



December 14, 2001

**MEMORANDUM**

TO: Montgomery County Planning Board

VIA: Jeff Zyontz, Chief  
County-wide Planning Division

Jorge A. Valladares, P.E. Chief  
Environmental Planning/County-wide Planning Division

FROM: Candy Bunnag for Department of Park and Planning  
(301) 495-4543

SUBJECT: Special Protection Area (SPA) Preliminary Water  
Quality Plan for Hunt-Miles Property (associated with Development  
Plan Amendment DPA 02-1)

**STAFF RECOMMENDATION**

Staff recommends approval of the Special Protection Area (SPA) preliminary water quality plan with the following conditions:

1. At site plan, submit a final water quality plan that demonstrates that the site imperviousness will be no more than 10 percent.
2. Western stormwater management facility and surrounding environmental buffer and open space to be dedicated as M-NCPPC parkland.
3. Provide funding to be used by M-NCPPC Department of Park and Planning to cover the costs of inspection and maintenance of the western stormwater management facility. Amount of funding and timing of payments to be reviewed and approved by M-NCPPC staff prior to approval of record plats.

4. Compliance with the conditions of approval for the preliminary forest conservation plan dated December 14, 2001. The final forest conservation plan must be approved prior to the recording of plat. The applicant must meet all conditions prior to recording of plat or MCDPS issuance of sediment and erosion control permit(s), as appropriate. Conditions include, but are not limited to, the following:
  - a. Reconfigure the western SWM facility so that there is no grading within the environmental buffer except for the SWM facility outfall pipe.
  - b. Category I conservation easements to be placed over environmental buffers and forest-save areas that lie outside park dedication areas. Easements to be shown on record plats.
5. Conformance to the conditions as stated in DPS' water quality plan approval letter dated December 14, 2001 (Attachment A).

## **DISCUSSION**

There are two items for Planning Board review for the Hunt-Miles Property: the Upper Paint Branch Special Protection Area (SPA) Preliminary Water Quality Plan and the development plan amendment application, which is the subject of the agenda item immediately following this item.

This memorandum contains staff's review and recommendations on the SPA preliminary water quality plan for the proposed project. A separate memorandum, prepared by Community-based Planning staff, covers the development plan amendment application.

**The Planning Board must act on the SPA preliminary water quality plan before it can act on the development plan amendment application.**

### **Site Description**

The 48.2-acre site (see Attachment B) lies within the Upper Paint Branch Special Protection Area (SPA). Paint Branch and its tributaries upstream of I-495 are Use III streams (natural trout waters)<sup>1</sup>. The Right Fork Tributary and two smaller tributaries traverse the western end of the site. The Fairland Farms tributary approximately defines the eastern boundary of the site.

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<sup>1</sup> Paint Branch supports a naturally –reproducing brown trout population. This stream system is a unique resource for Montgomery County because it is the only stream system in the county with a proven, consistent long-term self-sustaining trout population.

ATTACHMENT A.

## DEPARTMENT OF PERMITTING SERVICES

Douglas M. Duncan  
County Executive

December 14, 2001

Robert C. Hubbard  
Director

Mr. Steven L. Wilde  
Macris, Hendricks & Glascock, P.A.  
9220 Wightman Road, Suite 120  
Montgomery Village, Maryland 20886

Re: **Preliminary Water Quality Plan** for Hunt  
Property-Miles Tract  
Preliminary Plan #: 1-98094  
SM File #: 204466  
Tract Size/Zone: 48.2 Ac/PD-2  
Tax Plate: KR 343  
Liber/Folio: 2836/344 & 3815/138  
Montg. Co. Grid: 32B5  
Watershed: Upper Paint Branch

**SPECIAL PROTECTION AREA**

Dear Mr. Wilde:

Based on a review by the Department of Permitting Services Review Staff, the Preliminary Water Quality Plan for the above mentioned site is conditionally approved.

**Site Description:** The site consists of 48.2 acres located on the south side of Miles Road, west of Old Columbia Pike. The property is zoned PD-2, and the proposed development will consist of 44 single-family lots and the associated infrastructure. The property is located within the Upper Paint Branch Watershed, which is a designated Special Protection Area (SPA).

**Stormwater Management:** Water quantity control for the will be provided via two dry ponds (Ponds A and B). Pond A will provide control of the one-year storm (with a pre-developed release rate) and twelve hour extended detention. Due to downstream drainage concerns, Pond B will provide control of the one-year, ten-year and 100-year storms (with a pre-developed release rates) and twelve hour extended detention. Quality control will be provided via a treatment train that consists of vegetated roadway swales that convey the site runoff to a dual cell surface sand filter (if infiltration is not feasible) with plunge pools before outfalling to the dry pond. If infiltration proves to be feasible, the second cell of each system is to be an infiltration structure. The quality structures will be sized to treat a total of one-inch over the proposed impervious area.

**Sediment Control:** Redundant sediment controls are required. Sediment traps with forebays or upland sediment traps coupled with secondary sediment traps are to be used for redundant sediment control treatment. All sediment trapping structures are to be equipped with dewatering devices. The following features are to be incorporated into the detailed sediment control plan:

1. The earth dikes that feed the sediment traps are to be constructed using trapezoidal channels to reduce flow rates.
2. The site grading shall be phased to limit disturbance with immediate stabilization emphasized: A phasing sequence is to be submitted with the initial submittal of the sediment control plan.

ATTACHMENT A

(continued)

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3. Silt fence alone will not be allowed as a perimeter control. The use of super silt fence will be acceptable for small areas of disturbance.

**Performance Goals:** The performance goals that were established at the pre-application meeting are to be met as specified in the Preliminary Water Quality Plan and further refined in the Final Water Quality Plan. They are as follows:

1. Protect the streams and aquatic habitat.
2. Minimize storm flow run off increases.
3. Minimize increases to ambient water temperatures.
4. Minimize sediment loading.
5. Maintain stream base flows.
6. Protect springs, seeps and wetlands.
7. Minimize pollutant loading (nutrient and toxic substances).

**Monitoring:** The monitoring must be in accordance with the BMP monitoring protocols which have been established by the Department of Permitting Services (DPS) and Department of Environmental Protection (DEP). Prior to the start of any monitoring activity, a meeting is to be held on site with DEP, DPS and those responsible for conducting the monitoring to establish the monitoring parameters. The following is a list of pre-construction monitoring requirements. These monitoring requirements are based on the information currently available and may change based on information received during the preliminary/site plan approval process:

1. Water temperature will be monitored above and below the proposed pond outfall of Pond A. This monitoring is to occur from May through September of each year. Monitoring reports are to be submitted monthly.
2. A stream channel embeddedness station is to be established in the portion of the on-site stream below pond A.
3. A minimum of two groundwater monitoring wells are to be installed on the property.

Pre-construction monitoring is to begin one year prior to the start of construction and last for three years after construction is complete. **One year of pre-construction monitoring must be completed prior to the issuance of a sediment control permit.** The during construction and post construction monitoring requirements will be defined during the Final Water Quality Plan review process. The exact location of each of aforementioned requirements is to be determined during a joint field meeting that's to include DPS, DEP and the developers representative

**Conditions of Approval:** The following conditions must be addressed in the submission of the Final Water Quality Plan. This list may not be all inclusive and may change based on available information at the time of the review:

1. The stream channels on-site are to be walked to determine if channel restoration is necessary.

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2. Percolation tests must be performed to determine the feasibility of providing infiltration structures for water quality and ground water recharge.
3. At a minimum one foot of stone (dead storage) is to be provided below the outlet pipe of the surface sand filters to allow for groundwater recharge if infiltration is not feasible.
4. Provide safe conveyance of the runoff from the backs of the lots draining to Pond A. It appears that additional storm drain inlets will be needed.
5. All impervious areas not draining to the SWM structures will be compensated for in the quantity control pond.
6. Minimize the use of insecticides and fertilizers via a residential Integrated Pest Management Plan as part of the Homeowners Association (HOA) documents. A draft of this plan/document is to be submitted at the detailed sediment control plan stage, and the final document is to be submitted prior to bond release.
7. Provide a tree planting plan that allows for shading of the water quality structures, and the dry pond outfalls.
8. Dry wells or rain gardens are required for the backs of lots 18 through 22
9. Increase the flow length of the quantity cell in Pond B by adjusting the outfall and providing a diversion berm in the structure.

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 you have any questions regarding these actions, please feel free to contact Leo Galanko at (240) 777-6242.

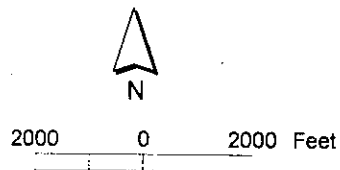
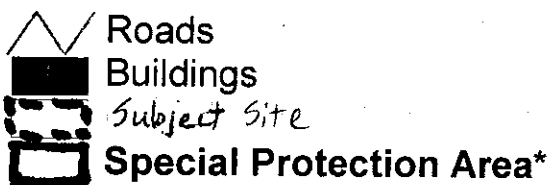
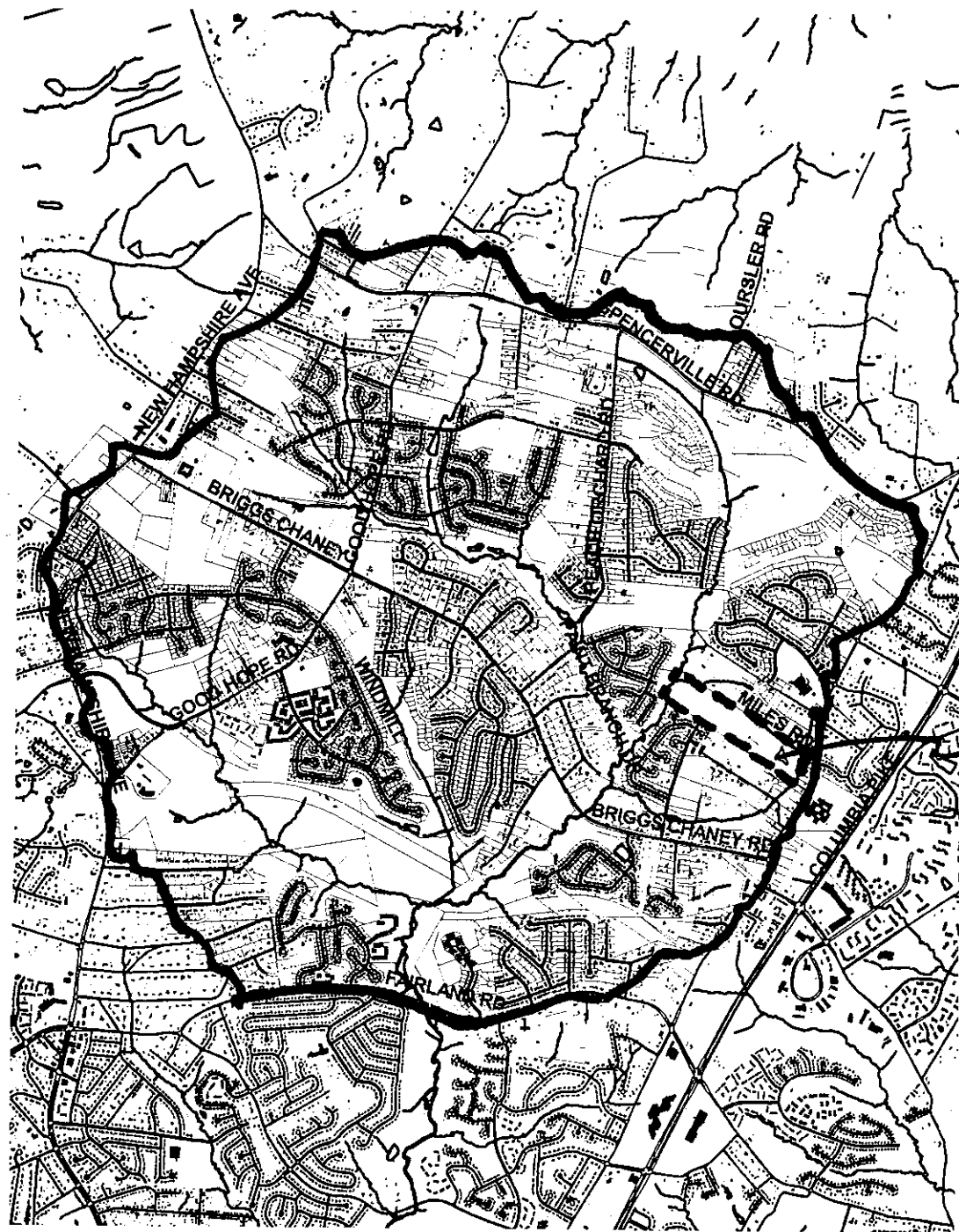
Sincerely,

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

RRB:enm:CN204466

cc: M. Shaneman  
S. Federline  
C. Bunnag  
L. Galanko  
SM File # 204466  
Qn on-site 48.2 acres  
QI on-site 48.2 acres

# PAINT BRANCH SPECIAL PROTECTION AREA



March 2001

\* For property on or near a SPA boundary, field-based topography may be needed to determine the boundary's precise location on the property.

Most of the site is in uplands with rolling topography, with some areas of 15 percent and greater slopes. A house, driveway, and some other building structures are currently located on the north central portion of the site.

Soils on the upland areas consist of Gaila silt loam, Glenelg silt loam, and some Chillum silt loam. These soils are common in the county and are generally well-drained. The eastern stream valley has steeper slopes and wetlands are generally very small along the stream channel. The western stream valley is broader with a 100-year floodplain and wetlands which extend roughly 150 to 250 feet from the Right Fork Tributary. There is also a small seep area near the northwestern portion of the site. Soils within the stream valley bottom are Hatboro silt loam and Baile silt loam, which are common floodplain soils in the county and are poorly drained.

About 30.2 acres of the site are covered in forest. The remainder of the site is in old fields. The entire eastern stream buffer is forested and most of the western stream buffer is forested. There are numerous dirt bike/recreation vehicle trails through the various forest stands.

The four forest stands that occur on the site are young, mixed deciduous stands with black cherry, tulip poplar, and red maple comprising the dominant trees. These dominant trees generally range in size from 6 to 12-inches diameter at breast height (dbh). Forest within the environmental buffer areas are generally older. Forest stand no. 4, which is located on the northern portion of the site, is dominated by Virginia pine and black cherry.

### **Review for Conformance to the Special Protection Area Requirements**

As part of the requirements of the Special Protection Area law, a preliminary water quality plan must be reviewed in conjunction with a development plan amendment application<sup>2</sup>. Under the provision of the law, the Montgomery County Department of Permitting Services (DPS) and the Planning Board have different responsibilities in the review of a water quality plan. DPS has reviewed and approved the elements of the preliminary water quality plan under its purview. The Planning Board responsibility is to determine if environmental buffer protection, SPA forest conservation and planting requirements, and site imperviousness limits have been satisfied.

**DPS has reviewed and conditionally approved the elements of the preliminary water quality plan under its purview (see Attachment A).**

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<sup>2</sup> Section 19-62 (b) of the Montgomery County Code states that "except as otherwise expressly provided in this Chapter, the requirements for a water quality inventory and a preliminary and final water quality plan apply in any area designated as a special protection area to a person proposing a land disturbing activity on privately owned property:...who is seeking approval of an amendment to an approved development plan, diagrammatic plan, schematic development plan, project plan, special exception, preliminary plan of subdivision, or site plan.

### **Site Performance Goals**

As part of the water quality plan, several site performance goals were established for the site: protect streams and aquatic habitat, minimize storm flow runoff increases, minimize increases to ambient stream water temperatures, minimize sediment loading, maintain stream baseflow, protect springs, seeps, and wetlands, minimize pollutant loadings.

### **Site Imperviousness**

The Upper Paint Branch SPA is the only SPA that has a ten percent (10%) site imperviousness limit on new development. The imperviousness limit is set forth in the environmental overlay zone for the Upper Paint Branch SPA. The water quality plan proposes a site imperviousness of 10 percent. This consists of 44 single-family detached houses (each with an average footprint of 2222 square feet) and driveways, roads, and sidewalks (see Attachment C). The applicant's proposal conforms to the environmental overlay zone.

### **Environmental Buffers**

Environmental buffers are located on the western and eastern ends of the site. The eastern environmental buffer and some adjacent upland area are proposed to be in HOA common open space as a forest preservation area (i.e., Category I conservation easement area). This is acceptable to staff.

The western environmental buffer area and some adjacent upland forest are proposed to be dedicated as M-NCPPC parkland. This is acceptable to staff.

The applicant proposes to locate a stormwater management (SWM) facility in such a way that there would be about 11,500 square feet (0.26 acre) of grading within the western environmental buffer. Most (about 9270 s.f.) of this proposed buffer encroachment is currently not forested and the forest loss (about 2230 s.f.) within the buffer is for a necessary outfall pipe for the SWM facility.

Although the forest loss within the environmental buffer resulting from the applicant's proposed location of the SWM facility and its outfall pipe is small, staff believes that the SWM facility should be reconfigured to avoid any grading within the buffer area except for the necessary outfall pipe. If the SWM facility is not relocated, there would be a portion of the buffer (over 9000 s.f.) that could not be planted in forest since part of the facility's dam embankment would be in the buffer and Montgomery County Department of Permitting Services does not allow trees on such embankments. By relocating the facility outside the buffer, forest





# ATTACHMENT C

## Development Plan Amendment

Fairland Farms Tributary

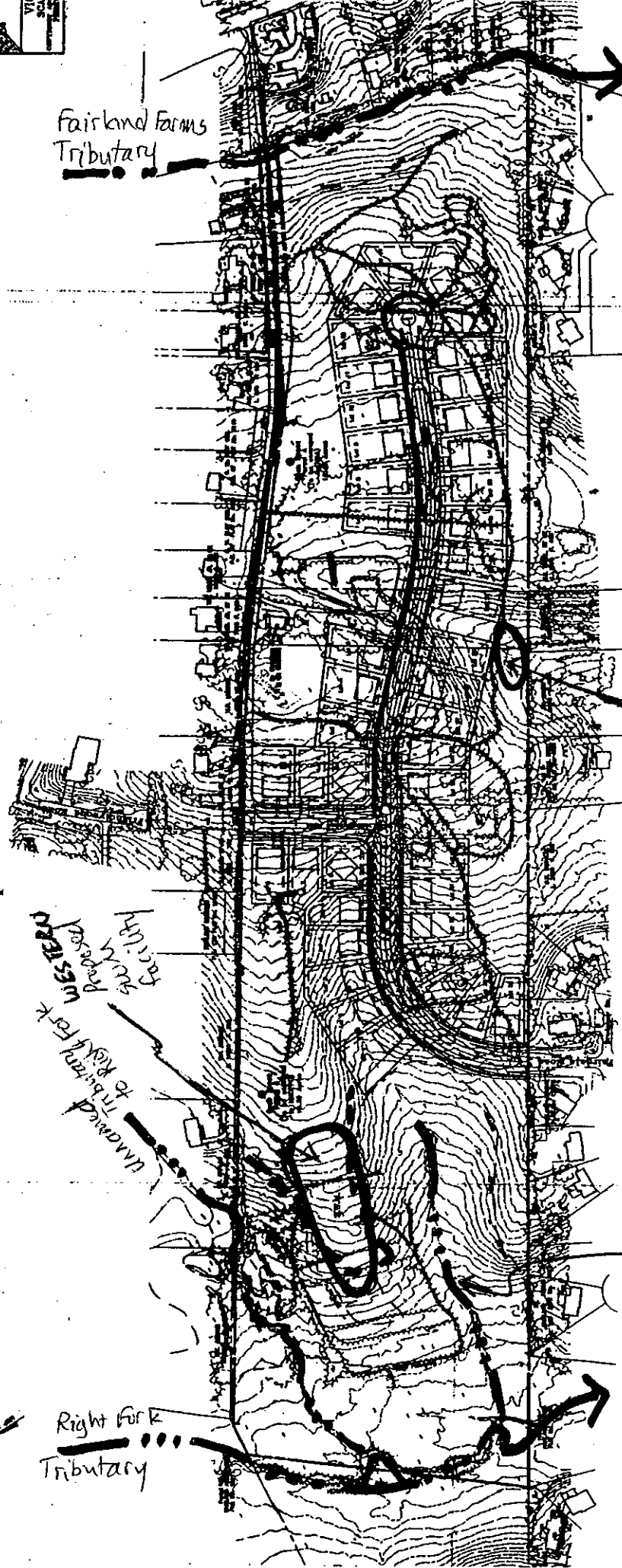
WEST Fork tributary

UNnamed Tributary Fork

Right Fork Tributary

Central Proposed SWIM facility

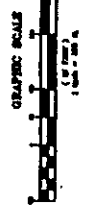
UNnamed Tributary to Right Fork



DEVELOPMENT PLAN AMENDMENT  
LAND USE PLAN

**HUNT PROPERTY - MII**  
MILES TRACT - L2838 F.344 &  
5TH ELECTION DISTRICT - MONTGOMERY CO

Macfarlan, Hendricks & Glascock,  
Engineers & Planners & Surveyors  
1000 N. 10th St., Suite 100  
Montgomery, AL 36102



Item	Description	Quantity	Unit	Total
1	Acres of land to be developed	100.00	Acres	100.00
2	Acres of land to be reserved	50.00	Acres	50.00
3	Acres of land to be sold	25.00	Acres	25.00
4	Acres of land to be leased	15.00	Acres	15.00
5	Acres of land to be donated	10.00	Acres	10.00
6	Acres of land to be purchased	5.00	Acres	5.00
7	Acres of land to be reserved for future development	10.00	Acres	10.00
8	Acres of land to be reserved for future development	10.00	Acres	10.00
9	Acres of land to be reserved for future development	10.00	Acres	10.00
10	Acres of land to be reserved for future development	10.00	Acres	10.00

could be planted or be allowed to naturally regenerate within the entirety of the buffer. The relocation would not affect the proposed layout of the subdivision nor the facility's effectiveness as a SWM control structure.

It should be noted that staff's recommendation to relocate the SWM facility completely outside the environmental buffer will result in forest clearing outside the environmental buffer of 13,780 s.f. (0.32 acre). The part of the forest that would be cleared is only along one edge of a young forest stand which is dominated by Virginia pine and black cherry. Staff believes the additional forest clearing outside the buffer is an acceptable loss, given that there is a long-term gain of creating forest cover for the entirety of the environmental buffer.

### **Forest Conservation**

About 10.98 acres of forest are proposed to be cleared. Forest conservation requirements are being met by the preservation of 19.26 acres. This is above the project's break-even point of 15.57 acres. Staff's recommendation to relocate the western SWM facility out of the environmental buffer (see discussion, above, under "Environmental Buffers") will result in about 0.32 acre of additional forest lost outside the buffer. This will result in 11.3 acres of total forest clearing and 18.94 acres of total forest preservation. The amount of forest preservation is still significantly above the break-even point. Therefore, no reforestation is required.

However, an area of currently unforested environmental buffer area is proposed to be planted in forest. This is consistent with the Planning Board's "Environmental Guidelines". The guidelines recommend that unforested environmental buffers on a development site in a SPA be planted in forest. The forest planting area that exceeds a project's forest conservation law requirements may be made available as offsite reforestation credits for other development projects.

The forest conservation plan, with staff's recommended change to the SWM facility location, conforms to the requirements of the Forest Conservation Law.

### **Stormwater Management Concept**

To help meet the project's performance goals, the stormwater management (SWM) concept includes the following features:

- There are two SWM quantity facilities that are proposed as dry, extended-detention ponds. The central facility is proposed to manage up to the 100-year storm event to correct existing drainage problems to downstream property owners.

- Stormwater management quality controls will be provided by roadside, vegetated swales and two sand filters ( or infiltration trenches) in series that drain to each SWM quantity facility.

### **Sediment Control**

DPS is requiring the use of redundant sediment control measures, such as sediment traps with forebays or sediment traps in series. Site grading will be phased to minimize the amount of disturbed area at any one time.

### **Monitoring of Best Management Practices**

The details of the monitoring program will be determined by DPS and DEP. The program will include pre-construction monitoring of stream water temperatures upstream and downstream of the western SWM facility outfall, measuring stream channel embeddedness, and groundwater level monitoring. Monitoring during and after construction will be determined during the final water quality plan review process.

### **Ownership of Stormwater Management Facilities (SWM)**

As cited in condition # 2, staff recommends that the proposed western SWM facility be dedicated to M-NCPPC. Staff's recommendation is consistent with the Planning Board action on previous subdivisions regarding ownership of SWM facilities in the Upper Paint Branch SPA where a proposed SWM facility is adjacent to either existing or dedicated parkland<sup>3</sup>

To ensure adequate funds to maintain these SWM facilities, staff recommends, as condition #3, that the applicant establish a fund for use by Parks staff to cover the costs of inspection and maintenance.

The intent of staff's two recommendations are to ensure that these facilities have a relatively high chance of being adequately maintained in the long-term. Proper maintenance of SWM facilities is critical if the high water quality conditions of this SPA stream system are to be preserved. For this proposal, staff believes the best opportunity for proper maintenance is through M-NCPPC ownership supplemented by a developer-created maintenance fund.

In 1995, an interagency work group was formed under the direction of the Planning Board as part of the master plan process for the Eastern Montgomery County planning areas. This workgroup was directed to formulate a strategy and specific recommendations to protect the high quality conditions of the Upper Paint Branch stream system. One recommendation from the work group was that new SWM facilities be publicly owned and maintained. The work group

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<sup>3</sup> These subdivisions include: Allnutt Property, preliminary plan 1-94096; Peach Orchard Property, 1-95050; Baldi Property, 1-98065; Hunt Lion's Den Property, 1-98095.

noted that historically, privately-owned SWM facilities in the county generally have been less intensively maintained than publicly-owned structures. In addition, the work group indicated that a publicly-owned facility affords a greater chance of being properly monitored and maintained than a privately-owned facility. Staff's recommendations (conditions # 2 and 3) are consistent with the work group's recommendations.

With respect to the proposed central SWM facility, staff believes that ideally, the facility should be owned and maintained by M-NCPPC because of the reasons stated above. However, the proposed facility will be surrounded by residential lots and parcels and will not be adjacent to parkland. Parks staff believe the location of this proposed SWM facility will make it difficult for Parks to maintain the facility. Therefore, Parks staff believes the facility should be owned by the Homeowners' Association.

It should be noted that recently adopted changes to the county's stormwater management law provides for some degree of county maintenance of residentially-owned SWM facilities. A SWM facility on residential property (including HOA property) that is constructed to approved county standards after March 2, 2002 will have its structural maintenance<sup>4</sup> done by the Montgomery County Department of Environmental Protection. However, maintenance activities such as landscaping, grass cutting, and trash removal must still be done by the property owner. Staff believes these changes to the SWM law will improve the chances of a HOA-owned SWM facility being properly maintained in the long-term. But staff believes the chances for proper inspection and maintenance of a privately-owned SWM facility is still not as high as a publicly-owned facility, where *all* aspects of a facility's inspection and maintenance needs (i.e., structural and non-structural needs) are administered by a public agency that has a major commitment to protecting a valuable natural resource.

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<sup>4</sup> Structural maintenance is the inspection, construction, reconstruction, modification, or repair of any part of stormwater management facility undertaken to assure that the facility remains in the proper working condition to serve its intended purpose and prevent structural failure. Structural maintenance does not include landscaping, grass cutting, or trash removal.