



## CERTIFICATE OF AUTHENTICITY

THIS IS TO CERTIFY THAT THE FOLLOWING ELECTRONIC RECORDS ARE TRUE AND ACCURATE REPRODUCTIONS OF THE ORIGINAL RECORDS OF JAMES CITY COUNTY GENERAL SERVICES DEPARTMENT- STORMWATER DIVISION; WERE SCANNED IN THE REGULAR COURSE OF BUSINESS PURSUANT TO GUIDELINES ESTABLISHED BY THE LIBRARY OF VIRGINIA AND ARCHIVES; AND HAVE BEEN VERIFIED IN THE CUSTODY OF THE INDIVIDUAL LISTED BELOW.

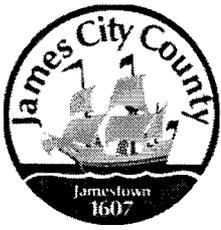
**BMP NUMBER:** SC002

**DATE VERIFIED:** April 12, 2012

**QUALITY ASSURANCE TECHNICIAN:** Leah Hardenbergh

*Leah Hardenbergh*  
\_\_\_\_\_

**LOCATION:** WILLIAMSBURG, VIRGINIA



# Stormwater Division

## MEMORANDUM

**DATE:** March 10, 2010  
**TO:** Michael J. Gillis, Virginia Correctional Enterprises Document Management Services  
**FROM:** Jo Anna Ripley, Stormwater  
**PO:** 270712  
**RE:** Files Approved for Scanning

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**General File ID or BMP ID:** SC002

**PIN:** 5920300001A

**Subdivision, Tract, Business or Owner**

**Name (if known):** Brookside Haven

**Property Description:** Common Area

**Site Address:**

*(For internal use only)*

**Box** 8

**Drawer:** 5

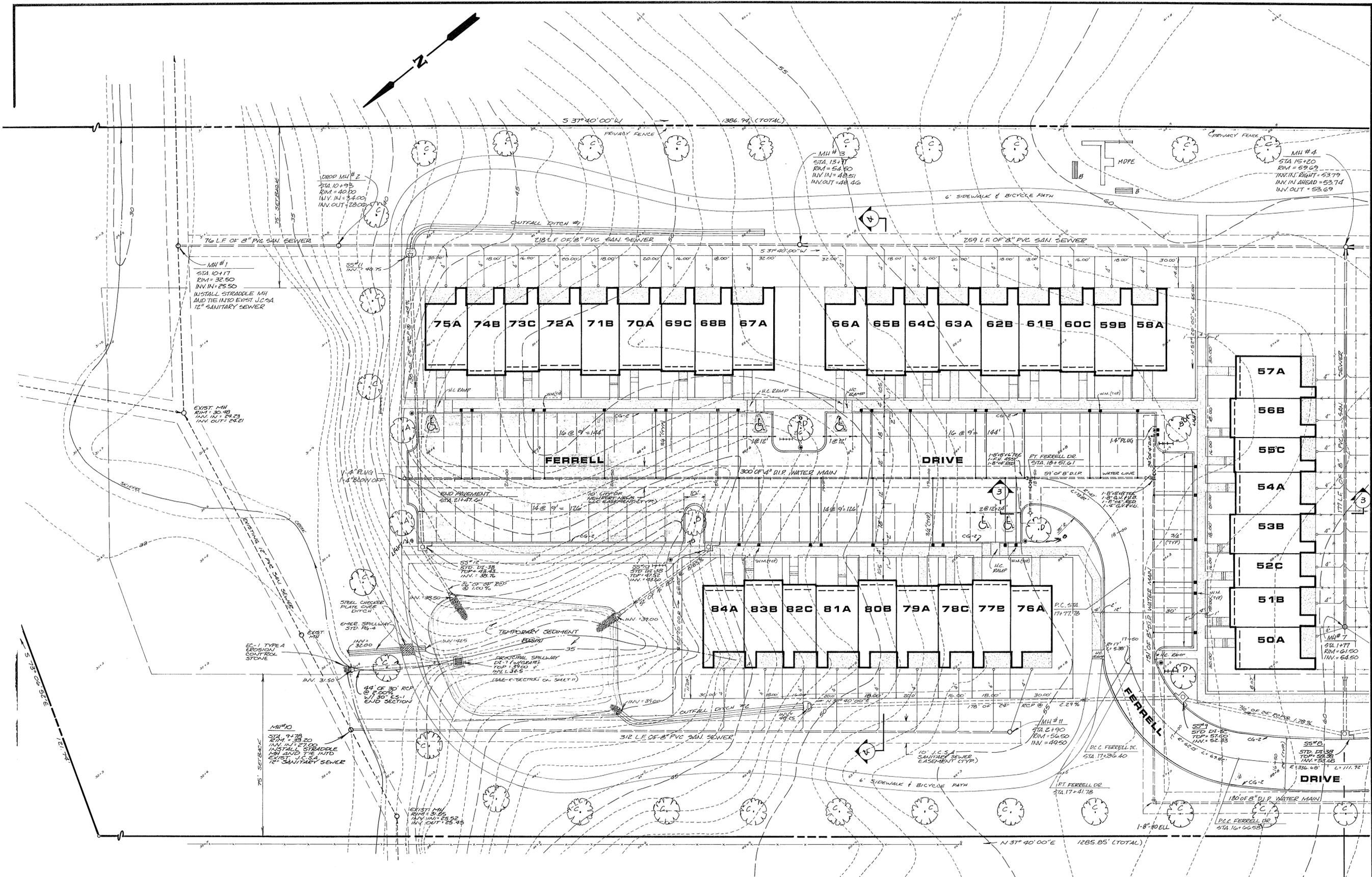
**Agreements:** (in file as of scan date)

N

**Book or Doc#:**

**Page:**

Comments



- NOTES:**
- SEE SHEET 6 FOR MORE DETAILED STORM SEWER INFORMATION.
  - MDPE: MULTI-DISCIPLINED PLAY EQUIPMENT (SWINGS, SLIDE, CLIMB, ETC.)
  - DASHED LINE SHOWN ON UNIT FRONT IS FRONT WALL AT FIRST FLOOR LEVEL.
  - FOR SITE CROSS SECTIONS, SEE SHEET 10.
  - SEE SHEET 3 FOR PLANTING SCHEDULE.

- LEGEND**
- STREET LIGHT - 100 WATTS MERCURY VAPOR WIDE AREA LUMINAIRE ON 10' POLE
  - BIKE RACK (4 SPACES)

**NOTE:** TEMPORARY SEDIMENT BASIN (PHASE I) TO BE REMOVED UPON COMPLETION OF PHASE II AND STABILIZATION OF ALL DISTURBED AREAS. INLET PIPES & DITCHES TO BE TIED IN WITH EXTENSION OF PAVED OUTFALL DITCH TO SKIFFES CREEK.

WATER: 8775 + 5000  
 1314,000  
 Sewer: #8,000  
 \$ 22,000



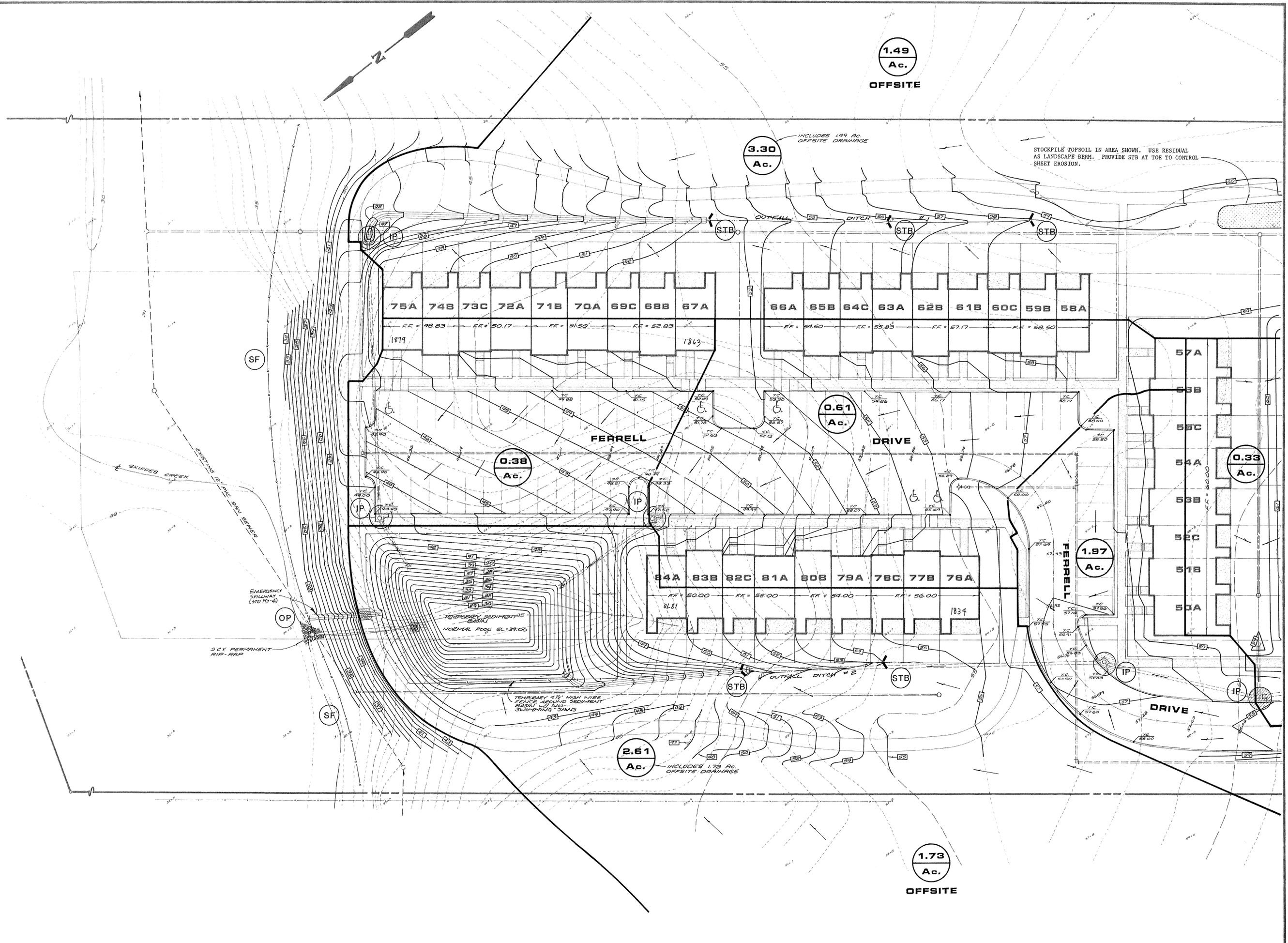
**AES**, a professional corporation  
 1761 Jamestown Road, Williamsburg, Va. 23185  
 804-253-0040  
 Architecture, Engineering, Surveying, Planning

**SITE PLAN**  
**BROOKSIDE**  
 OWNER/DEVELOPER:  
 FERRELL GENERAL CONSTRUCTION CORPORATION  
 PRESIDENT  
 JESSE FERRELL  
 ROBERTS DISTRICT  
 JAMES CITY COUNTY  
 VIRGINIA



NO.	DATE	REVISION / COMMENT / NOTE	BY
1		ISSUED FOR PERMITS	
2		REVISED PER L.C.C. COMMENTS	
3		REVISED PER L.C.C. COMMENTS	
4		REVISED PER L.C.C. COMMENTS	

Designed JHB	Drawn BKL/OSB
Scale 1"=20'	Date FEB.1984
Project No. 5446	
Drawing No. 4	



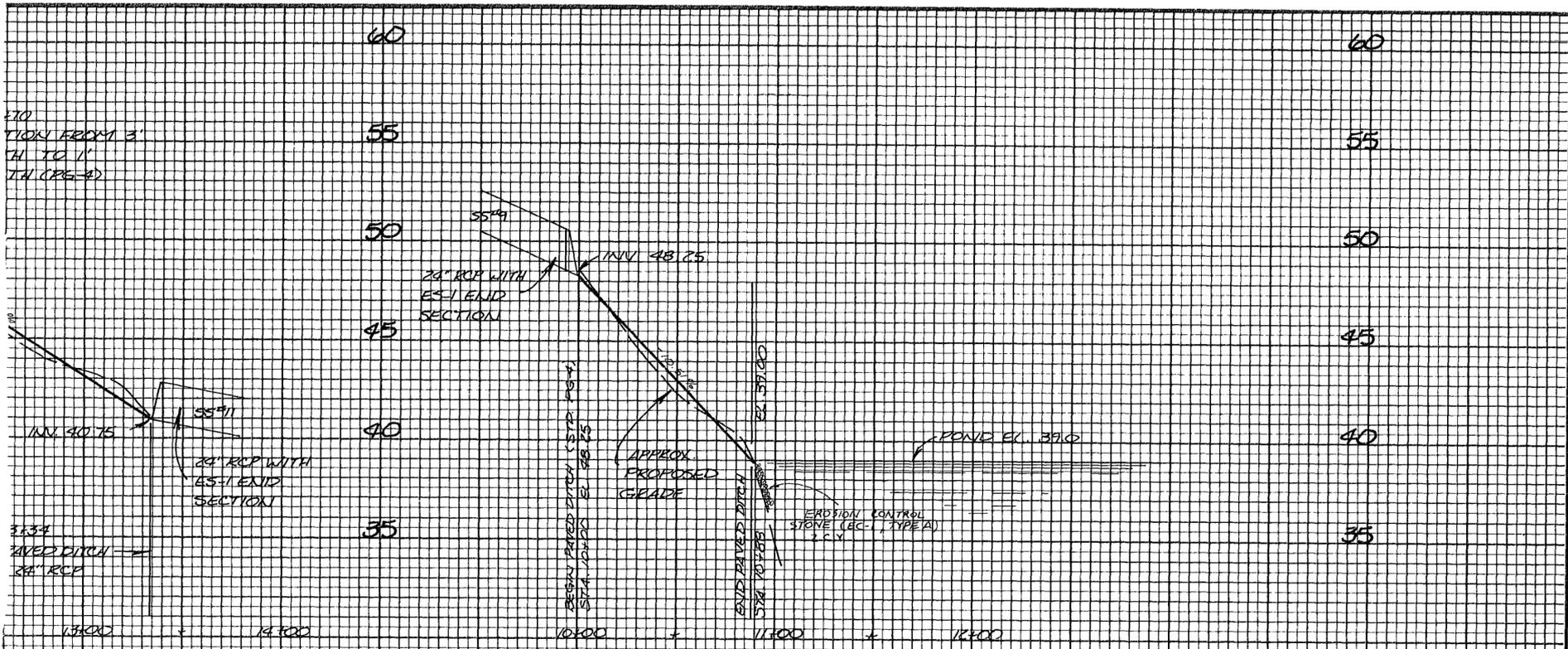
**AES**, a professional corporation  
 1761 Jamestown Road, Williamsburg, Va. 23185  
 804-253-0040  
 Architecture, Engineering, Surveying, Planning

**DRAINAGE, GRADING, EROSION CONTROL**  
**BROOKSIDE**  
 OWNER/DEVELOPER:  
 FERRELL GENERAL CONSTRUCTION CORPORATION  
 JESSE FERRELL, PRESIDENT  
 ROBERTS DISTRICT JAMES CITY COUNTY VIRGINIA



NO.	DATE	REVISION / COMMENT / NOTE	BY

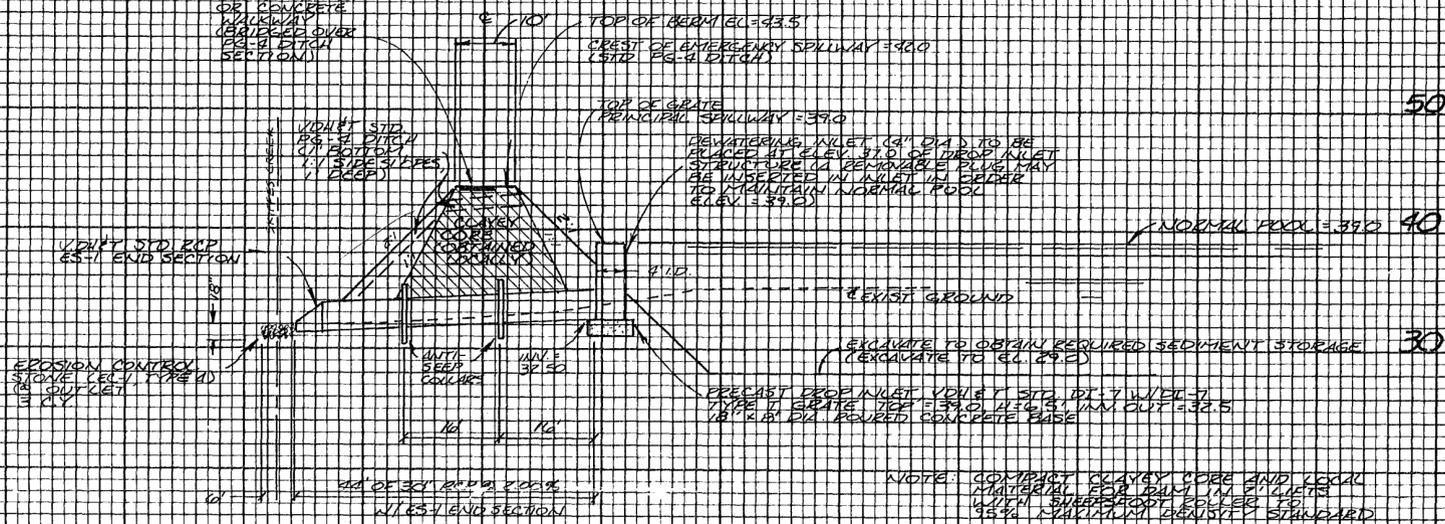
Designed JHB	Drawn BKL/GSB
Scale 1"=20'	Date FEB. 1994
Project No. 5446	
Drawing No. 7	



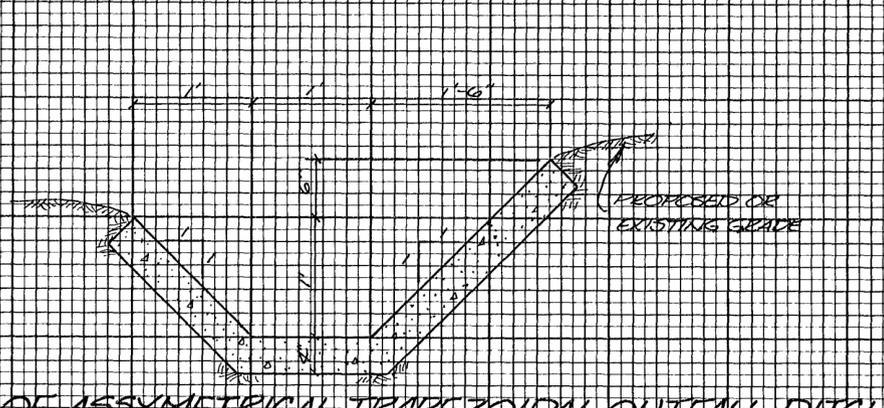
**OUTFALL DITCH #2**

BEHIND UNITS 76 = 5' 6"  
 SCALE: 1" = 5' VERTICAL, 1" = 50' HORIZONTAL  
 STD. PG. 4, 1/1 SIDE SLOPES, 1' BOTTOM, 1' DEPTH

16" WIDE ASPHALT OR CONCRETE WALKWAY (MAINTENANCE OVER SECTION)

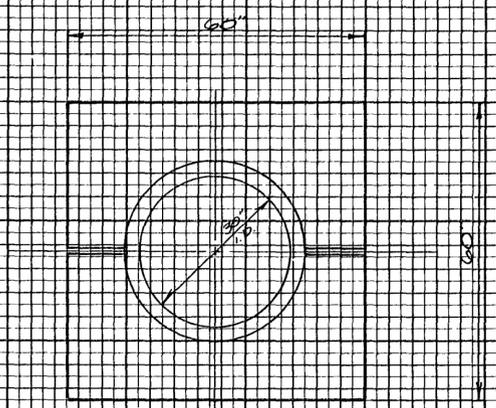


**CROSS SECTION OF TEMPORARY SEDIMENT BASIN AT PRINCIPAL SPILLWAY**  
 SCALE: 1" = 10' VERTICAL, 1" = 20' HORIZONTAL



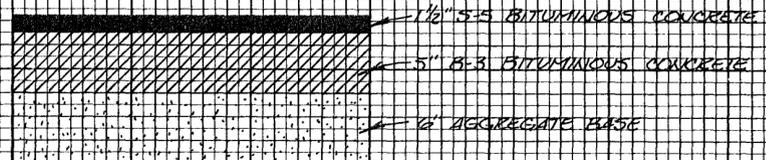
**DETAIL OF ASSYMETRICAL TRAPEZOIDAL OUTFALL DITCH**

1:1 SIDE SLOPES  
 BEHIND UNITS 58-75 FROM STA 1344 TO STA 1343  
 NOTE: HIGHER WALL SHALL BE CONSTRUCTED ON OUTSIDE OF BEHIND IN OUTFALL DITCH  
 SCALE: 1" = 1' VERTICAL, 1" = 1' HORIZONTAL

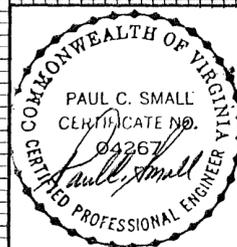


**ANTI-SEEP COLLAR**

2 REQUIRED  
 SCALE: 1" = 3'-0"  
 NOTE: SEE NOTE 'U' IN DESIGN OF PERMANENT SEDIMENT BASIN NOTES.



**PAVEMENT DETAIL FOR TURN & TRANSITION LINES**  
 SCALE: 1" = 10'



NO.	DATE	DESCRIPTION	BY	CHKD.
1	4/23/84	REVISIONS PER J.C.C. REVIEW	GAM	PCS
REVISIONS				

AES, a professional corporation  
 1761 Jamestown Road, Williamsburg, Va. 23186  
 804-263-0040  
 Architecture, Engineering, Surveying, Planning

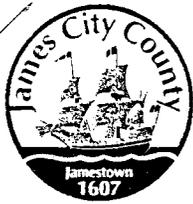
**SECTIONS, DETAILS, & PROFILES**  
**BROOKSIDE**  
 OWNER/DEVELOPER :  
 FERRELL GENERAL CONSTRUCTION CORPORATION

ROBERTS DISTRICT      JAMES CITY COUNTY      VIRGINIA

DES	JHB	JOB NO	5446
DRWN	VMB	DATE	FEB., 1984
APP	PCS	SCALE	NOTED

SHEET NO **11**





## DEVELOPMENT MANAGEMENT

101-E MOUNTS BAY ROAD, P.O. BOX 8784, WILLIAMSBURG, VIRGINIA 23187-8784  
(757) 253-6671 Fax: (757) 253-6850 E-MAIL: devtman@james-city.va.us

CODE COMPLIANCE  
(757) 253-6626  
codecomp@james-city.va.us

ENVIRONMENTAL DIVISION  
(757) 253-6670  
environ@james-city.va.us

PLANNING  
(757) 253-6685  
planning@james-city.va.us

COUNTY ENGINEER  
(757) 253-6678  
INTEGRATED PEST MANAGEMENT  
(757) 259-4116

October 18, 2001

Brookside Haven HOA, Inc.  
c/o Andleton Management  
12725 McManus Boulevard  
Suite 2H  
Newport News, Va. 23602

Re: Brookside Haven Subdivision  
Pocahantas Trail (US Route 60)  
Stormwater Management Facility  
County BMP ID Code: SC 002

Dear Representative:

As a result of our County-wide BMP inspection program and due to some recent inquiries by concerned residents of Brookside Haven, the James City County Environmental Division is forwarding information about the wet pond facility located within the community. In addition to specific comments as outlined below, the following additional information is also attached for your group's review and use:

- A 1 inch = 300 ft. scale map showing the general location of the facility.
- A current Inspection Report for the wet pond as performed on April 16<sup>th</sup> 2001.
- A specific maintenance plan for the wet pond.
- General landscaping guidance for stormwater management facilities (tips).
- Two (2) Informative Brochures published by the Association of State Dam Safety Officials - *Dam Ownership: Responsibility and Liability* and *Dam Ownership: Procuring the Services of a Professional Engineer*.
- An informational brochure entitled *A Guide for Maintaining and Operating BMP's* as distributed through our office. This pamphlet was developed through a cooperative effort by the Hampton Roads Regional Stormwater Management Committee and HR STORM, a regional stormwater education effort offered by the Hampton Roads Planning District Commission.

There is a very limited amount of plan, detail and computation data in our record files relative to this stormwater management facility and onsite drainage system for the subdivision. The design plans for the subdivision were prepared by AES Consulting Engineers of Williamsburg, Virginia in 1984 (Project No. 5446). Photocopies of the pond plan and detail views are attached for your information.

Since the stormwater management facility is a wet pond with an engineered fill embankment and a considerable size normal pool area, a general maintenance plan was prepared and provided as a courtesy. The plan was prepared based on our general knowledge of maintenance required for these types of facilities and as a result of our site specific field inspection. It is provided for information and guidance purposes when no other specifically approved maintenance plans are available for use.

The maintenance plan only addresses normal structural and stormwater runoff control characteristics necessary for safe function of the facility. Landscaping, cosmetic or ornamental features which are not related to stormwater function or structural integrity are usually left to the discretion of the owner or it's designated representative. The plan is not meant to replace or supersede any specific recommendations offered by a qualified professional.

#### *Specific Comments about the Wet Pond*

Based on field observations, the facility appears to be in satisfactory condition for its age. Adequate mowing and landscaping activities are being performed routinely on the north (trail) side of the pond. However, the facility is in need of regular (routine) maintenance typical of most older wet pond facilities in the County. From our perspective, main concerns were the presence of bare soil areas and large trees along the downstream portion of the fill embankment; an extensive amount of trash, wood debris, litter and organic material on and around the riser structure, top grate and within the facility; erosion along the edge of the concrete emergency spillway; and accumulated vegetation, sediment and debris at drainage outfalls into the pond facility.

The pond fill embankment is located along the north (trail) side of the pond between the wet pool and Skiffes Creek. About 40 percent of the downstream (stream side) fill slope has bare soil conditions and rill erosion is starting to occur, especially along the upper part of the embankment near the asphalt trail and on the west (left looking downstream) side of the facility. These areas should be stabilized with erosion control matting and seed and mulch.

In addition, six (6) larger trees are present on the downstream embankment adjacent to the stream. These trees appear as old as the facility as they are well-established and roots may be penetrating into the embankment zone. Usually trees, shrubs and woody vegetation are not permitted to grow on any part of pond embankments constructed using engineered (compacted) fills. Saturated roots mats combined with high wind can cause trees to overtop and accelerate soil erosion and embankment failure. In addition, higher flood flows from along the adjacent natural stream could erode and wash unstable trees and roots systems away creating a location for erosion and/or possible embankment failure to start. Usually for this type of condition, we recommend that the subject trees be cut to or below ground level and be maintained in that fashion as to not disturb root systems that may already be extensive. Efforts should then be made to establish and keep a low maintenance grass covering on the entire downstream embankment.

Vegetation around the wet pool (ie. inside the fence) was considerable, consisting of saplings and larger trees with thick ground cover. Vegetation around the pool was of sufficient height and character to prevent shoreline erosion, deter unauthorized access and to provide a natural buffer to filter adjacent runoff.

The primary flow control structure for the pond is a VDOT DI-7 type concrete riser with a 2.5 ft. square grate on top. A 30-inch reinforced concrete pipe extends from the riser through the dam embankment to the natural stream at the north (trail) side. There was an excessive amount of trash, litter, wood debris and organic material not only on the riser and grate, but on the interior north side slope of the facility and around the entire wet pond perimeter, especially where storm drainage enters the facility from storm drain pipes and open channels at the east and south sides. *(Note: Following our inspection in April, efforts were performed to clean up trash and litter around the facility; however, cleaning efforts should continue as it's importance is critical to function of the facility.)* All materials as such should be immediately cleaned and removed from the facility which could float to and clog the flow control structures and prevent the free movement of water. Also, the grate on top of the riser structure should be removed and the inside of the concrete riser inspected thoroughly and cleaned of all trash, debris and sediment.

Sediment depth was measured at various locations within the facility. Sediment depths averaged about 2 feet deep across the facility with deeper areas present at the riser structure and at pipe and channel outfalls into the facility. Although cleaning of sediment from the bottom of the pond is not immediately necessary, it does appear that the facility may be very near to a point where clean out should be considered, especially at the riser and drainage inflow points. Although, sediment removal may be required in the near future; preventative measures such as monitoring and implementing upland activities (ie. stabilizing upstream disturbed areas), stabilizing shoreline areas and incremental cleaning efforts are strongly encouraged.

The emergency spillway for the facility is an approximate 1 foot deep concrete-lined trapezoidal shaped channel which runs from the upstream side of the facility through the embankment and across the asphalt trail to the natural stream. This feature is primarily utilized for larger storm events in combination with the riser/grate structure. Although the spillway was relatively clean and in good condition, erosion was evident along the sides of the channel at the concrete/soil interface. Erosion areas should be repaired by placing compacted soil and stabilizing with seed and mulch.

The pond has three (3) primary locations where drainage inflows into the facility. One is a 24-inch storm drain at the northeast corner of the facility, a 15-inch storm drain located in the southeast corner of the facility (near to the fence gate) and the last is a channel-pipe inflow located at the southwest corner of the facility. Debris, sediment and vegetation at the outfall ends of each of the inflows needs removed as to not restrict stormwater flow into the pond. Clearing and sediment removal is only needed in the immediate vicinity (approximately 10 to 15 feet) of the outfalls.

Future consideration should be given to incorporating half-moon shaped submerged riprap forebays at each of the three pipe-channel outfalls to trap and limit sediment deposition to areas which can be hand cleaned on a regular basis and to prevent continued sediment build-up in the main pond bottom (storage) areas. *(Note: If pursued, review and approval of sediment forebay plans and details at these locations may be necessary by the Environmental Division. Contact our office at 253-6639).*

Secured access and the condition of the perimeter chain link fence which encircles the entire pond facility appeared acceptable. A key to the locked gate should be forwarded to our division in order to perform future inspections of the facility.

In addition, a cursory investigation was performed on the connecting upstream storm drainage system which conveys flow to the BMP. Most of the storm inlets are curb-type inlets located in parking areas and along interior roadways. Many of the inlets had normal amounts of trash, debris, sediments, leaves and grass clippings within the structures.

All inlets should be inspected on a routine basis and any such materials and obstructions removed to prevent migration of these items to the wet pond and to prevent ponding at the inlets which could cause flooding in the parking/roadway areas.

Residents should be educated on aspects of watershed awareness and preventing pollution from entering the storm drainage system. *(Contact the Environmental Division if further information is needed related to watershed education and awareness.)*

Hopefully, this material is helpful to your group to understand maintenance associated with the wet pond. Please review the attached information and contact us at 757-253-6639 or 757-253-6673, if you have any further questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott J. Thomas". The signature is fluid and cursive, with a long horizontal stroke at the end.

Scott J. Thomas, P.E.  
Civil Engineer  
Environmental Division

SJT/sjt  
Enclosures

Shared\SWMPProg\Education\Subdivisions\Brookhav.let2



**James City County Environmental Division  
Stormwater Management / BMP Inspection Report  
Detention and Retention Pond Facilities**

GRIN 592030001A

Database Inventory No. (if known): SC 002

Name of Facility: Brookside Haven BMP No.: 1 of 1 Date: 4/16/01

Location: 8979 POLKANTAS Trail (NW Corner of site) near 1870 Ferrell

Name of Owner: Brookside Haven Homeowners Assoc. Inc.

Inspector: SJ THOMAS

Type of Facility: Wet Pond

Weather Conditions: Cloudy, Cool, 60's

If an inspection item is not applicable, mark NA, otherwise mark the appropriate column.



- O.K. - The item checked is in adequate condition and the maintenance program is currently satisfactory.
- Routine - The item checked requires attention, but does not present an immediate threat to the function of the BMP.
- Urgent - The item checked requires immediate attention to keep the BMP operational and prevent damage to the facility.

Provide an explanation and details in the comment column, if routine or urgent are marked.

Facility Item	O.K.	Routine	Urgent	Comments
Embankments and Side Slopes: <i>STEEP 2H:1V FILL SLOPE DIRECTLY ALONG STREAM BOTTOM 1/2 NATURAL VEG. / TOP HALF NEARLY BARE</i>				
Grass Height			X	40% OF D/S EMB BARE & SIGNS OF EROSION.
Vegetation Condition			X	BOTTOM HALF OK, UPPER HALF SEED & MULCH
Tree Growth			X	6 LARGE TREES NEED REMOVED
Erosion		X		D/S LEFT (NORTH) EROSION AREA
Trash & Debris	X			NONE ON D/S EMBANKMENT
Seepage	X			
Fencing or Benches	X			
Interior Landscaping/Planted Areas: <input type="checkbox"/> None <input type="checkbox"/> Constructed Wetland/Shallow Marsh <input checked="" type="checkbox"/> Naturally Established Vegetation				
Vegetated Conditions	X			10-20' HIGH SAPLINGS &
Trash & Debris		X	X	TREES, ENTIRE INSIDE
Floating Material			X	PERIMETER BANK & SHORELINE
Erosion	X			
Sediment	X			
Dead Plant	X			
Aesthetics				NATURAL WOODED LOOK
Other				
<i>Tributary Areas - TOWNHOMES, PARKING &amp; ROADS</i>				

Facility Item	O.K.	Routine	Urgent	Comments
Water Pools	<input checked="" type="checkbox"/> Permanent Pool (Retention Basin) <input type="checkbox"/> Shallow Marsh (Detention Basin) <input type="checkbox"/> None (Detention Basin)			
Shoreline Erosion	X			SOME BARE AREAS
Algae		X		EVIDENT BARK AREA
Trash & Debris			X	WOOD, LOGS, BOTTLES, BALLS, LITTER
Sediment		X		CANS, ETC. 2-4' DEEP @ RISER.
Aesthetics		X		TRASH & LITTER
Other				POOL 3' DEEP @ RISER (2' IN BACK)
Inflow Structures (Describe Locations): 3 PIPES 1) NE 12" RCP ES-1 2) SOUTH 12" RCP ES-1 3) SW 24" WITH ES-1				
Condition of Structure	X			
Erosion	X			
Trash and Debris			X	CLEAN TRASH & DEBRIS, SED FROM ALL OUTFALLS. REMOVE TREES WITHIN 15' OF EACH OUTFALL
Sediment		X		
Aesthetics		X		
Other				
Principal Flow Control Structure - Intake, Riser, etc. (Describe Location): RCP TOP (5' DIA) RCP RISER				
Condition of Structure	X			
Corrosion	X			
Trash and Debris			X	2-3" TRASH & DEBRIS OVER GRATE (2.5x2.5)
Sediment	X			RELATIVE CLEAN INSIDE.
Aesthetics				RISER STAGNANT
Other			X	RECOMMEND REMOVAL OF TOP CAP & CLEAN RISER.
Principal Outlet Structure - Barrel, Conduit, etc.: 30" RCP w/ ES-1				
Condition of Structure	X			
Settlement	X			
Trash & Debris		X		REMOVE @ OUTFALL & STREAM
Sediment	X			
Erosion	X			
Other		X		CLEAN WOOD DEBRIS ALONG STREAM AT BARREL OUTFALL
Emergency Spillway (Overflow): PAVED SPILLWAY 1 FT DEEP (BOARDWALK OVER TOP)				
Vegetation	X			
Lining	X			GOOD CONCRETE LINING
Erosion			X	EROSION ALONG EDGE.
Trash & Debris	X			
Other				SHALLOW DEPTH.
TRASH LINE WITHIN 2' OF TOP OF EMB.				

Facility Item	O.K.	Routine	Urgent	Comments
Nuisance Type Conditions:				
Mosquito Breeding	X			BILLY C. VISIT AT SAME TIME. MINIMAL MISO. LARVAE
Animal Burrows	X			NONE
Graffiti	X			NONE.
Other		X		LITTER EVERYWHERE.
Surrounding Perimeter Conditions:				
Land Uses	X			UNITS + PARKING, WOODED
Vegetation	X			
Trash & Debris	X			NO UPLAND TRASH.
Aesthetics	X			DEV. WELL-MAINTAINED.
Access/Maintenance Roads or Paths	X			FERRELL DRIVE.
Other	X			CHAIN LINK SF AROUND POND GATE @ UNIT 1870 - UNLOCKED 6' HIGH.

- Remarks:
- Overtopped during Hurr Floyd and other events.
  - Upper 1/2 of D/S EMB (ALONG PAVED WALK) NEEDS GRADED SMOOTH & BARE SOIL AREAS VEGETATED.
  - 6 LARGE TREES NEED REMOVED, LARGE (6"-18") & UNSTABLE.
  - EMB D/S LEFT (NORTH) & ALONG EM SPILL EROSION AREAS (SIGNS OF OVERTOP)
  - CLEAN EXCESSIVE AMOUNT OF WOOD + TRASH DEBRIS, ENTIRE SHORELINE AND U/S EMBANK. CLEAN + REMOVE SED. 2-4' DEEP @ RISER.
  - CLEAN + REMOVE SED, TR + DEBRIS FROM RISER TOP GRATE ORIFICES + INSIDE. (IP. REMOVED 2-3" OF MUCK FROM GRATE)
  - SURF EROSION PIPE 3 (SW CORN)
  - CLEAN + REMOVE ALL SED, TRASH + DEBRIS + TREES FROM WITHIN 15' OF 3 PIPE OUTFALLS.
  - REPAIR EROSION ALONG EDGES OF EM. SPILLWAY.
  - INADEQ MAINT ON RISER CAUSING OVERTOP COND (GRATE OBSTRUCTION)
  - NO LOCK ON FENCE GATE.

Overall Environmental Division Internal Rating: 2 (TRASH, DEBRIS - RISER CAUSING OVERTOPPING COND)

ON-SITE SD SYSTEM - DC & CURB INLETS

EAST SYSTEM - EROSION AT 24" PIPE. D/S STORM MH COMPLETELY FULL & CLOGGED WITH SED. NON-FUNCTIONAL THIS WAS SAN MH CAP.

SOUTHWEST SYST - PULLED 3-4 STORM MH COVERS. TYPICAL SED, TRASH & DEBRIS. CLEAN ALL

Signature: Audrey Thomas PE Date: 4/16/01 11:00 AM

Title: CIVIL ENGINEER, ENVIRONMENTAL DIV

BUSCH

James City Co Z

US NAVAL WEAPONS STATION

23691

Rhine River GARDENS

Kingsmill Woods GC

Little Zion BAPT

60

HANWOOD

- SEE GRID 68
- 1 SAINT JUDE CIR
  - 2 PORTOFINO CT
  - 3 WESTLAKE CT
  - 4 COMMANDERS CT
  - 5 LONGHORN CT

WYNNS GROVE

SADIE EEE TAYLOR

656

656

COUNTRY HILL

64

HERITAGE TR PK

667

CARTERS

Reception Ctr  
 Winthrop Rockefeller Archaeological Museum

GROVE

Carters Grove Mansion

POCAHONTAS

BROOKSIDE HAVEN

WINDY HILL MHP

JAMES RIVER COMMERCIAL CTR

James River ES & Comm Ctr

JAMES RIVER COMMERCIAL CTR

James River ES & Comm Ctr

JAMES RIVER COMMERCIAL CTR

POPLAR HALL PLANTATION

23185

PARK

1305

JAMES CITY SURRY COUNTY

COUNTY

NEWPORT

330,000 FT

Joins Map 12 37°12'30"

VA GRID 320,000 FT

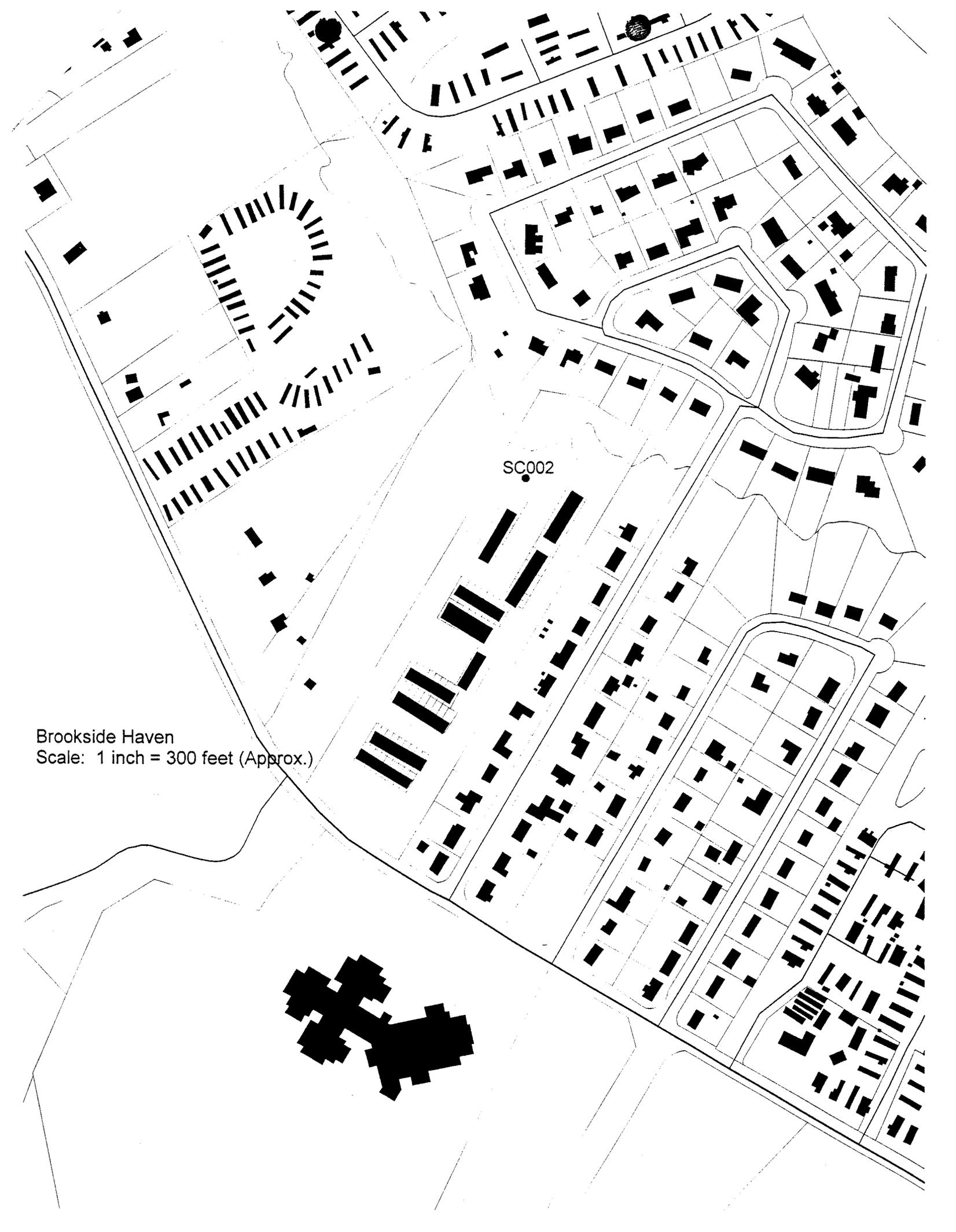
11

12

WATERSHED	SC	MAINTENANCE PLAN	No	CTRL STRUC DESC	DI-7 Riser
BMP ID NO	002	SITE AREA acre	6.291	CTRL STRUC SIZE inches	2.5 x 2.
PLAN NO	Unknown	LAND USE	Multi-Fam Resid	OTLT BARRL DESC	RCP Barrel
TAX PARCEL	(59-2)(3-1A)	old BMP TYP	Wet Pond	OTLT BARRL SIZE inch	30
PIN NO	5920300001A	JCC BMP CODE			
CONSTRUCTION DATE	1/1/1984	POINT VALUE		EMERG SPILLWAY	Yes
PROJECT NAME	Brookside Haven			DESIGN HW ELEV	42.5
FACILITY LOCATION	End of Ferrell Drive (NW Corner of Site)			PERM POOL ELE	39.0
CITY-STATE	Williamsburg, Va. 23185	SVC DRAIN AREA acres	12.44	2-YR OUTFLOW cfs	
CURRENT OWNER	Brookside Haven Home Owners Association			10-YR OUTFLOW cfs	38.82
OWNER ADDRESS	8979 Pocahantas Trail			REC DRAWING	No
OWNER ADDRESS 2		SERVICE AREA DESCRI	Townhouses, Parking & Roadways		
CITY-STATE-ZIP CODE	Williamsburg, Va. 23185	IMPERV AREA acres	9.30	CONSTR CERTI	No
OWNER PHONE		RECV STREAM	Skiffes Creek		
MAINT AGREEMENT	No	EXT DET-WQ-CTRL	Yes	LAST INSP DATE	1/25/2001
EMERG ACTION PLAN	No	WTR QUAL VOL acre-ft	0.02	INTERNAL RATING	4
		CHAN PROT CTRL	No	MISC/COMMENTS	
		CHAN PROT VOL acre-ft	0		75% imperv assumed. Design Plan 1984.
		SW/FLOOD CONTROL	Yes		
		GEOTECH REPORT	No		

[Get Last BMP No](#)

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Brookside Haven  
Scale: 1 inch = 300 feet (Approx.)

SC002

## **BROOKSIDE HAVEN - WET POND MAINTENANCE PLAN**

*(Note: This is a typical Maintenance Plan for your Detention or Retention Pond facility. For general use by the HOA, or other designated parties which are responsible for operation, maintenance and inspection of the facility when no other specifically approved plans are available. This is provided as a courtesy by the Environmental Division of James City County for informational purposes only. This plan addresses normal structural and stormwater runoff control aspects of the facility. It does not address landscaping, cosmetic, or ornamental features associated with the facility nor does it replace any specific recommendations offered by a registered professional.)*

### **Maintenance Plan (Detention or Retention Ponds)**

A maintenance program is required to ensure the Stormwater Management (SWM) / Best Management Practice (BMP) pond facility functions as designed and to provide for reasonable aesthetic conditions. Proper maintenance is encouraged to prevent the introduction of trash, debris and sediment into pretreatment areas (if applicable), the facility itself, its principal inflow and outflow control structures and downstream waterways. Following facility installation, acceptance and establishment of vegetation in disturbed areas, inspections for sediment buildups should be performed at least quarterly. It is anticipated that under normal conditions, sediment removal will be required once every 5 to 10 years. If other construction or land-disturbing related activities are performed upland of the primary structure, adequate protection measures should be implemented and inspection frequencies increased to at least once weekly.

The designated party will inspect the SWM/BMP structure after each significant rainfall event or the following working day if a weekend or holiday occurs. A significant rainfall for this structure is defined as one (1) inch or more of gauged rainfall within a 24 hour period. Once per year (more or less) a representative of the County may jointly inspect the structure. Appropriate action will be taken to ensure appropriate maintenance. Keys to locked access points or structures shall be made available to the County upon request.

**Facility Description:** *The stormwater management facility is located in the northwest corner of Brookside Haven along Skiffes Creek. The facility serves a drainage area of approximately 12.5 acres and is considered a wet pond facility. A wet pond has a permanent impoundment which enhances water quality and is normally "wet" even during non-rainfall periods. The water depth of the pond at its deepest location near the riser structure is about 10 feet. The facility contains a VDOT type DI-7 riser box with a top inlet grate, a 30-inch reinforced concrete outlet pipe barrel and a concrete-lined trapezoidal-shaped emergency spillway situated at the north embankment at the asphalt trail. The top grate on the riser structure controls normal pool and provides flow control up to and including the 10-year storm event. For larger storm events, specifically the 100-year storm, the maximum water level should rise above the grate on the riser and discharge through the emergency spillway about 0.5 feet in depth. Design high water for the 100-year event should remain about 1 foot below top of dam. Although the emergency spillway was designed to handle discharge for events above the 10-year storm, periodic use of the emergency spillway following smaller storm events could be indicative of clogging of the grate on the riser structure. If functioning properly, normal storm events should reach an elevation just over top of grate.*

### **Inspection and Maintenance of the Facility should consist of the following Additional Measures:**

1. Inspect for sediment buildup by visual observation and a physical determination of sediment depth at various locations within the pond's storage area. If sediment reaches a consistent level where approximately ½ of wet storage volume is lost, sediment removal should be considered. Although storage information for the facility is limited, this level is at a depth approximately 6 feet below top of riser (grate) at El. 33.0. At the same time, or at least once yearly, clean storm drain and channel outfall locations at the pond, the inside of the riser box and the outlet barrel of accumulated vegetation and sediments. Dispose of sediments removed from the facility at an acceptable disposal area.

2. Perform maintenance mowing of pond grasses at least twice each year. Grasses such as tall fescue should be mowed in early summer after emergence of the heads on cool season grasses and in late fall to prevent seeds of annual weeds from maturing. Mowing of legumes can be less frequent. Trees, shrubs and woody vegetation are not be permitted to grow on any part of the pond embankment that was constructed using engineered (compacted) fills.
3. Perform soil sampling on stabilized pond soil areas at least once every 4 years. Soil sampling and testing should be performed by a qualified independent soil testing laboratory such as VPI&SU. Contact the local Virginia Cooperative Extension office for further information. Apply additional lime and fertilizer in accordance with test recommendations.
4. In stabilized pond areas, if vegetation covers less than 40 % of soil surfaces, lime, fertilize and seed in accordance with recommendations for new seedlings. If vegetation covers more than 40 % but less than 70 % of soil surfaces, lime, fertilize and over seed in accordance with current seeding recommendations of the Virginia Erosion and Sediment Control Handbook (VESCH).
5. Following a significant rainfall event, or in no case longer than a quarterly basis, inspect the grate on top of the riser structure and the emergency spillway for the presence of trash, debris and organic matter that may prevent the movement of water. Remove any trash and litter at these and locations within the pond or downstream of the pond and at storm drain or channel inflow locations to maintain the integrity of the structure and provide for an attractive appearance.
6. Perform yearly structural inspections of the facility for damage. Structural inspection shall be performed on the riser structure, top grate, emergency spillway, outlet barrel and fill embankment. Exposed metal surfaces shall be painted to minimize rust damage or replaced if rust damage is irreversible. If damage is evident, further investigation by a registered professional engineer may be required to assess the integrity of the structure.
7. Perform quarterly inspections of the graded side slopes of the facility for signs of animal/rodent borrows or slope erosion. Immediately perform necessary repairs, refilling or reseeding.
8. Inspect the chain link fence which surrounds and encloses the stormwater management facility. Check all support posts, fence and access gate for signs of corrosion, weakness or failure. Repair or replace hardware or fencing as appropriate.
9. Perform yearly observations of perimeter areas surrounding the facility to ensure changes in land use, topography or access which may have occurred do not affect the operation, maintenance, access or safety features provided for the facility. Appropriate action is required to ensure adequacy and to provide a clear, safe passage for maintenance vehicles to the engineered embankment and principal flow control structures.
10. Record Keeping. Keep reasonable, accurate written records of inspections and maintenance activities performed for the BMP structure at all times. Records shall document routine maintenance and/or repairs performed. Copies shall be provided to the County upon request.
11. The facility shall not accept additional drainage or be modified in any way without prior consent or approval by the Environmental Division of James City County (253-6670).

***(End Maintenance Plan)***

## General Landscaping Guidance for All Stormwater Management /BMP Facilities

- Trees, shrubs and/or any type of woody vegetation are not allowed on earthen fill embankments.*
- Keep trees and shrubs at least 15 feet away from the toe of constructed embankment fill slopes.*
- Keep trees or shrubs having long taproot systems away from earthen dams or subsurface drains.*
- Keep trees and shrubs at least 25 feet away from perforated pipes, drains or stone/soil filters.*
- Keep trees and shrubs at least 25 feet away from principal flow control structures (risers, etc.).*
- Keep vegetation and sediment at least 15 feet from low flow orifice openings.*
- Clean trash and debris frequently from within the facility and at principal flow control structures. Only trained or authorized personnel should enter confined spaces or structural components of the facility.*
- Keep herbaceous (not woody) embankment plantings limited to ten (10) inches in height.*
- Maintain erosion control mats, blankets and fabrics in channels or on slopes to reduce erosion potential.*
- Keep emergency spillways stabilized with plant material that can withstand strong flows. Root material should be fibrous and substantial, but lacking a taproot.*
- Seed and mulch bare, exposed or formed soil erosion gullies. Divert surface runoff from any reseeded and mulched areas until stabilized.*
- Check water tolerances of existing native plant materials prior to inundation of pond areas.*
- Stabilize aquatic and safety benches with emergent wetland plant species or specialized wet-seed mix.*
- Keep access to embankments or flow control structures free of trees or shrubs. Ensure areas that are planted adjacent to access routes can withstand compaction, damage or vibration that may occur due to passing vehicles or heavy equipment.*
- To reduce thermal warming effects, shade inflow and outflow channels as well as southern exposures.*
- Avoid plantings that require routine or intensive chemical applications such as turf, etc.*
- Use salt-tolerant plants if excessive amounts of deicing salt are anticipated in inflow runoff.*
- Soil test perimeter areas periodically to determine if soil amendments are necessary. Contact the local office of the Virginia Cooperative Extension for assistance.*
- Select native plant species which adapt to local soil/weather conditions over exotic or foreign species.*
- Decrease or minimize areas where yard turf is used. Use low maintenance ground cover to absorb runoff where possible.*
- Maintain pond buffers (25 ft. minimum from design high water elevation) as meadow or forest areas. Preserve existing trees and ground cover within buffer areas to the greatest extent possible.*
- Discourage resident geese populations by planting trees, shrubs and native ground covers in non-forested pond buffer areas.*
- Plant stream and normal pool buffers with native trees, shrubs, grasses and herbaceous material where possible to stabilize banks, provide shade and provide for water quality enhancement.*
- Use selective or strategic plantings to minimize access to deeper pools, steep slopes or structures.*
- If warranted, provide educational signs around the perimeter of the facility to indicate that it is a Stormwater Management Area or to designate planting, maintenance or mowing (or non-mowing) zones.*
- Avoid the overuse of any one type of plant material and seed mixtures with weeds or invasive species.*
- Preserve existing, native vegetation to the greatest extent possible unless it deters from the stormwater function or structural integrity of the facility. Strive to keep all tributary drainage areas stabilized..*
- Aesthetics and cosmetic characteristics are an important consideration. Strive to maintain a natural, scenic character for the BMP that blends well with the community theme, physical location and all surrounding land uses. Screening is promoted, but care should be exercised to avoid conflicts with maintenance activities or that which would threaten the function/integrity of the facility such as at the embankment and at riser pipes, outlet barrels, spillways, trash racks, inlets, inflow channels, etc.*
- Original design or enhanced landscaping should not encroach upon public or private roadways, sidewalks, trails or emergency vehicle access routes.*
- Refer to the approved plan for the BMP. Some plans provide specific guidance relative to operation, inspection and maintenance. Although this is a current requirement of the Environmental Division, this information may not necessarily be found on all plans, especially for older facilities. Contact the Environmental Division at 757-253-6670 for additional information.*

## *Watershed Awareness Tips*

*Although you may not have waterfront property or property located directly adjacent to a stormwater management or storm drainage facility, the rain that runs off your roof, lawn, driveway or lot can eventually end up in the nearest drainage facility, waterway or waterbody. Stormwater which enters inlets and storm drain systems along your street eventually leads to the nearest stormwater management facility, waterway, lake, pond, river, stream or bay.*

*By following these tips, you can help prevent pollution into these features and promote watershed awareness.*

- Easy on the pesticides and herbicides.*** *Don't overspray your lawn or garden since these products may be toxic or a source for contamination. Use them sparingly and in strict accordance with label directions. Seek non-toxic alternatives whenever possible and pull weeds by hand. The local office of the Virginia Cooperative Extension and local master gardener groups are good sources of information relative to use of these types of products.*
- Use chemical fertilizers sparingly.*** *Don't overuse fertilizers especially near pond or stream edges. Rain and lawn watering washes the excess fertilizers into waterways and waterbodies causing nutrient pollution which contributes to the overgrowth of algae.*
- Control grass clippings.*** *If you don't use your grass clippings for mulch or compost, put them in the trash instead of a storm drain, channel or along the edge of waterbodies. These materials decay and are a source of water quality problems. Contact your local solid waste disposal department to understand proper disposal of bagged woody or grass material.*
- Plant instead of paving.*** *Ground cover minimizes runoff. Consider converting lawns adjacent to waterways and waterbodies with native woody and meadow-like vegetation to create buffers to control runoff and erosion. Plants native to the area should be used for landscaping purposes since they have reduced needs for fertilizers and pesticides.*
- Redirect runoff from roofs, patios and driveways.*** *Minimize flow by redirecting runoff from downspouts to grassed or landscaped areas or to rain gardens to promote filtering and infiltration into soils. Runoff which is conveyed directly to impervious surfaces and into storm drainage systems carries leaves, fertilizers, pesticides, grass clippings, trash, debris and sediment load.*
- Watering the driveway won't make it grow.*** *Save the hose for gardening rather than for sweeping or cleaning. Wash vehicles on lawn areas to help filter out detergents. Use soap and cleaning products sparingly and utilize biodegradable detergents with little or no phosphates if possible.*
- Storm drains are for stormwater.*** *Never pour used motor oil, anti-freeze, leaves, lawn clippings or other waste materials or chemicals directly into inlets, storm drains or channels. Motor oil and anti-freeze is extremely toxic to wildlife, plants and can contaminate water supply sources. Drop off used vehicle lubricants and chemicals at acceptable disposal or recycling stations.*
- Add grassed swales and berms to yards.*** *A swale is a small dip in the slope of a yard. A berm is a small mound. Vegetated linings in the swales/berms help to filter or infiltrate runoff into the soils. Although use of swales/berms are encouraged, avoid conveying concentrated drainage onto an adjacent property or neighbor.*
- Educate your neighbors.*** *Pass these tips on to your friends and neighbors. Work together to promote watershed awareness and strive to improve water quality by preserving or adding vegetation, promoting infiltration and by neighborhood sponsored cleanup programs.*

Brookside Haven  
HOA Inc  
c/o Andleton Mgmt  
12725 McManus Blvd  
Suite 2H  
NW VA. 23602

ENVIRONMENTAL DIVISION CITIZEN COMPLAINT RESPONSE FORM

Complainant's Name: Ann Ianni

Address: 5 Sparrow Ct. WMBG 23185

Telephone No.: 888-8556

Date Received: 3-15-01

Date Assigned: 3-15-01

Location of Problem: Brookside Haven (Near James River School)

Type of Complaint

- Drainage
- Erosion
- Land Disturbing
- Tree Removal
- Sink Hole
- Street Sign
- Street Light
- Other:

Bmp Questions / HOA

13-14 years  
• WET POND 1984  
• NO INSP/MAINT  
AGREE

- WATER RUNOFF POND IS IN COMPLIANCE, WHO NEEDS TO COMPLY.
- 13-years; wet pond algae - stagnant.

Fence-

Andleton Mgmt.  
Newport News  
886-9090  
9:00 AM

Inspector Assigned: \_\_\_\_\_

Watershed Code: SC (SC-0042)

Date Investigated: \_\_\_\_\_

Complainant Contacted?  Yes  No 04-10-01

Field Investigation?  Yes  No

Follow up Required?  Yes  No

Results of Investigation:

Needs Level 2 Investigation to assess BMP & provide HOA with direction on maintenance. SIT to handle. SIT 04-10-01

(59-2)(03-1A)  
set for 4-16-01 @ 9:00 AM  
SC 002  
GPIN 5920300001A  
BROOKSIDE HAVEN HOME OWNERS ASSOC INC  
8979 POCAHONTAS TRAIL WMBG VA 23185-6243  
6.291 AC. MULTI-FAM RES

[NW corner of site Behind Units 76-84]

**ENVIRONMENTAL DIVISION CITIZEN COMPLAINT RESPONSE FORM**

Complainant's Name: ANN IANNI

Address: \_\_\_\_\_

Telephone No.: 888-8556

Date Received: 3-30-01

Date Assigned: 3-30-01

Location of Problem: Brookside Haven

Type of Complaint

- Drainage
- Erosion
- Land Disturbing
- Tree Removal
- Sink Hole
- Street Sign
- Street Light
- Other: Questions Concerning the Bmp

Inspector Assigned: \_\_\_\_\_

Watershed Code: \_\_\_\_\_

Date Investigated: \_\_\_\_\_

Complainant Contacted?       Yes       No

Field Investigation?       Yes       No

Follow up Required?       Yes       No

Results of Investigation:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Brookside Haven  
Ardleton Mgmt.

12725 McMANUS BLVD. STE 2H

(757) 886-9090

NW VA 23602

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Lynn (BACA?) FILYA?  
Ferrell Drive  
888-2729

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▷ wed wite HOA Meeting

meeting 16<sup>TH</sup>  
18<sup>TH</sup> ↘

— Bill MAZEO?

— USE SKIFFS CREEK REPO.