Christmas Fern	*Polystichum acrostichoides*	Evergreen fern, needs moisture
	Wild Stonecrop	*Sedum ternatum*	White flowers in spring, evergreen fleshy foliage
	Wild Pink	*Silene caroliniana*	Pink flowers in spring
	Star Chickweed	*Stellaria pubera*	White flowers in spring, exceptionally showy

Native Plants for Dry Ridge tops and Sunny Sites

Type	Common Name	Scientific Name	Description
Tall Trees	Scarlet Oak * **	*Quercus coccinea*	The brightest red fall foliage of our indigenous oaks
	Tulip Poplars		
	Red Maples		
Medium Trees	Black Cherry * **	*Prunus serotina*	A pioneer tree on cleared sites, also grows in shade – flowers are quietly ornamental, not showy; fruits are staple food for many birds; leaves are larval host for spring azure, Eastern tiger swallowtail, and red-spotted purple butterfly and other butterfly and moth species.
	Post Oak	*Quercus stellata*	Found on very poor, dry soils
	Red Mulberry **	*Morus rubra*	Very hard to find because of competition from the non-native White Mulberry, which may also be the source of the root disease that kills off many of the natives. The native has large leaves with few or no lobes; the exotic has smaller leaves with two or more lobes on most of them, and usually has dark purple fruit.
Small Trees	Redbud *	*Cercis canadensis*	deep-pink pea-like flowers all along stem, heart-shaped leaves
	Dogwood *	*Cornus florida*	although in the wild it grows in partial shade, it also thrives in sun and is actually more likely to escape or survive the anthracnose disease because of lower humidity
	Black Haw *	*Viburnum prunifolium*	creamy white, flat flower clusters in may; extremely scaly light brown bark provides winter interest
Shrubs	Pasture Rose *	*Rosa carolina*	single pink flowers, usually solitary, sometimes in small clusters
Groundcovers	Moss Phlox *	*Phlox subulata*	thrives in minimal soil with excellent drainage; this is available at garden centers. In the wild, the flowers are usually white or very faintly colored.

Appendix C: Invasive Non-Native Plants in the Mid-Atlantic Region

The following is a list of invasive non-native plants and weeds which are causing significant changes to natural areas in the Mid-Atlantic. Planting and propagating these species should be avoided. Following each section, in grey, is a list of alternative native plants to be planted as substitutes for these invasive species. These alternatives are native plants, well adapted and needing little care, attractive to birds and butterflies, and an important part of the food web for our indigenous species. Additional information regarding invasive species control measures is available online.

This information is adapted from Control of Invasive Non-Native Plants: A Guide for Gardeners and Homeowners in the Mid-Atlantic Region (March, 1999) compiled by Louisa Thompson, Master Gardener Consultant, for Maryland Cooperative Extension. The text in its entirety is available online at http://www.mdflora.org/publications/invasives.htm

Type	Common Name	Scientific Name	Description	Detrimental Effects
Most Invasive Non-Native Weeds	Garlic Mustard	*Alliaria petiolata, A. officinalis*	White-flowered biennial with rough, scalloped leaves (kidney-, heart- or arrow-shaped), recognizable by the smell of garlic and taste of mustard when its leaves are crushed	
	Japanese or Vietnamese Stilt Grass, Eulalia	*Microstegium vimineum*	Lime-green, with a line of silvery hairs down the center of its 2-3" blade	Tolerates sun or dense shade and quickly invades areas left bare or disturbed by tilling or flooding; An annual grass, it builds up a large seed bank in the soil
	Mile-a-Minute Vine, Devil's Tail Tearthumb	*Polygonum perfoliatum*	Rapidly growing annual vine with triangular leaves, barbed stems, and turquoise berries spread by birds	Quickly covers and shades out herbaceous plants
	Japanese Perilla, Beefsteak Plant	*Perilla frutescens*	Salad plant, member of the mint family; An odd odor, like raw beef when you rub it	Extremely invasive by wind-borne seeds
	Spotted Knapweed	*Centaurea maculosa*	A biennial with thistle-like flowers	
	Canada thistle, Bull thistle	*Cirsium arvense, C. Vulgare*	Exotic thistles are more common than natives. If unidentifiable, it is better to remove it	

Type	Common Name	Scientific Name	Description	Detrimental Effects
Medium to Tall Invasive, Non-Native Trees	Norway Maple	*Acer platanoides*	Large leaves similar to sugar maple, white sap when stalk is broken, yellow fall foliage; some cultivars have red fall foliage	Suppresses growth of grass, garden plants, and forest understory; windborne seeds can germinate and grow in deep shade
	Tree of Heaven	*Ailanthus altissima*	Long compound leaves with 11-25 lance-shaped leaflets smell like peanut butter or burnt coffee when crushed	Produces huge quantities of windborne seeds, grows rapidly and in poor conditions, and secretes a toxin that kills other plants; once established, this tree cannot be removed by mechanical means alone
	Sawtooth Oak	*Quercus acutissima*	Oval leaves with sawtooth edges and huge acorns	Often recommended for wildlife, this tree displaces indigenous forest trees
Recommended Native Shade Trees	White Oak	*Quercus alba*	Widely adapted shade trees; other oaks and hickories are suited to very dry, wet, or steep sites	---
	Southern Red Oak	*Q. rubra, Q. falcata*		---
	Mockernut Hickory	*Carya tomentosa*		---
	Tupelo (Black or Sour Gum)	*Nyssa sylvatica*	Brilliant red fall foliage and small fruits eaten by birds	---
Small to Medium Invasive, Non-Native Trees	Empress Tree, Princess Tree	*Paulownia tomentosa*	Large panicles of lavender flowers, like upside-down wisteria, identify this tree in spring; the large brown seed capsules remain all year. The leaves are very large and heart-shaped	Winged seeds allow it to spread deep into undeveloped areas, though it needs some sunlight and is most common along trails and waterways. It grows very rapidly and sprouts readily from roots and cut stumps
	Mimosa	*Albizia julibrissin*	Has garish pink flowers in summer and feathery compound leaves	Spreads slowly by wind-borne seedpods, or in water or fill-dirt. It re-sprouts when cut or burned
	Siberian Elm	*Ulmus pumila*	A fast-growing medium-height tree; small oval leaves have a single tooth	Displaces our native elms, which are already under pressure from Dutch elm disease; forms dense thickets under which nothing else grows

Type	Common Name	Scientific Name	Description	Detrimental Effects
Small to Medium Invasive, Non-Native Trees	Russian Olive, Autumn Olive	*Eleagnus angustifolium, E. umbellata*		Formerly recommended for erosion control and wildlife value, these have proved highly invasive and diminish the overall quality of wildlife habitat
	Cherry	*Prunus avium, P. cerasus*	Edible and ornamental	Displaces our native fruit trees
	Bradford Pear/Ornamental Pears	*Pyrus calleryana*		Displaces our native fruit trees; self-sterile but can pollinate other cultivars, now spreading rapidly from street plantings
	White Mulberry	*Morus alba*	The fruits may be white, purple, or black; leaves are lobed	Displaces our native fruit trees. Our delicious native red mulberry, which has very large, usually unlobed leaves, is dying out from a root disease carried by white mulberry
Recommended Small Native Ornamental Trees	Serviceberry	*Amelanchier spp.*	Beautiful flowering trees that also produce fruit for birds	---
	Fringetree	*Chionanthus virginicus*		---
	Black Haw	*Viburnum prunifolium*		---
	Red Chokeberry	*Aronia arbutifolia*		---
	Red Mulberry	*Morus rubra*	A beautiful flowering tree that also produce fruit for birds; Plant red mulberry if there are no white mulberries nearby that could transmit disease to them	---
Recommended Native Trees for Hedges	American Hazelnut	*Corylus americana*	Makes an excellent hedge	---
	Slippery Elm	*Ulmus rubra*	A good substitute for Siberian elm in damp soils	---
	Staghorn or Shining Sumac	*Rhus typhina, R. copallina*	Form thickets on sunny, dry sites; keep suckers in check by mowing	---

Type	Common Name	Scientific Name	Description	Detrimental Effects
Invasive, Non-Native Shrubs	Multiflora Rose	*Rosa multiflora*	Covered with white flowers in June. (Our native roses have fewer flowers, mostly pink.) Distinguish multiflora by its size, and by the presence of very hard, curved thorns, and a fringed edge to the leaf stalk	Formerly recommended for erosion control, hedges, and wildlife habitat, it becomes a huge shrub that chokes out all other vegetation and is too dense for many species of birds to nest in, though a few favor it. In shade, it grows up trees like a vine
	Bush Honeysuckles including Belle, Amur, Morrow's, and Tatarian	*Lonicera spp.*	In our region, assume that any honeysuckle is exotic unless it is a scarlet-flowered vine	Bush honeysuckles create denser shade than native shrubs, reducing plant variety and eliminating nest sites for many species
	Japanese Spiraea	*Spiraea japonica*		
	Privet	*Ligustrum*		
	Burning Bush, Winged Euonymus, Winged Wahoo	*Euonymus alatus*	Identified by wide, corky wings on the branches	Another species called burning bush, *E. atropurpureus* is indigenous to the Appalachians, and a piedmont euonymus called strawberry bush (*e. americanus*)
	Japanese Barberry	*Berberis thunbergii*	Red and green varieties	
Recommended Native Shrubs	Spicebush	*Lindera benzoin*	Covered with tiny yellow flowers in March, is our most common native shrub. It needs rich soil	---
	Strawberry Bush	*Euonymus americanus*	Needs rich soil	---
	Maple-leaf Viburnum	*Viburnum acerifolium*	Suited to dry shade and thinner soil	---
	Arrowwoods	*Viburnum dentatum, V. recognitum*, *V. nudum*	Plants grow in moist soil	---
	Wild Hydrangea	*Hydrangea arborescens*	Parent of some cultivated varieties, is a somewhat vining shrub	---
	Highbush and Lowbush Blueberry	*Vaccinium corymbosum, V. vacillans*	Need very acidic soil. They tolerate shade but fruit best in sun. Both turn red in fall	---

Type	Common Name	Scientific Name	Description	Detrimental Effects
Invasive, Non-Native Vines	Kudzu	*Pueraria lobata*	Has large lobed leaves in groups of three, thick stems, flowers that resemble wisteria, and hairy, bean-like seedpods in fall	It grows extremely rapidly both above and below ground, and can pull down trees
	Japanese Honysuckle	*Lonicera japonica*	Has gold-and-white flowers with a sweet scent and nectar in June	Probably the familiar honeysuckle of your childhood. It is a rampant grower that spirals around trees, often strangling them
	Wisteria; Chinese and Japanese	*Wisteria sinensis, W. floribunda*	Woody vines	Both become heavy and can pull down a large tree
	Oriental Bittersweet	*Celastrus orbiculatus*	Has its flowers and bright orange seed capsules in clusters all along the stem, while the native species bears them only at the branch tips	Has almost completely displaced American bittersweet (C. scandens)
	Porcelain Berry	*Ampelopsis brevipedunculata*	Has small, hard fruits in a loose, flat cluster that turn from white to yellow, lilac, green, and finally a beautiful turquoise blue.	
	English Ivy	*Hedera helix*	Spreads along the ground and occasionally by fruits	Grows up trees and can eventually pull them down
	Wintercreeper	*Euonymus fortunei*		Control methods are the same as for English Ivy, but Garlon is not effective; glyphosate mixed with extra sticker-spreader may be
	Vinca, Periwinkle	*Vinca minor*		
Recommended Native Ornamental Vines	American bittersweet	*Celastrus scandens*	Bears flowers and seed capsules only at the branch tips, has been almost completely displaced by the Asian species. To preserve it, give it preference, except where its exotic counterpart is present, because the two hybridize	---

Type	Common Name	Scientific Name	Description	Detrimental Effects
Recommended Native Ornamental Vines	Trumpet honeysuckle	*Lonicera sempervirens*	Semi-evergreen twining shrub with tubular red flowers attractive to hummingbirds, is uncommon but indigenous to the piedmont	---
	Native wisteria	*Wisteria frutescens*	Much less aggressive than the introduced ones, can be grown from Maryland south	---
	Trumpet vine	*Campsis radicans*	Has dramatic flowers attractive to hummingbirds	Be aware that both are aggressive growers
	Virginia creeper	*Parthenocissus quinquefolia*	Spectacular red fall foliage	
	Native grapes	*Vitis spp.*	Provide an enormous amount of food for birds	Are aggressive and not ornamental
Invasive Non-Vining Ground Covers	Crown Vetch	*Coronilla varia*	Striking pink flowers; bare woody stems are unattractive in winter	Often planted along highways, its seeds spread invasively
	Creeping Bugleweed	*Ajuga reptans*	Spread by windborne seeds as well as by runners	Grow in sun and shade and are common lawn weeds which have spread to woods and wetlands
	Ground Ivy			
	Gill-Over-the-Ground			
	Creeping Charlie	*Glenchoma hederacea*		
	Henbit	*Lamium amplexicaule*		
	Purple Dead Nettle	*L. purpureum*		
	Mints (Spearmint)	*Mentha spicata*	Recognize mints by square stems and minty smell when crushed; Plant culinary mints in containers; prevent from spreading out drainage holes or over the top.	Grow in sun and shade and are common lawn weeds which have spread to woods and wetlands; spread by windborne seeds as well as by runners
	Indian Strawberry	*Duchesnea indica*	Shade-tolerant plant from India	Spreads by fruit and runners
	Running Bamboos (many species and genera)	*Phyllostachys, Bambusa, and Pseudosasa* are the most destructive	Plant bamboos only in containers, never in open soil. Prevent from spreading out drainage holes	Many bamboos send runners great distances, under pavement and edging. Once established, they form impenetrable thickets that are almost impossible to eradicate

Type	Common Name		Scientific Name	Description	Detrimental Effects
Recommended Native Ground Covers	Evergreen	Golden ragwort	*Senecio aureus*	Showy yellow flowers in spring; grow in moist shade	---
		Green-and-Gold	*Chrysogonum virginianum*		---
		Wild Stonecrop	*Sedum ternatum*	Lacy white flowers; it grows in thin, rocky soil in light shade	---
		Moss Phlox	*Phlox subulata*	Has a looser form in the wild, and usually has white flowers; it tolerates very poor soil but needs good drainage	---
	Semi-evergreen	Allegheny Spurge	*Pachysandra procumbens*	Indigenous to the mountains but will grow here. It looks much like its Japanese cousin	---
	Deciduous	Wild Ginger	*Asarum canadense*	Has kidney-shaped leaves that seem to sparkle in spring. Not a culinary plant, its roots do have a gingery scent. It needs moist shade	---
	Bamboo Alternatives	Giant Cane	*Arundinaria gigantea*	A well-behaved native bamboo, is indigenous to damp woods and swamps on the coastal plain. Elsewhere, use native grasses (see below) or shrubs (see above)	---
Invasive Wetland Plants	Common Reed		*Phragmites australis*, formerly *P. communis*	A tall ornamental grass with lovely plumes, usually white or tan	Although the species is indigenous, a particularly aggressive strain, probably introduced or a hybrid, has escaped from natural controls and taken over many formerly diverse wetlands. It is also seen in roadside ditches
	Giant Reed		*Arundo donax*	Can grow to 20' tall	Chokes waterways from Virginia south
	Japanese Knotweed, Mexican Bamboo		*Polygonum cuspidatum*	Can grow in shade. The stems have knotty joints, reminiscent of bamboo. It grows 6-10' tall and has large pointed oval or triangular leaves	

Type	Common Name	Scientific Name	Description	Detrimental Effects
Invasive Wetland Plants	Purple Loosestrife	*Lythrum salicaria, L. virgatum*	A handsome garden plant, has tall spikes of magenta flowers over a long bloom season	Often marketed as sterile, it is at best self-sterile, i.e., it can be pollinated by plants you may not be aware of, growing nearby. A single plant can produce up to a million seeds. Like *Phragmites*, it chokes out all competitors and has taken over millions of acres of wetland in the US.
	Lesser Celandine, Celandine Buttercup	*Ranunculus ficaria*	Has spread from gardens to carpet our floodplains with small yellow flowers in spring	It comes up in winter, giving it a head start over most native spring wildflowers
Recommended Native Wetland Plants for Water Gardens	Turtlehead	*Chelone glabra*	Also use native reeds, rushes, and sedges	---
	Lizard's Tail	*Saururus cernuus*		---
	Cardinal Flower	*Lobelia cardinalis*		---
	New York Ironweed	*Vernonia noveboracencis*		---
	Blue Flag	*Iris versicolor*		---
	Virginia Bluebells	*Mertensia virginica*		---
	Wild Blue Phlox	*Phlox divaricata*		---
	Arrowhead	*Sagittaria latifolia*		---
	Pickerelweed	*Pontederia cordata*		---
Invasive Ornamental Grasses	Pampas Grass	*Cortaderia selloana* and *C. jubata*		Have been the most invasive. Those with heavy seeds are less likely to spread
	Japanese Silver Grass	*Miscanthus sinensis*		
	Reed Canary Grass	*Phalaris arundinacea*		
Recommended Native Grasses	Indian Grass	*Sorghastrum nutans*	Native grasses provide nest sites for meadow birds, as well as food, cover, and shelter for a wide variety of animals. In the garden, they offer textural contrast, and fall and winter interest	---
	Big Bluestem	*Andropogon gerardii*		---
	Purple Top	*Triodia flava*		---
	Switch Grass	*Panicum virgatum*		---
	Little Bluestem	*Schizachyrium scoparium*		----
	Bottlebrush	*Hystrix patula*		---
	Wild Oats	*Uniola latifolia*		---

Appendix D: Endangered Species of Gaithersburg

Maryland Department of Natural Resources has identified habitat within Gaithersburg with the potential to support the following rare and threatened plant and animal species. Additional information regarding current and historical rare, threatened, and endangered plant species of Montgomery County, Maryland is available at Maryland Department of Natural Resources Wildlife and Heritage Service website at: *http://www.dnr.state.md.us/wildlife/rtemontgomeryplants.html*

1. **Calystegia spithamea, Low Bindweed - rare (1951**)

Preferred habitat: old, dry fields; open, dry, deciduous woods on limestone; shale barren; oak-pine woods margin; and gravel/sand railroad embankment.

Source: various occurrence records in the Maryland Natural Heritage Program database.

2. Cistothorus platensis, Sedge Wren - threatened (1978)

Preferred habitat: wet or boggy meadows, sedge marshes; streamside thickets in grasslands or fields.

Source: Committee on classification and nomenclature. 1983. Checklist of North American birds, 6th ed. Amer. Ornithologists Union, Allen Press, Inc., Lawrence, KA.

3. Lygodium palmatum, Climbing Fern - threatened (1907)

Preferred habitat: wet thickets in sandy or acid soil; low shaded, moist to wet, high acid soils of open woods and watersides; borders of low woods.

Sources:

Radford, A.E., H.E. Ahles, and C.R. Bell. 1964. Manual of the vascular flora of the Carolinas. University of North Carolina Press, Chapel Hill.

Hough, M.Y. 1983. New4 wild plants. Harmony Press, Harmon, N.J.

Maryland Natural Heritage Program botanists.

4. Scutellaria leonardii, Leonard's Skullcap - threatened (1939)

Preferred habitat: dry rocky soil, low woods and fields, usually on basic soils.

Sources:

Tatnall, R.R. 1946. Flora of Delaware and the Eastern Shore: an annotated list of the ferns and flowering plants of the peninsula of Delaware, Maryland, and Virginia. Soc. Nat. Hist. Del. (Address not given).

Radford, A.E., H.E. Ahles, and C.R. Bell. 1964. Manual of the vascular flora of the Carolinas. University of North Carolina Press, Chapel Hill.

Gaithersburg Green Building Program

Appendix E: Leadership in Energy and Environmental Design LEED™ Version 2.1 Project Checklist

Project Name: _____

Tax ID: _____

Address: _____

For more information regarding LEED™, refer to the US Green Building Council website at http://www.usgbc.org

Yes	?	No			
			Sustainable Sites		**14** Points
Y			Prereq 1	**Erosion & Sedimentation Control**	Required
			Credit 1	**Site Selection**	1
			Credit 2	**Urban Redevelopment**	1
			Credit 3	**Brownfield Redevelopment**	1
			Credit 4.1	**Alternative Transportation**, Public Transportation Access	1
			Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
			Credit 4.3	**Alternative Transportation**, Alternative Fuel Vehicles	1
			Credit 4.4	**Alternative Transportation**, Parking Capacity and Carpooling	1
			Credit 5.1	**Reduced Site Disturbance**, Protect or Restore Open Space	1
			Credit 5.2	**Reduced Site Disturbance**, Development Footprint	1
			Credit 6.1	**Stormwater Management**, Rate and Quantity	1
			Credit 6.2	**Stormwater Management**, Treatment	1
			Credit 7.1	**Landscape & Exterior Design to Reduce Heat Islands**, Non-Roof	1
			Credit 7.2	**Landscape & Exterior Design to Reduce Heat Islands**, Roof	1
			Credit 8	**Light Pollution Reduction**	1

Yes	?	No			
			Water Efficiency		**5** Points
			Credit 1.1	**Water Efficient Landscaping**, Reduce by 50%	1
			Credit 1.2	**Water Efficient Landscaping**, No Potable Use or No Irrigation	1
			Credit 2	**Innovative Wastewater Technologies**	1
			Credit 3.1	**Water Use Reduction**, 20% Reduction	1
			Credit 3.2	**Water Use Reduction**, 30% Reduction	1

Yes	?	No			
			Energy & Atmosphere		**17 Points**
Y			Prereq 1	**Fundamental Building Systems Commissioning**	Required
Y			Prereq 2	**Minimum Energy Performance**	Required
Y			Prereq 3	**CFC Reduction in HVAC&R Equipment**	Required
			Credit 1	**Optimize Energy Performance**	1 to 10
			Credit 2.1	**Renewable Energy**, 5%	1
			Credit 2.2	**Renewable Energy**, 10%	1
			Credit 2.3	**Renewable Energy**, 20%	1
			Credit 3	**Additional Commissioning**	1
			Credit 4	**Ozone Depletion**	1
			Credit 5	**Measurement & Verification**	1
			Credit 6	**Green Power**	1

Yes	?	No			
			Materials & Resources		**13 Points**
Y			Prereq 1	**Storage & Collection of Recyclables**	Required
			Credit 1.1	**Building Reuse**, Maintain 75% of Existing Shell	1
			Credit 1.2	**Building Reuse**, Maintain 100% of Shell	1
			Credit 1.3	**Building Reuse**, Maintain 100% Shell & 50% Non-Shell	1
			Credit 2.1	**Construction Waste Management**, Divert 50%	1
			Credit 2.2	**Construction Waste Management**, Divert 75%	1
			Credit 3.1	**Resource Reuse**, Specify 5%	1
			Credit 3.2	**Resource Reuse**, Specify 10%	1
			Credit 4.1	**Recycled Content**, Specify 5% (post-consumer + ½ post-industrial)	1
			Credit 4.2	**Recycled Content**, Specify 10% (post-consumer + ½ post-industrial)	1
			Credit 5.1	**Local/Regional Materials**, 20% Manufactured Locally	1
			Credit 5.2	**Local/Regional Materials**, of 20% Above, 50% Harvested Locally	1
			Credit 6	**Rapidly Renewable Materials**	1
			Credit 7	**Certified Wood**	1

Yes	?	No			
			Indoor Environmental Quality		**15** Points
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
			Credit 1	**Carbon Dioxide** (CO_2) **Monitoring**	1
			Credit 2	**Ventilation Effectiveness**	1
			Credit 3.1	**Construction IAQ Management Plan**, During Construction	1
			Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
			Credit 4.2	**Low-Emitting Materials**, Paints	1
			Credit 4.3	**Low-Emitting Materials**, Carpet	1
			Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber	1
			Credit 5	**Indoor Chemical & Pollutant Source Control**	1
			Credit 6.1	**Controllability of Systems**, Perimeter	1
			Credit 6.2	**Controllability of Systems**, Non-Perimeter	1
			Credit 7.1	**Thermal Comfort**, Comply with ASHRAE 55-1992	1
			Credit 7.2	**Thermal Comfort**, Permanent Monitoring System	1
			Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1
			Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1

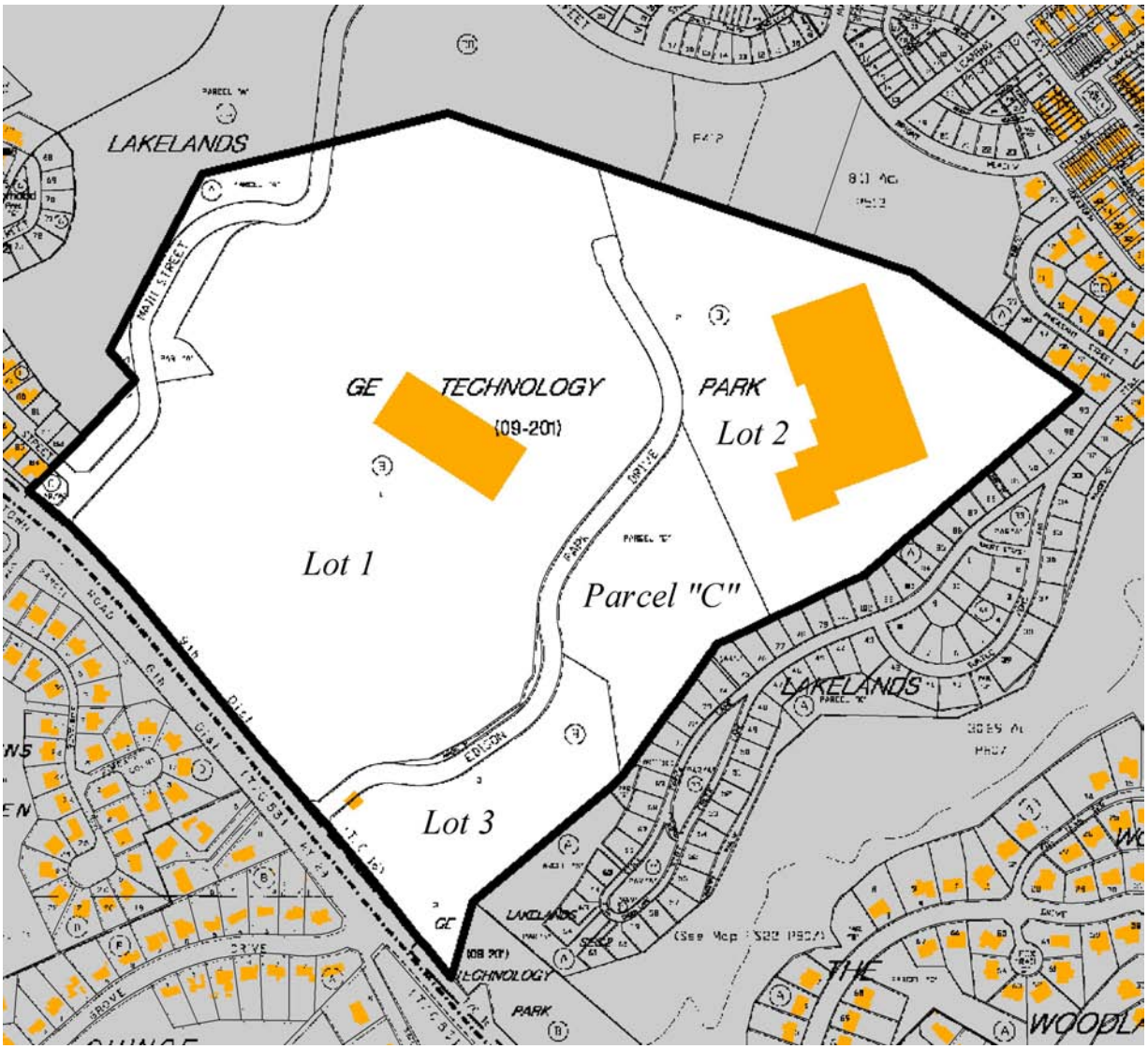
Yes	?	No			
			Innovation & Design Process		**5** Points
			Credit 1.1	**Innovation in Design**: Provide Specific Title	1
			Credit 1.2	**Innovation in Design**: Provide Specific Title	1
			Credit 1.3	**Innovation in Design**: Provide Specific Title	1
			Credit 1.4	**Innovation in Design**: Provide Specific Title	1
			Credit 2	**LEED™ Accredited Professional**	1

Yes	?	No		
			Project Totals (pre-certification estimates)	**69** Points

Certified 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points

SPECIAL STUDY AREA 10:
G.E. TECHNOLOGY PARK

MP-2-04 Adopted May 15, 2006 by Resolution R-53-06
MP-1-06 Adopted September 5, 2006 by Resolution R-92-06



Approximate Total Area:	**97 Acres**
Existing Land Use:	**Office-Warehouse**
Current Land Use Designation:	**Commercial/Industrial-Research-Office**
Current Zoning:	**I-3 (Light Industrial)**

TAX MAP REFERENCE:

Parcel A Block A, Lots 1, 2, 3 and Parcels A, B, C, E Block B and Parcel A Block C G. E. Technology Park

LOCATION:

The G.E. Technology Park Study Area is bounded on the north by Lakelands Park and the Quince Orchard Cluster Middle School #2 Site, on the east by the Lakelands Community, on the south by MD Route 28, and on the west by Lake Nirvana and the Kentlands community.

BACKGROUND:

The G.E. Technology Park Study Area includes property that was originally owned by the National Geographic Society. In September 1966, Otis B. Kent filed annexation petition X-088 with the City of Gaithersburg for 1030.69 acres, including the National Geographic Society property. Mr. Kent, however, had sold 100.036 acres to National Geographic Society. The National Geographic Society then requested that their property be excluded from the Kent annexation. The Mayor and City Council allowed the Society's property to remain in Montgomery County, reducing the Kent annexation to 928.38 acres.

In 1989, the National Geographic Society filed annexation petition X-146 with the City for 98.7962 acres of land, the remainder of the land purchased from Mr. Kent after dedicating right-of-way for MD Route 28. The City zoned the property I-3 (Industrial Office Park), which is comparable to the former Montgomery County zoning of C-P (Commercial Office Park).

The property was later purchased by Gaithersburg Realty Trust (GRT), who subdivided the land as G.E. Technology Park. In 2000, the original annexation agreement was amended by Gaithersburg Realty Trust. This amendment, subject to several conditions, provided for street dedication and other land conveyances to the City; stormwater management improvements and easements; and a development cap for new development of seven hundred thousand (700,000) square feet.

Annexation File Number	Effective Date of Annexation	Action by Council	Resolution Number	Number Of Acres
X-146	06/15/1989	05/01/1989	R-33-89	98.7962
X-146 Addendum 1	09/15/2000	09/15/2000	R-75-00	98.7962

ANNEXATION AGREEMENT:

The 1989 Annexation Agreement has only one requirement that is not specifically restated or addressed in the 2000 Addendum. Paragraph I(3)(a) requires "a tree, vegetation and nature feature inventory and retention plan be submitted to Gaithersburg prior to any development review approvals on the site by the City of Gaithersburg Planning Commission." This requirement is technically included in Paragraph 2 of Addendum 1 ("Gaithersburg confirms that development of the GRT

Property is permitted in accordance with I-3 Zone standards), since Regulation 01-01 (Environmental Standards for Development Regulation) Article I §4 requires all new development to prepare a Natural Resource Inventory (NRI) and Forest Conservation Plan (FCP), in compliance with said regulation.

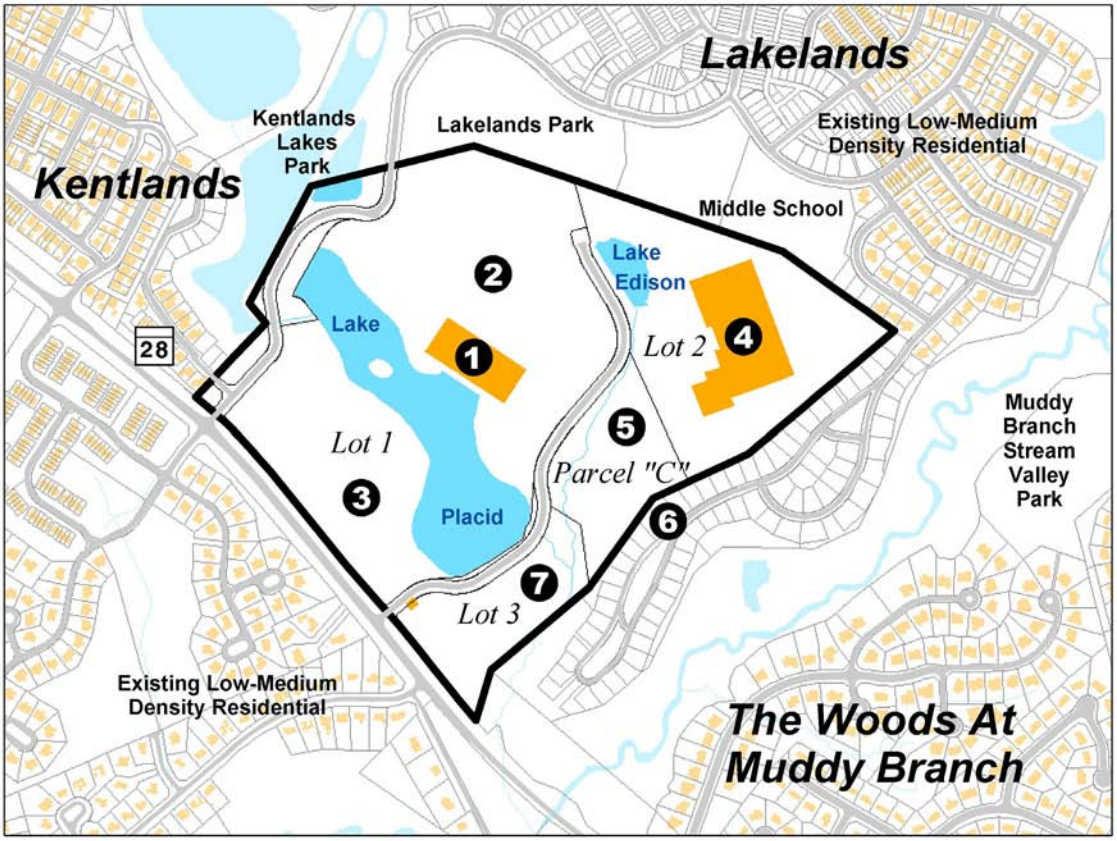
The 2000 Addendum 1 has the following requirements for additional development of the GE Technology Park:

- The amount of new development is limited to seven hundred thousand (700,000) additional square feet
- Gaithersburg and the property owner will continue to encourage the State Highway Administration to have signalization installed at the intersection of MD Route 28 and Edison Park Drive
- A minimum twenty-five (25) foot greenspace buffer shall be maintained adjacent to the MD Route 28 right-of-way
- A forty percent (40%) greenspace requirement, mandated by the original Montgomery County C-P zoning, shall be imposed on any future development, regardless of the City zoning assigned to the property
- All regulatory calculations shall be made based on the original annexation area of 98.7962 acres, including density, greenspace, open space, forest conservation, and wetlands
- Lot 3 and Parcel C, Block B will each be allowed vehicular ingress and egress from Edison Park Drive, with the new intersection locations subject to review and approval by the City Planning Commission
- A traffic study or studies is required to demonstrate the impact of new development on the surrounding road network
- Road improvements, mitigation measures, and street dedication may be required by the City, based on the traffic study or studies
- Development remains subject to the requirements of the Gaithersburg Zoning Ordinance

EXISTING DEVELOPMENT AND LAND USE

The G. E. Technology Park Study Area includes Lake Placid, Lake Edison, a tributary of the Muddy Branch Creek, a large open lawn between MD Route 28 and Lake Placid, a 5-story office building and a 1-story warehouse. There are currently two parcels of land that are undeveloped, Lot 3 and Parcel C.

The large office building, formerly used for membership processing by the National Geographic Society (NGS), was built in 1968 and was designed in the "international" style by Mills, Petticord, & Mills. The office building overlooks Lake Placid and includes a courtyard garden facing the parking lot. The warehouse was used by NGS and was constructed during the 1970's, with an 84,000 square foot addition in 1989. Edison Park Drive is partly located within the stream valley buffer of the stream that flows from Lake Edison to Muddy Branch. All existing development occurred or began while the property was located in Montgomery County.



The current and approved land use and build-out of the GE Technology Park is as follows:

Map Area	Legal Description	Land Use	Status	Development Size (sq ft)
1	Part of Lot 1	Office	Developed	373,116
2	Part of Lot 1	Vacant	Undeveloped	*
3	Part of Lot 1	Lake / Open Space	Undeveloped	N/A
4	Lot 2	Warehouse	Developed	261,316
5	Parcel C	Vacant	Undeveloped	*
6	Parcel E	Single-family detached houses	Developed	N/A
7	Lot 3	Recreation**	Proposed	*
Total				**1,334,432**

*Addendum 1 to the Annexation Agreement specifies a total of 700,000 additional square feet of development in GE Technology Park, but does not specifically allocate it to any of the lots or parcels. These map areas are the designated areas for the additional 700,000 square feet of new development.

**Currently, the proposed aquatic center is in the early stages of development. While the aquatic center has been proposed for this specific site, it is possible that a comprehensive development plan could include a land exchange and conceivably relocate the proposed recreational facility to another location within the special study area.

The current build-out density for the GE Technology Park of 1,334,432 square feet results in an overall floor-to-area ratio (FAR) of approximately 0.316. Other developments in the City, including Washingtonian Center, Quince Orchard Park, and Kentlands have a higher overall FAR. The MXD zone provides a maximum FAR of 0.75 and the C-2 zone provides a maximum FAR of 1.5. The current I-3 zoning does not have an FAR limit, but does have a height limit of 110 feet.

SPECIAL STUDY AREA REVIEW

The City of Gaithersburg held a Stakeholders Meeting on April 29, 2004 for the G.E. Technology Park Study Area (formerly known as the National Geographic Property). City staff presented a general overview of the Master Planning process and gave general background information about the study area, including current uses and annexation information. Following the staff presentation, the community spent the remaining time brainstorming possible land use options and asking general questions. The Stakeholders Meeting raised several concerns about development on the property. This included traffic impacts, school impacts, preservation of the lawn and tree area adjacent to Darnestown Road, preservation of Lake Placid, inappropriateness of apartments as a residential use for the property, necessity of high architectural and design standards for any new development, and the size and location of the proposed Gaithersburg Aquatic/Recreation Center.

The Mayor and City Council and City Planning Commission held a joint public work session on June 14, 2004 for the G.E. Technology Park Study Area. City Staff presented baseline development requirements and three land use options for the Study Area, based upon the Stakeholder Meeting discussion. During the June 14, 2004 joint work session review and discussion of the three options, the Planning Commission and Mayor and Council requested that Option 1 be altered to allow for a residential component. This new option (Option 2) was incorporated into the study area as well as the three original options (Option 1, Option 3, and Option 4) discussed during the joint work session.

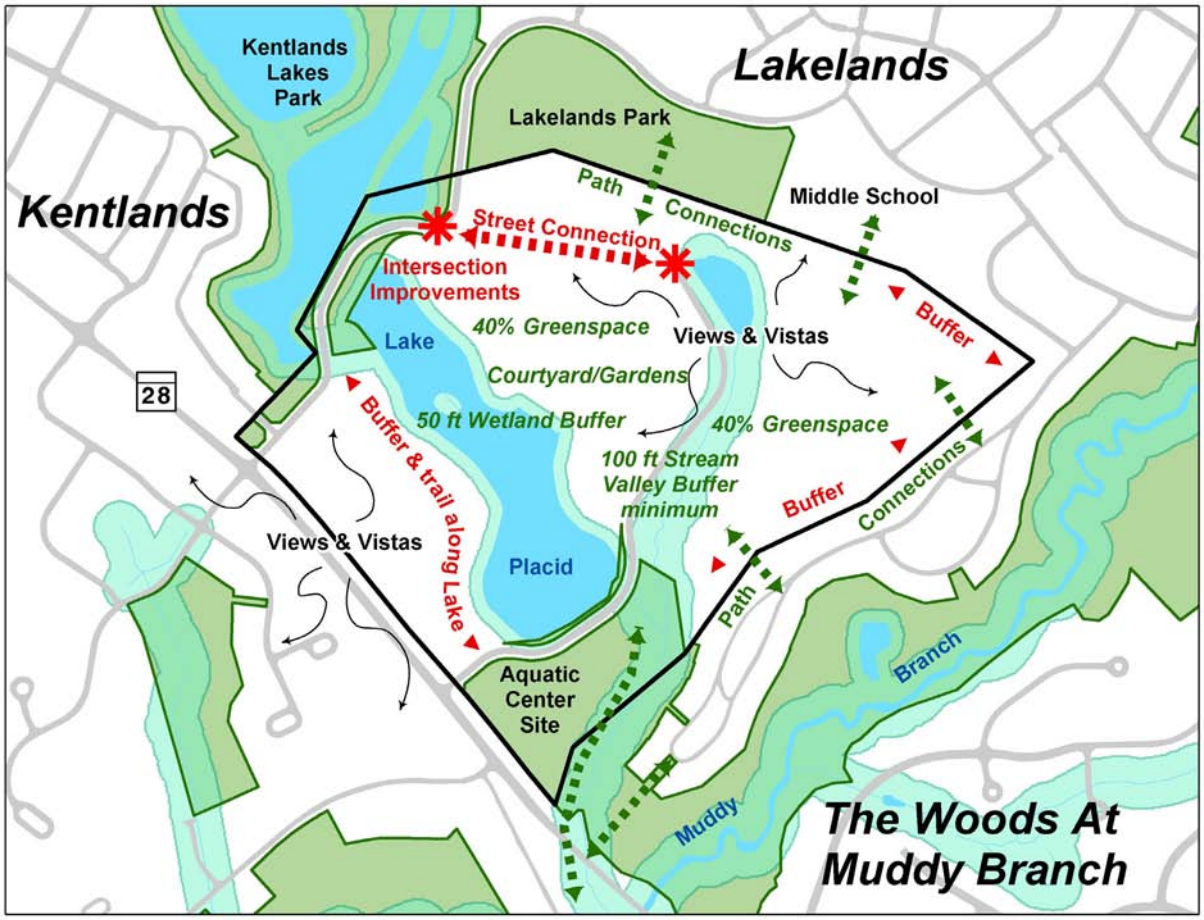
On September 1, 2004, the Planning Commission reviewed the special study area report and four land use options and made a recommendation to the Mayor and City Council to endorse Options 1, 2, and 3 and to eliminate Option 4. On September 7, 2004, the Mayor and City Council reviewed the Planning Commission recommendation and the four land use options and selected Options 1, 2, and 3 to proceed forward through the Master Plan Amendment process to incorporate the GE Tech Park Special Study Area into the Land Use Element.

A joint public hearing was held on December 6, 2004 and both the Planning Commission and Mayor and City Council voted to hold their respective records open indefinitely. A second joint work session was held on February 15, 2005. Staff introduced a new fourth option based on the discussion and concerns raised during the December 6, 2004 public hearing. Also, during this work session, there was considerable discussion regarding concurrent redevelopment of the various map designations and the impacts of the current I-3 zoning and potential rezoning to the

MXD zone as it relates to the existing annexation agreement. Staff also received guidance to contact the property owners to discuss possible amendments to the annexation agreement.

Another joint work session was held on November 28, 2005. All four options were discussed, as well as the proposed special conditions requiring concurrence of development and comparable densities and housing mix of any future redevelopment. The Planning Commission and City Council reached consensus on Option 1 and Option 3 and provided staff with guidance to eliminate the special condition on Option 3 that required comparable density and housing mix and to amend the other special condition to require concurrency of any future redevelopment regardless of residential or commercial development.

BASELINE DEVELOPMENT REQUIREMENTS

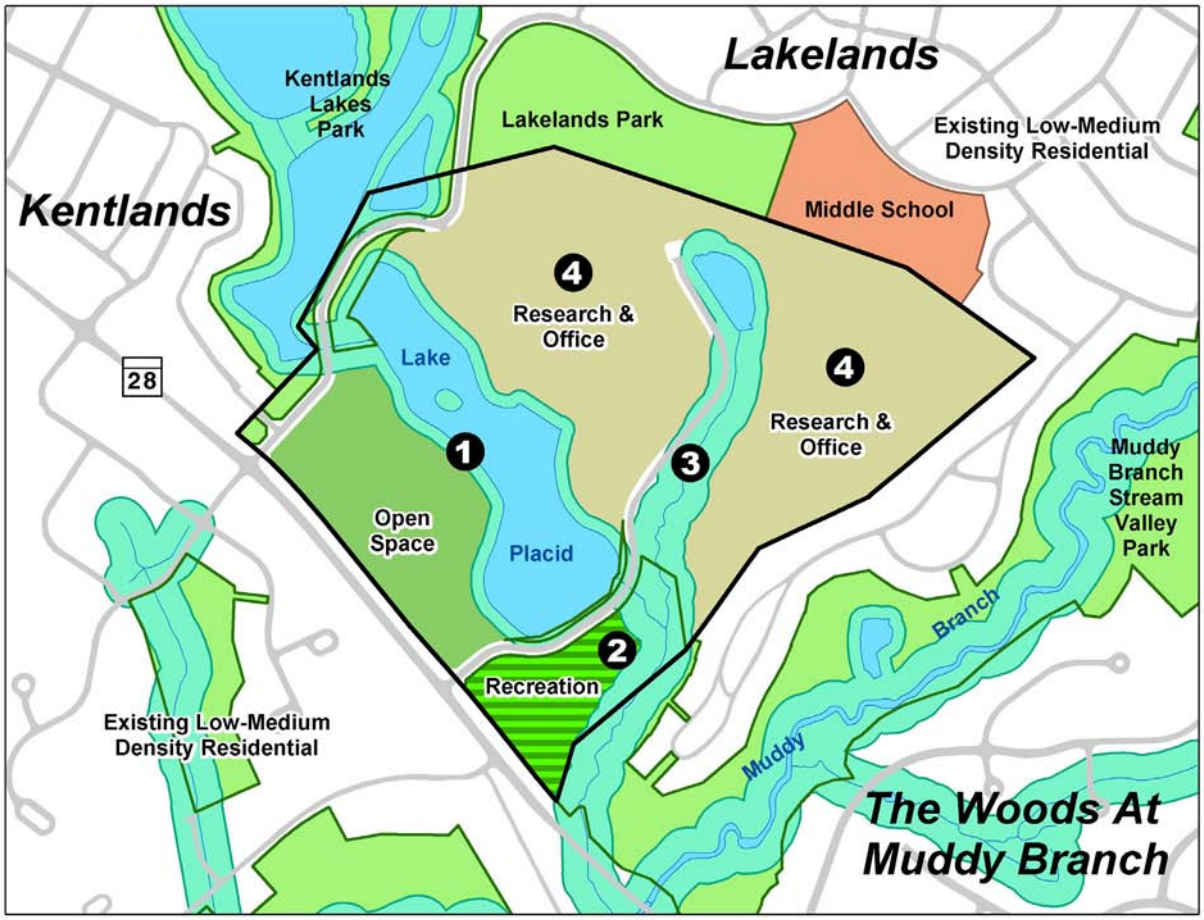


The following baseline requirements must be satisfied, in addition to any land-use option requirements.

- A community-based workshop shall be held prior to any Sketch or Concept Plan submission. The workshop agenda shall be approved by the City of Gaithersburg and the City must take part in the workshop.
- In conjunction with the community-based workshop, an evaluation of the existing office building's potential historic and architectural significance shall be conducted by an independent professional preservation specialist. A market analysis of the existing building should be included as well and utilization of the building as commercial office and/or adaptive reuse should be encouraged, if appropriate.
- A minimum of 40% (39.5185 Acres) of the study area is required to be greenspace, with a minimum of 15% (14.8194 Acres) of the total greenspace requirement located within the developable areas.
- All tree areas outside of the stream valley buffer and/or floodplain buffer should be retained as "priority" greenspace.
- The existing tree buffer around Lake Placid shall be preserved.
- A buffer shall be provided adjacent to the residences along Still Creek Lane. The size of the buffer will depend on the type of development proposed and be determined during the development process.
- All required environmental buffers shall be provided.
- A street connection shall be provided between Main Street and Edison Park Drive
- The views and vistas to the existing office building and natural landmarks shall be preserved.
- A pathway around Lake Placid and pathway connections to adjacent neighborhoods, the proposed Gaithersburg Aquatic/Recreation Center, Lakelands Park, the proposed middle school, proposed Muddy Branch trail, and adjacent development uses shall be provided.
- A green or landscaped connection shall be provided between Lakelands Park and the end of the Stream Valley Buffer at Lake Edison. The connection will retain the existing street crossing and provide a greenway connection from Lakelands Park, through the stream valley, and to the Muddy Branch Stream Valley Park and C&O Canal National Historical Park.
- Future development design should reduce the reliance on and the use of automobiles.
- Future development shall be compatible with the existing surrounding uses and natural environment.
- An additional road connection to the Lakelands community from Edison Park Drive should be further reviewed and provided, if possible.
- All annexation requirements shall be satisfied.

PROPOSED LAND USE OPTIONS

Land Use Option A: Research & Development and Office Park



Map Designation 1:

This map designation consists of Lake Placid, the Stream Valley buffer around the lake, and the green space between the lake and Darnestown Road (Route 28). This map designation should be designated as open space and preserved as a prominent focal point for the surrounding development and to promote lively recreational and pedestrian activity. At such time as development is proposed for this Special Study Area, the area that makes-up *Map Designation 1* should be preserved as an open space easement and rezoned to the R-A zoning classification.

Land Use and Zoning Action

Designate land use as **recreation/open space**
Zoning remains **I-3** (Industrial Office Park)

Recommend zoning change to **R-A** (Low Density Residential) and preserving area as an open space easement at such time development of *Map Designation 4* is proposed.

Map Designation 2:

This map designation, known as Lot 3 Block B GE Technology Park, has been selected as the future site of the Gaithersburg Aquatic/Recreation Center. Future pedestrian pathways should be provided to connect to the surrounding community and uses. It is recommended that this lot be designated as recreation and rezoned to the MXD zoning classification.

Land Use and Zoning Action

Designate land use as **recreation**
Recommend zoning change to **MXD** (Mixed Use Development)

Map Designation 3:

This map designation includes Lake Edison and the adjacent stream and stream valley buffer. It is recommended this area consisting of part of Lot 1, part of Lot 2, and part of Parcel C Block B be designated as open space and preserved in its natural state.

Land Use and Zoning Action

Designate land use as **open space**
Zoning remains **I-3** (Industrial Office Park)
Recommend zoning change to **R-A** (Low Density Residential) at such time subdivision occurs.

Map Designation 4:

This map designation consists of part of Lot 1, part of Lot 2, and part of Parcel C Block B. This area is viewed as the primary location of development and redevelopment in the study area. Located within this map designation are the former National Geographic office building, an existing warehouse, and a vacant parcel. Any future development and uses should focus on office and research & development activities rather than warehouse and industrial uses.

Developing additional office uses similar to the former National Geographic office building and/or the addition of research & development uses would be more compatible with the surrounding residential community and more consistent with the initial development plans for this study area. Any future development adjacent to the residential dwelling units of the Lakelands must provide sufficient setbacks to buffer the differing uses and utilize lower building heights that are more compatible with the existing residential development.

Proper planning and architectural design should play an important role in any development proposal as well as be sensitive to the surrounding

community's unique neo-traditional design. Any development proposal should incorporate smart growth initiatives, best-planning practices, green buildings, enhanced architectural standards, pocket parks, trails and open space. Surface parking should be minimized and parking structures should be required as part of a well-integrated development design plan.

The first floors of the buildings should provide additional architectural detail to allow for a better pedestrian experience. The first floor should also be taller to allow for commercial/retail uses in the event that the zoning of the property changes to allow such uses. At such time as an office development or corporate office park is proposed and all of the above stated elements and any special conditions are incorporated into the plan, further study should be conducted to review the appropriateness of the current development square footage cap.

Access to Parcel C should be provided from the existing access drive to Lot 2 so as to avoid an additional stream crossing (see *Map Designation 3*). If this cannot be accomplished or the design and density of a proposed office and/or R&D development requires additional access, only one additional road connection, through the stream valley buffer, to Edison Park Drive will be permitted to access Parcel C.

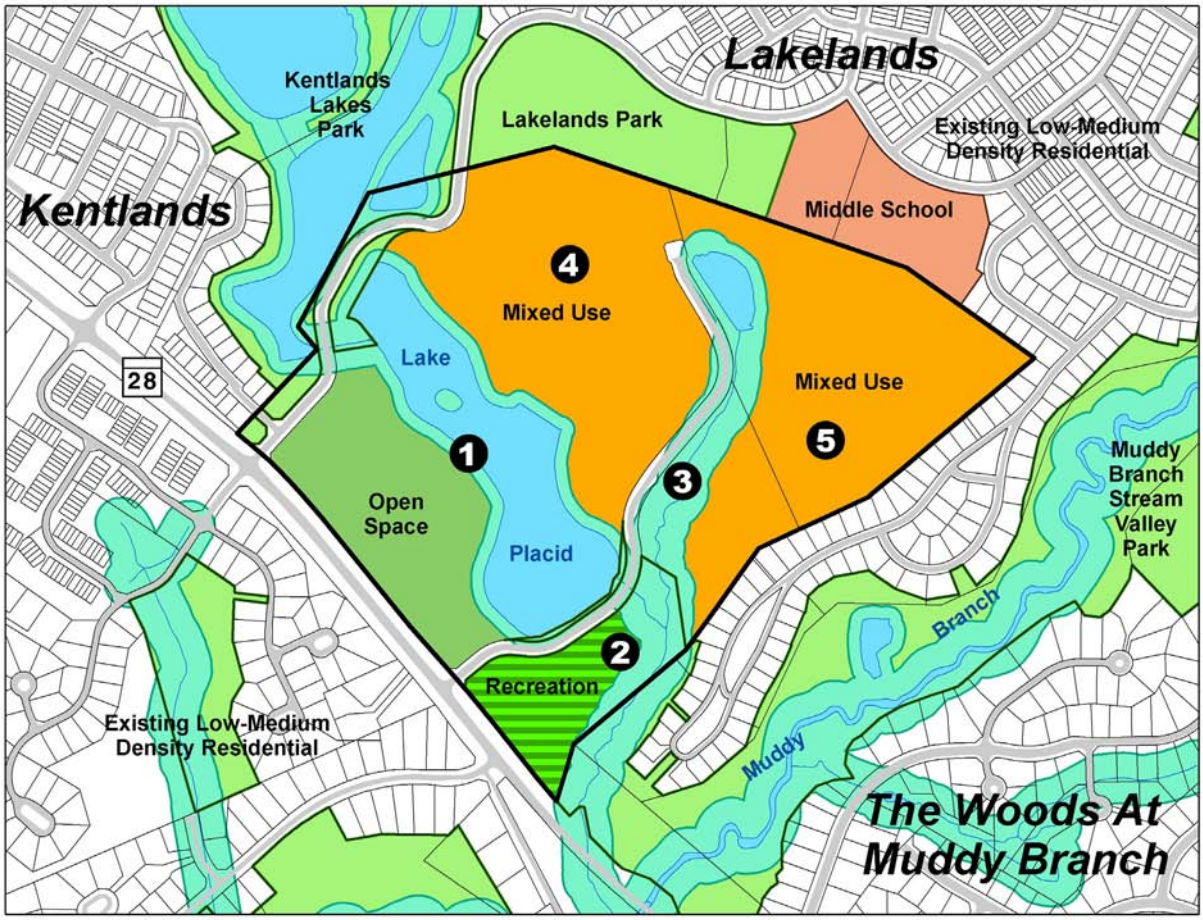
Land Use and Zoning Action

Designate land use as **office and research & development**
Zoning remains **I-3** (Industrial Office Park)

Special Condition:

Map Designation 1 shall be preserved as open space. Rezoning to R-A (Low Density Residential), recordation of an open space easement and/or covenant, and designation of open space use shall occur at the time of development and/or subdivision of Lot 1 (Map Designation 4).

Land Use Option B: Mixed-Use Development



Map Designation 1:

This map designation consists of Lake Placid, the Stream Valley buffer around the lake, and the green space between the lake and Darnestown Road (Route 28). This map designation should be designated as open space and preserved as a prominent focal point for the surrounding development and to promote lively recreational and pedestrian activity. At such time as development is proposed for this Special Study Area, the area that makes-up *Map Designation 1* should be preserved as an open space easement.

Land Use and Zoning Action

Designate land use as **recreation/open space**
Recommend zoning change to **MXD** (Mixed Use Development).
Preserve area as an open space easement at such time development of *Map Designation 4* is proposed.

Map Designation 2:

This map designation, known as Lot 3 Block B GE Technology Park, has been selected as the future site of the Gaithersburg Aquatic/Recreation Center. Future pedestrian pathways should be provided to connect to the surrounding community and uses. It is recommended that this lot be designated as recreation and rezoned to the MXD zoning classification.

This map designation should be the primary location of the Gaithersburg Aquatic/Recreation Center. However, if the aquatic/recreation center can be relocated within *Map Designation 4* as part of a comprehensive mixed-use development proposal involving both *Map Designations 4* and *5*, a possible land swap option may be explored. This land swap option would involve the City-owned property (*Map Designation 2*) with an equal or larger sized property located in *Map Designation 4*. In addition, the land use of the property that makes up *Map Designation 2* should be designated as a mixed-use commercial-office with the primary use being office.

Land Use and Zoning Action

Designate land use as **recreation**
Recommend zoning change to **MXD** (Mixed Use Development)

Map Designation 3:

This map designation includes Lake Edison and the adjacent stream and stream valley buffer. It is recommended this area consisting of part of Lot 1, part of Lot 2, and part of Parcel C Block B be designated as open space and preserved in its natural state.

Land Use and Zoning Action

Designate land use as **open space**
Recommend zoning change to **MXD** (Mixed Use Development)
Recommend zoning change to **R-A** (Low Density Residential) at such time as subdivision occurs.

Map Designation 4:

This map designation consists of part of Lot 1, part of Lot 2, and part of Parcel C Block B. This area is viewed as the primary location for development in the study area. Located on this map designation is the former National Geographic office building. Any future development and uses should focus on a mix of office, residential and commercial/retail uses. Developing office use similar to the former National Geographic office building and the addition of a residential component would be compatible with the surrounding residential community and the current use on site.

Proper planning and architectural design should play an important role in any mixed-use development proposal as well as be sensitive to the surrounding community's unique neo-traditional design. Any development proposal should

incorporate smart growth initiatives, best-planning practices, green buildings, trails, enhanced architectural standards, pocket parks and open space. Surface parking should be minimized and parking structures should be required as part of a well-integrated development design plan.

The first floors of the buildings should be taller and provide additional architectural detail to allow for commercial/retail uses and provide a better pedestrian experience. At such time as a mixed-use development is proposed and all of the above stated elements and any special conditions are incorporated into the plan, further study should be conducted to review the appropriateness of the current development square footage cap.

It is recommended that these properties be designated as mixed office, residential and commercial/retail uses and rezoned from the I-3 zoning classification to the MXD zone. The primary land use for this map designation should be the expansion of the office use. Residential uses may be permitted, but should clearly be smaller in both size and density. The preferred residential housing types are single-family attached and detached houses and 2-over-2 condominiums rather than multi-family housing. The commercial/retail uses are intended to be incidental to the primary office and residential uses and will be limited to the first floor of any multi-level office structure and the first two floors of 2-over-2 condominium units. Uses other than the office, residential and the incidental commercial/retail uses, such as warehouse and industrial uses, are not recommended and would not be considered compatible or the best/highest use of the property.

The MXD zone provides the flexibility of staging development; therefore any development with particular attention to residential uses should provide a detailed staging plan that addressed both transportation and school capacity issues. At such time a development proposal is submitted the City will work with the developer to define an appropriate approach for staging residential development.

Land Use and Zoning Action

Designate land use as **mixed office, residential, commercial/retail use**
Recommend zoning change to **MXD** (Mixed Use Development)

Map Designation 5:

This map designation consists of Lot 2 and part of Parcel C Block B G.E. Technology Park and includes the existing warehouse and a vacant parcel. It is recommended that these properties be predominately designated as low-medium density residential and rezoned from the I-3 zoning classification to the MXD zone. The residential designation is compatible with the single-family detached development of the Lakelands that borders both lots.

Any development proposal should preserve as much of the forest and other environmental amenities on Parcel C as possible and provide a community/greenspace buffer adjacent to the Lane in The Woods subdivision of Lakelands. Single-family detached housing that is compatible with the Lakelands (Lane in The Woods) residential development should be located adjacent to the community/greenspace buffer. The remainder of the housing units should consist of a mix of detached and attached single-family houses, distributed as evenly as possible throughout the development. The architectural elevations and materials should be consistent with the high standards of the neighboring communities.

Access to Parcel C should be provided from the existing access drive to Lot 2 so as to avoid an additional stream crossing (see *Map Designation 3*). If this cannot be accomplished or the design and density of a proposed residential development requires additional access, only one additional road connection, through the stream valley buffer, to Edison Park Drive will be permitted to access Parcel C.

Land Use and Zoning Action

Designate land use as **low-medium density residential**
Recommend zoning change to **MXD** (Mixed Use Development)

Special Conditions:

- Development of Lot 1 (Map Designation 4) shall be concurrent with the redevelopment of Lot 2 and Parcel C (Map Designation 5) and part of a unified design.

- Map Designation 1 shall be preserved as open space. Rezoning to MXD (Mixed Use), recordation of an open space easement and/or covenant, and designation of open space use shall occur at the time of development and/or subdivision of Lot 1 (Map Designation 4).

- Residential development of the Study Area shall be of comparable density and mix to the adjacent communities of Kentlands and Lakelands.

Gaithersburg
A Character Counts! City

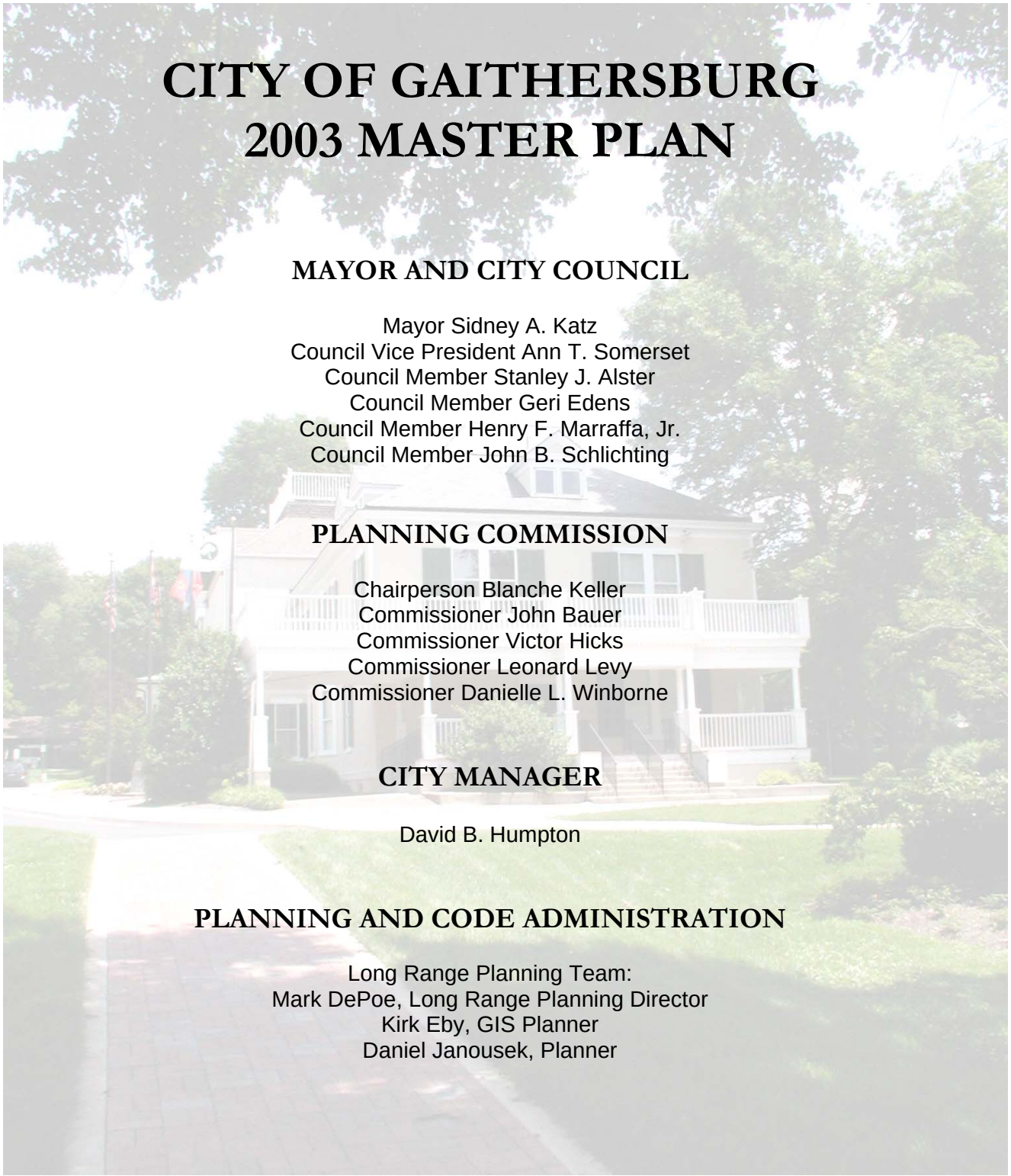
City of Gaithersburg

PROCESS AND OVERVIEW

A Master Plan Element

Adopted December 15, 2003

2003
MASTER PLAN



CITY OF GAITHERSBURG
2003 MASTER PLAN

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David B. Humpton

PLANNING AND CODE ADMINISTRATION

Long Range Planning Team:
Mark DePoe, Long Range Planning Director
Kirk Eby, GIS Planner
Daniel Janousek, Planner

CITY OF GAITHERSBURG
2003 MASTER PLAN

CHAPTER 1
PROCESS AND OVERVIEW

TABLE OF CONTENTS

Prepared By:
Planning and Code Administration

Long Range Planning Team:

Mark DePoe, Long Range Planning Director
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Daniel Janousek, Planner

1. INTRODUCTION

The Master Plan is designed to establish a vision and long-range plan for the City's future. It sets policies, identifies and evaluates community planning goals and areas of community concern, and in the final analysis, presents a recommended plan.

The process of developing and adopting a Master Plan involves many tasks such as social and demographic research, land-use review, policy issues identification, community involvement and participation, and coordinating separate land use, housing, transportation, community facilities, recreation and natural resource plans.

By evaluating current conditions and future trends, The City of Gaithersburg has developed a Master Plan to support its vision of leadership in the years to come. A unified vision for the future of the City, representing ideas from the citizens, the local business community, industry, elected officials, regulatory agencies, and other interested parties, is a major achievement of the Master Plan.

The Master Plan process also includes ongoing review and revision of the plan. The process is a continuous one if a local jurisdiction is to keep its Master Plan current and geared to the evolving needs of its community. In fact, the State of Maryland's 1992 Planning Act mandated that each jurisdiction exercising planning and zoning authority provide to the Governor a schedule for updating the required elements of the local Master Plan.

1.1 Adoption of Process and City Overview

The Planning Commission at their September 3, 2003 meeting reviewed the proposed Master Plan Amendment and approved the amendment MP-1-03 to the General Plan for the City of Gaithersburg Master Plan revising the Land Use Element and the Process and City Overview by Resolution PCR-2-03.

The Mayor and City Council held their Policy Discussion regarding the MP-1-03 application on September 15, 2003. On December 15, 2003, the Mayor and City Council adopted the amendment MP-1-03 to the General Plan for the City of Gaithersburg Master Plan revising the Land Use Element and the Process and City Overview by Resolution R-103-03

2. MASTER PLAN PROCESS AND OVERVIEW

2.1 Background: Master Plan Update

The Planning Commission and the Mayor and City Council participated in a goals workshop in March of 1979 for the purpose of guiding short- and long-term physical planning through the Master Plan revision process. This provided the basis for a neighborhood by neighborhood Master Plan effort during the 1980's which was subsequently updated and revised. In 1994, the Mayor and City Council embarked on a Strategic Planning Process to pave the way for the City's future, and a 21st Century Committee was established to "identify, study, and make recommendations on issues facing the City in the future." This Committee helped revise the City's vision, mission statement, and guiding principles, all of which provided the framework for land use decisions since the adoption of the 1997 Master Plan to the present time. Leading into the 2003 Master Plan, the Strategic Directions have been updated and the City began a visioning process to view the City as a whole and how the City element interact and affect one another:

2.2 The Visioning Process

The Mayor and City Council, City Staff and the citizens of Gaithersburg began the process of reviewing the Master Plan by holding Master Plan Visioning Meetings on September 26th and October 18th of 2001. Participants met in three Break-Out Groups to discuss three questions:

1. What is going well in the community?
2. How has the current Master Plan helped the community?
3. What are current and/or future challenges that the Master Plan should address?

From these meetings, it was determined that a new frame work was needed in order for the City of Gaithersburg to continue to guide the physical planning of the City into the future while retaining the integrity of the 1997 Master Plan. The 2003 Master Plan will set the vision for the actions to be taken by the City in implementing the Plan, and it is intended to provide a direction for all future planning decisions, goals, objectives, policies and standards of the community.

2.3 Themes

Gaithersburg began the process of updating the Master Plan by creating a new vision for the community during several public work sessions in 2001 and 2002. A host of nine "Themes" were created during this process. The Themes will set the vision of the City. The Themes act as the City's goals and objectives, principles, policies and standards, and they will guide the City of Gaithersburg with future policy decisions regarding the City's identity, redevelopment options, the location of town

centers, environmental protection, transportation options, the scope and scale of community facilities, housing needs, economic development and education.

2.4 Master Plan Elements

An overriding goal of this Master Plan update is to examine the City's land use, transportation, housing, recreation, community facilities, historic components and other social, civic and economic needs of the City. To address these issues, the Master Plan is to include a Land Use Element, Transportation Element, Community Facilities Element, Sensitive Areas Element, Historic Preservation Element and an update of demographics and population projections of the City of Gaithersburg. The City will also review its existing Smart Growth and Housing Policies.

Each of the Master Plan Elements will be reviewed, revised and prepared separately. The Mayor and City Council determined that the Land Use Plan will be the first of the Master Plan Elements to be amended. The Land Use Element of the Master Plan is viewed as the core of the Master Plan, providing the basic strategy that will allow the City to accommodate residential, commercial, institutional and industrial growth.

2.5 Special Study Areas

Another key section of the 2003 Master Plan update was the designation of ten "Special Study Areas". The Special Study Areas include land that is the subject of intensive review of existing physical conditions and planning influences, discussions with citizens and elected officials about desired community character, and analysis of likely future development and needs. The forums for this review include stakeholders meetings for each Special Study Area and Joint Mayor & City Council and Planning Commission work sessions to provide consensus on options for future land use. Some of these special study areas will contain special conditions relating to approval of development to be consistent with the requirements of the Master Plan. The Special Study Areas will be incorporated into the Land Use Element of the Master Plan.

2.6 Special Conditions

An important feature of the Master Plan is to identify conditions for the approval of development of certain identified properties and areas to implement Section 24-170A and Section 24-160D.10(b)(3) of the City Zoning Ordinance. Schematic development plans under the MXD zone and for all site development planning irrespective of the zoning district for properties and/or areas containing special condition requirements may only be approved upon a finding of compliance or consistency with the special condition set forth in the Master Plan and these conditions are mandatory in terms of approvals of schematic development plans under the MXD zone and for all site development planning irrespective of the zoning district.

3. 2003 STRATEGIC DIRECTION PLAN

On an annual basis the Mayor and City Council adopt a Strategic Plan. The 2003 Strategic Directions will advance the goals, objectives and vision of the 2003 Master Plan Update.

3.1 Strategic Directions Overview

- Ensure that all planning and development considers and responds to the City's environmental, transportation, economic, social and civic needs.
- Implement traffic and transportation management strategies to improve the safety, structure and function of streets, transit, bikeways and sidewalks within the City.
- Actively pursue the Olde Town Blueprint.
- Maintain and enhance priority City services
- Pursue programs that preserve and improve current future housing stock and mix (e.g., aging apartment)
- Maintain support of neighborhood Community Policing programs.
- Implement programs to enhance delivery of services that address the needs of the City's culturally diverse population.
- Implement the Master Plan for Parks, Recreation, Cultural and Leisure Activities.
- Implement recommendations from ongoing evaluations of natural resources and encourage protection and enhancement of the environment (streams, parks, stormwater management, and other CIP projects).
- Actively pursue economic development programs and strategies that promote citizen involvement.

3.2 Vision

Gaithersburg will set the standard for other cities as a "special" place where people want to live, work, learn, and play. Gaithersburg will be a City that:

Lives by the Six Pillars of CHARACTER COUNTS! (trustworthiness, respect, responsibility, fairness, caring and citizenship).
Has retained the best qualities of a small town and respects its heritage while embracing the opportunities that new technologies provide.
Has involved and supportive citizens and businesses reflecting the diversity of the community.
Has a fiscally conservative, proactive government.
Has safe, highly livable neighborhoods with a variety of housing types and styles served by diverse transportation options.
Has a desirable business environment and diverse employment options.
Has excellent learning opportunities that meet the needs of the community.
Has attractive and beautifully maintained parks and public places.

Has many leisure time activities that meet the needs of the community.
Has a high quality, family-friendly environment for people of all ages and cultures.
Has citizens with a strong sense of community and individual responsibility.
Has a natural environment that is protected, respected, and enhanced.
Has strong partnerships to meet the needs of the community.
Has a community that encourages individual health and wellness.

3.3 Guiding Principles

We (the City) are guided by the Six Pillars of **CHARACTER COUNTS!** (trustworthiness, respect, responsibility, fairness, caring and citizenship) as demonstrated by the following principles:

CUSTOMER FOCUS
We actively pursue the identification of citizen needs through citizen involvement to provide effective service to our community with efficiency, accountability, and a caring attitude.

OPEN COMMUNICATION
We promote honest, open communication and easy access to information.

CREATIVITY
We strive to improve the quality and efficiency of City services through creative approaches and new innovative, cost effective technologies.

FISCAL RESPONSIBILITY
We provide quality services, of the best value, to effectively meet the needs of our community while maintaining a pay-as-you-go philosophy.

COOPERATION
We promote a spirit of fairness, trustworthiness, respect and teamwork among our elected officials, City employees, residential and business communities, neighboring jurisdictions, and other governmental agencies.

COMMITMENT OF EXCELLENCE
We strive to achieve excellence in all we do.

CONTINUOUS IMPROVEMENT
We advocate good citizenship and support the freedom to actively pursue suggestions, ideas, and creative approaches, leading to continuous improvement in everything we do.

4. THEMES

The Themes were created during the Master Plan process and adopted by the Mayor and City Council on October 7, 2002. The Themes set the vision of the City and help guide land use and policy decisions regarding the City's identity, development options, the location of town centers, environmental protection, transportation options, the scope and scale of community facilities, housing needs, economic development and education. Each Theme does not stand alone and they must all be considered when Master Plan, land use, policy and/or development decisions are made.

4.1 Identity

Gaithersburg is a community that… has a remarkable sense of place, with a distinct identity and strong heritage, characterized by attractive public spaces.

Objective A: Improve Appearance of City Boundaries to Emphasize the Sense of Place.

Action 1: Identify and prioritize location of entrance features.
Action 2: Design and create distinctive entry features.
Action 3: Identify and prioritize streetscape improvement areas.
Action 4: Evaluate potential annexations.

Objective B: Design Attractive Public and Private Outdoor Places such as Parks, Squares, Streetscapes, and Courtyards.

Action 1: Require developers to install art in public places where appropriate.
Action 2: Identify and prioritize pocket parks throughout the City.
Action 3: Develop a Master Plan for art in public places.
Action 4: Enhance City identity of existing parks through signage, trash receptacles, landscape, lighting, etc., that is truly unique to Gaithersburg facilities.
Action 5: Require play areas and tot lots to be dispersed through new development.
Action 6: Develop a plan for Olde Towne Square that will illustrate the City's special heritage.

Objective C: Improve the Appearance of the City

Action 1: Implement the Frederick Avenue Corridor Plan.
Action 2: Approve and implement the City's draft sign ordinance.
Action 3: Create a unique City-wide theme for all public signage, such as road and destination signage.
Action 4: Require developers to install enhanced streetscape with all development and redevelopment.

Objective D: Protect Existing Landmarks, Scenic Views, Vistas, and Structures of Special or Architectural/Historic Value within the City of Gaithersburg.

Action 1: Identify for protection significant landmarks (buildings, bridges, natural resources, historic resources).
Action 2: Promote individual landmarks through marketing techniques and programs such as the Montgomery County Heritage Tourism Initiative and Arts & Entertainment District.

4.2 Redevelopment

*Gaithersburg is a community that…*will encourage orderly and managed redevelopment of aging areas using the themes developed herein, with an emphasis on decisions that ensure the stability of the City and that seek the continuous collaboration of all stakeholders.

Objective A: Utilize the City's 'Smart Growth' Principles to Encourage High Quality Infill Redevelopment.

Action 1: Promote the Traditional Neighborhood Development (TND) option and review past projects for accomplishments.
Action 2: Design mixed use, housing, commercial, office, industrial and public developments at a pedestrian scale that do not overly dominate the streetscape, promoting a more livable pattern of development.
Action 3: Promote the development of a system of walkways, bikeways, and streets that create connections between and among developments.
Action 4: Establish required buffering for future redevelopment that enhances and improves natural resources.
Action 5: Increase public green/open space through infrastructure re-design in existing neighborhoods.
Action 6: Preserve historic and other important structures and amenities during redevelopment.

Objective B: Create Incentives to Encourage Quality Redevelopment.

- Action 1: Reduce the parking requirements for projects that are within close proximity to transit or provide joint surface or structure parking.
- Action 2: Develop a program that allows for the transfer of open/green space requirements to other sites or a fee in lieu of the requirements.
- Action 3: Consider waiving the density or height requirements for a more desired project.
- Action 4: Allow for innovative Stormwater Management practices.
- Action 5: Consider reducing or waiving permit and development fees for more desired projects.

Objective C: Identify Properties for Redevelopment.

- Action 1: Utilize GIS information to assist in the identification of redevelopment opportunities.
- Action 2: Perform cost-benefit analysis of potential redevelopment projects.
- Action 3: Analyze rental housing inspection data, code violation and crime statistics history to assist in identifying properties in need of redevelopment.
- Action 4: Consider redevelopment options in all areas (even those that have recently developed).

Objective D: Continue to Implement and Update City-Wide and Community Plans.

- Action 1: Update Olde Towne Master Plan.
- Action 2: Continue to implement Frederick Avenue Corridor Plan and review the current approval process.
- Action 3: Revise the Zoning Ordinance to be consistent with existing and proposed City zones and land uses and with the Master Plan.

4.3 Town Centers

Gaithersburg is a community that… affirms the designations of the existing Town Centers which offer compact and efficient neighborhoods with vibrant centralized community-based focal points that attractively combine commercial, housing, civic, cultural, educational, transportation, and recreational opportunities.

A Town Center is a compact area with a mix of retail, office and commercial activity, with housing, that serves as a hub of community activity and an economic engine for the City. Easily accessible by area residents, Town Centers provide a destination and a gateway to other centers via regional transportation and are convenient for people who are on bicycles or on foot. Town Centers are logical places for compact housing development because of their proximity to transit, shopping and employment. Town Centers often offer community services such as libraries and civic offices and act as social gathering places where people take advantage of cultural and recreational activities.

Suitability for Town Centers designation will be considered when:

- The existing development pattern and zoning is conducive to supporting dense, mixed-use pedestrian oriented places.
- Current or future access to regional transportation facilities is available.
- Parks, public/private facilities, schools, community services and commerce can be provided for or planned.
- Public infrastructure can accommodate future growth and density.
- A mix of housing choices can be offered.

Objective A: Enhance and Preserve the Historic Feel and Appearance of Olde Towne as a Downtown Town Center.

Action 1: Encourage locally owned businesses and actively recruit small- and medium-sized businesses to locate in Olde Towne.

Action 2: Provide a unique collection of uses (specialty shops, restaurants and other uses) and provide a cultural theme that would foster a distinct destination Town Center

Action 3: Create places and activities for citizens to participate in and create civic symbols to identify with (downtown park and Bell Tower). Residents should be reconnected with their downtown to take pride and identify it as their place to gather.

Action 4: Provide residential development in and around downtown, both in upper floors above retail and in urban-style apartments, condominiums and townhouses.

Action 5: Continue to preserve and emphasize the historic character of Olde Towne and the surrounding area.

Action 6: Create an art and entertainment overlay district containing theatres, galleries, studios, etc.
Action 7: Organization of both an open-air flea market and a farmers market.
Action 8: Retain Olde Towne community services, such as public schools, post office, police station and City Hall.

Objective B: Continue to Foster the Success of Washingtonian as a Regional Town Center.

Action 1: Complete the build-out of the remaining portion of the Town Center adjacent to the lake.
Action 2: Encourage the developer/owner to increase the cultural activities and provide a seasonal shelter for the performance area located in the existing pedestrian park.
Action 3: Encourage office, rather than residential, for the remaining density.

Objective C: Stimulate and Increase the Utilization of Kentlands Market Square as a Neighborhood Town Center.

Action 1: Encourage more general office use in the Town Center to balance the large amount of retail businesses.
Action 2: Encourage businesses that are more appropriate to serve the adjacent neighborhoods.
Action 3: Consider increasing density in Market Square in conjunction with the construction of a parking structure.
Action 4: Redevelop the vacant Upton's property into a mixed used project with a significant multi-family component.
Action 5: Appoint a committee consisting of residents, merchants, City representatives, and other stakeholders to recommend improvements for the Market Square Town Center.

Objective D: Support and Enhance Lakeforest Mall and Vicinity.

Action 1: Improve pedestrian access to mall.
Action 2: Encourage Montgomery County to incentivize renovations at Cider Mill Apartments.
Action 3: Work with Montgomery County to improve the safety, security, and cleanliness of the Lakeforest transit center.
Action 4: Consider permitting additional density on the mall property.

Objective E: Provide Distinct Elements to which all Town Centers should Adhere.

Action 1: Encourage structured parking and allow for on-street parking design. The parking should be efficiently and conveniently located to the uses of the Town Center.
Action 2: Promote the development of a system of walkways, bikeways, and streets that create connections between and among Town Centers and surrounding neighborhoods.
Action 3: Provide safety and comfort for all users of the area.
Action 4: Provide compactness and concentrate uses while providing a functional Town Center that addresses circulation, community services, parking, maintenance, housing, and recreation.
Action 5: Provide an attractive community and preserve the organization and cleanliness of the Town Center.
Action 6: Provide measures to ensure compatibility between differing, adjacent land uses.
Action 7: Create places and activities in the Town Center for all age groups.
Action 8: Establish individual architecture control districts to limit new structures to the approved style and encourage owners to reface their buildings.
Action 9: Town Center gateways and signage are to be provided. Kiosks will serve as community bulletin boards and alert residents and visitors to upcoming events and Town Center attractions.
Action 10: Public spaces are encouraged and given strong consideration within any intensely developed commercial or office areas.

Objective F: Revitalize Existing Commercial Centers for Potential Town Center Designation.

Action 1: Designate other existing commercial centers for potential redevelopment and/or Town Center designation. (e.g., Quince Orchard Park/Clopper Road commercial area).
Action 2: Reorient activity on the site to face the street.
Action 3: Apply new land uses, development and design standards and encourage rezoning of certain properties to allow for mixed-use development.
Action 4: Reestablish a street pattern that connects with the street pattern of the surrounding community.
Action 5: Integrate multiple uses (ideally including employment and/or housing) on the site.
Action 6: Dwelling units shall be an important component and should be thoroughly dispersed throughout in diverse forms and sizes. Provide a range of housing types, to provide for people of all ages and incomes.
Action 7: Emphasize public spaces for shared activity.

4.4 Environment

*Gaithersburg is a community that…*preserves and enhances open space and critical environmental areas; highlights natural beauty in its land use plans in order for such areas to support ecological systems, serve as award-winning parks, trails, and recreational facilities where public use is fostered through site design; and ensures a high quality of life that is sustainable for future generations.

Objective A: Protect and Restore Environmentally Sensitive Areas during Development and Redevelopment by Promoting Land Uses that are in Balance with, and Minimize Adverse Effects on, the Natural Environment.

Action 1: Implement the Environmental Standards for Development Regulation to identify and protect natural resources and environmentally sensitive areas as open space amenities, natural habitat areas, and important elements of community design.

Action 2: Utilize geographic information systems (GIS) to create a map that identifies the City's sensitive areas (e.g., streams, wetlands, 100-year floodplains, buffers, forested areas, steep slopes, habitat areas, poor soils, etc.) that should be protected. Identify areas that are currently protected (e.g., publicly-owned, conservation easements, etc.), and areas that should be the focus of future protection efforts.

Action 3: Continue to promote the use of the cluster option, particularly in instances where a substantial net increase in the amount of protected land would result.

Action 4: Require developers to work with the City to implement long-term, continuous monitoring (e.g., streams, stormwater management structures, street trees, forests, and wildlife) to determine the ecological impacts of development, the effectiveness of environmental protection practices, and areas in need of restoration – the level and type of monitoring to be determined as appropriate on a case-by-case basis.

Action 5: Evaluate open/green space definitions and requirements in the City of Gaithersburg Zoning Ordinance and the Environmental Standards for Development Regulation.

Objective B: Establish Additional Parkland.

Action 1: Evaluate each plan on a case-by-case basis as part of the development process in order to ensure that development and redevelopment are self sufficient and provide the highest level of

recreation service obtainable. As an absolute minimum, developers shall be required to retain at least five percent of the developable area as open space or parkland suitable for active recreation use.

Action 2: Consider a cash-in-lieu of land ordinance that requires developers to pay into a City Parks and Recreation fund if they cannot provide adequate green space, parklands and recreation facilities on-site as part of their development. The City fund will be used for parkland acquisition and the construction of new recreation facilities.

Action 3: Actively pursue outside funding sources, including grants and developer proffers, to assist in the creation of new parkland.

Action 4: Adopt criteria that will identify appropriate parcels for pocket parks, particularly in developed communities, and institute a program that will establish and enhance pocket parks.

Action 5: Identify specific opportunities to establish additional parkland; including land swap options and cooperative agreements with homeowners associations and other property owners.

Action 6: Pursue redevelopment strategies that will increase the availability of open space and parkland. This includes the creation of plazas, fountains, gardens, benches, public art and other park-like features as amenities in redevelopment projects.

Action 7: Redesign infrastructure in order to increase public green space in existing neighborhoods.

Action 8: Study the desirability and legal feasibility of adopting an open space zoning category to clearly identify public lands.

Objective C: Protect and improve water resources (streams, wetlands, 100-year floodplains, and riparian buffers) that have significant functions and values related to flood protection, sediment and erosion control, water quality, groundwater recharge and discharge, education, vegetation, and fish and wildlife habitat.

Action 1: Utilize the results of ongoing stream assessments to establish stabilization/restoration priority areas to improve water quality, stabilize stream banks and restore aquatic habitat in streams exhibiting deteriorating conditions.

Action 2: Maintain and protect existing stream buffers by replanting native vegetation along unforested buffers and increasing “no mow” area adjacent to streams in City parks.

Action 3: Encourage citizen volunteers to become involved in stream and watershed protection by expanding the stream clean-up program and implementing a volunteer stream-monitoring program.

Action 4: Consider providing incentives to establish conservation easements along streams when the purchase of property is not possible.

Action 5: Identify options to improve streams and riparian buffers on private property.

Objective D: Improve public and private stormwater management (SWM) facilities; including performance, longevity, safety, ease of maintenance, community acceptance, and environmental benefit.

- Action 1: Develop a Watershed Management Plan to analyze the City's existing water resources, riparian areas, and runoff management practices; establish management goals for subwatersheds based on existing streamconditions, current land uses, and future land use changes; provide overall SWM recommendations for City subwatersheds; and establish an implementation plan.
- Action 2: Retrofit existing stormwater management structures in the City (e.g., Brighton Weir, Rabbitt Road, Woodland Hills, Diamond Farms, and Christman Pond).
- Action 3: Develop an education program (e.g., brochures, web site, cable TV programs, etc.) to reduce non-point source pollution in urban runoff from residential, commercial, industrial, municipal, and transportation land uses and activities.
- Action 4: Complete and maintain a GIS-based inventory of SWM facilities.
- Action 5: Develop an inspection and enforcement program for stormwater management facilities that are both publicly and privately maintained.
- Action 6: Require developers to mitigate adverse stormwater conditions from existing offsite conditions when possible.
- Action 7: Identify opportunities for regional solutions to stormwater management.
- Action 8: Identify specific opportunities to enter into cooperative agreements with homeowners associations and other property owners to improve private SWM facilities.

Objective E: Improve the diversity, health, aesthetics, and tree canopy coverage of the City's urban forest; including trees and understory plants growing in forests, parkland, unimproved lots, yards, and along streets.

- Action 1: Implement regulations associated with the Maryland Forest Conservation Act, Chapter 21 of the City Code (Tree and Vegetation-Public Lands), and Chapter 22 of the City Code (Tree and Forest Conservation) to protect and enhance forest resources.
- Action 2: Develop an urban forestry management program that will conduct a GIS based inventory of existing street trees, designate guidelines for maintaining all significant trees, establish guidelines for increasing the City's tree canopy cover, and coordinate with the City Beautification Committee to prioritize street tree enhancement projects.
- Action 3: Develop a map of reforestation priority areas; including stream valley buffers, steep slopes, connections between existing forested areas, potential habitat areas, and areas of scenic value.
- Action 4: Direct afforestation/reforestation funds to replant native plant species in reforestation priority areas,

Action 5: Develop planting standards that encourage the use of a variety of native plants that provide aesthetic, wildlife habitat, resource conservation, and watershed protection benefits.

Action 6: Develop a planting Master Plan for the City's main transportation corridors to promote an attractive distinct identity.

Action 7: Seek funding from outside sources to encourage reforestation on public and private lands (e.g., Department of Natural Resources' Buffer Incentive Program, Urban and Community Forestry Funds, etc.).

Objective F: Enhance the quality, location, connectivity, accessibility, and value of the City's green infrastructure (the interconnected networks of open space, parks, natural areas, forests, waterways, and wildlife habitat).

Action 1: Develop standards (including signage, landscaping, lighting, benches, fountains, trash receptacles, artwork, etc.) for different types of parkland. Implement the standards in existing parks and require future parks to comply with these standards.

Action 2: During the development process, acquire remaining lands and easements needed to complete the perimeter trail, regional connections, and more internal links in order to improve accessibility to natural areas, increase opportunities for recreation, and promote alternative modes of transportation.

Action 3: Manage all City parks, grounds, and recreational facilities in a manner that meets public safety concerns, recreation needs, habitat protection goals, natural resources protection needs, and pollution prevention goals (e.g., utilize an Integrated Pest Management approach, eliminate fire or safety hazards, remove hazardous or diseased trees, control invasive species, stabilize and restore streams, and improve landscapes, habitat, and buffers).

Action 4: Increase citizen volunteer participation, including schools and volunteer committees such as the Environmental Affairs Committee, the Beautification Committee, and ad-hoc Parks, Recreation, and Culture committees, to enhance the City's green infrastructure (e.g., park cleanups, the Adopt-A-Park program, etc.).

Objective G: Enhance habitat areas to increase the variety and quantity of fish, wildlife, and native plant species throughout the urban area in a manner compatible with other urban development and activities.

Action 1: Require developers to create and implement Wildlife Management Plans when development is expected to impact wildlife and habitats.

Action 2: Prepare and implement plans to enhance the wildlife habitat value of ponds, stream valleys and other public open spaces.

Action 3: Develop local strategies (e.g., Department of Natural Resources Wild Acres Program, Bayscaping, etc.) to encourage appropriate wildlife habitat on private properties.

Action 4: Identify existing habitat locations for rare, threatened, endangered, in need of conservation, and/or Maryland watchlist species as they become known.

Objective H: Encourage green building principles to be applied in both public and private development in order to support environmentally sensitive design, construction, operation, and maintenance of buildings and landscapes.

Action 1: Create incentives to encourage green building; such as financial incentives, density incentives, permit facilitation, recognition, and technical advice.

Action 2: Educate staff, the local development community, and citizens about the principles and benefits of green building.

Action 3: Inventory relevant codes, regulations, and programs now implemented that could be viewed as part of a comprehensive green building program and identify existing gaps and policies that may inhibit resource efficiency.

Action 4: Investigate resources of existing organizations and capitalize on their previous efforts, know-how, and strengths.

Action 5: Investigate outside sources of funding and technical support (e.g., Maryland Department of Natural Resources, U.S. Green Buildings Council, U.S. Department of Energy) to apply green building principles to public projects.

Objective I: Participate in regional efforts to reduce solid waste, air, noise, visual, and lighting pollution to ensure a high quality of life that is sustainable for future generations.

Action 1: Educate the community and businesses about litter prevention, solid was reduction, the reuse of materials, environmentally sound disposal of solid waste, composting, and recycling (e.g., America Recycles Day, Environmental Awareness Week, etc.).

Action 2: Develop a mandatory recycling program for multifamily-dwelling units.

Action 3: Adopt land use pattern designations that cluster services and residential uses to promote the use of transit, thereby reducing automobile use and air pollution.

Action 4: Support regional noise abatement programs (e.g., Montgomery County Noise Control Ordinance) and consider opportunities to reduce noise impacts of development on adjacent properties; such as noise-conscious site design; noise source controls; increased setbacks for

noise sources from adjacent dwellings; fences, walls or landscaping that serve as noise buffers; and the use of soundproofing materials and double-glazed windows.

Action 5: Carefully review lighting plans during the site planning process and encourage all new development and redevelopment to design and maintain outdoor lighting systems that provide safety, utility and security, as well as prevent misdirected or excessive artificial light and energy inefficiency.

4.5 Transportation

*Gaithersburg is a community that…*provides a wide number of transportation choices to overcome pressing transportation issues, including but not limited to encouraging mixed-use development, use of transit, bicycling, and pedestrian oriented urban design to reduce reliance on the automobile.

Objective A: Work with other government agencies, including the Metropolitan Washington Council of Governments, to ensure the economic vitality and high quality of life in the city and region by improving the regional transportation network.

Action 1: Coordinate with other government and agencies to identify and make improvements to congested travel corridors.

Action 2: Provide strong policy guidance to the State, County, and the Council of Governments regarding future improvements to County, State and federal highways.

Action 3: Ensure compatibility of local transportation projects with regional transportation facilities.

Action 4: Require preservation of right of ways for future transportation projects.

Action 5: Support strategies that reduce peak-hour travel such as carpooling, telecommuting, bicycling, etc.

Action 6: Enter into a Memorandum of Understanding with Montgomery County concerning the use of Impact Tax Revenues collected from development.

Objective B: Limit new development when the transportation system can not support an increase in volume.

Action 1: Consider current congestion, funded improvements, and planned improvements when determining whether proposed development can be supported.

Action 2: Mandate appropriate mitigation in order to minimize impacts to the transportation system caused by all development. Appropriate Mitigation measures are unique to each development. Mitigation measures can include but not be limited to the following items: Road Widening; Intersection Improvements; Hiker-Biker Trail and Sidewalk Construction; Internal Development Circulation and Ingress/Egress Modifications; Internal and External Parking Improvements; Ride Sharing Programs and Other Traffic Reduction Measures.

Action 3: Mandate that proposed development which generates 50 or more peak hour trips will not be approved if it is found that unacceptable critical lane volumes of 1,450 exist at nearby critical intersections (taking into account existing and programmed transportation improvements), unless the developer makes transportation improvements that would improve the existing Level of Service (LOS). However, simply meeting the critical lane volume standard of 1,450 does not guarantee that additional improvements can not be required.

Action 4: Continue to evaluate adequacy of the transportation system through specific studies as part of development and annexation process.

Objective C: Improve the efficiency and safety of roads and intersection operations.

Action 1: Conduct a comprehensive study of all major roads and intersections and make recommendations to improve road and intersection operations.

Action 2: Monitor accident and congestion data to assist in prioritizing improvements.

Action 3: Work with Montgomery County and the State of Maryland to implement the recommendations resulting from Actions 1 and 2 above.

Objective D: Support transportation needs in local neighborhoods.

Action 1: Identify strategies to route through traffic away from affected local streets.

Action 2: Carefully consider future roadway widenings within the City to assure that neighborhoods are not adversely impacted.

Action 3: Continue to address neighborhood traffic calming needs.

Objective E: Promote alternatives to single-occupant vehicle trips, such as shared-ride programs, transit, bicycling, and walking to reduce pollution and promote mobility for all residents.

Action 1: Consider forming a Transportation Management District in cooperation with Montgomery County and City of Rockville.

Action 2: Continue to develop a transit-friendly community by providing infrastructure, transit shelters, pull-off lanes, and hiker-biker links to existing and planned residential and commercial developments, public facilities such as parks and schools, and transportation facilities such as park-and-ride lots and rail centers.

Action 3: Work closely with Montgomery County and the Metropolitan Washington Council of Governments to expand bus services to better serve local neighborhoods, and commercial and employment areas.

Action 4: Promote transit as a more attractive travel choice through local advertising and endorsement in public service announcements.

Action 5: Consider public transportation options for new public improvement projects such as parks and other public land-uses.

Objective F: Provide for safe, convenient and enjoyable travel by bicyclists in the area and create connections to regional trails.

Action 1: Continue to implement the adopted Bikeways and Pedestrian Plan by identifying and prioritizing specific pedestrian and bicycle improvements including designated routes, road signage, new trails and sidewalks, and bike lanes.

Action 2: Fully integrate the consideration of bicyclists needs into community and the site design process to create bicycle facilities concurrently with development.

Action 3: Target pedestrian and bicycle improvements during the reconstruction of existing roads.

Action 4: Accommodate bicyclists on roadways by providing on-street bicycle facilities on arterial and collector roadways when and where possible.

Action 5: Eliminate bicycle barriers and hazards in the design of hiker-biker trails, intersections, bridges and overpasses, and railroad crossings.

Action 6: Provide hiker-biker trails along planned hiker-biker routes when planning and developing parks, open space areas, linear corridors, and redevelopment/infill projects.

Objective G: Use a combination of education, enforcement and engineering tools to improve pedestrian, bicyclist and driver safety.

Action 1: Provide safe walking routes that connect communities to schools, transit, recreational facilities, commercial and retail areas, and other communities.

Action 2: Improve safety near schools through increased enforcement.

Action 3: Continue to use sidewalk CIP program fund construction of “missing links” of sidewalk throughout the City.

Action 4: Work with Montgomery County to implement its recommendations as detailed in the report titled "Montgomery County Blue Ribbon Panel On Pedestrian and Traffic Safety."
Action 5: Develop a pedestrian and bicyclist education program.
Action 6: Utilize the City's web site and local access television as information and education tools and create new cable television public service announcements that inform drivers of traffic circle and intersection operations to promote public safety.
Action 7: Coordinate with other government agencies and Montgomery County to evaluate the success of countdown timers for pedestrian crossings and identify intersections where countdown timers for pedestrian crossings can be installed.

Objective H: Build transportation facilities that express a strong sense of place through a coordinated City-wide design.

Action 1: Continue to install Gaithersburg prototype bus shelters in partnership with private contractor.
Action 2: Adopt Thoroughfare Design Standards.
Action 3: Develop prototype for City's future light rail transit stops.
Action 4: Develop Hiker-Biker Trails with related signage that is unique to the City of Gaithersburg.

4.6 Community Facilities

Gaithersburg is a community that… has community services and public facilities that adequately serve the citizens and are planned to expand in an orderly, fiscally cost-effective manner to achieve sustainable goals.

Objective A: Limit new development where public utilities, facilities, and services cannot be established without unduly burdening the existing service provision or users.

Action 1: Evaluate development proposals considering their indirect costs (e.g., recreation programs, public safety, etc.).
Action 2: Ensure that the revenues from new development support the cost of community improvements and services that must be provided to address growth.
Action 3: Maximize public/private partnerships in infrastructure development.
Action 4: Mandate an appropriate percentage of open space in new development.

Objective B: Implement the Master Plan for "Parks, Recreation, and Open Space for the 21st Century."

Action 1: Evaluate each plan on a case-by-case basis as part of the development process in order to ensure that development and redevelopment are self-sufficient and provide the highest level of recreation service obtainable As an absolute minimum, developers shall be required to retain at least 5% of the developable area as open space or parkland suitable for active recreation use

Action 2: Expand the current trail network, including more connections to regional trails.

Action 3: Implement development plans for the Lakelands Park, Lakeland's Recreation Center, Bohrer Park at Summit Hall Farm, and other City-owned parks.

Action 4: Establish new recreational facilities and renovate existing facilities at City-owned parks as needed.

Action 5: Expand the recreation programming to better address the needs of the City's seniors, cultural groups, teens at risk, and cultural arts enthusiasts.

Action 6: Create and implement a comprehensive cultural arts plan (facilities and programs).

Action 7: Continue to expand the Art in Public Places program by focusing on private donations.

Objective C: Maintain the Community Facilities Plan to serve as a general inventory of City-owned and operated facilities available to Gaithersburg residents.

Action 1: Ensure that Gaithersburg has adequate municipal facilities to serve the needs of the residents.

Action 2: Update annually the Community Facilities Map and inventory.

Action 3: Continue to evaluate the use and needs of each facility (building, outbuilding, structure, grounds) on an annual basis through the budget process.

Objective D: Continue to provide stewardship of City-owned and operated historic resources to reflect the understanding of the City's heritage and expertise in maintenance of older structures, their carrying capacity, and their interpretation.

Action 1: Construct an interpretive historic park at the Observatory.

Action 2: Evaluate the City-owned historic resources to determine feasibility of interpretation and adaptive reuse.
Action 3: Evaluate and support the Museum Consortium efforts.
Action 4: Investigate the addition of historic displays commemorating the City's history in all City-owned and operated buildings.
Action 5: Encourage connection of Gaithersburg to the Montgomery County Heritage Tourism program.

Objective E: Establish a safe and accessible repository for all archival materials held in trust by the City for its residents.

Action 1: Conduct an inventory of materials to be archived.
Action 2: Develop a phased plan of implementation for placement in appropriate archival storage.
Action 3: Develop a research center/area with strong oversight for proper cataloguing, imaging, and access.

4.7 Housing

*Gaithersburg is a community that…*offers a range of housing choices, while preserving the character of existing neighborhoods and providing connectivity to adjacent areas of employment, nature, recreation, services, and shopping.

Objective A: Encourage the development of single family homes (including townhomes) where housing is appropriate to offset the current housing imbalance.

Action 1: Encourage the development of single family homes (including townhomes) where housing is appropriate to offset the current housing imbalance.
Action 2: Pursue annexation of appropriate parcels for construction of single family homes.
Action 3: Encourage infill housing and the use of the Traditional Neighborhood Design (TND) option.

Objective B: Permit additional multi-family dwellings only to support existing town centers, encourage redevelopment, or comply with pre-existing annexation agreements.

Action 1: Where multi-family dwellings are deemed appropriate, require condominium uses unless it can be demonstrated that rental apartment uses are in the public interest.
Action 2: Consider approval of multi-family dwellings in or near the existing town centers.
Action 3: Consider approval of multi-family dwellings to encourage redevelopment of dilapidated properties.

Objective C: Ensure that designated apartment communities remain affordable and under existing controls.
Action 1: Continue City involvement and partial ownership of Diamond Square Apartments.
Action 2: Work with the Housing Opportunities Commission to ensure that Forest Oak Towers remains an affordable community for senior citizens.
Action 3: Monitor the rents to ensure that the Oaks at Olde Towne and Lakewood Commons comply with the area median income requirements mandated by State financing.

Objective D: Improve the condition of the existing housing stock.

Action 1: Encourage the redevelopment of aging apartment complexes.
Action 2: Continue to conduct joint inspections with homeowner's associations.
Action 3: Continue the Neighborhood Matching Grant program.
Action 4: Work with Montgomery County on providing low interest home improvement loans to qualified homeowners.
Action 5: Update Property Maintenance Code at least every three years.
Action 6: Work with Montgomery County to develop rehabilitation loans for small apartment complexes.
Action 7: Modify rental housing fee credit program.
Action 8: Continue aggressive enforcement directed at problem properties.
Action 9: Hold Neighborhood Improvement Charrettes as appropriate.

Objective E: Encourage a variety of architectural styles.

Action 1: Preserve the approved architectural standards for designated areas of the City.
Action 2: Encourage a mix of builders with a variety of architectural styles to participate in the development of new communities.

Objective F: Ensure that the current and future housing stock allows residents to remain in the City as their financial, employment, and familial situations change.

Action 1: Determine current in- and out-migration patterns for the populations in the City and County.
Action 2: Look at market studies to determine general housing preferences by age, sex, occupational status, marital status, presence of children, household income, etc.
Action 3: Determine the impact of public schools on housing preferences and work with MCPS to address any concerns with the current schools.

4.8 Economic Development

Gaithersburg is a community that… encourages Economic Development with important jobs and businesses located only where infrastructure or capacity exists or can be improved.

Objective A: Provide employment and commercial opportunities in close proximity to residential areas.
Action 1: Make certain appropriate land use designations for local commercial and employment uses are balanced throughout the City.
Action 2: Identify existing business districts throughout the City which need better infrastructure or appropriate zoning to strengthen their business core.
Action 3: Identify improvements in local transportation links between existing residential communities and business areas to facilitate home-to-work trips.

Objective B: Determine if a balanced jobs to housing ratio is needed to ensure the City's sustainability.

Action 1: Determine the current ratio of jobs to housing within the corporate limits.
Action 2: Research regional growths, compare data, and determine what impact developments have on the City.
Action 3: Identify specific land use areas for future development that could accomplish desired sustainability.

Objective C: Build on the City's strength as a science and technology center.

Action 1: Designate large contiguous undeveloped areas for technology-oriented uses that are well sited from a transportation perspective.

Action 2: Develop and strengthen partnerships with State and County Departments of Economic Development, High Technology Council, the Gaithersburg/Germantown Chamber of Commerce and legislative bodies to work with these businesses to encourage their location within the City.
Action 3: Utilize existing local tax incentive package (including reduction in development fees), to incentivize biotech users to locate in the City.
Action 4: Evaluate need for biotech zone that provides development incentives for such uses.

Objective D: Provide educational opportunities that encourage employability of residents and increasing wage rates.

Action 1: Continue to foster and strengthen relationship between MCPS, appropriate educational institutions, and the City.
Action 2: Evaluate potential sites for schools and private educational institutions. Encourage businesses to partner in education and workforce development initiatives.

Objective E: Focus redevelopment opportunities on underutilized sites.

Action 1: Establish criteria for underutilized sites based on existing assessment data.
Action 2: Identify specific underutilized sites.
Action 3: Identify development partners.
Action 4: Investigate joint development ventures.
Action 5: Facilitate assemblage of properties to provide for more efficient use of land.

Objective F: Create equitable and balanced opportunities throughout the corporate limits for retail uses.

Action 1: Continually monitor retail health of the City through cooperation with rental groups, shopping center owners, and the Chamber of Commerce.
Action 2: Identify retail uses missing from City's inventory.
Action 3: Identify geographical sectors where data indicates retail saturation.
Action 4: Identify underutilized (existing) retail sites whose characteristics may be more suitable for non-retail use.
Action 5: Designs for infill retail developments should follow the City's adopted Smart Growth Principles and the Master Plans for Olde Towne and the Frederick Avenue corridor.

Objective G: Encourage compatible development when non-residential uses are adjacent to residential communities.

- Action 1: Avoid land use designation of non-compatible uses adjacent to designated employment and commercial sites.
- Action 2: Encourage infrastructure improvements that serve both residential and commercial uses.
- Action 3: Develop and implement design standards to assure compatibility and connectivity between adjacent land uses.

Objective H: Diversify local economy so that approved development can serve a variety of industries.

- Action 1: Evaluate current mix of industries within City.
- Action 2: Identify mixed-use land use designations for appropriate locations.
- Action 3: Evaluate zoning ordinance and building codes to provide flexibility in design and uses to facilitate retrofitting of buildings.
- Action 4: Provide adequate parking at time of site plan approval to service current and possible future use of buildings.

Objective I: Cooperate with regional jurisdictions to market the Gaithersburg area for tourist and convention benefits.

- Action 1: Build strong relationships with adjacent cities, County's Conference and Visitors Board and State Office of Tourism.
- Action 2: Evaluate pending sign ordinance's impact on hospitality industry.
- Action 3: Market City's parks recreation and cultural attractions through existing hotels.
- Action 4: Cooperate with Montgomery County Heritage Tourism Initiative.

Objective J: Find innovative parking solutions that support development activities.

- Action 1: Encourage shared use parking and parking structures that support multiple businesses or industries.
- Action 2: Identify areas within City with significant parking shortages.
- Action 3: Examine highway corridors for potential on-street parking opportunities during off-peak hours.

Objective K: Re-evaluate the City's Maximum Expansion Limits (MELs), adopted in 1972 to consider enlargement of corporate limits.

Action 1: Identify properties adjacent to the City whose annexation could benefit the City economically.
Action 2: Pinpoint substandard properties adjacent to the City, annexation of which could facilitate the property's redevelopment or enhance its appearance through rigorous City code enforcement.
Action 3: Actively pursue highly desirable properties for annexation via incentives.

4.9 Education

*Gaithersburg is a community that…*coordinates closely with the Board of Education so they can assure that adequate school capacity is available when considering new development, growth in existing neighborhoods and ever-changing demographics. Schools shall be sited so that they are well incorporated into the core of a community.

Objective A: Mitigate impact of development in Gaithersburg on the quality of education in Montgomery County Public Schools (MCPS).

Action 1: Utilizing contributions from developers, create City Educational Fund to leverage MCPS capital projects.
Action 2: When a project meets the Montgomery County's Annual Growth Policy (AGP) schools test but not the City's goal of 100 percent of capacity without borrowing capacity between clusters, require the developer to contribute to the City's Educational Fund. As an alternative, require other appropriate mitigation measures deemed to be in the public interest.
Action 3: Develop appropriate phasing schedules for all residential projects.
Action 4: Seek enabling legislation from the General Assembly that would permit the City to establish special taxing areas to fund infrastructure improvements.

Objective B: Work with the Board of Education to enhance schools attended by Gaithersburg residents.

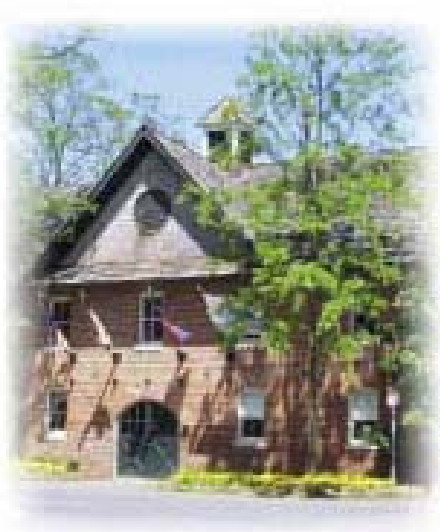
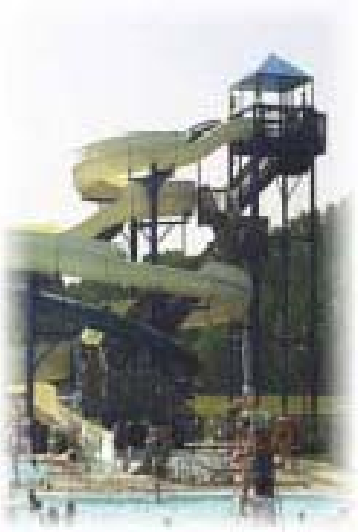
Action 1: Request regular reports for the Mayor and City Council by Montgomery County Public Schools on capacity of schools, proposed boundary changes, and status of CIP.
Action 2: Continue to be involved in future school site selection processes.
Action 3: Continue to work with school staff via Education Committee to improve the public perception of schools attended by City residents.

Objective C: Enhance the continued relationship of the City of Gaithersburg with local schools.

- Action 1: Continue City's annual grant program to support school initiatives through the Education Committee.
- Action 2: Maintain relationship between the City and school representatives through the Education Committee.
- Action 3: Continue City involvement in education programs in the elementary schools.
- Action 4: Work with MCPS to establish an education program about City of Gaithersburg government and land use planning as a part of the Montgomery County local government curriculum in area schools.
- Action 5: Continue and enhance the "Adopt a School Program."
- Action 6: Continue to recognize excellence in local schools (e.g., academic and athletic activities).
- Action 7: Continue to support initiatives to improve academic excellence in schools attended by Gaithersburg residents through the Education Committee.

Objective D: Continue working with the Board of Education, Montgomery County Government and the State of Maryland to foster continual upgrades to schools to meet the needs of City residents.

- Action 1: Continue lobbying the Board of Education, the County Council and the General Assembly for funding for CIP projects.
- Action 2: Work closely with Montgomery County Planning Board on developing their recommendation to the County Council on the AGP schools test.
- Action 3: Urge the County Council to amend the AGP schools test to eliminate the practice of borrowing from adjoining clusters and counting capacity before actual construction funds are appropriated.


5.0 CITY-WIDE GROWTH PATTERN THROUGH ANNEXATIONS AND GAITHERSBURG VICINITY PLANNING

5.1 Rationale of Annexation

During the 1960s and early 1970s, the City's growth policies were directed towards the annexation of surrounding land in order to accommodate urbanization pressures anticipated by a developing "Corridor City." Through annexation, citizens could enjoy enhanced municipal services as well as benefit from a responsive local government. The City was able, in most cases, to incorporate a larger tax base to generate additional revenues required to support the wider array of programs and services that were not previously offered throughout Gaithersburg. Together with more diverse public services, recreational and cultural activities, the City also provided an attractive location for developers seeking a less cumbersome development review process which could be completed within a predictable period of time. Thus, the annexation process, which is an economic development tool, has been employed as one means by which the City has effectively controlled and accommodated physical development so that public improvements and services can keep pace with the needs of a growing Corridor City.

5.2 State Code Amendment and Zoning Issues

In 1971, the Annotated Code of Maryland was amended to preclude municipalities from offering zoning as an incentive to annexation. Since that time, a municipality may not rezone a parcel at annexation or within five years of same to a category which is substantially different from the County's Master Plan without the express consent of the County Council. Accordingly, annexation activity in the City dropped off considerably at that point.

5.3 Growth Pattern Through Annexations

The following chart illustrates the City's historical growth pattern through annexations from 1960 through April, 2003. The principal growth occurred through annexations during the period between 1965 and 1971, during which time the City annexed 3,572 acres or approximately 5.58 square miles. Other peak years were 1982, 1987, and 1991. By the end of 2003, the size of the City had increased to 6,409 acres or approximately 10.01 square miles.

5.4 City of Gaithersburg Annexations

Effective Date of Annexation	File Number	Resolution Number	Number of Acres	Cumulative Acres	Cumulative Square Miles
05/26/1960		R-6-60	804.000000	804.000000	1.256250
10/06/1961	X-063	R-14-61	90.216100	894.216100	1.397213
10/06/1961	X-064	R-15-61	54.997240	949.213340	1.483146
02/17/1962	X-065	R-1-62	8.317000	957.530340	1.496141
	X-066	NONE		957.530340	1.496141
06/02/1962	X-067	R-6-62	13.321360	970.851700	1.516956
06/07/1963	X-068	R-10-63	21.278800	992.130500	1.550204
04/16/1964	X-069	R-3-64	2.424100	994.554600	1.553992
10/02/1964	X-070	R-6-64	57.000000	1051.554600	1.643054
11/02/1964	X-071	R-11-64	40.478000	1092.032600	1.706301
04/29/1965	X-072	R-3-65	319.000000	1411.032600	2.204738
07/28/1965		R-8-65	-74.303000	1336.729600	2.088640
	X-075	R-13-65		1336.729600	2.088640
12/23/1965	X-077	R-19-65	4.920000	1341.649600	2.096328
12/30/1965	X-078	R-16-65	13.000000	1354.649600	2.116640
12/30/1965	X-073	R-12-65	80.620000	1435.269600	2.242609
12/30/1965	X-074	R-14-65	141.900000	1577.169600	2.464328
	X-079	R-1-66		1577.169600	2.464328
	X-081	R-9-66		1577.169600	2.464328
01/06/1966	X-076	R-15-65	73.000000	1650.169600	2.578390
06/30/1966	X-082	R-11-66	84.700000	1734.869600	2.710734
06/30/1966	X-080	R-8-66	38.971810	1773.841410	2.771627
	X-083	R-15-66		1773.841410	2.771627
08/24/1966	X-084	R-17-66	202.000000	1975.841410	3.087252
08/04/1966	X-085	R-13-66	2.300000	1978.141410	3.090846
	X-086			1978.141410	3.090846
01/19/1967	X-088	R-22-66	928.380000	2906.521410	4.541440
02/02/1967	X-087	R-25-66	106.500700	3013.022110	4.707847
02/02/1967	X-087	R-26-66	202.157100	3215.179210	5.023718
04/20/1967	X-089	R-5-67	147.000000	3362.179210	5.253405
04/27/1967	X-090	R-10-67	200.000000	3562.179210	5.565905
05/15/1967	X-091	R-16-67		3562.179210	5.565905
06/29/1967	X-092	R-18-67	2.042000	3564.221210	5.569096
12/21/1967	X-093	R-25-67	64.867400	3629.088610	5.670451
05/31/1968	X-095	R-8-68	198.000000	3827.088610	5.979826
07/18/1968	X-098	R-12-68	37.112500	3864.201110	6.037814
08/02/1968	X-097	R-14-68	40.828600	3905.029710	6.101609
09/19/1968	X-094	R-18-68	133.000000	4038.029710	6.309421
	X-100	R-29-68		4038.029710	6.309421
05/02/1969	X-102	R-5-69	234.220600	4272.250310	6.675391
05/02/1969	X-099	R-8-69	64.322300	4336.572610	6.775895
	X-105			4336.572610	6.775895
07/25/1969	X-106	R-21-69	10.000300	4346.572910	6.791520
11/20/1969	X-107	R-40-69	6.120000	4352.692910	6.801083
02/04/1971	X-108	R-53-70	2.808400	4355.501310	6.805471
06/17/1971	X-101	R-15-71	57.220200	4412.721510	6.894877
07/01/1971	X-109	R-18-71	82.424400	4495.145910	7.023665

Effective Date of Annexation	File Number	Resolution Number	Number of Acres	Cumulative Acres	Cumulative Square Miles
07/23/1971	X-096	R-21-71	169.082600	4664.228510	7.287857
04/20/1972	X-110	R-7-72	91.890200	4756.118710	7.431435
10/04/1973	X-111	R-27-73	37.754400	4793.873110	7.490427
	X-103	R-29-73		4793.873110	7.490427
12/20/1973	X-113	R-38-73	12.236590	4806.109700	7.509546
01/17/1974	X-112	R-43-73	14.900000	4821.009700	7.532828
03/14/1974	X-104	R-6-74	16.000000	4837.009700	7.557828
04/07/1977	X-105	R-4-77	0.093200	4837.102900	7.557973
			1.300000	4838.402900	7.560005
	X-114	R-28-78		4838.402900	7.560005
11/17/1978	X-115	R-58-78	0.242000	4838.644900	7.560383
09/20/1979	X-116	R-49-79	10.484000	4849.128900	7.576764
10/04/1979	X-118	R-56-79	2.186330	4851.315230	7.580180
12/20/1979	X-119	R-70-79	17.920820	4869.236050	7.608181
	X-120	NONE		4869.236050	7.608181
08/22/1980	X-121	R-21-80	6.034000	4875.270050	7.617609
08/22/1980	X-117	R-35-80	0.839300	4876.109350	7.618921
12/04/1980	X-123	R-61-80	14.082400	4890.191750	7.640925
	X-124	NONE		4890.191750	7.640925
01/01/1981	X-122	R-65-80	100.010000	4990.201750	7.797190
	X-125	NONE		4990.201750	7.797190
08/20/1982	X-126	R-38-82	0.370000	4990.571750	7.797768
	X-127	R-46-91		4990.571750	7.797768
	X-128	NONE		4990.571750	7.797768
10/22/1982	X-129	R-60-82	212.727100	5203.298850	8.130154
	X-130	R-39-83		5203.298850	8.130154
12/02/1983	X-131	R-48-83	57.695600	5260.994450	8.220304
06/29/1984	X-132	R-15-84	59.800000	5320.794450	8.313741
06/29/1984	X-133	R-16-84	5.140000	5325.934450	8.321773
06/29/1984	X-134	R-17-84	3.500000	5329.434450	8.327241
06/29/1984	X-135	R-18-84	5.000000	5334.434450	8.335054
04/09/1985	X-136	R-13-85	73.230000	5407.664450	8.449476
	X-137	NONE		5407.664450	8.449476
01/02/1986	X-138	R-69-85	9.400000	5417.064450	8.464163
03/10/1986	X-139	R-4-86	74.040000	5491.104450	8.579851
01/29/1987	X-140	R-105-86	3.986000	5495.090450	8.586079
06/05/1987	X-141	R-25-87	157.910000	5653.000450	8.832813
06/05/1987	X-142	R-27-87	63.100000	5716.100450	8.931407
	X-143	R-57-88		5716.100450	8.931407
08/21/1987	X-144	R-44-87	3.540900	5719.641350	8.936940
09/15/1988	X-145	R-77-88	3.545000	5723.186350	8.942479
06/15/1989	X-146	R-33-89	98.796000	5821.982350	9.096847
	X-147	R-60-89		5821.982350	9.096847
09/21/1989	X-149	R-59-89	1.747800	5823.730150	9.099578
01/18/1990	X-150	R-93-89	1.740000	5825.470150	9.102297
	X-151	R-61-89		5825.470150	9.102297
07/06/1990	X-153	R-51-90	11.122200	5836.592350	9.119676

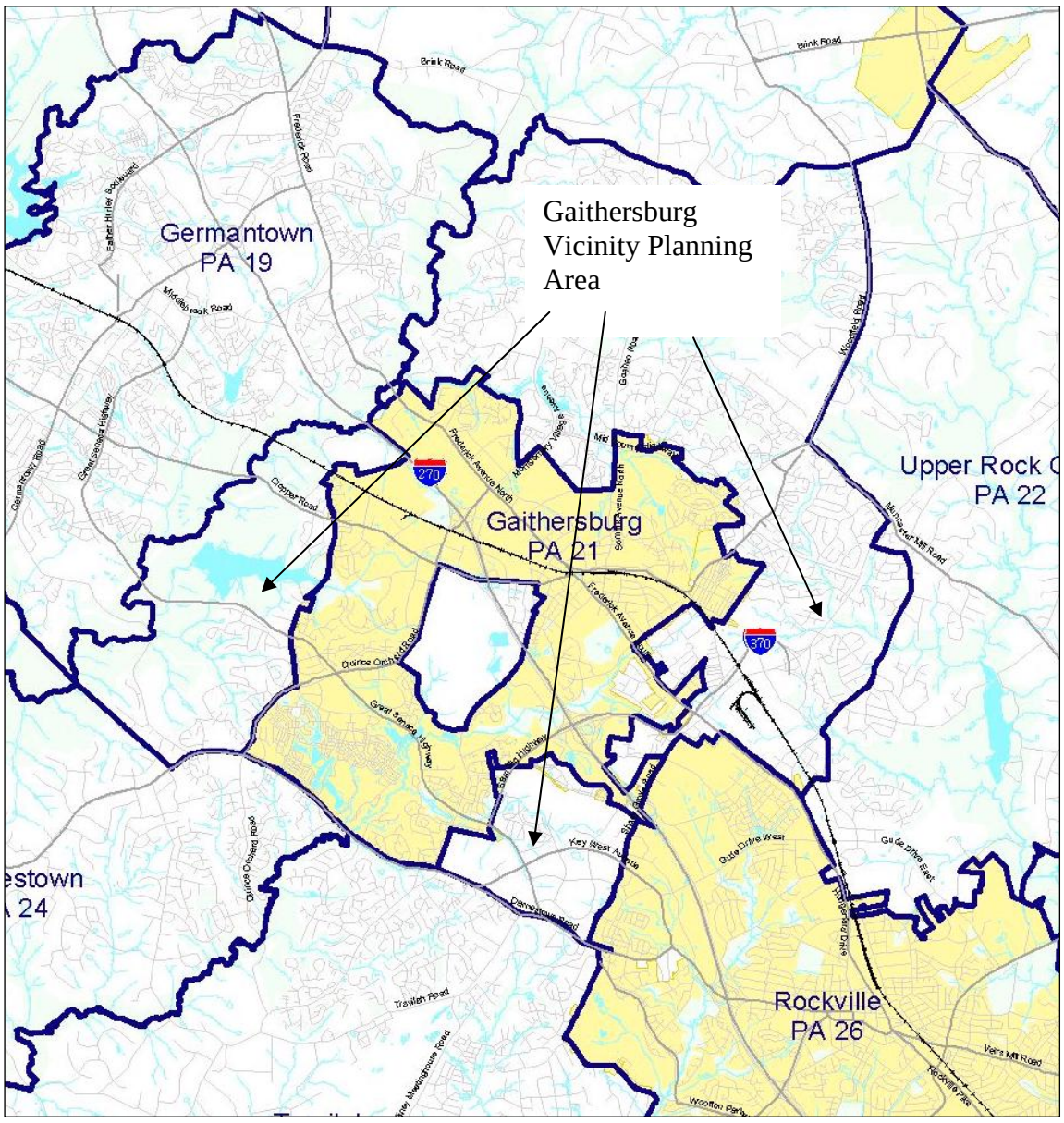
Effective Date of Annexation	File Number	Resolution Number	Number of Acres	Cumulative Acres	Cumulative Square Miles
07/20/1990	X-154	R-52-90	5.195400	5841.787750	9.127793
07/20/1990	X-155	R-53-90	5.134900	5846.922650	9.135817
08/31/1990	X-148	R-70-90	3.947300	5850.869950	9.141984
11/30/1990	X-152	R-101-90	26.793800	5877.663750	9.183850
04/19/1991	X-157	R-18-91	101.613000	5979.276750	9.342620
04/19/1991	X-159	R-20-91	236.680850	6215.957600	9.712434
01/28/1992	X-156	R-4-92	0.875100	6216.832700	9.713801
04/15/1992	X-160	R-22-92	1.324300	6218.157000	9.715870
06/24/1992	X-161	R-49-92	124.933600	6343.090600	9.911079
	X-158	R-9-93		6343.090600	9.911079
02/04/1993	X-162	R-114-92	4.953000	6348.043600	9.918818
	X-163	R-75-93		6348.043600	9.918818
09/16/1994	X-164	R-73-94	0.760000	6348.803600	9.920006
12/22/1994	X-165	R-97-94	7.864960	6356.668560	9.932295
08/10/1995	X-168	R-56-95	0.081000	6356.749560	9.932421
08/10/1995	X-164A	R-57-95	-0.002000	6356.747560	9.932418
11/02/1995	X-166	R-86-95	7.790000	6364.537560	9.944590
08/29/1996	X-173	R-61-96	21.594930	6386.132490	9.978332
03/07/1997	X-169 Amended	R-11-97	6.023100	6392.155590	9.987743
03/07/1997	X-170 Amended	R-13-97	3.760000	6395.915590	9.993618
03/07/1997	X-171	R-15-97	1.608400	6397.523990	9.996131
03/07/1997	X-172	R-17-97	0.155000	6397.678990	9.996373
	X-174	R-127-97		6397.678990	9.996373
	X-175	R- -98		6397.678990	9.996373
09/30/1999	X-176	R-64-99	4.6069	6402.277990	10.003559
03/03/2000	X-167	R-10-00	0.903000	6403.180990	10.004970
05/30/02	X-179	R-41-02	1.89	6405.07099	10.00792342
06/10/02	X-180	R-51-02	4.19	6409.26099	10.0144703
			Total:	6409.26099	10.0144703

5.5 Montgomery County Planning for Gaithersburg and Vicinity

The Gaithersburg Vicinity Planning Area, which excludes the City but includes Montgomery Village, covers approximately 16,000 acres and it is governed by the policies of the Montgomery County Planning Board. Accordingly, the Gaithersburg Vicinity Master Plan focuses on the implementation of Montgomery County policies that include housing and housing affordability, transportation, transit-oriented development, public facilities, parks and build-out scenarios for the Research and Development Village areas.

The Planning Board regularly updates the Gaithersburg Vicinity Master Plan, and the plan is scheduled to be updated in 2003-04. The boundaries of the

proposed 2003 Gaithersburg Vicinity Master Plan update are essentially unchanged from the previous plans from 1971 and 1985.



The Gaithersburg vicinity area includes the planning areas of Montgomery Village, Portions of Derwood, The Airpark Area, Flower Hill, Mill Creek, Oakmont, Shady Grove Life Sciences Center, and Decoverly.

6.0 POPULATION TRENDS

6.1 City of Gaithersburg and Gaithersburg Vicinity Population

The population of the City grew rapidly between 1990 and 2000. In 1990 there were 39,542 people in the City. In 2000 the number of residents had jumped to 52,780, an increase of 33.5 percent. The Gaithersburg vicinity planning area, which is planned under the direction of the Montgomery County Planning Board, had 68,985 residents in 1999, for a total of 68,985 persons.

Table 1, Gaithersburg and Vicinity Population Growth 1970-2000

	1970	1980	1990	2000
City of Gaithersburg	8,344	26,424	39,542	52,780
City of Gaithersburg and Vicinity	23,150	66,516	103,500	121,765

Source: U.S. Census Bureau

It is noteworthy that thirty six percent of Gaithersburg's population is foreign born, and in the previous decade (1990-2000) the number of foreign-born residents increased 116 percent. Many foreign-born residents came to Gaithersburg from Asia (3,127) followed by Central America and South America respectively. In all, 9,403 foreign born people migrated to Gaithersburg between 1990-2000.

Table 2, In-Migration of Foreign Born Residents 1990-2000

Number of Foreign Born Migrants 1990-2000	Place of Origin
732	Europe
3,127	Asia
1,028	Africa
40	Oceania
310	Caribbean
594	Mexico
2,370	Central America
1,070	South America
132	North America

Source: U.S. Census Bureau

6.2 Montgomery County Population

Montgomery County's population grew by about 15.4 percent during the 1990s, from 757,027 persons in 1990 to 843,341 persons in 2000. The County estimates that the population will reach 975,000 by 2010.

7.0 HOUSING TRENDS

7.1 Existing and Approved Housing Units

In 2002 there were 21,462 housing units the City of Gaithersburg. Of these, there are 10,720 single-family attached and detached housing units and 10,684 multi-family housing units. Single-family detached units comprise 20.4 percent of all single family housing units in 2002, while single-family attached units comprise 29.6 percent of the total. Most of the single-family attached units in Gaithersburg are townhomes. These figures do not account for urban cottages, which are typically single family in nature and located in the Neo-Traditional/New Urbanism neighborhoods of Kentlands and Lakelands.

Table 3, Housing Units in Structure 1960-2002

Housing Units	1960	1970	1976	1980	1990	1995	1997	2000	2002
Single-Family Detached	657	1,026	1,627	1,635	2,838	3,600	3,825	4,163	4,375
Townhouses	-	-	1,897	2,072	4,971	5,395	5,813	6,102	6,345
Apartments	442	1,961	7,087	7,087	7,704	9,244	9,539	10,457	10,684
Other Dwelling Units*	-	-	-	-	-	19	29	47	58
TOTAL	**1,009**	**2,987**	**10,611**	**10,794**	**15,513**	**18,312**	**19,206**	**20,769**	**21,462**

*Other includes: Asbury Methodist Village (Asbury Nursing Home), Wells-Robertson House, and Kentlands Urban Cottages.

The average annual rate of additions to the stock during the 1990s amounted to 2.8 percent of the total supply. This rate is somewhat slower than previous decades when the majority of homes were constructed, however, the total number of housing units added to the existing housing stock each year remains relatively high.

Table 4, Average Annual Housing Unit Growth Rate 1960-2000

	1960-70	1970-80	1980-90	1990-2000
Annual Growth Rate	11.5%	13.7%	3.7%	2.8%

For many years the composition of the housing stock did not vary significantly. Apartment units dominated the inventory as documented in the City's first comprehensive housing survey in 1976, which pinpointed 68 percent of the housing stock as apartments.

By 1977, from a policy perspective, the City sought to change what was perceived as an imbalance in its housing inventory with a push to encourage more homeownership options for those who wished to reside within the corporate limits. As a result of zoning map amendments and broad code changes, the City was faced with an influx of fee-simple townhouses, many of which were constructed on land originally zoned for garden apartments. On a short-term basis this appeared to address the issue of broadening housing choices; however, by 1984, concern began to arise that a new imbalance was emerging in the form of an over-concentration of townhouses and a lack of choices for those seeking "move-up" single-family detached units. To deal with this new problem, in 1984 the Planning Commission adopted a housing position paper to move back towards the goal of creating a more balanced housing stock. This new housing policy sought to curb the proliferation of townhouses, create greater opportunities for single-family detached units, seek out locations for up-scale housing, and discourage the construction of additional rental housing.

The new policy directive was implemented by the Planning Commission and the Mayor and City Council. The consequence of this policy shift resulted in changes to the composition of the City's housing stock.

Table 5, Composition of Housing Stock - 1976-2002

Housing Types	1976	1984	1987	1990	1995	1997	2000	2002	Future (Approved)
Percent Single-Family Detached	15.3	16.4	15.5	18.3	20.8	19.9	20.0	20.4	25.3
Percent Townhouses	17.8	24	32.2	32	30	30.3	29.4	29.6	22.9
Percent Apartments	67.9	59.6	52.2	49.7	48.3	49.7	50.3	49.8	37.5
Percent Other Dwelling Units*	-	-	-	-	0.9	0.2	0.2	0.3	14.3

*Other includes: Asbury Methodist Village (Asbury Nursing Home), Wells-Robertson House, and Kentlands Urban Cottages.

Since the early 1990s the City has promoted innovative growth initiatives and fostered New Urbanist developments such as Kentlands and Lakelands. In 1995 the City's housing goals included a goal to "encourage a broad range of housing types and costs to meet the needs of different household sizes, income ranges, life styles and age groups."

In 1999 the City adopted the 'City of Gaithersburg Smart Growth Policy.' One of the principles of the policy is to encourage planning and development that must "strengthen community diversity." Specifically, the City set out to encourage

"diversity of housing types to enable all citizens from a wide range of economic levels and age groups to live within its boundaries."

The City's 'Housing Policy', adopted in 1999, reinforced the City's desire to encourage a "diversity of housing types through out the City." The policy made clear that any development with more than 100 units of housing must "attain a mix of housing types that is comprised of a minimum 50 percent single family detached housing unless the public interest or Master Plan otherwise dictates." The resultant increase in single family units appears to be a result of policies adopted during the 1990s.

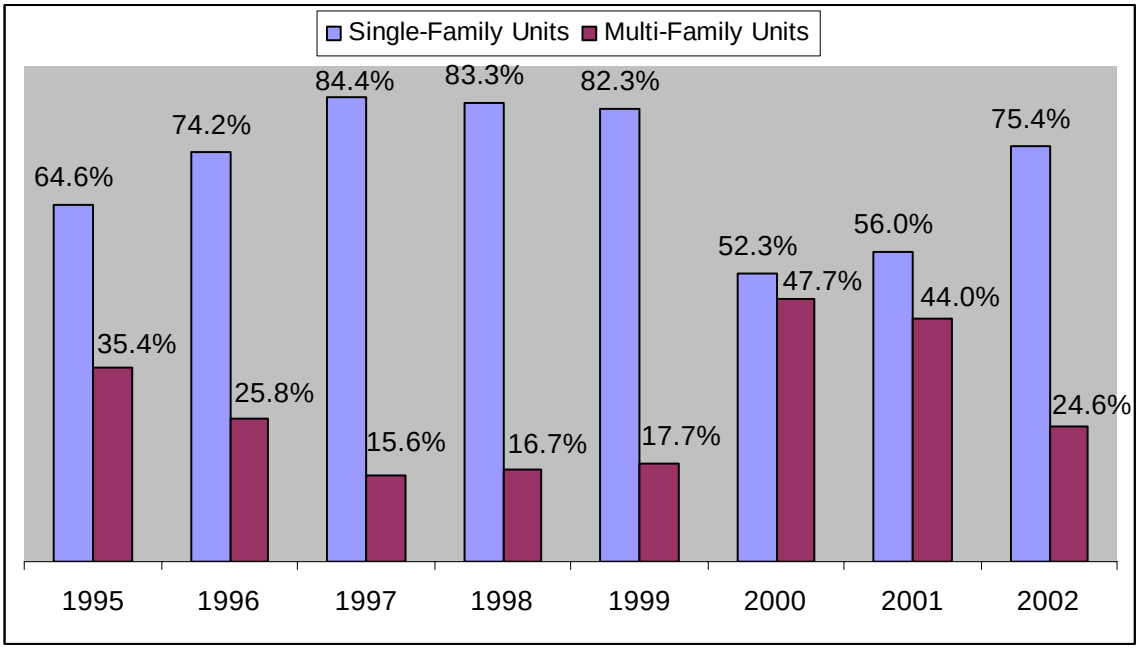
Recent trends in permits for new housing starts in the City of Gaithersburg (since 1995) support the housing unit count data that indicates much of the new housing stock in the City is single family attached and detached units. In 1995, 64.6 percent of the permits issued for new housing starts were for single-family units. In 2002, 75.4 percent of the permits issued for housing units were for single-family units.

Table 6, Housing Permits, 1995-2002

Type of Housing	1995	1996	1997	1998	1999	2000	2001	2002	Total	Total %
Single-Family Units	128	161	152	185	204	303	218	389	1740	68.3%
Multi-Family Units	70	56	28	37	44	276	171	127	809	31.7%
Net Total Housing Unit Permits Issued	198	217	180	222	248	579	389	516	2549	100%

*Based on City of Gaithersburg New Housing Starts Permit Information – 1995-2002.

Chart 1 – Percentage of Single Family and Multi-Family Housing Starts in Gaithersburg, 1995-2002



The majority of new housing units built during the 1990s were built in the Kentlands subdivision, and the majority of single-family homes built from 2000 to 2002 are in the Lakelands and Quince Orchard Park subdivisions.

7.2 Housing Size, Age and Condition

In 1999 the median number of rooms in Gaithersburg was 5.2 rooms per unit. This number is relatively consistent with the State (6.0) and the County (6.5). The median number of rooms for renter-occupied units was 3.9 rooms per unit. For owner occupied units the median number of rooms was 7.0 rooms per unit.

The majority of Gaithersburg's housing stock (81.4%) was built between 1960 and 1994 and remains in generally good condition because of rigorous code enforcement of the City. New units are being built, the stock of housing is growing, and unit replacement has not taken place on any large scale to date.

Table 7, Age of Housing Units

Year Structure Built	**City of Gaithersburg**		**Montgomery County**		**State of MD**	
	# of Units	**%**	**# of Units**	**%**	**# of Units**	**%**
1999 to March 2000	1,205	5.9	6,863	2.1	42,423	2.0
1995-1998	1,453	7.1	17,274	5.2	137,305	6.4
1990-1994	2,436	11.8	24,790	7.4	179,323	8.4
1980-1989	5,677	27.6	77,758	23.2	367,969	17.2
1970-1979	6,422	31.2	62,152	18.6	368,974	17.2
1960-1969	2,228	10.8	61,402	18.3	323,089	15.1
1940-1959	882	4.3	67,803	20.3	457,633	21.3
1939 or earlier	259	1.3	16,590	5	268,567	12.5
Total	**20,562**	**100**	**334,632**	**100**	**2,145,283**	**100**

Source: U.S. Census Bureau

The City also annually updates the Strategic Plan (apart from this document). The plan includes general housing policies and several housing related goals for 2004 and beyond. Policies to be implemented include:

- Aggressive, but reasonable, enforcement of stringent housing code distinguishes City from other jurisdictions.
- The City's adopted Housing Policy recommends that the City offer a wide range of housing types with an emphasis on single-family detached housing, preferably in a mixed use setting. Avoid concentrations of like housing types, while retaining the best qualities of a small town.
- Rejuvenation of City's multi-family housing stock is important.
- Adaptive re-use should be encouraged, coupled with sensitive displacement of tenants.
- New housing development and re-development should adhere to the tenants of New Urbanism with aesthetic considerations dependent on the recently

adopted urban design policies within the Master Plan-Smart Growth Policy Document (attached).

Strategic Plan goals for 2004 and beyond to be implemented are:

- Continue to assist the police department in GALOP program.
- Identify properties on the North Frederick Avenue corridor for major renovations and courage redevelopment through CD zone with Community Planning team.
- Identify large apartment complexes for major exterior renovation.
- Continue to encourage redevelopment of dilapidated multi-family properties within the City, with particular emphasis on S. Frederick Avenue properties and West Deer Park Road.
- Work with Greater Historic District Committee to finalize comprehensive plan for Historic District Charrette area. Consider construction of first phase of street modifications if project can be supported by CIP.

GAITHERSBURG OLDE TOWNE DISTRICT MASTER PLAN

Prepared for:

THE CITY OF GAITHERSBURG, MD

Prepared by:

TORTI GALLAS AND PARTNERS, INC.

June 2005

GAITHERSBURG OLDE TOWNE DISTRICT MASTER PLAN

Prepared for:

THE CITY OF GAITHERSBURG
31 South Summit Avenue, Gaithersburg, MD 20877

Prepared by:

TORTI GALLAS AND PARTNERS, INC.
1300 Spring Street, 4th Floor, Silver Spring, MD 20910

In association with:

ROBERT CHARLES LESSER & COMPANY
7200 Wisconsin Avenue, 7th Floor, Bethesda, MD 20814


MARKET
CAFE

ACKNOWLEDGEMENTS

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Council Member Stanley J. Alster
Council Member Geri Edens
Council Member Blanche H. Keller
Council Member John B. Schlichting

Planning Commission

Commissioner John Bauer
Commissioner Victor Hicks
Commissioner Leonard Levy
Commissioner Danielle L. Winborne
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The recently completed History Park has enhanced Olde Towne's aesthetics.

Park Station Apartments has increased the availability of residential opportunities.

City-owned property, such as the "Y" site offer new development opportunities for Olde Towne.

The newly-restored Thomas Cannery Building increased available commercial space while preserving a piece of Olde Towne's past.

A newly constructed Class A office building indicates renewed development interest in Olde Towne.

The extension of West Diamond Avenue into Olde Towne has improved visibility and access to I-270.

INTRODUCTION

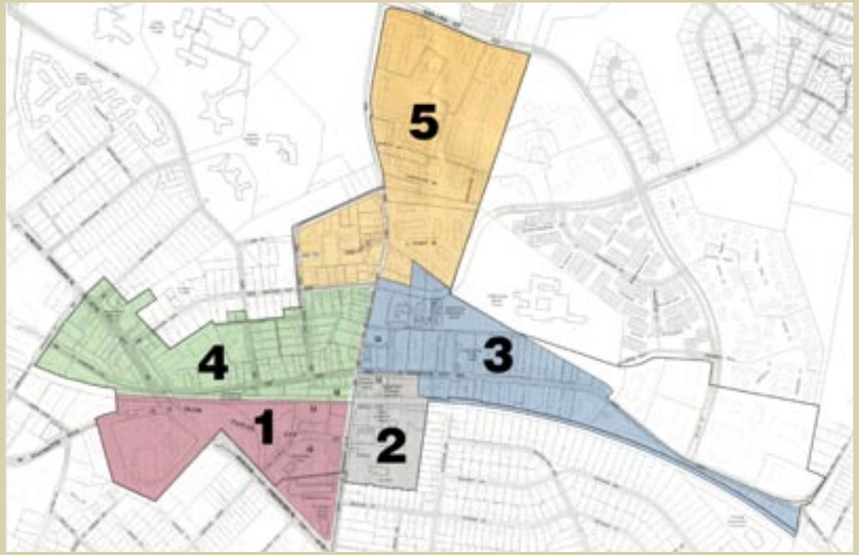
With a number of City-owned parcels available, and a renewed interest in Olde Towne as a source of civic pride, the opportunity to reinforce the forward momentum established in 1995 is now.

Since its adoption in 1995, the Downtown Plan for Olde Towne Gaithersburg has been extremely effective in establishing a forward momentum of urban revitalization and economic growth for the Olde Towne District in the City of Gaithersburg. City residents, merchants, elected officials, and other stakeholders worked hard to develop a vision for Olde Towne that created a vibrant, pedestrian-friendly urban center.

Over the last ten years, several implemented projects have increased the availability of residential opportunities and commercial office space, improved vehicular access, addressed long-standing parking deficiencies, brought high-quality educational opportunities, enhanced the aesthetics of the community, and increased the quality of life for residents, visitors, and employees of Olde Towne alike.

As with any city across the country, normal cycles of urban change and shifts in socioeconomic dynamics periodically require the creative conversion to new infill uses. With a number of City-owned and underutilized parcels available, and a renewed interest in successful downtown redevelopment as a source of civic pride, the opportunity to reinforce the forward momentum established in 1995 is now.

In September 2004, the City of Gaithersburg initiated a study to update the original 1995 Downtown Plan for Olde Towne Gaithersburg. The update, the contents of these pages, establishes planning solutions that overcome the current challenges facing Olde Towne, as well as build upon the strong foundation of assets that already exist. Furthermore, the consensus-driven, financially feasible plan will build a strong, sustainable Olde Towne over the next 5 to 10 years.



For planning purposes, the Olde Towne District was divided into five planning sectors.

Gaithersburg's residents were invited to attend the Planning Charrette.

Wednesday, November 10, 2004:
9AM-7PM: Opening Presentation

Thursday, November 11, 2004:

9AM-7PM: Charrette Work Session

- 10AM-12PM: Sector 1 Stakeholders
- 1PM-3PM: Sector 2 Stakeholders
- 3PM - 5PM: Sector 3 Stakeholders

7PM-9PM: Topic-Focused Discussion: You're Vision for Olde Town?

Friday, November 12, 2004:

9AM-7PM: Charrette Work Session

- 10AM-12PM: Sector 4 Stakeholders
- 1PM-3PM: Sector 5 Stakeholders

7PM-9PM: Topic-Focused Discussion: Public Space

Saturday, November 13, 2004:

9AM-7PM: Charrette Work Session

7PM-9PM: Topic-Focused Discussion Work-in-progress Presentation

Monday, November 15, 2004:

9AM-7PM: Charrette Work Session

Monday, November 22, 2004:

9AM-7PM: Closing Presentation (Televised Local Cable)

The Planning Charrette Schedule.

Public input was critical to the plan's success.

Participants were invited to post their comments on plan proposals.

THE CHARRETTE PROCESS

The Planning Charrette held in November 2004 provided residents, business owners, property owners, City staff and officials, and the development community an opportunity to work together to plan Olde Towne's future.

At the heart of the visioning process was the Planning Charrette, an event held in November 2004, that brought together a team of professional planning consultants and stakeholders to plan the future of Olde Towne. Maximum public involvement was critical to secure the best possible master plan. Residents, merchants, property owners, and City officials were invited to participate fully in the Charrette process.

Stakeholders and the general public were made aware of the event through a variety of public outreach efforts including:

- A postcard mailed to merchants and property owners in mid-October 2004 to announce the project and request involvement and input
- Invitations to the opening kick-off presentation mailed to business owners, property owners, residents, and key stakeholders
- Meetings with select Stakeholder groups including the Mayor and members of City Council, the Planning Commission, the Olde Towne Advisory Committee (OTAC), Historic Preservation Advisory Committee (HPAC), and the City's professional staff
- A newsletter distributed to Gaithersburg residents that described the Charrette process, schedule, and encouraged involvement
- An informational web-site
- A large banner hanging over South Summit Avenue announcing the Charrette

The Planning Charrette began on November 10, 2004 with an opening presentation held at the St. Martin's School. Led by the consultant team, the presentation included best practices in downtown revitalization; urban design; and a review of the consultant team's initial impressions of Olde Towne's strengths, constraints, and opportunities. Over 100 people were in attendance at this opening presentation.

The events held on November 11th, 12th, 13th and 15th each involved day-long Charrette Work Sessions. The Work Sessions represented the core of the Charrette process, allowing the public and Olde Towne stakeholders to work one-on-one with the consultant team, offer ideas, and critique work in-progress.

Additional meetings were held each day. Stakeholders representing each of the five Olde Towne District sectors (see the planning sectors diagram at left) were invited to explore their ideas and opportunities unique to each at a series of meetings held on November 11th and 12th. A diagram illustrating the five sectors is shown at left.

Topic-focused meetings conducted the evenings of November 11th and 12th allowed Charrette participants an opportunity to discuss an overall vision for Olde Towne and public space opportunities.

As the week's events progressed, a series of development alternatives and strategies for their implementation emerged. Charrette participants were invited to review the alternatives and offer their comments at a final topic-focused meeting the evening of November 13th. The consultant team refined the plan based on the comments received and prepared a Draft Master Plan.

The Charrette concluded with a televised presentation during a special Mayor and City Council Work Session held November 22, 2004. The presentation included a review of the Charrette process; Olde Towne strengths, opportunities and constraints; a review of market conditions; and a review of the Draft Master Plan.

A detailed schedule of all Charrette events is shown at left.

COMMUNITY INPUT

SECTOR 1

- Residential and office Development needs increase in height, like 6 stories
- Leverage the ““Y”” site’s unique visibility and ownership
- Promote home ownership
- Variety of shops and restaurant will create uniqueness
- Relocate MARC train station to prevent traffic jams
- Latino community drives activity
- Buildings tall enough to be seen along Frederick Ave. 16 Stories would be too tall
- Create mix people-attracting uses like a Barnes and Noble, a movie theater, shops, and restaurants—create a “life style”
- Provide medium to upper income housing
- Leverage rail station for new housing opportunities
- Enhance the commercial core with uses that bring people to downtown

SECTOR 2

- The plaza needs to be framed with buildings
- How do you integrate the light industrial uses to the east?
- The existing back drop to the band shell is not an attractive edge
- Post Office is a plus for downtown—location may not be ideal given its location
- Noise from trains is a constraint for residential development
- Gas Station—probably not the best fit—but doing well
- General concern about density of new development
- City Hall expansion, probably not in next 10 years
- Library, book mobile in rail cars
- Increase awareness of existing Farmer’s market

SECTOR 3

- Proposed residential development should promote home ownership
- Commuter parking needs have been satisfied
- Traffic concerns about new development
- Create an additional pedestrian bridge over tracks
- What about one way traffic during rush hour along Summit Avenue?
- Law enforcement concern behind multi-family development north of the schools
- Development / architecture that is unique to “Olde Towne”
- Character of adjacent development will influence marketability of Condo units
- Widen sidewalks and along East Diamond Avenue
- Leverage new roads on Teacher’s Way for future Development

SECTOR 4

- Provide one story artist building with small retailers
- More infill on East Diamond Avenue
- Make Verizon access road more pedestrian friendly
- Bring more density to the City
- Maintain historic charm
- Encourage more development and Revitalization on north side of tracks
- Design code should preserve architectural quality
- Area between Frederick Avenue and East Diamond Avenue as Development Gateway
- Access creates opportunities
- Maintenance problems with arcades along East Diamond Avenue
- Some storefronts restrict pedestrian movement along East Diamond Avenue
- MARC trains tend to be 5 cars and 2 locomotives in length

SECTOR 5

- Implement trail and park improvements
- Remove fences between multi-family development
- Improve school recreational facilities and roadway connections
- Create live/work Units
- Relocate the Post Office

COMMUNITY REVIEW OF CONCEPTS

- Create more hiking/biking trails through Olde Towne and along rail
- Like this Heritage District idea with townhouses in back
- Would like a new building at Verizon sites
- Can have tunnel walkways to connect new development with George Street. A change in landscape will facilitate that. Otherwise, have connections on the ramp to 355.
- An 8 to 12 story building here would be entirely out of scale for the immediate area. A 6 story building might be more acceptable here.
- Thumbs up for the plaza concept and the steps overpass
- Provide pedestrian-friendly access to Bohrer Park
- This garage will be unnecessary for a long time and would have a detrimental effect on the residences on both sides of Summit Avenue. Who would it serve in the immediate future? Move it to front on Olde Towne Avenue if build at all.
- Could you put an entrance to a store, office or residence on the landings of the Spanish Steps?
- Love the landscape plaza but need to give more space and presence to the Railroad and train cars.
- Like the hardscape plaza with perimeter shops and restaurants
- Has a skating rink been considered for the plaza?
- Please no more self-storage units
- No vehicular bridge over tracks to connect to Dogwood Drive
- No connections to Woodland Road. It will harm our community.
- No pedestrian bridge at Dogwood Drive.
- A road in the middle of the park behind City Hall would create unnecessary traffic through the neighborhood. Kids and families would not be able to play softball, frisbee, or soccer. Also, St. Martin’s School uses that park for outside gym classes. It would totally ruin the park.
- The road through the park would be overly detrimental to the neighborhood without providing much benefit.
- How about creating a historic hiker/biker trail in Gaithersburg, MD like those in Annapolis and Washington, DC or Charlottesville, VA?
- Do not build a parking garage next to 20 South Summit Avenue. It would be an unwarranted offense to the adjacent residential neighborhood.
- The office building at Frederick and Brookes Avenues is a good idea
- Completing the access road between Diamond and Brookes Avenues is a great idea.
- We need those hiking/biking trails
- We support the rails with trails concept regardless of the plan. It could be more interpretive in the downtown area. Connect with established trail
- We love the clock tower – hooray!
- The proposed town homes and improved entrance from the north works
- What will happen to the present clock which is a memorial for Mayor Katz’s father?
- Where is our old locomotive and caboose?
- No high rise here! How many trips are you creating? 270 units is a lot.
- Redevelop the Post Office site. Move into a storefront.
- I like the low density housing condominium approach with the Heritage District town homes
- Develop the Teacher’s Way connection to Summit Avenue
- I like the idea of a connector road from Bohrer Park to Dogwood Drive to Olde Towne.
- No bridge of any kind across tracks at Dogwood Drive
- How will state regional storm water management regulations be met on either plan?

COMMUNITY INPUT

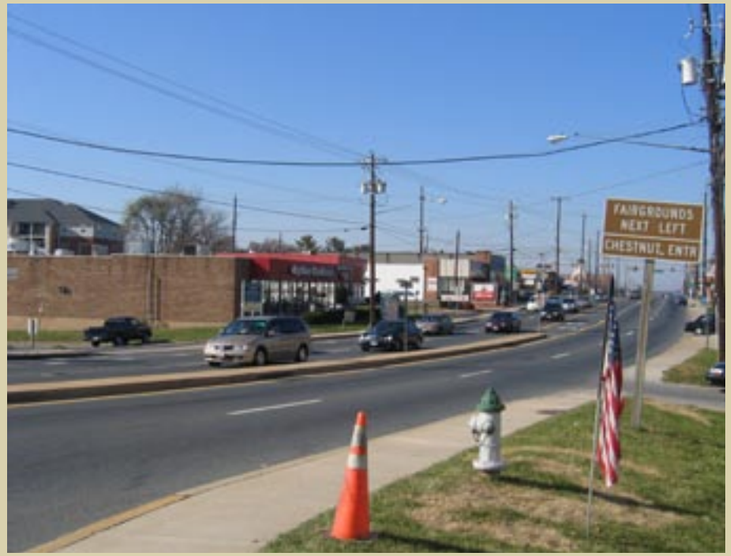
Community input created the foundation for the development of the Preferred Draft Plan for Olde Towne.

Throughout the Planning Charrette city residents, merchants, property owners, and government officials were provided many opportunities to offer their thoughts and long term goals for the future of Olde Towne. These comments were carefully documented. Each was considered with the best interest of Olde Towne and the City as a whole in mind.

Shown at left is a listing of opportunities identified during stakeholder discussion groups for each of the planning sectors. This input was distilled into several themes that guided the development of the Master Plan shown on page 18. The themes are shown at right.

Also shown at left (below) is a summary of comments received during a “Work-in-Progress" review of development concepts presented November 13, 2004.

- **Create a place for living, working, shopping, and entertaining**
- **Encourage a lively, safe, and diverse community**
- **Preserve historic character**
- **Express Olde Towne’s railroad heritage**
- **Offer a wide-range of housing types**
- **Increase the customer base of Olde Towne businesses**
- **Create a distinct identity—an appealing environment**
- **Leverage the MARC train station**
- **Encourage pedestrian friendliness**
- **Provide a place for people of all ages**
- **Create places for people to gather and interact**
- **Integrate adjacent neighborhoods**



Olde Towne benefits from high visibility and access to major transportation corridors. Olde Towne enjoys direct access to Frederick Avenue, shown here.

Scheduled events at the newly constructed Pavilion attract residents and visitors to Olde Towne.

One of Olde Towne's leading strengths is its access to passenger rail service.

Recent office, residential, and mixed-use development in Olde Towne is indication of a revitalizing downtown.

Olde Towne's historic architecture contributes to its special charm.

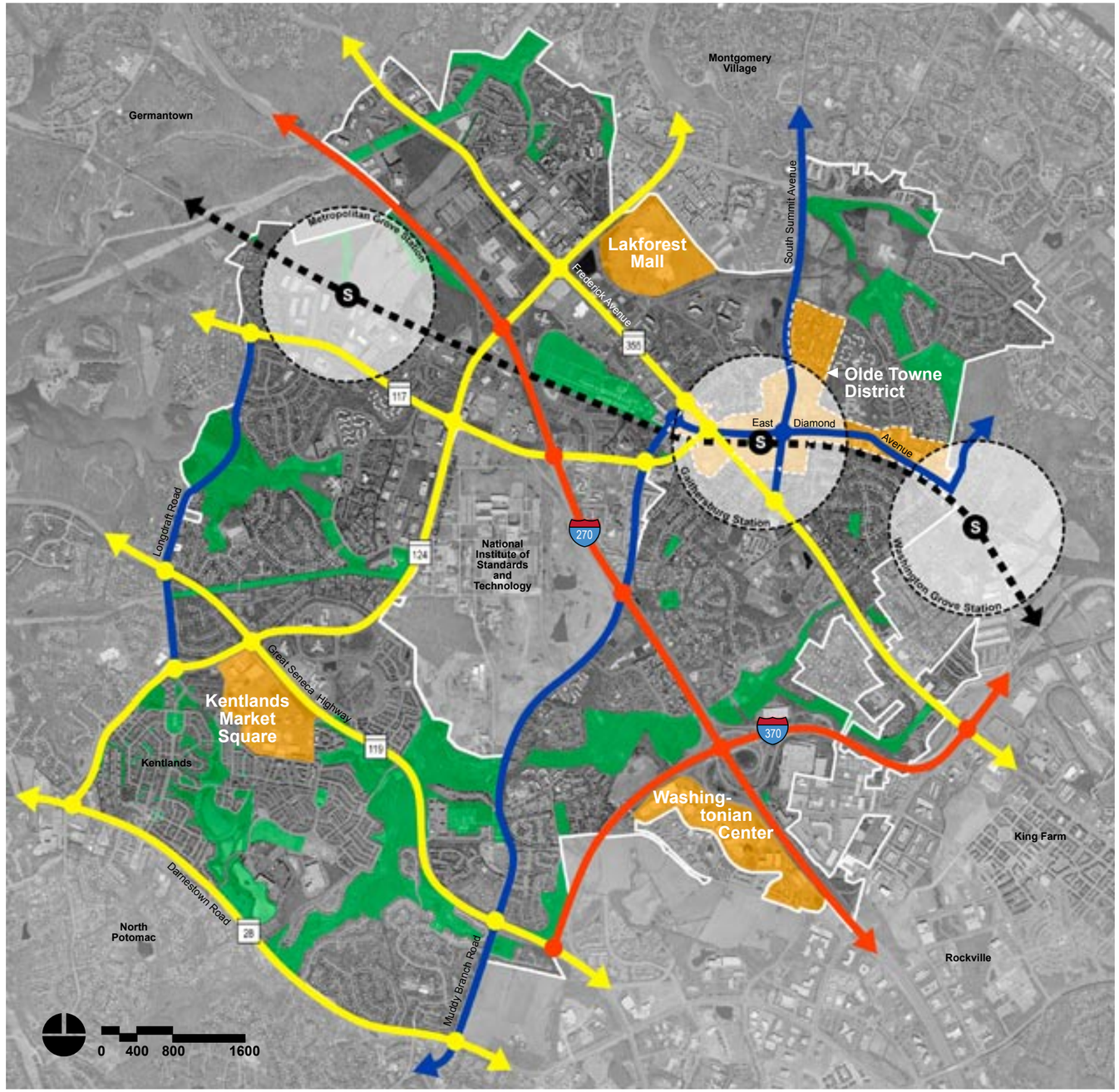
EXISTING PHYSICAL CONDITIONS

Understanding existing physical conditions—strengths, constraints, and opportunities—is critical to establish a realistic future for Olde Towne.

Prior to the Planning Charrette, the consultant team prepared an inventory of land uses and other existing physical conditions that analyze the strengths, opportunities, and constraints within Olde Towne. This information was presented at the Planning Charrette kick-off presentation made on November 10, 2004 and was on constant display during the entire event to test the accuracy of the information and the consultant team's understanding of the City's opportunities and constraints.

A summary of this analysis is offered on the following pages. It includes:

- City Context and Transportation Network—a review of the City's transportation corridors, highway hierarchy, and relationship to designated City Master Plan Town Centers
- City Land Use—a review of the City's land uses and their potential impact on Olde Towne
- Existing Olde Towne Land Use—a detailed examination of OldeTowne's existing vibrant mix of uses
- Existing Olde Towne Roadway Connectivity—an analysis of Olde Towne's interconnected network of streets and street hierarchy
- Scale Comparisons—a comparison of Olde Towne's scale to other familiar places
- Olde Towne Strengths—a review of Olde Towne's positive elements that could be leveraged for future development and revitalization
- Olde Towne Constraints—an analysis of constraints to overcome
- Olde Towne Opportunities—using the analysis of existing conditions, strengths and constraints, opportunities for Olde Towne improvements are identified.



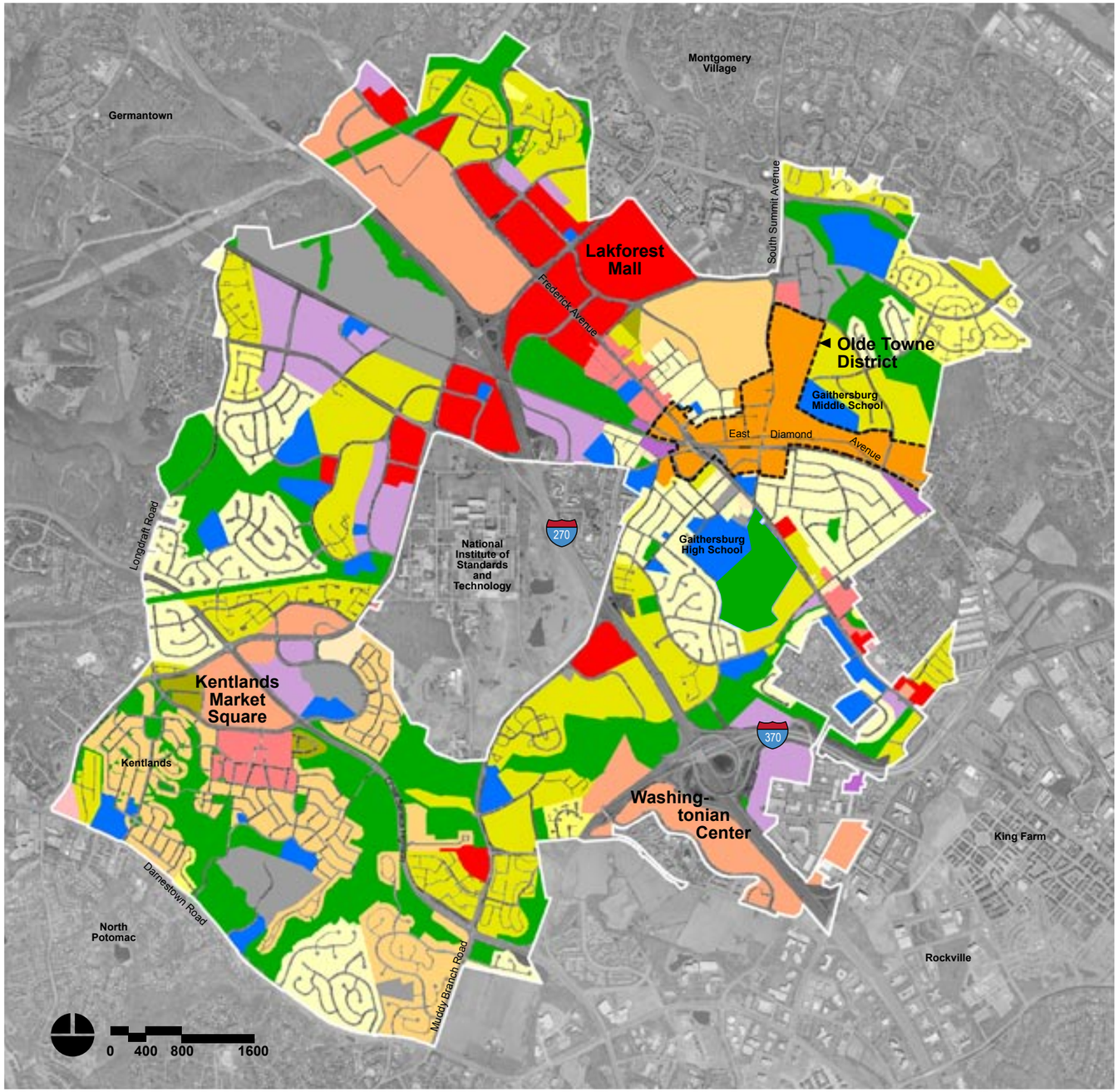
- Interstate Highway
- State Highway
- County Road
- CSX/MARC/AMTRAK
- MARC Train Station and 10 Minute Walking Radius
- Town Center
- Open Space Network

CITY CONTEXT AND TRANSPORTATION NETWORK

The City of Gaithersburg Master Plan Land Use Element, adopted in 2003, defines four Town Centers within the City. The Olde Towne District is one of these four Town Centers. Each Town Center is served by an extensive transportation network consisting of interstate highways, Maryland State highways, Montgomery County roads, and/or passenger rail service with easy commutes to other employment centers in the Washington, DC region.

Though Olde Towne is not served by direct access to I-270, it does benefit from access to State Rt. 355 (Frederick Avenue), County roads (South Summit Avenue and Diamond Avenue) and passenger rail service. Olde Towne is the only Town Center with direct access to passenger rail service. The opportunities presented by the presence of the Gaithersburg Train Station in Olde Towne can not be understated.

The City's open space network is shown to understand the potential hiker/biker trail development opportunities such networks typically provide. When implemented, hiker/biker trails create a valuable addition to a City's transportation network.



- Low Density Residential
- Medium-Low Density Residential
- Medium Density Residential
- High Density Residential
- Mixed Residential
- Commercial
- Commercial Office
- Commercial-Industrial-Research-Office
- Commercial-Office-Residential
- Industrial
- Residential Office
- Mixed Use
- Institutional
- Open Space
- Refer to Master Plan

CITY LAND USE

It is important to understand the type, quality, and quantity of adjacent land uses that may impact or influence development opportunities in Olde Towne. As shown on the City Land Use diagram, Olde Towne is a mixed-use area with adjacent residential uses. Educational facilities, including the Gaithersburg Middle School at the northeast and the Gaithersburg High School to the south, are close by. The Gaithersburg Elementary School is within the Olde Towne District boundary. A major commercial area consisting of the Lakeforest Mall and other adjacent shopping centers is just to the northwest along Frederick Avenue. Olde Towne is in close proximity to Gaithersburg's larger open spaces and recreational opportunities.

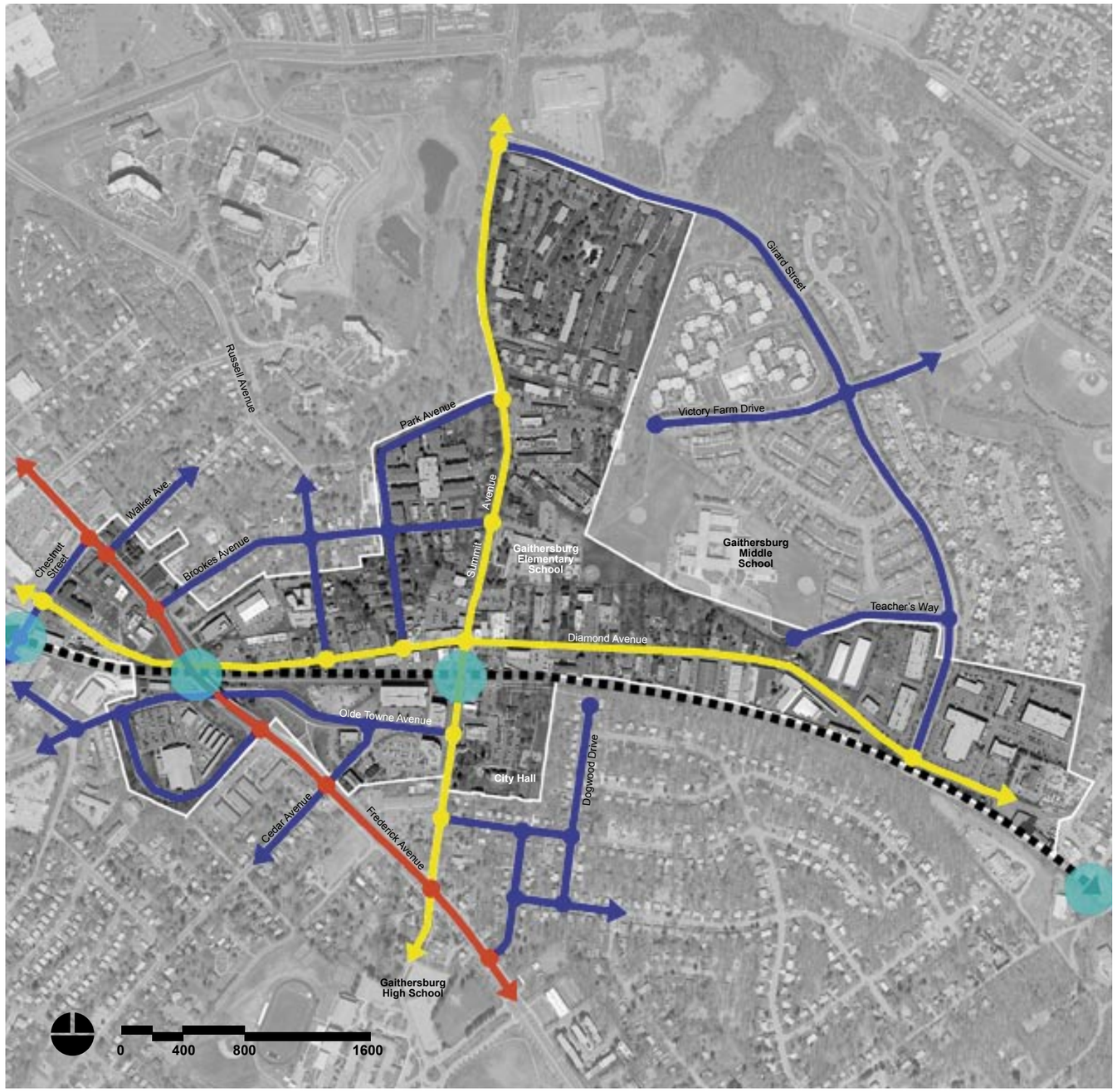
- Residential
- Housing for the Elderly
- Restaurant
- General Retail
- Finance and Insurance
- Professional Services
- Personal Services
- Automobile Services
- Educational
- Institutional
- Health Care
- Office
- Storage Services
- Construction-related Business
- Utility
- Entertainment
- Residential / Office Mix
- Residential / Retail Mix
- Vacant

EXISTING OLDE TOWNE LAND USE

A mix of uses exist in Olde Towne. Shops, offices, residences, and civic institutions create the mix of uses characteristic of a vibrant downtown. Commercial uses are located primarily along the length of Diamond Avenue and along Summit Avenue between the railroad tracks and Park Avenue. Commercial and retail uses vary, but are generally neighborhood in scale and service. Small retail shops, restaurants, small office uses, and personal services are interspersed with automobile-oriented commercial services.

Residential uses are located primarily at Olde Towne's north. Large multi-family apartment buildings along Summit Avenue, north of Brookes Avenue have created affordable housing opportunities for Gaithersburg's residents. Though predominantly multi-family, the housing stock includes a number of older, single-family homes. Increasingly, these homes are being converted to small professional office uses, such as medical and legal services.

City Hall and several other civic institutions are clustered together in an area east of South Summit Avenue and south of the railroad tracks. The close proximity of civic uses like City Hall, the Gaithersburg Historical Museum, and the Concert Pavilion create a very definitive civic core in Olde Towne.



CSX/ MARC/ AMTRAK

Primary Road

Secondary Road

Tertiary Road

Connection Over Railroad

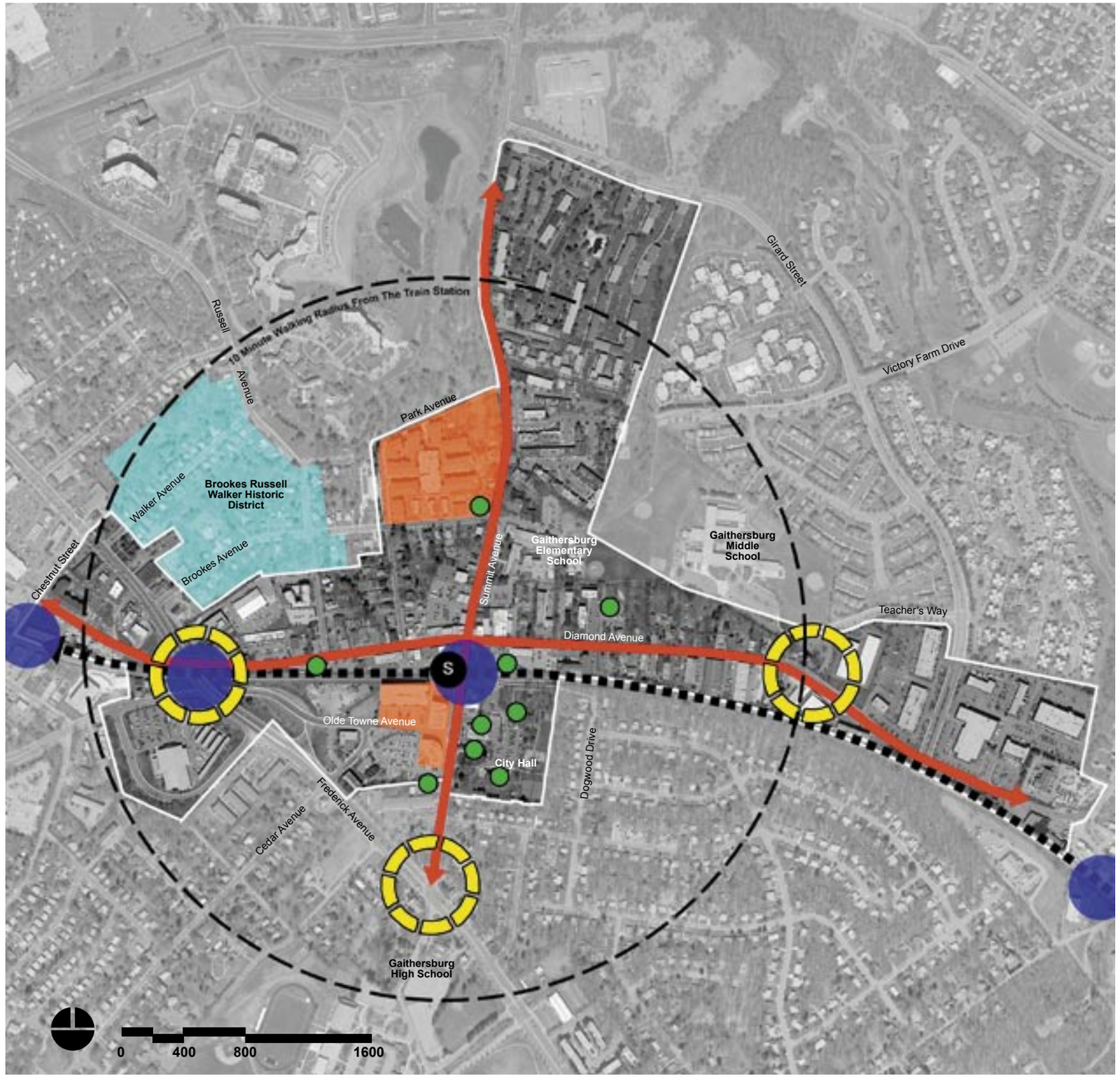
EXISTING OLDE TOWNE ROADWAY CONNECTIVITY

Frederick Avenue (State Rt. 355) is the primary roadway servicing Olde Towne. The most visible, direct access into Olde Towne from Frederick Avenue is along Summit Avenue. Additional access from Frederick Avenue can be navigated on Olde Towne's west side along Brookes Avenue, and Fulks Corner Avenue. These routes are confusing and poorly signed, not as direct, and/or take motorists through residential neighborhoods. Additional direct access to Olde Towne is found along Diamond Avenue from the east and west, along Summit Avenue from the north, and Olde Towne Avenue from the west. These three streets are the primary routes through Olde Towne.

The diagram clearly illustrates an interconnected network of streets west of Summit Avenue. Similar connections are lacking on the east side of Summit Avenue. This lack of roadway connectivity forces Summit and Diamond Avenues to bear most of the traffic flowing through Olde Towne. The problem is further enhanced by the lack of crossings over the railroad tracks. Heavy use of the rail corridor by MARC, CSX, and AMTRAK trains creates traffic congestion along Summit Avenue when trains are present.

SCALE COMPARISONS

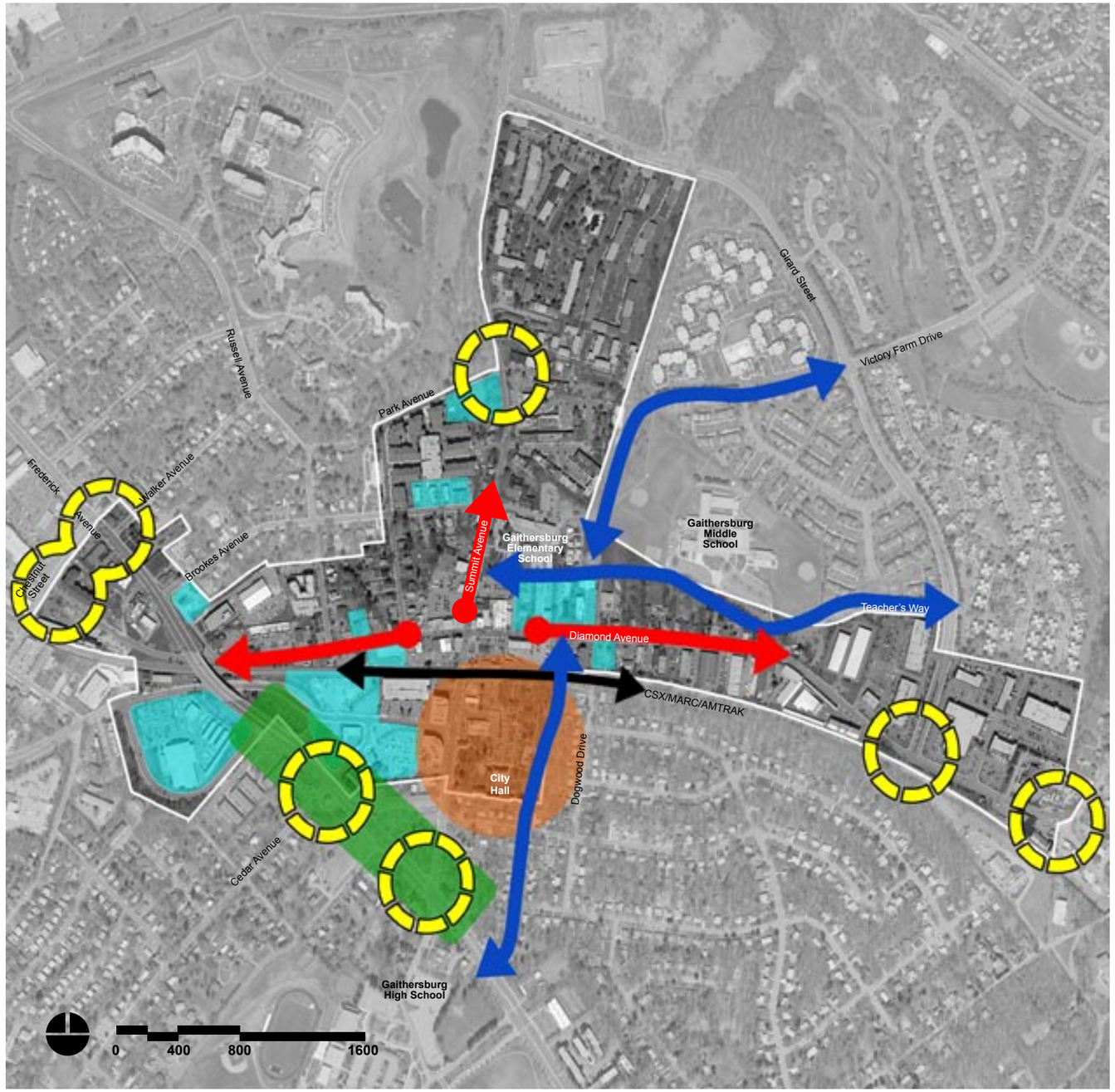
Understanding the scale of Olde Towne is an important aspect of understanding the magnitude of development and improvement opportunities. The series of diagrams shown at left illustrate the Olde Towne Central Business District boundary (red outline) superimposed—at the same scale—over four unique places.



- New Development
- Historic District
- Connection Over Rail Road
- Art, Civic and Cultural Resource
- Gateway
- Gaithersburg Train Station
- Olde Towne Street of Distinct Character
- CSX/ MARC/ AMTRAK

OLDE TOWNE STRENGTHS

The Olde Towne District possesses many existing strengths, including prime access to Interstate highway corridors, access to regional commuter rail service, a branch campus of Montgomery College, recent development interest, civic and cultural resources, successful ethnic local businesses, historic architecture, and a historic “Main Street” – all important assets that Olde Towne can leverage to solidify its continued growth and revitalization.



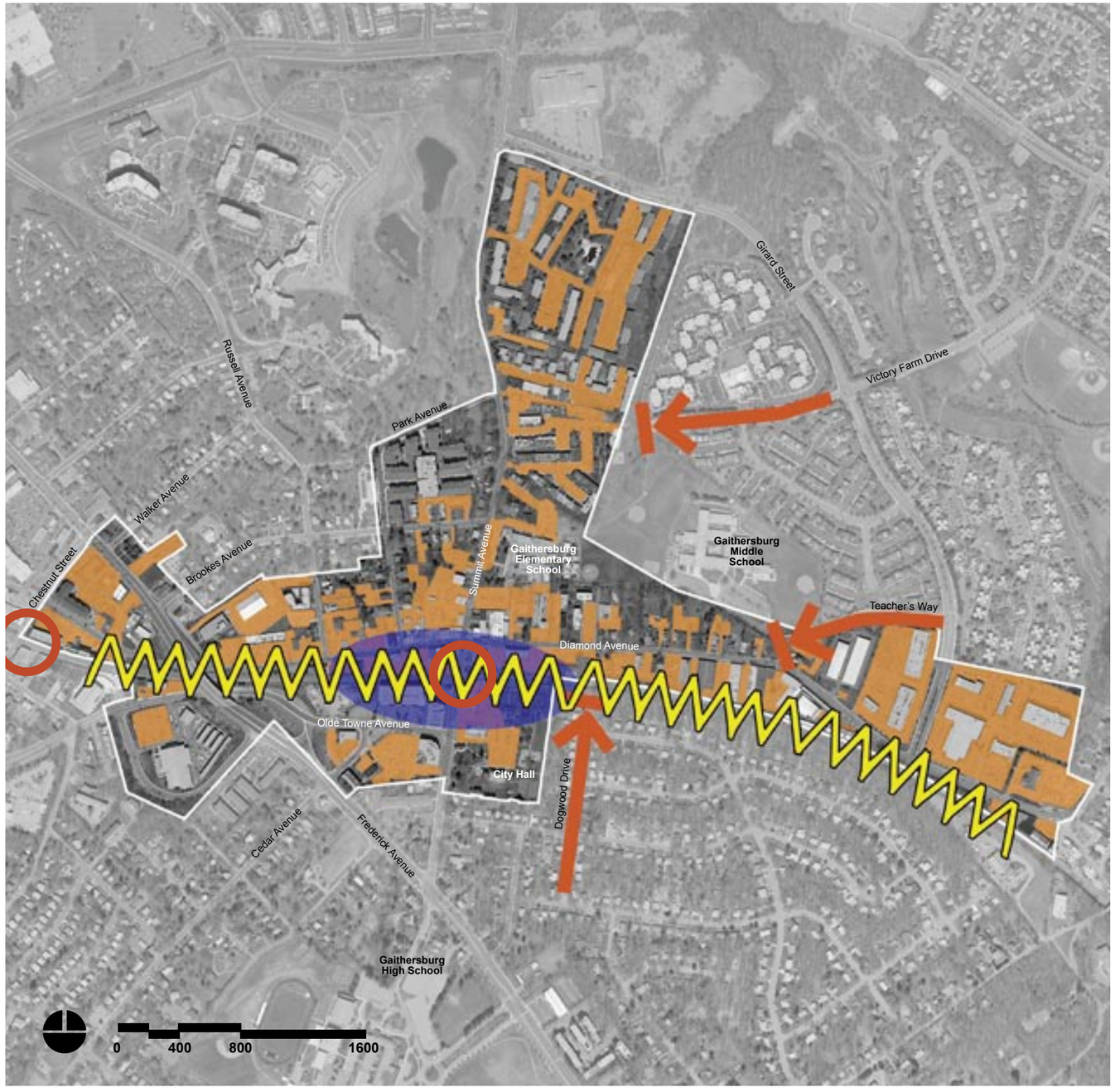
- Enhanced Civic Core
- Underutilized Parcels
- Embrace of Frederick Avenue
- Enhanced Gateways
- Enhance Existing Historic Character
- Possible Roadway Connections
- Improvement of Pedestrian Connections

OLDE TOWNE OPPORTUNITIES

Using the analysis of existing conditions, strengths, and constraints, opportunities for Olde Towne improvements are identified. Development opportunities are perhaps the most significant of these. Development opportunities are identified as undeveloped or underutilized land, City-owned property, or recent developer parcel assemblage.

Improved gateways will increase both the visibility and access to Olde Towne. This visibility could be further enhanced by "embracing" Frederick Avenue with new development of a higher density on both sides of the street. The historic charm and retail activity of Olde Towne could be enhanced by extending the historic commercial core (the intersection of Summit and Diamond Avenues) along Diamond Avenue to the west and east and Summit Avenue to the north. The historic character could be further enhanced in the design of new construction. The park-like setting of the civic core, defined by City Hall and various other civic uses found east of Summit Avenue and south of the railroad tracks, could be enhanced and preserved as the heart of Gaithersburg's civic life.

Diamond and Summit Avenues are the only streets that cross Olde Towne. Additional street connections would improve traffic flow through the entire Olde Towne Central Business District and reduce the traffic burden these streets currently carry. A new street connection with an unencumbered rail crossing that parallels Summit Avenue, as well as the extensions of Victory Farm Drive and Teacher's Way would greatly improve vehicular traffic through Olde Towne.



OLDE TOWNE CONSTRAINTS

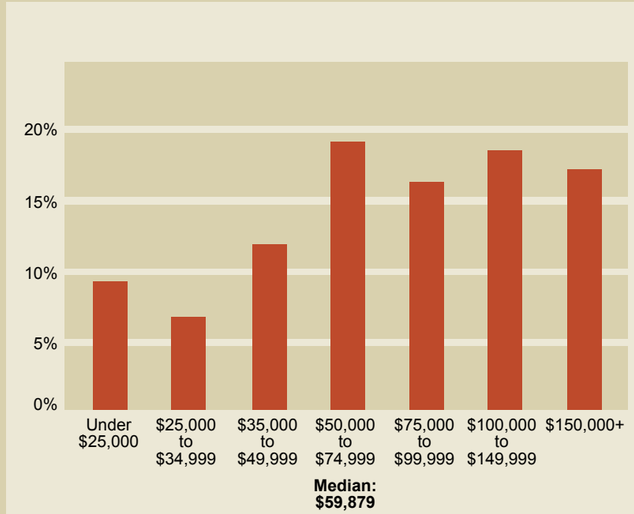
Though a public parking garage has been constructed in recent years, a large amount of unconsolidated surface parking still remains. The presence of surface parking, particularly along the railroad tracks near the intersection of Diamond and Summit Avenues, has created an unwelcoming view at the main approach into Olde Towne along Summit Avenue.

The railroad tracks are a substantial physical barrier through the Olde Towne District. This barrier separates the commercial core and large residential areas north of the tracks from the civic core and development opportunities to the south. With only four vehicular crossings over the tracks—two of which are at-grade crossings—substantial traffic congestion occurs when trains are present. An additional constraint associated with the railroad tracks is the noise and vibration from passing trains.

As described in the Existing Olde Towne Roadway Connectivity diagram shown on page 12, several uncompleted roadways limit access to Olde Towne. These include Victory Farm Drive, Teacher's Way, and Dogwood Drive.

FACTOR	GRADE	ASSESSMENT
Regional Location	A-	Inner suburban, infill location in a fast-growing region with significant land supply constraints in closer-in areas
Demographics & Economics	B+	Lack of luxury housing stock in Olde Towne, but very strong demographic and economic foundation in surrounding market area
Access & Visibility	B	Strong infill location with transportation anchor; visibility and access challenges can be overcome through effective planning and marketing
Development Opportunities	A-	Some fractional ownership constraints, but overall several concentrations of parcels that can be redeveloped in the long term
Character	B+	Charming but underutilized “Main Street”, ethnic character and public spaces already provide a unique small downtown experience

An assessment of Olde Towne’s locational advantages. Logically, the higher the grade the better the assessment (source: Robert Charles Lesser & Company, LLC).



The City of Gaithersburg’s relatively high household income indicates a strong local economy (source: US Dept. of Commerce, Bureau of Census 1990-2000).

USE	OPPORTUNITY	DEPTH OF DEMAND
Residential	HIGH	1,250 to 1,500 Units
Retail	MODERATE	125,000 to 175,000 square feet
Office	MODERATE	200,000 to 250,000 square feet
Hotel	LOW	Boutique hotel in long-term

This chart indicates new development depth of demand projections for a variety of land use types in Olde Towne over an 8 to 10 year period (source: Robert Charles Lesser & Company, LLC).

EXISTING MARKET CONDITIONS

Existing market conditions indicate the type and intensity of development that can occur in Olde Towne.

This section has been adapted from a more extensive report prepared by Robert Charles Lesser & Co. LLC. The full report, *Market Analysis of Selected Land Uses in Olde Towne Gaithersburg, MD, February 10,2005*, is available from the Planning and Code Administration Office at City Hall.

The strength of future development opportunities in Olde Towne will depend primarily on two factors:

- The strength of Olde Towne as a location for a variety of land uses, and
- The supply and demand conditions for those land uses in Olde Towne's competitive market area.

Shown at left is an assessment of Olde Towne's locational advantages. Olde Towne should be well positioned to capture a significant depth of demand to support a relatively small, but vibrant mixed-use downtown.

Also shown at left is an analysis of market conditions that indicates the depth of demand for a variety of potential land uses in Olde Towne. The demand projections reflect new development potential over the next 8 to 10 year period. Clearly, there exists high demand for new residential development and a moderate demand for retail and office development.

In the near term, for-sale condominium development will represent the more attractive residential development option from market demand and land value perspectives. New condominiums should be able to achieve pricing of $350 per square foot, with significant price increasing over time as the Olde Towne redevelopment gains momentum. The target market for these condominiums will be young and mid-career professionals, empty nesters, retirees and smaller families. Over the next decade, luxury rental apartment development opportunities may increase as interest rates rise and undersupply conditions are created due to the current slowdown in development of this product type.

Attracting new residential development is a critical step in the continued revitalization of Olde Towne. Future residents would contribute to the twenty-four hour vibrancy of Olde Towne and help support retail uses. There is an opportunity to develop new retail in Olde Towne as well as strengthen the existing retail base. The traditional downtown character of Olde Towne (the "Main Street" character of Diamond Avenue for example) offers an alternative to typical suburban strip shopping centers and even newly developed town centers.

The recent success of the class 'A' office buildings indicate the potential success of future office development. New office development in Olde Towne could target office users that want to work in a unique, mixed-use environment. New office development would create daytime traffic that supports retail uses.

There is limited near- and mid-term opportunity to develop a hotel in Olde Towne, although the development of a boutique hotel or other type that fills a specific niche may exist in the longer term. Due to the tenuous nature of potential hotel development, a hotel site has not been shown on the Master Plan .


BUILDING LEGEND
Existing Building
Proposed Building
Existing Civic Building
Existing Parking Structure
Proposed Parking Structure
Russell Avenue
Walker Avenue
Park Avenue
Girard Street
Victory Farm Drive
Chestnut Street
Brookes Avenue
South Summit Avenue
Gaithersburg Elementary School
Gaithersburg Middle School
Teacher's Way
East Diamond Avenue
CSX/MARC/AMTRAK
Olde Towne Avenue
Fulks Corner Ave.
Frederick Avenue
City Hall
Dogwood Drive
Cedar Avenue
0
200
400
800

THE MASTER PLAN

The Plan is the physical manifestation of the community's hopes and desires for the long-term development of Olde Towne. It provides a glimpse into the future.

The Master Plan (left) embodies the main themes, ideas, and recommendations developed at the Planning Charrette. Generated from an extensive analysis of Olde Towne's strengths, constraints, opportunities, and input from the community; the plan highlights areas for new development and improvement over the next 5 to 10 years and beyond.

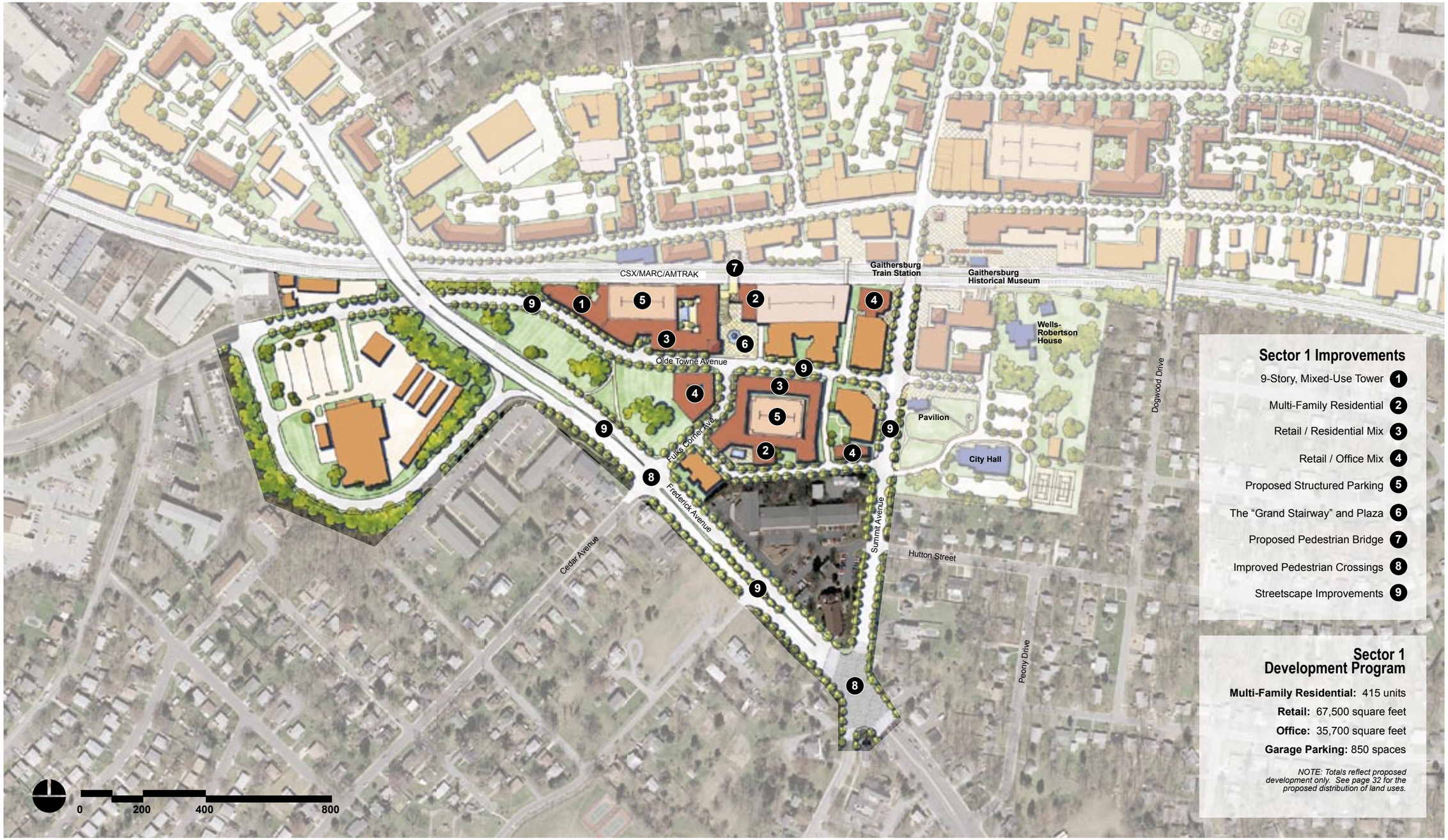
The recommendations established by the Master Plan include:

- new development that capitalizes upon City-owned property,
- consolidating the parking supply
- strengthening Olde Towne as a vibrant destination and the heart of civic life;
- improvements to the public realm, including new parks, plazas and cultural resources;
- new pedestrian and vehicular connections that improve circulation and wayfinding,
- provide alternative modes of transportation that link and help alleviate traffic congestion.

To strengthen the desirability of Olde Towne as a regional destination, the Plan recommends a significant increase in development density. As indicated on the Plan, new buildings are illustrated in a darker brown color, while existing buildings are illustrated in a lighter brown color. Though density has been increased, Olde Towne's historic charm, one of its leading assets, remains intact.

New commercial infill development would extend the "Main Street" character of Summit Avenue north to Brookes Avenue, and Diamond Avenue west to Chestnut Street. New mixed-use residential development would increase home-ownership opportunities, diversify the housing supply, and capitalize upon the proximity of the MARC passenger rail service. Future Olde Towne residents would contribute to the lively, 24-hour atmosphere and support future retail development; therefore, uses that support late night activity are strongly encouraged.

The next 12 pages describe the Master Plan in greater detail. Pages 21 to 30 illustrate proposed improvements for each of the five planning sectors. Pages 31 to 39 illustrate and define various components of the Master Plan. These include building heights, land use, parking, and the circulation network, and several "before-and-after" illustrations. An implementation strategy is also included.



Sector 1 Improvements

- 9-Story, Mixed-Use Tower 1
- Multi-Family Residential 2
- Retail / Residential Mix 3
- Retail / Office Mix 4
- Proposed Structured Parking 5
- The “Grand Stairway” and Plaza 6
- Proposed Pedestrian Bridge 7
- Improved Pedestrian Crossings 8
- Streetscape Improvements 9

Sector 1 Development Program

Multi-Family Residential: 415 units

Retail: 67,500 square feet

Office: 35,700 square feet

Garage Parking: 850 spaces

NOTE: Totals reflect proposed development only. See page 32 for the proposed distribution of land uses.

SECTOR 1

This sector is characterized by a large City-owned, underutilized parcel known as the 'Y' site. The site represents significant importance to the historic development of the City of Gaithersburg. Prior to the construction of railroad tracks in the pattern of a 'Y' enabling early steam locomotives to turn and reverse direction on the site, the City of Gaithersburg was served by through trains only. The 'Y' pattern of tracks permitted trains to originate and terminate within City limits. The tracks have long since been removed, and the "Y" site is now underutilized as a commuter parking lot.

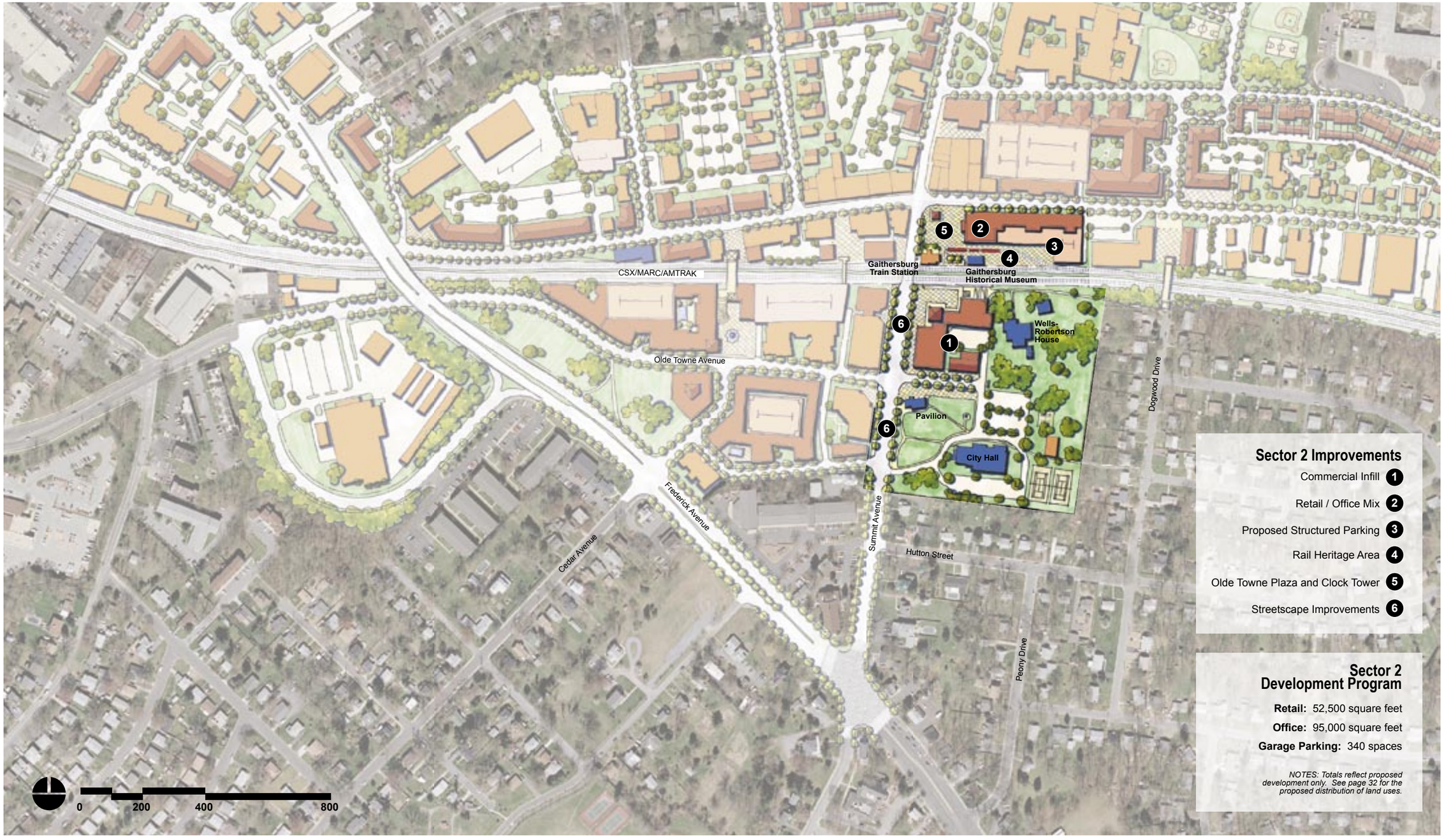
The 'Y' site enjoys high visibility from Frederick Avenue and direct access from Fulks Corner Avenue and Summit Avenue. Accessibility to the site is further enhanced from points west by the direct connection to I-270 via Olde Towne Avenue/West Diamond Avenue. Proposed development in Sector 1 leverages this visibility and access, as well as the presence of the MARC rail station to significantly increase Olde Towne's density and preserve the historic character found along Diamond and Summit Avenues.

Proposed buildings in this area should complement the character of development already established by the recent construction of the class "A" office, luxury apartments, and public parking structures. Ground floor retail uses fronting Olde Towne Avenue and residential or office uses on the upper floors are proposed in buildings up to five stories in height.

One building on the "Y" site is proposed to reach up to 9 stories in height to become a recognizable Olde Towne landmark. Constructed against the railroad tracks, this building would be an exciting residential or office address. Adequate soundproofing measures to temper the noise from passing trains would need to be considered in construction. Parking for these uses would be accommodated in parking structures located behind the buildings. Market forces will dictate the specific mix of uses to occur in each building, though a restaurant use should be encouraged in the ground level of the proposed building at Summit Avenue next to the railroad tracks.

A key feature of Sector 1 is the proposed "grand stairway" and plaza. This plaza space and "grand stairway" would serve as an additional gathering space for residents, providing access to the pedestrian bridge over the tracks and seating to relax and enjoy a cup of coffee. The "Y" site's rail history (described above) should be reflected in the final design of this plaza space.

As the largest contiguous development opportunity in Olde Towne, quality of design and construction must be of the highest standards. A sketch that conceptually illustrates the desired architectural character of this development and the "grand stairway" and plaza is shown on page 38.



Sector 2 Improvements

- Commercial Infill 1
- Retail / Office Mix 2
- Proposed Structured Parking 3
- Rail Heritage Area 4
- Olde Towne Plaza and Clock Tower 5
- Streetscape Improvements 6

Sector 2 Development Program

Retail: 52,500 square feet

Office: 95,000 square feet

Garage Parking: 340 spaces

NOTES: Totals reflect proposed development only. See page 32 for the proposed distribution of land uses.

SECTOR 2

Much of Sector 2 (located east of Summit Avenue and south of Diamond Avenue) is proposed to remain in its existing condition. City Hall, the Concert Pavilion, Wells Robertson House, the Gaithersburg Historical Museum, and the historic train station, are valued civic resources that together define a civic core for the City of Gaithersburg and contribute to the existing and future vitality of Olde Towne. Several development and improvement opportunities are proposed, however, that reinforce the Sector's role as the civic heart of the City by integrating existing uses, enhancing the visual character, and improving the public realm.

Olde Towne Plaza and Clock Tower

The surface parking at the southeast corner of Summit and Diamond Avenues, Olde Towne's most prominent and visible intersection, would be replaced by an expanded plaza area. Designed to integrate the historic steam locomotive, rail cars, the Gaithersburg Historical Museum, and the historic train station into a cohesive space, the plaza would become a more appropriate setting to celebrate Olde Towne's rail heritage. A clock tower prominently located at the corner, punctuates the plaza space and serves as a recognizable Olde Towne landmark. Special features, like synchronized lighting or chimes, could be incorporated into the design of the tower to announce a train's imminent arrival. Other elements or programmed features such as street vendors, chess tables, fairs, and festivals would reinforce the plaza's function as the locus of downtown life and activity.

315 East Diamond Avenue

The proposed redevelopment of the Fishman Building (315 East Diamond Avenue) would bound Olde Towne Plaza's east side. Capitalizing on the high visibility afforded by its proximity to the MARC rail station and the intersection of Summit and Diamond Avenues, this City-owned property could be redeveloped to a higher density, mixed-use facility. To enhance the use of Olde Towne Plaza, ground floor retail uses like restaurants, cafes, flower shops, or even a small grocery that caters to commuters could be located adjacent to the space. Additional retail uses could front along Diamond Avenue to extend its "Main Street" character eastward. The upper floors could accommodate additional office uses. Parking for these uses would be provided in a small parking structure located between the railroad tracks and the back of the building. The lower level of the garage could provide public parking spaces, while the upper level(s) could be reserved for office users and retail employees. The footprint of the parking structure should accommodate the existing historic rail cars and the tracks on which they sit.

High visibility and City-ownership should allow the site to redevelop in early stages of Master Plan implementation. Quality of design and construction must be of the highest standard to respect Olde Towne's historic character and architectural heritage. A sketch that conceptually illustrates the desired architectural character of this building and its relationship to Olde Towne Plaza is shown on page 37.

The US Postal Service and Gas Station Sites

Located in the heart of Olde Towne next to the MARC rail station, the distribution facility of the United States Postal Service (USPS) and the Shell gas station are inappropriate and underutilized uses for the highly visible and accessible sites they occupy. The auto-orientation of these uses creates an unsightly, incompatible environment for both the pedestrian and adjacent civic facilities.

The short-term development proposed in Sector 1 (see page 22) would likely provide further visibility for the redevelopment of the USPS and Shell sites in the mid- to long-term. This new facility is envisioned as either a single-story building of retail uses like restaurants, cafes, and shops; or up to a three-story, mixed-use building of ground floor retail with office above. Built to the edge of the street, the character of this new structure and its proposed uses would reflect that of the recent office development found across the street, serve as a more appropriate backdrop for the Concert Pavilion, and create the desired pedestrian-orientation appropriate for the heart of Olde Towne. A small plaza space adjacent to the railroad tracks would provide space for café tables, as well as an unobstructed view from the south to the historic train station and steam locomotive.

The extension of Olde Towne Avenue into Sector 2 would provide more direct access from the west as well as generally improve vehicular circulation south of the railroad tracks. The surface parking this proposed building would displace could be accommodated in structured parking facilities proposed throughout Olde Towne or located on the south side of City Hall.

Sector 3 Development Program

Multi-Family Residential: 280 units

Single-Family Town Homes: 25 units

Retail: 41,500 square feet

Office: 24,600 square feet

Civic: 16,800 square feet

Garage Parking: 870 spaces

NOTES: Totals reflect proposed development only. See page 32 for the proposed distribution of land uses.

Sector 3 Improvements

1. Commercial Infill
2. Multi-Family Residential
3. Town Home Development
4. Retail / Residential Mix
5. Retail / Office Mix
6. Proposed Structured Parking
7. Pedestrian Bridge Plaza
8. Proposed Pedestrian Bridge
9. Olde Towne Heritage Area
10. Hiker / Biker Trail
11. Proposed Roadway Connection
12. "Main Street" Character of Diamond Avenue Extended Eastward
13. "Main Street" Character of Summit Avenue Extended Northward

SECTOR 3

Sector 3 is characterized by a wide variety of land uses including vibrant retail, two public schools, an area of historic architecture, and a large area of light industrial uses. Sector 3 transitions quickly from the light industrial uses on the east side to Olde Towne's retail core at the intersection of Summit and Diamond Avenues – the heart of Olde Towne life and activity. Recommendations that address and improve the relationship among these seemingly disparate uses are proposed below.

Existing Light Industrial Facilities

Many auto repair and light industrial facilities are located on the east side of this Sector. These uses provide valuable services to Gaithersburg residents and are proposed to remain in their existing condition. Several members of the community suggested a commercial entertainment facility or music/dance hall that would host live music events (like the Birchmere in Alexandria, VA). The light industrial buildings in Sector 3 would adapt well to these entertainment uses. Though a specific location for a music hall facility is not shown, an entertainment use would be an appropriate redevelopment opportunity.

Special landscaping and welcome and directional signage at the termini of Girard Street and Railroad Street would improve these prominent gateways into Olde Towne for visitors arriving from the east.

Northeast Corner of Diamond Avenue

Recent developer interest in this area of Olde Towne suggests likely change in the short-term. To realize the maximum development potential of this large parcel assemblage, buildings could achieve a height of five stories in mixed-use structures. Ground floor retail uses would extend the pedestrian-friendly, "Main Street" character of Diamond Avenue eastward. Residential uses, both above the retail and in separate structures, would provide exciting class "A" living in the heart of Olde Towne. Structured parking for this mixed-use project would be provided by an integrated facility.

A separate building proposed along Summit Avenue, next to the Gaithersburg Elementary School, could accommodate ground floor retail uses with a small amount of office uses on the upper floors. To ensure that the historic character of Olde Towne remains intact, this new building should maintain and respect the existing retail located at the northeast corner of Summit and Diamond Avenues. Parking for this building could be accommodated in the parking structure located within the adjacent mixed-use project. The first level of the parking garage would be reserved for public parking and accommodate the retail uses located in this part of Olde Towne. The upper levels would be reserved for adjacent residential uses.

The houses located at 320, 408, 402, and 404 East Diamond Avenue (placed in order of significance) have been found to be significant to Gaithersburg by the Historic Preservation Advisory Committee and should be relocated and preserved, if possible. At such time development is proposed for these properties, the developer of the proposed development shall actively pursue the relocation of the single family houses

Olde Towne Heritage Area

Several residential structures along the north side of Diamond Avenue are listed in the City's historic buildings inventory. Defined by a proposed Olde Towne Heritage Area, these structures recall the City's rail and agricultural history and are recommended to remain in their existing condition. Many of these buildings serve as small professional offices–an appropriate use that should be encouraged to buffer the proposed residential development adjacent to the Gaithersburg Middle School (see below) from the light industrial uses south of Diamond Avenue.

Town Home Development

The deep parcels between Diamond Avenue and the Gaithersburg Middle School (the parcels on which many of the historic structures sit - see Olde Towne Heritage Area, above) represent significant mid-term development opportunity. The City should initiate a process that would subdivide, acquire, and assemble these large parcels to facilitate new town home development in this area. Fronting onto the proposed extension of Teacher's Way (see *Connectivity Improvements*, below), new town homes would diversify Olde Towne's housing stock and provide home ownership opportunities. The City should consider the extension of Teacher's Way early in master plan implementation to make this area more attractive for redevelopment.

An additional mixed-use building is also proposed for this area. This structure is envisioned as a three-story building with ground floor retail and office uses on the upper floors. At three stories, this structure would provide an appropriate transition in height and scale from the large, mixed-use development proposed to the west, and the town homes and Olde Towne Heritage Area proposed to the east. The construction of this building would displace the Gaithersburg Youth Center, which would be relocated to a site with convenient access to the Gaithersburg Middle School.

Connectivity Improvements

Additional recommendations are proposed in Sector 3 that improve pedestrian and vehicular connectivity within Olde Towne and outlying areas. The extension of Victory Farm Drive would establish a parallel route to Summit Avenue between Diamond Avenue and Girard Street, providing an additional route to the Gaithersburg Elementary and Middle Schools and potentially reducing the traffic burden Summit Avenue now carries. A small neighborhood green that offsets Victory Farm Drive at Teacher's Way makes the route less direct and would slow the speed of traffic through this area. The extension of Victory Farm Drive is also illustrated in Sector 5 (see page 29).

The extension of Teacher's Way would establish a parallel route to Diamond Avenue between Girard Street and Summit Avenue, potentially reducing the traffic load Diamond Avenue now bears. The extension of Teacher's Way would also create substantial value to adjacent parcels, increasing the likelihood of their redevelopment in the near- to mid-term. Though it is strongly recommended that Teacher's Way extend to Summit Avenue, the proposal must be studied in greater detail. A traffic study should be initiated to determine the impact of a new intersection at Summit Avenue, as well as future right of way acquisition issues with Montgomery County Public Schools (MCPS) and private property owners. The design of Teacher's Way and Victory Farm Drive will incorporate pedestrian safety and traffic calming measures. Following the redevelopment of the northeast corner of Diamond Avenue, a pedestrian bridge over the railroad tracks located at the terminus of Victory Farm and Dogwood Drives should be studied. This bridge would improve Olde Towne's pedestrian accessibility for neighborhoods to the southeast and provide a safe alternative route for children on their way to and from school. A small plaza at the base of the pedestrian bridge and a small commercial infill structure complete the ensemble.

A proposed hiker/biker trail that traverses Olde Towne parallel to the railroad tracks would connect many important Olde Towne features, provide a valuable recreational amenity, and improve the quality of life for Olde Towne residents. The trail would connect to the proposed pedestrian bridge so that trail users could continue north on a proposed extension of the trail (see Sector 5, below). The trail could connect to the Gaithersburg and Washington Grove MARC rail stations and to the Shady Grove Metro Station, providing residents an opportunity to walk or bike to catch a train to work. Trail users from outside of the City could learn of Gaithersburg's history at the History Museum and interpretive signage at Olde Towne Plaza. Bike racks conveniently located in Olde Towne Plaza would encourage bikers to shop and dine in Olde Towne establishments.

Sector 4 Improvements

1. Commercial Infill
2. Multi-Family Residential
3. Town Home Development
4. Retail / Residential Mix
5. Retail / Office Mix
6. Consolidated Surface Parking
7. Pedestrian Bridge Plaza
8. Proposed Pedestrian Bridge
9. Hiker / Biker Trail
10. Office Additions to Existing Structures
11. Improved Pedestrian Crossings
12. "Main Street" Character of Diamond Avenue Extended Westward
13. "Main Street" Character of Summit Avenue Extended Northward

Sector 4 Development Program

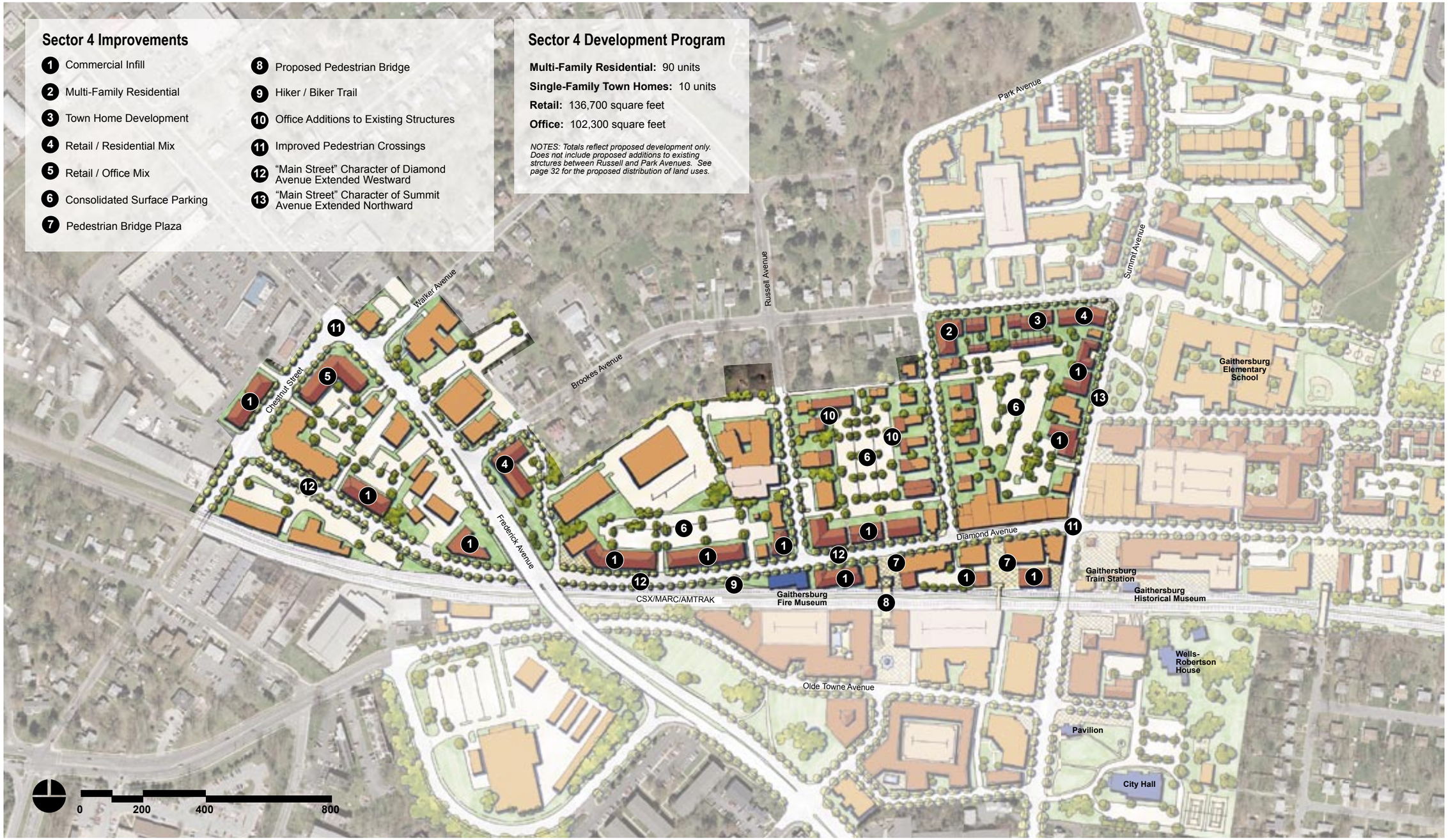
Multi-Family Residential: 90 units

Single-Family Town Homes: 10 units

Retail: 136,700 square feet

Office: 102,300 square feet

NOTES: Totals reflect proposed development only. Does not include proposed additions to existing strctures between Russell and Park Avenues. See page 32 for the proposed distribution of land uses.



SECTOR 4

Sector 4 is characterized by qualities consistent with a traditional downtown – a variety of vibrant retail and restaurants along a “Main Street”, adjacency to the Brookes Russell Walker Historic District, and convenient, though less direct access and visibility from Frederick Avenue via Chestnut Street. Many infill opportunities are present in Sector 4 that would strengthen the “Main Street” qualities of Diamond and Summit Avenues, allow a densification of adjacent office uses, and introduce new housing opportunities.

Commercial and Residential Infill Opportunities

The greatest opportunities present in Sector 4 are the many commercial infill sites present along Diamond and Summit Avenues. Commercial development constructed to the street edge would fill in the “missing teeth” along these streets, extend their Main Street character north and west, and improve the general pedestrian-friendliness of Olde Towne. Additional restaurants that incorporate sidewalk cafes and retailers that display wares on the sidewalk would increase Olde Towne’s street activity and overall attractiveness to the pedestrian. Infill structures are envisioned up to three stories in height, with ground floor retail uses and residential or office uses above. Market conditions would determine specific uses as sites come on line for redevelopment.

The historic charm of Olde Towne is one of its leading assets. Infill development should in final design reflect this colloquial and historic vernacular. Many of the historic homes along Russell and Park Avenues have been converted to office uses to establish an appropriate buffer between the commercial areas of Olde Towne and the adjacent historic district. Recent developer interest in this area indicates the desire to increase the density. Additions to these structures that respect the historic integrity of the original building and the historic character of this area should be permitted. The additions shown on the illustrative plan at left are provided to illustrate this concept only and do not indicate actual proposals.

The residential structures at 6 and 18 Diamond Avenue should be preserved and adaptively reused for non-residential uses. These structures will provide handsome “book ends” to the proposed development between them.

Residential infill opportunities exist along Brookes Avenue between Park and Summit Avenues. These narrow parcels are well-suited for small multi-family buildings, town homes, or two-over-two condominiums.

Several retail infill opportunities exist between Diamond Avenue and the railroad tracks. Small retail structures are proposed to flank the proposed plaza spaces at the foot of the existing and proposed pedestrian bridges that cross the railroad tracks. The City should encourage infill development at these sites to replace the unsightly surface parking lots and mask the unsightly rear of existing structures adjacent to the tracks. Retail venues could support cafes, coffee shops, or commuter serving convenience retail uses like small groceries, flower shops, and dry cleaners to animate the plaza spaces and create a more welcoming arrival as pedestrians cross the bridge. The existing surface parking that these structures displace would be accommodated in consolidated surface lots or parking structures proposed in this Sector and throughout Olde Towne.

Consolidated Surface Parking

Several opportunities to consolidate surface parking for use by the public and private businesses exist in Sector 4. Where feasible, all surface parking should be located in the middle of the block, behind existing and proposed structures. Clear and visible directional signage will direct vehicles to all public surface parking. Direct, well-lit pedestrian ways that connect the surface parking to the street will improve safety at night.

Connectivity and Gateway Improvements

Many of the connectivity improvements proposed in Sector 4 are geared toward the pedestrian. Streetscape improvements of new sidewalk paving, street tree planting, and pedestrian-scaled street lights would reinforce Diamond Avenue’s “Main Street” character and create a pedestrian-friendly environment as they stroll to shop and dine in Olde Towne.

The hiker/biker trail proposed in other Sectors would continue here in a westward direction on the north side of the tracks, potentially connecting neighborhoods lying on the west side of Olde Towne to the district’s commercial center. Residents living on the west side of Olde Towne would have an opportunity to walk or bike to catch a train to work. A portion of the trail west of Summit Avenue could be constructed as a boardwalk to reflect the boardwalk construction and interpretive features found on the east side of Summit Avenue. Like in Sector 3, the hiker/biker trail would also connect to the existing and proposed pedestrian bridges. Linking Olde Towne across the tracks, these bridges provide a convenient and safe way for pedestrians to cross the railroad tracks and access to the existing parking structure.

The most pronounced Olde Towne gateway in Sector 4 is located at the intersection of Frederick Avenue and Chestnut Street. This area lacks a sense of place and is not welcoming to the pedestrian. New crosswalk or intersection paving, improved traffic signaling, streetscape improvements, and new infill development constructed at the street edge along Chestnut Street would reinforce this intersection as a major gateway into Olde Towne, as well as alert motorists to the presence of pedestrians. New, welcome and directional signage would clearly identify Chestnut Street as the route motorists should take to access Olde Towne from the northwest side of the district.

Sector 5 Improvements

1. Town Home Development
2. Multi-Family Residential
3. Proposed Roadway Connection
4. Hiker / Biker Trail Connection
5. Streetscape Improvements

Sector 5 Development Program

Multi-Family Residential: 65 units

Single-Family Town Homes: 40 units

Retail: 12,000 square feet

NOTES: Totals reflect proposed development only. See page 32 for the proposed distribution of land uses.

SECTOR 5

Sector 5 is a large area characterized by multi-family dwellings with a few City-owned, underutilized parcels along Summit Avenue. Much of Sector 5 is proposed to remain in its existing condition for the near future. However, opportunities for new development and redevelopment do exist within the sector.

Residential Development

Several City-owned parcels along the west side of Summit Avenue between Brookes and Park Avenues do offer significant development opportunity in the near-term. The development of these sites into a higher-density residential community of fee-simple town homes and/or two-over-two condominiums (one two-level condominium unit on top of another two-level condominium) would diversify Olde Towne's housing stock and tenure, as well as improve the visual quality and pedestrian environment of the area.

To capitalize on the high visibility of the intersection at Summit and Park Avenues and the large number of residents living in this part of Olde Towne, a small amount of neighborhood-serving retail space could be accommodated in the ground level of one or several of the structures. Known as "flex" space, these structures could be constructed to allow either retail or residential uses on the ground floor – the specific use being determined by existing market conditions.

Parking for the town homes, two-over-two condominiums, and residential uses of the flex buildings would be accommodated in the rear of the structures. On-street parking along Park Avenue would satisfy the parking needs of the small amount of retail uses proposed for this area.

The sharp contrast between the pastoral landscape of the Asbury Methodist Village on the west side of Summit Avenue and this proposed new residential development would create a pronounced, highly-visible gateway into Olde Towne from the north, requiring the highest standards of architectural design, materials, and construction. A sketch that conceptually illustrates the character of this residential development is shown on page 36.

Additional residential development is proposed on the east side of Summit Avenue, next to the Gaithersburg Elementary School. The existing structures on this site are obsolete, difficult to maintain, and expensive to insure. Redevelopment would greatly improve the quality of the housing stock on the east side of Summit Avenue. Ground floor neighborhood-serving retail uses would enhance and extend the "Main Street" qualities of Summit Avenue. Retail uses should be explored with any new development proposal.

Connectivity Improvements

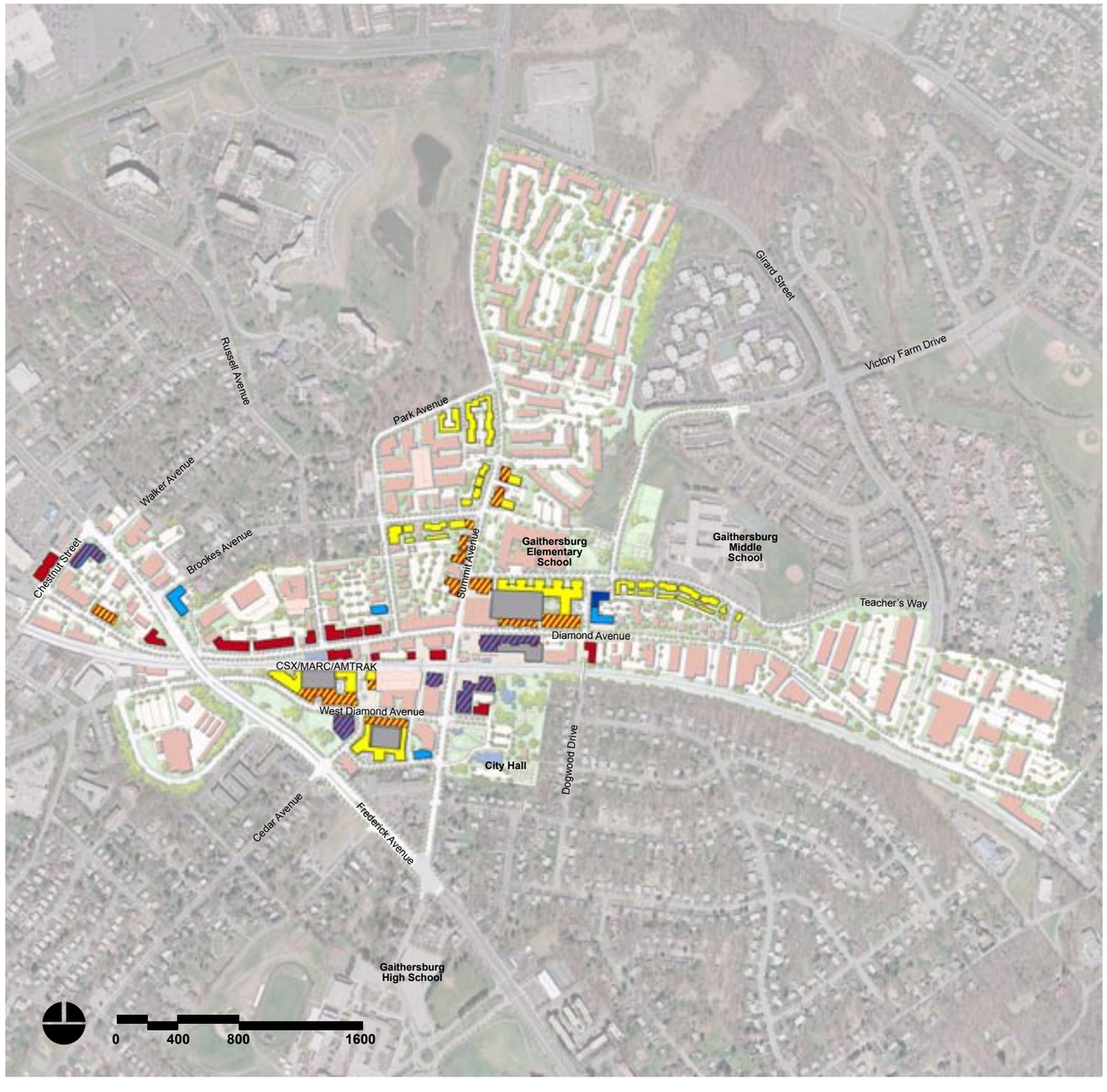
Additional recommendations are proposed in Sector 5 that improves pedestrian and vehicular connectivity within Olde Towne and outlying areas. An extension of the proposed hiker/biker trail (see Sector 3) could wind its way through the open space behind the apartment buildings on the east side of Sector 5. This leg of the trail would connect Olde Towne to existing and future residential neighborhoods to the north and east, providing school children and commuters a safe place to walk or bike to the Gaithersburg Elementary and Middle schools and the train station. Part of a greater network, the trail would also provide a valuable recreational amenity for all Gaithersburg residents. To encourage the safety of trail users, the trail should be well-lit and constructed to contemporary, multi-use trail design standards.

The extension of Victory Farm Drive on the east side of Sector 5 would greatly increase the vehicular accessibility of Olde Towne for adjacent neighborhoods. The extension of Victory Farm Drive is described in greater detail above (see Sector 3).

1 Story
Up to 2 Stories
Up to 3 Stories
Up to 4 Stories
Up to 5 Stories
Up to 9 Stories

PROPOSED BUILDING HEIGHTS

A variety of building heights is proposed for the Olde Towne District. Logically, taller buildings accommodate more intensive uses. Suitably sized buildings can reinforce "downtown" character and provide visual interest. Consistent with existing Olde Towne character, most buildings are proposed between two to four stories. Taller buildings are proposed at the development opportunity sites along Frederick Avenue and Olde Towne Avenue, as well as along Diamond Avenue east of Summit Avenue. Taller buildings can include three to four story bases with the upper floors set back from the base at least ten feet. A tall 9-story building positioned along Olde Towne Avenue near the MARC rail station would become a recognizable landmark for visitors to Olde Towne.



PROPOSED LAND USE

Proposed land uses both complement and enhance the mix of uses already present in Olde Towne. Retail, office, and residential uses, along with mixed-use structures that integrate these uses together are strategically located to create a vibrant, 24-hour Olde Towne.

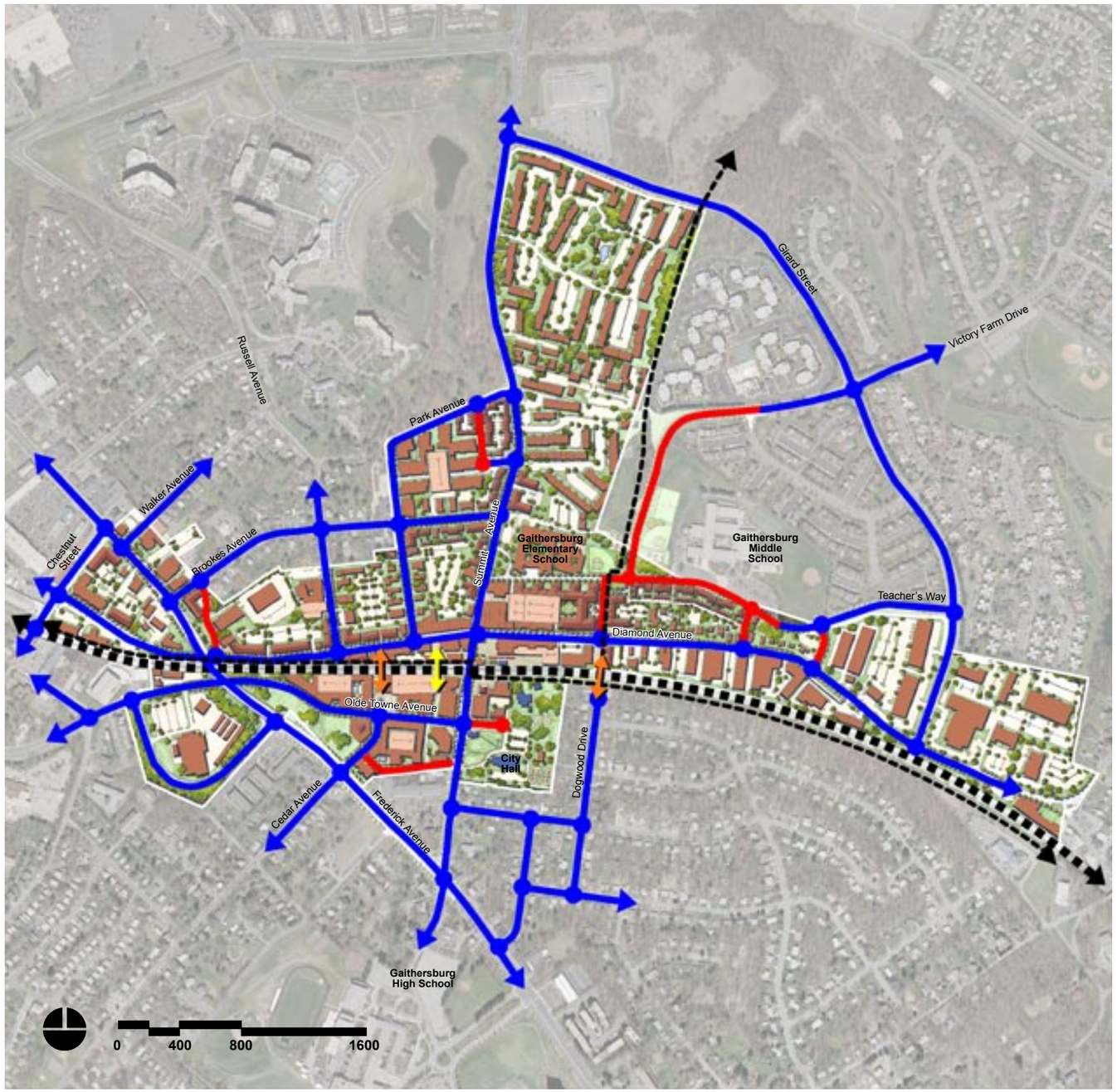
New residential uses both increase home ownership opportunities and diversify the existing housing stock. The MARC rail station is more effectively leveraged by locating new residential uses near the railroad tracks. Furthermore, new residents living closer to the heart of Olde Towne will increase its 24-hour liveliness.

New retail and office uses are proposed near the intersection of Summit and Diamond Avenues as well as along the length of Diamond Avenue to the west. These new commercial uses enhance the commercial core and strengthen the "Main Street" feel of Diamond Avenue.

On-Street Parking
Surface Parking
Structured Parking

PARKING

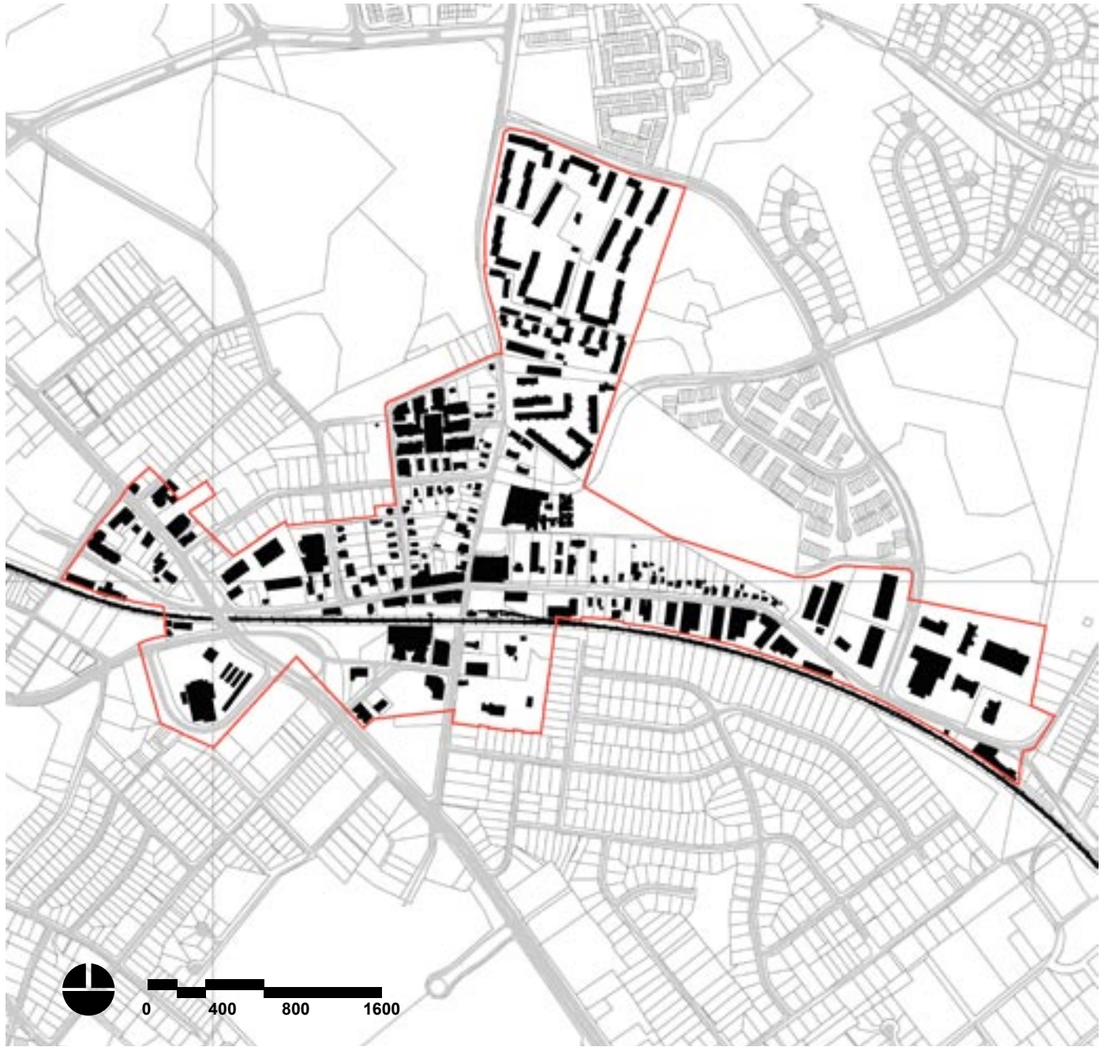
Consistent with traditional downtowns, proposed vehicular parking includes a mix of on-street, surface, and structured parking options. Where feasible, surface and structured parking should be located mid-block, behind structures to preserve Olde Towne's character and to improve the pedestrian environment. On-street parking should be encouraged wherever feasible.



CSX/ MARC/ AMTRAK
Existing Road
Proposed Road
Existing Pedestrian Bridge
Proposed Pedestrian Bridge
Hiker/Biker Trail

PROPOSED CIRCULATION NETWORK

Proposed improvements to the vehicular and pedestrian circulation network would greatly improve Olde Towne's access and visibility from adjacent neighborhoods. New roadway connections would distribute traffic more evenly, reducing the traffic burden Summit and Diamond Avenues now carry. Most significant of these connections are the extensions of Teacher's Way and Victory Farm Drive. Additional pedestrian bridges would create safe, direct crossings over the railroad tracks. The Hiker/Biker trail creates a valuable addition to Olde Towne's circulation network, linking residential neighborhoods to MARC rail stations, and cultural and open space resources. Part of a network, the trail would become a valuable recreational amenity for all Gaithersburg residents.



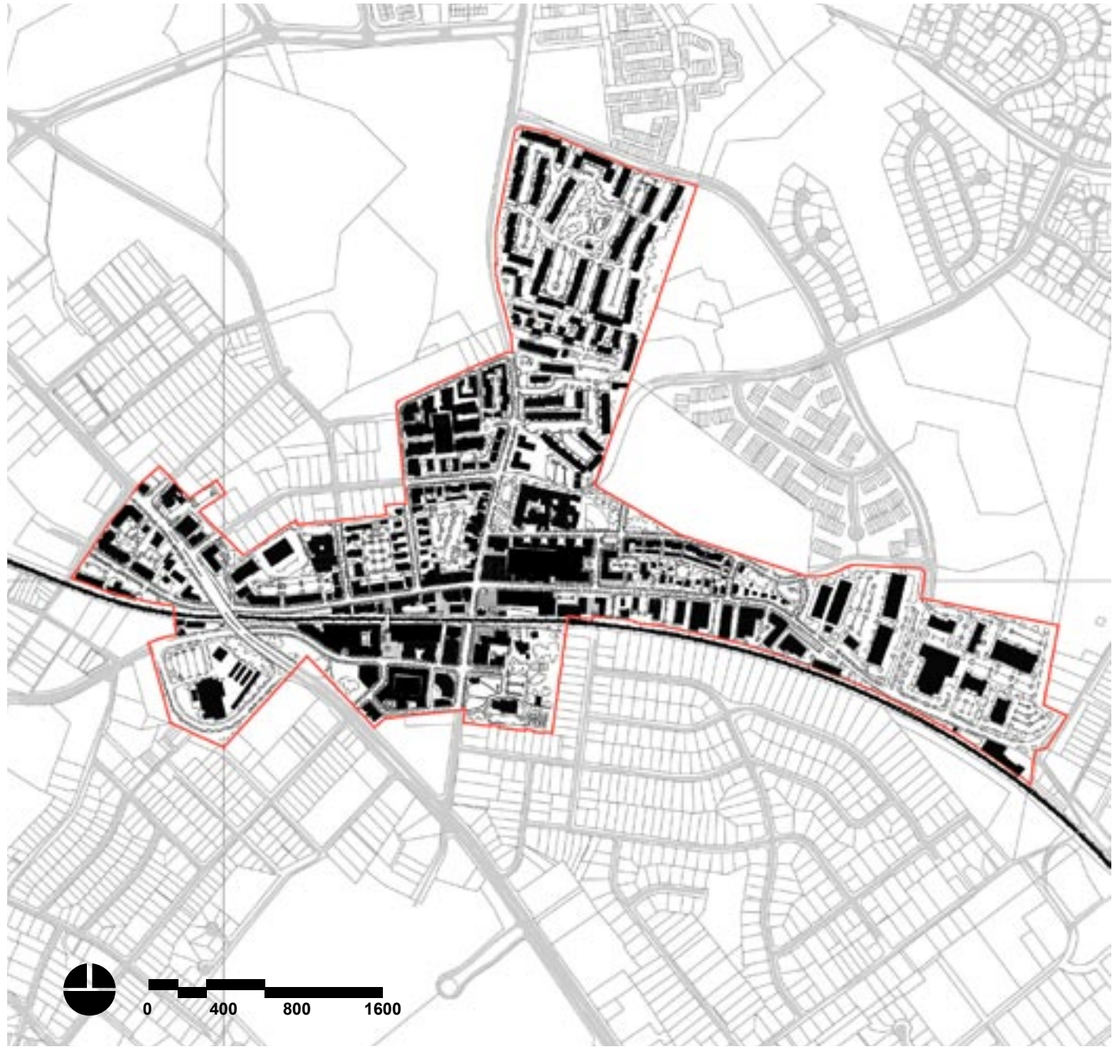


FIGURE GROUND

This series of Figure Ground diagrams illustrate the intensity of development as it exists today (left), and the proposed intensity of development at Olde Towne's build-out (right). All buildings are shown in black.

◄ Condition Before

◄ Condition After

PROPOSED TOWN HOME DEVELOPMENT

New residential development at the southwest corner of Summit and Park Avenues will create a welcoming gateway into Olde Towne from the north, diversify Olde Towne's housing stock, and increase home ownership opportunities.

◄ Condition Before

◄ Condition After

OLDE TOWNE PLAZA AND CLOCK TOWER

The plaza would be the locus of Olde Towne life and activity. New development will frame the plaza to the east and introduce a mix of uses—shops, cafes, restaurants with office uses above—that activate the space. Showcasing Olde Towne's rail heritage, the plaza is framed to the south by the historic train station, steam engine, and rail cars. The plaza space would be punctuated by a clock tower, serving as a recognizable Olde Towne landmark.

Shown in this winter scene is the plaza space converted to an ice skating rink, attracting City residents and visitors from throughout the region.

◄ Condition Before

◄ Condition After

PROPOSED DEVELOPMENT AT THE "Y" SITE

Proposed development on the City-owned "Y" site will effectively capitalize on the high visibility and access afforded by its proximity to Frederick Avenue and the MARC rail station. A mix of uses—retail, office, residential—at a higher density will create a downtown vibrancy previously lacking south of the railroad tracks.

The plaza and "Grand Stairway", leading to a proposed pedestrian bridge over the railroad tracks, would provide a focus for this part of Olde Towne and create a comfortable place for residents and visitors alike to sit and relax.

Near-Term Improvements
Mid-Term Improvements
Mid-Term Roadway Connections
Mid-Term Trail Connections
Long-Term Improvements

Development Program

	Near-Term	Mid-Term	Long-Term	Total
Residential	800 units	100 units	25 units	**925 units**
Retail	154,100 sf	83,100 sf	72,200 sf	**309,400 sf**
Office	82,700 sf	86,100 sf	88,800 sf	**257,600 sf**

IMPLEMENTATION STRATEGY

The diagram at left prioritizes areas of the Preferred Draft Plan for near-term, mid-term, and long-term improvements. Near-term improvements strengthen the historic commercial core by encouraging mixed-use, retail, office, and residential development at key opportunity sites. The increase in residential density in the near-term would encourage and support future revitalization efforts. Mid-term improvements expand and connect the historic core by encouraging additional residential, office, and infill retail development; by consolidating surface parking; and by implementing proposed roadway and hiker/biker trail connections. Long-term improvements extend the "Main Street" character of Diamond Avenue westward to Chestnut Street.

The chart above illustrates the proposed development program of the Master Plan. In the near-term, the program is consistent with the depth of demand projections shown on page 17. Unpredictable shifts in the economy and other market forces will alter this program as development progresses in the mid- and long-term. Additional studies to determine the adequacy of public facilities (schools, traffic, water and sewer, EMS services, etc.) will be required as development persists. It is recommended that appropriate public facility studies accompany all development proposals for city review and approval.

Following the adoption of the Gaithersburg Olde Towne District Master Plan, the City should begin formulating a collection of design guidelines for the five Planning Sectors. Concept plan proposals should be submitted to the Planning Commission for courtesy review and comment. The Planning Commission will utilize the established design guidelines in their review of concept plans.

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