



Forest Conservation Plan and Preliminary/Final Water Quality Plan: Colesville Depot

JAP

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CM

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description

A. Final Forest Conservation Plan: Colesville Depot

14435 Cape May Road, Silver Spring, RE-2C zone, Cloverly Master Plan.

New salt barn. Renovations and addition to the administrative building

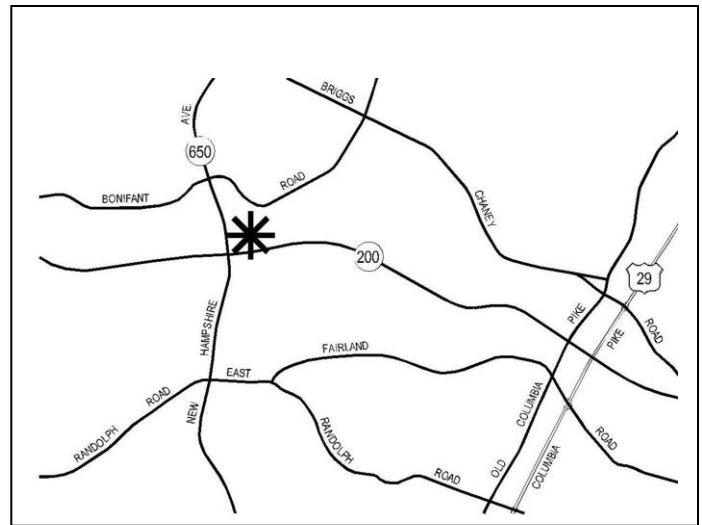
Staff Recommendation: Approval

B. Preliminary/Final Water Quality Plan: Colesville Depot in the Upper Paint Branch Special Protection Area

14435 Cape May Road, Silver Spring, RE-2C zone, Cloverly Master Plan.

New salt barn. Renovations and addition to the administrative building

Staff Recommendation: Approval with Conditions



summary

- Montgomery County Department of General Services plans to upgrade and renovate the Colesville maintenance Depot, including a new salt barn and renovations and addition to the administrative building.
- There are three items for Planning Board review for the Colesville Depot project: the Final Forest Conservation plan, the Preliminary/Final Water Quality Plan Upper Paint Branch Special Protection Area (SPA) and the Mandatory Referral. This memorandum covers Staff review and recommendations for Forest Conservation Plan and the SPA Preliminary/Final Water Quality Plan.

RECOMMENDATION

- **APPROVE the Final Forest Conservation Plan**
- **APPROVE with conditions the Preliminary/Final Water Quality Plan in the Upper Paint Branch Special Protection Area**
 - **Conformance to the conditions as stated in Montgomery County Department of Permitting Services (DPS) Preliminary/Final water quality plan approval letter dated November 18, 2011 (Attachment A).**

PROJECT DESCRIPTION

The 11.73 acre project site is located at 14435 Cape May Road and fronts on the southeast side of Cape May Road approximately 700 feet northeast of the intersection of Cape May Road and New Hampshire Avenue (MD Route 650). The site is adjacent to M-NCPPC Parkland on the northeast, east, and west sides. The ICC (MD-200) is adjoining to the south. The project site is located in the Cloverly Master Plan area. The site is in the Upper Paint Branch Special Protection Area (SPA). There are no existing streams, floodplains, wetlands, or environmental buffers on or affecting the site.

This project proposes an expanded Colesville Depot which is currently operated by the Montgomery County Department of Transportation for the purpose of providing road maintenance for the southeastern portion of the County. Major components of the project include: new outdoor storage canopy for maintenance vehicles, improved stormwater management, expansion of service bays, upgrade and relocation of offices, expansion of crew room, new bunk room, roof replacement, upgrade of existing restrooms, repainting of all interior walls, replacement of ceiling tiles, re-pointing of masonry, refinishing of exterior surfaces and windows, and upgrading mechanical, electrical, communications, and security systems.

The Planning Board's actions on the Preliminary/Final Water Quality Plan and Forest Conservation Plan are regulatory and binding. The Planning Board must act on the Preliminary/Final Water Quality and the Forest Conservation plan before it finalizes its recommendations on the Mandatory Referral.



Figure 1: 2010 Aerial Photograph of Project Site and Vicinity

SPA WATER QUALITY PLAN

This project is within the Upper Paint Branch SPA and on publicly owned property. It is required to obtain approval of a water quality plan under section 19-67 of the Montgomery County Code. This section of the code states:

(c) Publicly owned property. Before engaging in any land disturbing activity on publicly owned property in an area designated as a special protection area, the applying agency or department should prepare a combined preliminary and final water quality plan.

Review for Conformance to the Special Protection Area Requirements

As part of the requirements of the Special Protection Area law, an SPA Water Quality Plan should be reviewed in conjunction with a Mandatory Referral.¹ 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 conditionally approved the elements of the water quality plan under its purview. The Planning Board responsibility is to determine if environmental buffer protection, SPA forest conservation and planting requirements have been satisfied.

¹ Section 19-67 of the Montgomery County Code states that “before engaging in any land disturbing activity on publicly owned property in an area designated as a special protection area, the applying agency or department should prepare a combined preliminary and final water quality plan.”

County DPS Special Protection Area Review Elements

DPS has reviewed and conditionally approved the elements of the SPA Preliminary/Final Water Quality plan under its purview with a synopsis provided below (see Attachment A).

Site Performance Goals

As part of the preliminary/final water quality plan, the following performance goals were established for the site:

1. Maintain aquatic habitat below the site
2. Maintain stream base flow by maximizing groundwater recharge
3. Minimize storm flow run off increases
4. Minimize sediment loading
5. Control toxic substances on site
6. Minimize increase to ambient water temperature

Stormwater Management

Stormwater management for the site improvements will be provided by a combination of ESD and structural stormwater management practices. In the northeastern portion of the property, where the land use is more traditional office and parking, micro-bioretenion facilities will be installed to provide direct control for those areas of existing parking. The rooftops of the new covered parking and the new salt barn will be treated by a bioswale and micro-bioretenion areas. Overflow from these areas will be directed to the existing pond forebay for additional treatment. The roof of the existing office building and portions of the new remaining covered parking rooftop will drain through a hydrodynamic device and ultimately outlet to the existing pond forebay. The remainder of the project area is in locations where salt and other materials will be loaded and transported. The project must be careful about groundwater recharge. These areas will drain to a new surface sand filter which will drain directly to the existing detention pond. The sand filter will be sized to provide storage and treatment of a portion of the required treatment volume, and it will be designed in such a way that once this "first flush" storage capacity is reached, additional runoff will be directed to an adjacent Infiltration Trench in order to maximize groundwater recharge.

Sediment and Erosion Control

Redundant sediment controls are to be used throughout the site. This will be accomplished by installing a sediment trap immediately above the existing retention pond. The trap will outfall to the retention pond with additional, redundant sedimentation. Further redundancy will be provided via the use of a super silt fence in the drainage area above the sediment trap, in addition to the use of clean water diversion berms.

Monitoring of Best Management Practices

The monitoring requirements must be in accordance with the best management practice protocol which has been established by the Department of Permitting Services (DPS) and the Department of Environmental Protection (DEP). The monitoring requirements are described in the "Attachment to the Final Water Quality Plan" memorandum by DEP dated November 18, 2011.

Planning Board Special Protection Area Review Elements

Staff reviewed and recommends Planning Board approval of the elements of the SPA Water Quality Plan under its purview with conditions:

Environmental Guidelines

A Natural Resources Inventory/Forest Stand Delineation (NRI/FSD#420101460) was approved by staff on July 29, 2010. The site is located within the Upper Paint Branch Special Protection Area (SPA) and the Paint Branch Watershed, a Use Class III watershed. The Countywide Stream Protection Strategy (CSPS) rates streams in this watershed as fair. There are no streams, floodplains, wetlands, or environmental buffers on or affecting the site.

Imperviousness

A main goal for new development in all SPA's is to reduce the amount of impervious surfaces. The Upper Paint Branch Overlay Zone, which was created following approval of the Cloverly Master Plan and subsequently amended, specifies maximum imperviousness of 8 percent. The zone allows impervious surface that lawfully existed in July 2007 to continue or be reconstructed, even if the amount totals greater than 8 percent.

The project site currently has 5.58 acres (47.6 percent impervious surface area). The zone allows 5.26 acres (44.8 percent) impervious area. The proposed project proposes a post development condition of 5.12 acres, (43.65% impervious surface area). This would create a net decrease of approximately 0.46, (3.95% acres of imperviousness) from existing conditions and 0.14 acres (1.15 percent), less than previously permitted and existing prior to July 2007 levels.

Staff finds that the applicant has reduced imperviousness while accommodating the program requirements and meets the impervious requirements of the Upper Paint Branch Overlay Zone.

Forest Conservation

This project is subject to the Montgomery County Forest Conservation law (Chapter 22A of the County code) under section 22A-4(d) "*a government entity subject to mandatory referral on a tract of land 40,000 square feet or larger...*" The site is 11.73 acres in size and contains 0.66 acres of forest.

The forest conservation plan shows 0.11 acres of forest clearing and 0.55 acres forest retention generating a 1.26 acre planting requirement. The applicant wishes to meet the forest planting

requirements through 0.04 acres of landscape planting on-site and 1.22 acres of reforestation planting onsite.

No specimen trees are being impacted and therefore no variance is required.

The submitted forest conservation plan meets all applicable requirements of the Chapter 22A of the County code (Forest Conservation Law).

CONCLUSION

Staff recommends the Planning Board approve the Preliminary/Final Water Quality Plan and the Final Forest Conservation Plan.

ATTACHMENTS:

- A. Department of Permitting Services (DPS) Preliminary/Final letter dated November 18, 2011
- B. Forest Conservation Plan



DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
County Executive

November 18, 2011

Diane R. Schwartz Jones
Director

Mr. Jeff Ratnow
Whitman, Requardt & Associates
801 S. Caroline Street
Baltimore, Maryland 21231-3311

Re: **Preliminary/Final Water Quality Plan**
for the Colesville Maintenance Depot
SM File #: 239089
Tract Size/Zone: 11.735 Ac/RE-2C
Total WQP Area: 9.28 acres
Tax Plate: JR63
Parcel: N760
Watershed: Upper Paint Branch

SPECIAL PROTECTION AREA

Dear Mr. Ratnow:

Based on a review by the Department of Permitting Services, the Preliminary/Final Water Quality Plan (PFWQP) for the above mentioned site is conditionally approved. This approval is for the elements of the Final Water Quality Plan of which DPS has lead agency responsibility, and does not include limits on imperviousness or stream valley buffer encroachments.

Site Description: The site is located at 14335 Cape May Road. This proposal is for the upgrade and renovation of the property, including renovation of the existing administrative building, construction of a new salt barn, and addition of covered parking areas. This site is tributary to the Good Hope Tributary of the Upper Paint Branch. This watershed and has been designated as a Special Protection Area.

Stormwater Management: Stormwater management for the site improvements will be provided via a combination of ESD and structural stormwater management practices. In the northeastern portion of the property, where the land use is more traditional office and parking, Micro Bioretention facilities will be installed to provide direct control for those areas of existing parking. The rooftops of the new covered parking and the new salt barn will be treated by a Bioswale and Microbioretention areas. Overflow from these areas will be directed to the existing pond forebay for additional treatment. The roof of the existing office building and portions of the new remaining covered parking rooftop will drain through a hydrodynamic device and ultimately outlet to the existing pond forebay as well. The remainder of the project area is in locations where salt and other materials will be loaded and transported, and in these areas we wanted to be very careful about how groundwater recharge will be provided. Therefore these areas will drain to a new Surface Sand Filter which will underdrain directly to the existing detention pond. The Sand Filter will be sized to provide storage and treatment of a portion of the required treatment volume, and will be designed in such a way that once this "first flush" storage capacity is reached, additional runoff will be directed to an adjacent Infiltration Trench in order to maximize groundwater recharge.

The existing forebays, sand filter and retention pond on the site will remain in place and continue to function. Additional hydrodynamic pretreatment devices will be installed where practical.

In order to increase the treatment efficiency of the existing Sand Filter, current offsite drainage from across Cape May Road which enters the storm drain system above the subject property will be diverted away from the existing Sand Filter.

This offsite flow is currently treated via onsite stormwater management facilities that are part of the Hampshire Hamlet subdivision.

Sediment Control: Redundant sediment control structures are to be used throughout the site. This will be accomplished by installing a sediment trap immediately above the existing retention pond. The trap will outfall to the pond and the retention pond will perform additional, redundant sedimentation. Further redundancy will be provided via the use of Super Silt Fence higher up in the drainage area above the proposed sediment trap, in addition to the use of clean water diversion berms.

Performance Goals: The performance goals that were established at the pre-application meeting are to be met as specified in the Preliminary and Final Water Quality Plan. Refer to meeting minutes approved on July 28, 2011. They are as follows:

1. Maintain Aquatic Habitat below the project site. Monitoring of the runoff from the property will be required to measure the effectiveness of the stormwater treatment approaches.
2. Maintain Stream Base Flow by maximizing groundwater recharge.
3. Minimize Storm Flow Runoff Increases by maximizing the use of ESD practices and groundwater recharge.
4. Control Toxic Substances, i.e. salt. Provision of the new salt barn will provide a location for covered loading and unloading of truck.
5. Minimize increase to ambient water temperatures. Use of ESD and Infiltration techniques as much as practical should help achieve this goal.

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), and as described in DEP's BMP Monitoring Requirements Attachment dated November 17, 2011.

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. **One year of pre-construction monitoring must be completed prior to the issuance of a sediment control permit.**

Conditions of Approval: The following conditions must be addressed in the initial submission of the detailed sediment control/stormwater management plan. This list may not be all inclusive and may change based on available information at the time of the subsequent plan reviews:

1. Unless precluded by the presence of groundwater, two feet of stone (dead storage) is to be provided below the underdrain pipe of all of the proposed surface sand filters to provide additional groundwater recharge.
2. Prior to permanent vegetative stabilization, all disturbed areas must be topsoiled per the latest Montgomery County Standards and Specifications for Topsoiling.

3. A detailed review of the stormwater management computations will occur at the time of detailed plan review.

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 Water Quality Plan requirements.

If you have any questions regarding these actions, please feel free to contact Mark Etheridge at (240) 777-6338.

Sincerely,



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

RRB:ta:CN218749

cc: J. Penn (MNCPPC)
B. Green (MCDEP)
SM File # 239089

**Attachment to the Preliminary/Final Water Quality Plan for the Colesville Depot
Description of BMP Monitoring Requirements**

SM # 239089

Date: November 18, 2011

The purpose of this attachment is to specify the monitoring requirements and procedures for the redevelopment of the Colesville Depot. Some supplemental QA/QC, data analysis, reporting, submission and record keeping tasks will be explained.

This BMP monitoring, analysis and reporting is being done to address whether the SPA performance goals are met. Monitoring efforts and reports must employ scientific approaches in an attempt to determine effectiveness of BMPs and Environmental Site Design (ESD) at mitigating impacts associated with land development.

All monitoring locations will be determined in conjunction with DPS and DEP. Prior to initiation of monitoring, consultants must contact DEP and DPS to review monitoring locations, procedures, and requirements. Monitoring is to be done according to DEP BMP Monitoring Protocols and/or methods and protocols approved by DEP. DEP BMP Monitoring protocols are available at the DEP website: <http://www.montgomerycountymd.gov/content/dep/downloads/bmpprotocols.pdf>

Consistent methods are to be used so results can be compared with other SPA BMP monitoring projects. Thorough and careful analysis of data is required. Methods and assumptions should be detailed. Annual reports must adhere to the format and contain all required components in the order detailed in the SPA BMP Monitoring Report Checklist, also available online: <http://www.montgomerycountymd.gov/content/dep/downloads/bmpchecklist.pdf>

Monitoring Requirements

1. Three groundwater monitoring wells with continuous level loggers are to be maintained for the pre-construction period, throughout construction, and for five years post construction for the entire redevelopment project. Well installation logs are to be submitted within one week of installation to DEP. Each groundwater well is to be surveyed to determine exact elevation. Groundwater levels are to be reported as actual elevations (surface elevation-depth to water). Groundwater elevations will be collected continuously using level loggers in 15 minute intervals. Loggers will be downloaded quarterly. Data should be analyzed to determine the effectiveness of site design and stormwater management in maintaining groundwater levels. Baseline data from the pre-construction period should be compared to future results to include the effect of site design and BMPs on stormwater infiltration. Graphs should be provided to support conclusions. Data on local rainfall should also be considered in the analysis. Well permit numbers as issued by MDE must accompany reports.
2. Groundwater chemistry sampling is required quarterly at all the groundwater wells for pre-construction, construction and five years post-construction for the entire redevelopment project. Parameters, relevant methods, required detection limits are included in Table 1. Lab proposals should be submitted

to DEP for review.

This component of the monitoring is required to evaluate how groundwater nutrient and metal levels are affected by re-development and infiltration efforts on the site. Results will be compared among wells and also over time to evaluate how groundwater nutrient levels are impacted by development.

Table 1. Required Pollutant Parameters, Lab Methods and Detection Limits

Parameter	Method	MDL	RDL	Maximum Holding Times
Nitrate + Nitrite	L10-107-04-1-A	0.011 mg/L	0.2mg/L	48 hrs
Total Kjeldahl Nitrogen (TKN)	L10-107-06-2-D	0.05 mg/L	0.1mg/L	28 days
Orthophosphorus	EPA 365.3	0.01 mg/L		48 hrs
Total Phosphorus	L10-115-01-1E	0.064mg/L	0.2mg/L	28 days
Total Cadmium	EPA 200.8 Rev 5, 200.9	0.1 to 1.0 µg/L	2 to 5 µg/L	6 months
Total Copper	EPA 220.8 Rev 5.4	0.5 to 8 µg/L	2 to 5 µg/L	6 months
Total Lead	EPA 200.8 Rev 5.4, 200.9	0.1 to 3 µg/L	2 to 5 µg/L	6 months
Total Zinc	EPA 200.8 Rev 5.4, 200.9	0.6 to 16 µg/L	2 to 10 µg/L	6months
Chloride	EPA 330.4, SM4500Cl G	0.1mg/L	N/A	28 days

3. Local rain data must be used in the analysis for the BMP monitoring of the Colesville Depot. A rain gage will be installed and maintained on the property by DEP. Data will be supplied upon request. Storms are to have one half inch (0.5”) or more of rainfall in a 24 hour period to qualify for this requirement. Each storm sampled must be characterized for duration and total rainfall and antecedent dry time. The storm frequency (return interval) should be reported using the National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Data Server (http://dipper.nws.noaa.gov/hdsc/pfds/orb/md_pfds.html). Enter the coordinates of the project to obtain the return interval. Results are to be examined to determine the deficiency of the structure and percent removal of suspended sediments. Comparison over time and in conjunction with structure condition and maintenance activities is to be made while providing graphs to support conclusions.
4. The pollutant removal efficiency will be determined for the newest sandfilter and one micro bio-retention area. Pollutants to be analyzed are listed in table 1. The collection of automated flow-weighted storm composite samples at all inflow and outflow points will be required. Qualifying storm events will be at least one half inch

of rainfall in 24 hours. Samples are to be collected quarterly for one storm per quarter year. Analysis will include the evaluation of the site design and pollutant removal efficiency over time. The drainage area, percent imperviousness and any water quality pre-treatment approaches are to be considered in the analysis.

Reporting Requirements

1. BMP monitoring reports must include a table with dates of all major construction activities which take place on the site. For example groundbreaking, clearing, grading, BMP construction & conversion, pond maintenance, etc. Information should refer to specific structures, drainage areas, and portions of the site. Throughout this attachment completion of construction is defined as the conversion of the sediment and erosion control structures and approval of the as built submittals.
2. Results should be examined to determine the efficiency of the structure and percent removal of sediment or pollutants. Data is to be compared to past periods and published results for similar structures. Graphs are needed to support conclusions.
3. Progress reports are to be submitted at the end of each quarter and will follow the format at:
<http://www.montgomerycountymd.gov/content/dep/downloads/ProgressReportTemplate.doc>
4. A report on pre-construction conditions must be deemed acceptable by DPS and DEP prior to the issuance of a sediment control permit. For subsequent periods a draft annual report on BMP monitoring is due to DEP by **October 31st** of each monitoring year.
5. All reports are to follow the report outline/format checklist at:
<http://www.montgomerycountymd.gov/content/dep/downloads/bmpchecklist.pdf>
6. BMP monitoring reports are to be delivered with data in an electronic format (excel spreadsheet) to William Green at Montgomery County DEP and also to Mark Etheridge at Montgomery County DPS.

All information submitted to DEP will be public information that DEP may freely copy and distribute. Questions on the monitoring requirements and procedures may be directed to the following personnel:

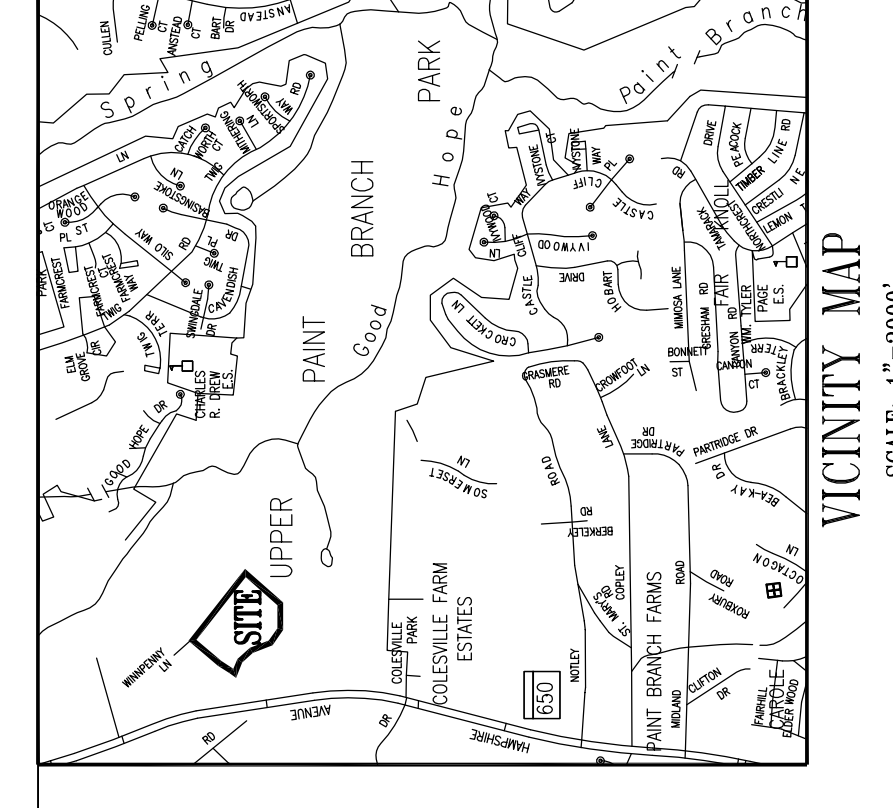
William Green (DEP)
240-777-7745
william.green@montgomerycountymd.gov
mark.etheridge@montgomerycountymd.gov

Mark Etheridge (DPS)
240-777-6338

Table with 2 columns: No., Description. Includes items like 'NO STREAMS ARE LOCATED WITHIN THE STUDY AREA...', 'NO SPECIMEN TREES OR SIGNIFICANT TREES WILL BE REMOVED...', 'NO SPECIAL PROTECTION AREAS (SPA) BUFFERS ARE LOCATED WITHIN THE STUDY AREA...', etc.

REVISIONS
OWNER
CONSULTANT
DATE

CIVIL ENGINEER
NATHANIEL H. MOUNTAIN, P.E.
ASSOCIATES, L.L.P.
801 SOUTH CAROLINE STREET
FLOOR 10
101 MONROE STREET
FLOOR 11TH FLOOR
TOWSON, MD 21286
410-288-2860 | FAX 410-288-9718
202-773-4128 | FAX 202-773-0023



SITE SUMMARY
1. SITE IS LOCATED OUTSIDE OF THE FEMA 100-YEAR FLOODPLAIN.
2. NO STREAMS ARE LOCATED WITHIN THE STUDY AREA. A THREE CHAMBERED STORMWATER MANAGEMENT POND WAS IDENTIFIED ON SITE BUT IS NOT JURISDICTIONAL.
3. NO SPECIMEN TREES OR SIGNIFICANT TREES WILL BE REMOVED AS PART OF THIS PROJECT.
4. NO SPECIAL PROTECTION AREAS (SPA) BUFFERS ARE LOCATED WITHIN THE STUDY AREA.
5. ALL CRITICAL ROOT ZONES ARE IDENTIFIED WITHIN 30 FEET OF THE LOD FOR ALL TREES OVER 6" DBH (PER TREE MAP).
6. SINCE THIS PROJECT IS WITHIN THE UPPER PAINT BRANCH SPA, A FIVE (5) YEAR MAINTENANCE AGREEMENT IS REQUIRED.
7. CATEGORY 1 EASEMENTS WILL BE PLACED ON ALL RETAINED AND PLANTED FOREST AREAS.

FOREST STAND CHARACTERIZATION NARRATIVE
A FIELD INSPECTION OF THE STUDY AREA WAS CONDUCTED ON JANUARY 21, 2010 BY LAURA CALLENS, A WR&A ENVIRONMENTAL SCIENTIST AND DNR QUALIFIED PROFESSIONAL. TWO SIMILAR FOREST STANDS WERE IDENTIFIED WITHIN THE STUDY AREA. L.O.D.
FOREST STAND 1 IS DOMINATED BY TULIP POPLARS, AND CONTAINS RED MAPLES AND VIRGINIA PINES. THE FOREST STRUCTURE INCLUDES A DENSE CANOPY WITH A HEALTHY UNDERSTORY AND A SPARSE HERBACEOUS LAYER. UNDERSTORY SPECIES INCLUDE AMERICAN HOLLY, AND UNDERSTORY/HERBACEOUS SPECIES INCLUDE GREENBRIER, GRAPEVINE AND JAPANESE HONEYSUCKLE. THE STAND IS IN EARLY/MID SUCCESSIONAL STAGE. THE PORTIONS OF THIS STAND ON THE SUBJECT PROPERTY TOTAL 0.39 ACRES AND ARE PRIORITY 2 AREAS FOR RETENTION.
FOREST STAND 2 IS DOMINATED BY VIRGINIA PINES, AND CONTAINS TULIP POPLARS AND RED MAPLES. THE FOREST STRUCTURE AND SPECIES COMPOSITION OF THE UNDERSTORY AND HERBACEOUS LAYER ARE SIMILAR TO THAT OF FOREST STAND 1. THIS STAND IS ALSO IN THE EARLY/MID SUCCESSIONAL STAGE. THE PORTIONS OF THIS STAND ON THE SUBJECT PROPERTY TOTAL 0.39 ACRES AND ARE PRIORITY 2 AREAS FOR RETENTION.

UPPER PAINT BRANCH PARK & SPECIAL PROTECTION AREA
AFFORESTATION/REFORESTATION AREA 2 ONSITE 37,244.12 SQUARE FEET 0.86 ACRES
FOREST RETENTION OFFSITE AREA 4 1,565.40 SQUARE FEET 0.04 ACRES
FOREST RETENTION AREA 5 4,216.14 SQUARE FEET 0.10 ACRES
FOREST RETENTION OFFSITE AREA 3 5,197.74 SQUARE FEET 0.11 ACRES
AFFORESTATION/REFORESTATION AREA 1 ONSITE 492.69 SQUARE FEET 0.52 ACRES
FOREST RETENTION OFFSITE AREA 1 1,080.89 SQUARE FEET 0.02 ACRES
AFFORESTATION/REFORESTATION AREA 2 2,279.30 SQUARE FEET 0.05 ACRES
FOREST RETENTION OFFSITE AREA 2 340.73 SQUARE FEET 0.01 ACRES
AFFORESTATION/REFORESTATION AREA 3 4,636.13 SQUARE FEET 0.11 ACRES
FOREST RETENTION OFFSITE AREA 3 519.74 SQUARE FEET 0.01 ACRES
AFFORESTATION/REFORESTATION AREA 4 5,451.41 SQUARE FEET 0.13 ACRES
FOREST RETENTION OFFSITE AREA 4 519.74 SQUARE FEET 0.01 ACRES

SEQUENCE OF EVENTS FOR PROPERTY OWNERS REQUIRED TO COMPLY WITH FOREST CONSERVATION AND/OR TREE-SAVE PLANS
PRE-CONSTRUCTION
1. AN ON-SITE PRE-CONSTRUCTION MEETING IS REQUIRED AFTER THE LIMITS OF DISTURBANCE HAVE BEEN STAKED AND FLAGGED, BUT BEFORE ANY CLEARING OR GRADING BEGINS. THE PROPERTY OWNER SHOULD CONTACT THE MONTGOMERY COUNTY PLANNING DEPARTMENT INSPECTOR STAFF BEFORE ANY CLEARING TO VERIFY THE LIMITS OF DISTURBANCE AND DISCUSS TREE PROTECTION AND TREE CARE MEASURES. THE DEVELOPER'S REPRESENTATIVE OR CONSTRUCTION SUPERINTENDENT SHALL BE A CERTIFIED ARBORIST OR MARYLAND-LICENSED TREE EXPERT THAT WILL IMPLEMENT THE TREE PROTECTION MEASURES. FOREST CONSERVATION INSPECTOR, AND DEPARTMENT OF PERMITTING SERVICES (DPS) SEDIMENT CONTROL INSPECTOR SHOULD ATTEND A PRE-CONSTRUCTION MEETING.
2. NO CLEARING OR GRADING SHALL BEGIN BEFORE STRESS-REDUCTION MEASURES HAVE BEEN IMPLEMENTED. APPROPRIATE MEASURES MAY INCLUDE, BUT ARE NOT LIMITED TO:
A. ROOT PRUNING
B. CROWN REDUCTION OR PRUNING
C. WATERING
D. FERTILIZING
E. VERTICAL MULCHING
F. ROOT AERATION MATTING

MEASURES NOT SPECIFIED ON THE FOREST CONSERVATION PLAN MAY BE REQUIRED AS DETERMINED BY THE FOREST CONSERVATION INSPECTOR IN COORDINATION WITH THE ARBORIST.
3. A MARYLAND-LICENSED TREE EXPERT OR AN INTERNATIONAL SOCIETY OF ARBORICULTURE-CERTIFIED ARBORIST MUST PERFORM ALL STRESS REDUCTION MEASURES. DOCUMENTATION OF STRESS REDUCTION MEASURES MUST BE EITHER OBSERVED BY THE FOREST CONSERVATION INSPECTOR OR SENT TO THE INSPECTOR AT 8787 GEORGIA AVENUE, SILVER SPRING, MD 20910. THE FOREST CONSERVATION INSPECTOR WILL DETERMINE THE EXACT METHOD TO CONVEY THE STRESS REDUCTION MEASURES DURING THE PRE-CONSTRUCTION MEETING.
4. TEMPORARY TREE PROTECTION DEVICES SHALL BE INSTALLED PER THE FOREST CONSERVATION PLAN/TREE SAVE PLAN AND SHALL BE MAINTAINED AND MONITORED THROUGHOUT THE CONSTRUCTION PERIOD. THE FOREST CONSERVATION INSPECTOR, IN COORDINATION WITH THE DPS SEDIMENT CONTROL INSPECTOR, MAY MAKE FIELD ADJUSTMENTS TO INCREASE THE SURVIVABILITY OF TREES AND FOREST SHOWN AS SAVED ON THE APPROVED PLAN. TEMPORARY TREE PROTECTION DEVICES MAY INCLUDE:
A. CHAIN LINK FENCE (FOUR FEET HIGH)
B. SUPER SILT FENCE WITH WIRE STRUNG BETWEEN SUPPORT POLES (MINIMUM 4 FEET HIGH) WITH HIGH VISIBILITY FLAGGING.
C. 14 GAUGE 2 INCH X 4 INCH WELDED WIRE FENCING SUPPORTED BY STEEL T-BAR POSTS (MINIMUM 4 FEET HIGH) WITH HIGH VISIBILITY FLAGGING.
5. TEMPORARY PROTECTION DEVICES SHALL BE MAINTAINED AND INSTALLED BY THE CONTRACTOR FOR THE DURATION OF THE CONSTRUCTION PROJECT AND MUST NOT BE ALTERED WITHOUT PRIOR APPROVAL FROM THE FOREST CONSERVATION INSPECTOR. NO EQUIPMENT, TRUCKS, MATERIALS, OR DEBRIS MAY BE STORED WITHIN THE TREE PROTECTION FENCE AREAS DURING THE ENTIRE CONSTRUCTION PROJECT. NO VEHICLE OR EQUIPMENT ACCESS TO THE FENCED AREA WILL BE PERMITTED. TREE PROTECTION SHALL NOT BE REMOVED WITHOUT PRIOR APPROVAL OF FOREST CONSERVATION INSPECTOR.
6. FOREST RETENTION AREA SIGNS SHALL BE INSTALLED AS REQUIRED BY THE FOREST CONSERVATION INSPECTOR, OR AS SHOWN ON THE APPROVED PLAN.
DURING CONSTRUCTION
7. PERIODIC INSPECTIONS BY THE FOREST CONSERVATION INSPECTOR WILL OCCUR DURING THE CONSTRUCTION PROJECT. CORRECTIONS AND REPAIRS TO ALL TREE PROTECTION DEVICES, AS DETERMINED BY THE FOREST CONSERVATION INSPECTOR, MUST BE MADE WITHIN THE TIMEFRAME ESTABLISHED BY THE INSPECTOR.

POST-CONSTRUCTION
8. AFTER CONSTRUCTION IS COMPLETED, AN INSPECTION SHALL BE REQUESTED. CORRECTIVE MEASURES MAY INCLUDE:
A. REMOVAL AND REPLACEMENT OF DEAD AND DYING TREES
B. PRUNING OF DEAD OR DECLINING LIMBS
C. SOIL AERATION
D. FERTILIZATION
E. WATERING
F. WOUND REPAIR
G. CLEAN UP OF RETENTION AREAS
9. AFTER INSPECTION AND COMPLETION OF CORRECTIVE MEASURES HAVE BEEN UNDERTAKEN, ALL TEMPORARY PROTECTION DEVICES SHALL BE REMOVED FROM THE SITE. REMOVAL OF TREE PROTECTION DEVICES THAT ALSO OPERATE FOR EROSION AND SEDIMENT CONTROL MUST BE COORDINATED WITH BOTH THE DEPARTMENT OF PERMITTING SERVICES AND THE FOREST CONSERVATION INSPECTOR. NO ADDITIONAL GRADING, SODDING, OR BURIAL MAY TAKE PLACE AFTER THE TREE PROTECTION FENCING IS REMOVED.

INSPECTIONS
ALL FIELD INSPECTIONS MUST BE REQUESTED BY THE APPLICANT. INSPECTIONS MUST BE CONDUCTED AS FOLLOWS:
1. THE APPLICANT SHALL NOTIFY THE FOREST CONSERVATION INSPECTOR WITHIN 48 HOURS OF THE LIMITS OF DISTURBANCE HAVING BEEN STAKED AND FLAGGED, BUT BEFORE ANY CLEARING OR GRADING BEGINS.
2. AFTER NECESSARY STRESS REDUCTION MEASURES HAVE BEEN COMPLETED AND PROTECTION MEASURES HAVE BEEN INSTALLED, BUT BEFORE ANY CLEARING AND GRADING BEGINS.
3. AFTER COMPLETION OF ALL CONSTRUCTION ACTIVITIES, BUT BEFORE REMOVAL OF TREE PROTECTION FENCING, TO DETERMINE THE LEVEL OF COMPLIANCE WITH THE PROVISION OF THE FOREST CONSERVATION PLAN.
ADDITIONAL REQUIREMENTS FOR PLANS WITH PLANTING REQUIREMENTS
4. BEFORE THE START OF ANY REQUIRED REFORESTATION AND AFFORESTATION PLANTING IS COMPLETED TO VERIFY THAT THE PLANTING IS ACCEPTABLE AND PRIOR TO THE START THE MAINTENANCE PERIOD.
5. AFTER THE REQUIRED REFORESTATION AND AFFORESTATION PLANTING HAS BEEN COMPLETED TO VERIFY THAT THE PLANTING IS ACCEPTABLE AND PRIOR TO THE START THE MAINTENANCE PERIOD.
6. AT THE END OF THE MAINTENANCE PERIOD TO DETERMINE THE LEVEL OF COMPLIANCE WITH THE PROVISIONS OF THE PLANTING PLAN, AND IF APPROPRIATE, RELEASE OF THE PERFORMANCE BOND.

NOTES: ALL FOREST CONSERVATION PLANTING AREAS WILL BE LOCATED ADJACENT TO CONTIGUOUS FOREST ON W-11625 PROPERTY.

EXISTING CAPE MAY ROAD TO TERMINATE AT NEW CUL-DE-SAC AS PART OF ICC CONSTRUCTION

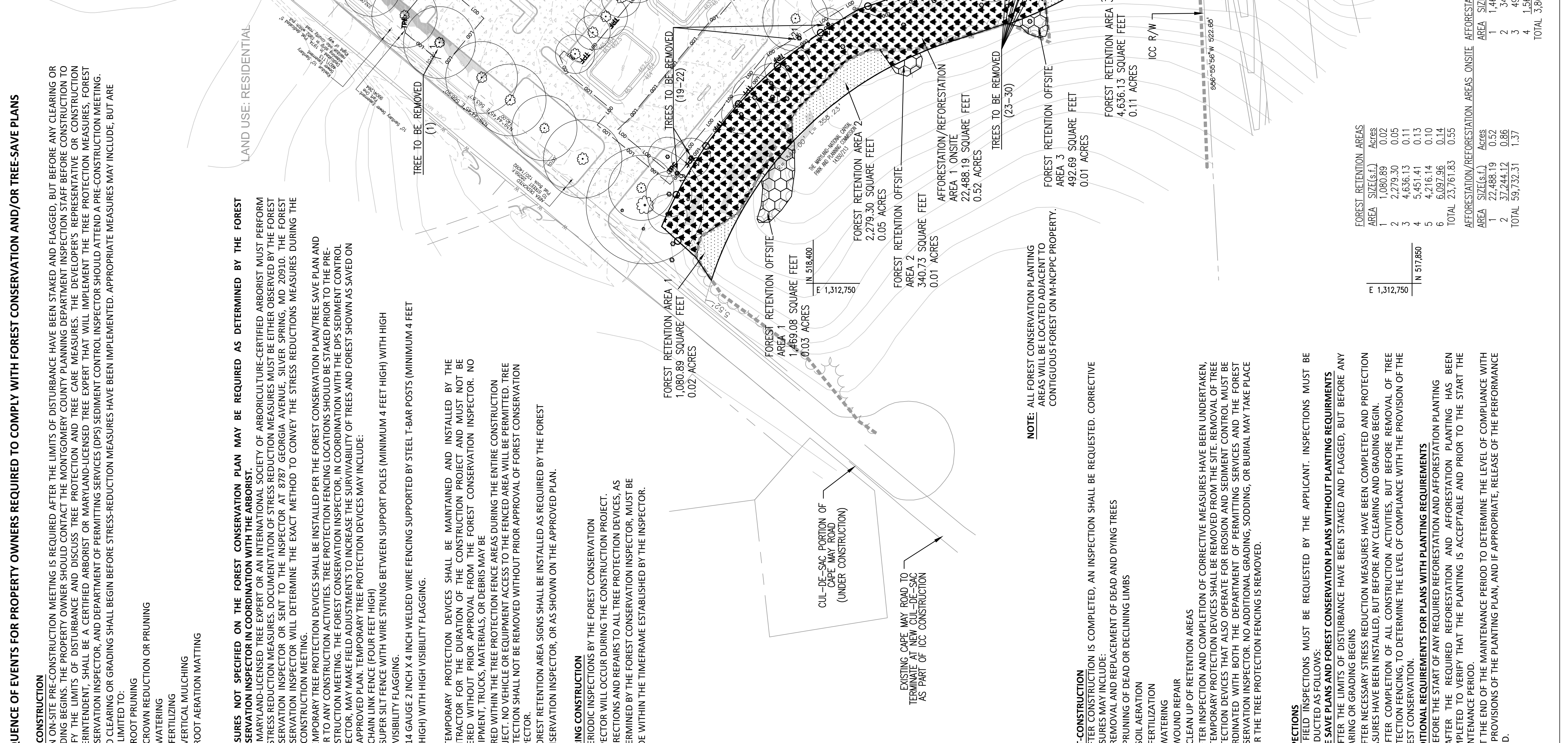


Table with 2 columns: Forest Retention Area, Afforestation/Reforestation Areas. Includes area size in sq. ft. and acres.

ICC R/W

Table with 2 columns: Forest Retention Area, Afforestation/Reforestation Areas. Includes area size in sq. ft. and acres.

ICC R/W

IFBIRFP #
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF HIGHWAY SERVICES

101 ERIBSON PARK DRIVE
GATHERSBURG, MARYLAND 20878
**COLESVILLE
DEPOT**
14335 CAPE MAY RD
**SILVER SPRING,
MARYLAND**
20904

WR&A
**WHITMAN, REQUARDT
& ASSOCIATES, LLP**
501 South Caroline Street, Baltimore, Maryland 21201

SUBMIT FOR:
PRELIMINARY PROGRESS (NOT FOR CONST.)
PRINING ONLY
CONSTRUCTION DOCUMENTS

JAMES ASBURY
MTR QUALIFIED PROFESSIONAL
DATE

LEGEND

- Approved NRI Forest Stand Boundary
- Tree Protection Fence
- Limits of Disturbance
- Property Line
- Edge of Canopy Line
- Major Contour
- Minor Contour
- Proposed Contour
- Existing Fence
- Individual Trees
- Trees To Be Retained
- Critical Root Zone
- Afforestation / Reforestation Areas Onsite
- Afforestation / Reforestation Areas Offsite
- Forest Retention Areas

Category / Forest Conservation Easement

- Forest To Be Cleared
- Woodland Conservation
- Water Line
- Soil Boundary
- Slopes >25%
- Slopes 15-25%
- Existing Structure
- New Structure
- Onsite Impervious Surface

