



*Gaithersburg*  
*A Character Counts! City*

**City of Gaithersburg**

# **MUNICIPAL GROWTH**

**A Master Plan Element**

**Adopted April 6, 2009**

*Published April 14, 2009*

**2003**  
MASTER PLAN



# **CITY OF GAITHERSBURG 2003 MASTER PLAN**

## **MUNICIPAL GROWTH ELEMENT**

Planning Commission Approval: March 4, 2009, Resolution PCR-1-09  
Mayor and City Council Adoption: April 6, 2009, Resolution R-23-09

### **MAYOR AND CITY COUNCIL**

Mayor Sidney A. Katz  
Council Vice President Michael A. Sesma  
Jud Ashman  
Cathy C. Drzyzgula  
Henry F. Marraffa, Jr.  
Ryan Spiegel

### **PLANNING COMMISSION**

Chair John Bauer  
Vice-Chair Danielle L. Winborne  
Commissioner Matthew Hopkins  
Commissioner Lloyd S. Kaufman  
Commissioner Leonard J. Levy  
Alternate Commissioner Geraldine Lanier

### **CITY MANAGER**

Angel L. Jones

### **PLANNING AND CODE ADMINISTRATION**

Greg Ossont, Director, Planning & Code Administration  
Lauren Pruss, Planning Director  
Kirk Eby, GIS Planner  
Raymond Robinson III, Planner



# CITY OF GAITHERSBURG 2003 MASTER PLAN

## CHAPTER 6 MUNICIPAL GROWTH

### TABLE OF CONTENTS

1.	Purpose and Intent.....	1
2.	Introduction.....	2
3.	City of Gaithersburg Past Growth Patterns.....	4
3.1	City Growth Patterns 1960-2000 .....	4
3.2	City Housing and Development Policies 1980-2000.....	5
4.	Population, Housing, Jobs Estimates and Forecasts .....	11
4.1	Existing Population and Housing Unit Estimates.....	11
4.2	Existing Jobs Estimates.....	13
4.3	Methodology of Population, Housing, and Jobs Forecasts.....	14
4.4	Applicability of Estimates and Forecasts.....	15
5.	Future Land Needs.....	16
5.1	Context of the Municipal Growth Element.....	16
5.2	Synopsis of Methodology Used for the Growth Areas.....	16
5.2.1	Net Land Area Multiplier.....	16
5.2.2	Density .....	17
5.2.3	Housing Unit Type Breakdown .....	18
5.2.4	Jobs to Housing Ratio .....	19
5.2.5	Commercial Square Footage to Jobs Ratio.....	19
5.2.6	Population Factor .....	20
6.	Demand for Future Growth.....	21
6.1	City of Gaithersburg Adequate Public Facilities Ordinance.....	21
6.2	Growth Areas Overview .....	21
6.3	Summary of Population, Housing, Jobs Forecasts for 2030.....	25
6.4	Summary of Growth Areas Forecasts.....	26
7.	Environmental Setting .....	27
8.	Schools.....	29
8.1	Future Growth School Impact Based Upon 20 units/acre .....	30
8.2	Future Growth School Impact Based Upon 32 units/acre .....	31
9.	Libraries .....	32
10.	Public Safety .....	33
10.1	Police.....	33
10.2	Fire and Emergency Medical Services .....	33
11.	Water and Sewer.....	35
11.1	Future Capacity Responsibilities .....	35

11.2	Water and Sewer Service Categories:.....	36
11.3	Future Usage Capacity Needs.....	39
12.	Stormwater Management.....	42
13.	Recreation.....	43
14.	Financing.....	45
15.	Appendix A: Detailed Maps of MEL, Growth Areas, Zoning.....	46
16.	Appendix B: Location of Topics in the Master Plan.....	64
17.	Appendix C: Euclidean Residential Zoning Density.....	65
18.	Appendix D: Gaithersburg Euclidean Zoning Capacity.....	66

## List of Tables

Table 1:	City of Gaithersburg Growth Patterns 1960-2000.....	4
Table 2:	Detailed Listing of Gaithersburg Annexations, 1960 to present.....	7
Table 2:	Detailed Listing of Gaithersburg Annexations, 1960 to present (continued).....	8
Table 2:	Detailed Listing of Gaithersburg Annexations, 1960 to present (continued).....	9
Table 2:	Detailed Listing of Gaithersburg Annexations, 1960 to present (continued).....	10
Table 3:	Average Number of Persons per Household by Housing Unit Type.....	12
Table 4:	Existing Housing Units and Estimated Population, 2008.....	12
Table 5:	Average Number of Square Feet per Job by Land Use Type.....	13
Table 6:	Estimated Number of Existing Jobs and Square Feet by Land Use Type, 2008.....	14
Table 7:	Density of Mixed-Use Developments in Gaithersburg.....	17
Table 8:	Gaithersburg Approved Pipeline Dwelling Units by Type, July 2008.....	18
Table 9:	City and MEL 2030 Forecast Housing, Population, and Jobs.....	25
Table 10:	Growth Areas 2030 Forecast Housing Units, Population, and Jobs.....	26
Table 11:	Student Generation Factors.....	30
Table 12:	Public School Impact of Forecast Growth, 20 units/acre density.....	31
Table 13:	Public School Impact of Forecast Growth, 32 units/acre density.....	31
Table 14:	Water and Sewer Service Categories.....	36
Table 15:	Average Daily Water Use by Land Use Type.....	39
Table 16:	City of Gaithersburg Existing and Pipeline Development Water Demand.....	39
Table 17:	Maximum Expansion Limits Existing Water Demand.....	39
Table 18:	City of Gaithersburg Additional Water Demand, 2030.....	40
Table 19:	Maximum Expansion Limits Additional Water Demand, 2030.....	40
Table 20:	Projected Water Demand and Planned System Capacity, WSSC Region.....	41
Table 21:	Public and Private Parks Within the City of Gaithersburg.....	43
Table 22:	Subjects That Are Found in The Gaithersburg Master Plan.....	64
Table 23:	Existing Euclidean Residential Zoning Density for City of Gaithersburg.....	65
Table 24:	Existing Euclidean Residential Zoning Density for Maximum Expansion Limits ...	65
Table 25:	Capacity of Existing Euclidean Zones within the City of Gaithersburg.....	66

## Index of Maps

Map 1: Gaithersburg Annexations by Decade .....	6
Map 2: Maximum Expansion Limits (MEL) for Gaithersburg .....	22
Map 3: Growth Areas and MEL for Gaithersburg – Gross Land Acreage (GLA) .....	23
Map 4: Growth Areas and MEL for Gaithersburg – Gross Land Buildable (GLB) .....	24
Map 5: Environmentally Sensitive Areas .....	28
Map 6: Libraries in Gaithersburg and the MEL .....	32
Map 7: Fire and Emergency Response .....	34
Map 8: Water Service Area Categories, 2003-2012 CWSP .....	37
Map 9: Sewer Service Area Categories, 2003-2012 CWSP .....	38
Map 10: Parks and Recreational Facilities .....	44

*This page intentionally left blank.*

## 1. Purpose and Intent

On May 2, 2006 Governor Martin O'Malley signed House Bill (HB) 1141 into law, amending Article 66B, Land Use of the Annotated Code of Maryland. This Article establishes the requirements of a municipal comprehensive master plan and its required elements, and the procedures for approving said master plan. HB 1141 requires the addition of a Municipal Growth Element to a jurisdiction's Comprehensive Plan. The following document presents a detailed quantitative analysis of potential growth, including Maximum Expansion Limits (MELs) and impacts, for the City of Gaithersburg by 2030. The chart in Appendix B defines the various roles and purposes of the Municipal Growth, Land Use, and Community Facilities Elements, as defined by the Maryland Department of Planning "Models and Guidelines".

Please note that the figures, such as the proposed housing ratios, densities, and jobs to housing ratio are used in this document for analysis purposes only and are not to be construed as entitlements, suggestions, or recommendations for future development. Any specific recommended densities, land uses, and zoning for future projects will be addressed either in the Land Use Element of the Master Plan or during customary Site Plan review in accordance with Chapter 24 (Zoning) of the City Code.

The following document presents an analysis of potential infrastructure impacts on a City-wide scale. Any specific future development project within the City of Gaithersburg must comply with the City's adopted Adequate Public Facilities Ordinance (APFO) in addressing and mitigating any related infrastructure impacts including traffic, school capacity, water and sewer capacity, and fire and rescue services.

The Maximum Expansion Limits presented in the following document were delineated through a combination of geographic considerations and sound planning principles to comply with the requirements of HB 1141. The MEL areas shown are not to be interpreted as areas the City of Gaithersburg is actively pursuing for annexation. The City of Gaithersburg cannot unilaterally annex property. The process for annexation is defined in Article 23A of the Annotated Code of Maryland. Further, as defined in Article 23A, annexations must be initiated by the property owner.

## 2. Introduction

The Maryland Economic Growth, Resource Protection, and Planning Act of 1992 (Planning Act), and subsequent recodification of Article 66B in 2000 and 2006, altered the way citizens of the State of Maryland address land use by focusing planning efforts toward growth management and resource protection. Codified in Article 66B, Section 3.05(a)(4)(x) of the Annotated Code of Maryland, the Municipal Growth Element requires a detailed and quantitative analysis of the City of Gaithersburg's anticipated growth. This analysis concerns the Citywide perspective of growth. This element will characterize the form of future growth and potential impacts, rather than make site specific recommendations.

The Land Use Element will continue to be the tool whereby site specific zoning, use and density recommendations are made on individual tracts of land and the Community Facilities Element will be the tool to define specific infrastructure needs, based upon current and near term conditions. The Land Use Element and Community Facilities Element recommendations are to be viewed as concrete implementation strategies within the policy framework established by the Municipal Growth Element.

This Element, planning for potential future development and growth, must be based on current conditions, projections and assumptions about what future populations and conditions will be, and reflect the goals and objectives of the City. 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."

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 throughout the City." The policy strove to attain a mix of housing types, comprised of a minimum 50 percent single family detached units, unless the public interest or Master Plan dictated otherwise. The result was an increase in single family units from the policies adopted during the 1980s and 1990s.

The Housing Policy objective was feasible only because development within the City involved large tracts of open land. Future development in the City will take on a decidedly different character as the City is generally "built out", leaving redevelopment as the primary mechanism for future growth. The Metropolitan Washington Council of Governments (MWCOG) has forecasted that Montgomery County, in 2030, will have a population of 1,141,000 and maintain 670,000 jobs<sup>1</sup>. Going forward, the City of Gaithersburg will be typified by redevelopment projects that must address this burgeoning growth in both population and jobs that are to be found in the region as a whole, while still achieving the City goals and objectives.

---

<sup>1</sup> MWCOG results are from the Round 7.2 Forecasting Model, which established Montgomery County's year 2005 population at 929,078 and year 2005 jobs at 500,000.

The City of Gaithersburg, as planned by the year 2030, will be home to two MARC stations, four Corridor Cities Transitway (CCT) stations, the western terminus of the Intercounty Connector (ICC), and a new I-270 full interchange sited at Watkins Mill Road. These transportation hubs will further enhance the City of Gaithersburg as an accessible employment destination for the surrounding metropolitan area, building upon the existing sizable employment base exemplified by the Medimmune, IBM, Monument, and Lockheed Martin campuses. The City has been proactive in planning for these hubs through the development and approval of various Transit Oriented Developments (TODs), all with sizable commercial/office components.

The overall vision for future City growth will retain the goal of providing for diversity in demographics, economics, and housing types, while addressing the need to increase employment opportunities in this ever-growing region. The long-term developments within the City will be high density, mixed use projects with large multiple-family housing components that comply with the City's Adequate Public Facilities Ordinance, Environmental Standards, Green Building Design Criteria, and Storm Water Management regulations. A great amount of future developments will be sited in the Central Business District, the Master Planned Kentlands Boulevard Commercial District, or along Frederick Avenue (MD 355).

Additionally, the City has delineated areas outside of the current incorporated limits. These areas, defined as the maximum expansion limits (MEL), are sites that could realistically be annexed into the City of Gaithersburg by the year 2030. The MEL includes current Montgomery County enclaves such as the Rosemont neighborhood and larger under-developed tracts of land such as the Belward Farm and the McGown properties<sup>2</sup>. The 2030 growth projections defined in this document apply the same methodologies and visions to the areas in the MEL.

The Municipal Growth Element of the City's Master Plan will serve as an informational and policy document to the Mayor and City Council, the Planning Commission, other boards and committees of the City, and the citizens of Gaithersburg. The Element will describe the vision and needs for the City's potential growth over the coming decades and outlines the types and scale of infrastructure and other impacts that can be expected. Ultimately, this Element will support the policies and principles of the City, as well as the other Master Plan Elements.

---

<sup>2</sup> Please refer to Map 2 and Appendix A.

### 3. City of Gaithersburg Past Growth Patterns

#### 3.1 City Growth Patterns 1960-2000

The City of Gaithersburg, in the 1960s and early 1970 executed a growth policy directed towards the annexation of surrounding land in order to accommodate the urbanization pressures anticipated by a developing "Corridor City." The City of Gaithersburg in 1960 had a population of 3,847 and covered an area of 804 acres, centered on its historic core at the intersection of Summit and Diamond Avenues.

Over the course of the decade, the City completed forty-two annexation resolutions, including the lands that were to become the future Kentlands, Lakelands, and Casey East and West developments; however, many of these tracts were not to be developed for another thirty-plus years. By 1970, the City had grown to a population of 8,344 and increased its size to 4,352 acres. The 1970s saw only sixteen annexation resolutions, but included the future Hidden Creek development and traditional single family neighborhoods such as Relda Square and West Riding. Of note, The City of Gaithersburg initiated the first comprehensive housing survey in 1976, which pinpointed 68 percent (68%) of the existing housing stock as apartments. This decade ended with the City growing in size to 4,869 acres, but more noticeable, the population had increased to 26,424 residents.

The 1980s and 1990s witnessed an approximate doubling of population and near thirty percent (30%) increase in land area. Additionally, a philosophical change in planning occurred coupled with new zoning strategies to facilitate this change and a renewed housing policy. These actions set the foundations for the type of growth in Gaithersburg going forward. In 1980, the City of Gaithersburg had a population of 26,424 and an area of 4,869 acres. Over the successive two decades Gaithersburg would grow to 52,613 residents and 6,402 acres, by the year 2000. During this period, the City would complete fifty-seven annexations including areas such as Quince Orchard Park, the GE Technology campus, Washingtonian Center, and the IBM/Monument Technology Campus.

**Table 1: City of Gaithersburg Growth Patterns 1960-2000**

Year	Area (acres)	Annexations in Decade	Population	Housing Units	Population Change
1960	804	42	3847	1099	119.2% (1950-1960)
1970	4352	16	8344	2987	116.9% (1960-1970)
1980	4869	21	26424	10794	216.7% (1970-1980)
1990	5824	23	39542	16059	49.6% (1980-1990)
2000	6402	5	52613	20674	33.1% (1990-2000)

Source: United States Census Bureau, Decennial Census 1950, 1960, 1970, 1980, 1990, and 2000

### 3.2 City Housing and Development Policies 1980-2000

In the 1980s the City initiated planning policies that would shape the developments to come. 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. To help facilitate these goals, the City initiated a new type of zoning; moving away from traditional Euclidian zones.

The late 1980s saw the codification of the Mixed Use Zone (MXD). This zone was to be followed by the Corridor Development (CD) and Central Business District (CBD) zones. These zones are floating zones, allowing for maximum flexibility in development. Unlike traditional Euclidian zones, these zones allow for a mix of uses and are not limited by prescribed development standards and densities. Design development standards and densities are adopted on a project by project basis and help foster the City's development philosophy of "New Urbanism" and Smart Growth, typified by the initial Kentlands and Lakelands developments<sup>3</sup>.

The early 1990s saw the introduction of environmental regulations and an official City housing goal in 1995 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,' with one of the principles of the policy being to encourage planning and development that must "strengthen community diversity." The City's 'Housing Policy,' reinforcing the City's desire to encourage a "diversity of housing types throughout the City" was also adopted in 1999. The City would continue to develop policies into the next millennium, further shaping future growth.

Following the year 2000, five annexations were completed, including the Crown Farm and Crown Pointe properties. More importantly, the City approved such projects as the Washingtonian Center, Watkins Mill Town Center, the Crown Farm, the Olde Towne Master Plan, and the Kentlands Boulevard Commercial District Master Plan. These projects, with an eye to the future, initiated Transit Oriented Developments (TODs) and emphasized the goal of creating mixed use "Town Centers" into the City. These and future projects will be enhanced by the implementation of the City's Adequate Public Facilities Ordinance (APFO), Affordable Housing Ordinance, and residential "Green" building criteria, all adopted since 2000.

---

<sup>3</sup> A Chart of Existing Residential Euclidean Zones within the City and MEL is provided in Appendix C.

**Map 1: Gaithersburg Annexations by Decade**

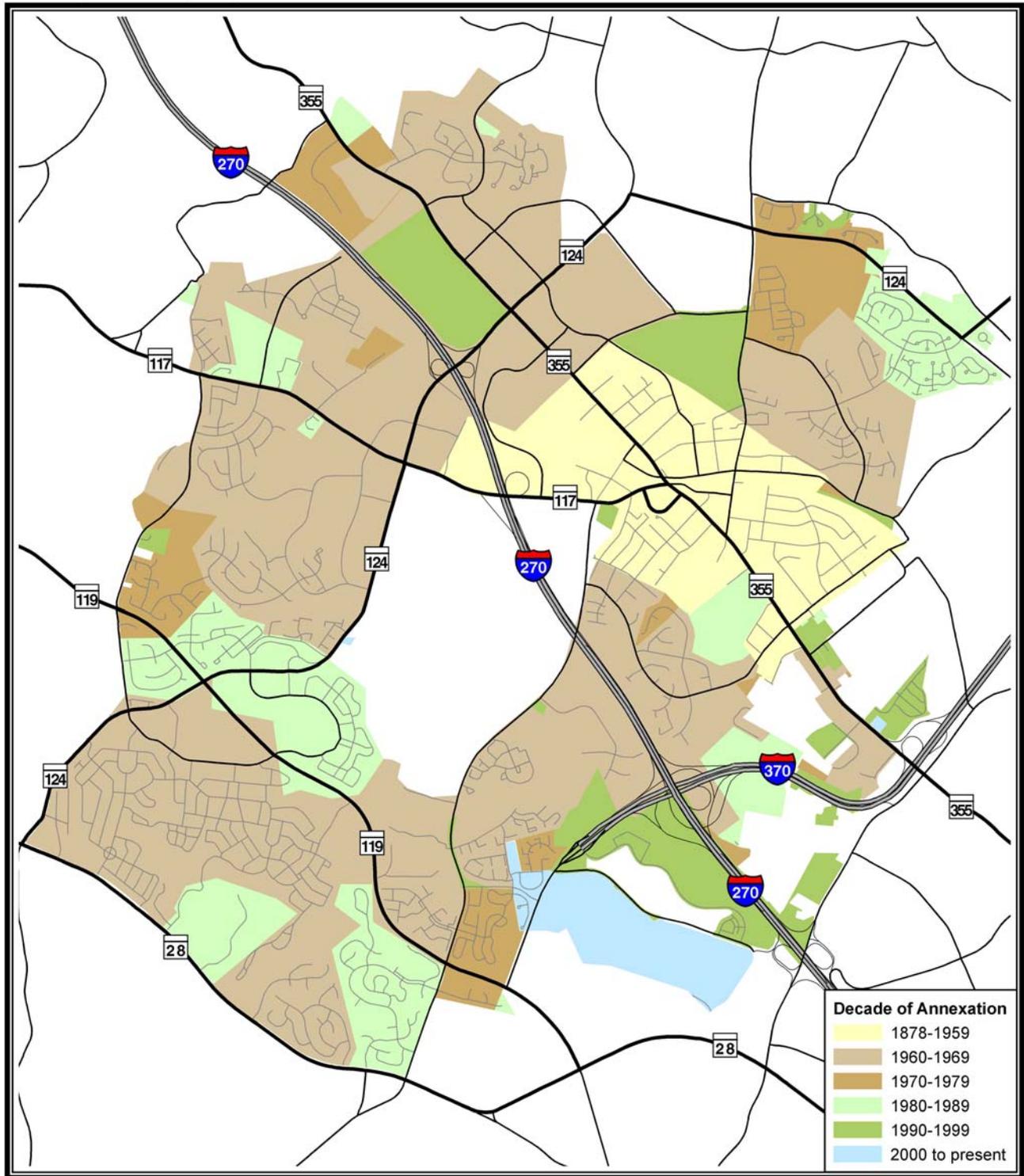


Table 2: Detailed Listing of Gaithersburg Annexations, 1960 to present

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

**Table 2: Detailed Listing of Gaithersburg Annexations, 1960 to present (continued)**

Effective Date of Annexation	File Number	Resolution Number	Number of Acres	Cumulative Acres	Cumulative Square Miles
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
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

Table 2: Detailed Listing of Gaithersburg Annexations, 1960 to present (continued)

Effective Date of Annexation	File Number	Resolution Number	Number of Acres	Cumulative Acres	Cumulative Square Miles
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
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	0.15556	6397.679550	9.996374
	X-174	R-127-97		6397.679550	9.996374

**Table 2: Detailed Listing of Gaithersburg Annexations, 1960 to present (continued)**

Effective Date of Annexation	File Number	Resolution Number	Number of Acres	Cumulative Acres	Cumulative Square Miles
	X-175	R- -98		6397.679550	9.996374
09/30/1999	X-176	R-64-99	4.61	6402.289550	10.003577
03/03/2000	X-167A	R-10-00	0.903000	6403.192550	10.004988
05/30/2002	X-179	R-41-02	1.88858	6405.081130	10.007939
06/10/2002	X-180	R-51-02	4.1987	6409.279830	10.014500
07/21/2005	X-181	R-49-05	16.2903	6425.570130	10.039953
09/21/2006	X-182	R-82-06	182.81725	6608.387380	10.325605
Total:				6608.387380	10.325605

Source: City of Gaithersburg Planning and Code Administration records

## 4. Population, Housing, Jobs Estimates and Forecasts

The City of Gaithersburg uses a “bottom-up” approach to estimate the number of housing units, persons, and jobs within the City and Maximum Expansion Limits (MEL). This method counts the number of housing units by type and the amount of commercial square footage by type and then applies a factor to estimate the number of persons and jobs. For the purposes of estimating, the MEL includes only those areas that are within the MEL boundary but not within the City of Gaithersburg corporate limits.

The baseline 2008 estimates of housing, population, and jobs have been derived from two sources. Population and housing for the City of Gaithersburg are based on the *City of Gaithersburg July 2008 Dwelling Units and Estimated Population Report*. Job estimates for the City of Gaithersburg and MEL, as well as the population and housing estimates for the MEL, are based on a combination of information from the Maryland State Department of Taxation (SDAT), the City’s site development approval records, visual inspection of aerial photography, and site visits.

### 4.1 Existing Population and Housing Unit Estimates

The following methodology is used to generate the estimates of population and housing units; a similar methodology is used in the *City of Gaithersburg July 2008 Dwelling Units and Estimated Population Report*. First, housing units are grouped into single family detached (SFD), townhouse (TH), multi-family garden four stories or less (MFG), and multi-family high-rise with five or more stories (MFH). The housing units are then separated into those that lie within the City of Gaithersburg corporate limits and those that are outside the corporate limits but within the MEL. The total number of each housing type for each geographic area is then counted, based on information from the Maryland State Department of Taxation (SDAT), the City’s records, visual inspection of aerial photography, and site visits. To estimate the total population, the 2005 Census Update for the City of Gaithersburg<sup>4</sup> is used to calculate the “population factors”, which are the average number of persons per household by housing unit type, shown in Table 3. For population estimates, an assumption is made that exactly one household occupies each housing unit, so that the population factors are equivalent to “persons per housing unit.” A further assumption is made that all housing units are occupied and there are no vacant units. The existing population for the City and the MEL is then calculated by multiplying the total number of each housing unit type by the corresponding population factor, as shown in Table 4.

---

<sup>4</sup> The 2005 Census Update was conducted by and provided to the City of Gaithersburg by the Research and Technology Center (RTC) of the Maryland-National Capital Park and Planning Commission (M-NCPPC). The data provided by the RTC was for the City of Gaithersburg area only and did not include the “vicinity” areas surrounding the City. For additional information about the 2005 Census Update, please visit the RTC website at [http://www.mcncppc.org/research/data\\_library/CUS2005/index.shtm](http://www.mcncppc.org/research/data_library/CUS2005/index.shtm).

**Table 3: Average Number of Persons per Household by Housing Unit Type**

Housing Unit Type	Population in Occupied Housing Units	Households in Occupied Housing Units	Persons per Household (Population Factor)
Single Family Detached	15,590	4,950	3.15
Townhouse	17,335	6,500	2.67
Multi-family, 1-4 Floors	24,680	10,030	2.46
Multi-family, 5+ Floors	1,570	1,285	1.22
Group Quarters	N/A	N/A	1.00
All Housing Units	59,175	22,765	2.60

Source: 2005 Census Update for Montgomery County, Gaithersburg City

**Table 4: Existing Housing Units and Estimated Population, 2008**

Housing Unit Type	Number of Housing Units		Population Factor	Estimated Population	
	City	Maximum Expansion Limits (MEL)		City	Maximum Expansion Limits (MEL)
Single Family Detached	4,719	679	3.15	14,863	2,139
Townhouse	6,603	995	2.67	17,610	2,656
Multi-family, 1-4 Floors	10,291	4,901	2.46	25,322	12,056
Multi-family, 5+ Floors	1,132	533	1.22	1,383	650
Group Quarters	346	105	1.00	734 <sup>5</sup>	105
All Housing Units	23,091	7,213	2.60	59,912	17,606

Source: City of Gaithersburg July 2008 Dwelling Units and Estimated Population Report and Maryland State Department of Assessments and Taxation

<sup>5</sup> Within the City of Gaithersburg, group quarters population is calculated by adding the current estimated population in known (institutionalized) group quarters units to the estimated remaining number of persons in non-institutionalized group quarters, based on the proportion of this group's population to the total population of the City. The ratio is derived from the 2000 Census Summary File 1, Fields P1 and PCT16, and is 0.6481% of the total population.

## 4.2 Existing Jobs Estimates

The following methodology is used to estimate the number of jobs. The Maryland State Department of Taxation (SDAT) records are analyzed for each parcel within the City and MEL and a determination is made whether the parcel contains any nonresidential uses, which are grouped into the categories shown in Table 5. These use categories are added to the parcel attribute table within the City's geographic information system (GIS), as well as a geographic location field to indicate whether the parcel is in the City or MEL. For each parcel, the SDAT records are reviewed to determine the type of use and the associated square footage, which is then populated in the GIS parcel attribute table. For parcels that have more than one nonresidential use category, the square footage of each use category is estimated using City records, owner web sites, and site visits. The geographic locator field of each parcel is also populated, based on the City's boundary information. The number of jobs in each use type is then estimated for the City and MEL areas by summarizing the total square footage of each use type and using the job factors in Table 5. An assumption is made that the entire square footage is occupied and there are no vacant or unoccupied areas. Finally, the total number of jobs for each area is calculated by adding together the number of jobs in each use type, as shown in Table 6.

**Table 5: Average Number of Square Feet per Job by Land Use Type**

Land Use Category	Square Feet per 1 Job (Jobs Factor)
Commercial/Retail	400
Restaurant - Fast Food	50
Restaurant - Other	150
Medical Office (including veterinarians)	400
Office (including apartment rental offices and HOA offices)	250
Research & Development	350
Industrial/Warehouse	450
Hotel/Motel	1300
Religious	500
Other Government (including nonprofits, education, day care, recreation, utilities, and other public-like uses)	500

Source: M-NCPPC Research & Technology Center

**Table 6: Estimated Number of Existing Jobs and Square Feet by Land Use Type, 2008**

Land Use Category	Square Feet of Use		Jobs Factor	Estimated Jobs	
	City of Gaithersburg	Maximum Expansion Limits (MEL)		City of Gaithersburg	Maximum Expansion Limits (MEL)
Commercial/Retail	4,971,487	770,911	400	12,429	1,927
Restaurant – Fast Food	71,229	60,586	50	1,424	1,212
Restaurant - Other	472,165	122,584	150	3,148	817
Medical Office	229,870	1,148,212	400	575	2,870
Office	5,240,310	3,910,994	250	20,961	15,644
Research & Develop.	2,826,596	1,745,681	350	8,076	4,988
Industrial/Warehouse	1,912,928	1,308,885	450	4,251	2,909
Hotel/Motel	1,261,187	41,400	1300	970	32
Religious	254,558	75,189	500	509	150
Other/Government	1,812,530	1,394,201	500	3,625	6,356 <sup>6</sup>
<b>Totals</b>	<b>19,052,860</b>	<b>10,578,643</b>	<b>N/A</b>	<b>55,968</b>	<b>36,905</b>

Source: City of Gaithersburg Planning and Code Administration records and Maryland State Department of Assessment and Taxation

### 4.3 Methodology of Population, Housing, and Jobs Forecasts

To arrive at Gaithersburg’s future housing, population, and jobs forecast for 2030, the City uses a three-step approach: Baseline, Pipeline, and Growth Areas<sup>7</sup>. The final 2030 forecast numbers represent the anticipated growth in the City from 2005 through 2030 and are established by combining the Baseline, Pipeline, and Growth Areas estimates for population, housing, and jobs. This forecasting methodology recognizes that the majority of growth in population, housing, and jobs is the direct result of an increased amount or intensity of land use development. For simplification, this methodology further assumes that certain factors, such as household size and jobs per square foot, will remain constant throughout the forecasting time frame of 2005-2030.

The first step, Baseline, generates an estimate of the existing housing, population, and jobs as of July 2008, both within the City and within the MEL. The baseline methodology is fully described in Sections 3.1 and 3.2 of this Element.

The second step, Pipeline, compiles an estimate of the housing, population, and jobs that are part of the “pipeline development”. The pipeline development includes residential “lots of

<sup>6</sup> Includes additional federal jobs at the National Institute of Standards and Technology (NIST), which does not have a square feet value in the SDAT records. The number of jobs is estimated to be 3,568, based on information obtained from NIST.

<sup>7</sup> For group quarters, the existing institutionalized units and corresponding population are included in the Baseline estimate, but no additional growth is projected in the Pipeline and Growth Areas estimates. This reflects the City’s general policy of considering Group Quarters commercial in nature and having no or minimal impact on infrastructure and community services

record<sup>8</sup> and all development approvals that conform to the City's Adequate Public Facilities Ordinance (APFO) for schools, water and sewer, and public safety. The pipeline development generally includes those projects that have received schematic development plan (SDP), preliminary site plan (PSP), or final site plan (FSP) approval. Housing estimates are based on a complete count of the pipeline housing units by unit type. Population of the pipeline development is estimated using the pipeline housing unit counts by type and the population factors shown in Table 3, consistent with the methodology used in Sections 3.1 and 3.2 of this Element. Jobs in the pipeline are estimated by dividing the approved square footage of each use type by the jobs factor shown in Table 5. The pipeline housing units, population, and jobs are then added to the July 2008 base estimates to arrive at the "entitlement" housing, population, and jobs estimates.

The third and final step, Growth Areas, is used to estimate the housing, population, and jobs of the "growth areas." The Growth Areas include those parcels that have been identified as having the potential for additional housing units and jobs by 2030, based on approved master plans, anticipated development proposals, and the City's 2008 Strategic Plan<sup>9</sup>. Growth Areas include "greenfield" and vacant properties, as well as properties that have a strong potential for redevelopment or infill development<sup>10</sup>.

The total land acreage of these "growth areas" is defined as the gross land acreage (GLA)<sup>11</sup>. For greater accuracy in performing the 2030 analysis, the Growth Areas are further analyzed in the City's Geographic Information System (GIS) and environmentally sensitive, non-buildable areas such as stream valley buffers, non-tidal wetlands, and floodplains, are removed from the total land area of the Growth Areas. The new growth area total following the subtraction of the aforementioned acreages is defined as the gross land buildable (GLB), which resulted in a decrease of 27.2 acres in the City Growth Areas and 60.6 acres in the MEL Growth Areas. The GLB is the acreage total used as the base to perform this Element's various analyses<sup>12</sup>. It provides an accurate number for the truly available, developable land area.

Section 5.2 of this Element provides a detailed explanation of the specific assumptions and methodologies used to generate the population, housing, and jobs forecasts for the Growth Areas.

#### 4.4 Applicability of Estimates and Forecasts

In the context of the Municipal Growth Element, population, housing, and jobs estimates and forecasts are generated to reflect the "maximum" potential. The estimates and forecasts included in this Element do not take into account vacancy rates and are not reduced to account for projects under construction. This approach ensures that the analyzed impacts to schools, infrastructure, and community services are based on the maximum possible impact to those facilities and services. As a result, the estimates and forecasts included in the Municipal Growth Element may differ from those available from other documents and sources.

---

<sup>8</sup> A lot or parcel of land that has been recorded in the Land Records of Montgomery County, either by deed or subdivision plat, which is a buildable lot under the City's Zoning Ordinance. Please refer to the definitions in Section 24, Article 1 of the City Code for more information.

<sup>9</sup> For additional information, refer to adopted City Resolution R-27-08 or visit the City's web site at [http://www.gaithersburgmd.gov/Documents/strategic\\_plan/08\\_adopted\\_sd.pdf](http://www.gaithersburgmd.gov/Documents/strategic_plan/08_adopted_sd.pdf)

<sup>10</sup> If a Growth Area overlaps a "pipeline development" area, the population, housing, and jobs forecasts will use the Growth Area methodology and will not be included in the "entitlement" (pipeline) amount.

<sup>11</sup> The GLA for City Growth Areas is 627.79 acres and the GLA for MEL Growth Areas is 441.68 acres

<sup>12</sup> The GLB for City Growth Areas is 600.58 acres and the GLB for MEL Growth Areas is 681.07 acres

## **5. Future Land Needs**

### **5.1 Context of the Municipal Growth Element**

As stated in Section 1, the Municipal Growth Element is a tool to establish on a “macro”, i.e. Citywide scale, how development will occur and its potential impacts over the course of the next two-plus decades. The previous section outlined the estimated growth in population during this time frame. To achieve the purpose of this element, staff has developed certain specific methodologies to forecast the “how” of development, addressing the future population growth and the land needs from that growth.

Using various educated projections, this element will provide a potential blueprint for the City’s overall growth. To further clarify this point, the assumptions made for the future housing type split and jobs/housing ratio does not imply that every future development proposal over the coming decades is to represent these specific definitions. It is understood that certain future developments may be primarily residential or commercial in character or may lend themselves to a predominate housing type, but when taken all together, they will reflect the methodologies used in this Element. What is being presented in this document represents the overall character of the City of Gaithersburg in 2030.

The site-specific “micro” scale recommendations of development will continue to be addressed in the City’s Land Use and Community Facilities Master Plan Elements. The future versions of these Master Plan Elements will use the Municipal Growth Element as a guiding framework from which to base, analyze, and establish the site-specific recommendations made.

### **5.2 Synopsis of Methodology Used for the Growth Areas**

The following defines the various methodologies used in establishing the baseline assumptions for future City growth and used in the calculations in the following sections of this document. These methodologies build upon one another and work together to present an assumed picture of development over the coming quarter century.

#### **5.2.1 Net Land Area Multiplier**

The first methodology established in this Element is the net land area multiplier. This multiplier will be used to establish the final anticipated development growth projections, which are based upon spatial size in the various aforementioned analyses. The multiplier allows for the inclusion of regulatory and conditional development approval requirements (forest conservation, public roads, storm water management facilities, etc.) that preclude construction of actual buildings. Using the Gross Land Buildable (GLB) acreage of future Growth Areas (discussed in Section 4.3), the land area is multiplied by 0.75 (i.e., 25% reduction), to account for the various development approval requirements. This is done with the understanding that development is usually not built to 100% of allowable density. This multiplier will better approximate the true housing density yield, rather than what would be allowed strictly based upon gross buildable land acreage (GLB).

## 5.2.2 Density

This Element will use two ratios as density factors for purposes of analysis of future growth in development projects (Growth Areas). These ratios were developed by assuming future annexations and development projects will be sited in areas governed by or rezoned to the City's floating zones. This will be due to the flexibility in design standards, allowing for mixed uses.

The ratios were first based upon the review of large scale developments and recent infill redevelopments within the various floating zones. Vested projects found in the MXD, CD, and CBD zones were reviewed, as were approved Sketch Plans and Master Plans. The following chart lists the projects considered, ranging from the Kentlands, developed in the early 1990's, to more recent projects such as the Crown Farm, approved in 2007. The chart lists the project name, the zoning, net acreage (total site area minus non-residential developable areas such as stream valley buffers and commercial only areas), total dwelling units, and dwelling units per acre<sup>13</sup>.

**Table 7: Density of Mixed-Use Developments in Gaithersburg**

Project Name	Zone	Net Acreage	Total Dwelling Units	DU/Acre
Fairfield at West Deer Park	CD	12.5	393	31±
<b>CD Zone Totals:</b>	<b>CD</b>	<b>12.5</b>	<b>393</b>	<b>31±</b>
Casey West	MXD	111.2	1,066	10±
Casey East	MXD	34.2	382	11±
Crown Farm	MXD	139.8	2,250	16±
Vistas	MXD	11.7	83	7±
Hidden Creek	MXD	63.8	567	9±
Kentlands	MXD	199.3	2,209	11±
Lakelands	MXD	258	1,624	6±
Quince Orchard Park	MXD	48.7	587	12±
<b>MXD Zone Totals:</b>		<b>866.7</b>	<b>8,768</b>	<b>10±</b>
Archstone	CBD	6	389	66
Summit Crossing	CBD	2	45	22±
Residences @ Olde Towne	CBD	2.14	191	89±
Park Station	CBD	5.2	385	74±
<b>CBD Zone Totals:</b>		<b>15.34</b>	<b>1,010</b>	<b>65±</b>
Humane Society Sketch Plan	MXD	10.5	300	28±
Summit Center Sketch Plan	MXD	6.6	300	45±
Kentlands Commercial District Master Plan	MXD	80	2,250 Estimated	28±
<b>Sketch/Master Plan Totals:</b>		<b>97.1</b>	<b>2,850</b>	<b>29±</b>

Source: City of Gaithersburg Planning and Code Administration records

<sup>13</sup> The DU/Acre totals per category: MXD, CBD, CD, and Sketch/Master Plan are the sum of total dwelling units divided by total net acreage for that category.

Upon analyzing the developments studied, certain trends were observed. Projects with large net acreages tended to have lower DU/Acre, due to the ability to have a larger quantity of single family detached housing, whereas those projects with limited site area had higher DU/Acre resulting from a greater proportion of multi-family units. The “macro” view of future growth will strike a balance between single family and multi-family developments.

For the purposes of this document, two potential ratios will be used to estimate the density of Growth Areas. A 32 DU/Acre ratio is included because it is the approximate arithmetic mean of the four various DU/Acre totals analyzed in Table 7.<sup>14</sup> A ratio of 20 DU/Acre is also included because it is felt that this ratio is a more feasible density. The MXD (Mixed-Use Development) zone has a commercial density cap of 0.75 Floor Area Ratio (FAR). By applying the jobs-to-housing ratio of five to one (5:1 J/H), this equates to a density of 20 DU/Acre to comply with the 0.75 FAR. To reiterate, specific project or site densities will be established through the Land Use Element and during the Site Plan approval process.

### 5.2.3 Housing Unit Type Breakdown

For the Growth Areas, a housing unit type ratio of fifty percent (50%) multi-family, twenty-five percent (25%) single-family detached, and twenty-five percent (25%) single-family attached (50/25/25) will be used. In 2002<sup>15</sup> there were 21,462 total housing units in the City of Gaithersburg. Of these, single-family detached units comprised approximately twenty percent (20.4%), while single-family attached units comprised thirty percent (29.6%), and the remaining fifty percent (50%) were multi-family. This roughly approximates the 50/25/25 split.

The July 2008 City of Gaithersburg Dwelling Unit and Estimated Population report lists the following:

**Table 8: Gaithersburg Approved Pipeline Dwelling Units by Type, July 2008<sup>16</sup>**

Type of Dwelling Unit	Total Approved Units	Percent of All Approved Units
Single Family Detached	5,059	18.1%
Townhouse	7,567	27.0%
Multifamily 1-4 Floors	12,170	43.5%
Multifamily 5+ Floors	2,840	10.2%
Group Quarters	346	1.2%
<b>All Unit Types</b>	<b>27,982</b>	<b>100.0%</b>

Source: City of Gaithersburg July 2008 Dwelling Units and Estimated Population Report

<sup>14</sup> This ratio is not the sum of total dwelling units divided by total net acreage. As stated, large undeveloped tracts of land will not be available to future City development, therefore using total net acreage, based upon projects such as Kentlands, Casey West, Lakelands, and Crown Farm would unrealistically bias down the density ratio for analysis.

<sup>15</sup> Section 7.1 of the adopted 2003 Master Plan Process and Overview Element

<sup>16</sup> Excludes the following Approved Pipeline dwelling units that are located within the Growth Areas acreage and included instead in the Growth Areas forecast: 5 single family detached units and 498 multifamily 1-4 floors units

Once again the housing type distribution approximates the 50/25/25 split; the drop in single-family detached units being attributed to less large acreage tracts available for development coupled with high density multiple-family redevelopment projects. The City finds 50/25/25 to be both a realistic future analysis ratio and in viewing “macro” scale future growth, this distribution will likely continue. As stated in the previous section, specific project housing allocations will be established through the Land Use Element and during the Site Plan approval process.

#### **5.2.4 Jobs to Housing Ratio**

The future growth within the City of Gaithersburg will not be solely residential in character. The City is an employment hub within the I-270 Technology Corridor and this will continue to grow over the next twenty-five years. In addition to such major employers as Medimmune, IBM, NIST, and Lockheed Martin; the City of Gaithersburg has numerous transportation linkages to its jobs for the surrounding region. The City is the western terminus of the Intercounty Connector (ICC), maintains two MARC commuter rail stations, provides a transit center serving both Montgomery County Ride-On and Metrobus lines, is home to two SHA Park-N-Ride lots sited near I-270 interchanges, and will be home to four future Corridor Cities Transitway (CCT) stations.

The combination of overall future regional population growth discussed in the first section, coupled with the multi-modal transportation opportunities provided by the City, has led the City to establish a jobs-to-housing ratio of five to one (5:1 J/H) to be used for future growth analysis purposes in this Element. The current 2.4:1 J/H is the result of the majority of existing developed acreage of the City having been mostly residential in use.

The use of the 5:1 J/H ratio for the Growth Areas results in the overall City jobs-to-housing ratio increasing to 3:1, consistent with the MWCOG forecast for the City<sup>17</sup>. Over the coming two decades, using Smart Growth philosophies, development and redevelopment projects within the City will address the regional population growth by creating more employment opportunities by incorporating “employable” components in as many projects as possible.

Recent projects illustrate a current City planning philosophy of developing and encouraging truly mixed-use projects, fostering transit oriented developments (TODs), and creating mixed-use town centers. While some future projects will be solely residential or commercial in use, it is believed that the vast majority will have elements of both. As stated previously, it is assumed that the majority of future development or redevelopment projects will occur under floating zones, allowing for a mix of uses. This 5:1 J/H ratio will then be applied to the density analysis described above to estimate the amount of jobs needed to address the future growth in residential uses.

#### **5.2.5 Commercial Square Footage to Jobs Ratio**

For analysis purposes, this Element will use a ratio of 300 square feet of non-residential uses as equal to one job (300 SF: 1J). The City arrived at this ratio by reviewing the established non-residential land use ratios used by the Maryland National Capital Park & Planning Commission, which are summarized in Table 5.

---

<sup>17</sup> “Metropolitan Washington Regional Activity Centers and Clusters” Pub. # 20078299, April 2007: MWCOG

Future non-residential uses are understood to be found; the question being what specific type will they be? That level of specificity cannot be predicted and therefore the City established the 300 SF: 1J ratio as a mean to use for analysis purposes. This number is approximately the average of those found (minus the inclusion of hotel/motel) in Table 5. The 300 SF: 1J allows for “macro” scale analysis by safely balancing over and underestimates of a wide variety of potential non-residential uses to be found in the coming decades.

### **5.2.6 Population Factor**

Population of the Growth Areas is estimated by multiplying the number of housing units by 2.37, which is the product of the City’s current persons-per-housing-unit factors from Table 3 and the chosen housing type split for new development (50% multifamily, 25% townhouse, and 25% detached<sup>18</sup>).

---

<sup>18</sup> Multifamily is assumed to be composed of 50% 1-4 Floors and 50% 5+ floors. The resulting population factor formula is  $[0.25*2.46] + [0.25*1.22] + [0.25*2.67] + [0.25*3.15] = 0.61 + 0.30 + 0.67 + 0.79 = 2.37$

## **6. Demand for Future Growth**

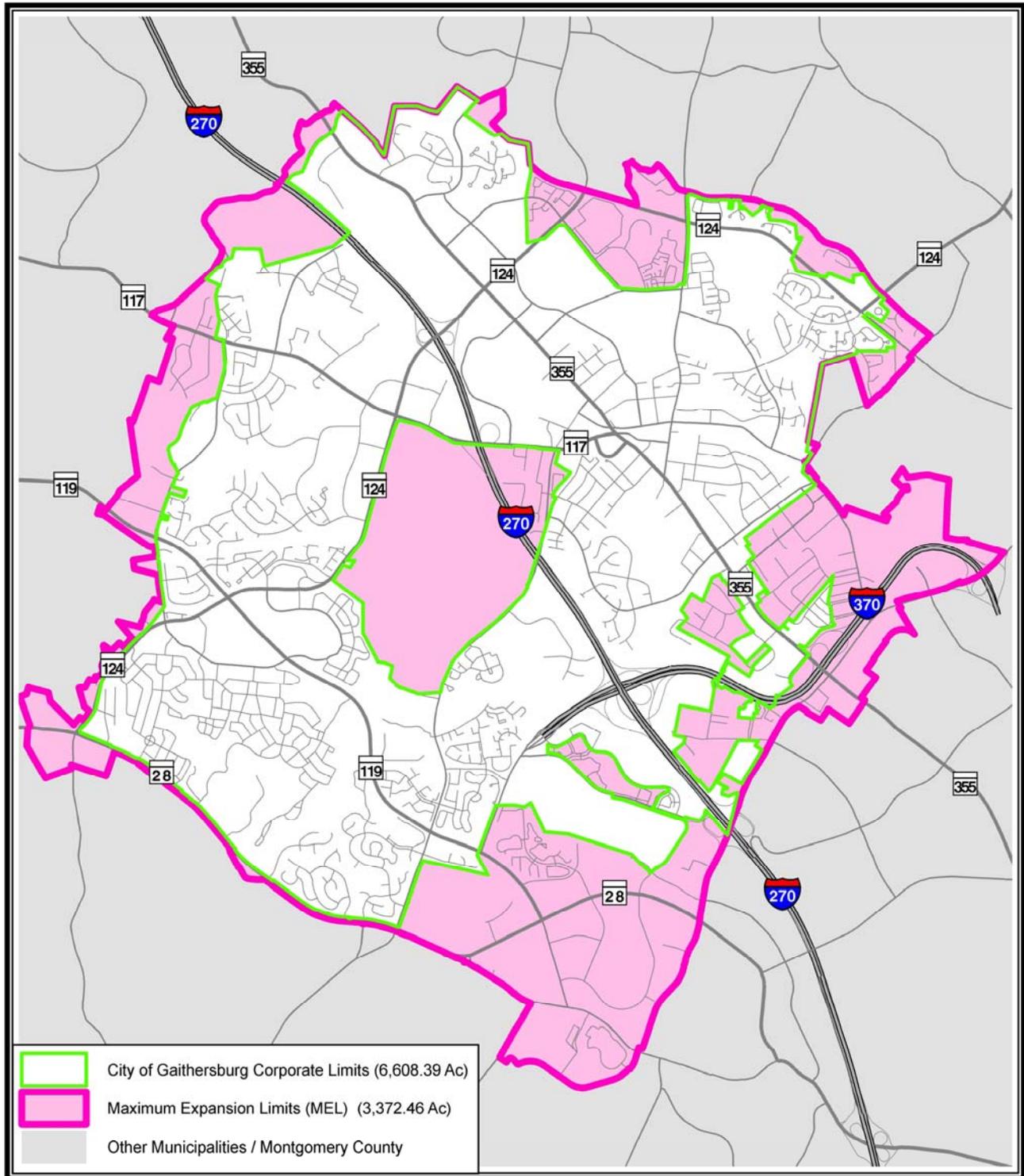
### **6.1 City of Gaithersburg Adequate Public Facilities Ordinance**

In 2007, the City of Gaithersburg adopted an Adequate Public Facilities Ordinance (APFO) that requires most proposed development meet certain standards for traffic impacts, school capacity, water and sewer capacity, and the provision of fire and emergency services. The APFO applies to all future development proposed within the City boundary, unless exempted by an annexation agreement.

### **6.2 Growth Areas Overview**

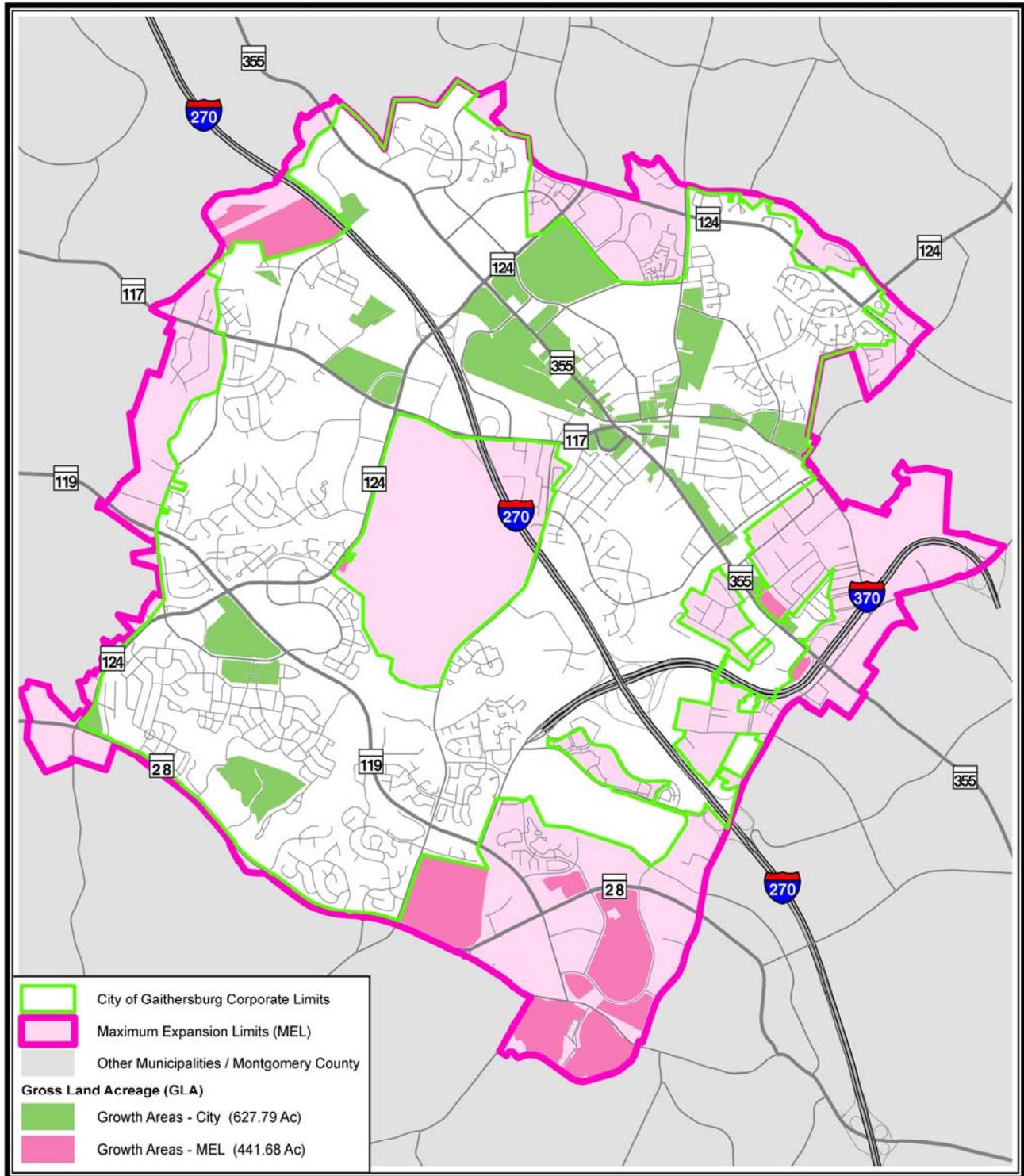
Growth Areas are those areas within the City and Maximum Expansion Limits (MEL) that have the potential for growth in housing, population, and jobs by 2030. This growth may be the result of new development, infill development, or redevelopment of these areas. Growth Areas are limited to those properties that are included in an approved Master Plan or are likely to be designated as Study Areas in the 2009 Master Plan update, are identified in the City's adopted 2008 Strategic Plan, or are properties that currently have redevelopment projects proposed. Growth Areas within the City limits include 600.6 acres and within the MEL include 381.1 acres, for a total of 981.7 acres of gross land buildable (GLB). The final Growth Areas are shown on the maps that follow and in Appendix A.

**Map 2: Maximum Expansion Limits (MEL) for Gaithersburg**



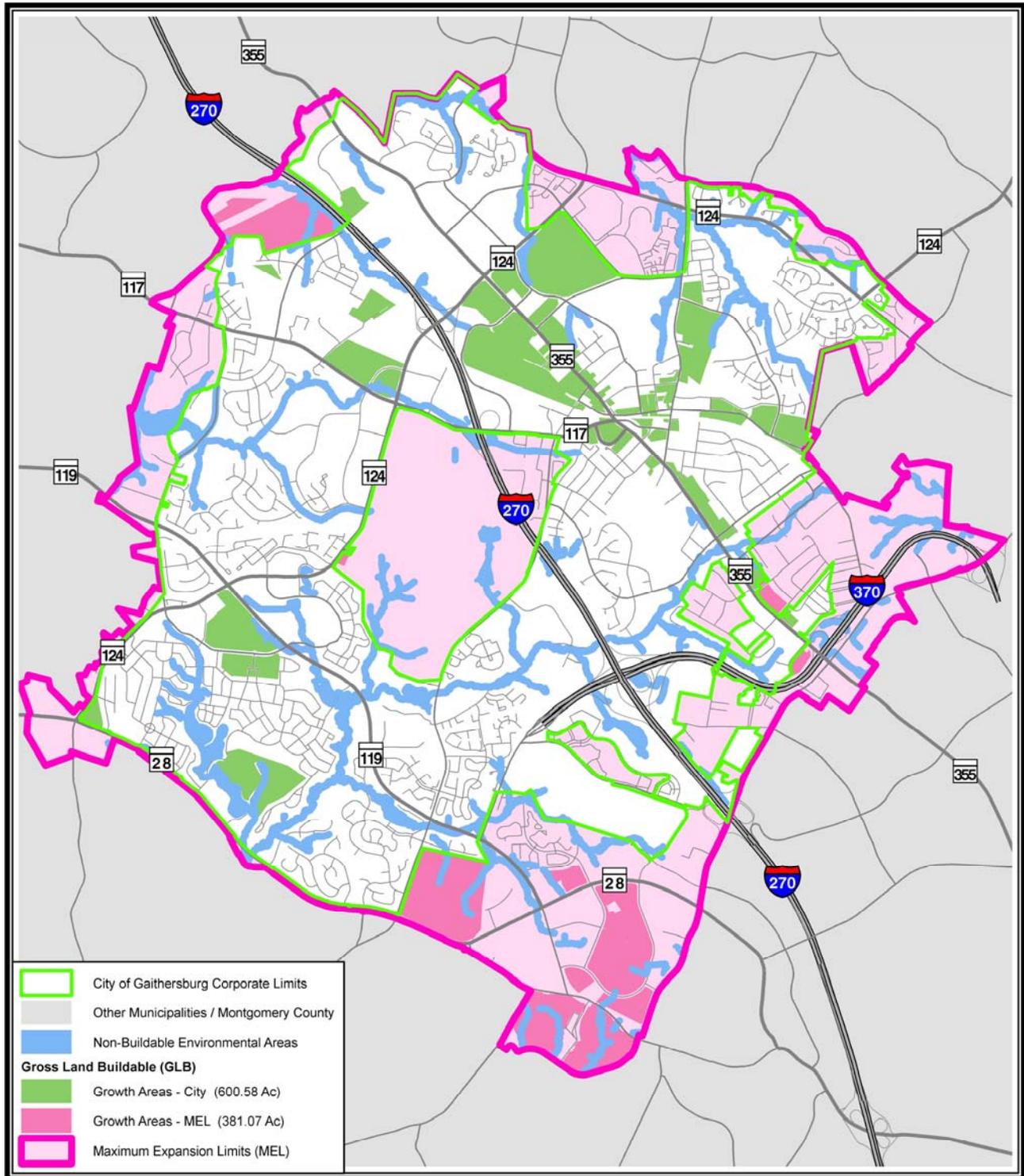
*Please refer to Appendix A for more detailed maps of properties within the MEL.*

**Map 3: Growth Areas and MEL for Gaithersburg – Gross Land Acreage (GLA)**



*Please refer to Appendix A for more detailed maps of the Growth Areas properties.*

**Map 4: Growth Areas and MEL for Gaithersburg – Gross Land Buildable (GLB)**



*Please refer to Appendix A for more detailed maps of the Growth Areas properties.*

### 6.3 Summary of Population, Housing, Jobs Forecasts for 2030

The City of Gaithersburg is forecast to grow to between 85,420 and 98,256 persons and 34,429 to 39,834 housing units by 2030. This represents an increase of 32,807 to 45,643 persons and 13,755 to 19,160 housing units over the Census 2000 figures. The number of jobs in the City is forecast to grow to between 103,011 and 130,037 by 2030, compared to the estimated 55,968 jobs that exist in 2008. The number of jobs per housing unit is forecast to increase from 2.4 in 2008 to between 3.0 and 3.3 by 2030, reflecting Gaithersburg's continued transition from bedroom community to a more balanced mix of employment and residential uses.

Within the City and maximum expansion limits (MEL), the population is forecast to grow from 77,518 persons in 2008 to between 117,365 and 138,345 persons by 2030. Housing is forecast to grow from 30,304 in 2008 to between 47,246 and 56,081 in 2030. Jobs within the City and MEL are forecast to reach between 161,727 and 205,901 by 2030, up from the estimated 92,873 jobs in 2008. The number of jobs per housing unit will increase from 3.0 in 2008 to between 3.4 and 3.7 by 2030.

**Table 9: City and MEL 2030 Forecast Housing, Population, and Jobs**

	Density of 20 units/acre			Density of 32 units/acre		
	City	MEL	Total City and MEL	City	MEL	Total City and MEL
Baseline 2008 Housing	23,091	7,213	30,304	23,091	7,213	30,304
Pipeline Housing	4,891	N/A	4,891	4,891	N/A	4,891
Growth Areas Housing	6,447	5,604	12,051	11,852	9,034	20,886
<b>Total Housing 2030</b>	<b>34,429</b>	<b>12,817</b>	<b>47,246</b>	<b>39,834</b>	<b>16,247</b>	<b>56,081</b>
Baseline 2008 Population	59,912	17,606	77,518	59,912	17,606	77,518
Pipeline Population	10,430	N/A	10,430	10,430	N/A	10,430
Growth Areas Population	15,078	14,339	29,417	27,914	22,483	50,397
<b>Total Population 2030</b>	<b>85,420</b>	<b>31,945</b>	<b>117,365</b>	<b>98,256</b>	<b>40,089</b>	<b>138,345</b>
Baseline 2008 Jobs	55,968	36,905	92,873	55,968	36,905	92,873
Pipeline Jobs	15,552	N/A	15,552	15,552	N/A	15,552
Growth Areas Jobs	31,491	21,811	53,302	58,517	38,959	97,476
<b>Total Jobs 2030</b>	<b>103,011</b>	<b>58,716</b>	<b>161,727</b>	<b>130,037</b>	<b>75,864</b>	<b>205,901</b>

**Note:** The proposed densities shown in Table 9 are for analysis purposes only and are not to be construed as entitlements for future development. Specific recommended densities, land uses, and zoning for future projects will be addressed either in the Land Use Element of the Master Plan or during Site Plan review in accordance with Chapter 24 (Zoning) of the City Code.

## 6.4 Summary of Growth Areas Forecasts

The 2030 forecasts represent the “net growth” of population, housing, and jobs from 2005 through 2030 and represent a summation of the individual Baseline, Pipeline, and Growth Areas estimates. In order to prevent double-counting, the gross calculations from Section 4 of population, housing, and jobs within the Growth Areas are reduced by the number of existing housing units, persons, and jobs within the Growth Areas. Thus, the Growth Areas forecasts included in Table 9 and Table 10 include only the net additional growth above the 2008 Baseline and Pipeline estimates. These forecasts form the basis for analysis of the impacts of growth on infrastructure and community facilities in the remaining sections.

**Table 10: Growth Areas 2030 Forecast Housing Units, Population, and Jobs**

	Density of 20 Units/acre			Density of 32 Units/acre		
	City of Gaithersburg	Maximum Expansion Limits	Total City & MEL	City of Gaithersburg	Maximum Expansion Limits	Total City & MEL
Housing Units	6,447	5,604	12,051	11,852	9,034	20,886
Population	15,078	14,339	29,417	27,914	22,483	50,397
Jobs	31,491	21,811	53,302	58,517	38,959	97,476

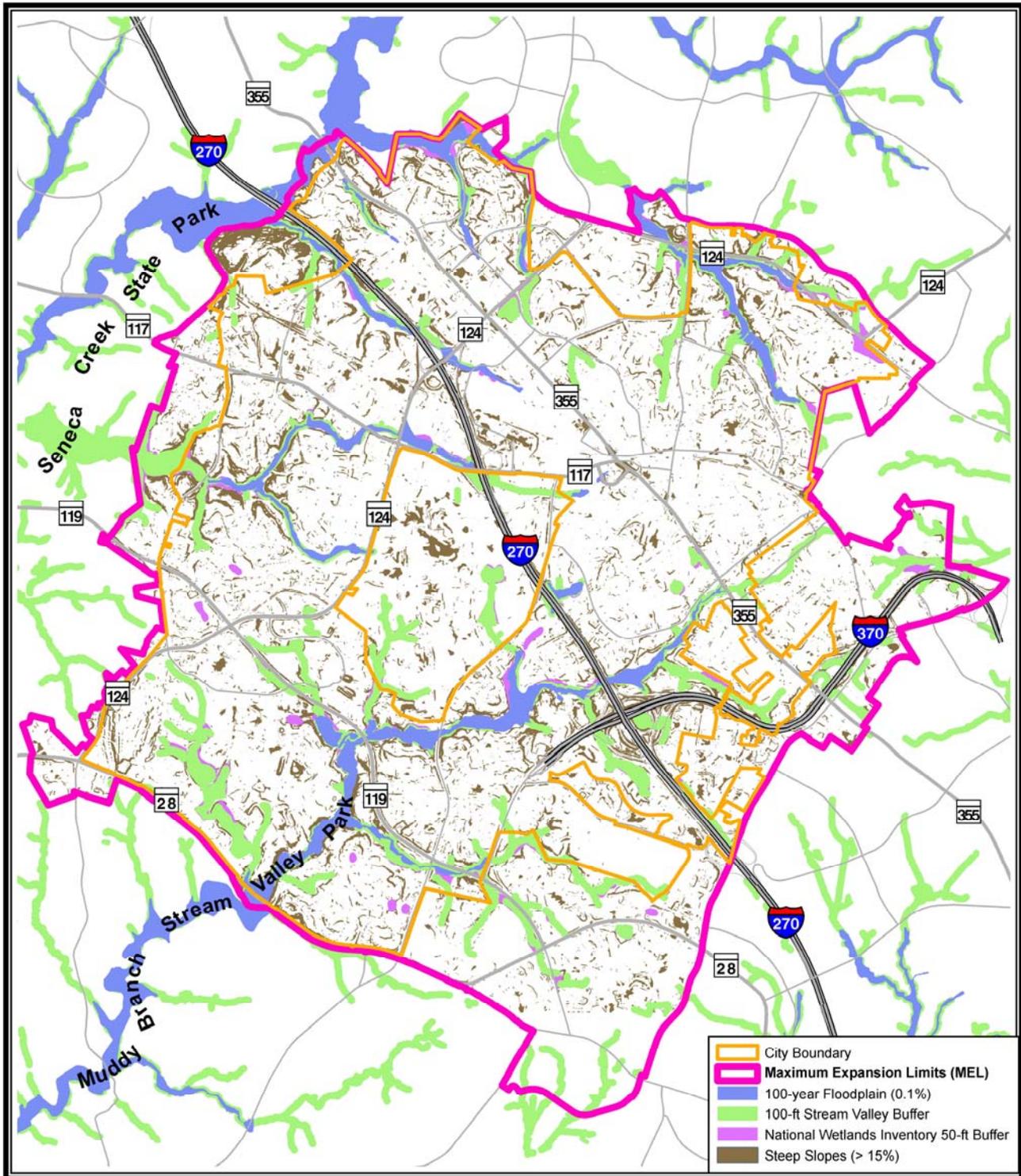
## 7. Environmental Setting

The incorporated City of Gaithersburg is an urban, State designated Priority Funding area, surrounded by suburban style growth. There are no agricultural lands bordering either the City or the MEL areas. 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). The major tributaries and water resources include: 1) Muddy Branch, 2) Long Draught Branch, 3) Whetstone Run, and 4) Seneca Creek. Approximately 191 acres of non-tidal wetlands are found interspersed along these stream valleys. Additionally, there are approximately 20 man-made lakes and ponds scattered throughout Gaithersburg, many serving as SWM facilities.

The City has enacted many environmental regulations to protect natural resources. In addition to complying with applicable State regulations, the City requires such measures as a one hundred foot buffer around streams, a fifty foot buffer around non-tidal wetlands, and a twenty-five foot building restriction line adjacent to the one hundred year floodplain. As the following map shows, Gaithersburg and the MEL are virtually “built-out” and have already protected the resources found within these boundaries. The focus of development and growth going forward will involve enhancement and restoration of the current environmental setting.

Redevelopment opportunities will involve expanding the urban forest and protection through restoration of water resources where applicable. New development will be sensitive to existing conditions by applying smart growth and “green” based planning methods to retain as much natural environment as possible, while minimizing impacts. The most sensitive adjoining areas that would typically require development type buffering are the Seneca Creek State Park and the Muddy Branch Stream Valley Park. These areas are currently bordered by medium density residential neighborhoods that are not expected to undergo redevelopment by 2030. The current site and situation of the City and MEL will not result in the delineating and addressing of transitional buffer areas to accomplish 2030 growth.

Map 5: Environmentally Sensitive Areas



## 8. Schools

The City of Gaithersburg is served by six Montgomery County Public School clusters, incorporating elementary, middle, and high schools upon which the clusters are named. The following are the said clusters:

- Watkins Mill Cluster
- Col. Zadok Magruder Cluster
- Gaithersburg Cluster
- Quince Orchard Cluster
- Northwest Cluster
- Thomas S. Wootton Cluster

The City, when considering development, incorporated a public school capacity test into the adopted Adequate Public Facilities Ordinance (APFO) that states:

***“Sec. 24-246. Adequacy of School Capacity***

*With the exception of age restricted development, schematic development plan or preliminary site plan for residential development shall not be approved if the subject property is within the attendance area of a Montgomery County Public School that is forecasted to have a student population that exceeds 110% of Montgomery County Public Schools Program Capacity two (2) years in the future subject to the following:*

- (a) The program capacity for each school attended by Gaithersburg residents is determined annually by the Superintendent of Montgomery County Public Schools and reported to the Board of Education in the Communities Facilities Master Plan and Capital Improvements Program.*
- (b) Capacity shall be reviewed individually for each elementary school, middle school, and high school. Sharing of capacity between schools shall not be permitted.*
- (c) Upon review of the current Communities Facilities Master Plan and Capital Improvements Program, the City Manager shall determine on the first business day of each fiscal year whether or not each public school attended by Gaithersburg residents is forecasted to exceed 110% of programming capacity two (2) years in the future.”*

In calculating students generated by year 2030 growth, staff used the Density and Housing Unit Type Breakdown methodologies established previously in this document. The students estimated cannot be accurately allocated to any specific cluster and are based upon full build-out City wide. Future student population and distribution, based upon growth, will be specifically defined by APFO requirements, assumed to remain in effect, and Montgomery County Public Schools determination of cluster boundaries.

When calculating 2030 student populations, staff used Montgomery County Public Schools (MCPS) student generation rates for new housing by type, based upon the 2005 Census Update Survey<sup>19</sup>. The following table defines the factors used:

**Table 11: Student Generation Factors**

Housing Type	Elementary School Students	Middle School Students	High School Students
SFD	0.320	0.144	0.131
SFA	0.211	0.122	0.107
Multi-family garden apartment	0.153	0.056	0.073
High/Low Rise w/parking	0.042	0.039	0.033

It should be noted that when calculating 2030 student numbers, multi-family dwellings used the High/Low Rise w/parking factors as garden apartments are not foreseen to be the predominate future multi-family development type. Additionally, the student generation numbers are for new future housing only and do not include students based upon existing housing stock that remains in 2030. The students generated by those existing units are assumed to be accounted for and not considered an additional growth impact.

## 8.1 Future Growth School Impact Based Upon 20 units/acre

The first set of calculations is based upon a future growth density of 20 units/acre. Using this ratio, the City of Gaithersburg will have 6,447 additional housing units within the current incorporated City limits. The maximum expansion limits (MEL) will have 5,604 additional housing units for a combined total of 12,051 new units above existing. These housing totals are then divided by the Housing Unit Type Breakdown ratio of fifty percent (50%) multi-family, twenty-five (25%) percent single-family detached, and twenty-five percent (25%) single-family attached (50/25/25), previously defined in Section 4 of this Element. These subtotals are then multiplied by the MCPS generation factors in Table 11. Calculations are rounded to the nearest whole number. The following table illustrates the student generation based upon 20 units/acre:

<sup>19</sup> Taken from a memo to the Montgomery County Planning Board from the Montgomery County Planning Department re: "Financial Infrastructure Recommendations for Planning Board May 15 Worksession on Growth Policy" May 14, 2007

**Table 12: Public School Impact of Forecast Growth, 20 units/acre density**

2030 Forecast	Unit Count	School Type		
		Elementary	Middle	High
Single-Family Detached	1,612	516±	232±	211±
Single-Family Attached	1,612	340±	197±	172±
Multi-Family	3,224	135±	126±	106±
<b>City of Gaithersburg Sub-Totals:</b>	<b>6,448</b>	<b>991±</b>	<b>555±</b>	<b>489±</b>
Single-Family Detached	1,401	448±	202±	184±
Single-Family Attached	1,401	296±	171±	150±
Multi-Family	2,802	118±	109±	92±
<b>MEL Sub-Totals:</b>	<b>5,604</b>	<b>862±</b>	<b>482±</b>	<b>426±</b>
<b>Total City &amp; MEL</b>	<b>12,052</b>	<b>1,853±</b>	<b>1,037±</b>	<b>915±</b>

*Note: Unit counts may be slightly higher than those shown in Table 10 due to rounding*

## 8.2 Future Growth School Impact Based Upon 32 units/acre

The second set of calculations is based upon a future growth density of 32 units/acre. Using this ratio, the City of Gaithersburg will have 11,852 additional housing units within the current incorporated City limits. The MEL will have 9,034 additional housing units for a combined total of 20,886 new units above existing. The methodology then used for the calculations is the same as described above. The following table illustrates the student generation based upon 32 units/acre:

**Table 13: Public School Impact of Forecast Growth, 32 units/acre density**

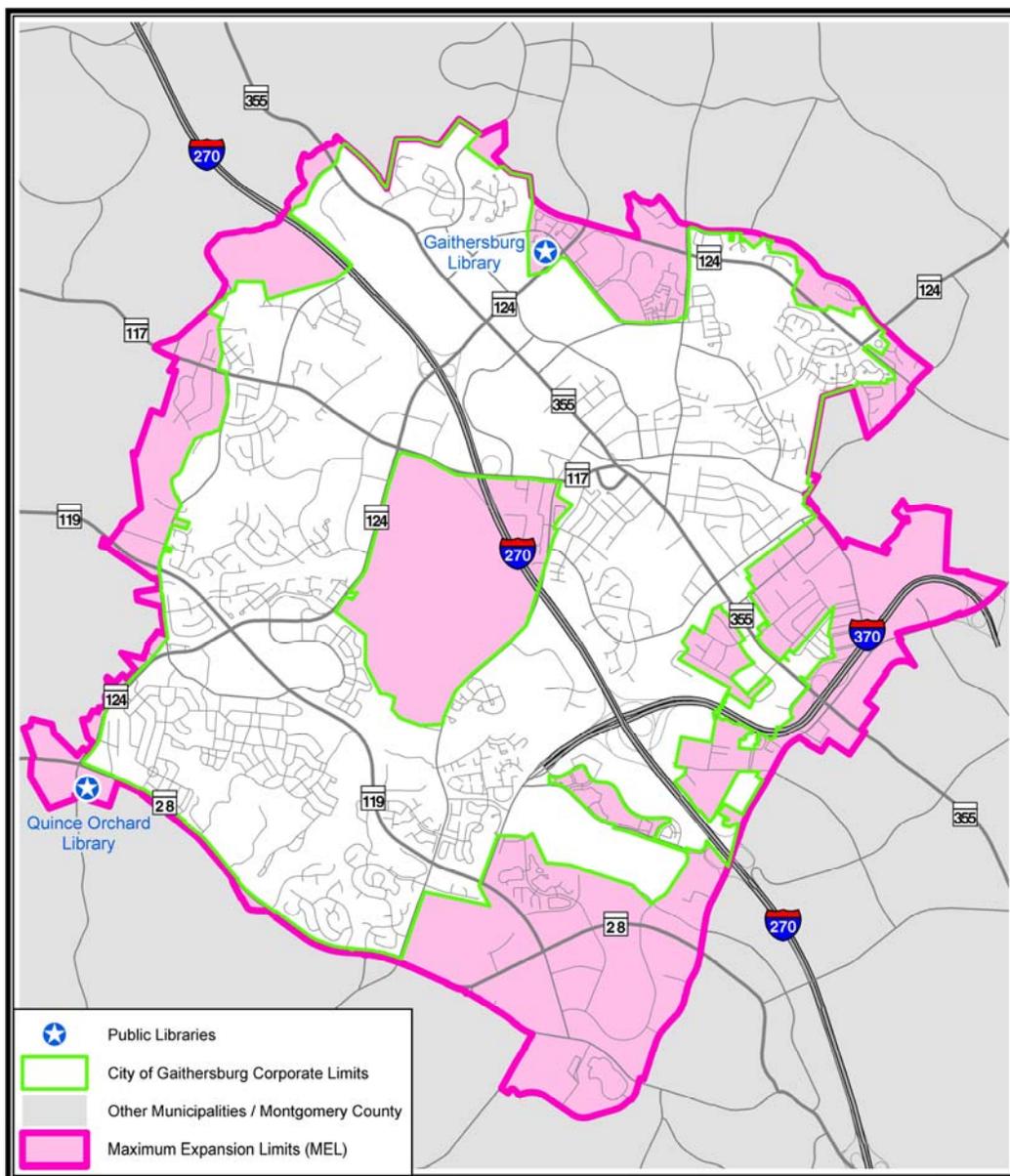
2030 Forecast	Unit Count	School Type		
		Elementary	Middle	High
Single-Family Detached	2,963	948±	427±	388±
Single-Family Attached	2,963	625±	361±	317±
Multi-Family	5,926	249±	231±	196±
<b>City of Gaithersburg Sub-Totals:</b>	<b>11,852</b>	<b>1,822±</b>	<b>1,019±</b>	<b>901±</b>
Single-Family Detached	2,259	723±	325±	296±
Single-Family Attached	2,259	477±	276±	242±
Multi-Family	4,518	190±	176±	149±
<b>MEL Sub-Totals:</b>	<b>9,036</b>	<b>1,390±</b>	<b>777±</b>	<b>687±</b>
<b>Total City &amp; MEL</b>	<b>20,888</b>	<b>3,212±</b>	<b>1,796±</b>	<b>1,588±</b>

*Note: Unit counts may be slightly higher than those shown in Table 10 due to rounding*

## 9. Libraries

Montgomery County makes public libraries available for all areas of the County, including the City of Gaithersburg. Currently, no public library is located within the City limits, although two libraries are adjacent to the City and within the maximum expansion limits (MEL). Montgomery County Public Libraries (MCPL) does not have a defined standard for provision of library facilities and services, but uses information such as circulation of holdings to determine if additional services or facilities are needed. The City of Gaithersburg works closely with MCPL to ensure that City residents are adequately served by the public libraries. This partnership is reflected in the City’s adopted Community Facilities Element, which includes several recommendations in Section 5, Objectives 14 and 15.

**Map 6: Libraries in Gaithersburg and the MEL**



## 10. Public Safety

### 10.1 Police

The City of Gaithersburg is currently served by the Gaithersburg City Police Department in conjunction with the Montgomery County Police Department (MCPD) District 6 pursuant to a memorandum of understanding<sup>20</sup>. The delineated MEL areas are served solely by the MCPD. The City force, according to the FY 09 budget, is staffed by 54 sworn officers and District 6, as of 2007, has 123 sworn officers.

It is understood that either of the projected 2030 growth populations will most likely necessitate increased numbers of police. However, the future geography and demographics of crime cannot be accurately predicted therefore specific staffing levels are not defined. The appropriate levels of staffing for the two police departments will depend upon local tailored solutions to meet local conditions at that time.

### 10.2 Fire and Emergency Medical Services

The Montgomery County Fire and Rescue Service (MCFRS) provides fire protection and emergency medical services to the City of Gaithersburg<sup>21</sup>. Three existing fire stations provide the majority of the fire and rescue service to Gaithersburg: Stations 8, 28, and 31. These stations are supplemented by surrounding fire stations during major or concurrent incidents. The National Institute of Standards and Technology (NIST) operates Station 53, which also provides off-site services under a mutual aid agreement with MCFRS. Five additional stations are planned or proposed in or near the Gaithersburg area. Three of these stations, Travilah, Germantown-Milestone, and Germantown-Kingsview, were included in the County's FY09-14 CIP budget. Two additional stations, the "Shady Grove" station and "Montgomery Village North" station, are in the early stages of planning and, if approved, could be operational within the 2016-2020 time frame.

Future development must address emergency services as defined in the City's APFO, which states:

***"Sec. 24-248. Fire and Emergency Services.***

- (a) Fire and emergency response. 10 minute full response availability shall be provided for all proposed development. A full response time is defined as the time required for receiving, processing, and traveling to the site of an emergency call from at least 2 stations. Fire and rescue stations included and receiving funding in the Montgomery County Capital Improvements Program (CIP) shall be countable."***

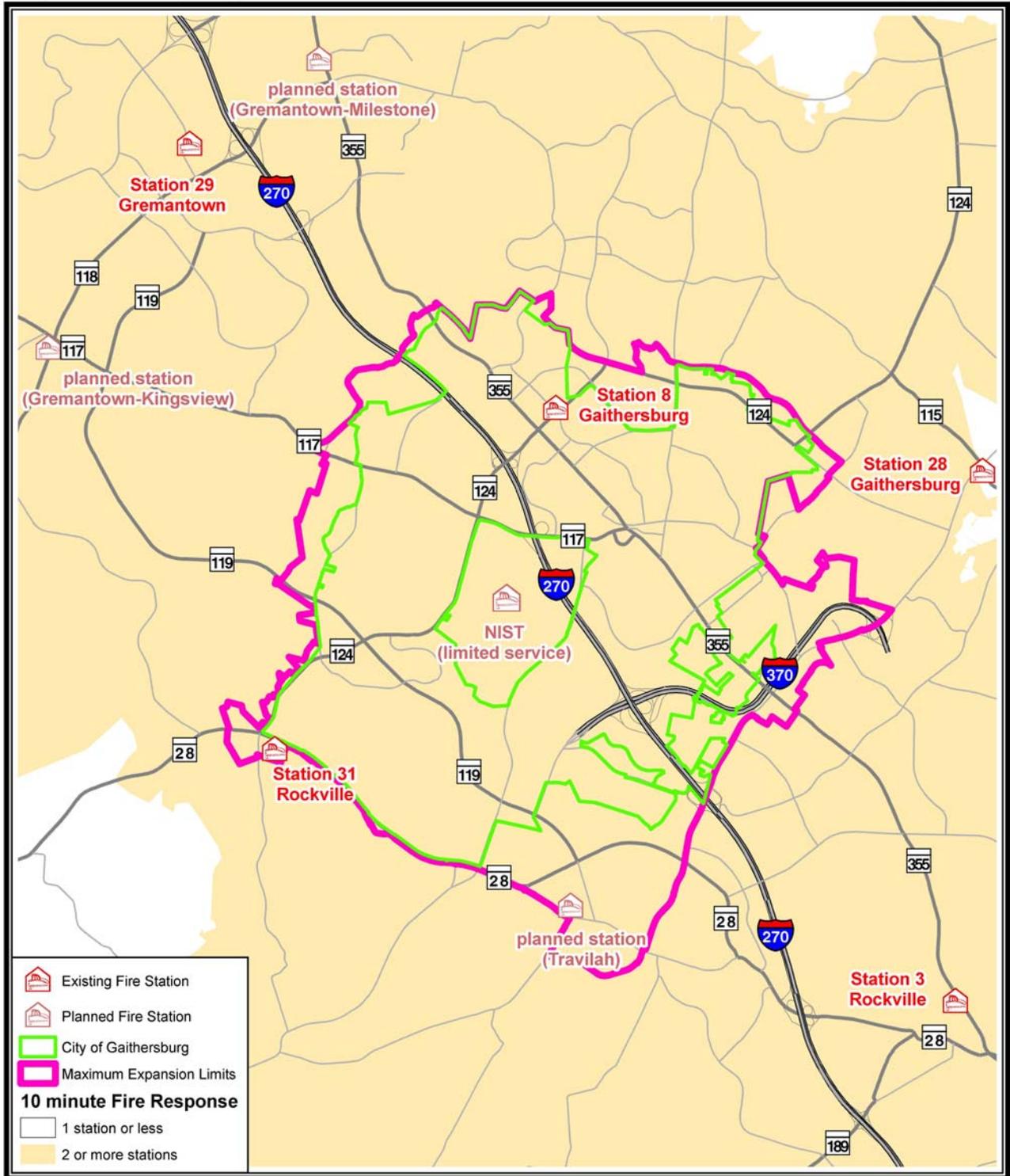
---

<sup>20</sup> A more complete discussion of Police services can be found in the City of Gaithersburg Community Facilities Element

<sup>21</sup> A more complete discussion of Fire and Rescue services can be found in the City of Gaithersburg Community Facilities Element

As is evidenced by the following exhibit all 2030 areas within the incorporated limits of the City and the defined areas of the MEL will fulfill the requirements of the APFO.

**Map 7: Fire and Emergency Response**



## 11. Water and Sewer

### 11.1 Future Capacity Responsibilities

Under State law, Montgomery County has planning authority for the availability and adequacy of water and sewer service in the County, including the City of Gaithersburg. Montgomery County coordinates the planning and development of water supply and sewerage facilities to develop a Comprehensive Water Supply and Sewerage Systems Plan (CWSP). State law requires that the County incorporate the water and sewer plans of municipalities into the CWSP. The County's Plan also incorporates all or part of subsidiary plans of the sanitary districts, privately-owned facilities, and local, state, and federal agencies that have existing, planned, or programmed development within the County. The County reviews and adopts the CWSP on a triennial basis, and also reviews and acts on proposed plan amendments at intervals between mandated, triennial updates.

Community water and sewer service for the City of Gaithersburg is provided by the Washington Suburban Sanitary Commission (WSSC). WSSC provides data and makes recommendations to the County regarding water supply and sewer system capacity, engineering, and fiscal aspects of system expansion. Additionally, WSSC responsibilities include reviewing and commenting on the CWSP and water and sewer service area category changes. WSSC prepares and submits a Six-Year Capital Improvements Program (CIP) for major community water and sewer projects to the County as part of its responsibility to plan the water supply and sewer system. The County incorporates the adopted WSSC annual CIP and subsequent amendments as updates to the CWSP.

The City of Gaithersburg, on January 2, 2007, approved and adopted an Adequate Public Facilities Ordinance (APFO), by ordinance O-1-07. This APFO contains four facets, one of which is Water & Sewer Service. The APFO states:

***“Sec. 24-247. Water and Sewer Service.***

- (a) Water supply.*** *Development that would create a total water demand that would exceed available supply less an adequate reserve for fire-flow shall not be approved. A minimum of 1,000 gallons per minute shall be deemed adequate fire-flow for the purposes of this subsection. Final water supply adequacy shall be confirmed by the Washington Suburban Sanitary Commission (WSSC) prior to the issuance of development approvals.*
- (b) Sewer Service.*** *Development that would cause the City to exceed transmission capacity available at Blue Plains Wastewater Treatment Plant, Seneca Wastewater Treatment Plant or other facilities as determined by WSSC shall not be approved. Final sewer transmission capacity shall be confirmed by WSSC prior to the issuance of development approvals.”*

This ordinance codifies the responsibilities of the City of Gaithersburg and reaffirms the oversight roles of both Montgomery County and WSSC as to future development within the City and water and sewer capacity.

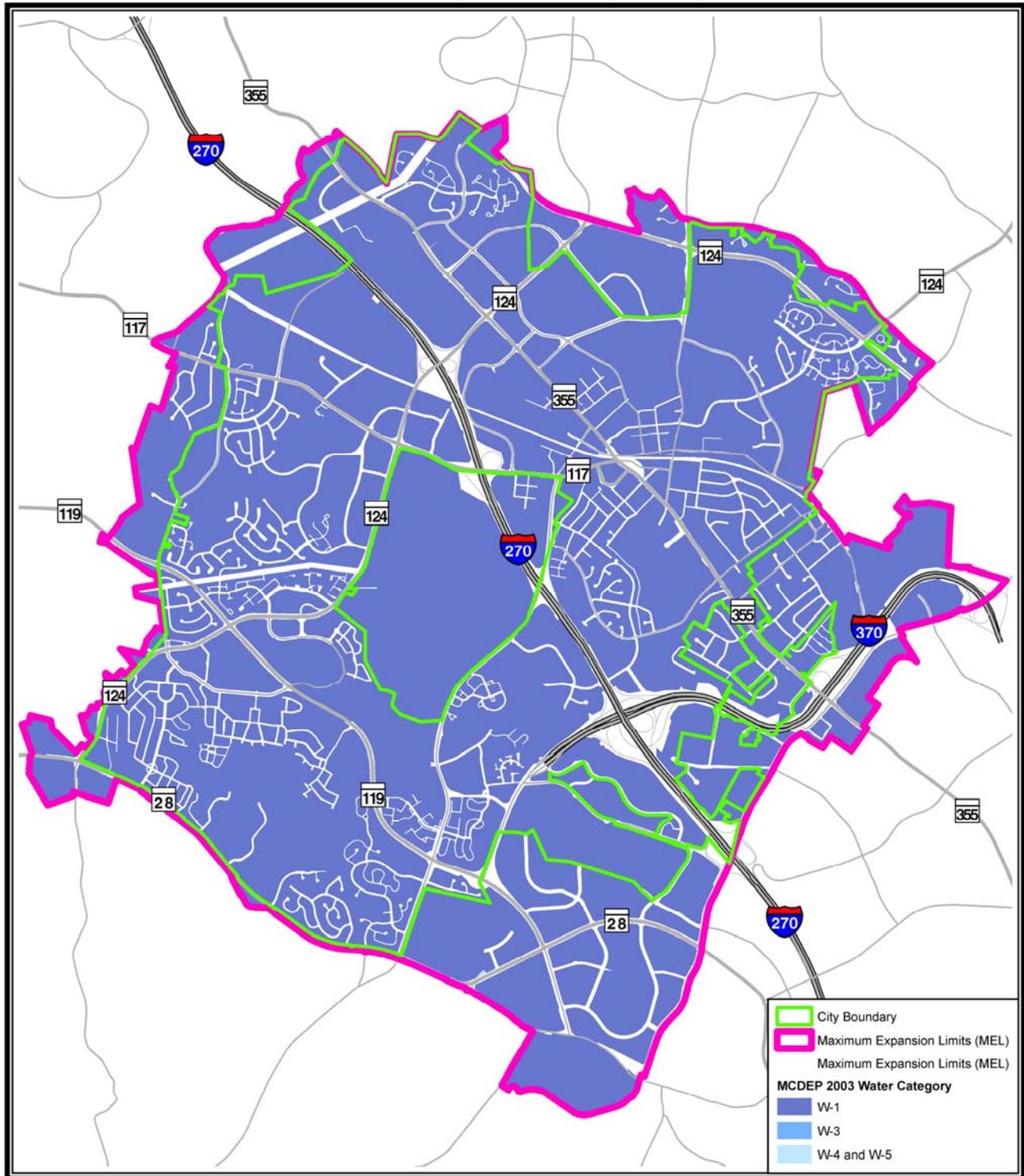
## 11.2 Water and Sewer Service Categories:

State regulations (COMAR 26.03.01.04) have established category designations for water and sewer service areas to provide for the orderly extension of community water and sewer service. These categories identify those areas approved or proposed for community service and those areas where development will depend on individual systems, including any special service conditions or restrictions. The following are the various categories, taken from the adopted 2003-2012 Comprehensive Water Supply and Sewerage Systems Plan (CWSP):

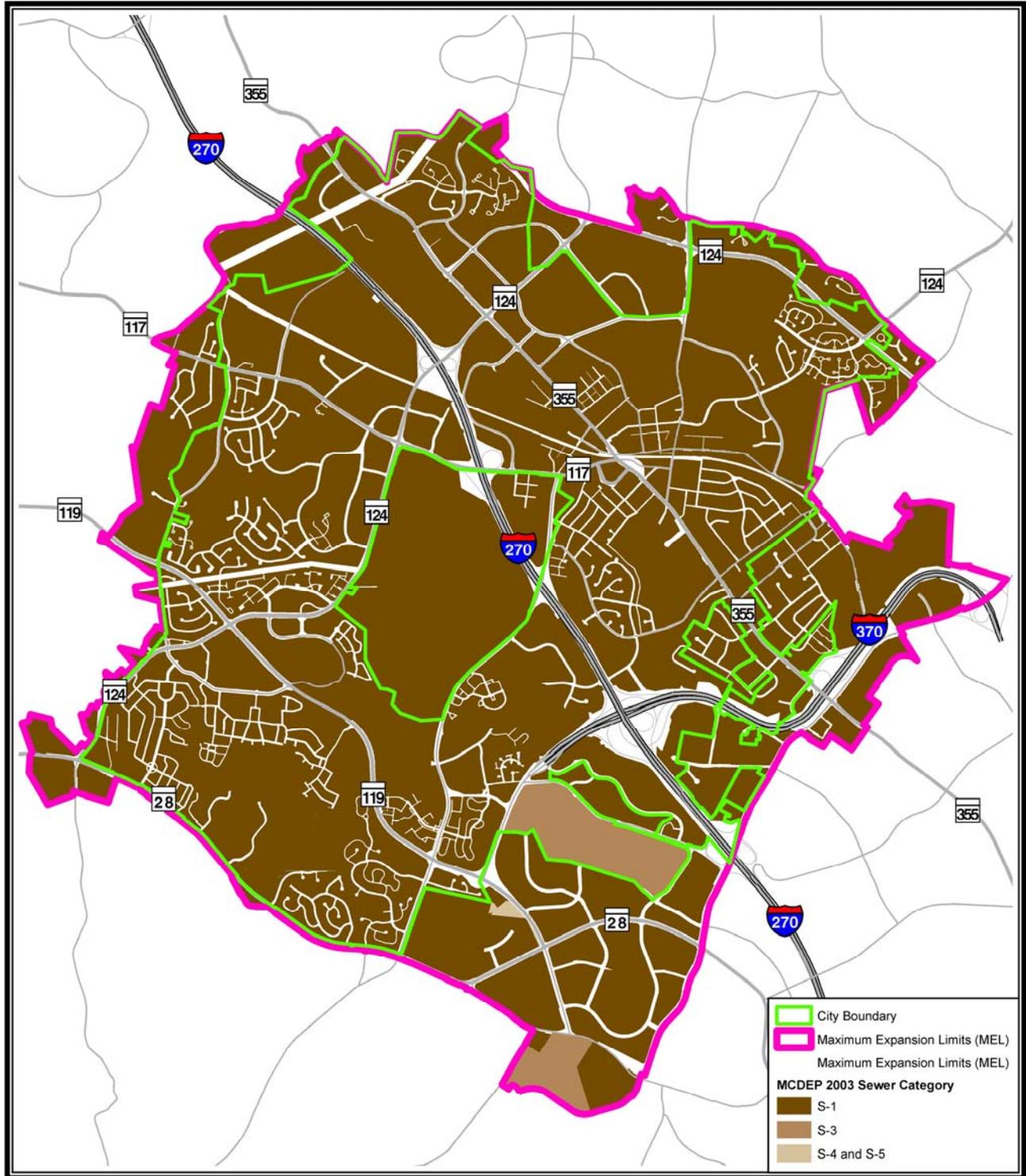
**Table 14: Water and Sewer Service Categories**

Service Area Categories	Category Definition and General Description
W-1 and S-1	Areas served by community systems which are either existing or under construction. – This may include properties or areas for which community system mains are not immediately available or which have not yet connected to existing community service.
W-2 and S-2	<b>Categories W-2 and S-2 are not used in Montgomery County.</b> (State definition: Areas served by extensions of existing community and multi-use systems which are in the final planning stages.)
W-3 and S-3	Areas where improvements to or construction of new community systems will be given immediate priority and service will generally be provided within two years or as development and requests for community service are planned and scheduled.
W-4 and S-4	Areas where improvements to or construction of new community systems will be programmed for the three- through six-year period. – This includes areas generally requiring the approval of CIP projects before service can be provided.
W-5 and S-5	Areas where improvements to or construction of new community systems are planned for the seven- through ten-year period. – This category is frequently used to identify areas where land use plans recommend future service staged beyond the scope of the six-year CIP planning period.
W-6 and S-6	Areas where there is no planned community service either within the ten-year scope of this plan or beyond that time period. This includes all areas not designated as categories 1 through 5. – Category 6 includes areas that are planned or staged for community service beyond the scope of the plan’s ten-year planning period, and areas that are not ever expected for community service on the basis of adopted plans.

Map 8: Water Service Area Categories, 2003-2012 CWSP



**Map 9: Sewer Service Area Categories, 2003-2012 CWSP**



Currently, both the City of Gaithersburg and MEL areas have a water category of W-1, meaning they are currently served by community systems and will not require new infrastructure construction. The subject areas also have sewer categories of S-1<sup>22</sup>, again meaning they are currently served by community systems and will not require new infrastructure construction.

### 11.3 Future Usage Capacity Needs

WSSC developed water production use for growth projections for planning water system improvements, used in the adopted 2003-2012 CWSP. The following usage methodology is based upon housing unit type<sup>23</sup> and estimates usage per employee/ job:

**Table 15: Average Daily Water Use by Land Use Type**

Land Use Type	Average Daily Water Use in gallons per day (gpd)
Single-Family Dwelling Unit (SFDU)	231 gpd
Multi-Family Dwelling Unit (MFDU)	209 gpd
Employees (Jobs)	51 gpd

The City of Gaithersburg, based upon this system, currently uses or is allocated to use approximately ten million gallons of water per day.

**Table 16: City of Gaithersburg Existing and Pipeline Development Water Demand**

Land Use Type	Unit Total	Water Demand (Gallons/Day)
Single Family	12,626	2,916,606
Multi- Family	15,356	3,209,404
Jobs	71,520	3,647,520
<b>City Subtotal</b>		<b>9,773,530</b>

The areas within the targeted MEL use over three million gallons daily. Combined with the existing City usage, the total gallons per day is approximately thirteen million (13,305,267) for this region.

**Table 17: Maximum Expansion Limits Existing Water Demand**

Land Use Type	Unit Total	Water Demand (Gallons/Day)
Single Family	1,674	386,694
Multi- Family	5,539	1,157,651
Jobs	36,905	1,882,155
<b>MEL Subtotal</b>		<b>3,426,500</b>

<sup>22</sup> With the exception of two sites (one being the Crown Farm), which have categories of S-3, meaning new community services will be provided with the commencement of construction of approved projects.

<sup>23</sup> Single-family dwelling units include detached and attached (townhouse) units. Multi-family units include garden-style and high-rise apartments and condominiums, piggyback (2 over 2) condo townhouses, and group quarters.

Using either the growth densities of 20 DU/Acre or 32 DU/Acre, 2030 development within the current incorporated limits of the City will add approximately three to six million gallons of daily water usage respectively.

**Table 18: City of Gaithersburg Additional Water Demand, 2030**

Growth Areas Density: 20 units/ac			Growth Areas Density: 32 units/ac		
Land Use Type	Unit Total	Water Demand Gallons/Day	Land Use Type	Unit Total	Water Demand Gallons/Day
Single Family	3,224	744,744	Single Family	5,926	1,368,906
Multi- Family	3,224	673,816	Multi- Family	5,926	1,238,534
Jobs	31,491	1,606,041	Jobs	58,517	2,984,367
<b>City Subtotal</b>		<b>3,024,601</b>	<b>City Subtotal</b>		<b>5,591,807</b>

Once again using the two growth densities, the MEL at full 2030 build out would also add approximately six to ten million gallons of daily water usage respectively.

**Table 19: Maximum Expansion Limits Additional Water Demand, 2030**

Growth Areas Density: 20 units/ac			Growth Areas Density: 32 units/ac		
Land Use Type	Unit Total	Water Demand Gallons/Day	Land Use Type	Unit Total	Water Demand Gallons/Day
Single Family	2,802	647,262	Single Family	4,517	1,043,427
Multi- Family	2,802	585,618	Multi- Family	4,517	944,053
Jobs	21,811	1,112,361	Jobs	38,959	1,986,909
<b>MEL Subtotal</b>		<b>2,345,241</b>	<b>MEL Subtotal</b>		<b>3,974,389</b>

In summation, the 2030 full build-out<sup>24</sup> at a density of 20 DU/Acre will generate a combined City and MEL usage of approximately eighteen and a half million gallons per day (18,675,109). The 2030 full build-out<sup>24</sup> at a density of 32 DU/Acre will generate a combined City and MEL usage of approximately twenty-three million gallons per day (22,871,463). The following table, taken from the adopted 2003-2012 CWSP, has determined that the maximum planned capacity in 2020 will be 357 million gallons per day for the entire service area. It is assumed that either build-out scenario could be facilitated within this planned capacity.

<sup>24</sup> Full build out is defined as the sum of the existing usage shown in Tables 16 and 17 and the additional usage due to growth shown in Tables 18 and 19

**Table 20: Projected Water Demand and Planned System Capacity, WSSC Region**

Calendar Year	Projected Demand (MGD)		Planned Capacity (MGD)* Maximum Daily
	Average Daily	Maximum Daily	
2005	178.7	266.2	341
2010	188.3	280.5	357
2015	196.6	292.9	357
2020	205.2	305.7	357

Source: WSSC Planning Group

\* This is planned treatment capacity at both Potomac and Patuxent treatment facilities

The adopted 2003-2012 CWSP also states:

*“The WSSC’s 7 treatment plants have a combined treatment capacity of 89 million gallons per day (mgd). the WSSC has purchased 169 mgd of treatment capacity at the Blue Plains Regional Wastewater Treatment Plant located in the District of Columbia, 3 mgd of capacity at the Mattawoman Wastewater Treatment plant located in northern Charles County, and 20,000 gallons per day of capacity in the Town of Poolesville’s wastewater treatment plant. For most facilities, the WSSC plans enough capacity to last 20 years or more.”*

To reiterate, the City’s APFO was established to, in part, ensure there is sufficient current and future capacity for both water and sewer. As development proposals are submitted, WSSC review and comment will be required for any approval. The previous calculations are based upon hypothetical suppositions and may not come to fruition due to unforeseen regional changes over the next twenty years.

## 12. Stormwater Management

The purpose of stormwater management (SWM) in development projects is to fulfill the goals required by the Federal Clean Water Act (33 U.S.C. § 1251 et seq.) Any development that disturbs greater than five thousand (5,000) square feet of land area in the City of Gaithersburg is required to address stormwater runoff. The City of Gaithersburg follows the requirements laid forth in the 2000 Maryland Stormwater Design Manual, Volumes I and II (Maryland Department of the Environment, April 2000) and the USDA Natural Resources Conservation Service Maryland Conservation Practice Standard Pond Code 378 (January 2000).

On April 24, 2007, Governor Martin O'Malley signed the "Stormwater Management Act of 2007" (Act), which became effective on October 1, 2007. Practices such as environmental site design (ESD), once encouraged, are now required to be implemented to the maximum extent practicable through the use of nonstructural best management practices and other better site design techniques. This new act coupled with the City's "Green" building requirements and existing code will result in all future residential and non-residential development mitigating SWM runoff by managing both quantity and quality in new ways.

Specifically, the City of Gaithersburg requires that for new developments, all stormwater quality treatment devices must safely convey the 100-year storm and must provide extended detention of the 1-year, 24-hour storm event. For redevelopment projects, the current codified requirements apply:

- Land-disturbing redevelopment activity involving less than one-third (1/3) of the site, stormwater management shall be provided for a minimum of twenty percent (20%) of the site's existing impervious area and the impervious area resulting from the land disturbing activity.
- If the land-disturbing redevelopment activity involves two-thirds (2/3) or more of the site, stormwater management shall be provided for the entire impervious area on the site, including impervious area previously existing and left untouched by the development or redevelopment. For purposes of this requirement, construction of new structures over existing structures or existing impervious areas shall be included in the computation of the percentage of site involvement. This computation shall not include resurfacing of existing impervious area unless such resurfacing involves the removing or replacing of an existing impervious area.
- If the land-disturbing redevelopment activity involves more than one-third (1/3) and less than two-thirds (2/3) of the site area, stormwater management may be required for the total imperviousness of the site as determined by the city's department of public works.

In addressing 2030 growth, the City of Gaithersburg will adhere to all Federal, State, and local SWM requirements at that time while continuing to improve the existing SWM systems found in the subject areas. The City's Land Use, Environment, and Water Resources Elements address specific policies and recommendations pertaining to water quality and stormwater management.

### 13. Recreation

The City of Gaithersburg is a community committed to providing a mix of both active and passive recreational opportunities. Found in an urban setting that is currently “built-out”, it is unreasonable to expect the City to achieve the State standard recommendation of 30 acres of parkland per 1,000 persons. The following table lists the acreages currently found within the City and Maximum Expansion Limits (MEL):

**Table 21: Public and Private Parks Within the City of Gaithersburg**

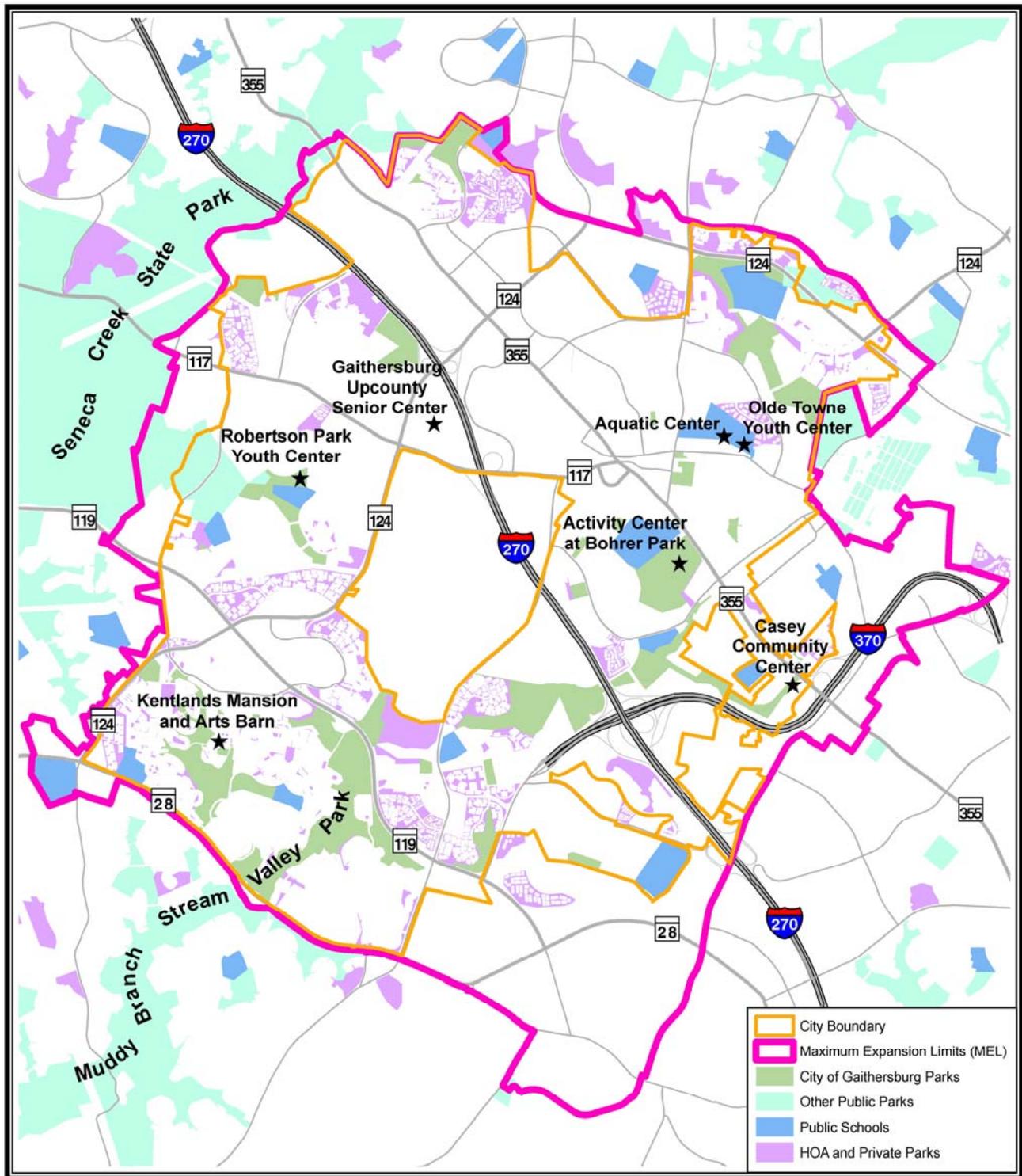
<b>Park/Recreation Ownership</b>	<b>City Acreage</b>	<b>MEL Acreage</b>
HOA and Private Parks	517.21	57.73
Public Parks	750.16	113.69
Public Schools <sup>25</sup>	219.19	108.79
<b>Total</b>	<b>1486.56</b>	<b>280.21</b>

It is to be emphasized that in addition to these traditional open park areas, the City also provides and maintains facilities such as Youth and Senior Centers, Aquatic Center, and Activity and Community Centers. While these facilities are not included in parkland calculations, they serve as valuable amenities not only to the citizens of Gaithersburg, but to many Montgomery County residents as well. Additionally, many neighborhoods operate, through their home owner associations, facilities such as swimming pools, ball courts, and clubhouses, providing further recreational amenities. Also of note, the City and MEL areas border Seneca Creek State Park and the Muddy Branch Stream Valley Park, two substantial regional public open spaces.

As future growth occurs, the City will continue to incorporate public amenities into each project through the addition of open and/or programmable spaces. Specific recommendations for public amenities can be found in the City’s adopted Land Use, Community Facilities, and Parks and Recreation Elements of the Master Plan.

<sup>25</sup> Public Schools were added in that the associated playgrounds and fields are often used for both programmed and “pick-up style” non-school hour recreation by the surrounding communities.

Map 10: Parks and Recreational Facilities



## 14. Financing

The City of Gaithersburg is a State-designated Priority Funding Area. As such, the City is recognized as having existing infrastructure that would support future development and redevelopment. As noted in the Introduction, the City's future development patterns will primarily focus on redevelopment rather than new or "greenfield" development. As a result, the need for additional infrastructure will be limited compared to other municipalities.

As a municipality within Montgomery County, the City of Gaithersburg does not have the responsibility of funding school construction or fire and rescue facilities. These services are funded by Montgomery County. Further, water and sewer and roadways improvements are also typically funded by other agencies.

The City has a long history of collaborating with the development community in providing new infrastructure. Many of the City's streets, storm water management facilities, as well as parks and other amenities, have been funded and constructed entirely by private development. As the City of Gaithersburg focuses on future redevelopment opportunities, it is anticipated that the development community will incur the costs of upgrading or replacing inadequate or antiquated infrastructure as part of their redevelopment plans.

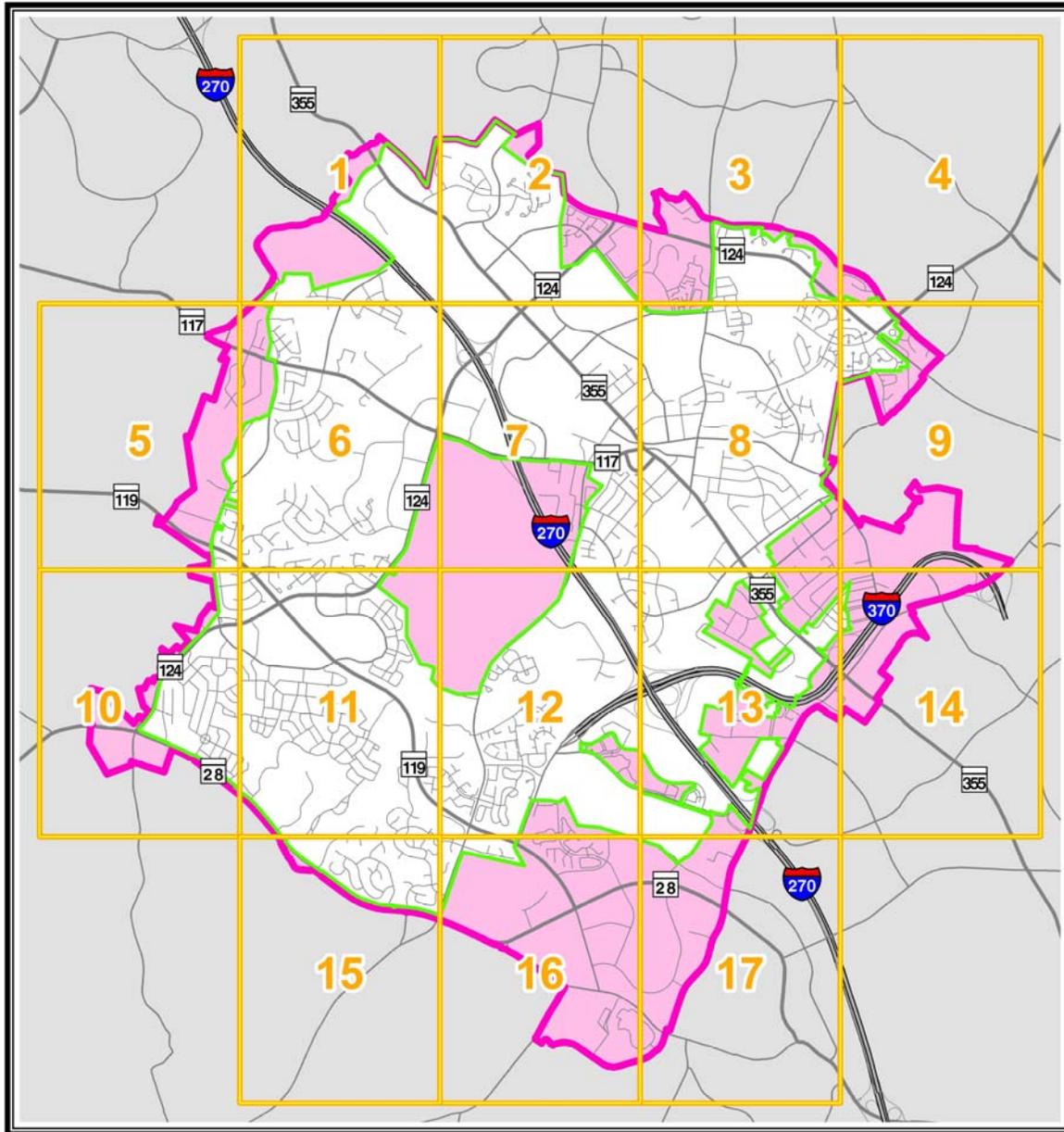
Any of the limited opportunities for greenfield development in the future will require annexation into the City. The City has demonstrated its ability to negotiate public improvements and infrastructure, such as land for school sites and other public facilities, as terms of any annexation agreements.

Montgomery County currently imposes impact taxes for both schools and traffic. While the Montgomery County Public School system receives the funding generated by the school impact tax, the County recognizes that traffic impact taxes generated within the incorporated City limits should be used to mitigate traffic within the City. In 2002, Montgomery County and the City of Gaithersburg executed a memorandum of understanding which allows the City to receive these development impact taxes for a number of designated traffic improvements within the City of Gaithersburg.

In summation, future infrastructure needs within the City's designated Growth Areas will be financed through a combination of public and private funds without undue burdens on City residents. The City of Gaithersburg will remain financially stable during future growth periods by coordinating with private developers, Montgomery County, and other agencies that fund public infrastructure.

# 15. Appendix A: Detailed Maps of MEL, Growth Areas, Zoning

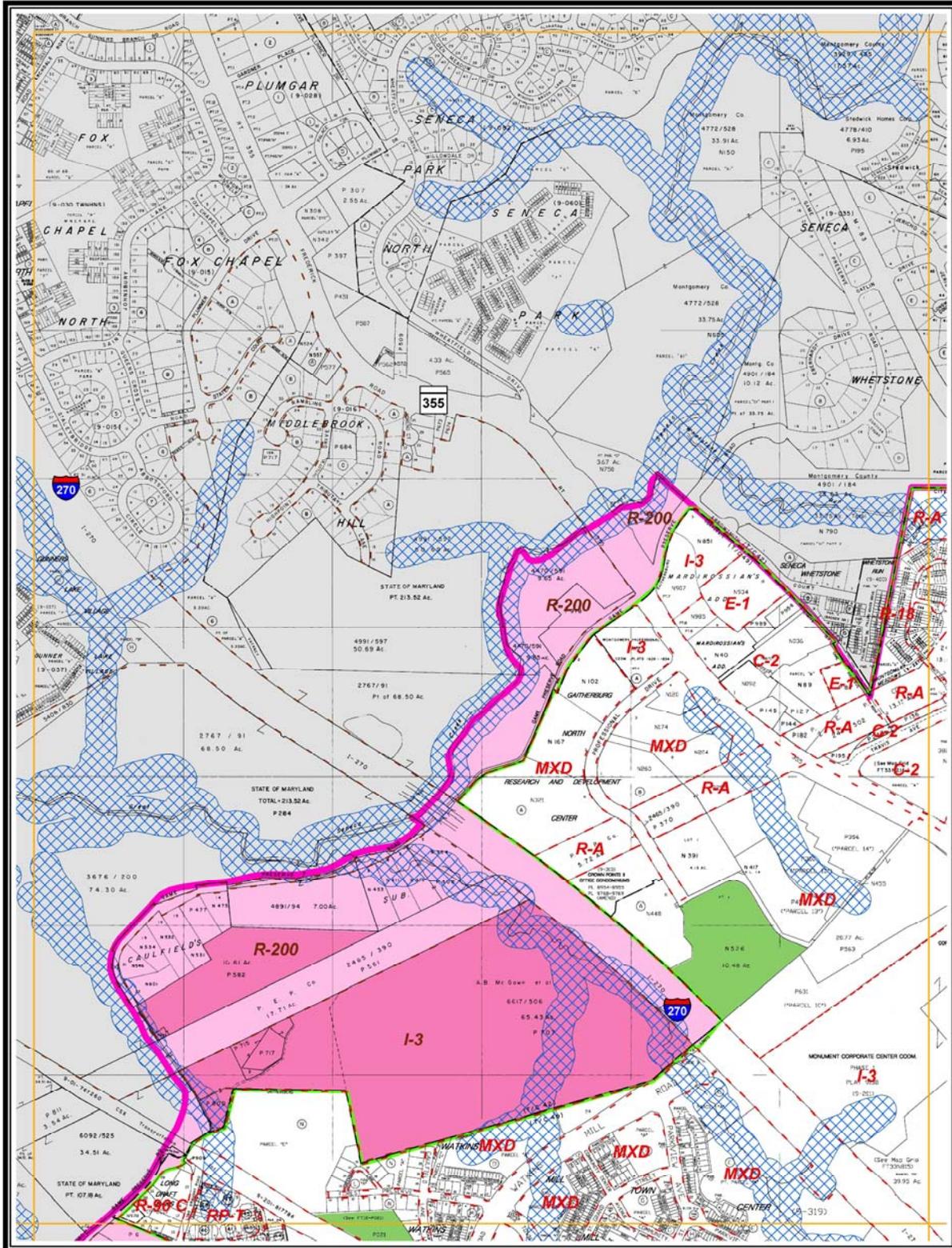
## Index of Detailed Appendix Map Sheets



### Legend Key for Appendix Map Sheets

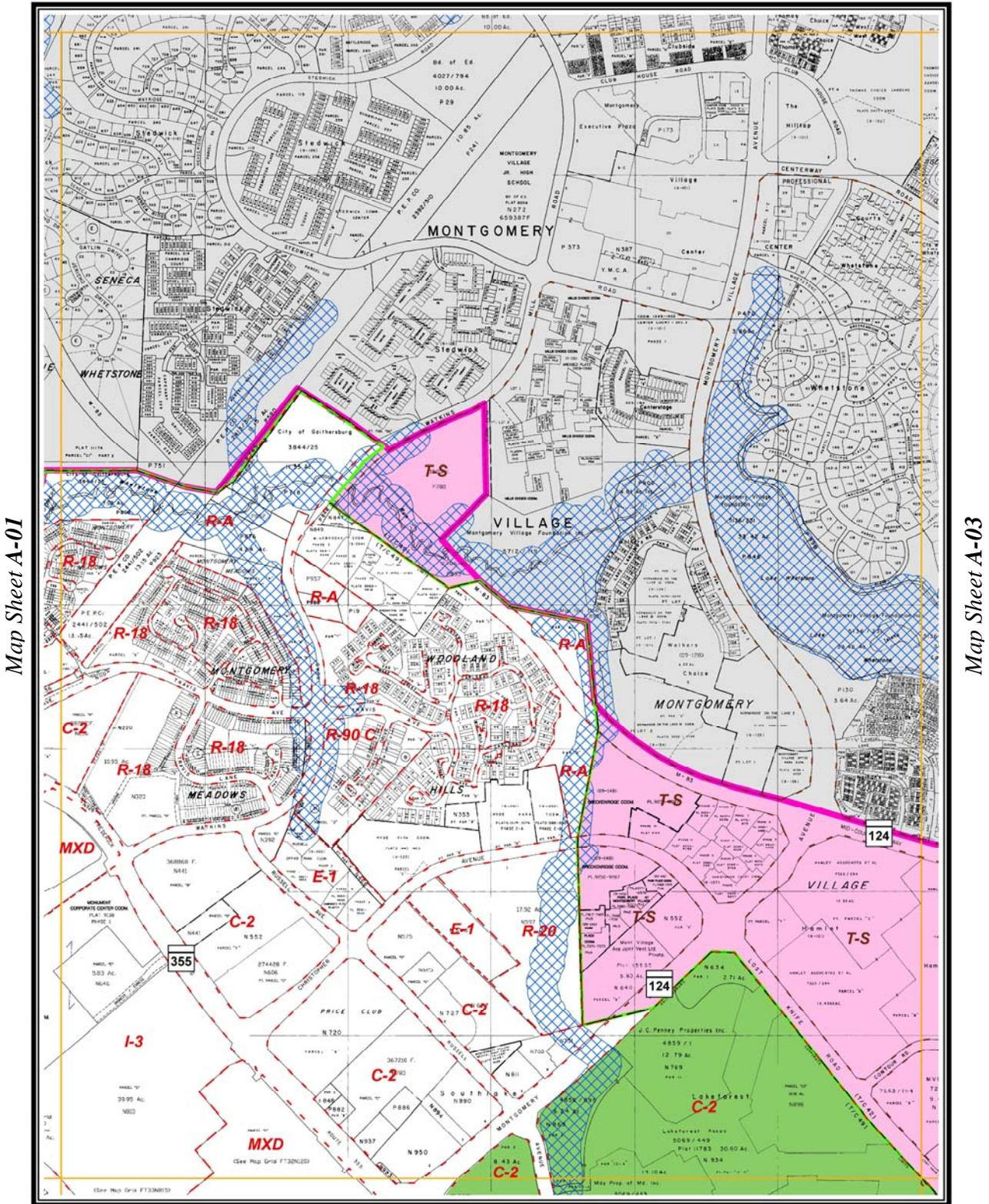
- |  |   |
|--|---|
|  City of Gaithersburg Corporate Limits    |  Growth Areas - City               |
|  Maximum Expansion Limits (MEL)           |  Growth Areas - MEL                |
|  Other Municipalities / Montgomery County |  Map Sheet Border                  |
|  R-90' City Zoning                        |  Non-Buildable Environmental Areas |
|  R200' County Zoning                      |   |

Map Sheet A-01



Map Sheet A-06

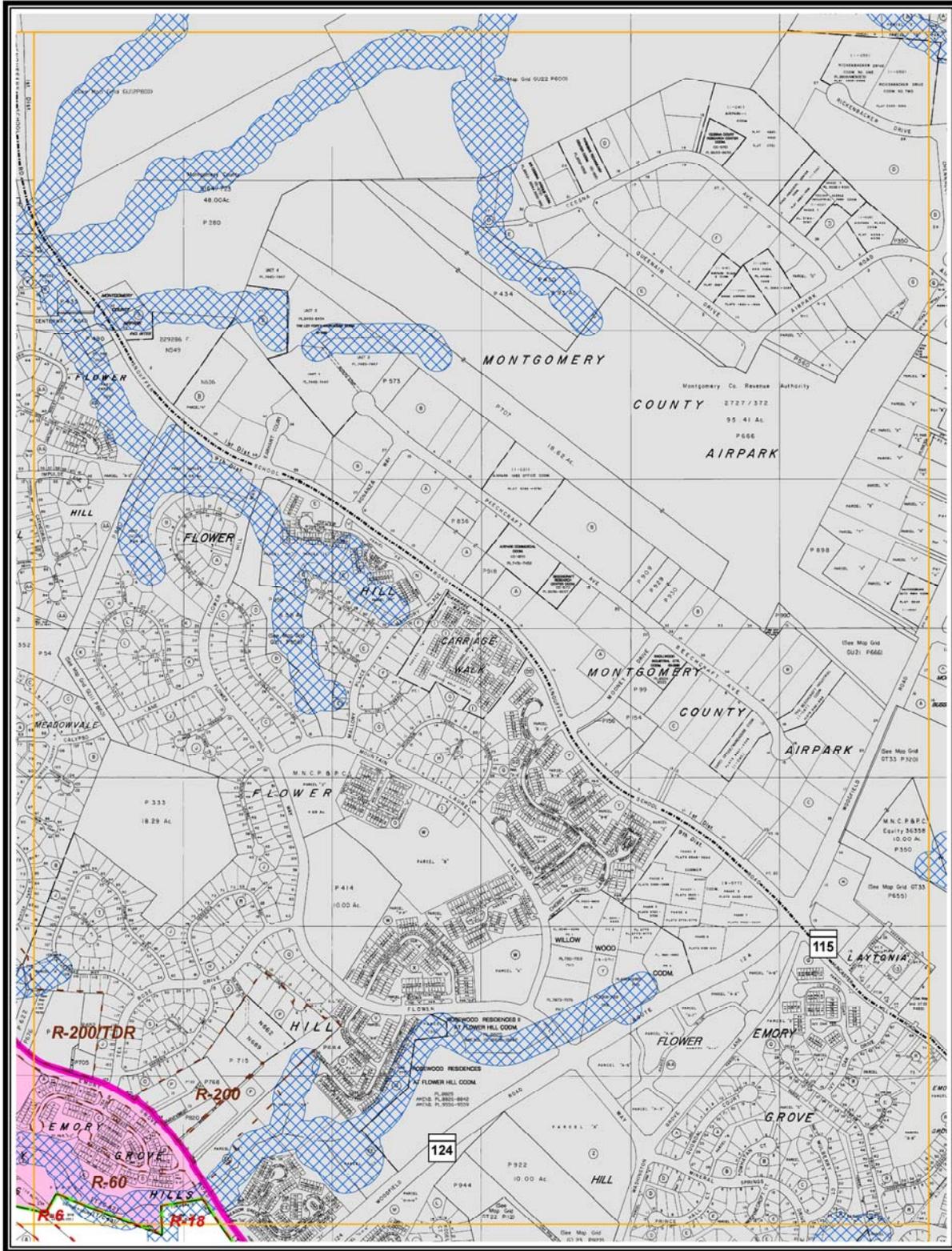
Map Sheet A-02





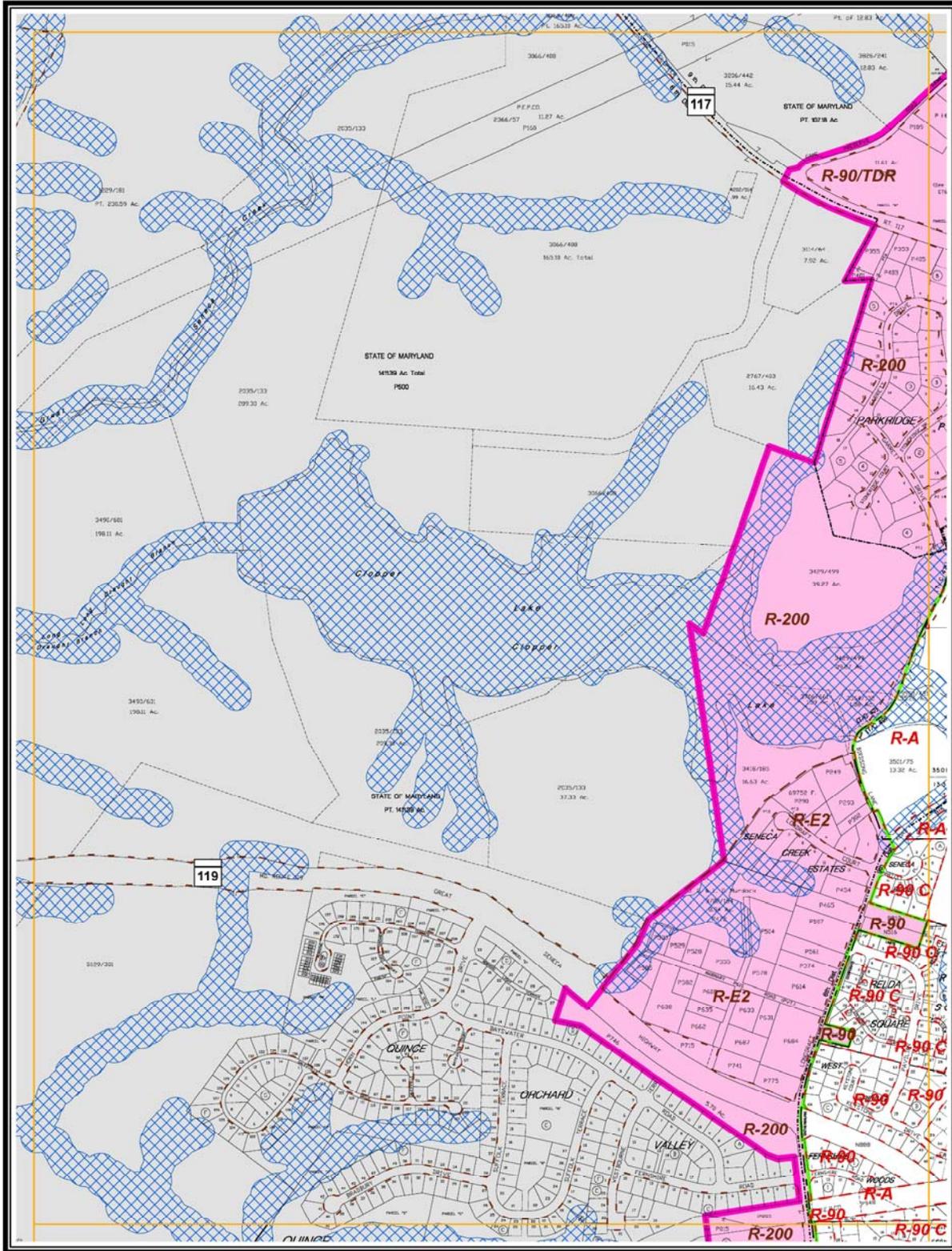
Map Sheet A-04

Map Sheet A-03



Map Sheet A-09

Map Sheet A-05



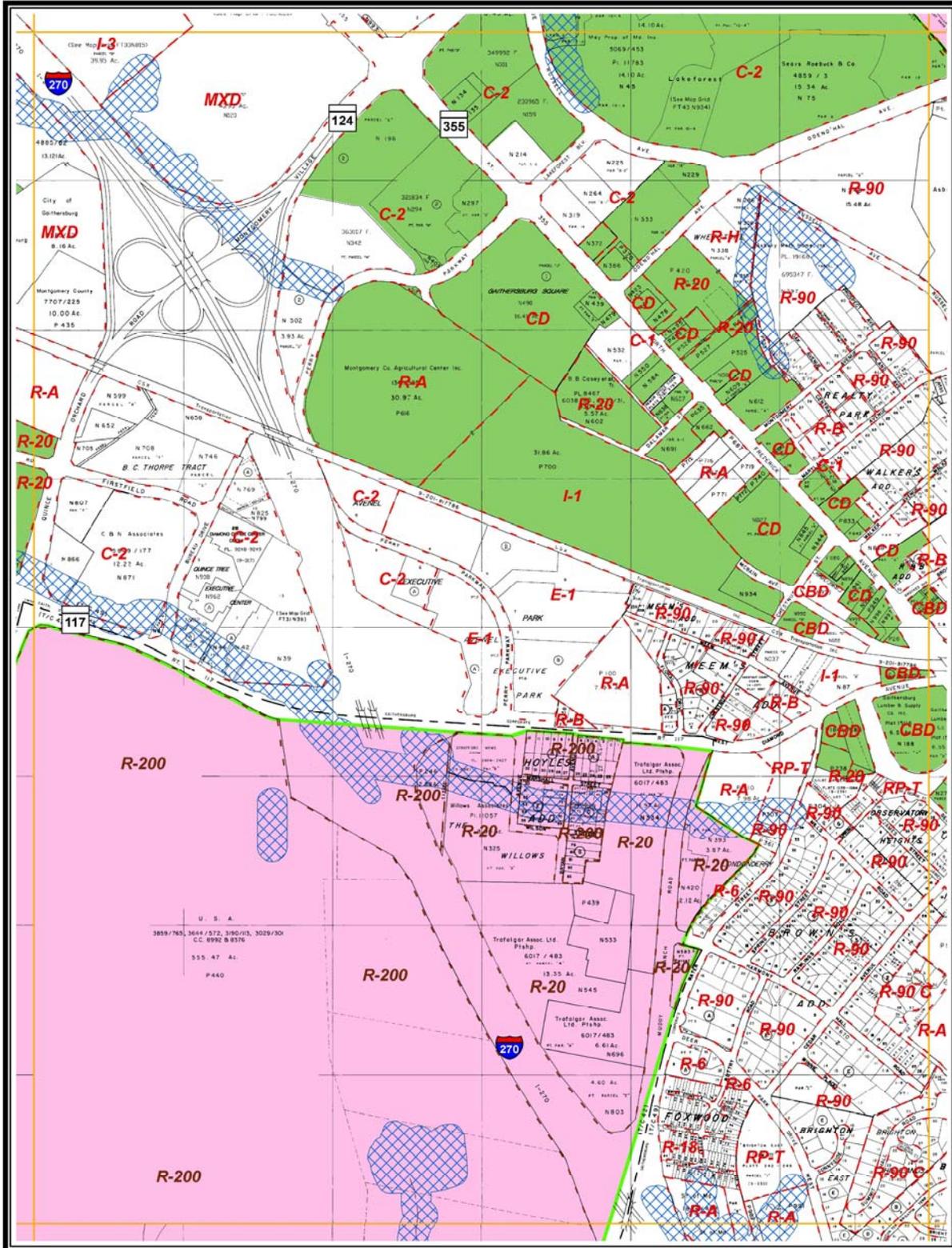
Map Sheet A-06

Map Sheet A-10



Map Sheet A-07

Map Sheet A-02



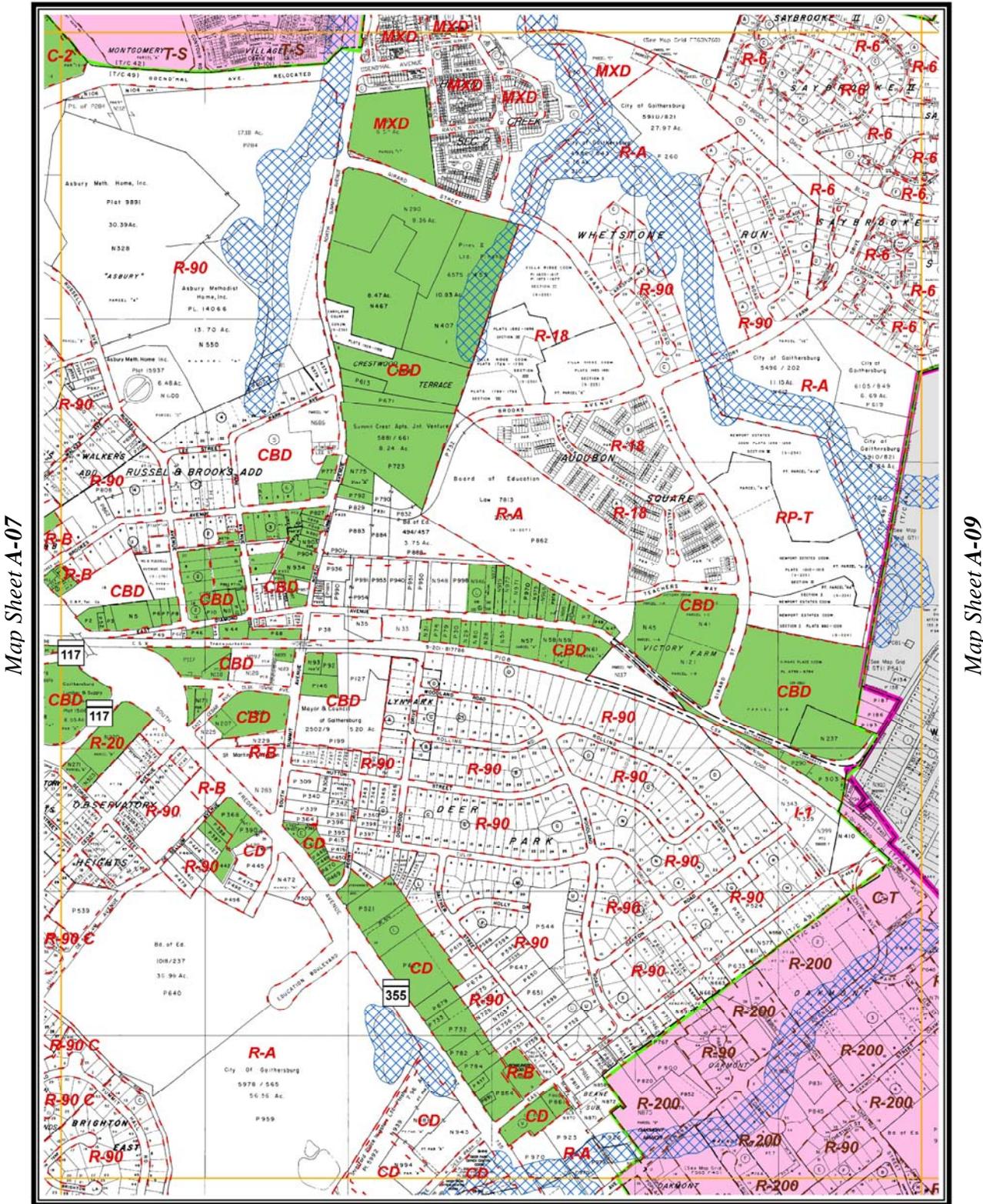
Map Sheet A-06

Map Sheet A-08

Map Sheet A-12

Map Sheet A-08

Map Sheet A-03



Map Sheet A-07

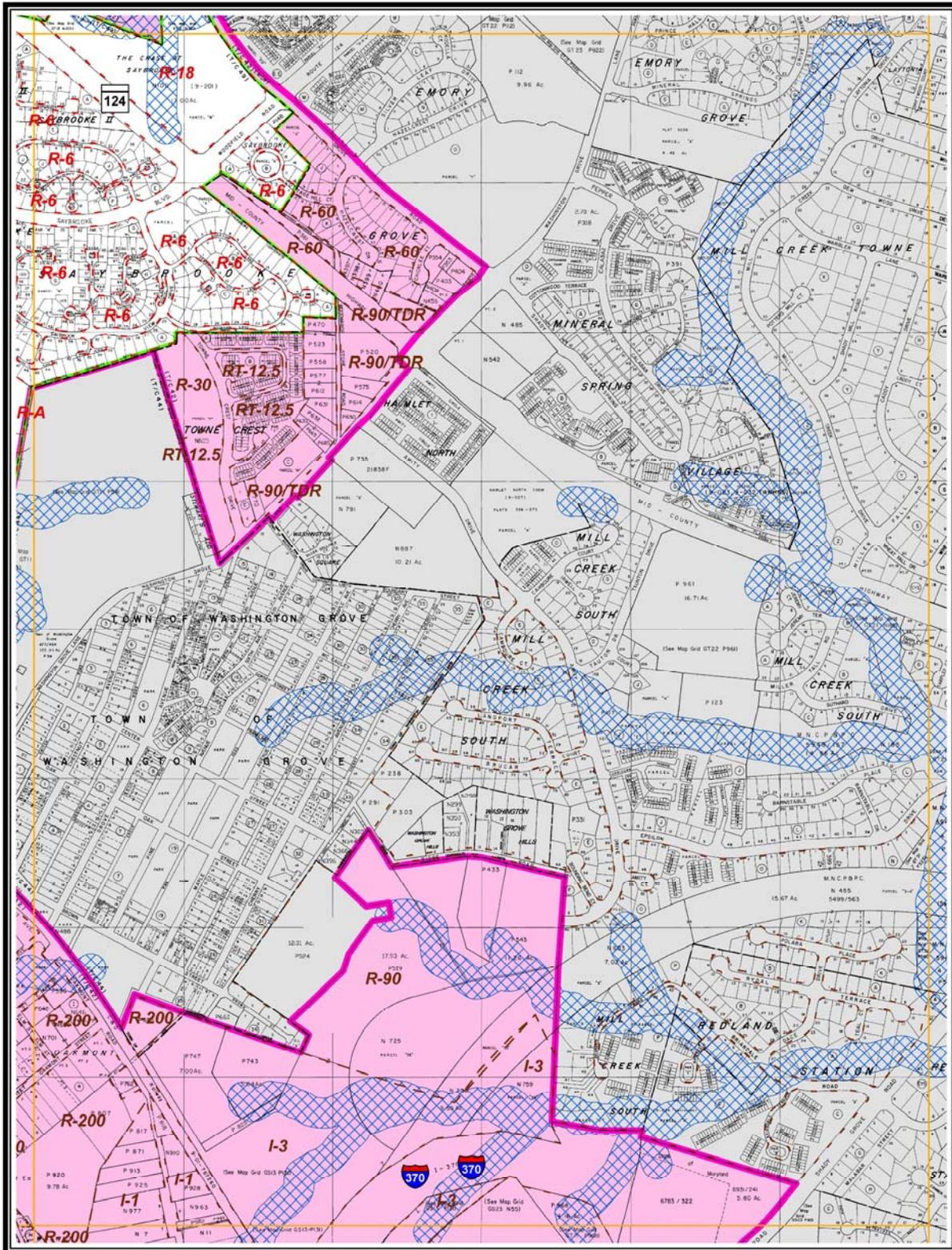
Map Sheet A-09

Map Sheet A-13

Map Sheet A-09

Map Sheet A-04

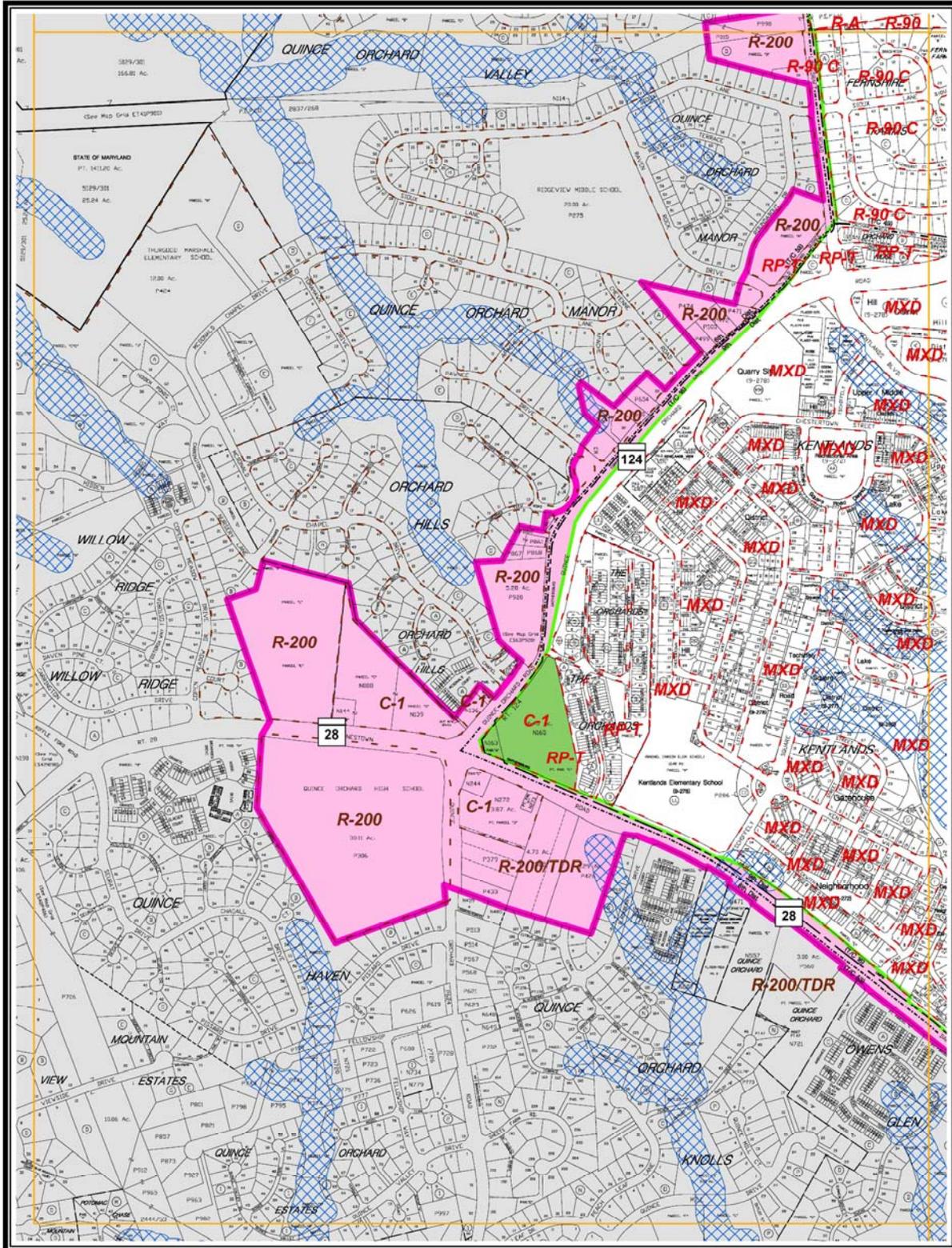
Map Sheet A-08



Map Sheet A-14

Map Sheet A-10

Map Sheet A-05



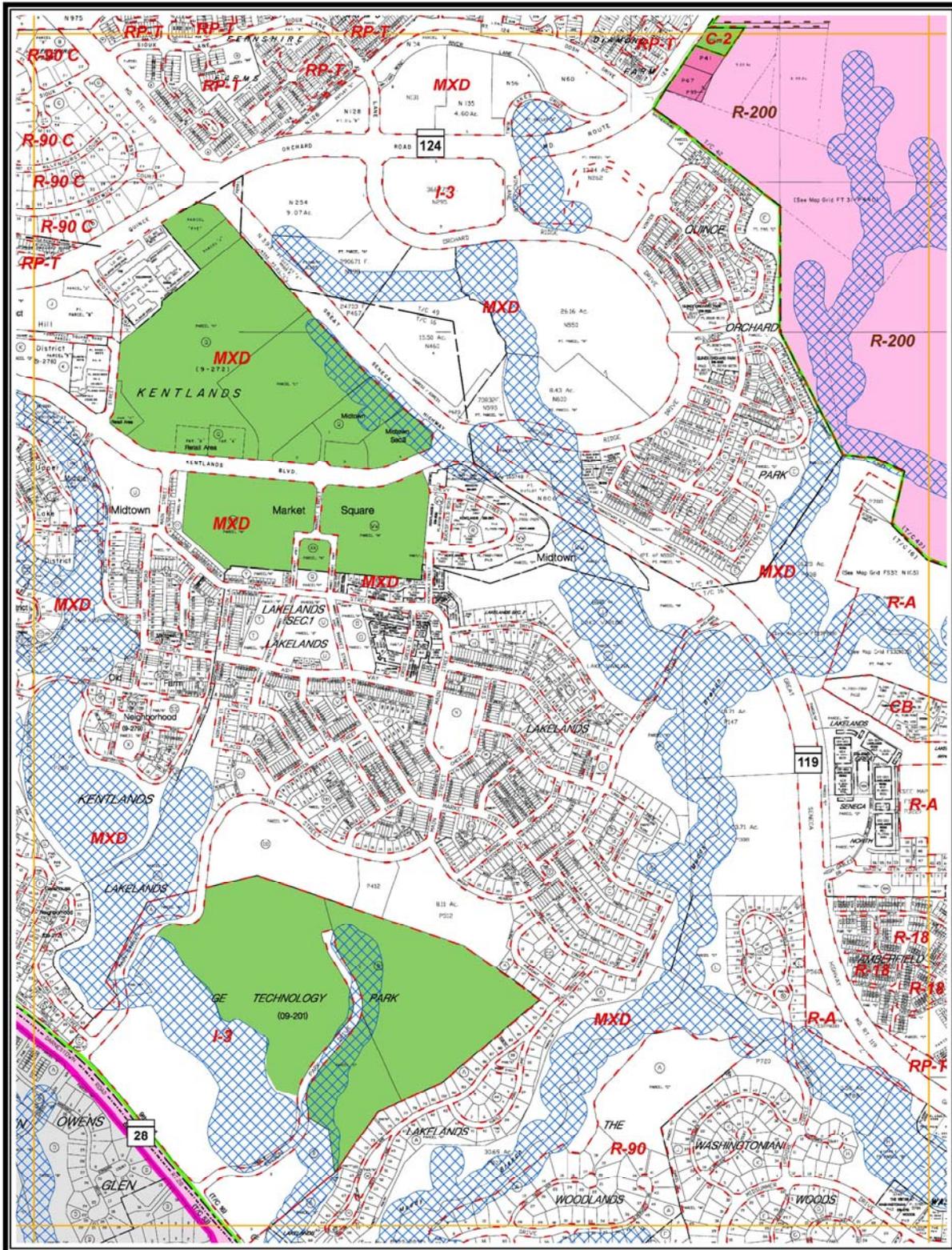
Map Sheet A-11

Map Sheet A-11

Map Sheet A-06

Map Sheet A-10

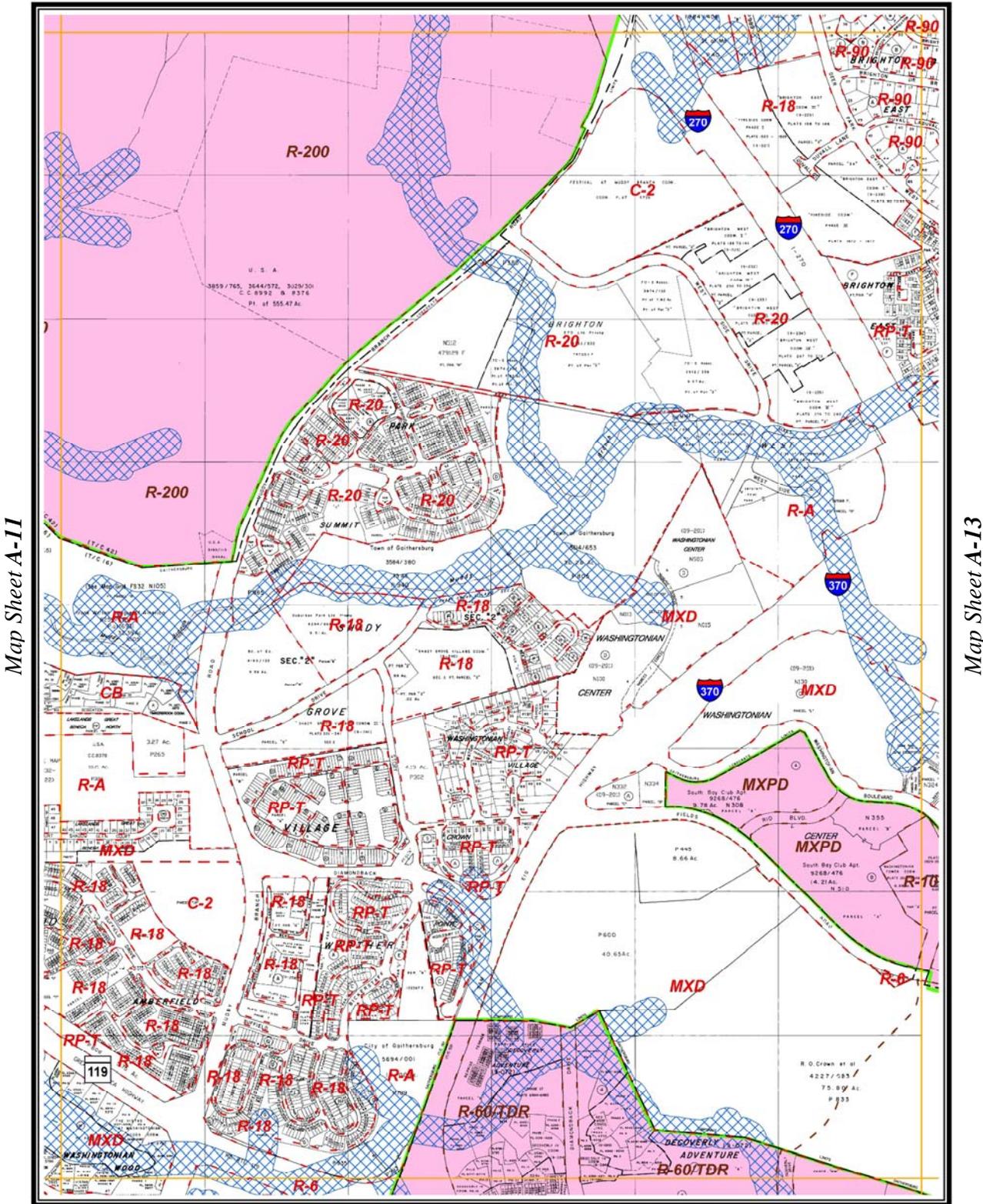
Map Sheet A-12



Map Sheet A-15

Map Sheet A-12

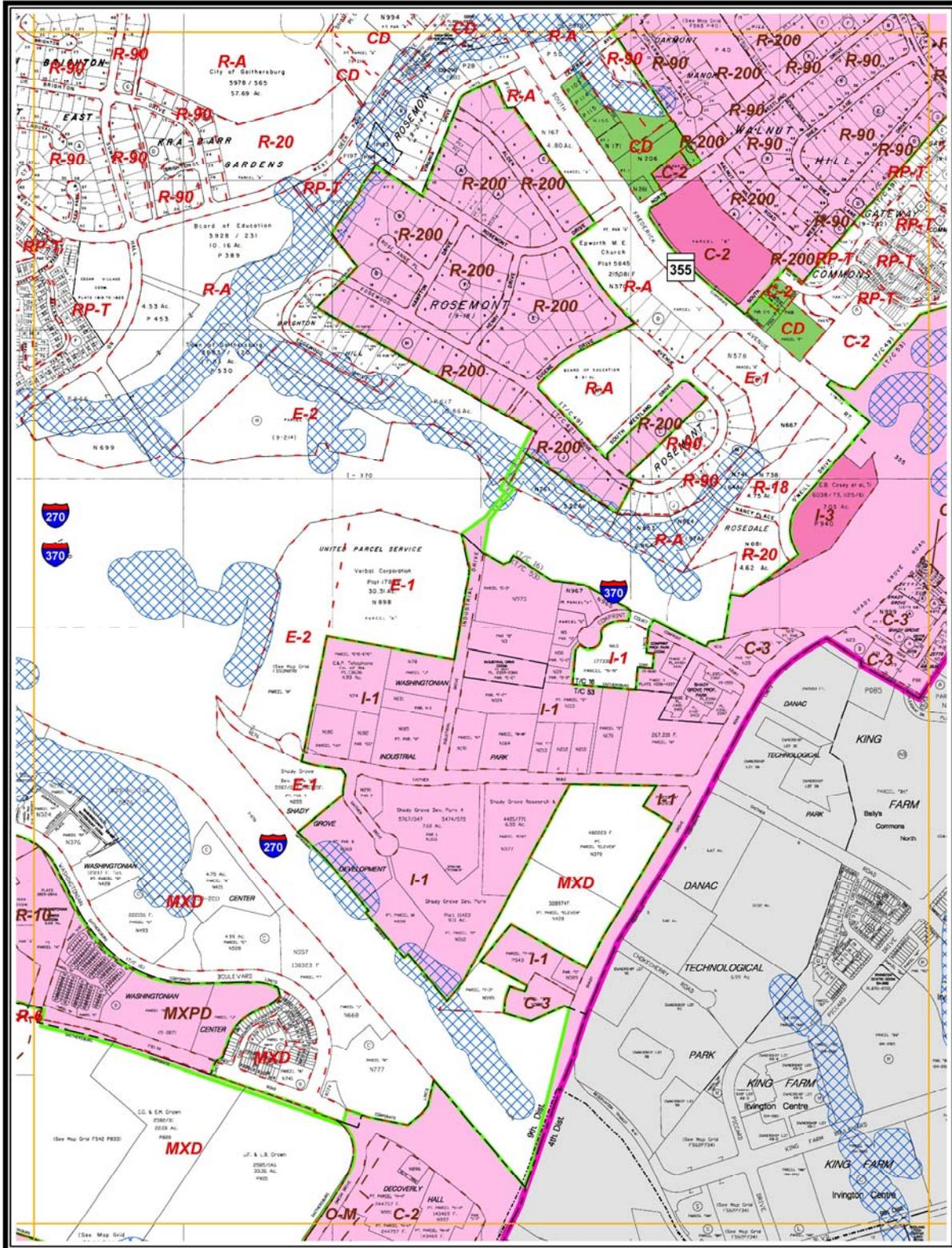
Map Sheet A-07



Map Sheet A-16

Map Sheet A-13

Map Sheet A-08



Map Sheet A-12

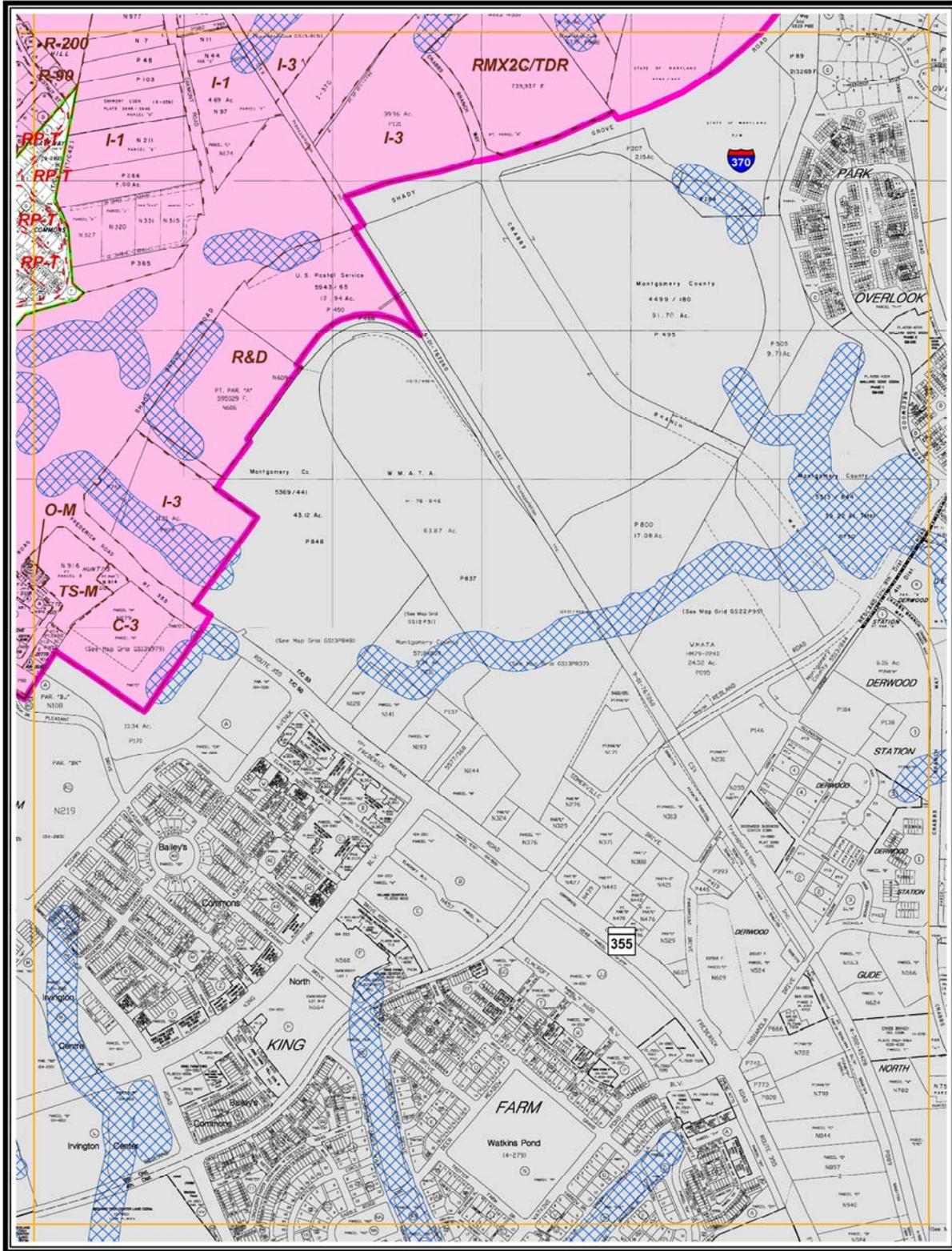
Map Sheet A-14

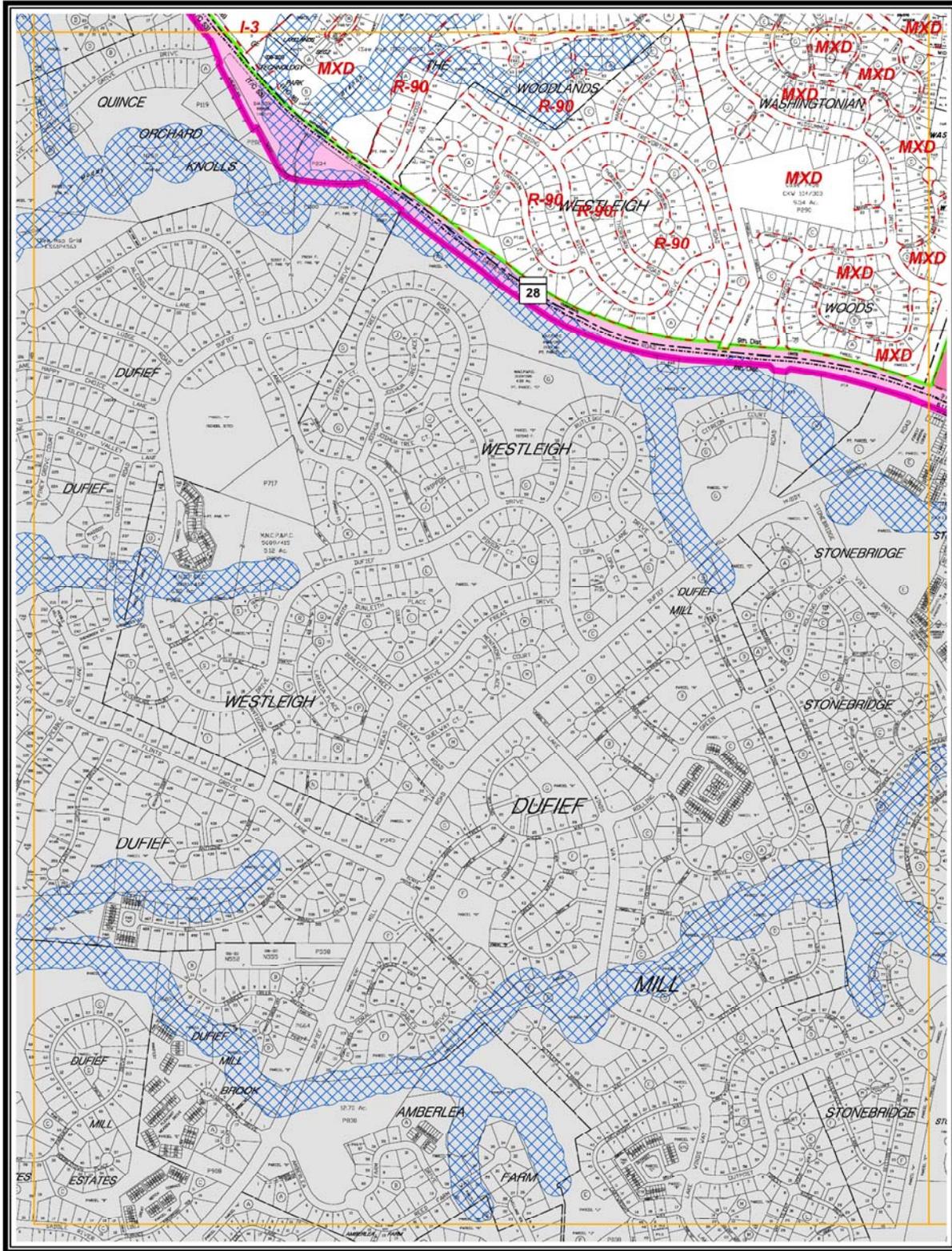
Map Sheet A-17

Map Sheet A-14

Map Sheet A-09

Map Sheet A-13

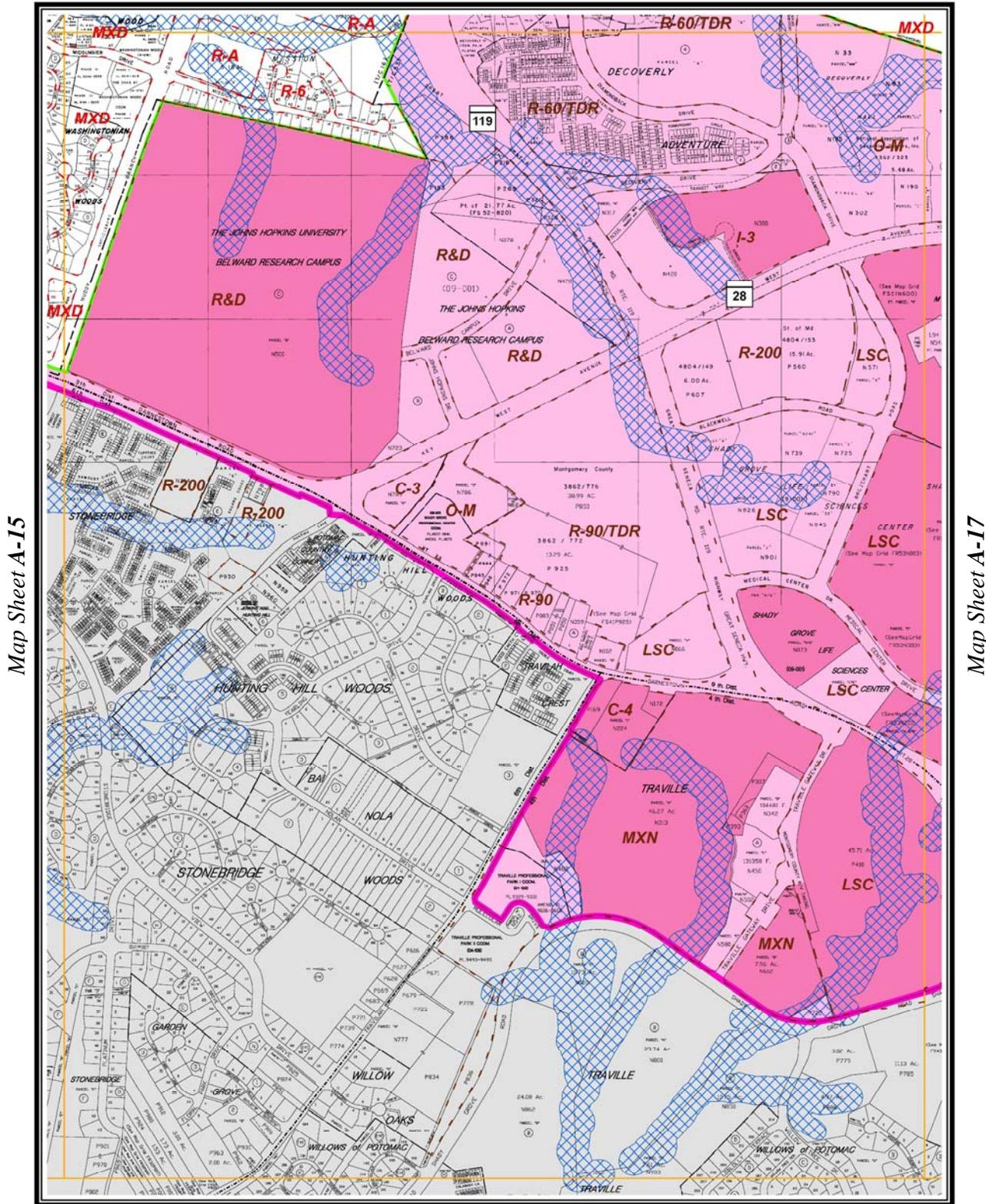




Map Sheet A-16

Map Sheet A-16

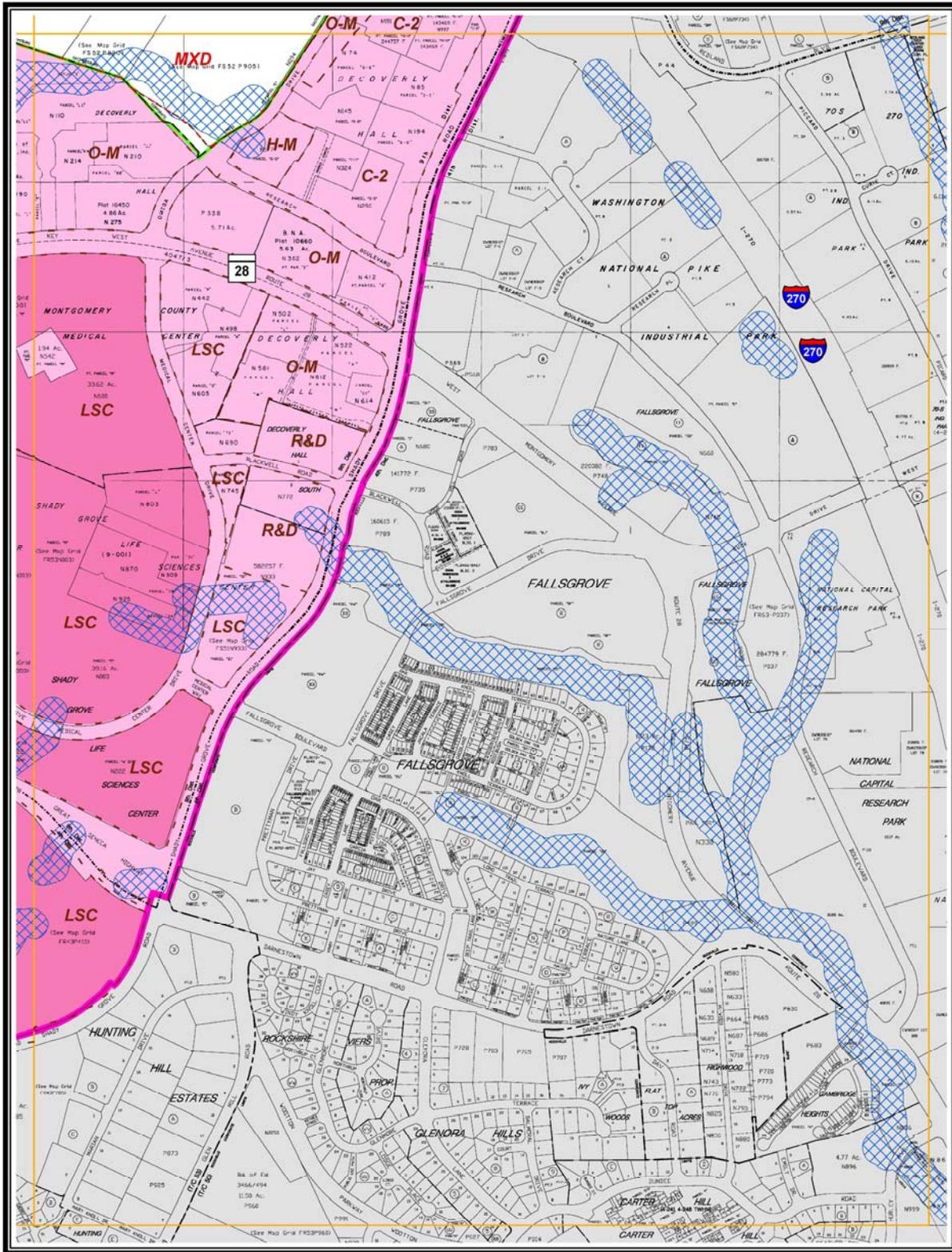
Map Sheet A-12



Map Sheet A-17

Map Sheet A-13

Map Sheet A-16



## 16. Appendix B: Location of Topics in the Master Plan

**Table 22: Subjects That Are Found in The Gaithersburg Master Plan<sup>26</sup>**

Subject/Topic	Master Plan Element		
	Municipal Growth	Land Use	Community Facilities
Land Use Map		X	
Growth Areas Map	X		
Maximum Expansion Limits Map (MEL)	X		
Map Designations / Special Study Areas Map		X	
Acreage Inventory by Land Use / Zoning	X		
Development Capacity Analysis / Zoning	X		
Annexation Policies/Guideline	X		
Existing/Proposed Development in Map Designations / Special Study Areas		X	
Build-out Acreage Inventory by Land Use / Zoning		X	
Acreage Demand for Future Development	X		
Number and Types of Units Projected	X		
General Recommendations / Guidelines for Residential, Commercial, and Industrial Land Use and Development		X	
Design Guidelines / Growth Patterns		X	
Definitions / Description of Individual Land Use Categories and Densities		X	
Historic Growth Patterns	X		
Existing Community Facilities Inventory			X
Total Facilities Needed at Build-Out	X		
Present Shortages / Problem Areas			X
Projected Additional Facilities Needs / Locations			X
Recommended Timeline for Facilities Needed to Implement Plan	X		X
Growth / Development Impact on Facilities Beyond Municipal Boundaries	X		
Goals, Objectives, and Policies		X	X

<sup>26</sup> This table is a modified version of Table 1 on Page 6 of the Maryland Department of Planning's "Models and Guidelines Volume 25: Writing the Municipal Growth Element to the Comprehensive Plan"

## 17. Appendix C: Euclidean Residential Zoning Density

**Table 23: Existing Euclidean Residential Zoning Density for City of Gaithersburg**

Zone	Zone Description	Maximum Density	Minimum Lot Size
R-A	Low Density Residential	None	100,000 sq. ft.; except single family detached 20,000 sq. ft
R-90	Medium Density Residential	3 D.U. per acre	9,000 sq. ft.
R-6	Medium Density Residential	6 D.U. per gross acre	None
R-18	Medium Density Residential	18 D.U. per net acre of land	1,800 sq. ft. townhouses; 1,200 sq. ft. for townhouses attached at the rear
R-20	Medium Density Residential	21.5 D.U. per gross acre	1,800 sq. ft. townhouses; 1,200 sq. ft. for townhouses attached at the rear
RP-T	Medium Density Residential	9 D.U. per gross acre	None
RH	High Density Residential	54 D.U. per acre	None
R-O	Planned Residential	None	9,000 sq. ft.
RB	Residential Buffer	6 individual units per gross acre	None
CB	Commercial Buffer	6 single-family detached or semi-detached units per gross acre, or 18 multifamily units per gross acre	Each main building and accessory structures located on a lot having a net area of at least two acres

**Table 24: Existing Euclidean Residential Zoning Density for Maximum Expansion Limits**

Zone	Zone Description	Maximum Density	Minimum Lot Size
R-E2	Residential One Family	None	87,120 sq. ft.
R-200	Residential One Family	2.44 units per acre	20,000 sq. ft
R-90	Residential One Family	4.39 units per acre	9,000 sq. ft.
R-60	Residential One Family	6.1 units per acre	6,000 sq. ft.
RT-12.5	Residential Townhouse	12.5 units per acre	Minimum tract area of 20,000 sq. ft.
R-30	Multifamily Low Density Residential	17.69 units per acre	Net lot area 3,000 sq. ft.
R-20	Multifamily Medium Density Residential	26.47 units per acre	Net lot area 2,000 sq. ft.
R-10	Multifamily High Density Residential	53.07 units per acre	Net lot area 1,000 sq. ft.
RE-2/TDR	Residential, TDR	Up to 4 per acre	2 acres
R-90/TDR	Residential, TDR	Up to 28 per acre	8,000 sq. ft.
R-60/TDR	Residential, TDR	Up to 28 per acre	None
R-200/TDR	Residential, TDR	Up to 11 per acre	15,000 sq. ft.

## 18. Appendix D: Gaithersburg Euclidean Zoning Capacity

**Table 25: Capacity of Existing Euclidean Zones within the City of Gaithersburg**

<b>Zone</b>	<b>Description</b>	<b>Acres</b>	<b>% of City Area</b>	<b>Max. Units/Acre</b>	<b>Permitted Residential Capacity</b>	<b>Existing Residential Units</b>
R-A	Low Density Residential	841.92	15.8%	2.178	1833.70	59
R-90	Medium Density Residential	644.92	12.1%	3.0	1934.77	2618
R-90 C	Medium Density Residential Cluster	150.37	2.8%	3.5	526.30	577
R-6	Medium Density Residential	125.95	2.4%	6.0	755.67	643
R-18	Medium Density Residential	312.19	5.8%	18.0	5619.46	4308
R-20	Medium Density Residential	257.31	4.8%	21.5	5532.09	4400
RP-T	Medium Density Residential	285.56	5.3%	9.0	2570.02	2437
R-H	High Density Residential	26.86	0.5%	54.0	1450.69	464