PHED & T&E Committees #1
January 29, 2014

MEMORANDUM

January 28, 2014

TO: Planning, Housing, and Economic Development and Transportation, Infrastructure, Energy and Environment Committees

FROM: Marlene Michaelson, Senior Legislative Analyst

SUBJECT: Ten Mile Creek Area Limited Amendment to the Clarksburg Master Plan and Hyattstown Special Study Area

This is the Planning, Housing, and Economic Development (PHED) and Transportation, Infrastructure, Energy and Environment (T&E) Committees' fifth joint worksession on the Planning Board Draft of the Ten Mile Creek Area Limited Amendment to the Clarksburg Master Plan and Hyattstown Special Study Area (hereafter referred to as the Ten Mile Creek Amendment). This worksession addresses the general policy issues the Committees should consider before making land use and zoning decisions, presents options for property specific land uses, and addresses the fire station and parks recommendations.

Councilmembers should bring their copy of the Plan to the meeting.

ENVIRONMENTAL ANALYSIS

The Committees have heard from a variety of different experts on environmental analysis prepared for the Master Plan Amendment and have received testimony from property owners, groups, and individuals. The Council has heard both that the Planning Department consultant's models overestimate **and** underestimate the likely impact of development on Ten Mile Creek. The consultants' analyses attempts to determine the likely impact of development under various different scenarios and they received criticism on several of their assumptions.

While it would be possible to have different results with a different set of assumptions, the County's environmental staff, both within the Planning Department and the Department of Environmental Protection (DEP), believe the assumptions, modeling, and analyses prepared by the consultants were appropriate. Staff believes the Council must rely on its own independent Staff to make determinations regarding these extraordinarily complex analyses. Planning

Department Staff have specifically addressed each of the criticisms in their summary of testimony presented to the Planning Board (attached to the January 13 staff memorandum).

It is entirely possible that the environmental impact could be significantly greater – or less – than indicated in the modeling and the Council must make a decision without a definitive determination of potential impact. This is always the case when a decision must be based in part on modeling the future instead of data collected prior from actual experiences. Since mechanisms to protect the environment and water quality are always changing, it is frequently necessary to create models to predict future impact. In particular, Staff notes that expectations regarding the impact of Environmental Site Design (ESD) are based on models, not data based on actual experience.

Given this, Staff believes the Council must be cautious. If the Council is overly conservative and later learns that additional development is possible without harming the environment (and provides other public benefits), it can always revisit the zoning and add additional development capacity. If the Council is not conservative enough and development significantly compromises water quality, it will likely be impossible to reverse this decision. At the same time, Staff continues to believe that the Council has an obligation to those who purchased homes in Clarksburg based on the visions set forth in the 1994 plan.

SELECTING ZONING AND IMPERVIOUS SURFACE AREA CAPS

In the property by property options that follow, Staff has provided options for zoning and impervious surface area caps. While some have suggested extremely low impervious surface area rates for this sensitive watershed, the reality is that no zone, once the property has been developed, has kept impervious surface area rates extremely low. Even the County's lowest density zone, the Rural Density Transfer (RDT) zone, which caps density at one unit per 25 acres, has impervious surface area rates of up to 5% as indicated in the data collected by Planning Department staff on existing development.[1] (See chart of impervious surface area rates by zone on © 1) The only way to keep impervious surface area rates extremely low would be for the County to purchase the land and preserve it as undeveloped land. While this may be appropriate for limited areas within the Ten Mile Creek Watershed, it would be extremely costly for the County to attempt to purchase most or all of the land.

Since Staff believes that imperviousness has a far greater impact on water quality than the number of units or density, Staff believes this should be the focus of the Amendment, rather than unit type or density. Therefore Staff recommends providing property owners with a great deal of flexibility regarding density, unit type and, where appropriate, height, provided they can meet impervious surface area caps. If the impervious surface area is capped and higher densities are allowed, it will be up to the property owner to determine whether to build in a traditional manner (similar to existing development in the County and the basis for the chart on © 1) and limit number the number of units, or identify creative ways to increase unit yield while capping imperviousness. **Staff believes that this plan should provide the zoning that would allow – and encourage – non-traditional design to limit imperviousness.** Limiting densities to those that have traditionally resulted in low imperviousness will not do that. Therefore, for each of the key properties discussed below, Staff had recommended higher densities than the impervious surface area limit would typically allow using traditional forms of development.

[1] Although only one home per 25 acres is allowed, neither the size of the home nor the ability to build other structures/infrastructure that support farming, such as barns and roads, is limited, and these add to imperviousness.

The Planning Board has transmitted a text amendment to create an impervious surface area cap overlay zone for Clarksburg, which the Council should adopt before approving the Sectional Map Amendment for the Master Plan Amendment. **Staff recommends that it be very clear that even if an impervious surface area cap does not allow the property owner to achieve the full density allowed under the zoning, the cap must not be exceeded.**

LIMITS OF DISTURBANCE

In earlier discussions, Committee Members raised questions about the appropriate Limits of Disturbance on properties within the Ten Mile Creek Watershed and the importance of not building on the most sensitive parts of the site. They asked Department of Environmental Protection (DEP) and Planning Department Staff whether it would be possible to map the most sensitive areas and provide additional guidance on where development should occur. Planning Department and DEP staff have worked together to map the most sensitive features on the Miles–Coppola site and will present this when the Committee turns to the discussion on this property. They will also map the other key sites in the planning area, although this will not be available for the Committee meeting on the 29th.

Their preliminary analysis indicates that even on Miles Coppola there is sufficient area not impacted by wetlands, ephemeral streams, springs and seeps, slopes over 15%, and most forested area to develop at the density and impervious surface area cap recommended by the Planning Board.[2] It is impervious surface area caps, rather than the limits of disturbance, that will impact the amount of development.

Staff recommends that the Planning Department and DEP continue to map these features not only in Clarksburg, but in all Special Protection Areas, and then determine if changes to existing regulatory measures are needed to direct the location of development.

TRANSFERABLE DEVELOPMENT RIGHTS

The recommended change in zoning on the Pulte/King property would impact the number of Transferable Development Rights (TDRs) the property owner would be required to use to develop to the maximum allowed by the zone. The chart which appears below under the discussion of the Pulte property indicates the number of TDRs that would be required under different zoning options. Most of the options would mean a decrease in, or elimination of, the TDR requirement and Staff was asked by Councilmembers to comment on this issue. **Staff very strongly believes that on the Pulte/King property (and all other properties throughout the County), the Council should decide what it believes to be the right zoning and then separately address the issue of how to make sure the TDR program is in balance.**

Council periodically receives updates on the program. Staff has already asked Planning Department Staff to work with Department of Economic Development (DED) Staff to prepare the next update. They will update their records regarding the recording and/or sale of TDRs so that the Council will have an accurate count of the number of TDRs yet to be recorded (serialized) and the number yet to be sold. The Planning Department will update information on how many TDRs have been used in developments, how many will be needed for approved but not yet built projects, and how many would be required for undeveloped properties based on existing zoning. They will also prepare an estimate of the number of

[2] Not all forested areas could be preserved under any scenario, due to the by-pass and the need to provide access to the site.

TDRs that could be purchased based on the new provision in the Zoning Ordinance Rewrite that will allow TDRs to be used as one of the benefits under the CR and CRT zones.

This information will be used to determine whether there is a gap between the number of TDRs yet to be sold and the potential receiving areas. If there is a gap, Council Staff will work with Planning Department and DED staff to identify a number of potential options the Council could consider to close the gap. **Staff believes that it is important for the Council to consider the entire TDR program, rather than focus on the loss of TDRs on one specific property.**

Pulte has indicated that they have already purchased TDRs in anticipation of developing this project. There is nothing in County law, regulations, or policies that requires or even encourages property owners to purchase TDRS in advance of obtaining sewer and water and regulatory approvals. If they choose to make a speculative purchase in advance of regulatory approvals, they do so at their own risk.

HISTORIC DISTRICT

The Master Plan Amendment as submitted by the Planning Board includes the portions of the Historic District in the Ten Mile Creek Watershed – which is most of the district. On January 28, the Council will hold a public hearing to change the boundaries of the Master Plan Amendment to include the entire Historic District. Pending any new information presented at the public hearing, Staff strongly believes the Council should have consistent zoning in the Historic District and should therefore include the entire district in the Master Plan Amendment. Planning Staff concurs. This would address the testimony already received from Donnie Gross of Potomac Holdings, LLC, whose property is in the Historic District at a prominent corner (MD 355 and Stringtown Road), but was kept in the R-200 zone because it was outside the Ten Mile Creek Watershed.

The Master Plan recommendations for the Historic District are described on pages 34-35 of the Master Plan. The 1994 Plan identified the Historic District as the focal point of the Town Center, encouraging sensitive and appropriate infill development in the District as an important component of the Plan's objectives for the Town Center. The 1994 Plan confirmed the existing convenience and general commercial zoning (C-1 and C-2) and one-family residential (R-200) zoning. This Amendment recommends the Commercial/Residential Neighborhood (CRN) zone with an overall floor area ratio (FAR) of 0.25, a Commercial (C) FAR of 0.25, a Residential (R) FAR of 0.25 and height (H) of 35 feet (CRN 0.25, C 0.25, R 0.25, H 35). The Plan indicates that the CRN zones would accommodate residential and light commercial uses across the district and would limit heights and densities to protect the scale and character of the Historic District. The Plan also recommends that the area between the Miles Coppola property and MD 355 also be zoned CRN. It consists of 9 parcels totaling 10.5 acres in the C-2 and R-200 zones and the CRN designation would create consistent zoning along MD 355.

Testimony: The Council received testimony from several property owners objecting to the zoning recommendation and the limited FAR, which they indicate would be a downzoning for those properties currently zoned C-1. There is a recently redeveloped property that is a 0.33 FAR. In addition, at least one owner asked to retain the existing C-1 zoning – or alternatively – the Commercial Residential Town (CRT) zone instead of the CRN zone with its more limited list of uses.

Staff Recommendation: The 1994 and current Master Plan encourage "sensitive and appropriate infill development" and the tension is between allowed sufficient densities to encourage and infill and renovation while still maintaining the character and identity of the Historic District. In this situation,

Staff believes the ability to allow renovation and infill development in the Historic District, provide business and service opportunities to Clarksburg residents in the Town Center, and add new development where there are already impervious surfaces, are more critical than preventing any change in the character of this historic district. **Staff supports the request for 0.5 FAR and trusts that the Historic Preservation Commission (HPC) will provide guidance that will protect historic character.** Achieving the Master Plan guidelines may make it impossible to achieve the full density, but Staff believes the additional flexibility is warranted. Staff also supports the request for CRT zoning. In Staff's opinion, CRN would be more appropriate for a property at the edge of a single family neighborhood, and is not necessary for a historic district that is in the middle of a Town Center District surrounded by higher densities.

RURAL PROPERTIES AND AGRICULTURAL RESERVE

The properties designated for Rural (1 unit per 5 acres) and Rural Density Transfer (RDT – 1 unit per 25 acres) in the 1994 Master Plan are addressed on page 39 of the Master Plan Amendment and shown in orange and green on the map on page 29 of the Master Plan. The 1994 Plan added 1,800 acres west of Ten Mile Creek to the Agricultural Reserve and additional land east of Shiloh Church Road was zoned Rural. **The Master Plan recommends confirming the existing zoning and Staff concurs.** The Master Plan also recommends a voluntary forest banking program to encourage property owners to create forested stream buffers. This is an interesting idea but the Master Plan does not indicate how this would be implemented and the Committees may want to explore this further with the Planning Department.

COUNTY PROPERTIES WEST OF 1-270

Montgomery County owns more than 380 acres in the upper reaches of the Ten Mile Creek watershed (see page 37 of the Master Plan). The Master Plan discusses this property on pages 38 to 39. The northern portion is the site of the Correctional Facility and a 94 acre portion along I-270 was recommended for employment and was at one point the proposed location of the north county bus depot. The Master Plan recommended limiting imperviousness to 8 percent on the former depot site and 4.5 percent on the remaining County property.

Since the County Executive has indicated that he does not plan to further development these properties, Staff has asked Executive Staff to be prepared to indicate at the worksession whether the Master Plan should be revised to eliminate any potential for further impervious surface area, and if not, what the new rates should be.

PULTE/KING PROPERTIES

In 1993, the Planning Board recommended Rural zoning for the Pulte/King property due to environmental constraints. A majority of the Council believed that new state of the art environmental "best management practices" could protect Ten Mile Creek and that higher density zoning, which would allow for additional housing, was appropriate. The Council changed the zoning on approximately 600 acres (including the property now owned by the County) to RE-1/TDR and indicated that up to 900 dwelling units would be appropriate through the purchase of TDRs if certain environmental and housing

guidelines could be achieved. An excerpt from the 1994 Master Plan with these guidelines is attached on © 2.

Planning Department Staff recommended changing the zoning to Rural Neighborhood Cluster (RNC) 0.4 units per acre, which would allow approximately 215 units, an 8% impervious surface area cap, and 80% open space. The Planning Board changed this to RNC 1.0 (which would allow approximately 538 units) with a 10% impervious surface area cap and 65% open space. The property owner believes that the zoning density allowed in the 1994 Master Plan is appropriate with a 12.5% impervious surface area cap. They believe that their environmental analysis indicates they can adequately protect Ten Mile Creek. The Council received some testimony in support of the existing zoning but received a far greater amount of testimony asking the Council to further limit development. Although much of this testimony was general in nature, those that were more specific suggested caps ranging from the Planning Department staff recommendation of 8% to 4 or 6%, and some who believe that no development should be allowed at all, particularly on subwatershed LSTM110.

Staff has provided a range of zoning options below at different impervious surface area levels ranging from the 1994 zoning as requested by the property owner to a density of 1 unit per 5 acres. Staff has not included an option for no development, nor does Staff believe RDT zoning would be appropriate here given that land directly to the west is already zoned Rural, separating it from the rest of the Agricultural Reserve. (In addition converting the existing forested area to farms might have a more negative impact than higher density zoning which preserves the forested areas.) As noted earlier in this memorandum, Staff is less concerned about the mix of unit type and number than about the impervious surface area cap and therefore has included an option that would limit imperviousness to 8% (as recommended by Planning Department Staff), but allow a greater number of units, with no limitations on unit mix.

Pulte	**Zone**	**Yield**	**TDRs**	**Site Imperviousness**	**Subwatershed Imperviousness**	**Comments**
Option1 (Property Owner)	RE-1/ TDR2	807[3]	169	12.5%	15.1% (LSTM110) 14.1% (LSTM111)	
Option 2 (Planning Board)	RNC 1	538 units	0	10%	10.1% (LSTM110) 13.8% (LSTM111)	65% Open Space
Option 3 (Planning Staff)	RNC 0.4	215	85	8.0%	8.4% (LSTM110) 11.1% (LSTM111)	80% Open Space
Option 4	RNC 1.0	215 - 538 units[4]		8.0%	8.4% (LSTM110) 11.1% (LSTM111)	80% Open Space and no limit on mix of units
Option 5	Rural or Rural Cluster	47 units		6.4%	~7.5% (LSTM110) ~10% (LSTM111)	Likely use of septic systems.

[3] The 1994 Plan allowed up to 1.5 units per acre or 900 units over the entire site – which would equate to 807 units on the portion owned by Pulte and King.

[4] Typical RNC development with single family detached units and an 8% cap would yield approximately 215 units. Staff recommends setting the zoning at RNC 1 as recommended by the Planning Board and giving the property owner the flexibility to develop with all smaller and/or attached units to increase yield.

Staff Recommendation: The Planning Department's environmental consultant recommended that everything possible should be done to preserve the high quality headwater subwatersheds of LSTM110 and LSTM111 and **Staff believes the Council must be extremely cautious in these subwatersheds and therefore recommends that the Council choose option 4 or 5, which would create the greatest limits on imperviousness. Although the Rural or Rural Cluster Zone would likely have less impervious surface area, those zones raise a number of uncertainties about the location of development (described below), which leads Staff to favor the RNC zone.**

State and federal experts who appeared before the Committees suggested that the lower the impervious surface area, the lower the risk to the creek. While it is impossible to pick a specific rate that would guarantee protection, a representative from the Maryland Department of Environmental Protection indicated that he believed it was necessary to limit rates to the 5 to 8% range. Other Special Protection Areas have used 8% as the impervious surface area cap on new development, and Staff does not advise exceeding this amount. Should future data on the implementation of Environmental Site Design (ESD) prove that a higher impervious rate with ESD can protect sensitive streams, then the Council could reconsider the impervious cap. Similarly, if future data proves that 8% for new development is too high, the cap can be adjusted down if the property has not been developed.

The Rural zone could result in the lowest impervious surface area levels, but would most likely mean development on well and septic. This would yield a maximum of 120 units and less if the property owner is unable to locate wells and septic systems. DEP analysis indicates that the majority of the Pulte/King project site has soils that the USDA 1989 Soils Survey classifies as having severe constraints for septic system suitability. While this does not eliminate the possibility of septic system use in these areas, it points to the potential for constraints (largely shallow bedrock and moderately low permeability rates) that could affect suitable septic system location and design. (A comparison of the impacts of septic systems versus public sewer and water prepared by DEP is attached at © 3 to 4.)

Staff's primary concern with this option is that the challenge of locating wells and septic systems could mean that the homes may not be placed in the most advantageous locations to protect Ten Mile Creek. If large estate homes are built, it increases the likelihood of additions that increase impervious space such as home expansions, tennis courts or swimming pools (which is far more likely on large lots than on smaller constrained lots). The impervious cap text amendment, as drafted, would exempt additions to single family homes. In addition, zoning the property Rural may make it an appealing location for an institutional use. The property would still be bound by the same overall impervious surface area caps but could place a greater strain on the immediate area where the institution use is located than more dispersed housing. Development in the Rural zone tends to be very dispersed, with a greater portion of imperviousness going towards roads than housing as compared to the RNC zone and with greater limits of disturbance. Even in the Rural Cluster (RC), there is not the ability to preserve contiguous open spaces at the same level as the RNC. Finally, significantly reducing the density could limit the Planning Board's ability to acquire open space via dedication, making the proposed parkland and Legacy Open Space recommendations more costly (and perhaps less likely).

Development in the RNC zone could yield a significantly greater number of units. Although the chart on © 1 indicates that existing RNC zoning in the County has resulted in average impervious surface area rates of 8.9%, the Council could limit the imperviousness to 8% as recommended by Planning Department Staff. Planning Department Staff chose to limit density to 0.4 units per acre in their Draft, but under the option presented above Staff recommends allowing up to 1 unit per acre (the amount allowed by the Planning Board). It may not be impossible to achieve this density with 8%

imperviousness, but Staff believes the property owner should be given the flexibility to select among housing types and densities, provided they meet the impervious surface area caps.

MILES-COPPOLA PROPERTIES

Both the Miles-Coppola and Egan/Mattlyn properties are in the 635 acre Town Center District (see maps on © 5 to 6). They are also in the headwaters of Ten Mile Creek. In the 1994 Plan, the Council believed that it was important to reserve sites along I-270 for employment and recommended the Miles-Coppola site for the Mixed-Use Planned Development (MXPD) zone, with up to 470,000 square feet of commercial development.

This Master Plan Amendment addresses the Miles-Coppola property on pages 33 to 34. The abundance of vacant land zoned for office development and changes in the market for office development led the Planning Board to believe that office-oriented development was not ideal and zoning limited to office uses would could impede or at least delay development of this property. Earlier development of this property could help support commercial activity in Town Center.

The Planning Board recommends changing the zoning to CR 0.75, C 0.5, R 0.5, H 85 to allow a mix of uses that would help implement the 1994 Plan's vision for a complete corridor town. The Plan notes that environmental constraints, particularly steep slopes, indicate that only about 50% of the property is developable and there are three likely developable areas.

The Plan recommends limiting impervious surface area on this property to 25%. It notes that the existing imperviousness is 16% and the water quality is fair. Planning Department Staff believe the 25% impervious surface area cap would allow the stream to remain in fair condition (as judged by macro-invertebrate scores), although probably at the low end of fair. A 25% imperviousness could, however, pose a risk downstream in subwatersheds with good conditions, especially for storms that exceed the design requirements for ESD. The consultant's report indicates that stream flow in the one-year storm would increase by 60% and the peak stream flow would increase by about 15% in LSTM206.

Prior to deciding the appropriate land use and zoning for this property, Staff recommends that the Committee review the environmental analysis prepared by the Planning Department and DEP to map the areas on this site with environmental constraints. They will be presenting information on the constraints, with 3 different development scenarios described on © 7.

For this property Staff has outlined options ranging from the 35% impervious surface area rates requested by the property owner down to an 8% impervious surface area level. If the impervious surface area is capped anywhere from 15% to 35%, it will be possible to develop these properties with a mix of uses to include commercial as well as residential development. If the impervious surface area level is capped at 8%, the only realistic option is low density residential development on the entire property. Staff does not believe this property within the Town Center District would be appropriate for RDT or Rural zoning. This area between the Town Center and I-270 is not appropriate for agriculture, and the unique environmental constraints of the site would be better protected with highly clustered development.

	Zone	Yield	Site Imperviousness	Subwatershed Imperviousness	Comments
Miles-Coppola					
Option 1 (Property Owner)	CR	300 units 450,000 square feet + 250 hotel rooms	35%	30.8% (LSTM 206)	A 35% impervious surface area rate would not only increase the negative impact on the stream, but could not be accommodated within the areas designated by DEP as sensitive in Scenario 3.
Option 2 (Planning Board)	CR	850 units 2.13 million square feet	25%	28.2% (LSTM 206)	Would allow significant development, but with potential impacts on Ten Mile Creek.
Option 3	RNC 0.1 and CRT 1.0, C 1, R 1, H 120	35 – 80 units on 80 acres; and up to 436,600 on 10 acres[5]	15%	23.7% (LSTM 206)	Places higher density CRT zoning on southern developable area near most degraded streams. Reduces overall impervious surface area while allowing development near Town Center.
Option 4	RNC 0.4	35 units	8.0%	21.1% (LSTM 206)	Allows greatest protection of resources, but significantly limits development that could be beneficial for Town Center.

Staff Recommendation: Staff recommends Option 3. As indicated in the Sector Plan and confirmed in the environmental analysis, there are three developable areas. The one furthest south is in the area where water quality is already most degraded. This area has the easiest access to MD 121 and Town Center and therefore Staff believes it is an appropriate site for more intense development. **Option 3 would split zone the Miles-Coppola property and put CRT zoning on the southern developable area and residential development on the remaining portion of the Miles-Coppola property. Staff also recommends limiting overall imperviousness to 15%, which is similar to existing levels of imperviousness.** The zoning would allow the property owner to concentrate density and imperviousness on the southern developable parcel.

As indicated in the chart above, the Planning Board recommendation would increase subwatershed imperviousness from the existing 16% to 28.2%. An 8% impervious surface area cap on new development would lead to a 21.1% impervious surface area rate subwatershed wide, but would require a development that would be all single family homes and would not allow other uses that could benefit town center. The split in zoning staff is recommended by Staff would increase overall imperviousness to 23.7%, but would allow an owner to build a hotel, office or apartment building on the southern site and maintain lower densities on the rest of the property – or to build an entirely lower density residential community. **The reduced imperviousness would reduce the environmental impact of development, while the CRT zoning on the southern portion would allow more intense zoning that would support Town Center.**

[5] Traditional development with an overall imperviousness of 15% would allow 35 detached units at a density of 0.4 and 217,800 square feet of development on the portion zoned CRT. In both cases, Staff is recommending significantly more density if the property owner can achieve it within the impervious surface area cap.

EGAN/MATTLYN ENTERPRISES LLC PROPERTY

Although the Egan/Mattlyn property is in the Town Center District, it was further from the Town Center itself and therefore the 1994 Master Plan recommended an R-200 base zone and PD-4 floating zone. The current Master Plan Amendment recommends eliminating the PD-4 option and retaining the R-200 designation with a 25% impervious surface area cap.

Approximately half of the Egan/Mattlyn property is in LSTM 206 which currently has an impervious surface area of 16% and streams that are in fair quality. However, the remainder is in LSTM 201, a large subwatershed with more limited development. Even the 25% impervious surface area rate recommended by the Planning Board for new development would result in a 7.5% overall impervious surface rate for the entire subwatershed.

For this property, Staff has included options, including the level of development recommended by the Planning Board, an RNC 1.0 density with an impervious surface rate of 15%, and a third option with an lower density and an 8% impervious surface area rate.

	Zone	Yield	Site Imperviousness	Subwatershed Imperviousness
Egan Option 1 (Planning Board)	R 200	198 units	25%	7.5% (LSTM 201) 28.2% (LSTM 206)
Option 2	RNC 1.0	99 units	15%	6.5% (LSTM 201) 23.7% (LSTM 206)
Option 3	RNC 0.4	39 units	8.0%	5.8% (LSTM 201) 21.1% (LSTM 206)

Staff recommends Option 2, which would reduce the subwatershed impervious rate in LSTM 201 slightly, but would provide a more significant reduction in LSTM 206 and lead to an overall density comparable to the area to the adjacent Miles-Coppola property. (Should Miles-Coppola decide to maximize density on the southern portion of the site, it is possible that the residential area closest to the Egan/Mattlyn property could be significantly lower in density than one unit per acre.) Although LSTM 201 is slightly further from Town Center, it would be preferable to concentrate more density here due to the existing impervious levels in the two subwatersheds.

FIRE STATION

The County has acquired property within the Ten Mile Creek Watershed to build a fire station. It is directly outside the Historic District in the area between MD 355 and Miles-Coppola. **The site is currently forested and undeveloped.** The fire station would create 37% imperviousness. Staff believes the County should make every effort to find another location outside the Ten Mile Creek Watershed or on land that already has an impervious surface. Planning Department Staff have identified some properties in the Historic District that might provide a suitable location. If this site can be left undeveloped, it will provide greater flexibility to locate the bypass and reduce the overall impervious surface area rate for the subwatershed.

Staff recommends that the Master Plan encourage the County to once again consider other options for the Fire Station that are either outside the Ten Mile Creek Watershed or on land that already has an impervious surface on it.

PARKS RECOMMENDATIONS

The Master Plan's park recommendations are described on pages 41- 43 of the Master Plan. The Plan recommends designating 1,230 acres for Legacy Open Space and suggests that it be designated through a variety of tools, including easements, dedication through the development process, and fee simple acquisition.

It also recommends the creation of a Ten Mile Creek Conservation Park and suggested that the rural open space on the Pulte and King properties should be conveyed to Parks. Staff did not understand what was meant by the term "convey" and asked Planning Department staff to clarify. They now recommend the following changes. In the third bullet they recommend changing the word convey to dedicate and also adding the following language at the end of the third bullet:

> However, land not available through dedication during the development review process may be acquired by the Department of Parks.

Staff supports this change in language.

SCHOOLS

Councilmember Riemer asked for an assessment of the impact of proposed development on Clarksburg School. The following analysis prepared by Bruce Crispell of the Montgomery County Public Schools is based on the densities and zoning recommended by the Planning Board. The Planning Board Draft Master Plan would result in less students than the adopted 1994 Master Plan. Projections could change under the different options being considered by the Committee. The Staff recommendations would result in a further decrease in households and students.

Students Generated by Ten Mile Creek Plan: 1994 Plan and 2013 Amendment				
Property	Grades K-5	Grades 6-8	Grades 9-12	Grades K 12
Pulte/King				
1994 Plan (548 SF, 235 TH)	285	117	145	547
2013 Amendment (269 SF, 269 TH)	177	72	90	339
Miles/ Coppola				
1994 Plan (288 MF)	46	16	23	85
2013 Amendment (850 MF)	136	48	69	253
Egan				
1994 Plan (300 SF)	125	53	64	242
2013 Amendment (200 SF)	83	35	43	161
Total Units				
1994 Plan (848 SF, 235 TH, 288 MF)	456	186	232	874
2013 Amendment (469 SF, 269 TH, 850 MF	396	155	202	753
Housing unit numbers provided by Fred Boyd, Montgomery County Planning Dept., January 27, 2014 Student generation estimates from Bruce Crispell, MCPS, January 27, 2014.				

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PREPARED BY PLANNING DEPARTMENT STAFF (1/14)

Factors Used for Estimating Projected Imperviousness

Zone	Average Gross Tract Imperviousness
C-1	90.0%
I-3	80.0%
MXPD	35.0%
PD3	25.0%
PD-5	35.0%
PD-7	40.0%
PD9	40.0%
R200	**15.4%**
R200with sewer and water	**25.9%**
RC	**6.4%**
RDT	5.0%
RE1	**12.4%**
RE-1/TDR*	**12.5%**
RE1 with sewer	**22.8%**
RE-2	**10.6%**
RE2/TDR	9.0%
RE2C	**18.8%**
RE2C with sewer and water	**11.1%**
RE2 with water only	**12.9%**
RNC with sewer and water	**8.9%**
RURAL	**6.4%**

*Based on Barnesley tract which is tightly clustered with significant open space.

The estimates shown in bold were prepared between 1994 and 2003 based on built and approved subdivisions. Other estimates are from the Countywide Stream Protection Strategy in 1997.

(1)

From 1994 Clarksburg Master Plan

- Both sites will require improved access from MD 121 once development occurs and I-270 improvements require relocation of Whelan Lane (the current access). The Master Plan recommends relocated Whelan Lane to be kept as close to the existing alignment as possible to minimize new stream crossings.

- **Recommend residential land uses west of MD 121 and include development guidelines to help address environmental concerns and to assure a predominance of single-family detached units.**

  This Plan recommends that approximately 600 acres be designated RE-1/TDR with a base density of one unit per acre — the density recommended by the 1968 Clarksburg Master Plan but never implemented.

  Up to 900 dwelling units would be appropriate through the purchase of TDR's if the following environmental and housing mix guidelines can be achieved.

  - Development should achieve a minimum of 70 percent single-family detached units. The Montgomery County Office of Planning Implementation has documented the need for single-family detached lots to meet projected future market demand. Master Plan guidelines will help assure this type of development occurs in this area.

  - The open space and conservation areas along Ten Mile Creek's mainstem and tributaries shown on the Master Plan should remain undeveloped and should be afforested.

  - Dedication to M-NCPPC will be required for the open space and conservation areas along Ten Mile Creek's mainstem. At the time of subdivision, M-NCPPC will decide whether the open space along the tributaries will also be required for dedication to parkland or will become homeowners associations' common land.

  - There may be a need for future study of possible water reservoir sites and Ten Mile Creek is identified as a potential study site. Therefore, this development should be able to accommodate a possible future reservoir within the open space shown on the Master Plan.

- **Provide general guidance in terms of future potential uses of County-owned land (Site 30).**

  Montgomery County owns a 300-acre site known as Site 30.

  This Plan recommends the following land use pattern for this site:

  - The portion of the property fronting I-270 is recommended for office or R&D uses, not to exceed 400,000 square feet of floor area.

Septic Systems vs. Public Sewer Service

	Development Options – Assuming a Constant Development Area, not Constant Project Yield	
	Lower-Density Development (1 du/5 ac.) Using Wells and Septic Systems	Higher-Density Development (approx. 2 du/ac.) Using Public Water and Sewer Service
Disruption for Installation	Contained on site.	Off-site construction required (mains, pumping stations). Sewer main alignments constrained by need for gravity service. Water follows roads.
Installation Cost	Lower initial cost	Higher initial cost
Operational Cost	Lower operational cost, even with BAT systems electrical costs (~$225/yr.). Owners do not necessarily anticipate system replacement costs.	Owners responsible for only on-site maintenance. Quarterly billing.
Environmental Issues	New systems required to have BAT for improved Nitrogen removal. BAT systems require more owner maintenance. General septic maintenance up to individual homeowners. No programs for new owner education, system maintenance, etc.	Treatment occurs at regulated WWTP with requirements for Nitrogen removal. Ten Mile Cr. area will require WWPS for service. Potential for power failures.
Suitability	No guarantee that a particular site or the optimal area for development on a site will have suitable soils for septics. Can result project lot yields less than zoned density. This can lead developers to push for more developable area on the site in order to achieve an expected yield.	Development and lot locations generally not constrained by soil suitability.
Development Options (assuming a constant area)	Soil suitability and larger area needs for septic systems will result in larger lot size, although if the development area is constant, it can also mean less imperviousness.	Provides the ability to achieve clustered development. For the same amount of development area, can result in higher lot yield, but also higher imperviousness,

Pulte-King Site Soil Suitability for Septic Systems

Summary: The majority of the Pulte-King project site has soils that the USDA 1989 Soils Survey classifies as having severe constraints for septic system suitability. While this does not eliminate the possibility of septic system use in these areas, it points to the potential for constraints (largely shallow bedrock and moderately low permeability rates) that could affect suitable septic system location and design.

Major Soil Types (Excludes some soils directly along streams where development will not be allowed to occur.)

5B: Glenville Silt Loam. High water table (6" to 36"). Deep soils. Slow permeability. Potentially highly erodible land. Not prime farmland. Slow permeability.
Septic limitations: General classification is SEVERE. High water table and slow permeability. System design can overcome some limitations.
Building limitations: High water table is main limitation. Better-suited upland soils are better choice.

9B: Linganore-Hyattstown Channery Silt Loams. Depth to bedrock (10" – 50"). Moderate to moderately slow permeability. Farmland of statewide importance. Potentially highly erodible land.
Septic limitations: General classification is SEVERE. Depth to bedrock (10" – 50"). System design can overcome some limitations.
Building limitations: Depth to bedrock.

9C: Linganore-Hyattstown Channery Silt Loams. 8% to 15% slopes. Depth to bedrock (20" – 50"). Highly erodible land. Farmland of statewide importance. Moderate to moderately slow permeability.
Septic limitations: General classification is SEVERE. Depth to bedrock. System design can overcome some limitations.
Building limitations: Depth to bedrock and slope.

16B: Brinklow-Blocktown Channery Silt Loams. 3% to 8% slopes. Depth to bedrock (20" – 35"). Potentially highly erodible land. Farmland of statewide importance. Moderate to moderately slow permeability.
Septic limitations: General classification is SEVERE. Depth to bedrock. System design can overcome some limitations.
Building limitations: Depth to bedrock.

16C: Brinklow-Blocktown Channery Silt Loams. 8% to 15% slopes. Depth to bedrock (15" – 35"). Highly erodible land. Farmland of statewide importance. Moderate to moderately slow permeability. .
Septic limitations: General classification is SEVERE. Depth to bedrock. System design can overcome some limitations.
Building limitations: Depth to bedrock and slope.

16D: Brinklow-Blocktown Channery Silt Loams. 15% to 25% slopes. Depth to bedrock (15" – 40"). Moderate to moderately slow permeability. Highly erodible land. Not prime farmland.
Septic limitations: General classification is SEVERE. Depth to bedrock and slope. System design can overcome some limitations.
Building limitations: Depth to bedrock and slope.

17B: Occoquan Loam. 3% to 8% slopes. Depth to bedrock (40" – 60"). Moderate permeability. Potentially highly erodible land. All areas are prime farmland.
Septic limitations: General classification is MODERATE. Depth to bedrock. System design can overcome some limitations.
Building limitations: None.

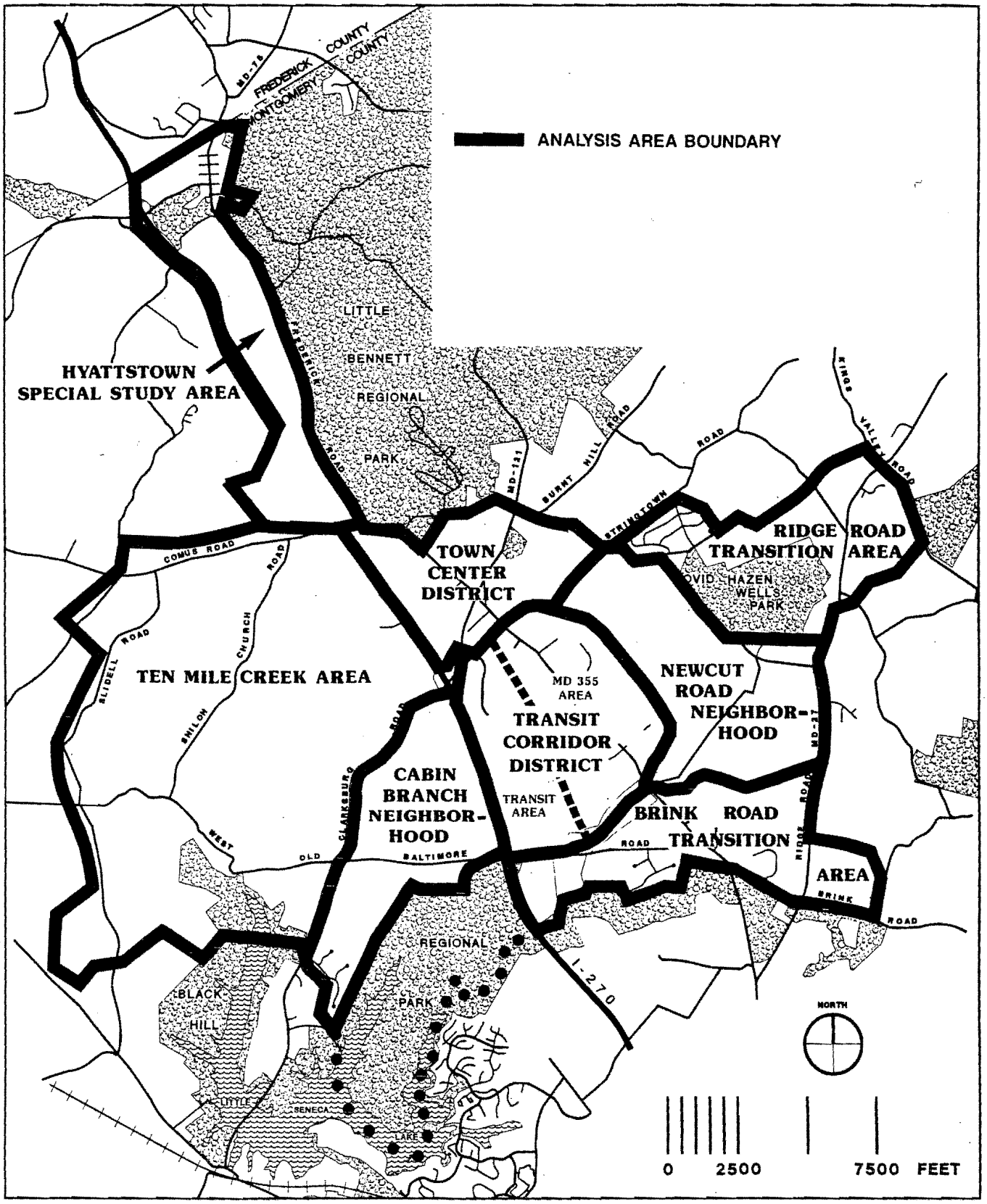
17C: Occoquan Loam. 8% to 15% slopes. Depth to bedrock (60"). Moderate permeability. Highly erodible land. Farmland of statewide importance.
Septic limitations: General classification is MODERATE. Depth to bedrock. System design can overcome some limitations.
Building limitations: Slope.

109D: Hyattstown Channery Silt Loam. 15% to 25% slopes. Depth to bedrock (10"-20"). Moderate permeability. Highly erodible land. Not prime farmland.
Septic limitations: General classification is SEVERE. Depth to bedrock and rock outcrops. Better-suited upland soils are better choice.
Building limitations: Depth to bedrock, rock outcrops, and slope.

109E: Hyattstown Channery Silt Loam. 25% to 45% slopes. Very rocky; depth to bedrock (10"-20"). Moderate permeability. Highly erodible land. Not prime farmland.
Septic limitations: General classification is SEVERE. Depth to bedrock and rock outcrops. Better-suited upland soils are better choice.
Building limitations: Depth to bedrock, rock outcrops, and slope. Better-suited upland soils are better choice.

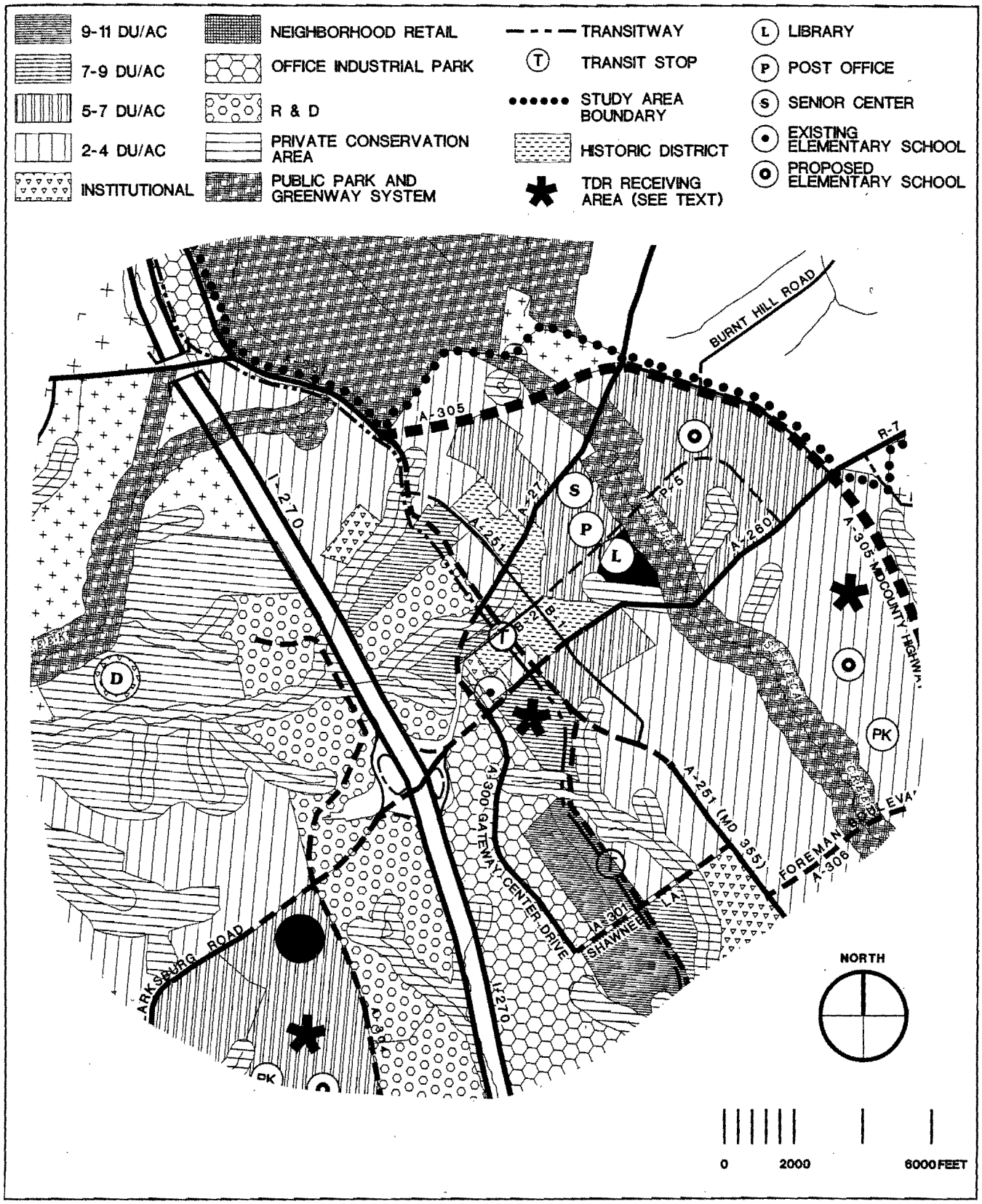
Analysis Areas

Figure 18



Town Center District Land Use Plan

Figure 19



Applying Environmental Buffers & Development Scenarios
(Prepared by Montgomery County Department of Environmental Protection)

Scenario 1

Scenario 1 applied the Environmental Guidelines and the Clarksburg Master Plan recommendations (M-NCPPC) to create the environmental buffer. A baseline buffer was applied to both streams (175 ft) and wetlands (25 ft). The 175 ft stream buffer was used per the recommendation on page 144 of the Clarksburg Master Plan. The 25 ft wetland buffer is the minimum buffer defined in the Environmental Guidelines.

The baseline buffer was extended when necessary to include steep slopes and erodible soils per the Environmental Guidelines (***Table 2***).

Table 2 - M-NCPPC Environmental Guidelines (Jan 2000). Summary of specific guidelines for use IV, first and second order streams used in this project.

Stream Buffers		
Feature	**Buffer Extended to**	**Notes**
Steep Slopes and Erodible Soils	Include entire steep slope (>25%) or entire extent of erodible soils	If either steep slopes (>25%) or erodible soils occurred within 200 ft of stream (i.e. "hydraulically connected"), buffer was extended to include entire extent of steep slope or erodible soil.
Wetlands (in SPA)		
Feature	**Buffer Extended to**	**Notes**
Steep Slopes and Erodible Soils	75 to 125 ft	If either steep slopes (>15% for SPA) or erodible soils occurred within 100 ft of the wetland, buffer was extended to include the entire extent of steep slope or erodible soil, up to the maximum of 125 ft.

Scenario 2

A 200 ft stream buffer was used instead of 175 ft and the buffer was extended to include all >15% slopes instead of just >25%, as well as all ephemeral streams.

Ephemeral stream locations were estimated using desktop analysis of the following information:

1. known location of intermittent streams,
2. LiDAR,
3. contours,
4. aerial photos, and
5. anecdotal observations from DEP scientists.

Scenario 3

The Scenario 2 buffer was expanded to include a limited forested area in addition to the forest interior. Priority protection was applied to forest that was contiguous and/or near hydrologic features.