

October 8, 2003

Derick P. Berlage  
Chairman, Montgomery County Planning Board  
8787 Georgia Ave  
Silver Spring, MD 20910-3760

**Re: The Estates at Greenbriar Preserve ("Estates")  
Site Plan # 8-03029**

Dear Mr. Berlage:

We are a group of Glen Road property owners concerned with the noted development. We hereby submit the following comments with regard to current site plan.

### **COMPATIBILITY OF PROPOSED SITE PLAN WITH EXISTING DEVELOPMENT**

#### **Intent of RNC**

**Compliance with intent of Rural Neighborhood Cluster zoning is not achieved.** The Montgomery County Zoning Ordinance (the "Code") states that the intent of the Rural Neighborhood Cluster zone is to "preserve open land, sensitive natural areas and rural community character that would be lost under conventional, large-lot development. This would be accomplished by requiring clusters of residential development in the form of small neighborhoods that provide neighborhood identity in an open space setting." No other development zone has this intent." (Emphasis added) (59-C-9.23.1)

To address this intent, the Code defines "rural open space" for the RNC "as land contiguous to the periphery of the residential portion of a rural neighborhood which is subject to an instrument assuring its preservation as permanent open space." (59-C-9.572(b)). The proposed site plan makes no provision for such a periphery; in the current plan the proposed residential lots directly abut existing property. **Therefore, the "rural open space" requirement of the RNC zone is not met here.**

**The legislative history supports our interpretation of this requirement for rural open space by consistently using this same definition for rural open space through all revisions, and by making reference to the "preservation measure" of "rural neighborhoods surrounded by significant rural open space." (Emphasis added) (March 12, 1998, Ralph D Wilson, Senior Legislative Analyst, on Zone Text Amendment 98001 (ZTA 98001))**

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And yet, the Code makes no provision to address a periphery of open space, and there are currently no specifications on how to determine the area (width) of the rural open space needed for such a periphery surrounding the clusters. We offer the following suggestions for bringing the proposed development's cluster zoning into compliance:

- **Calculate the width of a rural open space periphery** using the method provided in our subdivision testimony in April. This method addressed the practical considerations of sight, sound and light intensity. The following example is provided: For a generic ½-acre lot cluster next to existing RE-2 zone, the width is calculated to be 170 to 180 feet. As discussed in our earlier testimony, this calculation method expresses the intent of the Potomac Master Plan to use more "sophisticated analytical techniques." For the cluster defined by lot #4 to #10, plus Outlot A with a stream buffer in the center, a calculated width will be somewhat less than 170 feet. Further information on this calculation method is available in the Staff File at the Planning Board.
- **Eliminate Lots** Eliminate lots #4, 5, 6 and 7 and instead designate this area as common open space.

### Staff Exhibit

A Staff Exhibit presented at the sub-division hearing does not adequately address the matter either, nor is it in compliance with the RNC intent expressed in the Code. Subject exhibit is a copy of a preliminary plan with lines superimposed showing the distances from existing houses along Glen Road to the proposed new houses on lots #1 to #7. This exhibit was presented by Mr. Weaver, Subdivision Section, Development Review at the end of the development review hearing in April. The intent of staff in providing this exhibit was to show that a separation exists between the houses in each type of zoning. **The problems with this exhibit are:**

- **Distances are based not on "common open space" but on privately owned yard, wood and field space in the existing neighborhood.** The new RNC development does not own or have any easement to this space. More importantly, the Code specifically states that "No yard or other open space provided about any building for the purpose of complying with the provisions of this chapter shall be considered as a yard or open space for any other building; and no yard or other open space of a building on one lot shall be considered as a yard or open space for a building on any other lot." (59-A-5.3)

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Development Review staff has noted that separation between houses is a practical consideration in the development review process, however there are no written internal guidelines for how to determine such a separation. The method the staff used to determine "separation" here does not work, because it depends on existing yard space, when the Code specifically states that is not allowed. **Our calculations are in compliance with the code; the staff methods evidenced by this exhibit are not.**

## ENVIRONMENTAL EFFECTS OF THE PROPOSED SITE PLAN

### Stream Channel

Staff reports that intermittent flow for stream in Forest Stand 1A between Lots 4, 5, 6 and Lots 7,8,9,10 and Outlot A begins at elevation 328 feet (Field Investigation 11Mar2003). **We assert that the intermittent flow of this stream begins higher than the Staff Designation, for the following reasons:**

- A report by stream delineator and ecologist Jeff Wolinski finds the beginning of intermittent flow to be approximately 150 feet upstream of Staff report at elevation 336 feet. Bedrock and pea clams found at elevation 336 feet were briefly discussed. Other findings in the letter cover channel flora, aquatic larvae and connection to waters of U.S. (Letter from Jeff Wolinski, September 25, 2003, attached). At October 2 meeting with Staff, compliance with M-NCCPC Environmental Guidelines)
- Per September 25, 2003 letter from stream delineator Jeff Wolinski, the stream starting at elevation 336 feet meets and exceeds all of the characteristics for intermittent stream as specified in the M-NCPPC Montgomery County Environmental Guidelines for intermittent streams.
- Concept Plans used during Master Plan process identify the subject stream and shows a 100 wide stream valley buffer completely across the subject development area. Copies of these Concept Plan maps available.
- County Stream Map shows the stream through elevation 336 feet. This map is likely based just on topographic contours and is available. Map of just topographic contours showing contours similar to other streams in the area delineated with 100 foot Stream Valley Buffers is available

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- Observed duration of stream flow for many days after a rain event is essentially the same at the subject stream at elevation 336 and at the "Begin Intermittent Flow" locations for two other stream branches located near (north) of the subject area per the NRI for the development. A copy of an NRI map showing locations and pictures of locations was shared with Environmental Staff and are available.
- Drainage areas for elevation 336 and at the "Begin Intermittent Flow" for the two other locations are all approximately 5 to 7 acres. Maps showing drainage area delimitation have been shared with Environmental Staff and are available.
- There is evidence of stream channel filling to reduce channelization in middle section. Old junk in channel from approximately elevation 330 to 334. Pictures available.
- Observation of large changes in pool level at elevation 336 when the visible flow at elevation 328 stops. Pictures available.

Based on this definition of the stream beginning at elevation 336 feet, the current site plan must readdress the following:

- Drainage pipe inlet located at elevation 336 feet, the beginning of the intermittent stream
- Outlet of same pipe approximately 130 feet downstream
- Center of road crosses drainage pipe approximately 100 feet downstream from beginning of stream.
- Disturbance of approximately 40 feet of ephemeral streambed just upstream of the beginning of the intermittent stream. ("Protection of ephemeral drainageways is encouraged" M-NCPPC Montgomery County Environmental Guidelines.)

### Stream Buffers

The final Potomac Master Plan recommendations state "Stream buffers should be maximized (providing larger than minimum buffers wherever feasible) ..." The current plan proposes stream valley buffers of 100 feet for all streams **except for the stream discussed above, in which the suggested buffer ranges from 30 to 70 feet. The stream should be recognized and the buffers on it should be maximized to 100 feet.**

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As noted above, the current site plan does not designate such a periphery of rural open space. Instead, the proposed residential lots directly abut existing property. In order to comply with the Code, the site plan must designate a periphery of common open space.

### CONFORMANCE TO DEVELOPMENT STANDARDS

With regard to lighting we request:

- No street lights in development. The existing rural Glen Road neighborhood does not have streetlights.
- No lights dedicated to illuminating the outside of house surfaces.
- No final approval of site plan until landscaping and lighting plan is reviewed by the Glen Road Property Owners and citizens groups.

With regard to sidewalks we request:

- No sidewalks other than inside neighborhood clusters. The existing rural Glen Road neighborhood does not have sidewalks

With regard to berms and screening we request:

- Berms and scrub screen are needed for Lot # 3 (current plans only address lots #1 and #2). Item 4 of Board Opinion calls for #3 to be included in screening.
- Cross-section topographic views to judge effectiveness of berms and shrubs.
- A binding maintenance contract for repairing, periodic rotation planting of shrub screens.
- Adequate earthen berms on pipe line. Currently ones have insufficient height to block noise, light. Plant dwarf scrubs on a higher pipe line berm to help block view of cars and car lights.

With regard to lawn services we request:

- No lawn services operating power equipment before 8:00AM and after 5:00 PM weekdays and Saturdays. No lawn services operating power equipment on Sundays. Enforcement of same.

### ALTERNATIVE SITE PLAN

We offer the following additional suggestions in this regard:

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**Conservation Easement Next to Lots #4, #5 and #6**

- The limit of disturbance lines on the subject plan are the same as conservation easement boundary on the subject plan. A separation is needed to protect trees in the conservation easement.
- Houses are too close to the conservation easement. More distance is needed between the houses and the conservation easement to protect houses from damage due to "wind falls". Maturing trees at the edge of new clearings are much more susceptible to falling over during high winds.

**MASTER PLAN RECOMMENDATIONS AND GUIDELINES FOR THE SITE**

We have found the following conflicts between the current site plan and the intent of the Master Plan:

- The Potomac Master Plan recommends that "Stream buffers should be maximized through dedication or the use of private conservation easements." The NRI and subject site plan does not delineate the intermittent stream describe above and its associated stream valley buffer. The NRI and site plan should be revised to reflect the presence of an intermittent stream and the use of 100 stream valley buffers in these developments (both the Estates. and The Preserve...)
- The Master Plan recommends a maximum of 62 lots for these particular developments "based on compatibility and sewer feasibility." Based on compliance with Code Lots #4, 5, 6 and 7 are not compatible with the existing RE-2 zoning and should be either eliminated for relocated elsewhere.

**ADEQUACY OF OPEN SPACE, RECREATION  
AND CONSERVATION AREAS**

Section 59-C-9.572 of the Code defines "rural open space" in RNC zoning as "land contiguous to the periphery of the residential portion of a rural neighborhood which is subject to an instrument assuring its preservation as permanent open space."  
(Emphasis added)

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- For reasons of compatibility and the environment, eliminate Lots # 4, 5,6 and 7 or locate them elsewhere. .
- The Lots # 8, 9, 10 and Outlot A would be premier open space lots with essentially 400 to 700 feet of open space in both the front and back of the houses. Site plan sketch available.
- No other houses in either development have that kind of open space. Lots with more open space would have more value than the typical cluster lot

Thank you for your consideration of our comments. We do appreciate the efforts put forth by the staff, and their ongoing assistance with these matters.

Very truly yours,

**Laurana Reed**  
11641 Glen Road, Potomac

**Sprigg and Christina Lynn**  
11621 Glen Road, Potomac

**George and Barbra Johnson**  
11611 Glen Road, Potomac

**Steve Taylor and Angela Killian**  
11521 Glen Road, Potomac

cc: Wen Witthans  
M-NCPPC Development Review Division  
Dominic Quattrocchi, Environmental Planning  
Callum Murray, Community-based Planning  
Neal Fitzpatrick, Audubon Naturalists' Association  
Susanne Lee, West Montgomery Citizens Association

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TO: *Wynn  
Waters*

George and Barbra Johnson  
11611 Glen Rd.  
Potomac, Md. 20854

October 9, 2003

Mr. Derick P. Berlage, Chairman  
Montgomery County Planning Board  
8787 Georgia Avenue.  
Silver Spring, Md. 20910-3760

Re: Estates at Greenbriar Site Plan File #8-03029

Through late 2001 Montgomery County (and our family) hoped that the 4 pieces of property that are now labeled as the Estates at Greenbriar and Greenbriar Preserves would be purchased by the county. After much deliberation, Montgomery County did not buy this property but rezoned this property as "Cluster Development-RNC" for 62 houses.

Nonetheless, the intent and spirit of the master plan in incorporating the "Cluster-Development" concept, was to have this area of the Lower Serpentine blend into the existing property. "105 acres preserved and dedicated for open space....this is a super victory for the county" was a quote by one of the spokespersons for the property owners after the county voted in favor of the Cluster-Development.

Homes surrounding this Cluster-Development have been here for more than fifty years. In keeping with the intent of the Montgomery County Master Plan and allowing for Cluster-Housing Development, I as an adjoining property owner would like to make the following request so that the existing property and the newly zoned property will blend together and coexist into the future.

I would request that Lot 4, 5 and 6 of Preliminary Plan 1-030450-Estates at Greenbriar, be removed from the site plan PRIOR to the Planning Boards final approval.

I request this due to the following;

1) COMPATIBILITY-we are zoned RE2. We are on 3.5 acres of which over 1.5 acres are woods. We have numerous 80-100 foot hardwood trees on our lot. Proper "buffers" need to be provided to protect these trees and ensure their safety. We presently have a dog and rabbit that also enjoy this property. Our nine year old daughter is planning for her first horse on her 10<sup>th</sup> birthday that would be housed on our property. Our zoning allows for this type of rural living that we have come to enjoy.

Houses on Lots 4, 5 and 6 will see open space of a rural character (woods and fields) as they enjoy my acreage, but with these houses we will see a suburban high density



development. As submitted to you elsewhere (submitted on the behalf of Reed, Lynn, Johnson, Taylor, Killian,) we believe the location of these houses in the site plan do not comply with the zoning code. In short, the intent of the code is to "preserve" the "rural community character" for everybody, both new development and existing neighborhoods.

The woods behind our home allow us a serene and quiet setting. Historically, horse trails have run through these woods. We do not wish to see the lights from these planned homes, their cars lights or view the street lights which will probably be placed on the road. It will diminish the peace we have found here and that we hoped our daughter would grow up with. We truly have one of the last remaining pastoral settings in Potomac, Md.! Please do not take this from us.

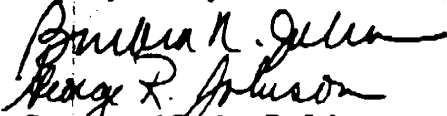
As I said in my prior testimony, our public schools in this area are overcrowded. Also, you know I had addressed the overcrowding of Glen Rd. and the additional burden these extra vehicles will place on this road.

2) STREAM-Jeff Wolinski, ecologist, had delineated a stream which starts at elevation 336 and runs northwest. This is a documented stream due to his findings especially those concerning the biota and the intermittent flow. Code dictates that streams must have a 100 foot buffer. Please review the lack of this 100 foot buffer on the map that you provided for me on October 7, 2003. The Planning Board's findings of April 10, 2003, Criteria #3, provided for a 35 foot Category I conservation easement along the rear of lots 4, 5, and 6. (Also, per our conversation of October 7, 2003, please include the correct 'Limit of Disturbance Line' behind the conservation easement to protect the easement. At our meeting you thought this was 15 feet.). When the stream buffer is proper applied, the homes on lots 4, 5 and 6 move into the 35 foot Category I conservation easement. This can not be allowed! Please provide for this stream buffer. Do not crowd these extra three home sites into this site plan.

Many positive goals of environmental concern, while also implanting proper zoning code and maintaining a true 'rural' nature, will be accomplished by eliminating lots 4, 5 and 6. The elimination of these three lots, of the total proposed 62 lots, will only enhance the "Open Space" the developers can offer to their potential home buyers.

Please, also ensure that based on the Planning Boards April 2003 preliminary site plan approval, that all of their 19 conditions be incorporated into the final site plan. Also see other comments submitted by Glen Road Property Owners and Citizens Group.

Thank you for your consideration,

  
George and Barbra R. Johnson

RECEIVED



GUTSCHICK, LITTLE & WEBER, P.A.

DEPARTMENT OF PERMITTING SERVICES

Douglas M. Duncan  
County Executive

Robert C. Hubbard  
Director

March 3, 2003

Mr. Brian Lewandowski  
Gutschick, Little & Weber, P.A.  
3909 National Drive, Suite 250  
Burtonsville, MD 20866

Re: Stormwater Management **CONCEPT** Request  
for The Estates at Greenbriar Preserve  
Preliminary Plan #: 1-03041  
SM File #: 206961  
Tract Size/Zone: 71 acres/RNC  
Total Concept Area: 71 acres  
Lots/Block:  
Parcel(s): 010,562,808  
Watershed: Watts Branch

Dear Mr. Lewandowski:

Based on a review by the Department of Permitting Services Review Staff, the stormwater management concept for the above mentioned site is **acceptable**. The stormwater management concept consists of on-site channel protection measures via 4 dry ponds; on-site water quality control via 4 surface sand filters; and onsite recharge via storage beneath the sand filters.

Please submit a revised stormwater management concept for water quantity and water quality control for review and approval, which incorporates the following items:

The following **items** will need to be addressed **during** the detailed sediment control/stormwater management plan stage:

1. Prior to permanent vegetative stabilization, all disturbed areas must be topsoiled per the latest Montgomery County Standards and Specifications for Topsoiling.
2. A detailed review of the stormwater management computations will occur at the time of detailed plan review.
3. An engineered sediment control plan must be submitted for this development.
4. The stormwater management facilities must be on their own parcel.

This list may not be all-inclusive and may change based on available information at the time.

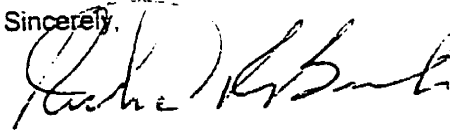
Payment of a stormwater management contribution in accordance with Section 2 of the Stormwater Management Regulation 4-90 is not required.



This letter must appear on the sediment control/stormwater management plan at its initial submittal. Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

If you have any questions regarding these actions, please feel free to contact Nadine Vurdelja Piontka at 240-777-6334.

Sincerely,



Richard R. Brush, Manager  
Water Resources Section  
Division of Land Development Services

RRB:enm CN 206961

cc: M. Shaneman  
S. Federline  
SM File # 206961

QN -onsite; Acres: 19.3  
QL - onsite; Acres: 19.3  
Recharge is provided



Field Investigation 11MAR2003  
Dom Quattrocchi and Katherine Nelson

Reassessment of drainage swale on Estates of Greenbrier (NRI/FSD 4-03075) Stand 1A 10.10 acres, not designation on approved NRI/FSD.

Determination: apply beginning point of intermittent stream and associated buffer at 328' contour, approximately 300' upslope of existing utility ROWs.

Intermittent stream has surface flow extending downslope 300', prior to converging with WSSC and Gas line ROW. Surface channel connection is lost across ROW due to previous tile draining and infiltration, although the ground is typically saturated in this area.

The drainage swale was determined to be intermittent based on the following observations:

- Flowing surface water, contained within a defined channel or bed, not in response to a direct precipitation event.
- Observed seep flow/ground water discharge contributing to channel (reach of a stream that is below the local water table for at least some part of the year and obtains its flow from both surface runoff and groundwater discharge).
- A pronounced drainage swale clearly indicated on M-NCPPC topographic mapping and M-NCPPC GIS hydro layer.
- Pockets of hydric soils within or adjacent to channel- sediments exhibiting some hydric soil characteristics, including evidence of oxidation/reduction reactions. Some areas of channel substrate is bedrock and hydric soil characteristics will not develop.
- Hydraulically sorted sediments within channel bed.
- Removal of vegetation litter within stream channel due to concentrated channelized surface flow.
- Evidence of an ordinary high water mark (OHM). 33CFR328.3 defines the OHM as "line established by the fluctuations of water and indicated by physical bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area."

#### Discussion

Evaluation of normal climatic conditions was considered given the unusually snowy and wet winter/early spring currently underway. Heavy snow melt had preceded up two week earlier, prior to the 11MAR2003 field visit. No recorded precipitation occurred within the last 3 days, save a dusting of snow, prior to commencement of field assessment. Temperature during field visit was approximately 34 degrees F. Typically, observed flow in a headwater area, where rain/ppt hasn't occurred in the previous 24-36 hours is a strong indication of intermittent flow and ground water influence.

This stream reach is not designated on official federal maps, including USGS 7.5 minute quadrangle and NRCS county soils mapping. The fact that a stream is not shown on one or all of these maps is not conclusive evidence that the channel is not an intermittent stream. Stream morphology in this area is somewhat anomalies and uncharacteristic of Piedmont streams due to the influence of shallow serpentinite bedrock and localizes fissures. Serpentine soils historically fail to meet percolation requirements for septic tank construction and generally have a significantly high stream/drainage area ratio.

After approximately 200-300 linear feet of drainage area (300' maximum), sheet flow usually transitions into shallow concentrated flow (ie: ephemeral systems). The beginning point of this stream is approximately 900 feet from top of the drainage divide. The surface drainage area for this stream is approximately 9.4 acres. Other confirmed intermittent streams adjacent to this swale in question have similar drainage area and similar underlying geology and soils.

As part of the Potomac Master Plan process, staff visited this channel in the spring and summer of 2000, confirming intermittent stream status.

A U.S. Army Corps of Engineers Jurisdictional Determination was conducted for this property, indicating no federal jurisdiction of this channel. M-NCPPC, as part of the approved NRI/FSD comments for this subject property, stated that wetland/hydrology extent may be reevaluated at later planning stage.

Staff concurs on designation of this area as an intermittent stream. By definition in the Maryland National Capital Park and Planning Commission Environmental Guidelines, an intermittent stream is *surface waters, contained within a defined channel or bed, that flow at least once per year. An intermittent stream, for purposes of these guidelines, includes one or more of the following characteristics: (1) defined or distinct channel; (2) hydric soils or wetlands within or adjacent to channel; (3) hydraulically sorted sediments; (4) removal of vegetation litter; or (5) loosely rotted vegetation by the action of moving water.*



Tributary in question, looking downslope towards ROW easements. Note channelization and flow. Snow on ground is from same morning snow dusting.



No evident channelization, 100 feet from the upper property boundary



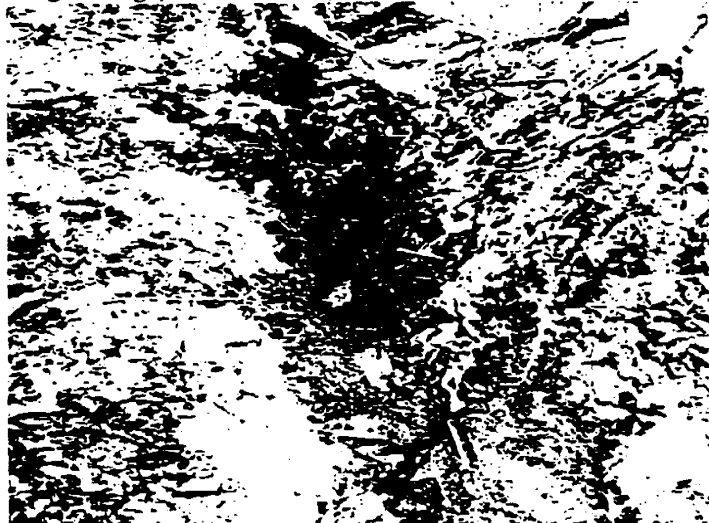
Evidence of tile drains where stream intersects ROW easements.



View upslope from same point as above.



Beginning point of seep/ intermittent flow.



Beginning point of seep/ intermittent flow.



Montgomery County typically enforces a non-disturbance stream buffer for all new development. This buffer applies to perennial and intermittent, but not ephemeral streams (though protection of ephemeral drainageways is encouraged). As land values rise and developable land and in-fill sites becomes more scarce, the delineation of streams is becoming more contentious, as developers often challenge the need for buffers and stream designations. Attached information should be helpful for providing justification for stream designation:

### **STREAM DEFINITION (Various Agencies)**

#### **M-NCPPC Montgomery County Environmental Guidelines**

**Ephemeral Stream-** a channel at the terminus of an intermittent stream that has flow only in direct response to precipitation

**Intermittent Stream-** surface waters, contained within a defined channel or bed, that flow at least once per year. An intermittent stream, for purposes of these guidelines, includes one or more of the following characteristics: (1) defined or distinct channel; (2) hydric soils or wetlands within or adjacent to channel; (3) hydraulically sorted sediments; (4) removal of vegetation litter; or (5) loosely rotted vegetation by the action of moving water.

**Perennial Stream-** a stream that has base flow all year. (under normal climatic conditions)

#### **STATE of MARYLAND STREAM DEFINITIONS December 19, 2001**

##### **Intermittent**

Water Pollution 26.08.01.01(42) "Intermittent stream" means a stream or reach of a stream consisting of a defined channel that is below the water table for at least some part of the year, and obtains at least some of its flow from ground water discharge.

Surface Coal Mining 26.20.01.02 (47) "Intermittent stream" means:

(A) A stream or reach of a stream that drains to a watershed of at least 1 square mile; or

(B) A stream or reach of a stream that is below the local water table for at least some part of the year, and obtains its flow from both surface runoff and groundwater discharge.

Nontidal Wetlands 26.23.01.01 (51) "Intermittent stream" means those areas that are surface waters, contained within a confined channel or bed, that flow at least once per year. A defined channel or bed is indicated by hydraulically sorted sediments, or the removal of vegetative litter, or loosely rooted vegetation by the action of moving water.

Forest Conservation .08.19.03.01.2.29 "Intermittent stream" means a stream in which surface water is absent during a part of the year as shown on the most recent 7.5 minute topographic quadrangle published by the United States Geological Survey as confirmed by field verification.

##### **Intermittent and Perennial**

Surface Coal mining 26.20.01.02 (56) "Natural drainway" means any watercourse or channel which carries water to the tributaries and rivers of the watershed. Streams classified as perennial or intermittent streams by the U.S. Geological Survey shall be considered natural drainways.

Water Management 26.17.06.02 (23) "Watercourse" means a stream of water of natural origin, flowing constantly or intermittently on the surface of the earth in a relatively definite



stream channel, including springs, lakes, or marshes in which a stream originates or through which it flows.

Chesapeake Bay Critical Area Commission 27.01.01.01B(72) "Tributary stream" means those perennial and intermittent streams in the Critical Area which are so noted on the most recent U.S. Geological Survey 7 -1/2 minute topographic quadrangle maps (scale 1:24,000) or on more detailed maps or studies at the discretion of the local jurisdictions.

### **Perennial**

Surface Coal Mining 26.20.01.01 (63) "Perennial stream" means a stream or part of a stream that flows continuously during all of the calendar year as a result of groundwater discharge or surface runoff.

Forest Conservation .08.19.03.01.2.44 "Perennial stream" means a stream containing surface water throughout and average rainfall year, as shown on the most recent 7.5 minute topographic quadrangle published by the United States Geological Survey, as confirmed by field verification.

Boating .08.04.01.07, 08.18.01.03B(2) "Channel" means the portion or portions of tidal waters which are either designated as a channel by navigational aids or which are the deeper part of a water body where the main current flows and which afford the best passage for vessels.

### **US ARMY CORPS OF ENGINEERS**

33CFR328.4 (c) (1) lateral limits of jurisdiction in nontidal waters as " the ordinary high water mark (OHM) provided the jurisdiction is not extended by the presence of wetlands.

33CFR328.3 defines the OHM as "that line on the shore established by the fluctuations of water and indicated by physical bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area."

### **USACE Letter No 95-01 17OCT94 Identification of Intermittent Versus Ephemeral Streams-Not Ditches**

4. Since ephemeral streams, by definition, are always above the water table and receive no groundwater contribution, they act as rain gutters, conveying water for brief periods of time during and immediately following precipitation events. Because water is present in ephemeral streams for such brief periods, an OHM does not develop within these channels. In contrast, intermittent streams not only flow in response to precipitation events, but also intercept the groundwater table, at least seasonally. Since water is present in these streams for longer periods of time, an OHM is more likely to develop within intermittent channels. Therefore, the presence of an OHM is one indicator that a channel is an intermittent stream and is within Federal regulatory jurisdiction.

5. The following criteria are suitable for identifying intermittent streams. The presence of at least one of these criteria is adequate to make an intermittent stream determination and establish Federal Regulatory jurisdiction. Although this information is for regulatory purposes only, an attempt has been made to base the criteria on current scientific knowledge.

- a. an ordinary high water mark
- b. Designation on official maps, such as USGS, SCS and county topographic maps. Clearly, the fact that a stream is not shown on one or all of these maps is not conclusive evidence that the channel is not an intermittent stream. However, if the channel is not designated on at least one of these maps, the presence of one of the other criteria will be needed to make an intermittent stream determination.
- c. Sediments which exhibit some hydric soil characteristics, such as evidence of oxidation/reduction reactions (e.g. redoxymorphic features). Obviously, if the channel

substrate is not sediment/soil (e.g. gravel, cobble, bedrock), hydric soil characteristics will not develop and the presence of one of the other criteria will be needed to make an intermittent stream determination.

- d. Evidence of aquatic life, such as insects, bivalves, crustaceans, etc. The types of aquatic life present may be dependent on the channel substrate (e.g. mayflies (Ephemeroptera) with bedrock, fingernail clams (Pisidium) with rubble, snails (Physa) with cobble-gravel, snails (Lymnea) with sand, crayfish (Procamarus) with mud, and oligochaete worms with organic materials. (species water quality dependent; presence may be seasonal and periodic).
- e. Data from monitoring wells to determine whether the stream receives at least seasonal contributions from groundwater.

## **SOIL CONSERVATION SERVICE Technical Release 55**

**Sheet flow.** Sheet flow is over a plane surface

**Shallow concentrated flow.** After a maximum of 300 feet, sheet flow usually transitions into shallow concentrated flow

**Open channel flow.** Open channels are assumed to begin where surveyed cross section information has been obtained, where channels are visible on aerial photographs, or where blue lines (indicating streams) appear on United States Geologic Survey sheets.

### **(FIELD CLUES and other GUIDANCE)**

- Groundwater influence/ baseflow key to intermittent designation
- If you see flow, and it hasn't rained in the last 24-36 hours: assume intermittent flow.
- 1961 issued Soil Survey with 57 aerial as the best mapping county mapping reference.
- hydric soils adjacent to channel indicating groundwater influence/saturation
- step pools usually not indicative of intermittent streams.
- A pronounced grade change along a drainage swale often indicates a seep spring/baseflow intersection point
- Agricultural Areas: beginning Point of woody vegetation/shrubby or treed area along a drainage swale is often indicative of past land management (ie. Area may problematic for farming/structures). Farmers are often great delineators of wetlands/hydrologic features.
- After approximately 200- 300 linear feet of drainage area (300maximum), sheet flow usually transitions into shallow concentrated flow (ie: ephemeral systems)
- 1cfs/square mile (640 acres) flow approximation for mid-Atlantic Region

### **miscellaneous**

**Ephemeral Stream-** a channel at the upslope terminus of an intermittent stream that has flow only in direct response to precipitation; ephemeral streams are always above the water table and receive no groundwater contribution.

**Intermittent Stream-** surface waters, contained within a defined channel or bed, that flow at least once per year. An intermittent stream, for purposes of these guidelines, includes one or more of the following characteristics: (1) defined or distinct channel; (2) hydric soils or wetlands within or adjacent to channel; (3) hydraulically sorted sediments; (4) removal of vegetation litter; or (5) loosely rotted vegetation by the action of moving water; stream or reach of a stream consisting of a defined channel that is below the water table for at least some part of the year; a stream that obtains its flow from both surface runoff and groundwater discharge; the presence of an OHM is one indicator that a channel is an intermittent stream.

**Perennial Stream-** a stream that has base flow all year. (under normal climatic conditions); a stream or part of a stream that flows continuously during all of the calendar year (throughout an average rainfall year) as a result of groundwater discharge and surface runoff.

## ESTATES AT GREENBRIAR PRESERVE Use, Ownership, Development & Maintenance

### RURAL OPEN SPACE

#### H.O.A. Owned: Open Space Parcels A, C, E & J

**Uses Allowed:**

Type I Forest Conservation Easements, Rural Open Space Conservation Easements, Storm Water Management Facilities, and or Outfalls, Sidewalks, Fences, Landscaping Signage, Entrance Feature, Underground Utilities, and Utility/SWM Easements.

**Initial Construction Responsibility:**

*Developer:* Proposed Storm Water Management Outfalls, Sidewalks, Fences, Landscaping, Signage, Entrance Feature, Initial Grading/Stabilization, and Underground Utilities.

*Public:* None

**Maintenance Responsibility:**

*H.O.A.:* Fencing, Landscaping, Signage, SWM facilities and sidewalk

*Public:* Underground utilities as appropriate

#### M-NCPPC Dedicated: Open Space Parcel I

**Uses Allowed:**

Type I Forest Conservation Easements, Rural Open Space Conservation Easements, and Underground Utilities

**Initial Construction Responsibility:**

*Developer:* None

*Public:* None

**Maintenance Responsibility:**

*H.O.A.:* none

*Public:* Open Space-To be determined by the M-NCPPC, Underground Utilities as appropriate

#### H.O.A. Owned SWM Parcels B, D, G & H

**Uses Allowed:**

Storm Water Management Facilities, Sidewalks, Fences, Landscaping, Access Driveways, Underground Utilities, and Utility/SWM Easements

**Initial Construction Responsibility:**

*Developer:* Roads, Sidewalks, Fences, Lighting, Landscaping, Signage, Initial Grading/Stabilization, Underground Utilities

*Public:* None

**Maintenance Responsibility:**

*H.O.A.:* Fencing, Landscaping, and SWM Facilities

*Public:* Sidewalk, Underground Utilities as appropriate

## COMMON OPEN SPACE

### H.O.A. Owned Parcels K & L

**Uses Allowed:**

Passive and Active Recreation, Roads, Sidewalks, Fences, Lighting, Landscaping, Signage, Underground Utilities, and Utility Easements

**Initial Construction Responsibility:**

**Developer:** Roads, Sidewalks, Fences, Lighting, Landscaping, Signage, Initial Grading/Stabilization, Underground Utilities

**Public:** None

**Maintenance Responsibility:**

**H.O.A.:** Open Space, Roads, Sidewalk, Fences, Lighting, Landscaping, Signage

**Public:** Underground Utilities as appropriate