

Martin O'Malley  
Governor

Anthony G. Brown  
Lt. Governor



Margaret G. McHale  
Chair

Ren Serey  
Executive Director

STATE OF MARYLAND  
CRITICAL AREA COMMISSION  
CHESAPEAKE AND ATLANTIC COASTAL BAYS

1804 West Street, Suite 100, Annapolis, Maryland 21401

(410) 260-3460 Fax: (410) 974-5338

[www.dnr.state.md.us/criticalarea/](http://www.dnr.state.md.us/criticalarea/)

August 28, 2008

Ms. Regina Esslinger  
Baltimore County DEPRM  
401 Bosley Avenue, Suite 416  
Towson, Maryland 21204

Re: Local Government Consistency Report – Hawthorne Trail

Dear Ms. Esslinger:

Thank you for forwarding the above-referenced project to this office per the requirements of COMAR 27.02.02 - State and Local Agency Actions Resulting in Development of Local Significance on Private Lands or Lands Owned by Local Jurisdictions. The project involves installing a 10-foot wide public trail system (18,250 linear feet) and associated stormwater management through an existing County park. A small portion of the trail is proposed to be constructed in the 100-foot Buffer. The project site is 5.73 acres and is located in the Limited Development Area (LDA). After reviewing the consistency report this office agrees that the project is consistent with the Baltimore County Critical Area Program for the reasons outlined below.

- The Director of Environmental Protection and Resource Management (DEPRM) has approved the alternative analysis for this trail project and stormwater management facility under §33-2-402(d)(1, 2) subject to the condition of mitigation;
- Mitigation is offered at a ratio of 3:1 in the amount of 148,263 square feet for temporary and permanent impacts to the 100-foot Buffer, as well as the removal of 4 trees. 13,124 square feet of mitigation associated with the temporary disturbance (grading) in the Buffer is associated with the stormwater management practices and impacts to the 25-foot buffer to wetlands;
- There are no other Habitat Protection Areas (HPAs) located on site.

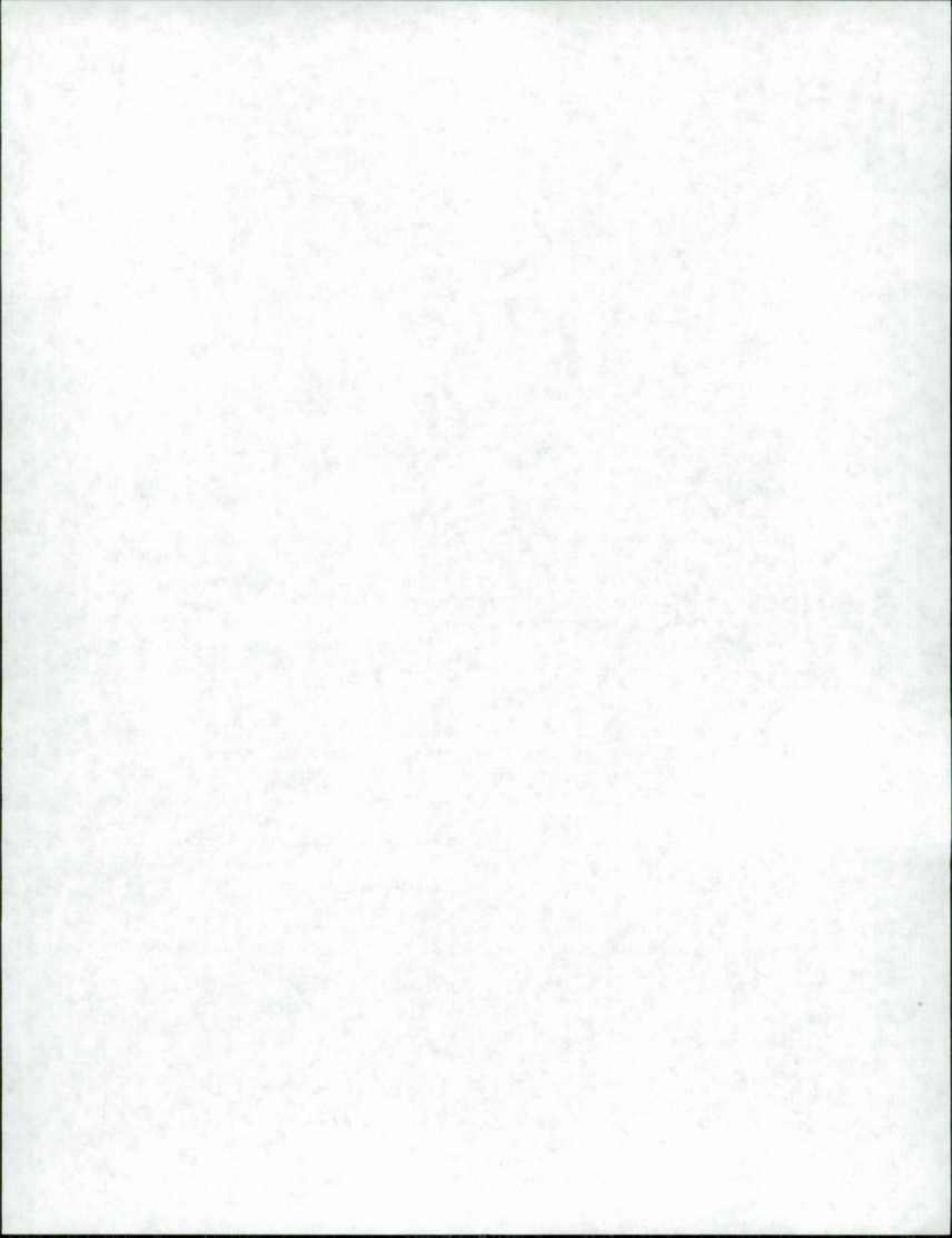
Since the project is consistent with the local program, it will not require formal approval by the Chesapeake Bay Critical Area Commission, notwithstanding any other required resource agency approvals.

Sincerely,

A handwritten signature in black ink, appearing to read "Julie Roberts", with a long horizontal flourish extending to the right.

Julie Roberts  
Natural Resources Planner

CC: BC 473-08



**Consistency Report for Local Government Projects**

BC 0473-08

Project Name: Hawthorne Trail	Jurisdiction: Baltimore County
Project Description: 10-foot wide public trail (18,250 linear feet) and associated stormwater management through an existing County park. The sand filter and portions of the trail will be in the 100-foot buffer, the remainder of the trail will be outside the buffer on parkland or existing roads.	
Local Agency proposing project: Baltimore County Dept. of Public Works	
Contact Name and Phone Number: Regina Esslinger, 410-887-3980	
Project Location (include street address, tax map and parcel number): Dark Head Road, TM 90, P. 1179	
Critical Area acreage and designation: 5.73 acres, LDA	

Project Data	
Existing forest/woodland/trees:	% of site:
Proposed clearing: 49,421 sq.ft	% of existing forest:
Mitigation to be provided: 208 trees, 680 shrubs	
Planting location & species (also show on site plan): see mitigation plan	
Existing impervious surface:	% of site:
Proposed new impervious:	
Total impervious surface:	% of site:
If the % of impervious cover exceeds the permitted amount in the LDA or RCA, the project may need a Conditional Approval from the Critical Area Commission. Please contact your Commission planner for assistance.	
Total Area Disturbed: 49,421 square feet	
Stormwater Management: (If site is in the IDA, the 10% worksheets must be attached. Otherwise, local stormwater requirements must be addressed.)	
Sand filter proposed	
Has project received local approval of SWM and sediment and erosion control plans? Yes	
Buffer impacts? yes	Is project water dependent? No
If there are Buffer impacts proposed and the project is not water dependent, the project may need a Conditional Approval from the Critical Area Commission. Please contact your Commission planner for assistance.	
<u>Other Habitat Protection Areas:</u>	
Colonial Nesting Waterbird site? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Waterfowl Staging Area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Endangered / threatened species? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Forest Interior Dwelling Bird Habitat? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Anadromous Fish Propagation Waters? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Non-tidal Wetland Impacts? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, MDE permit #:	
Tidal Wetland Impacts? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, MDE permit #:	

***In accordance with COMAR 27.02.02, we hereby certify that this local agency project is consistent with the requirements of the local Critical Area Program.***

Regina Esslinger (Signature)

Please sign above, attach the site plan to this report and submit to the Critical Area Commission at 1804 West St., Suite 100, Annapolis, MD 21401

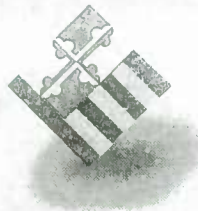




**RECEIVED**

AUG 22 2008

**CRITICAL AREA COMMISSION**  
**Chesapeake & Atlantic Coastal Bays**



BALTIMORE COUNTY  
MARYLAND

JAMES T. SMITH, JR.  
County Executive

JONAS A. JACOBSON, Director  
Department of Environmental Protection  
and Resource Management

July 14, 2008

Mr. Devin Leary  
Human & Rohde, Inc.  
512 Virginia Avenue  
Towson, MD 21286

RE: Hawthorne Trail  
Alternatives Analysis

Dear Mr. Leary:

RECEIVED

AUG 22 2008

CRITICAL AREA COMMISSION  
Chesapeake & Atlantic Coastal Bays

Environmental Impact Review (EIR) received the above referenced submittal on June 17, 2008 for review and approval. This alternatives analysis evaluates the impacts resulting from the location and design of the stormwater management (SWM) facility to the reduction of the 100-foot buffer and 25-foot nontidal wetlands buffer. Impacts for SWM will include the location of almost the entire sand filter.

EIR has reviewed this analysis, and has determined that design difficulties exist due to the lack of stormwater treatment currently on site, the elevation of the site and the orientation of the Critical Area buffer, and the existing development on site. Total permanent impacts to the 100-foot buffer would be 10,546 square feet; permanent impacts to the 25-foot nontidal wetlands buffer would be approximately 2,578 square feet. Total impacts would be 12, 124 square feet.

Therefore, the above referenced impacts are approved in accordance with Section 33-3-112 (c) of the Baltimore County Code, with the condition that 36,372 square feet of mitigation shall be provided. A Critical Area Mitigation Plan has been submitted and shall be addressed in separate correspondence. This mitigation plan must be approved by EIR prior to our approval of any grading plan, and an associated security shall be posted via an Environmental Agreement prior to grading permit issuance.

It is the intent of this Department to approve this alternatives analysis subject to the above condition. Any changes to site layout may require submittal of revised plans and an amended alternatives analysis.

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Faint, illegible text, possibly a date or reference number.

Mr. Devin Leary  
Hawthorne Trail  
Alternatives Analysis  
July 14, 2008  
Page 2

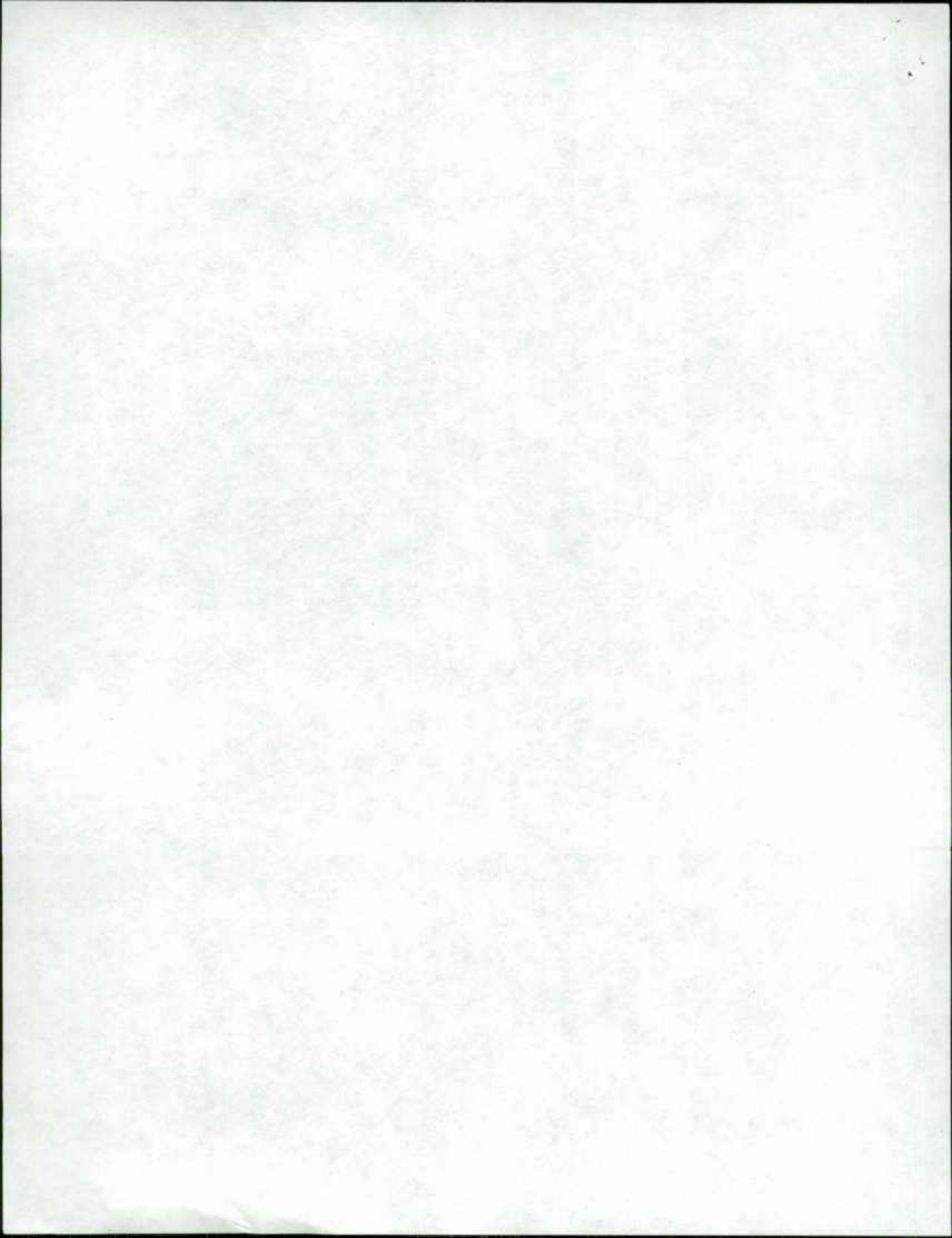
If you have any questions regarding this correspondence, please contact me at (410) 887-3980.

Sincerely,

A handwritten signature in cursive script that reads "Regina A. Esslinger". The signature is written in dark ink and is positioned above the typed name.

Regina A. Esslinger, Supervisor  
Environmental Impact Review

Hawthorne Trail AA 7.14.08 doc/sheir/regina





ALTERNATIVES ANALYSIS

Regulations for the Protection of Water Quality  
Streams, Wetlands and Floodplains

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Part A. Application Information

Applicant(s)

Name(s): Devin Leary  
Company: Human & Rohde, Inc. Phone #: 410-825-3885  
Street Address: 512 Virginia Avenue  
City: Towson State: MD Zip Code: 21286

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Property Owner(s)

Name(s): Baltimore County Department of Public Works  
Company: \_\_\_\_\_ Phone #: 410-887-3788  
Street Address: 111 West Chesapeake Avenue, Room 200  
City: Towson State: MD Zip Code: 21204

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Contract Purchaser(s)

Name(s): \_\_\_\_\_  
Company: \_\_\_\_\_ Phone #: \_\_\_\_\_  
Street Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

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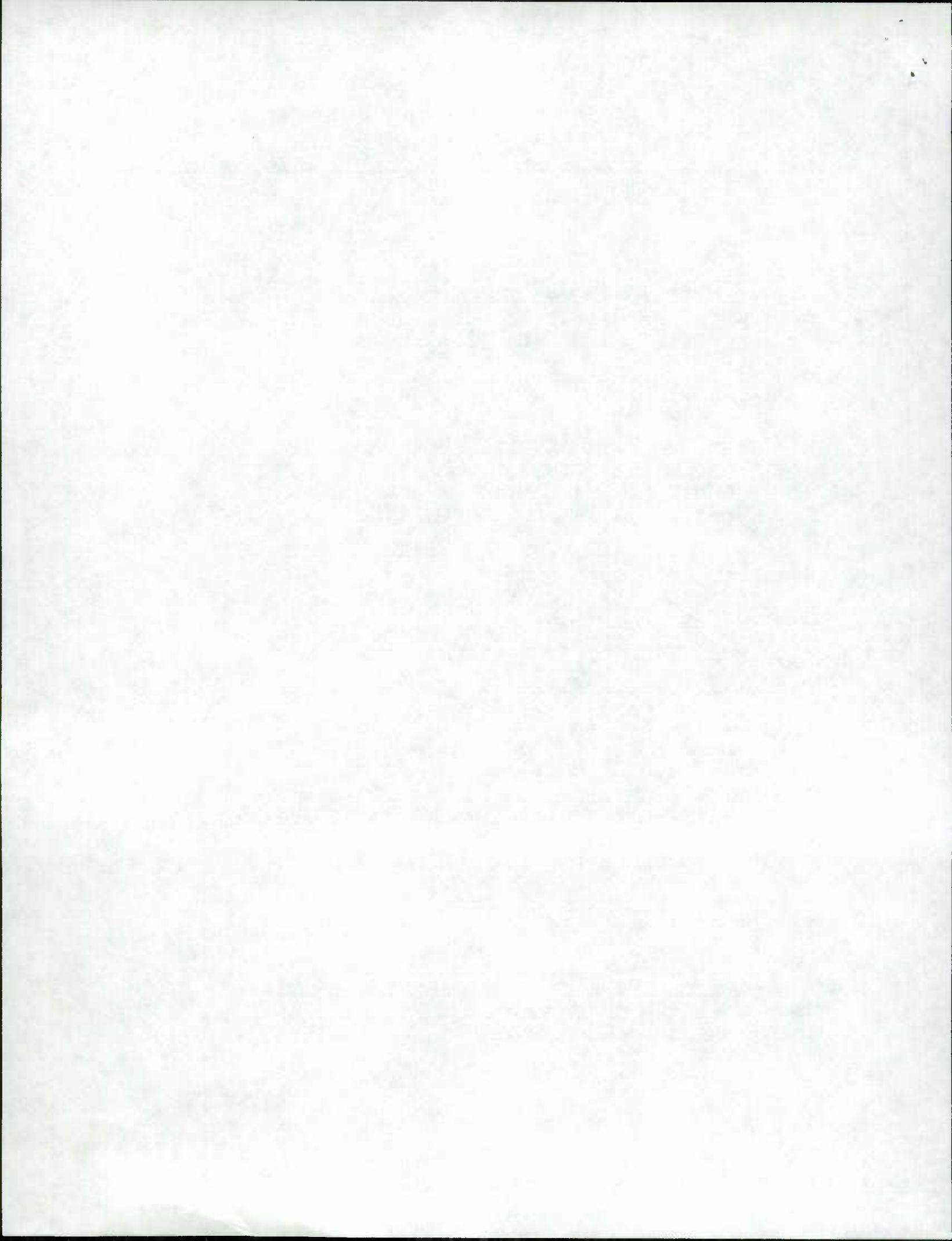
Engineer/Representative

Name(s): Mark Bodmann  
Company: Wallace Montgomery & Associates, Inc. Phone #: 410-494-9093  
Street Address: 110 West Road, Suite 300  
City: Towson State: MD Zip Code: 21204

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Principal Contact:

Name(s): Martha Stauss  
Company: Human & Rohde, Inc. Phone #: 410-825-3885  
Street Address: 512 Virginia Avenue  
City: Towson State: MD Zip Code: 21286



Part B. Property Information

Property Address/Location: Dark Head Road

Tax Account Number(s): 1600014188

Subdivision Name:

Tax Map: 90

Parcel Number(s): 1179

Lot No.:

Acreage/Lot Size: 5.73 acres

Zoning: RC 20

Water:  public  private

Sewer:  public  private

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Part C: Describe the purpose and need for the project (e.g., a stream crossing is needed to access the property).

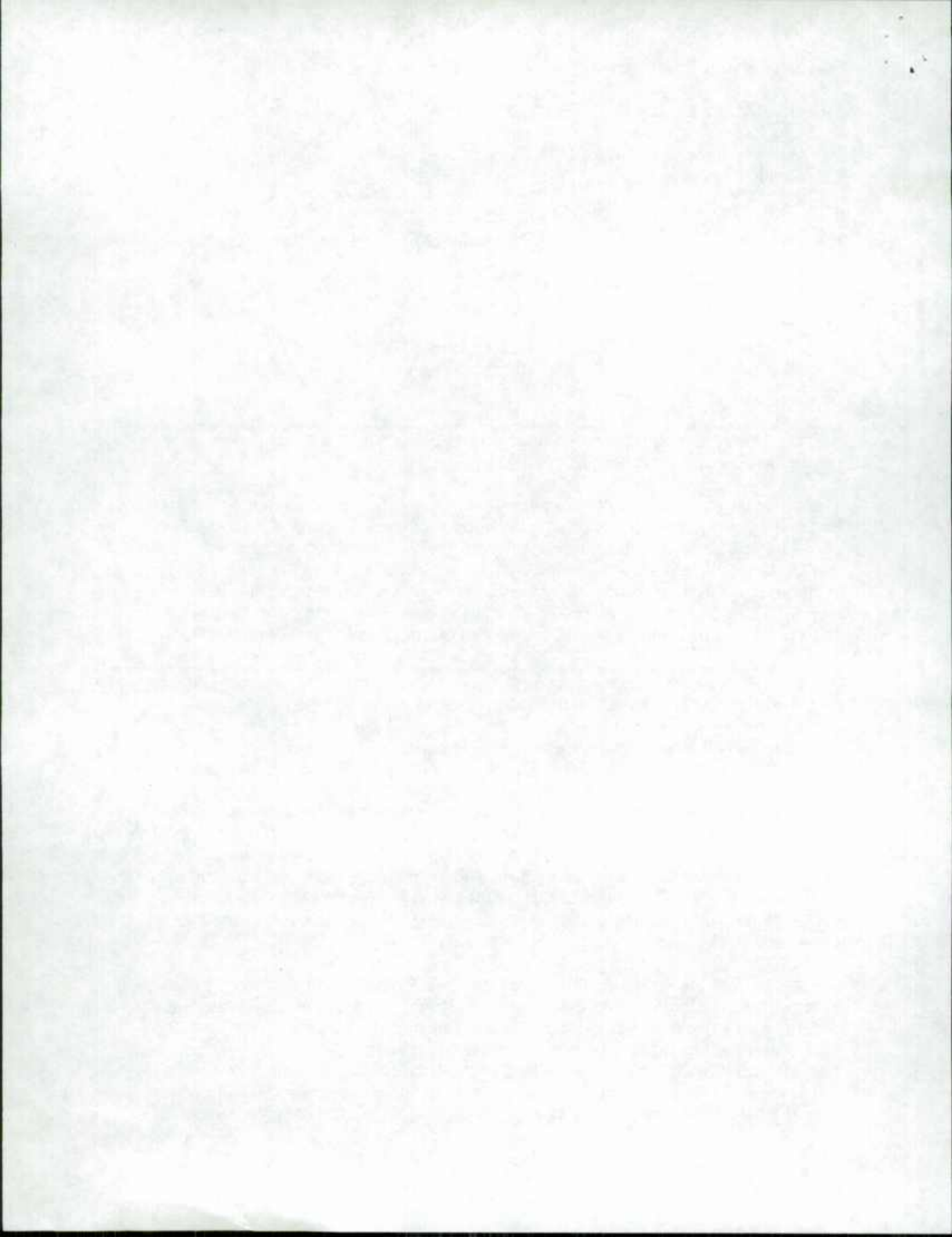
This project is to create an interconnecting bicycle path on the Hawthorne Peninsula in Baltimore County. The proposed path will consist of three sections of 10-foot wide paved bicycle paths through Hawthorne-Midthorn Park, Hawthorne Elementary School and Dark Head Creek Park. Included with this project is widening the sidewalks along Midthorn and Kingston Roads. Stormwater Management is needed to treat stormwater quality for this project. The proposed stormwater sand filter pond will impact the 25 foot state wetland buffer and 100 foot Critical Area buffer in Hawthorne-Midthorn Park.

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Part D: Describe the existing site constraints. This section must be accompanied by a plan as described in the instructions accompanying this application.

The majority of the peninsula is developed and consists of townhouse communities, elementary school, recreational fields, playgrounds, and parkland fronting Dark Head Creek, Cow Pens Creek, and Middle River. There are four wetlands adjacent to the proposed trail. The current condition of three of the wetlands and buffer is predominantly mowed lawn with some scattered canopy trees and no understory. The wetland and stream behind the elementary school is wooded, however there is a heavily utilized footpath through the stream, which currently lacks stabilization and is a garbage dumping site. The topography of the peninsula is at a higher elevation near the center of the peninsula and gradually slopes downward to Middle River/Cow Pens Creek and Dark Head Creek.

In order to treat the most stormwater from the site, including some treatment of existing stormwater, the stormwater management pond must be placed at a low elevation. In order to also avoid existing developed areas, including the existing playground, the stormwater management pond is proposed within Hawthorne-Midthorn Park between the playground and Middle River and within the Critical Area Easement and partially within the 25-foot wetland buffer of a non-tidal wetland. Impacts for the stormwater management pond equate to 12,124 square feet within the Critical Area Easement and





within the 25-foot state buffer to a non-tidal wetland.

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Part E: Describe all of the alternatives which have been investigated which could achieve the purpose and need for the project. Identify the preferred alternative, and provide supporting documentation to indicate why the remaining alternatives were eliminated from consideration. Add additional pages if necessary.

Other alternatives considered were within Dark Head Creek Park, however the existing storm drain system makes this alternative not the preferred alternative as it treats much less stormwater from the site. In order to design the pond at the lowest topography to treat the stormwater from the site, the pond impacted the buffer in other locations as well.

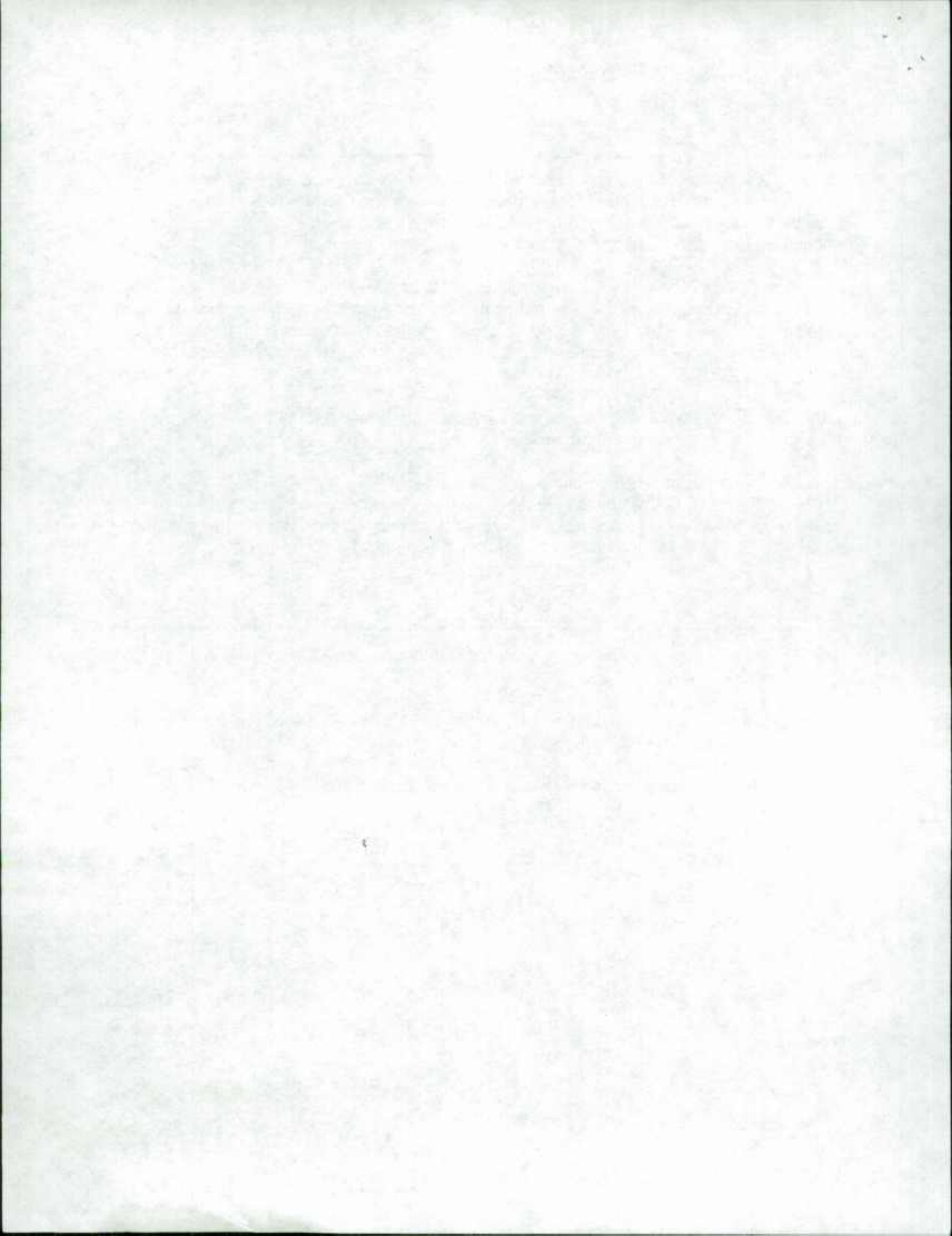
Other alternatives either impact the school grounds or existing forest, or the low topography necessary was not available.

The existing street and community storm drain system flows through Hawthorne-Midthorn Park and outfalls directly into Middle River with no pre-treatment. The preferred alternative will disconnect and treat the existing stormwater prior to entering Middle River, the most practical and beneficial design for the environment.

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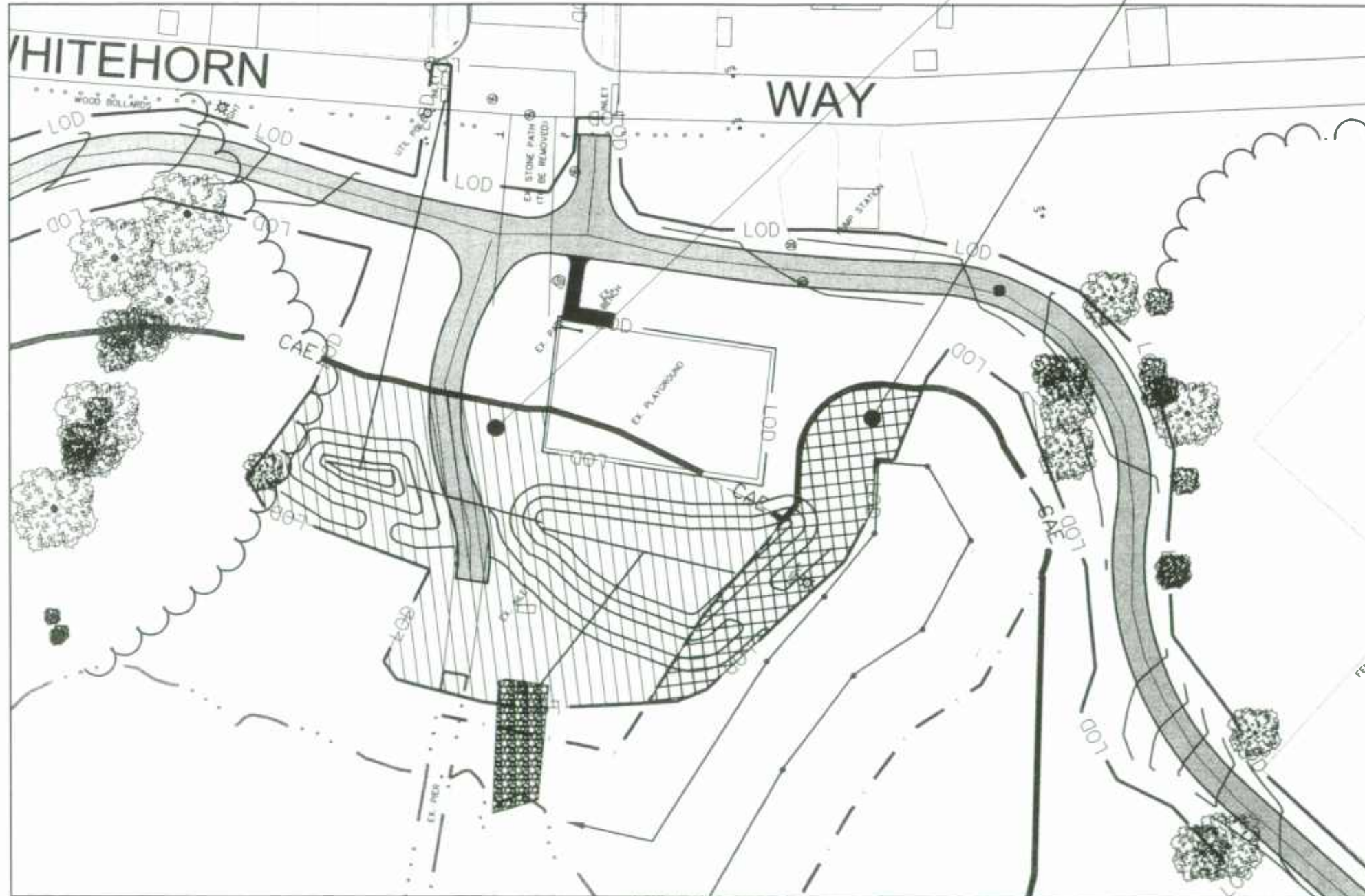
Part F: Describe how the impacts associated with the proposed alternative will be minimized.

Impacts will be minimized by mitigation planting of 12,124 sf on site. The stormwater pond is proposed to be planted, as well as planting larger stock trees and shrubs within the buffer scattered throughout the trail areas of the peninsula. The mitigation planting is shown on the accompanying Critical Area Management Plan.



IMPACTS TO CRITICAL AREA EASEMENT  
10,546 SF (631 SF PERMANENT)  
STORMWATER MANAGEMENT SAND FILTER  
ACCESS TO PIER

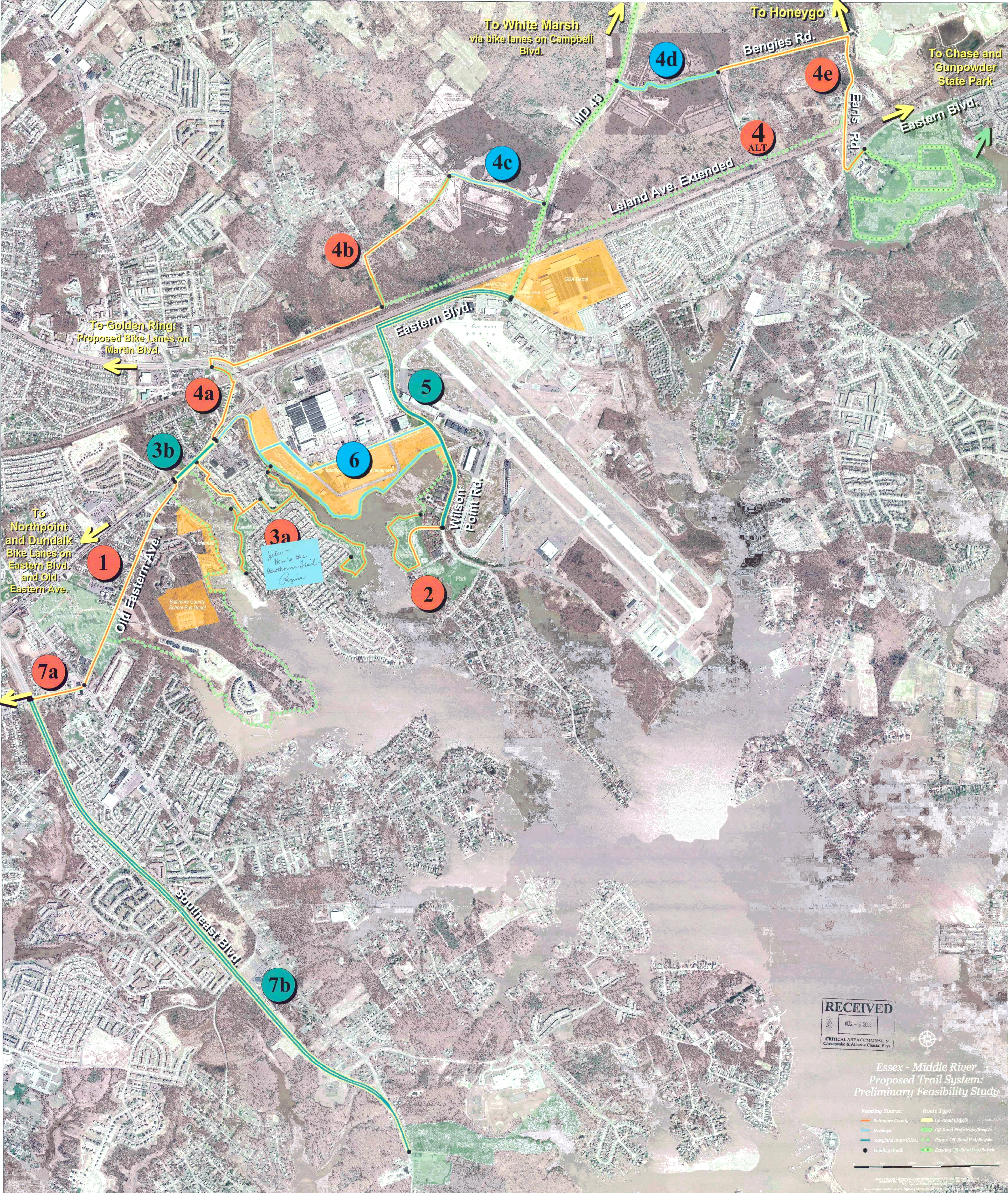
IMPACTS TO 25' STATE WETLAND BUFFER  
2,578 SF



IMPACTS PLAN  
SCALE 1" = 30'

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CRITICAL AREA COMMISSION  
Chesapeake & Atlantic Coastal Bays





To White Marsh  
via bike lanes on Campbell  
Blvd.

To Honeygo

To Chase and  
Gunpowder  
State Park

To Golden Ring:  
Proposed Bike Lanes on  
Martin Blvd.

To  
Northpoint  
and Dundalk  
Bike Lanes on  
Eastern Blvd.  
and Old  
Eastern Ave.

Jill -  
Here's the  
Hawthorne trail  
segment

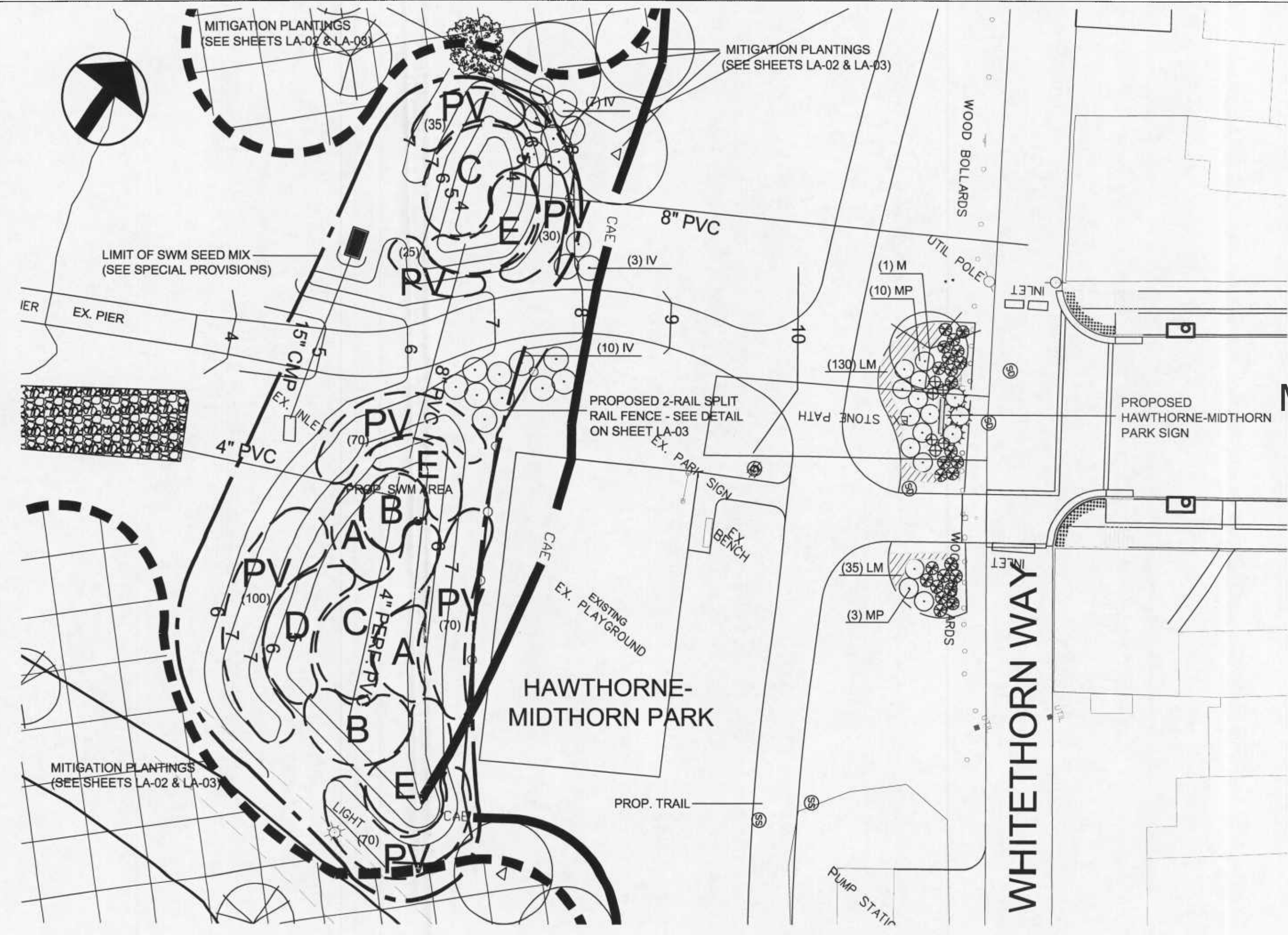
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Chesapeake & Atlantic Coastal Bays

Essex - Middle River  
Proposed Trail System:  
Preliminary Feasibility Study

- |                                                          |                                                                        |
|----------------------------------------------------------|------------------------------------------------------------------------|
| <b>Funding Source:</b>                                   | <b>Route Type:</b>                                                     |
| <span style="color: orange;">—</span> Baltimore County   | <span style="color: yellow;">—</span> On-Road Bicycle                  |
| <span style="color: blue;">—</span> Developer            | <span style="color: green;">—</span> Off-Road Pedestrian/Bicycle       |
| <span style="color: teal;">—</span> Maryland State (SEA) | <span style="color: lightgreen;">—</span> Future Off-Road Ped/Bicycle  |
| <span style="color: black;">—</span> Funding Break       | <span style="color: darkgreen;">—</span> Existing Off-Road Ped/Bicycle |

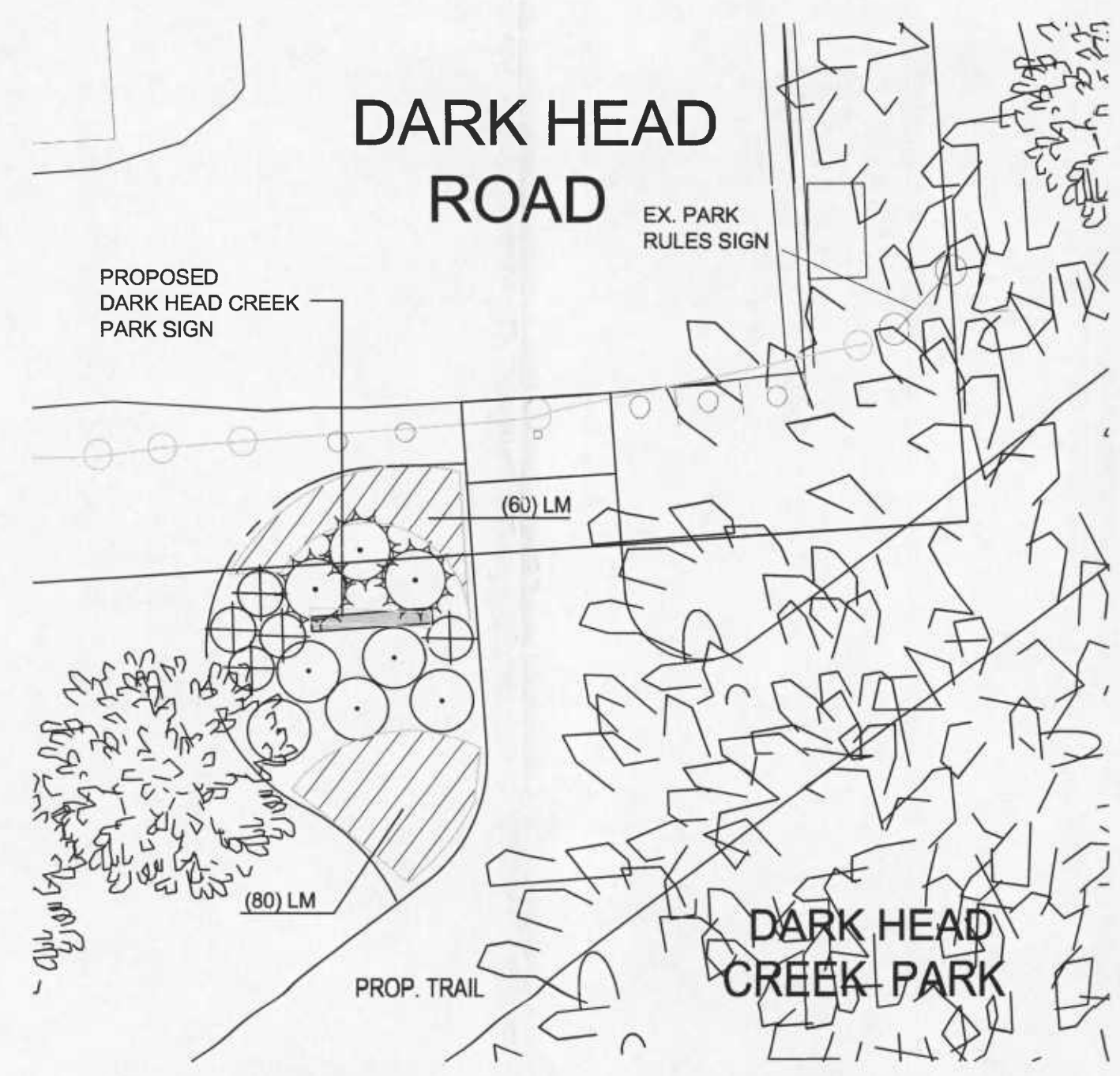
Map prepared by the Critical Area Commission, Office of Planning and Design, 1000 North Point Blvd., Suite 100, Dundalk, MD 21222. Date of Revision: 08/06/08. Scale: 1" = 1000'





**HAWTHORNE/MIDTHORN PARK LANDSCAPE PLAN**

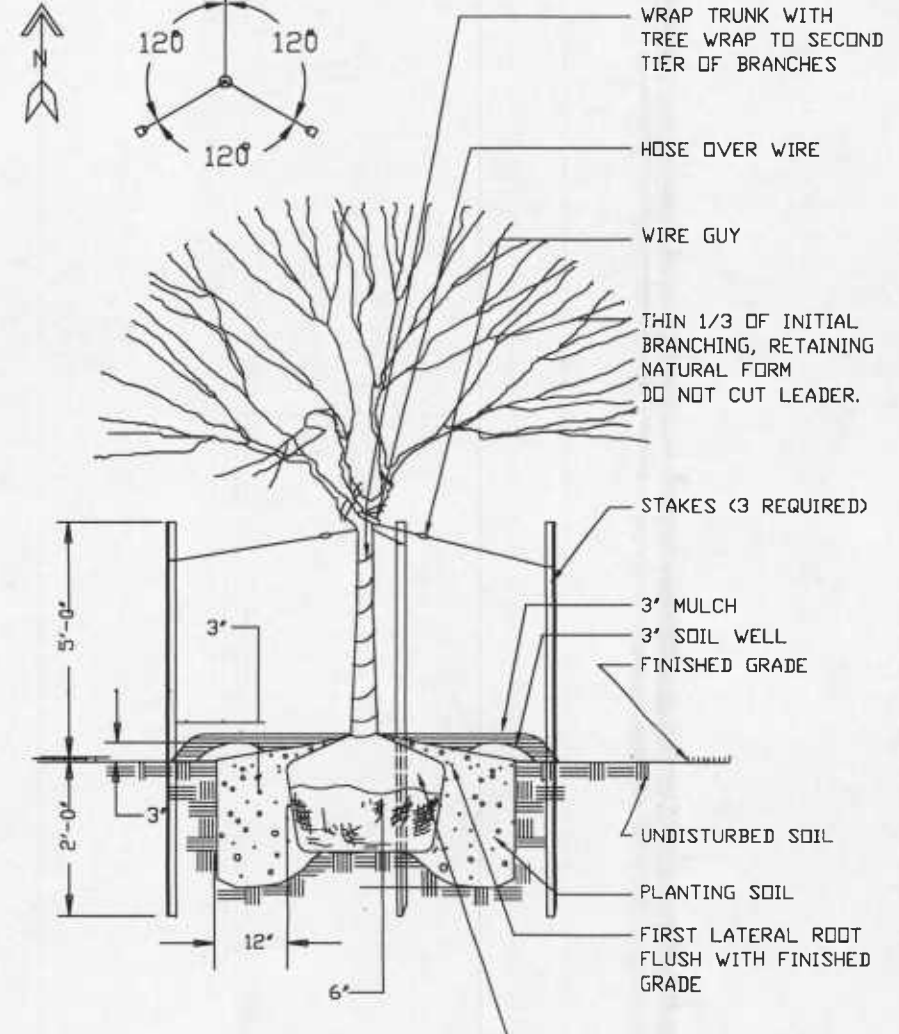
SCALE: 1" = 20'



**LANDSCAPE PLAN AT PARK SIGN  
DARK HEAD CREEK PARK**

SCALE: 1" = 10'

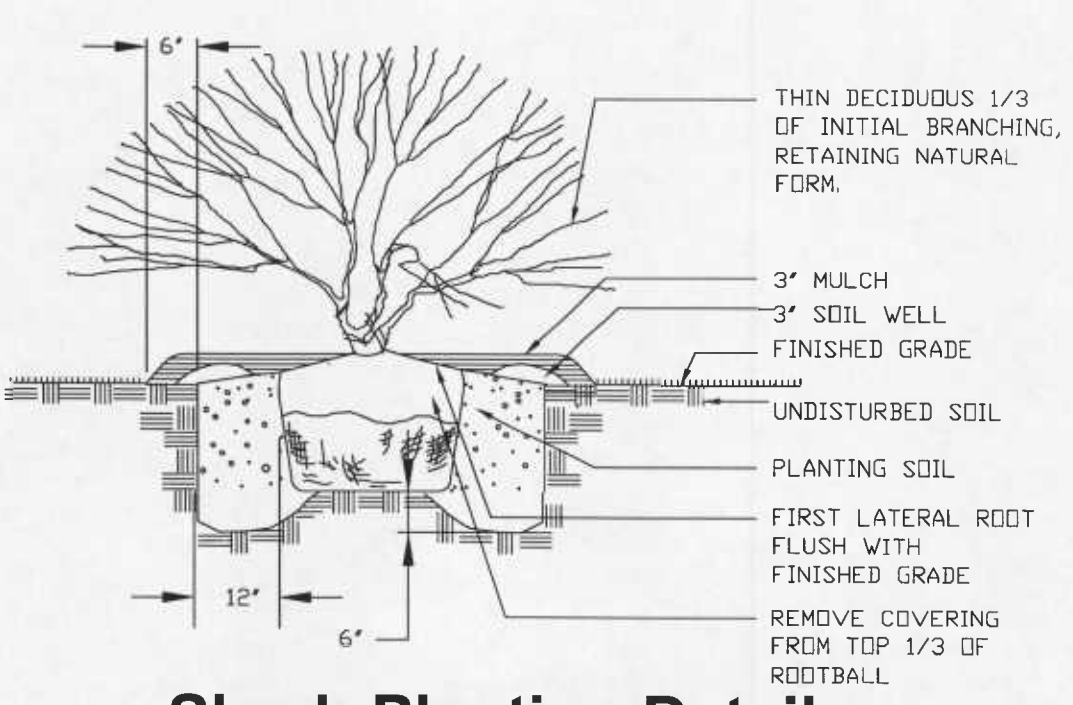
**STAKING DETAIL**



**Tree Planting Detail**  
NOT TO SCALE

**PLANTING NOTES:**

- CONTRACTOR IS TO NOTIFY MISS UTILITY A MINIMUM OF 72 HOURS PRIOR TO DIGGING. TELEPHONE: 1-800-257-7777.
- THE LANDSCAPE ARCHITECT IS TO BE NOTIFIED 48 HOURS BEFORE PLANTING BEGINS. THE LOCATION OF ALL PLANT MATERIAL IS TO BE APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT.
- THIS PLAN IS FOR PLANTING ONLY.
- NO TREE OR SHRUB PLANTING PITS ARE TO BE LEFT OPEN OR UNATTENDED.
- SHRUBS ARE TO BE GROUPED INTO MULCHED BEDS. BEDS ARE TO BE EDGED AND THE GRASS IS TO BE KILLED OR REMOVED PRIOR TO MULCHING.



**Shrub Planting Detail**  
NOT TO SCALE

**PLANT LIST (STREETSCAPE & PARK ENTRANCES)**

KEY	QTY.	BOTANICAL NAME COMMON NAME	SIZE	COND.	REMARKS
M	1	MALUS X 'PRINCE GEORGES' PRINCE GEORGES CRABAPPLE	2" - 2 1/2" CAL	B&B	FULL, HEAVY SPECIMEN
J	6	JUNIPERUS CHINENSIS 'SARGENTII' SARGENT JUNIPER	15"-18" SPREAD	#3	FULL, SPACED 4' O.C. (STAGGERED)
MP	20	MYRICA PENNSYLVANICA 'MYRIMAN' NORTHERN BAYBERRY (MALE)	2'-3' HT.	#5 OR B&B	FULL, HEAVY, SPACED 4' O.C. (STAGGERED)
C	12	CALAMAGROSTIS ACUTIFLORA STRICTA 'KARL FOERSTER' KARL FOERSTER FEATHERREED GRASS		#2	SPACED 2'-6" O.C.
P	25	PENNISETUM ALOPECUROIDES 'HAMELI' DWARF FOUNTAIN GRASS		#2	SPACED 3" O.C.
L	305	LIRIOPE MUSCARI 'VARIEGATA' VARIATED LILYTURF		4" POTS	SPACED 12" O.C.

**PLANT LIST (SWM/BIORETENTION AREA)**

KEY	QTY.	BOTANICAL NAME COMMON NAME	SIZE	COND.	REMARKS
A	340	SAURURUS CERNUUS / LIZARD'S TAIL		PLUGS	PLANTED 12" O.C.
B	480	CHELONE GLABRA / TURTLE HEAD		PLUGS	PLANTED 12" O.C.
C	800	IRIS VERSICOLOR / BLUE FLAG IRIS		PLUGS	PLANTED 12" O.C.
D	320	ASCLEPIAS INCARNATA / SWAMP MILKWEED		PLUGS	PLANTED 12" O.C.
E	840	VERNONIA NOVENBORACENSIS / IRONWEED		PLUGS	PLANTED 12" O.C.
PV	400	PANICUM VIRGATUM 'SHENANDOAH' / RED SWITCHGRASS		1 QT.	PLANTED 30" O.C.
IV	20	ITEA VIRGINICA 'LITTLE HENRY' LITTLE HENRY VIRGINIA SWEETSPIRE	2'-3' HT.	#5 OR B&B	FULL, HEAVY, SPACED 5' O.C. (STAGGERED)

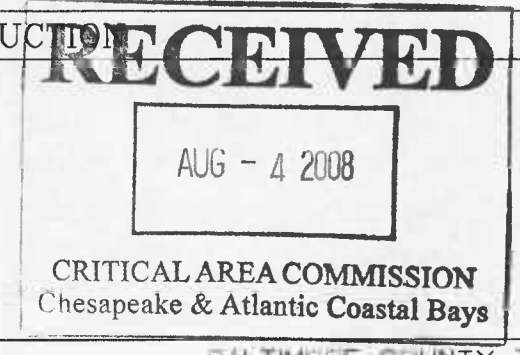
NOTE: PLANT LIST COMPLIES WITH MAA PLANTING REQUIREMENTS.  
REFER TO SHEETS LA-02 & LA-03 FOR MITIGATION PLANTINGS.  
REFER TO SPECIAL PROVISIONS FOR SWM SEED MIX.

**WALLACE, MONTGOMERY & ASSOCIATES, LLP**  
CIVIL AND STRUCTURAL ENGINEERS  
**Human & Rohde, Inc.**  
Landscape Architects & Land Planners

**A JOINT VENTURE**

AS-BUILT PER RECORD PRINT	REVISION	DATE	BY	P. W. A. NO.	KEY SHEETS	POSITION SHEETS	DRAWING SCALE	PROPERTY MANAGEMENT		
DRAFTSMAN	DATE			PWA_NUM	X-XX KEY SHT2 KEY SHT3 KEY SHT4	XX NW XX XX NW XX POS SHT3 POS SHT4	PLAN : AS SHOWN PROFILE : HOR. - VERT. -	APPROVED _____ DATE _____ MANAGER		
WALLACE, MONTGOMERY & ASSOC.	DSGN BY:	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	DEPARTMENT OF RECREATION & PARKS
ENGINEER: ANTONIO A. MAWRY	DWN BY:	REVIEWED								APPROVED _____ DATE _____ DIRECTOR
DATE: _____ LIC. NO.: 19195	CHKD BY:	DATE								

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION  
HAWTHORNE TRAIL SYSTEM  
18,250 L.F. OF ON & OFF ROAD BICYCLE ROUTE WITHIN MIDDLE RIVER  
SUBDIVISION ON HAWTHORNE PENINSULA  
LANDSCAPE PLANS  
SUBDIVISION: MIDDLE RIVER

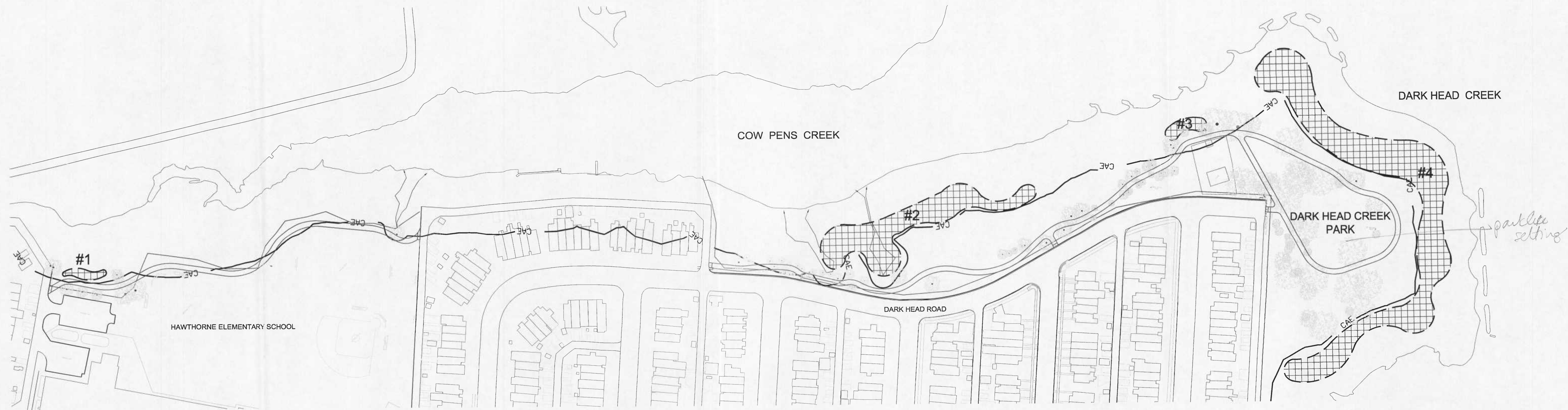


SHEET DESIGNATION	CONTRACT NO.
LANDSCAPE PLAN	XXXXX
	JOB ORDER NO.
	XXX-XXXX-XXXX
	SHEET 43 OF 45
	DRAWING NO.
	LA-01
	FILE NO. X

SEAL PLOTTED: \$DATES \$FILES

BALTIMORE COUNTY TYPE NUMBER





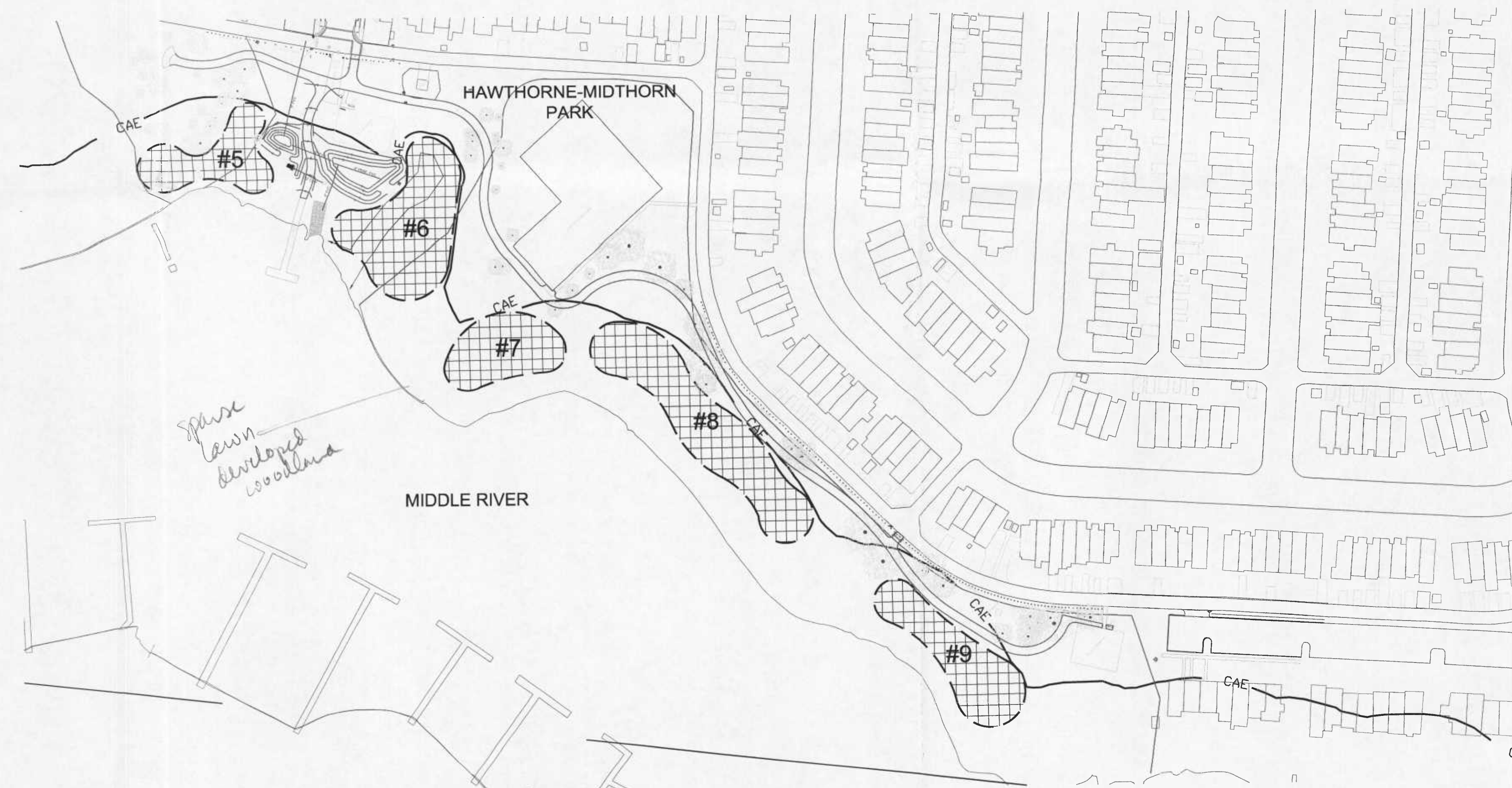
**MITIGATION AREAS #1 - #4**

SCALE: 1" = 100'

**MITIGATION SCHEDULE**

NOTE: ALL MITIGATION AREAS TO BE PLANTED RANDOMLY. REFER TO SHEET LA-03 FOR FULL MITIGATION PLANT LIST, CALCULATIONS, DETAILS AND NOTES.

MITIGATION AREA	QTY./SPECIES COMPOSITION	MITIGATION AREA	QTY./SPECIES COMPOSITION
#1	(3) MAPLE (2) SWEETGUM (15) OAKLEAF HYDRANGEA	#6	(3) SWEETGUM (3) MAPLE (6) RIVER BIRCH (3) BALD CYPRESS (15) OAKLEAF HYDRANGEA (11) SPICEBUSH
#2	(15) SWEETGUM (8) MAPLE (3) AMERICAN ELM (9) SYCAMORE (25) CLETHRA (25) SPICEBUSH	#7	(5) AMERICAN ELM (7) MAPLE (3) RIVER BIRCH (10) CLETHRA (15) OAKLEAF HYDRANGEA
#3	(3) AMERICAN ELM (15) ITEA	#8	(5) AMERICAN ELM (3) MAPLE (6) SWEETGUM (5) SYCAMORE (6) RIVER BIRCH (5) CLETHRA (25) OAKLEAF HYDRANGEA (18) SPICEBUSH
#4	(10) AMERICAN ELM (14) MAPLE (12) SWEETGUM (20) SYCAMORE (32) RIVER BIRCH (6) BALD CYPRESS (60) CLETHRA (85) OAKLEAF HYDRANGEA (115) ITEA (66) SPICEBUSH	#9	(3) SWEETGUM (8) MAPLE (3) RIVER BIRCH (3) SYCAMORE (30) CLETHRA (20) OAKLEAF HYDRANGEA (25) ITEA (12) SPICEBUSH
#5	(3) SWEETGUM (3) MAPLE (1) AMERICAN ELM (3) RIVER BIRCH (18) SPICEBUSH		



**MITIGATION AREAS #5 - #9**

SCALE: 1" = 100'

WALLACE, MONTGOMERY & ASSOCIATES, LLP  
CIVIL AND STRUCTURAL ENGINEERS

**Human & Rohde, Inc.**  
Landscape Architects & Land Planners

A JOINT VENTURE

AS-BUILT PER RECORD PRINT		REVISION		DATE	BY	P. W. A. NO.	KEY SHEETS	POSITION SHEETS	DRAWING SCALE	PROPERTY MANAGEMENT
DRAFTSMAN	DATE					PWA_NUM	X-XX KEY SHT2 KEY SHT3 KEY SHT4	XX NW XX XX NW XX POS SHT3 POS SHT4	PLAN : AS SHOWN PROFILE : VERT. -	APPROVED _____ MANAGER
WALLACE, MONTGOMERY & ASSOC.		DESIGN BY:	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
ENGINEER: ANTONIO A. MAWRY	DWN BY:	REVIEWED								DEPARTMENT OF RECREATION & PARKS
DATE: LIC. NO.: 19195	CHKD BY:	DATE								APPROVED _____ DIRECTOR

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

HAWTHORNE TRAIL SYSTEM  
18,250 L.F. OF ON & OFF ROAD BICYCLE ROUTE WITHIN MIDDLE RIVER  
SUBDIVISION ON HAWTHORNE PENINSULA  
LANDSCAPE PLANS

SUBDIVISION: MIDDLE RIVER

BALTIMORE COUNTY TYPE NUMBER

SHEET DESIGNATION	CONTRACT NO.
MITIGATION PLAN	XXXX
	JOB ORDER NO.
	XXX-XXX-XXXX
	SHEET 44 OF 45
	DRAWING NO.
	LA-02
	FILE NO. X

SEAL PLOTTED: \$DATE\$ \$FILEL\$



STANDARDS AND SPECIFICATIONS FOR MITIGATION PLANTING

TIMETABLE FOR MITIGATION

ALL PLANTING SHALL BE DONE BETWEEN MARCH 25 AND APRIL 30, FOR SPRING PLANTING, AND BETWEEN OCTOBER 15 AND DECEMBER 1 FOR FALL PLANTING.  
 - OAK AND PINE SPECIES ARE TO BE PLANTED IN THE SPRING ONLY.

PLANT MATERIAL

SEE MITIGATION PLANT LIST - THIS SHEET

PLANTING SITE PREPARATION

CONTRACTOR SHALL ERADICATE ALL INVASIVE PLANT MATERIAL WITHIN MITIGATION AREAS PRIOR TO PLANTING. ONCE THE PLANTING AREA IS CLEAR OF INVASIVES PREPARE A PLANTING PIT FOR EACH TREE. THE AREA DISTURBED FOR THE PIT IS TO BE MULCHED WITH A SHREDDED HARDWOOD PRODUCT. SOIL TESTING IS RECOMMENDED FOR MACRONUTRIENT DEFICIENCIES AND PH LEVELS. PROPER SOIL AMMENDMENTS SHOULD BE MADE IF DEEMED NECESSARY. (SEE PLANTING DETAIL)

PLANT MATERIAL STORAGE

IT IS RECOMMENDED THAT PLANTING OCCUR WITHIN 24 HOURS OF DELIVERY TO THE SITE. PLANT MATERIALS LEFT UNPLANTED FOR MORE THAN 24 HOURS SHALL BE PROTECTED FROM DIRECT SUN AND WEATHER AND KEPT MOIST. NURSERY STOCK SHOULD NOT BE LEFT UNPLANTED FOR MORE THAN TWO WEEKS.

PLANTING METHOD

SEE PLANTING DETAILS - THIS SHEET

MAINTENANCE AGREEMENT

- OWNER AGREES TO MONITOR AND MAINTAIN THE MITIGATION PLANTING FOR THREE (3) YEARS, TO INCLUDE:
  - WATERING TO OCCUR WHEN PLANTED AND AS REQUIRED TO ASSURE GOOD PLANT GROWTH.
  - FERTILIZER SHOULD ONLY BE APPLIED ON AS NEEDED BASIS IN CONJUNCTION WITH PROPER SOIL TESTING. THE USE OF SLOW RELEASE OR ORGANIC FERTILIZERS IS RECOMMENDED.
  - PROTECTION FROM INVASIVE PLANTS, DISEASE, PESTS, AND MECHANICAL INJURY SHOULD BE HANDLED ON AN AS NEEDED BASIS IN CONJUNCTION WITH PERIODIC SITE MONITORING.
  - REINFORCEMENT PLANTING OF SAME SIZE PLANTS AS ORIGINALLY USED WILL BE REQUIRED IF SURVIVAL RATES FALL BELOW ACCEPTED LEVELS. ( 75% )
- A MAINTENANCE INSPECTION & CERTIFICATION REPORT BY A QUALIFIED PROFESSIONAL SHALL BE MADE OF THE MITIGATION PLANTING SITE THREE TIMES A YEAR ( i.e. MARCH, JULY, NOVEMBER ) TO ASSESS IMPACTS FROM COMPETING VEGETATION, PESTS, DISEASE, ETC.

CONSTRUCTION SEQUENCE - MITIGATION PLANTING:

- CONTRACTOR IS TO STAKE AND FLAG THE SEDIMENT CONTROL MEASURES, LIMIT OF DISTURBANCE, LIMIT OF CLEARING, AND PLANTING AREAS. ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED ALONG THE LIMIT OF DISTURBANCE, WHERE THE LIMIT IS WITHIN 25 FEET OF THE CRITICAL AREA EASEMENT. THIS SHALL BE COMPLETED BY, AND INSPECTED AT, THE PRE-CONSTRUCTION MEETING. IF ANY PROBLEMS ARISE REGARDING THE FENCE LOCATION, UNNECESSARY EQUIPMENT CLEARING, ETC., NO PERMIT WILL BE ISSUED UNTIL THE CORRECTIONS ARE SATISFACTORILY ADDRESSED.
- NOTIFY THE BALTIMORE CO. DEPRM, 48 HOURS IN ADVANCE, AT (410) 887-3980 FOR THE PRE-CONSTRUCTION MEETING, TO INCLUDE INSPECTION OF MITIGATION LINE, AND PROTECTIVE FENCING.
- MONITOR THE CONDITION OF ANY TREES TO BE RETAINED DURING CONSTRUCTION AND MAKE CORRECTIVE MEASURES WHEN APPROPRIATE. DECISIONS ARE TO BE MADE WITH THE APPROVAL OF BALTIMORE CO. DEPRM AND HUMAN & ROHDE, INC.
- FOLLOWING COMPLETION OF CONSTRUCTION, PRIOR TO USE, A QUALIFIED PROFESSIONAL (QP) SHALL INSPECT THE SITE TO ASCERTAIN CONDITION OF TREES IN RETENTION AREAS. IF NECESSARY, IMPLEMENT CORRECTIVE MEASURES FOR STRESS REDUCTION, REPAIR OF RETAINED TREE DAMAGE, AND REMOVAL OF DEAD OR DYING TREES THAT POSE A SAFETY HAZARD.
- BEGIN MITIGATION PLANTING SITE PREPARATION AND NOTIFY BALTIMORE CO. DEPRM AT (410) 887-3980 TO EXAMINE PLANT MATERIAL PRIOR TO INSTALLATION.
- NOTIFY THE LANDSCAPE ARCHITECT 48 HOURS PRIOR TO PLANTING TO FIELD LOCATE THE PLANT MATERIAL.
- PLANT MITIGATION AREA PER STANDARDS AND SPECIFICATIONS.
- NOTIFY BALTIMORE CO. DEPRM AND HUMAN & ROHDE, INC. WHEN PLANTING IS COMPLETE TO SCHEDULE AN INSPECTION.
- MONITOR MITIGATION PLANTING AND TAKE APPROPRIATE MAINTENANCE MEASURES TO INSURE SURVIVABILITY OF PLANTS.
- ONE YEAR AFTER THE PLANTING IS COMPLETE, AN INSPECTION & CERTIFICATION REPORT BY QP WILL TAKE PLACE TO GUARANTEE THAT AT LEAST 75% OF THE ORIGINAL TREES PLANTED HAVE SURVIVED. THE INSPECTION & CERTIFICATION REPORT WILL BE SUBMITTED TO DEPRM TO REQUEST AN INSPECTION OF THE PLANTING.
- A SECOND YEAR AFTER THE PLANTING IS COMPLETE, AN INSPECTION & CERTIFICATION BY QP WILL TAKE PLACE TO GUARANTEE THAT AT 75% OF THE ORIGINAL TREES PLANTED HAVE SURVIVED. THE INSPECTION & CERTIFICATION REPORT WILL BE SUBMITTED TO DEPRM TO REQUEST AN INSPECTION OF THE PLANTING.
- A FINAL INSPECTION & CERTIFICATION BY QP WILL TAKE PLACE AT THE END OF THE THREE YEAR MAINTENANCE PERIOD. A 75% SURVIVAL RATE OF TREES PLANTED IS REQUIRED. THE INSPECTION & CERTIFICATION REPORT WILL BE SUBMITTED TO DEPRM TO REQUEST AN INSPECTION OF THE PLANTING.

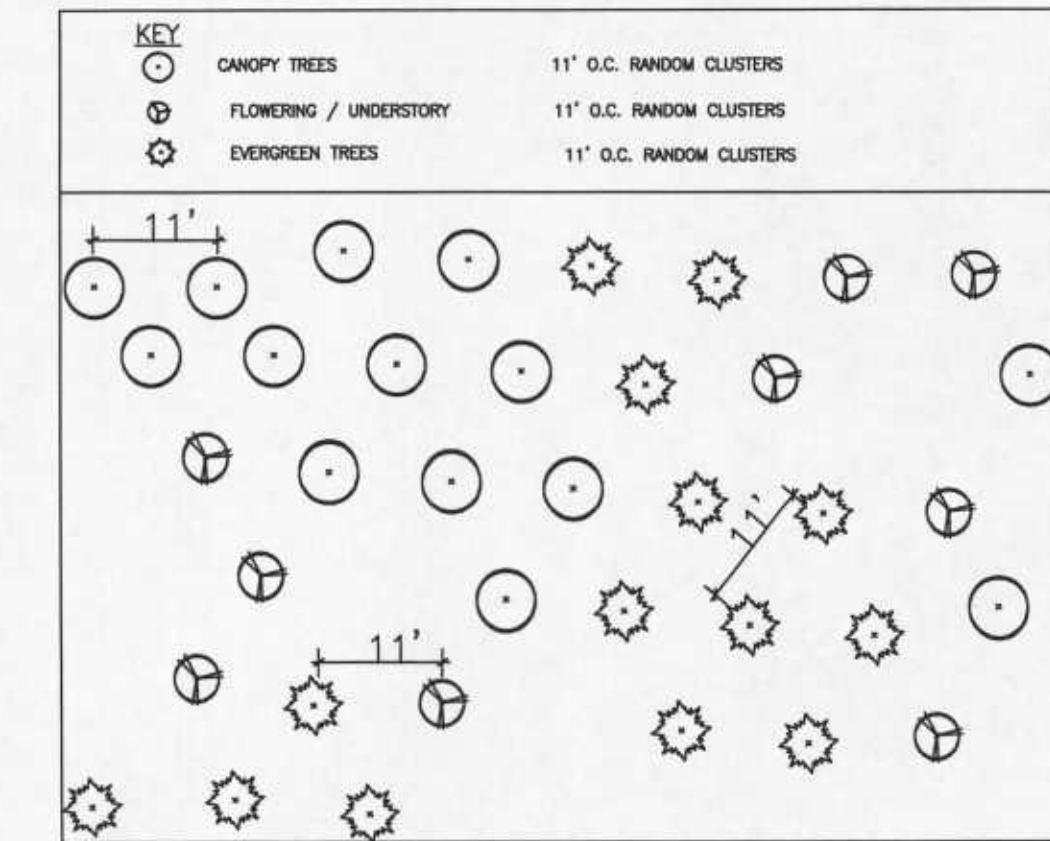
GENERAL NOTES:

- NO EQUIPMENT, VEHICLES, MACHINERY, DUMPING, STORAGE, OTHER CONSTRUCTION ACTIVITIES, BURIAL, FIRE, OR OTHER DISPOSAL OF CONSTRUCTION MATERIALS SHALL BE LOCATED INSIDE THE CRITICAL AREA EASEMENT.
- FOREST RETENTION AND PROTECTIVE DEVICES WILL BE VISABLE, WELL ANCHORED, APPROVED IN THE FIELD BEFORE CLEARING OR GRADING, OR WHEN CONSTRUCTION COMMENCES AND WILL BE IN PLACE AND MAINTAINED AS NEEDED UNTIL CONSTRUCTION COMPLETION, FINAL INSPECTION, AND AN OCCUPANCY PERMIT IS ISSUED.
- PROTECTIVE SIGNAGE IS TO REMAIN IN PLACE PERMANENTLY.
- ATTACHMENT OF SIGNS OR ANY OTHER OBJECT TO TREES IS PROHIBITED.
- THIS PLAN IS TO BE USED FOR CRITICAL AREA MANAGEMENT PURPOSES ONLY.

MITIGATION PLANT LIST

QTY	BOTANICAL NAME COMMON NAME	SIZE	COND	REMARKS
44	LIQUIDAMBAR STYRACIFLUA SWEETGUM	2" CAL.	CONT.	
27	ULMUS AMERICANA 'VALLEY FORGE' VALLEY FORGE AMERICAN ELM	2" CAL.	CONT.	
49	ACER x FREEMANII 'AUTUMN BLAZE' AUTUMN BLAZE MAPLE	2" CAL.	CONT.	
9	TAXODIUM DISTICHUM BALD CYPRESS	25 GAL.	CONT.	
50	BETULA NIGRA 'HERITAGE' HERITAGE RIVER BIRCH	6-8' HT.	CONT.	MULTI-STEM
37	PLATANUS OCCIDENTALIS AMERICAN SYCAMORE	2" CAL.	CONT.	
175	CLETHRA ALNIFOLIA SWEET PEPPERBUSH	24-30" HT.	CONT.	5' O.C.
180	ITEA VIRGINICA VIRGINIA SWEETSPIRE	24-30" HT.	CONT.	5' O.C.
175	HYDRANGEA QUERCIFOLIA OAKLEAF HYDRANGEA	24-30" HT.	CONT.	5' O.C.
150	LINDERA BENZOIN 'RUBRA' RUBRA SPICEBUSH (MALE)	24-30" HT.	CONT.	5' O.C.

NOTE: PLANT LIST COMPLIES WITH MAA PLANTING REQUIREMENTS.

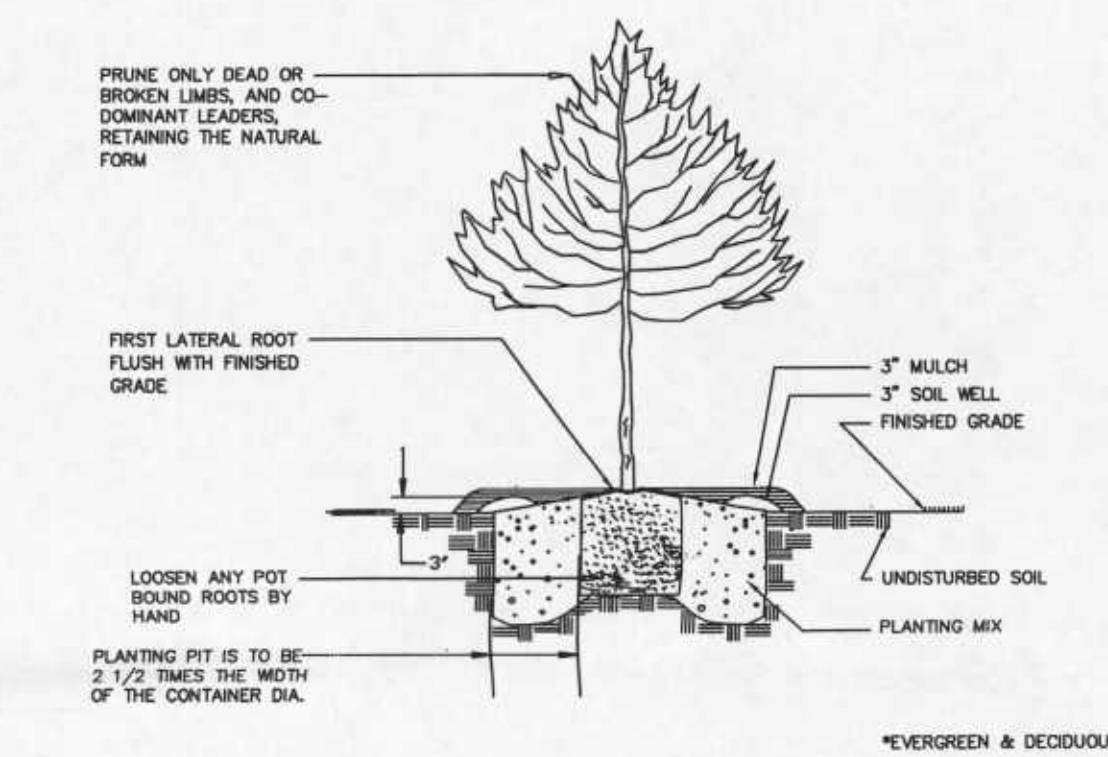


AFFORESTATION PLANTING DETAIL - NOT TO SCALE

MITIGATION CALCULATIONS

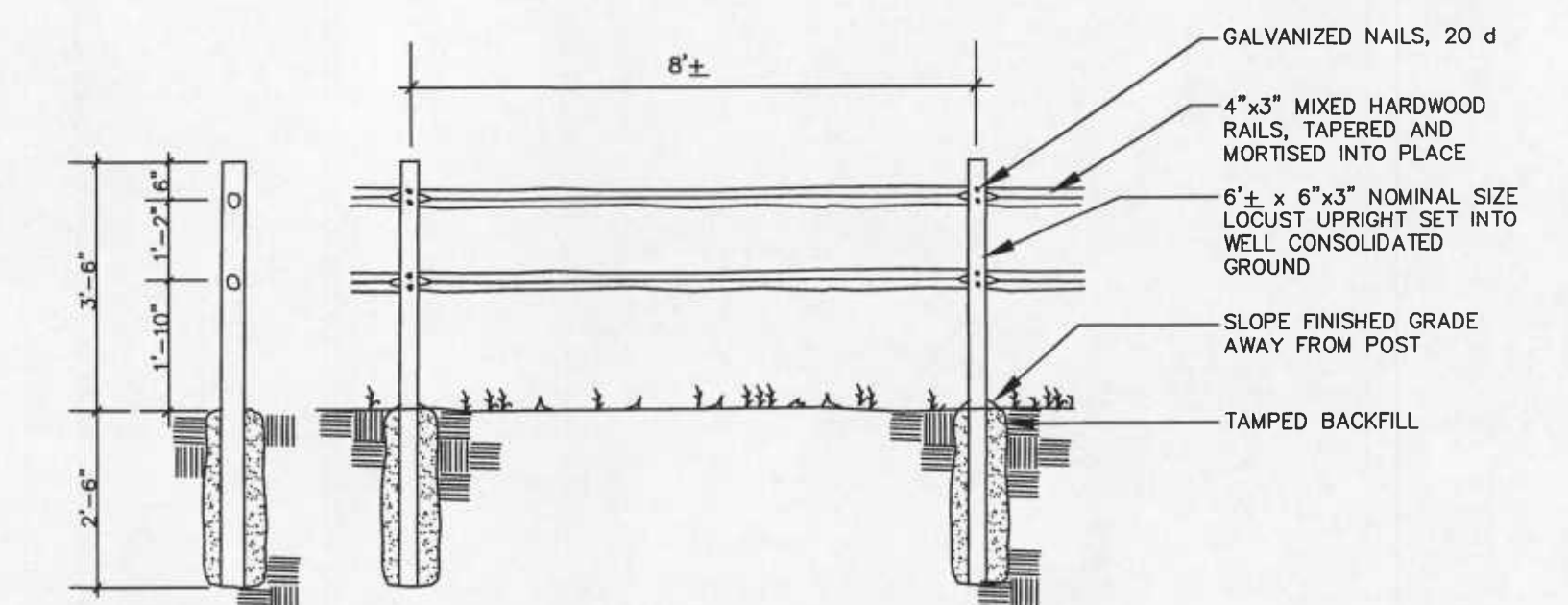
TYPE	DESCRIPTION	AMOUNT	RATE	TOTAL
LDA	TEMPORARY (GRADING) BUFFER IMPACTS	41,047 SF	3:1	123,141 SF
LDA	PERMANANT (LOT COVERAGE) BUFFER IMPACTS	8,374 SF	3:1	25,122 SF
LDA	ESTIMATED REMOVAL OF TREES IN BUFFER	4	3:1	12
LDA	15% TREE COVER	17.5 AC	15%	2.6 AC (MET ONSITE)
<b>TOTAL</b>				<b>148,263 SF = 3.4 AC</b>

*RE Sap  
sum pnd  
included*



PLANTING DETAIL FOR CONTAINER GROWN TREES\* AND SHRUBS  
NOT TO SCALE

*include  
obstacles?  
in addition?*



2 RAIL SPLIT RAIL FENCE DETAIL

Not To Scale

PLANTING QUANTITY CALCULATIONS:

- 3.4 ACRES @ 100 TREES/AC @ 2" CALIPER = 340 TREES REQUIRED
- 60% CANOPY DOMINANT SPECIES
- 40% SHRUBS @ 5 SHRUBS = 1 TREE

TOTAL  
 204 2"- CALIPER TREES + 12 REPLACEMENT TREES = 216 TREES  
 680 24-36" CONTAINER GROWN SHRUBS

WALLACE, MONTGOMERY & ASSOCIATES, LLP  
 CIVIL AND STRUCTURAL ENGINEERS

Human & Rohde, Inc.  
 Landscape Architects & Land Planners

A JOINT VENTURE

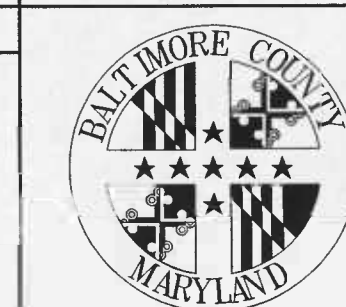
AS-BUILT PER RECORD PRINT	REVISION	DATE	BY	P. W. A. NO.	KEY SHEETS	POSITION SHEETS	DRAWING SCALE	PROPERTY MANAGEMENT		
DRAFTSMAN DATE				PWA_NUM	X-XX KEY SHT2 KEY SHT3 KEY SHT4	XX NW XX XX NW XX POS SHT3 POS SHT4	PLAN : PROFILE : HCR. VERT. :	APPROVED _____ DATE _____ MANAGER		
WALLACE, MONTGOMERY & ASSOC.	DSGN BY _____	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	DEPARTMENT OF RECREATION & PARKS
ENGINEER ANTONIO A MAWRY	DWN BY _____	REVIEWED								APPROVED _____ DATE _____ DIRECTOR
DATE LIC. NO.: 19195	CHKD BY _____	DATE								DATE _____

SUBDIVISION: MIDDLE RIVER

HAWTHORNE TRAIL SYSTEM  
 18,250 L.F. OF ON & OFF ROAD BICYCLE ROUTE WITHIN MIDDLE RIVER  
 SUBDIVISION ON HAWTHORNE PENINSULA

CRITICAL AREA MANAGEMENT PLAN

SHEET DESIGNATION MITIGATION PLANT LIST DETAILS & NOTES	CONTRACT NO. XXXXX
	JOB ORDER NO. XXX-XXXX-XXXX
	SHEET 45 OF 45
	DRAWING NO. LA-03
	FILE NO. X



BALTIMORE COUNTY TITLE NUMBER