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: **MC018**

DATE VERIFIED: **November 29, 2012**

QUALITY ASSURANCE TECHNICIAN: **Leah Hardenbergh**

Leah Hardenbergh

LOCATION: WILLIAMSBURG, VIRGINIA

Stormwater Division

MEMORANDUM

Date: March 29, 2012

To: Michael J. Gillis, Virginia Correctional Enterprises Document Management Services

From: Leah Hardenbergh

PO: 110426

Re: Files Approved for Scanning

General File ID or BMP ID:	**MC018**
PIN:	**4740100042**
Owner Name (if known):	**HAMPTON ROADS DEVELOPMENT LLC**
Legal Property Description:	**CA S-5 PELEG'S POINT**
Site Address:	**BEHIND 4803 WILLIAMSBURG GLADE**

(For internal use only):

Box # 3

Agreements (in file as of scan date): Y Book or Doc #:020023587/040014926

MC-018

Contents for Stormwater Management Facilities As-built Files

Each file is to contain:

1. As-built plan
2. Completed construction certification
3. Construction Plan
4. Design Calculations
5. Watershed Map
6. Maintenance Agreement
7. Correspondence with owners
8. Inspection Records
9. Enforcement Actions

COPY

COUNTY OF JAMES CITY, VIRGINIA

DECLARATION OF COVENANTS

INSPECTION/MAINTENANCE OF DRAINAGE SYSTEM

THIS DECLARATION, made this 17th day of May, 2004, between Hampton Roads Development, L.L.C., and all successors in interest, ("COVENANTOR(S),") owner(s) of the following property: Peleg's Point, Section Five, project name, P-A,B PT Neck-O-Land Road - 324 Neck-O-Land Road (47-4)(01-0-0042), Document No. _____, Deed Book _____, Page No. _____; Instrument No. 020023587, and the County of James City, Virginia ("COUNTY.")

WITNESSETH:

We, the COVENANTOR(S), with full authority to execute deeds, mortgages, other covenants, and all rights, titles and interests in the property described above, do hereby covenant with the COUNTY as follows:

1. The COVENANTOR(S) shall provide maintenance for the drainage system including any runoff control facilities, conveyance systems and associated easements, hereinafter referred to as the "SYSTEM," located on and serving the above-described property to ensure that the SYSTEM is and remains in proper working condition in accordance with approved design standards, and with the law and applicable executive regulations. The SYSTEM shall not include any elements located within any Virginia Department of Transportation rights-of-way.

2. If necessary, the COVENANTOR(S) shall levy regular or special assessments against all present or subsequent owners of property served by the SYSTEM to ensure that the SYSTEM is properly maintained.

3. The COVENANTOR(S) shall provide and maintain perpetual access from public right-of-ways to the SYSTEM for the COUNTY, its agent and its contractor.

4. The COVENANTOR(S) shall grant the COUNTY, its agent and its contractor a right of entry to the SYSTEM for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the SYSTEM.

5. If, after reasonable notice by the COUNTY, the COVENANTOR(S) shall fail to maintain the SYSTEM in accordance with the approved design standards and with the law and applicable executive regulations, the COUNTY may perform all necessary repair or maintenance work, and the COUNTY may assess the COVENANTOR(S) and/or all property served by the SYSTEM for the cost of the work and any applicable penalties.

Instrument # 040014926

Recorded on June 11, 2004

6. The COVENANTOR(S) shall indemnify and save the COUNTY harmless from any and all claims for damages to persons or property arising from the installation, construction, maintenance, repair, operation or use of the SYSTEM.

7. The COVENANTOR(s) shall promptly notify the COUNTY when the COVENANTOR(S) legally transfers any of the COVENANTOR(S)' responsibilities for the SYSTEM. The COVENANTOR(S)' shall supply the COUNTY with a copy of any document of transfer, executed by both parties.

8. The covenants contained herein shall run with the land and shall bind the COVENANTOR(S) and the COVENANTOR(S)' heirs, executors, administrators, successors and assignees, and shall bind all present and subsequent owners of property served by the SYSTEM.

9. This COVENANT shall be recorded in the County Land Records.

IN WITNESS WHEREOF, the COVENANTOR(S) have executed this DECLARATION OF COVENANTS as of the date first above written.

COVENANTOR(S)
Hampton Roads Development, L.L.C.
By: Virginia Enterprises, Inc. a Virginia Corporation, its Manager

Print Name/Title George E. Fiscella, President

ATTEST:

John B. Armstrong

COVENANTOR(S)

_____

Print Name/Title _____

ATTEST:

_____

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Newport News

I hereby certify that on this 17th day of May, 2004, before the subscribed, a Notary Public of the State of Virginia, and for the City/County of Newport News, aforesaid personally appeared George E. Fiscella and did acknowledge the aforegoing instrument to be their Act.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal this 17th day of May, 2004.

Notary Public

My Commission expires: March 31, 2007

Approved as to form:

County Attorney

This Declaration of Covenants prepared by:

Hampton Roads Development, LLC
(Print Name)
George E. Fiscella
President
(Title)

703 Thimble Shoals Blvd, C-1
(Address)

Newport News VA 23606
(City) (State) (Zip)

757-873-3646

drainage.pre

C. K. TUDOR ENGINEERS, INC.
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601
TELEPHONE 595-4610
FAX 591-2723

LAND SURVEYING
LAND PLANNING
CIVIL ENGINEERING

DESIGN
SUPERVISION
APPRAISALS
REPORTS

Re: Pond "C"
Peleg's Point

To Whom It May Concern:

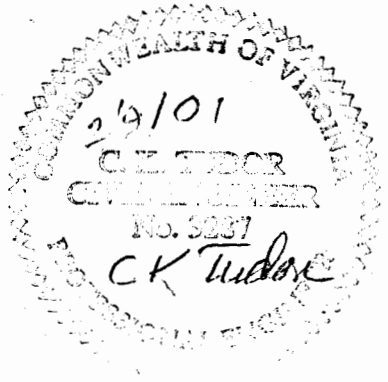
On March 13, 2000 I inspected the referenced Pond "C" and found the following:

1. Pond dry
2. All structures seemed intact
3. Overflow shows signs of use discharge
4. Signs of inflow around ~~intake~~ pipe
5. Suggest removal and repair of pipe and joints

Very Truly Yours;

C. K. Tudor

C. K. Tudor, P.E.



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5. Suggest removal and repair of pipe and joints

Very Truly Yours;

C. K. Tudor

C. K. Tudor, P.E.

NEEDS ENGINEERS SEAL & DATE

FUTURE DEVELOPMENT

EXIST. JCSA SAN. SEW. F.M. EASEMENT (D.B. 518, PG. 172)

REV. BOTTOM BANK

PRO. BOTTOM BANK

EXCAVATE TO ELEV. 4.4

EXIST. BOTTOM BANK

RAISE TOP OF DAM TO ELEV. 8.50

EXIST. PERM. POOL W.S. ELEV. 5.00
PRO. MAX. W.S. ELEV. 10 YEAR STORM = 6.84
PRO. MAX. W.S. ELEV. 100 YEAR STORM = 7.24

POND C (EXIST.)

EXIST. DRAIN & MAINT. EASEMENT FOR JCC (PB 51, PG. 42)

220±

INV. 2.46

EXIST. 18" RCP

EXIST. RIP RAP

EXIST. 16" RIGER TOP 5.62 INV. 2.80

30'x 50'x 1.5' RIP RAP REQ'D.

EXIST. CONC. SPILLWAY

ES # 14
ES-1 (2)
INV. 5.64

S 55°49'41"E

N. OR F. GILLEY

LIMIT OF 100 YEAR FLOOD - ELEV. 8.50
FIRM COMMUNITY PANEL 105102 0045B
DATED FEB. 6, '97

OPEN SPACE

EDGE OF WOODS

N 19°30'38" E 1810'

N 19°30'38" E 1810'

EXIST. 8" SAN. SEW.

EXIST. JCSA SAN. PUMP STATION & WET WELL (TO BE ABANDONED AUTHORITY OF CAP 518, PG. 25)

TWO

SEE SHEET 2

SECTION

402'
332' - 18" RCP @ 0.35%
70' - S.D. SWALE @ 0.77%

NOT TO DESIGN

PRO. DRAINAGE EASEMENT

ES # 13
ES-1 (2)
INV. 6.32'

PG-5 INV. 6.70'

EXIST. SAN. EASEMENT

S 51°23'24"E 115.00'

EXIST. MH
TOP 10.05
INV. IN = 8.54
INV. OUT = 8.41
INV. IN = 6.42

EXIST. 8" SAN. SEW.

WILLIAMSBURG GLADE
50' R/W

15' FACILITIES EASEMENT TO BE DEDICATED TO JCSA

0.61%

294'

PG-5 (W.L.P. 3, D-.75')

1.5

8.50'

PG-5 INV. 7.20

AIR RELEASE VALVE

8" FLOW OFF VALVE ASSEMBLY

369 L.F. 4" M.J. & BLOW OFF VALVE ASS'Y. W/ TERMINAL END

BSL
CT SIGHT DISTANCE

STA 3+34.89 22' LT
TOP 9.60
INV OUT 7.40

N 41°17'54"W 200.00' (N.R.)

S 41°17'54"E 200.00' (N.R.)

PRO. LIGHT POLE W/ LITE

"A" FLOW OFF VALVE ASSEMBLY

EXIST. 15' FACILITIES EASEMENT (TO BE ELIMINATED)

RPA LINE

EDGE OF WETLANDS

EDGE OF MARSH IS RPA

N. OR F. GILLEY

N 47°42'06" E 41.00'

S 47°42'06" W 366.79'

N 19°30'38" E 148.86'

S 65°24'54" W 284.01'

N 19°30'38" E 266.39'

N 47°42'06" E 1290.42'

N 47°17'54" W 1597.88'

100.00'

80.00'

239.64'

1178.24'

LINE	BEARING	DISTANCE
1	S 47°17'54"E	40.00
2	N 42°42'06"E	30.00
3	S 47°17'54"E	40.00
4	S 06°17'54"E	40.00
5	N 06°17'54"W	40.00
6	N 47°17'54"W	40.00
7	S 60°09'33"W	35.00
8	S 47°17'54"E	40.00

CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD	CHORD BRG
1	1°07'17"	285.00	5.82	2.91	5.82	S 47°59'13"E
2	11°00'00"	285.00	54.73	27.44	54.63	S 11°47'54"E
3	19°11'17"	60.00	20.09	10.14	20.00	S 48°42'06"E
4	41°00'00"	285.00	203.94	106.36	199.62	S 26°47'54"E
5	54°38'05"	25.00	23.85	12.73	22.69	
6	287°56'10"	60.00	301.53	43.64	70.59	S 83°42'06"W
7	41°00'00"	235.00	168.16	87.86	164.60	N 26°47'54"W
8	41°00'00"	260.00	186.05	97.21	182.11	S 26°47'54"E

DRAINAGE AS-BUILT
REV. POND C, 18" PE PIPE, & PG-5
FB 793 PG 57
FB 787 PGS 64 & 66
JAN. 13, 1996
REV. JAN. 6, 1997 FB 799 PG 22

ISSUED
JAN 2 7 1997
C. K. TUDOR ENGINEERS, INC.

SECTION A-A
1" = 20' HORIZ.
1" = 4' VERT.

EXIST. GROUND
CUT
EXIST. BOTTOM OF POND ELEV. 4.4 ±
VARIES

SECTION B-B
1" = 30' HORIZ.
1" = 4' VERT.

PRO. TOP OF DAM ELEV. 8.50
COMPACTED FILL
EXIST. TOP OF DAM
EXIST. CONC. SPILLWAY ELEV. 6.10

REMOVE ORGANIC MAT'L FROM TOP OF DAM & EXCAVATE CUTOFF TRENCH. BACKFILL WITH CLEAN INORGANIC CLAY MATERIAL IN 6" LAYERS COMPACT TO 95% DENSITY @ OPTIMUM MOISTURE.

PAGE LANDING SUBDIVISION
(ZONE R1)

SECTION C-C
1" = 20' HORIZ.
1" = 4' VERT.

CUTOFF TRENCH
EXIST. GROUND

PROFILE (INFLOW PIPE)
1" = 50' HORIZ.
1" = 4' VERT.

EXIST. GROUND @ ℄ PRO. PIPE
ES # 14
ES # 13
382'-18" P.E. PIPE @ 0.35%
PG-5
7.20
5.64

0 25 50 100

REV. 2/3/95 - POND "D" ELIMINATED, DRAINAGE ROUTED TO POND "C"
REV. 4/19/94 PER JCC REVIEW
REV. 4/28/94 PER JCC REVIEW
REV. 3/15/94 PER JCC & VDOT REVIEW. SHEETS 6, 7 & 8 ADDED

UNDERGROUND UTILITY LINES SHOWN ON THIS DRAWING ARE BASED UPON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN THE EXACT LOCATION OF THE UTILITY SHOWN AND TO ASCERTAIN LOCATION OF OTHER UTILITIES NOT SHOWN HEREON.

C.K. Tudor 11/7/93

DEVELOPMENT PLAN

PELEG'S POINT

SECTION THREE

JAMES CITY COUNTY, VIRGINIA

C.K. TUDOR ENGINEERS, INC. NEWPORT NEWS, VIRGINIA			SCALE	DATE
			1" = 50'	NOV. 17, 1993
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
RC	RC	CKT	93-244	3 OF 8

FB. 779, PG. 74-76 - POND "C" AS-BUILT

FILE NO. 22-980

MC018_PELEGS_POINT_SUBDIVISION - 009

FUTURE DEVELOPMENT

EXIST. JCSA SAN. SEW. F.M. EASEMENT (D.B. 518, PG. 172)

REV. BOTTOM BANK

PRO. BOTTOM BANK

EXIST. BOTTOM BANK

EXCAVATE TO ELEV. 4.4

RAISE TOP OF DAM TO ELEV. 8.50

EXIST. PERM POOL W.S. ELEV. 5.00
PRO. MAX. W.S. ELEV. 10 YEAR STORM: 6.84
PRO. MAX. W.S. ELEV. 100 YEAR STORM: 7.64

POND C
(EXIST.)

EXIST. 15" RISER
TOP 5.62
INV. 2.80

3 CY
450 ± S.F.
RIP RAP
REQ'D.

ES # 14
ES-1 (4)
INV. ~~5.04~~ 5.64

EXIST. 18" RCP
INV. 2.46

EXIST. RIP RAP

EXIST. CONC. SPILLWAY

7+91

8+18

8+44

8+19

8+95

220'±

S 55°49'41" E

N. OR F. GILLEY

LIMIT OF 100 YEAR FLOOD - ELEV. 8.50

OPEN SPACE

402'
~~3.0%~~ S 17°57'42" E 3.01%
~~0.77%~~

PRO. DRAINAGE EASEMENT

ES # 13
ES-1 (4)
INV. ~~6.00~~ 6.32'

PG-5 INV. 6.70'

EXIST.

S 51°23'24" E 115.20

0.61%

294'
~~3.0%~~ PG-5 (W.S. Z=3.0' 7.5') 1.5

PG-5 INV. ~~8.90~~ 9.50'

EXIST. 8" SAN. SEW.

WILLIAMSBURG GLADE
50' R/W

SEE SHEET 2

N 41°40'08" E 41.00'

SECTION

N 47°17'54" W 200.00' (N.R.)

S 47°17'54" E 200.00' (N.R.)

S 68°53'44" W 284.07'

N 47°17'54" W 159.88

EXIST
(TO BE ELIMINATED)

RPA LINE

EDGE OF WETLANDS

EDGE OF MARSH (S.L.)

N. OR F. GILLEY

DRAINAGE AS-BUILT
REV. POND C, 18" PE PIPE, & PG-5
FB 793 PG 57
FB 787 PGS 64 & 66
JAN. 13, 1996

ISSUED
JAN 15 1996
C. K. TUDOR ENGINEERS, INC.

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REV. 3/15/95 PER JCC & VDOT REVIEW SHEETS 7 & 8 ADDED

SECTION A-A
1" = 20' HORIZ.
1" = 4' VERT.

EXIST GROUND
CUT
EXIST BOTTOM OF POND
ELEV 4.4 ±
VARIES

SECTION B-B
1" = 50' HORIZ.
1" = 4' VERT.

PRO. TOP OF DAM ELEV. 8.50
COMPACTED FILL
EXIST. TOP OF DAM
EXIST. CONC. SPILLWAY ELEV. ± 10

REMOVE ORGANIC MAT'L. FROM TOP OF DAM & EXCAVATE CUTOFF TRENCH. BACKFILL WITH CLEAN, INORGANIC CLAY MATERIAL IN 6" LAYERS & COMPACT TO 95% DENSITY @ OPTIMUM MOISTURE.

PAGE LANDING SUBDIVISION

SECTION C-C
1" = 20' HORIZ.
1" = 4' VERT.

CUTOFF TRENCH
EXIST. GROUND

PROFILE
1" = 50' HORIZ.
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EXIST. GROUND @ ℄ PRO. PIPE
382'-18" PE. PIPE @ 0.35 %
ES # 14
ES # 13
PG-5
5.84
7.20

0 25 50 100

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DEVELOPMENT PLAN

PELEG'S POINT

SECTION THREE

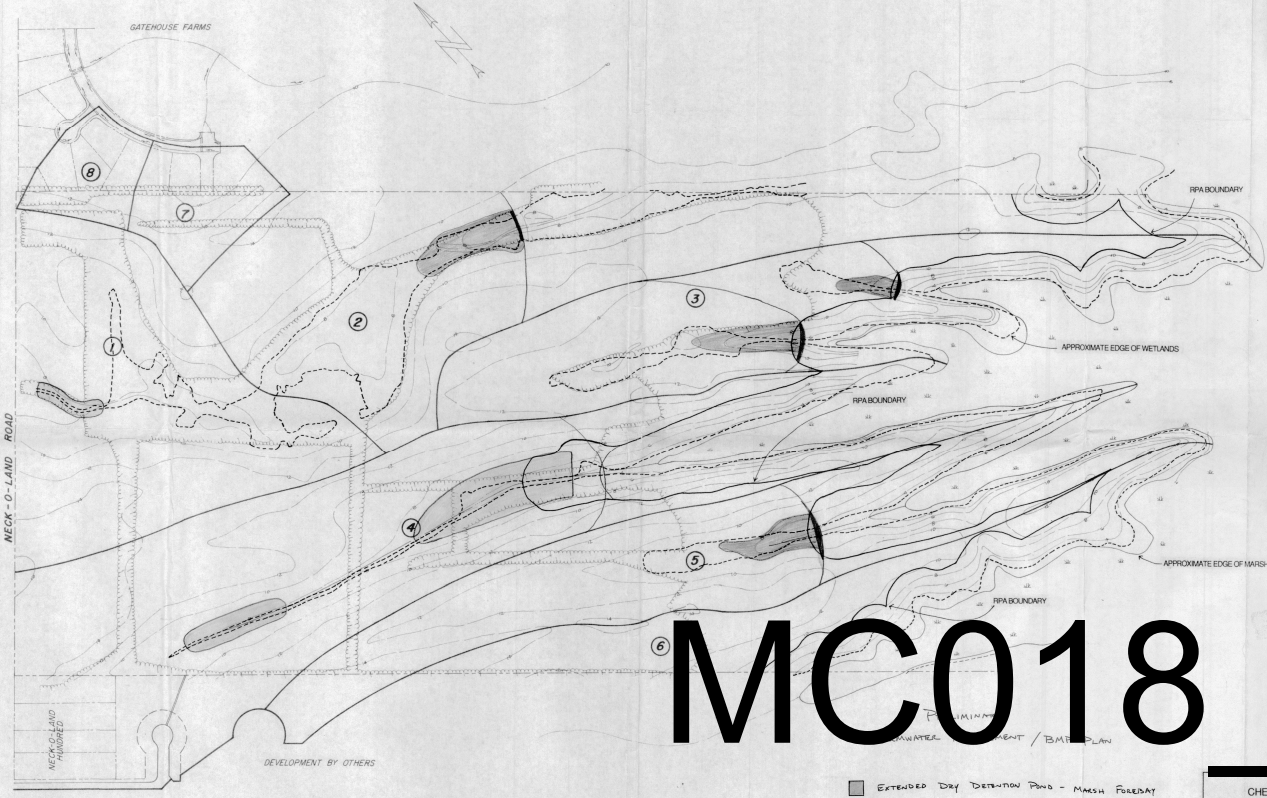
JAMES CITY COUNTY, VIRGINIA

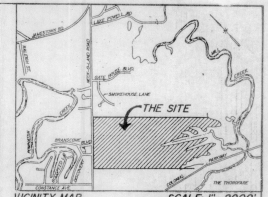
C. K. TUDOR ENGINEERS, INC. NEWPORT NEWS, VIRGINIA			SCALE	DATE
			1" = 50'	NOV. 17, 1993
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
RC	RC	CKT	93-244	3 OF 8

FB. 779, PG. 74-76 - POND 'C' AS-BUILT

FILE NO. 22-980

MC018_PELEGS_POINT_SUBDIVISION - 010





VICINITY MAP SCALE: 1" = 2000'

MC018_PE

Preliminary Storm Water Management / BMP Plan

Extended Dry Detention Pond - Marsh Foreday

Extended Dry Detention Pond - Periodic Inundation

Wet Pond

① A= 28.2553 Ac. C= .46 t_c= 1.6 in/hr. Tc= 94.9 min. Q= 23.395 CFS

② A= 37.4685o Ac. C= .44 t_c= 1.6 in/hr. Tc= 132 min. Q= 23.079 CFS

③ A= 26.7860 Ac. C= .39 t_c= 2.4 in/hr. Tc= 59.5 min. Q= 25.0117 CFS

④ A= 51.1478 Ac. C= .40 t_c= 1.7 in/hr. Tc= 100.5 min. Q= 40 CFS

⑤ A= 26.3729 Ac. C= .37 t_c= 1.8 in/hr. Tc= 91.5 min. Q= 17.5049 CFS

⑥ A= 15.8953 Ac. C= .33 t_c= 3.4 in./hr. Tc= 34 min. Q= 17.8345 CFS

⑦ A= 5.0505 Ac. C= .46 t_c= 2.3 in/hr. Tc= 59 min. Q= 5.5758 CFS

⑧ A= 3.7190 Ac. C= .34 t_c= 2.8 in./hr. Tc= 46 min. Q= 4.0611 CFS

CHESAPEAKE BAY PRESERVATION AREAS MAP

RPA-Resource Protection Areas (RPA)
RMA-Resource Management Areas (RMA)
Note: Area not identified as RPA is RMA.

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.
Environmental Consultants

PREDEVELOPMENT DRAINAGE AREAS

WILLIAMSBURG GLADE

JAMES CITY COUNTY, VIRGINIA

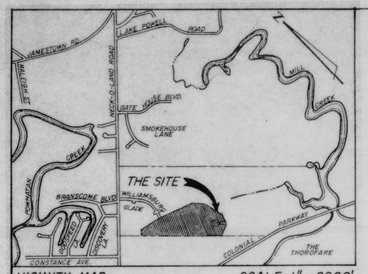
C.K. TUDOR ENGINEERS, INC.
NEWPORT NEWS, VIRGINIA

SCALE	DATE
1" = 200'	9/25/89

DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
ADP	LB	CKT	86-508	1 OF 2

C.K. TUDOR CIVIL ENGINEER

Peleg's Point Sect 2&3

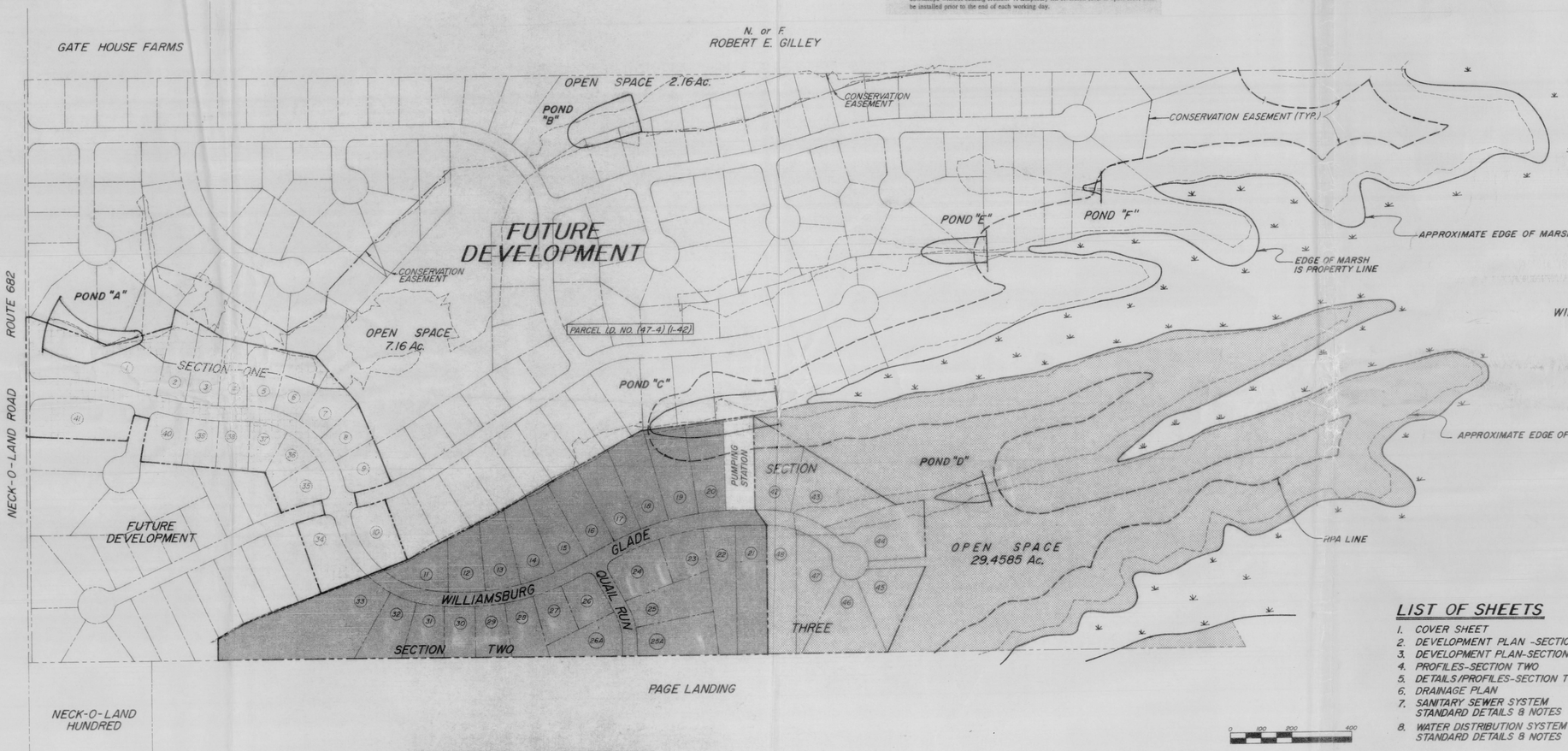


VICINITY MAP SCALE: 1" = 2000'

Erosion and Sediment Control Notes

The purpose of the erosion control measures shown on these plans shall be to preclude the transport of all waterborne sediments resulting from construction activities from entering onto adjacent properties or State waters. If field inspection reveals the inadequacy of the plan to confine sediments to the project site, appropriate modifications will be made to correct any plan deficiencies. In addition to these notes, all provisions of the Virginia Erosion and Sediments Control Regulations shall apply to this project.

1. All erosion and sediment control measures shall be installed and maintained in accordance with the "Virginia Erosion and Sediment Control Handbook." The contractor shall be thoroughly familiar with all applicable measures contained therein which may be pertinent to this project.
2. All points of construction ingress and egress shall be protected by a temporary construction entrance to prevent tracking of mud onto public right-of-ways. An entrance permit from VDOT is required prior to any construction activities within State right-of-ways.
3. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment on-site must be constructed as a first step in grading and be made functional before upslope land disturbance takes place. Earthen structures such as dams, dikes, and diversions must be seeded and mulched immediately after installation. An on-site pre-construction meeting will be held between the Office of Code Compliance and the contractor to identify those measures to be initially installed.
4. Maintenance of erosion and sediment control measures shall include the repair of measures damaged by any subcontractor including those of the public utility companies. At the preconstruction meeting, the contractor will supply Code Compliance with the name of the individual who will be responsible for ensuring maintenance of installed measures on a daily basis.
5. Surface flows over cut and fill slopes shall be controlled by either redirecting flows from transversing the slopes or by installing mechanical devices to safely lower water downslope without causing erosion. A temporary fill diversion (Std. & Spec. 3.10) shall be installed prior to the end of each working day.
6. Sediment control measures may require minor field adjustments at time of construction to insure their intended purpose is accomplished. Office of Code Compliance approval will be required for other deviations from the approved plans.
7. The contractor shall place soil stockpiles at the locations shown on this plan or as directed by the engineer. Soil stockpiles shall be stabilized or protected with sediment trapping measures.
8. The contractor shall complete drainage facilities within 30 days following completion of rough grading at any point within the project. The installation of drainage facilities shall take precedence over all underground utilities. Outfall ditches from drainage structures shall be stabilized immediately after construction of same. This includes installation of erosion control stone where required. Any drainage outfalls required for a street must be completed before street grading begins.
9. Permanent or temporary soil stabilization must be applied to all denuded areas within 7 days after final grade is reached on any portion of the site. Soil stabilization must also be applied to denuded areas which may not be at final grade but will remain dormant (undisturbed) for longer than 30 days. Soil stabilization measures include vegetative establishment, mulching and the early application of gravel base material on areas to be paved.
10. No more than 300 feet of sanitary sewer, storm sewer, waterlines, or underground utility lines are to be open at one time. Following installation of any portion of these items, all disturbed areas are to be immediately stabilized (i.e., the same day).
11. If disturbed area stabilization is to be accomplished during the months of December, January, or February, stabilization shall consist of mulching in accordance with Specification 3.35. Seeding will then take place as soon as the season permits.
12. The term Seeding, Final Vegetative Cover or Stabilization, on this plan shall mean the successful germination and establishment of a stable grass cover from a properly prepared seedbed containing the specified amounts of seed, lime, and fertilizer in accordance with Specification 3.32, Permanent Seeding. Irrigation shall be required as necessary to ensure establishment of grass cover.
13. All slopes steeper than 3:1 shall require the use of erosion control blankets such as excelsior blankets to aid in the establishment of a vegetative cover. Installation shall be in accordance with Specification 3.35, Mulching and Manufacturer's Instructions.
14. Inlet protection in accordance with Specification 3.07 shall be provided for all storm drain inlets as soon as practical following construction of same.
15. Temporary liners, such as polyethylene sheets, shall be provided for all paved ditches until the permanent concrete liner is installed.
16. Paved ditches shall be required wherever erosion is evident. Particular attention shall be paid to those areas where grades exceed 3 percent.
17. Temporary erosion control measures are not to be removed until all disturbed areas are stabilized. After stabilization is complete, all measures shall be removed within 30 days. Trapped sediment shall be spread and seeded.
18. Off-site waste or borrow areas shall be approved by the Office of Code Compliance prior to the import of any borrow or export of any waste to or from the project site.
19. All paved and/or piped outfalls will be constructed before road grading and utility installation begins.



LIST OF SHEETS

1. COVER SHEET
2. DEVELOPMENT PLAN -SECTION TWO
3. DEVELOPMENT PLAN-SECTION THREE
4. PROFILES-SECTION TWO
5. DETAILS/PROFILES-SECTION THREE
6. DRAINAGE PLAN
7. SANITARY SEWER SYSTEM STANDARD DETAILS & NOTES
8. WATER DISTRIBUTION SYSTEM STANDARD DETAILS & NOTES

GENERAL NOTES

1. Owner/Developer: Mill Creek Landing, Ltd. 714 Thimble Shoals Blvd. Newport News, VA 23606 (804) 599-3335
2. Engineer: C. K. Tudor Engineers, Inc. 11624 Jefferson Ave. Newport News, VA 23601 (804) 595-4610
3. Zone: R-1
4. Total Number of Lots: Section Two - 25
5. Total Area Section Two: 18.2269 Ac.
6. Area of Lots Section Two: 16.3296 Ac.
7. Area of Right-of-way Section Two hereby dedicated for public street purposes: 1.8953 Ac. (82559 sq. ft.)
8. Total Number of Lots: Section Three - 7
9. Total Area Section Three: 36.2408 Ac.±
10. Area of Open Space Section Three including RPA Zone: 29.4585 Ac.±
11. Area of Lots Section Three: 6.2039 Ac.
12. Area of Right-of-way Section Three hereby dedicated for public street purposes: 0.5784 Ac. (25196 sq. ft.)
13. All work to be in accordance with the Virginia Department of Transportation Road and Bridge Specifications, dated 1991, and the Virginia Department of Transportation Road and Bridge Standards, dated 1993 unless otherwise noted.
14. Prior to commencement of construction, the contractor is directed to notify all applicable owners of utilities of the limits of impending construction in order that the utility companies may safeguard their facilities. All Virginia Power and C & P facilities requiring relocation are to be done so by aforementioned utilities at contractor's expense.
15. All storm sewer pipes and drop inlets to be cleaned of debris and eroded material at last stages of construction.
16. All drainage structures to conform to the Virginia Department of Transportation Road and Bridge Standards, dated 1993 unless otherwise indicated.
17. All manhole rims to be flush with ground, rim elevation may vary slightly to suit existing undisturbed ground.
18. Surface drainage not to be allowed to enter sanitary sewer system at any time.
19. The contractor shall be responsible for replacing with matching materials any pavements, driveways, walks, curbs, etc. that must be cut or that are damaged during construction.
20. All concrete to be Class A-3 air entrained (3000 psi).
21. All dimensions are to face of curb, face of building, edge of pavement unless otherwise indicated.
22. Where sanitary sewer stubs or water system plugs are noted on plans, contractor to mark locations and depth with 2" P.V.C. driven into ground. Sewer laterals are to be marked by a cleanout extending 6" above finished grade.
23. All material, construction, and testing of the sanitary sewer system shall be to accordance with the James City County Service Authority Standards and Specifications for sanitary sewer systems including appendices and addendum.
24. All material, construction, and testing of the water distribution systems shall be in accordance with the James City County Service Authority Standards and Specifications for water distribution systems including appendices and addendum.
25. All P.V.C. water mains shall be minimum Class 150 (SDR 18) and shall be in accordance with AWWA C900, latest revision.
26. All gravity sewer mains shall be P.V.C., SDR 35 unless otherwise noted.
27. All lots will require a 15"Ø driveway culvert.
28. The contractor shall be responsible for any and all damage to utilities, public or private, as a result of construction activities. Contractor shall report any errors, omissions, conflicts or discrepancies to the Engineer for resolution before continuing with the work.
29. Any ditch which has not developed a good sod by the time of acceptance must be paved.
30. One CBR test shall be taken every 500', with a minimum to two per roadway, with results submitted to VDOT prior to approval of the proposed pavement design.
31. Subgrade compaction shall conform to Section 305 of the Road and Bridge Specifications. Compaction shall be 100% of proctor.
32. Subbase, base, and surface compaction shall conform to Sections 306, 209, and 315 of the Road and Bridge Specifications.
33. The proposed 32 lots have the potential to generate 320 vehicle trips per day.

ISSUED

APR 26 1994

C. K. TUDOR ENGINEERS, INC.

APR 1994 RECEIVED PLANNING DEPARTMENT

REV. 4/25/94 PER JCC REVIEW
REV 3/16/94 PER JCC \ VDOT REVIEW. SHEETS 6,7 & 8 ADDED

COMMONWEALTH OF VIRGINIA C. K. TUDOR LAND SURVEYOR 909 11/17/93 CERTIFIED LAND SURVEYOR

COVER SHEET

PELEG'S POINT

SECTIONS TWO & THREE

JAMES CITY COUNTY, VIRGINIA

C.K. TUDOR ENGINEERS, INC. NEWPORT NEWS, VIRGINIA			SCALE	DATE
			1" = 200'	NOV. 17, 1993
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
RC	RC	CKT	93-244	1 OF 8

S-93-93

FILE NO. 22-910

LINE	BEARING	DISTANCE
1	S 46° 55'17"E	66.26
2	S 47° 17'54"E	83.50
3	N 47° 17'54"W	83.50
4	N 71° 40'38"W	71.75
5	S 42° 42'06"W	39.27
6	N 42° 42'06"E	39.27
7	N 71° 40'38"W	70.69
8	N 46° 55'17"W	66.26
9	N 55° 49'41"W	21.59
10	S 18° 19'22"W	7.35
11	N 46° 55'17"W	15.00
12	S 42° 42'06"W	39.27

CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD	CHORD BRG
1	90° 00'00"	25.00	39.27	25.00	35.36	
2	79° 41'46"	301.41	419.25	251.56	386.26	S 07° 04'23"E
3	24° 45'21"	784.60	339.00	172.19	336.37	S 59° 17'58"E
4	24° 22'44"	801.10	340.86	173.05	338.30	S 59° 29'16"E
5	24° 22'44"	751.10	319.59	162.25	317.18	N 59° 29'16"W
6	24° 22'44"	285.03	121.28	61.57	120.36	S 30° 30'44"W
7	24° 22'44"	235.03	100.00	50.77	99.25	N 30° 30'44"E
8	24° 45'21"	834.60	360.61	183.16	357.81	N 59° 17'58"W
9	79° 41'46"	351.41	488.80	293.28	450.34	N 07° 04'23"W
10	1° 19'12"	751.10	17.30	8.65	17.30	S 47° 58'27"E
11	1° 10'14"	801.11	16.37	8.18	16.37	N 47° 52'59"W
12	1° 57'43"	801.10	27.43	13.72	27.43	N 70° 41'10"W
13	2° 12'40"	784.60	30.28	15.14	30.28	N 70° 34'18"W
14	79° 41'46"	326.41	454.03	272.42	418.30	S 07° 04'23"E
15	24° 45'21"	809.60	349.80	177.68	347.09	S 59° 17'58"E
16	24° 22'44"	776.10	330.23	167.65	327.74	S 59° 29'16"E
17	24° 22'44"	260.03	110.64	56.17	109.81	S 30° 30'44"W

(THIS SHEET)
REQUIRED WATERMAIN
(WILLIAMSBURG GLADE)

1414 L.F. 8" WATERMAIN
100 L.F. 4" WATERMAIN
2 - 8" x 6" TEES
2 - 6" GATE VALVES
2 - FIRE HYDRANTS
3 - 8" GATE VALVES
1 - 8" x 4" REDUCER
2 - AIR RELEASE VALVES
1 - 8" x 4" TEE
20' - L.F. 6" WATERMAIN

REQUIRED WATERMAIN
(QUAIL RUN)

312 L.F. 4" WATERMAIN
1 - 4" GATE VALVE
1 - AIR RELEASE VALVE
1 - 1½" BLOW OFF VALVE ASSEMBLY @ TERMINAL END

NOTE: EXTEND EXIST. STUB SAN. SEW. LATERALS TO PROPERTY LINE AND TERMINATE WITH CLEAN OUT.

"C" STREET IS TO BE EXTENDED TO CONNECT TO CAP'T. JOHN SMITH RD. BY JAMES CITY COUNTY.

PAGE LANDING AT JAMESTOWN
PB 50 PG 95
ZONE R1

CAP'T. JOHN SMITH RD.
50' R/W

0 25 50 100

COMMONWEALTH OF VIRGINIA
C. K. TUDOR
LAND SURVEYOR
No. 909
CERTIFIED LAND SURVEYOR
C.K. Tudor 11/17/93

REV. 4/25/94 PER JCC REVIEW
REV. 3/15/94 PER JCC & VDOT REVIEW. SHEETS 6, 7 & 8 ADDED

UNDERGROUND UTILITY LINES SHOWN ON THIS DRAWING ARE BASED UPON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN THE EXACT LOCATION OF THE UTILITY SHOWN AND TO ASCERTAIN LOCATION OF OTHER UTILITIES NOT SHOWN HEREON.

DEVELOPMENT PLAN

PELEG'S POINT

SECTION TWO

JAMES CITY COUNTY, VIRGINIA

C.K. TUDOR ENGINEERS, INC. NEWPORT NEWS, VIRGINIA			SCALE	DATE
			1" = 50'	NOV. 17, 1993
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
ADP/RC	RC	CKT	93-249	2 OF 8

FILE NO. 22-910

MC018_PELEGS_POINT_SUBDIVISION - 013

FUTURE DEVELOPMENT

POND C (EXIST.)

EXIST. SAN. SEW. F.M. EASEMENT TO JCC (DB 598, PG. 172)

EXIST. DRAIN & MAINT. EASEMENT FOR JCC (DB 57, PG. 12)

N. OR F. GILLEY

LIMIT OF 100 YEAR FLOOD - ELEV. 8.50
FIRM COMMUNITY-PANEL NO. 510201 0045B
DATED FEB. 6, 1991

EXIST GROUND
PRO. GRADE
SECTION A-A
N.T.S.

OPEN SPACE

FOR DETAILS - POND C SEE SHEET 5

NOTE: VDOT WILL NOT BE RESPONSIBLE FOR POND OR STRUCTURES.

EXIST. SAN. SEW. PUMP STATION OWNED BY JAMES CITY SERVICE AUTHORITY (DB 598, PG. 172)

EXIST. 8" SAN. SEW.

EXIST. SANITARY EASEMENT FOR JCSA (DB 52, PG. 71)

N 42° 42'06"E 383.70'

S 10° 32'23"E 530.79'

EDGE OF WOODS

N 37° 19'17"E 231.72'

TWO

SECTION

SEE SHEET 2

WILLIAMSBURG GLADE
50' R/W

EXIST MH
TOP 10.65
INV. IN 8.34
INV. OUT 8.24
INV. IN 6.42

EXIST. 8" SAN. SEW.

INV. 8.29

INV. 8.69

AIR RELEASE VALVE

42 — 33136 SF

43 — 44724 SF

15' FACILITIES EASEMENT TO BE DEDICATED TO JCSA

STA 29+47.35 LT.
MH # 1
TOP 9.30
INV. IN 4.40
INV. OUT 4.30

STA 29+70
ES = 12
ES = (-) 1.4
INV. 8.50

DRAIN EASEMENT

S 51° 23' 24" E 115.09'

N 58° 14' 11" W< (NR)
250.00'

NATURAL DRAINAGE

2.80 x .650 = 5' RIP RAP REQ'D.

5' FACILITIES EASEMENT TO BE DEDICATED TO JCSA

44 — 46635 SF

STA 31+34.89 22' LT.
MH # 2
TOP 12.60
INV OUT 7.40

5" RCP CL. III @ 0.75%

N 41° 17' 54" W< 200.00' (N.R.)

S 41° 17' 54" E> 200.00' (N.R.)

PRO. 10' GRAVEL DRIVE

PRO. LIGHT POLE
IN @ 10.7%

1½" BLOW OFF VALVE ASSEMBLY

45 — 33648 SF

46 — 41347 SF

47 — 41070 SF

48 — 41137 SF

OPEN SPACE

"ACCESS & MAINTENANCE EASEMENT TO BE DEDICATED TO JCC

RPA LINE

EDGE OF WETLANDS

EDGE OF MARSH IS ℄

N. OR F. GILLEY

PHASE I SEDIMENT BASIN — MAX. WATER SURFACE

2 YEAR STORM	6.61
10 YEAR STORM	N/A
25 YEAR STORM	6.69
100 YEAR STORM	N/A

PHASE II BMP POND

	5.64
	5.82
	N/A
	6.17

C1 — C2 — C3 — C4 — C5 — C6 — C7

C7 SIGHT DISTANCE = 341.51'

(SHEET 2) WILLIAMSBURG GLADE REQUIRED W/M

369 L.F. 4" W/M
1 BLOW OFF VALVE ASS'BLY
1 TERMINAL END

N 42° 42'06"E 41.00'

S 42° 42'06"W 366.79'

N 75° 30' 17"E 188.86'

N 19° 49' 06"E 286.39'

S 68° 32' 44"W 294.07'

N 42° 42'06"E 125.00'

NOTE: SILT FENCE REQ'D FOR INDIVIDUAL LOT CONSTRUCTION AS SHOWN.

100.00' 80.00' N 47° 17' 54" W< 1597.88' 239.64' 1178.24

PAGE LANDING SUBDIVISION
(ZONE R1)

0 25 50 100

SECTION A-A
1" = 10'

4" ø 21 B AGGREGATE
WELL COMPACTED SUBGRADE

LINE	BEARING	DISTANCE
1	S 47° 17' 54" E	40.00
2	N 42° 42' 06" E	50.00
3	S 47° 17' 54" E	40.00
4	S 06° 17' 54" E	40.00
5	N 06° 17' 54" W	40.00
6	N 47° 17' 54" W	40.00
7	S 60° 09' 33" W	35.00
8	S 47° 17' 54" E	40.00

CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD	CHORD BRG
1	1° 03' 11"	285.00	52.82	26.49	52.75	S 41° 59' 19" E
2	11° 00' 00"	285.00	54.72	27.44	54.63	S 11° 47' 54" E
3	19° 11' 17"	60.00	20.09	10.14	20.00	S 48° 42' 06" W
4	41° 00' 00"	285.00	203.94	106.56	199.62	S 26° 47' 54" E
5	53° 58' 05"	25.00	23.55	12.73	22.69	
6	287° 56' 10"	60.00	301.53	43.64	70.59	S 83° 42' 06" W
7	41° 00' 00"	235.00	168.16	87.86	164.60	N 26° 47' 54" W
8	41° 00' 00"	260.00	186.05	97.21	182.11	S 26° 47' 54" E

COMMONWEALTH OF VIRGINIA
C. K. TUDOR
LAND SURVEYOR
11/17/93
CERTIFIED LAND SURVEYOR

UNDERGROUND UTILITY LINES SHOWN ON THIS DRAWING ARE BASED UPON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN THE EXACT LOCATION OF THE UTILITY SHOWN AND TO ASCERTAIN LOCATION OF OTHER UTILITIES NOT SHOWN HEREON.

REV. 4/26/94 PER JCC REVIEW
REV. 8/15/94 PER JCC & VDOT REVIEW. SHEETS 6,7 & 8 ADDED

DEVELOPMENT PLAN

PELEG'S POINT

SECTION THREE

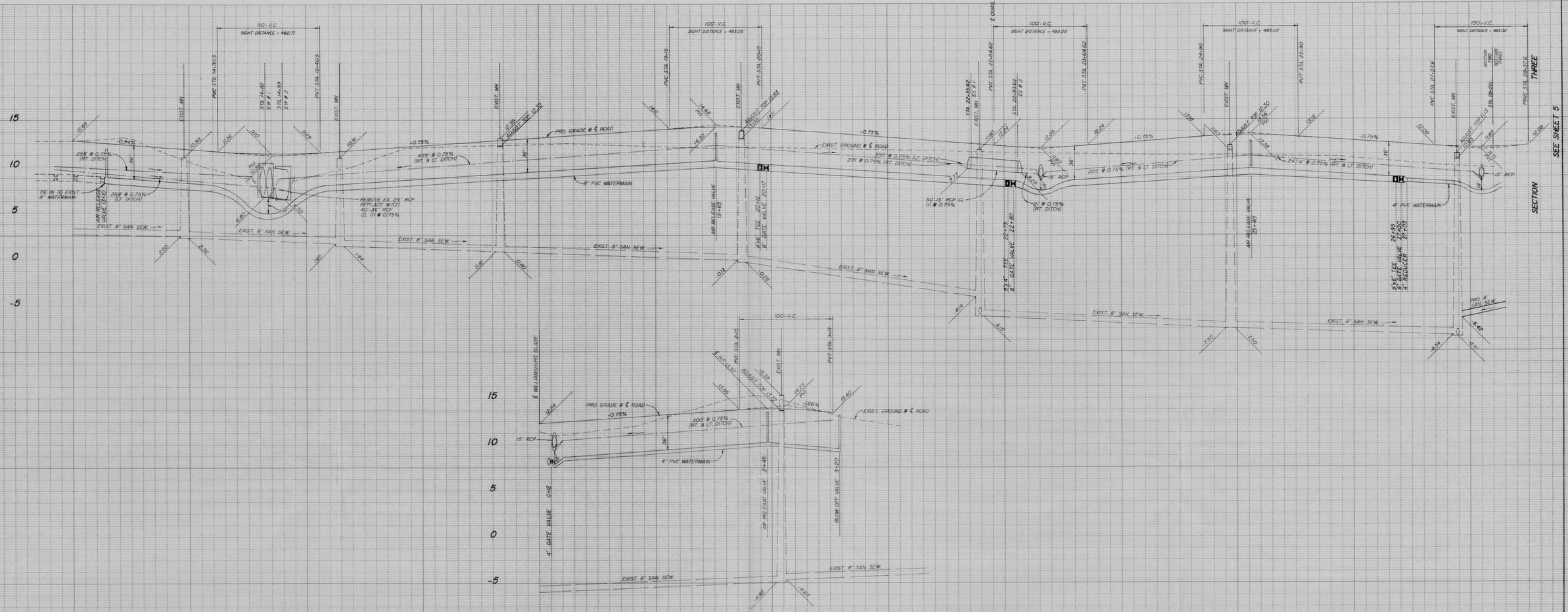
JAMES CITY COUNTY, VIRGINIA

C.K. TUDOR ENGINEERS, INC. NEWPORT NEWS, VIRGINIA			SCALE	DATE
			1" = 50'	NOV. 17, 1993
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
RC	RC	CKT	93-244	3 OF 8

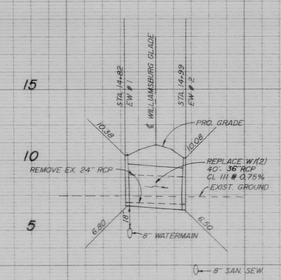
FILE NO. 22-910

MC018_PELEGS_POINT_SUBDIVISION - 014

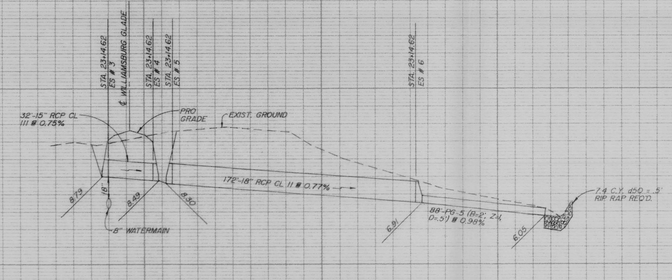
WILLIAMSBURG GLADE

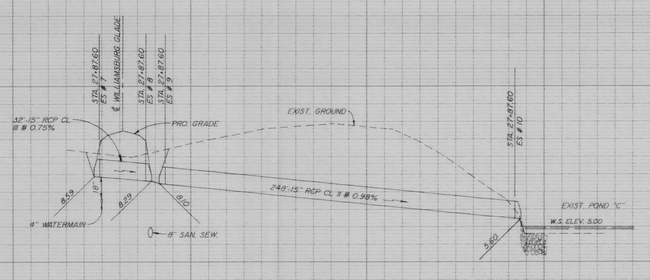


QUAIL RUN



CULVERT @ STA. 14+90.5





OUTFALL @ STA. 27+87.60

OUTFALL @ STA. 23+14.62

NO. 1269—PROFILE PLATE A
"CLEARPRINT PAPER CO."
MADE IN U.S.A.

UNDERGROUND UTILITY LINES SHOWN ON THIS DRAWING ARE BASED UPON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN THE EXACT LOCATION OF THE UTILITY SHOWN AND TO ASCERTAIN LOCATION OF OTHER UTILITIES NOT SHOWN HEREON.

REV. 4/28/94 PER JCC REVIEW.
REV. 3/15/94 PER JCC \ VDOT REVIEW. SHEETS 6, 7 & 8 ADDED.

PROFILES

PELEG'S POINT

SECTION TWO

JAMES CITY COUNTY, VIRGINIA

C. K. TUDOR ENGINEERS, INC.
NEWPORT NEWS, VIRGINIA

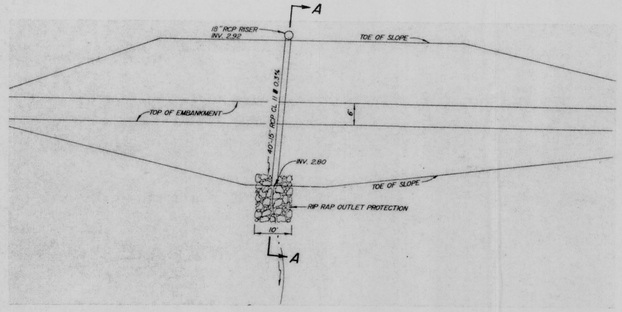
NO. 1269—PROFILE PLATE A "CLEARPRINT PAPER CO."
SCALE: 1" = 50' HORIZ. 1" = 5' VERT.
DATE: NOV. 17, 1993

DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
ADP/RC	RC	CKT	93-249	4 OF 8

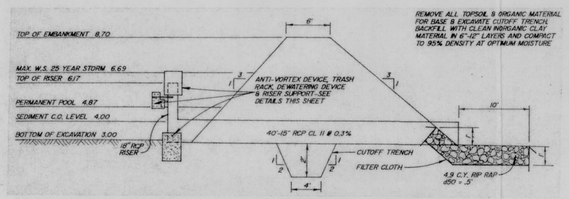
FILE NO. 22-910

MC018_PELEGS_POINT_SUBDIVISION - 015

POND "D"
PHASE I - SEDIMENT POND



PLAN
1" = 20'

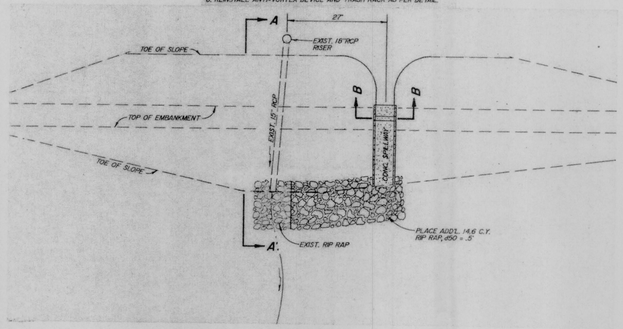


SECTION A-A
1" = 10' HORIZ.
1" = 4' VERT.

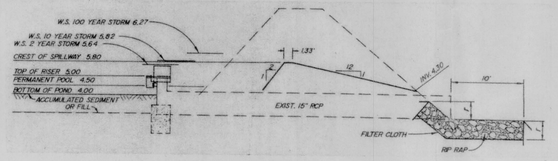
PHASE II - BMP POND

TO CONVERT SEDIMENT POND TO BMP

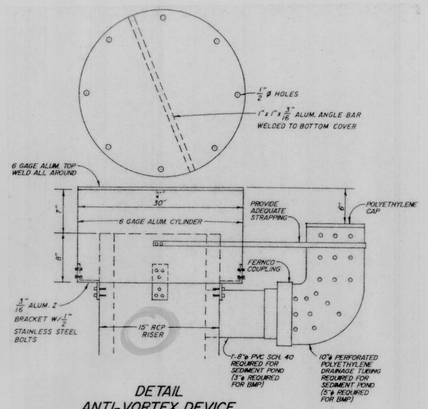
1. ALLOW SEDIMENT TO ACCUMULATE IN BOTTOM OF POND TO ELEV. 4.00
2. IF SEDIMENT HAS NOT ACCUMULATED TO THIS LEVEL, PLACE FILL.
3. INSTALL EMERGENCY SPILLWAY & OUTLET PROTECTION AS PER PLAN.
4. REMOVE ANTI-VORTEX DEVICE, TRASH RACK AND DEWATERING DEVICE
4. CUT OFF TOP OF EXIST. 15" RCP RISER PIPE TO ELEV. 5.00.
5. CUT 3"ø HOLE IN THE SIDE OF THE RISER PIPE AT ELEV. 4.50. INSTALL NEW DEWATERING DEVICE-1-3"ø PVC SCH. 40 WITH 5'± PERFORATED POLYETHYLENE DRAINAGE TUBING.
6. REINSTALL ANTI-VORTEX DEVICE AND TRASH RACK AS PER DETAIL.



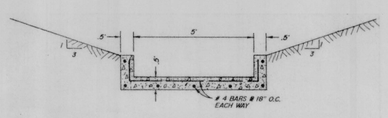
PLAN
1" = 20'



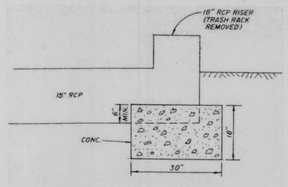
SECTION A-A
1" = 10' HORZ.
1" = 4' VERT.



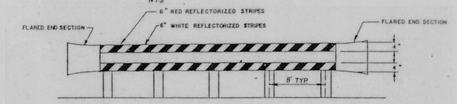
DETAIL
ANTI-VORTEX DEVICE
TRASH RACK & DEWATERING DEVICE
NTS

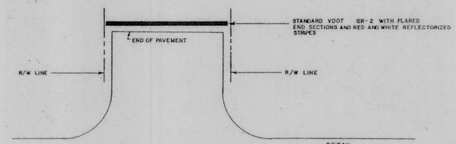


SECTION B-B
1" = 3'



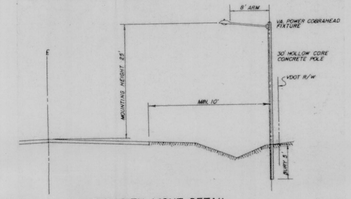
DETAIL
RISER SUPPORT
NTS



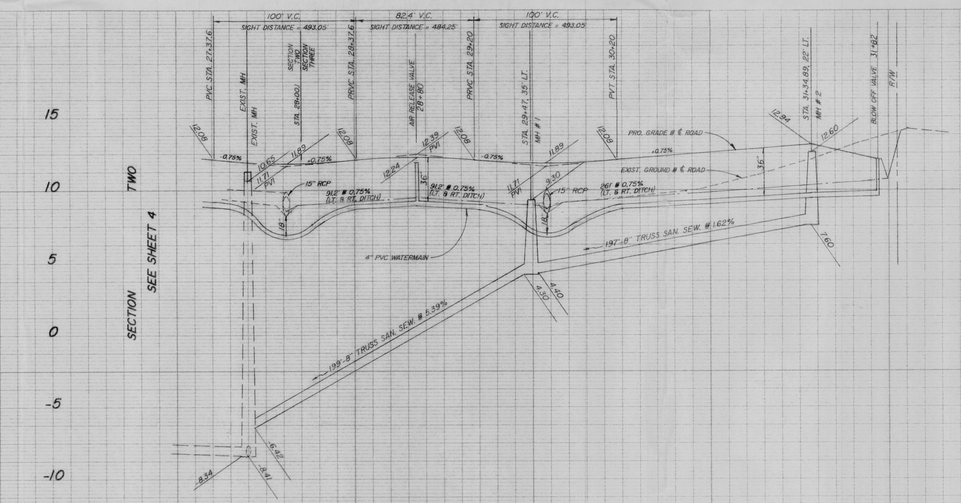


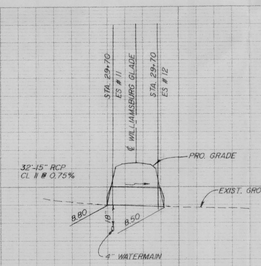
NOTE: DEAD END STREET BARRICADES SHALL BE CONSTRUCTED OF GUARDRAIL CONFORMING TO VDOT STANDARD GR9R. GR-2 GUARDRAIL FLARED END SECTIONS SHALL BE INSTALLED ON THE ENDS OF THE GUARDRAIL SECTIONS. TWO 4" WIDE RED AND WHITE STRIPE OF ENCAPSULATED LENS (HIGH INTENSITY) REFLECTIVE SHEETING SHALL BE INSTALLED AT THE TOP AND BOTTOM OF THE GUARDRAIL.

DETAIL
STANDARD
BARRICADE
NTS

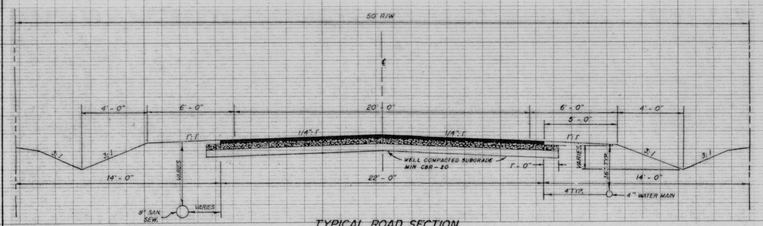


SECURITY LIGHT DETAIL
NTS





CULVERT @ STA. 29+70



TYPICAL ROAD SECTION
N.T.S.

PAVEMENT : (CL III)
1 1/2" COMPACTED BIT. CONC. TYPE SM-2A
6" NO. 21-B AGGREGATE BASE MATERIAL
6" SELECT MATERIAL TYPE I OR III

WILLIAMSBURG GLADE

SCALE : 1" = 50'-HORIZ.
1" = 5'-VERT.

UNDERGROUND UTILITY LINES SHOWN ON THIS DRAWING ARE BASED UPON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN THE EXACT LOCATION OF THE UTILITY SHOWN AND TO ASCERTAIN LOCATION OF OTHER UTILITIES NOT SHOWN HEREON.

COMMONWEALTH OF VIRGINIA
C. K. TUDOR
EXPIRES 6-30-94
11/7/93
REGISTERED LAND SURVEYOR

REV. 4/25/94 PER VDOT REVIEW
REV. 3/15/94 PER VDOT (VDOT REVIEW SHEETS 6,7 & 8 ADDED)

DETAILS / PROFILES
PELEG'S POINT
SECTION THREE
JAMES CITY COUNTY, VIRGINIA

C.K. TUDOR ENGINEERS, INC. NEWPORT NEWS, VIRGINIA			SCALE	DATE
			AS SHOWN	NOV. 17, 1993
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
RC	RC	CKT	93-244	5 OF 8

NO. 1265—PLAN PROFILE PLATE A
"CLEARPRINT PAPER CO."
MADE IN U.S.A.

FILE NO. 22-910

MC018_PELEGS_POINT_SUBDIVISION - 016

DETENTION POND	A	B	C	D	E	F
TOTAL DRAINAGE AREA	27.19 Ac.	27.40 Ac.	57.03 Ac.	7.62 Ac.	17.45 Ac.	1.93 Ac.
TOTAL POND AREA	0.80 Ac.	0.51 Ac.	1.16 Ac.	0.19 Ac.	0.39 Ac.	0.04 Ac.

REV 4/25/94 PER JCC REVIEW
REV. 3/15/94 PER JCC & VDOT REVIEW. SHEETS 6,7 & 8 ADDED

COMMONWEALTH OF VIRGINIA
C. K. TUDOR
CIVIL ENGINEER
K. Tudor
NO. 7705
PROFESSIONAL ENGINEER

DRAINAGE PLAN

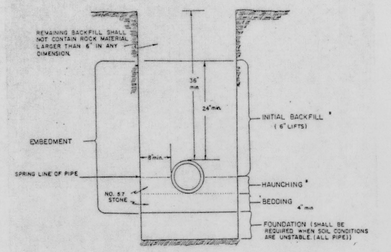
PELEG'S POINT

JAMES CITY COUNTY, VIRGINIA

C.K. TUDOR ENGINEERS, INC. NEWPORT NEWS, VIRGINIA			SCALE	DATE
			1" = 200'	MARCH 15, 1994
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
RC	RC	CKT	93-244/1249	6 OF 8

FILE NO 22-910

MC018_PELEGS_POINT_SUBDIVISION - 017

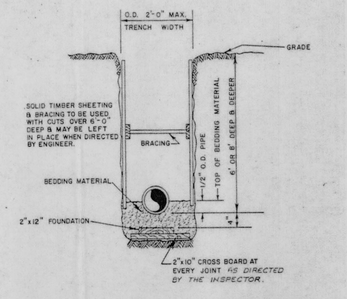


1. OPEN CUTS IN PAVED AREAS SHALL BE BACKFILLED ENTIRELY WITH NO. 57 STONE.
2. DUCTILE IRON PIPE MAY BE INSTALLED WITH LIMITED BEDDING AS APPROVED BY THE J.C.S.A.
3. WHERE ROCK IS ENCOUNTERED DUCTILE IRON PIPE SHALL BE INSTALLED ON A MINIMUM 6" BEDDING OF NO. 57 STONE.

*THOROUGHLY COMPACTED BY HAND OR APPROVED MECHANICAL TAMPER

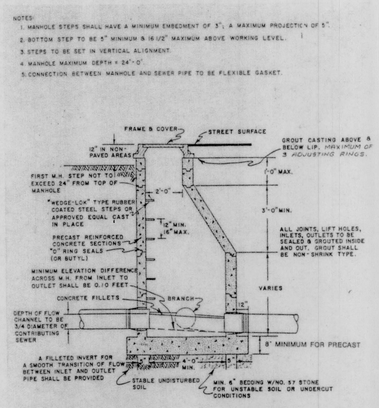
JAMES CITY COUNTY
JAMES CITY SERVICE AUTHORITY
SEWER TRENCH INSTALLATION
DWG. NO.: S-8.0 SCALE: NONE
DWG. BY: A.T.Q. DATE: JUNE 1984

NOTE: WHEN DIRECTED BY ENGINEER, FOUNDATION LUMBER SHALL BE PLACED THE FULL WIDTH OF THE TRENCH.



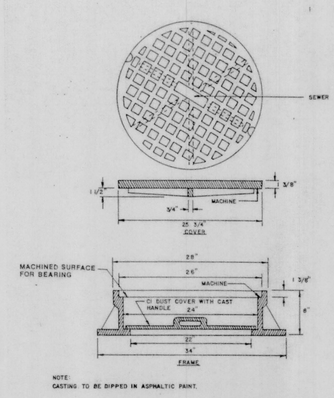
JAMES CITY COUNTY
JAMES CITY SERVICE AUTHORITY
UNSTABLE TRENCH SEWER PIPE FOUNDATION
DWG. NO.: S-8.1 SCALE: NONE
DWG. BY: A.T.Q. DATE: JUNE 1984

NOTES:
1. MANHOLE STEPS SHALL HAVE A MINIMUM EMBEDMENT OF 3", A MAXIMUM PROJECTION OF 5".
2. BOTTOM STEP TO BE 5" MINIMUM & 16 1/2" MAXIMUM ABOVE WORKING LEVEL.
3. STEPS TO BE SET IN VERTICAL ALIGNMENT.
4. MANHOLE MAXIMUM DEPTH = 24'-0".
5. CONNECTION BETWEEN MANHOLE AND SEWER PIPE TO BE FLEXIBLE GASKET.



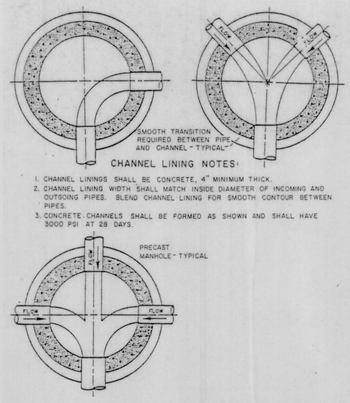
REVISED 7-1-89

JAMES CITY COUNTY
JAMES CITY SERVICE AUTHORITY
STANDARD MANHOLE
DWG. NO.: S-5.0 SCALE: NONE
DWG. BY: A.T.Q. DATE: JUNE 1984



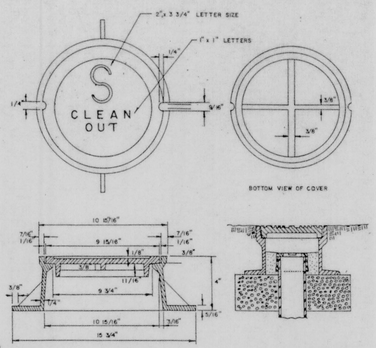
NOTE:
CASTING TO BE DIPPED IN ASPHALTIC PAINT.

JAMES CITY SERVICE AUTHORITY
STANDARD MANHOLE FRAME & COVER
DWG. NO. S 2.0 SCALE : NONE
DWN. BY : EMG DATE : 7-1-89

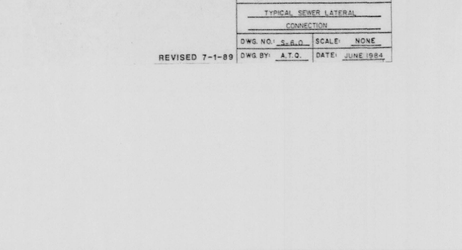


CHANNEL LINING NOTES:
1. CHANNEL LININGS SHALL BE CONCRETE, 4" MINIMUM THICK.
2. CHANNEL LINING WIDTH SHALL MATCH INSIDE DIAMETER OF INCOMING AND OUTGOING PIPES. BLEND CHANNEL LINING FOR SMOOTH CONTOUR BETWEEN PIPES.
3. CONCRETE CHANNELS SHALL BE FORMED AS SHOWN AND SHALL HAVE 3000 PSI AT 28 DAYS.

JAMES CITY COUNTY
JAMES CITY SERVICE AUTHORITY
PLANS FOR MANHOLES
DWG. NO.: S-3.0 SCALE: NONE
DWG. BY: A.T.Q. DATE: JUNE 1984

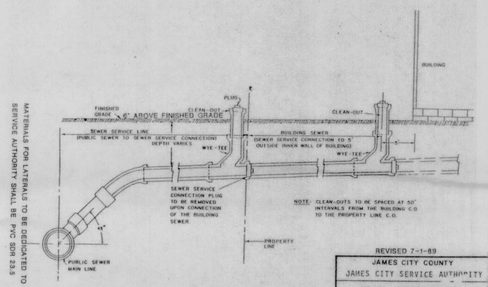


JAMES CITY SERVICE AUTHORITY
CLEANOUT COVER ASSEMBLY
DWG. NO. S 1.1 SCALE : NONE
DWN. BY : EMG DATE : 7-1-89



JAMES CITY COUNTY
JAMES CITY SERVICE AUTHORITY
TYPICAL 6" LATERAL SERVING TWO DWELLINGS
DWG. NO.: S-6.2 SCALE: NONE
DWG. BY: A.T.Q. DATE: JUNE 1984

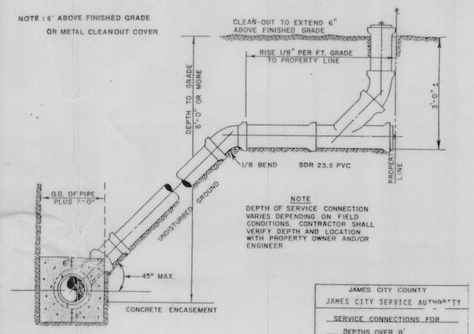
REVISED 7-1-89



REVISED 7-1-89

JAMES CITY COUNTY
JAMES CITY SERVICE AUTHORITY
TYPICAL SEWER SERVICE
DWG. NO. S-1.0 SCALE: NONE
DWN. BY: A.T.Q. DATE: JUNE 1984

NOTE: 6" ABOVE FINISHED GRADE OR METAL CLEANOUT COVER



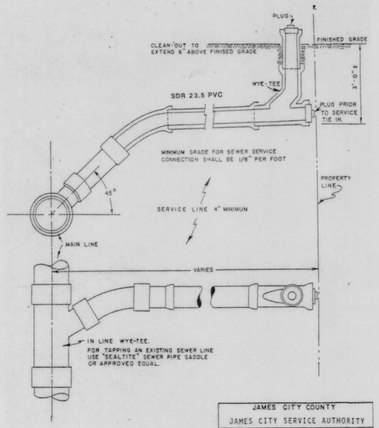
NOTE
DEPTH OF SERVICE CONNECTION VARIES DEPENDING ON FIELD CONDITIONS. CONTRACTOR SHALL VERIFY DEPTH AND LOCATION WITH PROPERTY OWNER AND/OR ENGINEER.

JAMES CITY COUNTY
JAMES CITY SERVICE AUTHORITY
SERVICE CONNECTIONS FOR DEPTHS OVER 8'
DWG. NO.: S-6.1 SCALE: NONE
DWG. BY: A.T.Q. DATE: JUNE 1984

JAMES CITY SERVICE AUTHORITY

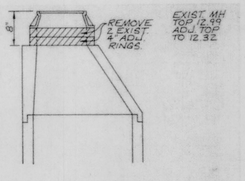
GENERAL NOTES - SANITARY SEWER

1. All components of the sanitary sewer system shall be installed and tested in accordance with the latest edition of the James City Service Authority Standards and Specifications for Sanitary Sewer Systems and the Virginia Sewerage Regulations.
2. The developer's representative shall submit a list of materials for approval to the James City Service Authority prior to commencement of construction.
3. Sewer lines shall be installed after rough grading and prior to placement of base material.
4. All approved Erosion and Sediment Control requirements shall be observed during sewer line construction.
5. All sewers shall be mirrored and pressure tested in accordance with James City Service Authority standards.
6. After testing is complete and all components of the sewer system are acceptable to the James City Service Authority, as-built drawings shall be submitted to the Service Authority. No wastewater flow shall be allowed to enter the sanitary sewer system until as-built drawings are received and checked for accuracy by the James City Service Authority. Any discrepancies noted, during the as-built inspection, shall be corrected by the developer's representatives within 30 days.
7. Routine periodic inspections during construction will be provided by the James City Service Authority. These inspections do not relieve the developer from his obligation and responsibility for constructing a sanitary sewer system in strict accordance with the standards and specifications of the James City Service Authority.
8. Any changes to the final plans shall be approved by the James City Service Authority and shall be accurately indicated on the as-built drawings.
9. All lots shall be provided with sewer service connections. The connections shall be extended from the main to the property line or easement line, and shall terminate with a wye, fitting, plug and clean out with removable plug extending six inches above finished grade.
10. The developer is required to submit sewer data sheets and shall acquire a certificate to construct prior to commencement of construction.
11. Any required easements, permits and approvals shall be acquired by the developer prior to commencement of sanitary sewer construction.
12. The sewer main contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He shall erect and maintain, as required by the conditions and progress of the work, all necessary safeguards for safety and protection. He shall also notify "Miss Utility" prior to performing any underground excavation.

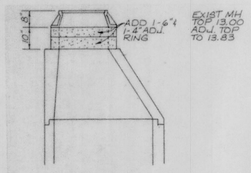


JAMES CITY COUNTY
JAMES CITY SERVICE AUTHORITY
TYPICAL SEWER LATERAL CONNECTION
DWG. NO.: S-6.0 SCALE: NONE
DWG. BY: A.T.Q. DATE: JUNE 1984

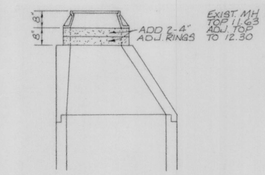
REVISED 7-1-89



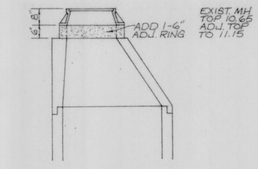
MH @ STA. 17+33
N.T.S.



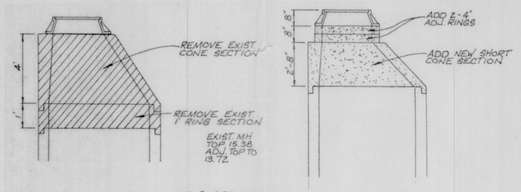
MH @ STA. 19+94
N.T.S.



MH @ STA. 25+17
N.T.S.



MH @ STA. 27+60
N.T.S.



MH @ STA. 2+60
QUAIL RUN
N.T.S.

EXIST. MH TOP ADJUSTMENT DETAILS

COMMONWEALTH OF VIRGINIA
C. K. TUDOR
CIVIL ENGINEER
7/28/94

REV 4/25/94 PER JCC REVIEW
REV 5/5/94 PER JCC \ VDOT REVIEW, SHEETS 6,7 & 8 ADDED

SANITARY SEWER SYSTEM
STANDARD DETAILS & NOTES

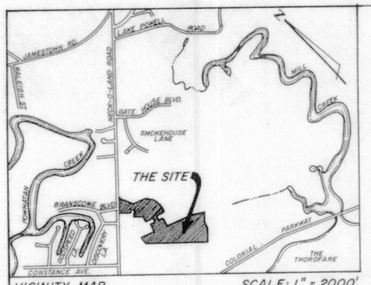
PELEG'S POINT

SECTIONS TWO & THREE

JAMES CITY COUNTY, VIRGINIA

C.K. TUDOR ENGINEERS, INC. NEWPORT NEWS, VIRGINIA			SCALE: NTS	DATE: MARCH 15, 1994
DESIGN BY: ——	DRAWN BY: RC	CHECKED BY: CKT	JOB NO.: 93-244/249	SHEET: 7 OF 8

FILE NO. 22-310



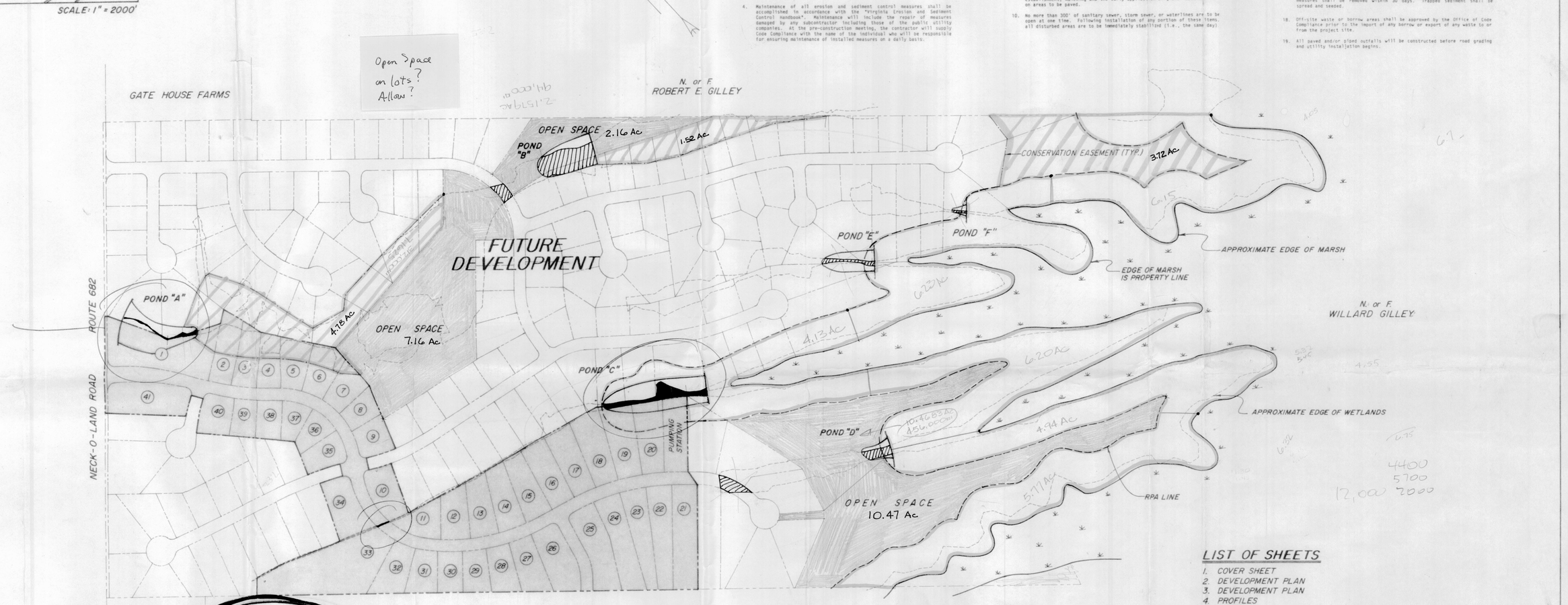
VICINITY MAP SCALE: 1" = 2000'

Erosion and Sediment Control Notes

The purpose of the erosion control measures shown on these plans shall be to preclude the transport of all waterborne sediments resulting from construction activities from entering onto adjacent properties or State waters. If field inspection reveals the inadequacy of the plan to confine sediment to the project site, appropriate modifications will be made to correct any plan deficiencies.

1. All erosion and sediment control measures shall be installed and maintained in accordance with the "Virginia Erosion and Sediment Control Handbook". The contractor shall be thoroughly familiar with all applicable measures contained therein which may be pertinent to this project.
2. All points of construction ingress and egress shall be protected by a temporary construction entrance to prevent tracking of mud onto public right-of-ways. An entrance permit from VDOT is required prior to any construction activities within State right-of-ways.
3. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment on-site must be constructed as a first step in grading and be made functional before upslope land disturbance takes place. Earthen structures such as dams, dikes, and diversions must be seeded and mulched within 15 days of installation. An on-site pre-construction meeting will be held between the Office of Code Compliance and the contractor to identify those measures to be initially installed.
4. Maintenance of all erosion and sediment control measures shall be accomplished in accordance with the "Virginia Erosion and Sediment Control Handbook". Maintenance will include the repair of measures damaged by any subcontractor including those of the public utility companies. At the pre-construction meeting, the contractor will supply Code Compliance with the name of the individual who will be responsible for ensuring maintenance of installed measures on a daily basis.
5. Surface flows over cut and fill slopes shall be controlled by either redirecting flows from transversing the slopes or by installing mechanical devices to safely lower water downslope without causing erosion. A temporary fill diversion (Std. & Spec. 7.16) shall be installed prior to the end of each working day.
6. Sediment control measures may require minor field adjustments at time of construction to insure their intended purpose is accomplished. Office of Code Compliance approval will be required for other deviations from the approved plans.
7. The contractor shall strip and pile topsoil at the locations shown on this plan or as directed by the engineer. Silt fence shall be placed at the toe of the stockpile after stripping of topsoil is complete.
8. The contractor shall complete drainage facilities within 30 days following completion of rough grading at any point within the project. The installation of drainage facilities shall take precedence over all underground utilities. Outfall ditches from drainage structures shall be stabilized immediately after construction of same. This includes installation of erosion control stone where required. Any drainage outfalls required for a street must be completed before street grading begins.
9. Permanent or temporary soil stabilization must be applied to all denuded areas within 15 days after final grade is reached on any portion of the site. Soil stabilization must also be applied to denuded areas which may not be at final grade but will remain dormant (undisturbed) for longer than 30 days. Soil stabilization measures include vegetative establishment, mulching and the early application of gravel base material on areas to be paved.
10. No more than 300' of sanitary sewer, storm sewer, or waterlines are to be open at one time. Following installation of any portion of these items, all disturbed areas are to be immediately stabilized (i.e., the same day)
11. If disturbed area stabilization is to be accomplished during the months of December, January, or February, stabilization shall consist of mulching in accordance with Specification 7.35. Seeding will then take place as soon as the season permits.
12. The term Seeding, Final Vegetative Cover or Stabilization, on this plan shall mean the successful germination and establishment of a stable grass cover from a properly prepared seedbed containing the specified amounts of seed, lime, and fertilizer in accordance with Specification 7.66, Permanent Seeding. Irrigation shall be required as necessary to ensure establishment of grass cover.
13. All slopes steeper than 3:1 shall require the use of erosion control blankets such as excelsior blankets to aid in the establishment of a vegetative cover. Installation shall be in accordance with Specification 1.75, Mulching and Manufacturer's Instructions.

    Inlet protection in accordance with Specification 1.08 shall be provided for all storm drain inlets as soon as practical following construction of same.
15. Temporary liners, such as polyethylene sheets, shall be provided for all paved ditches until the permanent concrete liner is installed.
16. Paved ditches shall be required wherever erosion is evident. Particular attention shall be paid to those areas where grades exceed 3%.
17. Temporary erosion control measures are not to be removed until all disturbed areas are stabilized. After stabilization is complete, all measures shall be removed within 30 days. Trapped sediment shall be spread and seeded.
18. Off-site waste or borrow areas shall be approved by the Office of Code Compliance prior to the import of any borrow or export of any waste to or from the project site.
19. All paved and/or piped outfalls will be constructed before road grading and utility installation begins.



Open Space on lots? Allow?

LIST OF SHEETS

1. COVER SHEET
2. DEVELOPMENT PLAN
3. DEVELOPMENT PLAN
4. PROFILES
5. PROFILES
6. DETAILS

NECK-O-LAND HUNDRED

Open Space 19.79 Ac (excluding area of lakes)
RPA Area 33.42 Ac.
Conservation Easement Area 10.02 Ac.
TOT. 63.23 Ac

WHAT WE USED

Impacted wetlands - Ph I - 14,500 sf .33 Ac

total 49,400 sf 1.15 Ac — 51,100 sf 1.17 Ac

14,500 sf ±

N. or F.
ATLANTIC HOMES DEVELOPMENT CORPORATION

GENERAL NOTES

Owner/Developer: Mill Creek Landing, Ltd.
11007 Warwick Blvd.
Newport News, VA 23601
(804) 599-3335

Engineer: C. K. Tudor Engineers, Inc.
11524 Jefferson Ave.
Newport News, VA 23601
(804) 595-4610

Zone: R-1
Total number of lots: Section One-41
Total area: Section One - 31.4825 Ac.
Area of Lots: 27.5908 Ac.
Area of right-of-way: 3.8917 Ac.
All work to be in accordance with the Virginia Department of Transportation Road and Bridge Specifications, dated 1987, and the Virginia Department of Transportation Road Design and Bridge Standards, dated 1986 unless otherwise noted.
Prior to commencement of construction, the contractor is directed to notify all applicable owners of utilities of the limits of impending construction in order that the utility companies may safeguard their facilities. All Virginia Power and C & P facilities requiring relocation are to be done so by aforementioned utilities at contractor's expense.
All storm sewer pipes and drop inlets to be cleaned of debris and eroded material at last stages of construction.
All drainage structures to conform the Virginia Department of Transportation Road Designs and Standards, dated 1986 unless otherwise indicated.
All manhole rims to be flush with ground, rim elevation may vary slightly to suit existing undisturbed ground.
Surface drainage not to be allowed to enter sanitary sewer system at any time.
The contractor shall be responsible for replacing with matching materials any pavement, driveways, walks, curbs, etc. that must be cut or that are damaged during construction.
All concrete to be Class A-3 air entrained (3000 psi).
All dimensions are to face of curb, face of building, edge of pavement unless otherwise indicated.
Where sanitary sewer stubs or water system plugs are noted on plans, contractor to mark locations and depth with 2" P.V.C. driven into ground. Sewer laterals are to be marked by a cleanout extending 6" above finished grade.
All sanitary sewer construction, materials, and structures to be in accordance with specifications, standards, and details of James City County Service Authority.
All water line construction, materials, and structures to be in accordance with specifications, standards, and details of James City County Service Authority.
All P.V.C. water mains shall be minimum Class 150 (SDR 18) and shall be in accordance with AWWA C 900, latest revision.
All gravity sewer mains shall be P.V.C., SDR 35 unless otherwise noted.
All lots will require a 15" Ø driveway culvert.
The contractor shall be responsible for any and all damage to utilities, public or private, as a result of construction activities. Contractor shall report any errors, omissions, conflicts or discrepancies to the Engineer for resolution before continuing with the work.

WORK PRINT
MAR 4 1992
C. K. TUDOR ENGINEERS, INC.

COMMONWEALTH OF VIRGINIA — C. K. TUDOR — LAND SURVEYOR — 2/5/92 — CERTIFIED LAND SURVEYOR

1/19/95 - USED AREAS ON THIS SHEET FOR BMP OPEN SPACE POINTS

2/4/92 FUTURE DEVELOPMENT LOT LAYOUT REVISED, DRY POND DRAINAGE POINT, EROSION CONTROL PLAN DELETED

COVER SHEET

WILLIAMSBURG GLADE

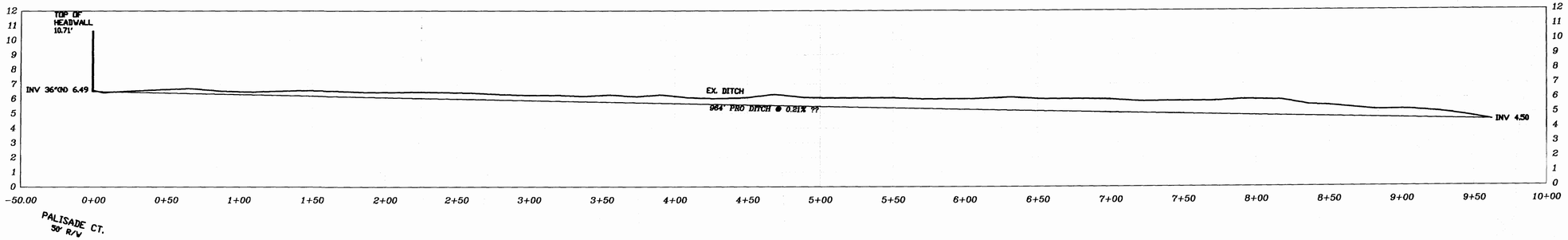
SECTION ONE

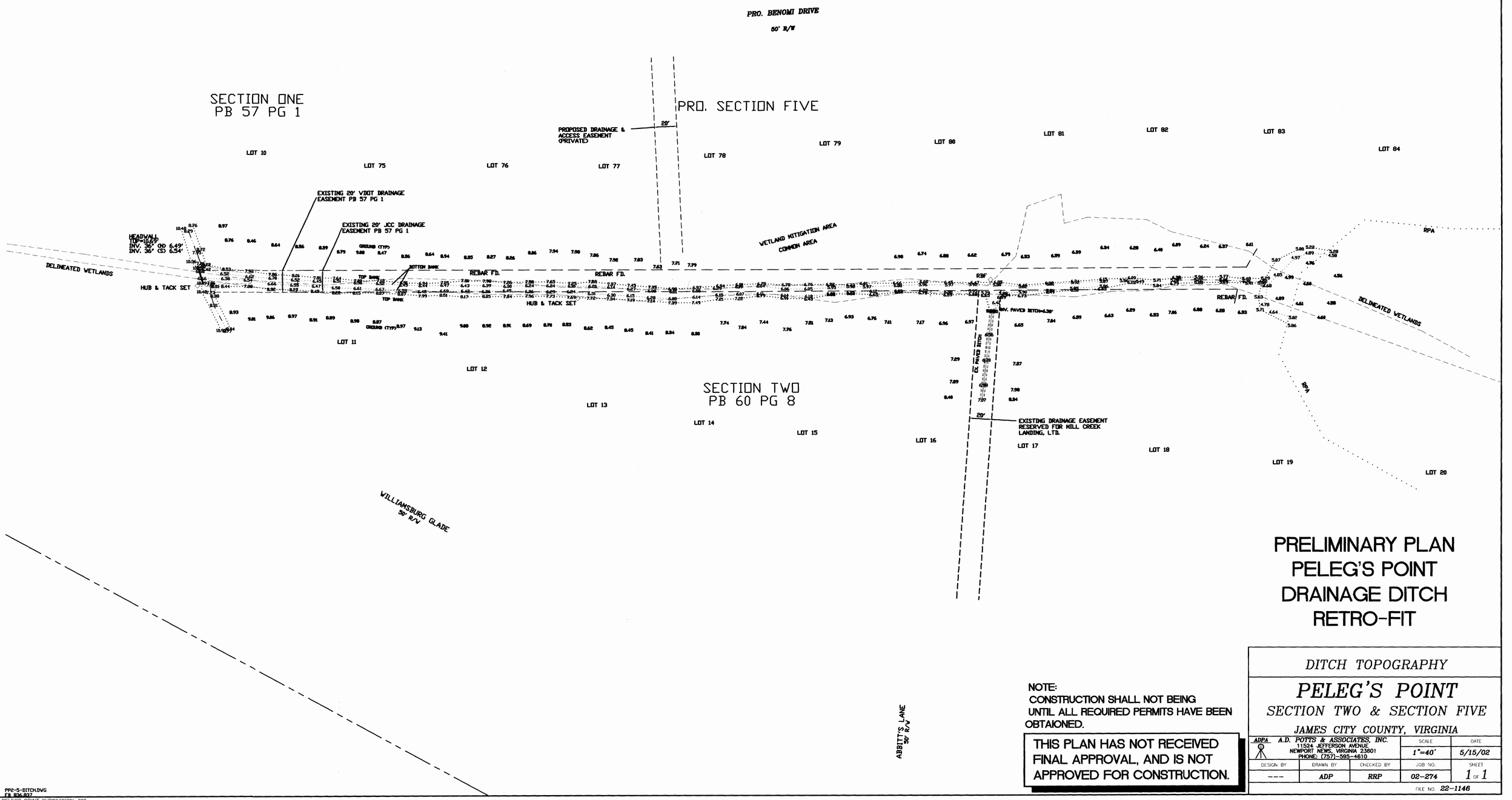
JAMES CITY COUNTY, VIRGINIA

C.K. TUDOR ENGINEERS, INC. NEWPORT NEWS, VIRGINIA			SCALE	DATE
			1" = 200'	10/2/89
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
ADP	LLB	CKT	86-508	1 OF 6

FILE NO. 22-799

MC018_PELEGS_POINT_SUBDIVISION - 019





PRELIMINARY PLAN
PELEG'S POINT
DRAINAGE DITCH
RETRO-FIT

NOTE:
CONSTRUCTION SHALL NOT BEING UNTIL ALL REQUIRED PERMITS HAVE BEEN OBTAIONED.

THIS PLAN HAS NOT RECEIVED FINAL APPROVAL, AND IS NOT APPROVED FOR CONSTRUCTION.

DITCH TOPOGRAPHY

PELEG'S POINT

SECTION TWO & SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

ADPA A.D. POTTS & ASSOCIATES, INC.
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601
PHONE: (757)-595-4610

SCALE	DATE
1"=40'	5/15/02

DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
---	ADP	RRP	02-274	1 OF 1

FILE NO. 22-1146

PPE-S-DITCH.DWG
FB 836-837
MC018_PELEGS_POINT_SUBDIVISION - 020

MASTER PLAN

PELEG'S POINT

ALL SECTIONS

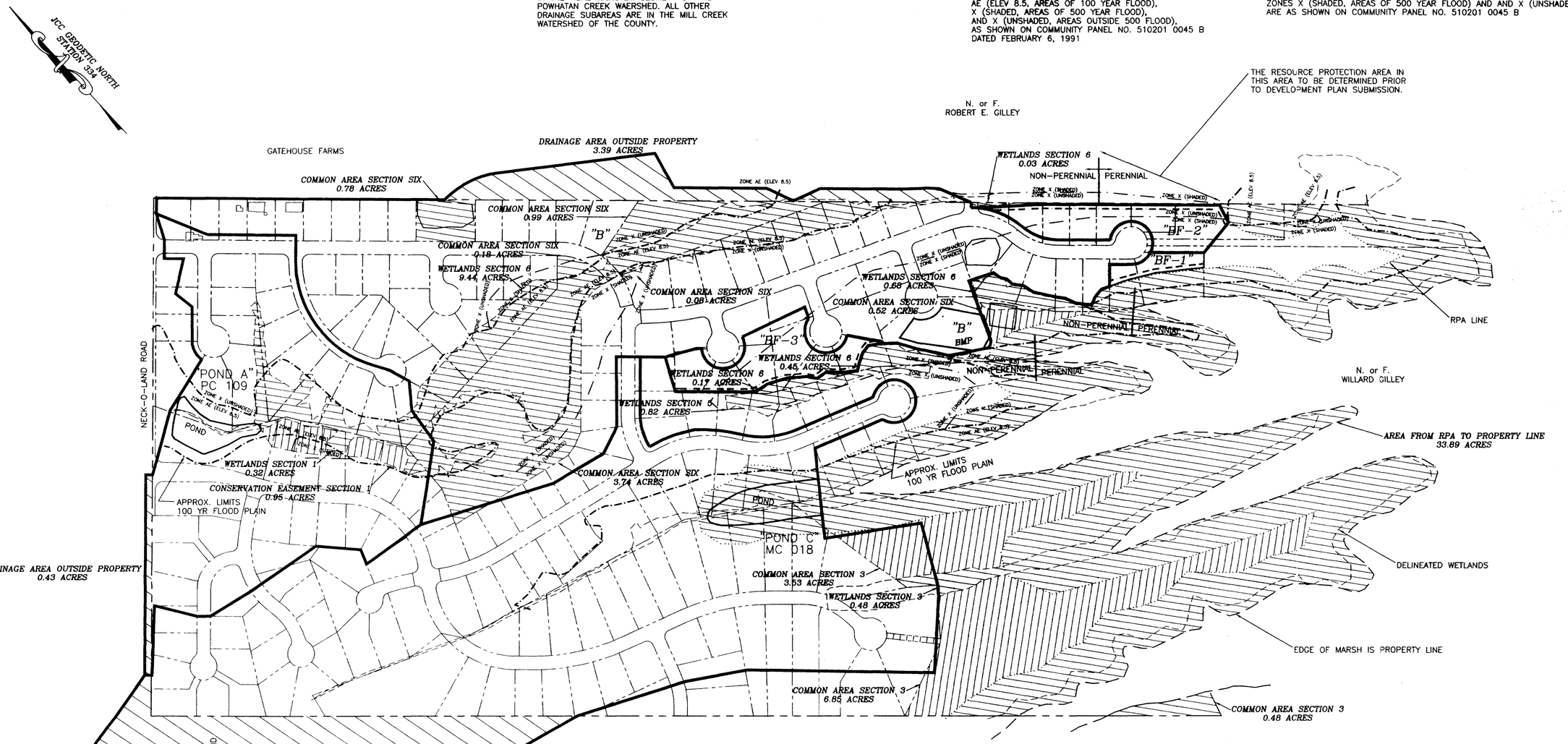
JAMES CITY COUNTY, VIRGINIA

ADPA	***A.D. POTTS & ASSOCIATES, INC.*** 11524 JEFFERSON AVENUE NEWPORT NEWS, VIRGINIA 23601 PHONE: (757)-595-4610		SCALE	DATE
			1"=200'	*2/10/04*
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
ERD	*ERD*	*ADP*	*XX-XXX*	*1* OF *1*
			FILE NO.	

DRAINAGE SUBAREA TO POND "A" IS SITUATED IN THE TIDAL MAINSTEM SEGMENT OF THE POWHATAN CREEK WAERSHED. ALL OTHER DRAINAGE SUBAREAS ARE IN THE MILL CREEK WATERSHED OF THE COUNTY.

THIS PROPERTY IS LOCATED IN FIRM ZONES AE (ELEV 8.5, AREAS OF 100 YEAR FLOOD), X (SHADED, AREAS OF 500 YEAR FLOOD), AND X (UNSHADED, AREAS OUTSIDE 500 FLOOD), AS SHOWN ON COMMUNITY PANEL NO. 510201 0045 B DATED FEBRUARY 6, 1991

ZONE AE (ELEV 8.5, AREAS OF 100 YEAR FLOOD) ARE SHOWN AS DETERMINED BY FIELD TOPOGRAPHY. ZONES X (SHADED, AREAS OF 500 YEAR FLOOD) AND AND X (UNSHADED, AREAS OUTSIDE 500 FLOOD), ARE AS SHOWN ON COMMUNITY PANEL NO. 510201 0045 B



TOTAL PROPERTY
178.57 ACRES

BMP FACILITY	"A"	"B"	"C"	TOTAL
TOTAL DRAINAGE AREA	23.02 Ac.	46.35 Ac.	63.99 Ac.	135.36 Ac.
DRAINAGE AREA WITHIN PROPERTY	22.59 Ac.	44.96 Ac.	48.47 Ac.	116.02 Ac.
% OF SITE COVERED	12.7	25.2	27.1	65.0
TOTAL POND AREA	0.71 Ac.	1.04 Ac.	1.28 Ac.	

BIOFILTER SWALE	"BF-1"	"BF-2"	"BF-3"	TOTAL
TOTAL DRAINAGE AREA	0.52 Ac.	2.34 Ac.	2.49 Ac.	5.35 Ac.
% OF SITE COVERED	0.3	1.3	1.4	3.0

SECTION #	"1"	"2/3"	"4"	"5"	"6"	TOTAL	% OF SITE
COMMON AREA/OPEN SPACE (0.15)	0.00 Ac.	10.38 Ac.	0.00 Ac.	0.00 Ac.	0.52 Ac.	10.90 Ac.	6.1
CONSERVATION EASEMENT (0.15)	0.95 Ac.	0.00 Ac.	0.00 Ac.	0.00 Ac.	0.00 Ac.	0.95 Ac.	0.5
TOTAL AREA FOR 0.15 CALCULATION	0.95 Ac.	10.38 Ac.	0.00 Ac.	0.00 Ac.	0.52 Ac.	11.85 Ac.	6.6
COMMON AREA/OPEN SPACE (0.10)	0.32 Ac.	0.96 Ac.	0.00 Ac.	0.82 Ac.	16.49 Ac.	18.59 Ac.	10.4
RPA TO PROPERTY LINE (TOTAL)						33.89 Ac.	19.0
TOTAL AREA FOR 0.10 CALCULATION	0.32 Ac.	0.96 Ac.	0.00 Ac.	0.82 Ac.	16.49 Ac.	52.48 Ac.	29.4

COMMON AREA/OPEN SPACE/ CONSERVATION EASEMENTS (0.15)

COMMON AREA/OPEN SPACE/ CONSERVATION EASEMENTS/ WETLANDS (0.10)

DRAINAGE AREA OUTSIDE PROPERTY

PROPERTY LINE

EDGE OF MARSH = PROPERTY LINE

RESOURCE PROTECTION AREA

DELINEATED WETLANDS

100 YEAR FLOODPLAIN

500 YEAR FLOODPLAIN

GRASS SWALE BIOFILTER

APPROVED
James City County
Environmental Division
By:
Date: 04-12-05

REV 3/24/05 - COUNTY REVIEW
REV 1/26/05 - COUNTY REVIEW

BMP POINTS WORKMAP

PELEG'S POINT
ALL SECTIONS
JAMES CITY COUNTY, VIRGINIA

ADPA A.D. POTTS & ASSOCIATES, INC.
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601
PHONE: (757)-595-4610

SCALE	DATE
1"=200'	9/1/04

DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
ERD	ERD	ADP	02-687	1 OF 1

PP6-BMP-POINTS-MAP.DWG FILE NO. 22-1215

MC018_PELEGS_POINT_SUBDIVISION - 023

WILLIAMSBURG GLADE

SECTION ONE

JAMESTOWN DISTRICT

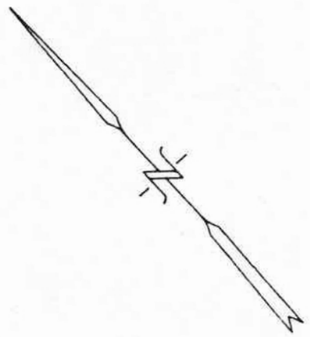
JAMES CITY COUNTY, VIRGINIA

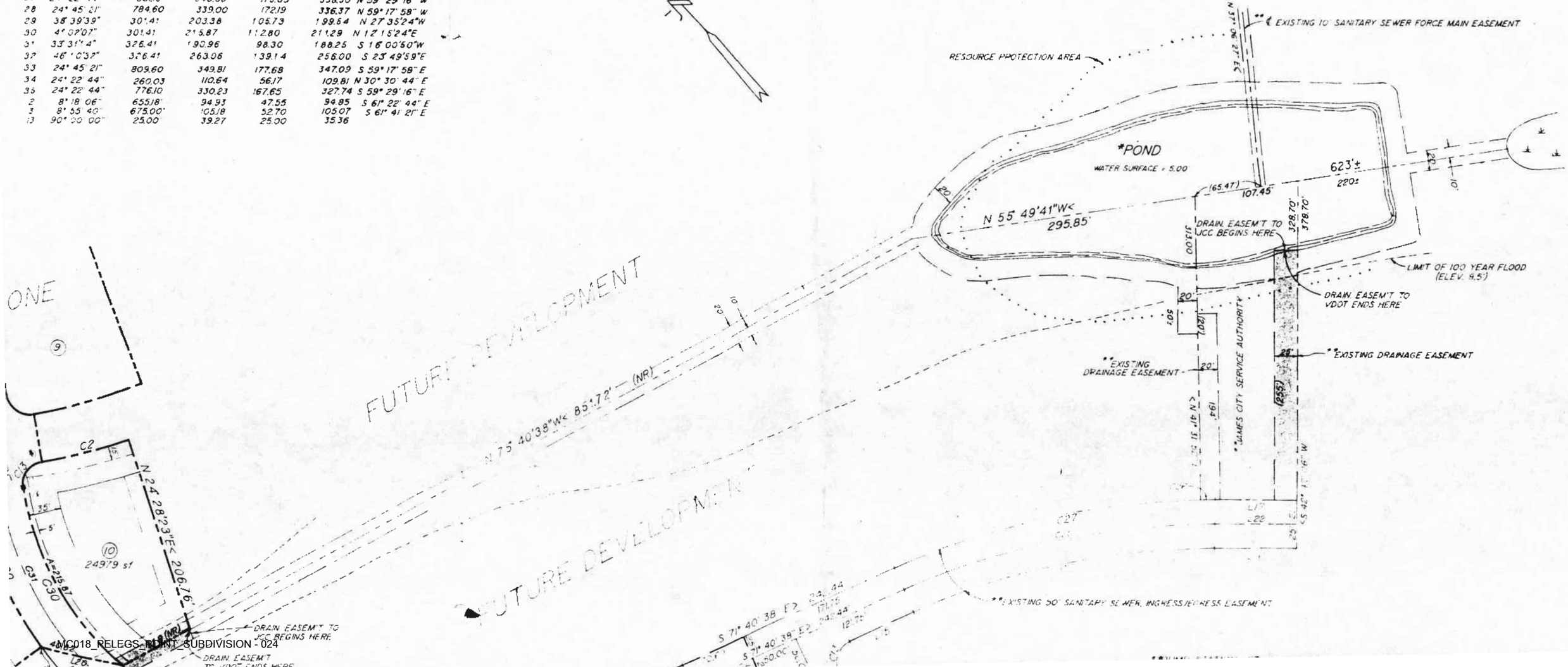
C. K. TUDOR ENGINEERS, INC.
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601

SCALE: 1" = 100' DECEMBER 2, 1992

SHEET 2 OF 2

CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD	CHORD BRG
20	28° 03'36"	351.41'	172.10'	87.81'	170.38'	S 18° 44'40"W
21	51° 38'10"	351.41'	316.70'	170.02'	306.09'	S 21° 06'10"E
22	24° 45' 21"	834.60'	360.61'	183.16'	357.81'	N 59° 17' 58" W
23	24° 22' 44"	235.03'	100.00'	50.77'	99.25'	S 30° 30' 44" W
24	24° 22' 44"	285.03'	121.28'	61.57'	120.37'	N 30° 30' 44" E
25	24° 22' 44"	751.10'	319.59'	162.25'	317.18'	S 59° 29' 16" E
26	01° 10' 14"	801.10'	16.37'	8.18'	16.37'	N 47° 52' 59" W
27	24° 22' 44"	801.10'	340.86'	173.05'	338.30'	N 59° 29' 16" W
28	24° 45' 21"	784.60'	339.00'	172.19'	336.37'	N 59° 17' 58" W
29	38° 39'39"	301.41'	203.38'	105.73'	199.64'	N 27° 35'24"W
30	4° 07'07"	301.41'	21.5.87'	11.2.80'	211.29'	N 12° 15'24"E
31	33° 31' 4"	326.41'	190.96'	98.30'	188.25'	S 16° 00'50"W
32	46° 10'32"	326.41'	263.06'	139.14'	256.00'	S 23° 49'59"E
33	24° 45' 21"	809.60'	349.81'	177.68'	347.09'	S 59° 17' 58" E
34	24° 22' 44"	260.03'	110.64'	56.17'	109.81'	N 30° 30' 44" E
35	24° 22' 44"	776.10'	330.23'	167.65'	327.74'	S 59° 29' 16" E
2	8° 18' 06"	655.18'	94.93'	47.55'	94.85'	S 61° 22' 44" E
3	8° 55' 40"	675.00'	105.18'	52.70'	105.07'	S 61° 41' 21" E
13	90° 00' 00"	25.00'	39.27'	25.00'	35.36'	





13	S 42° 42' 06" W	39.27
14	N 42° 42' 06" E	39.27
15	S 71° 40' 38" E	71.75
16	S 47° 17' 54" E	83.50
17	N 47° 17' 54" W	83.50
18	N 46° 55' 17" W	66.26
19	N 75° 40' 38" W (NR)	79.48
20	S 35° 44' 02" E	88.93
21	S 46° 55' 17" E	66.26
22	S 47° 17' 54" E	83.50
23	N 42° 42' 06" E	39.27
24	N 18° 19' 22" E	50.00

22	24° 45' 21"	834.60	360.61	183.16	357.81 N 59° 17' 58" W
23	24° 22' 44"	235.03	100.00	50.77	99.25 S 30° 30' 44" W
24	24° 22' 44"	285.03	121.28	61.57	120.37 N 30° 30' 44" E
25	24° 22' 44"	751.10	319.59	162.25	317.18 S 59° 29' 16" E
26	01° 10' 14"	801.10	16.37	8.18	16.37 N 47° 52' 59" W
27	24° 22' 44"	801.10	340.86	173.05	338.30 N 59° 29' 16" W
28	24° 45' 21"	784.60	339.00	172.19	336.37 N 59° 17' 58" W
29	38° 39' 39"	301.41	203.38	105.73	199.54 N 27° 35' 24" W
30	41° 02' 07"	301.41	215.87	112.80	211.29 N 12° 15' 24" E
31	33° 31' 14"	326.41	190.96	98.30	188.25 S 16° 00' 50" W
32	46° 10' 32"	326.41	263.06	139.14	256.00 S 23° 49' 59" E
33	24° 45' 21"	809.60	349.81	177.68	347.09 S 59° 17' 58" E
34	24° 22' 44"	260.03	110.64	56.17	109.81 N 30° 30' 44" E
35	24° 22' 44"	776.10	330.23	167.65	327.74 S 59° 29' 16" E
2	8° 18' 06"	655.18'	94.93	47.55	94.85 S 61° 22' 44" E
3	8° 55' 40"	675.00'	105.18	52.70	105.07 S 61° 41' 21" E
13	90° 00' 00"	25.00'	39.27	25.00	35.36

SCALE: 1" = 100'

SHEE

RESOURCE PROTECTION AREA

*PO

WATER SURF

N 55° 49'41"W<
295.85'

SEE SHEET ONE

WILLIAMSBURG GLADE
50' R/W

(35)

(9)

(34)
288.78 s.f.

(10)
249.79 s.f.

C2
C3
C13
C20
A=177.10
C30
A=215.87
C31
N 24° 28' 23" E< 206.76'
S 23° 50' 49" W> 255.29'
40.82'
L20
S 85° 17' 07" E
48.95'
A=48.04'
S 62° 49' 24" E 152.03'
L18 (NR)
DRAIN EASEMT TO JCC BEGINS HERE
DRAIN EASEMT TO ADJOINER HERE
LIMIT OF 100 YEAR FLOOD (ELEV. 8.5')
N 67° 49' 23" W
20' DRAINAGE & UTILITY EASEMENT
C21
C32
C29
L18
L21
66.26'
L11
C28
C33
C22
50'
FUTURE DEVELOPMENT
S 71° 40' 38" E 85.73'
S 71° 40' 38" E 50.00'
L24
70.69
L12
S 18° 19' 22" W> 136.58
S 18° 19' 22" W> 186.58'
N 18° 19' 22" E< 136.58
C23
C24
L13
L17
S 47° 17' 54" W
50.00'
PARKING AT JAMESTOWN
PB 50 PG 95

6	N68°41'47"E	37.39
7	S77°55'31"W	60.61
8	N77°55'31"E	7.47
9	N47°05'18"W	10.00
10	S46°55'15"E	10.00
11	S17°43'39"W	25.00

50 0 50

Scale: 1"= 50'

S42°47'43"E 267.05

112.37

154.68

Problem AREA

TRANSITION PAVEMENT FROM 22' TO 18', STA. 0+45 TO STA. 0+65

STA. 1+36, 13' RT
MH # 5
TOP 12.73
INV. IN 5.22
INV. OUT 3.80

S21°03'38"W 139.25

0+45 BEGIN NEW PAVEMENT

EXIST. STREET LIGHT

EXIST. 8" SAN. SEW.

EXISTING MH
TOP 12.72
INV. IN (N) 3.12
INV. IN (E) 3.16
INV. IN (W) 3.19
INV. OUT (S) 3.19

EXIST. DRAINAGE & UTIL. EASEMENT

PALISADE COURT, 50' R/W

STA. 1+78.54
H.P.
INV. 11.67

INV. 3.45

INV. 10.52

EXIST. 8" PVC

EXIST. 8" SAN. SEV.

88' - 8" PVC SAN. SEV. @ 0.4 %

C 3

C 2 1

C 1 0

133.54' @ + 0.75 %

176' @ 0.75 %

AIR RELEASE VALVE

STA. 1+59.07
H.P.
INV. 11.57

C 4

C 2 0

L11 8" SAN. SEV. @ 0.4 %

INV. 10.03

STA. 12+23.83 - WILLIAMSBURG GLADE
STA. 0+00 - PALISADE COURT

BENCHMARK
N3609364.31
E11990302.51

BASED ON JAMES CITY CONTROL GEODETIC GROUND CONTROL NETWORK

EXIST. FIRE HYDRANT

REMOVE EXIST. BLOW-OFF VALVE PRIOR TO EXTENSION OF 4" WATER MAIN

EXIST. 8" SAN. SEV.

EXIST. 8" SAN. SEV.

71
23775 sf

68
18204 sf

72
20818 sf

67
15180 sf

66
17620 sf

65
20191 sf

74
23850 sf

73
24049 sf

SF

CE

S12°38'41"E 220.96

S22°15'30"W 290.76

INV. 11.70

S82°03'44"E 130.83

2" BLOW-OFF VALVE

FACILITIES EASEMENT TO BE DEDICATED TO J.C.S.A.

240' EARTH DITCH @ 1.0%

PRO. DRAIN. EASEMENT

S88°24'42"W 119.51

R= 35'

277'

INV. 10.40

2" BLOW-OFF VALVE

STOP SIGN (R1-1) TO BE FURNISHED AND INSTALLED BY THE DEVELOPER.

EXIST. DRAINAGE & UTIL. EASEMENT

C10 HORIZONTAL SIGHT DISTANCE = 560.23'

S23°50'49"W 255.29

80' - 15" P.E. @ 1.54 %

N43°41'46"E 76.03

INV. 9.17

PROPOSED DRAINAGE EASEMENT

137' - MOD. PG-2A TYPE 3 @ 1.54%

N22°15'30"E 136.19

MH # 6
TOP 12.80
INV. IN 6.43
INV. OUT 6.33

119'-8" SAN. SEV. @ 0.4 %

N77°49'41"W 106.35

STA. 6+91, 35' LT
MH # 7
TOP 10.90
INV. IN 7.01
INV. OUT 6.91

INV. 6.87

TEMP. SEDIMENT TRAP "C", SEE PLAN & DETAILS SHEET 7

TEMP. SEDIMENT TRAP "B" SEE PLAN & DETAILS SHEET 7

PRO. DRAINAGE EASEMENT

139' - MOD. PG-2A TYP 3 @ 1.0%

S 7°57'46"E 132.65

INV. 7.38

172' - PG-5 @ 0.19 % (W=4', D=1.25', Z=3)

INV. 7.06

111.00

109.00

269' - PG-5 @ 0.19 % (W=4', D=1.25', Z=3)

PG-5 TRANSITION TO TWIN 36" RCP SEE DETAIL SHEET 7

INV. 6.37

EXIST TWIN 36" RCP

INV. 6.48

INV. 6.48

INV. 6.55

INV. 6.59

Problem Area

N67°49'24"W 388.33

LIMIT OF DELINEATED WETLANDS
EXIST. DRAINAGE EASEMENT

SECTION TWO
PB 60 PG 8,9 & 10
ZONE R1

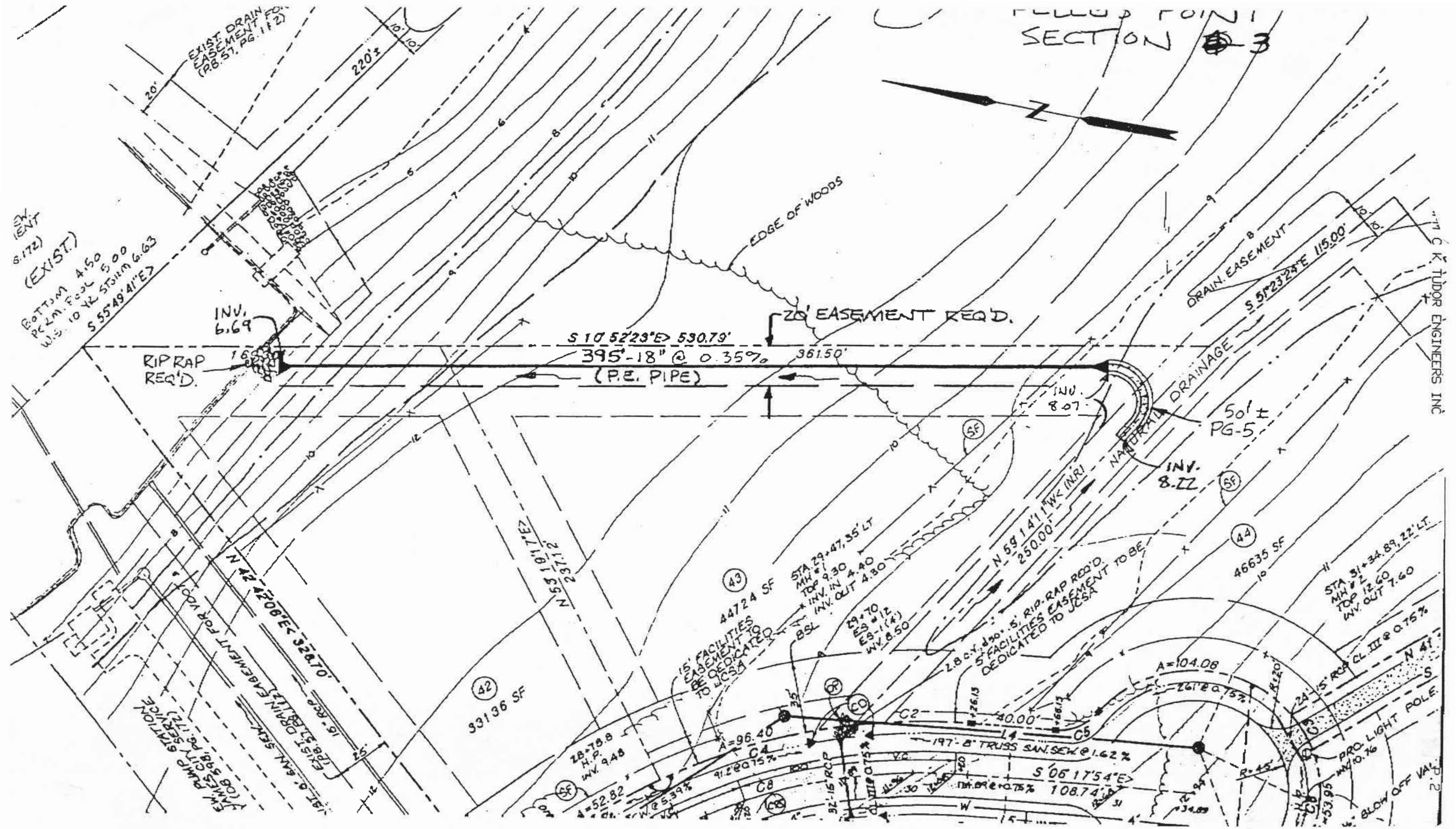
NOTE :

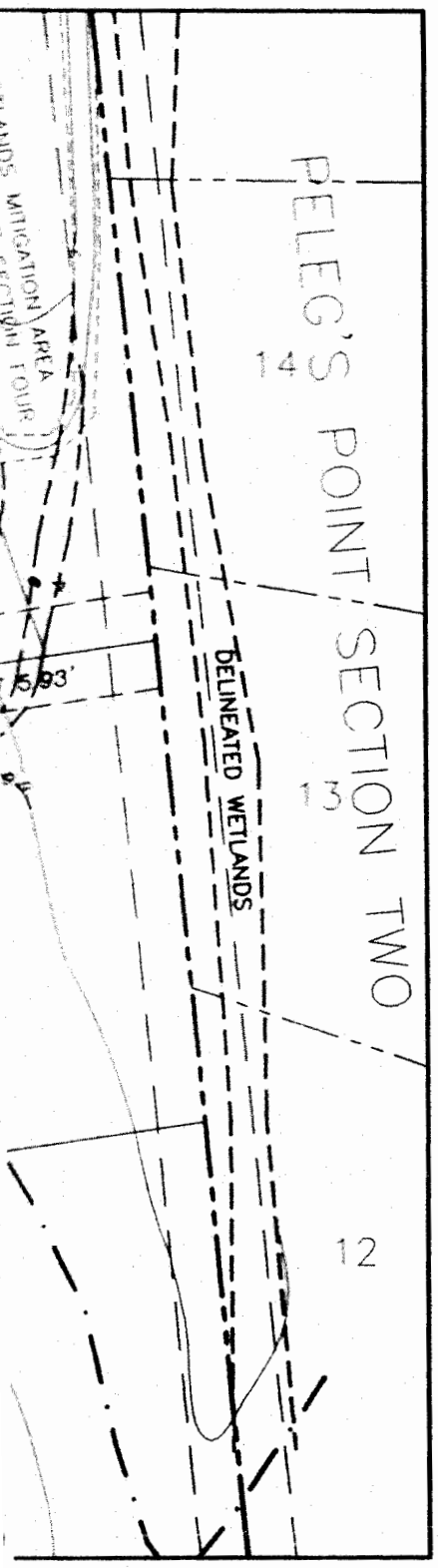
ABANDONED WELLS ON SITE SHALL BE PROPERLY AB
ACCORDING TO STATE PRIVATE WELL REGULATIONS.

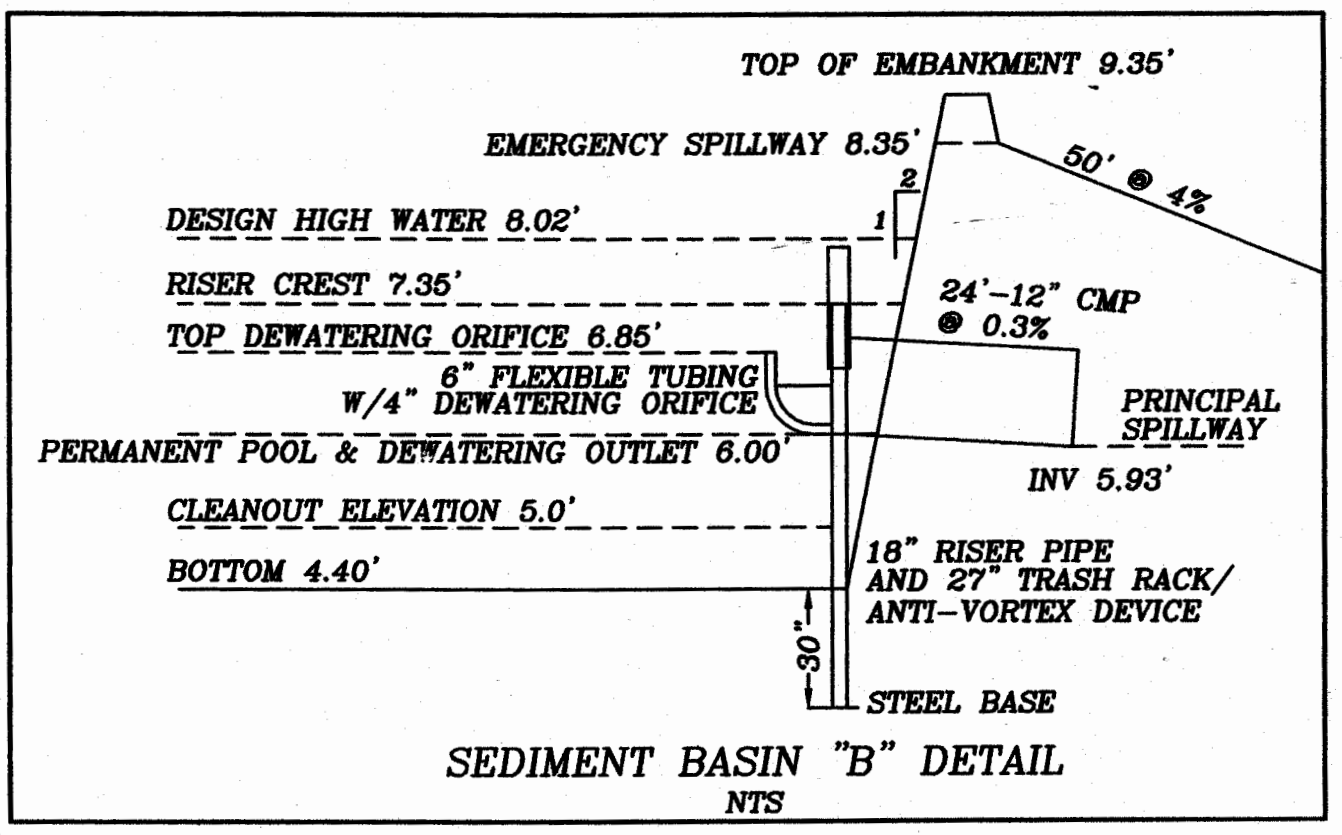
ELEVATION EQUATION
PELEG'S POINT BENCHMARK-0.29' = JAMES CITY COUN
GEODETIC CONTROL NETWORK (1929 DATUM)
BEARING EQUATION
PELEG'S POINT ROTATED COUNTER-CLOCKWISE 06 43'
JAMES CITY COUNTY GEODETIC GROUND CONTROL NET
(STA. #334)

UNLESS OTHERWISE NOTED, ALL DRAINAGE EASEMENTS
ON THIS PLAT SHALL BE PRIVATE.

WETLANDS AND LAND WITHIN RESOURCE PROTECTION A
REMAIN IN A NATURAL UNDISTURBED STATE EXCEPT FO
ACTIVITIES PERMITTED BY SECTION 19B-9C(1) OF THE
CITY COUNTY CODE.


PELEGS POINT
SECTION 3
EXIST. DRAIN EASEMENT FOR (P.B. 57, PG. 1 & 2)
220'±
20'
EDGE OF WOODS
(EXIST.)
BOTTOM 4.50
PERM. POOL 5.00
W.S. 10 YR STORM 6.63
S 55°49'41"E
INV. 6.69
RIP RAP REQ'D.
S 10°52'23"E 530.79'
395'-18" @ 0.35%
(P.E. PIPE)
361.50'
20' EASEMENT REQ'D.
DRAIN. EASEMENT
S 51°23'24"E 115.00'
NATURAL DRAINAGE
INV. 8.07
50'± PG-5
INV. 8.22
C K TUDOR ENGINEERS INC
N 59°14'11"W (N.R.) 250.00'
N 53°19'17"E 237.12'
N 24°20'08"E 329.70'
43
44724 SF
44
46635 SF
42
93136 SF
STA. 29+47.35' LT
MH #1
TOP 9.30
INV. IN 4.40
INV. OUT 4.30
29+70
ES #12
ES-1(4')
INV. 8.50
STA. 31+34.89, 22' LT.
MH #2
TOP 12.60
INV. OUT 7.60
15' FACILITIES EASEMENT TO BE DEDICATED TO JCSA
2.8 c.y. d50=.5' RIP-RAP REQ'D.
5' FACILITIES EASEMENT TO BE DEDICATED TO JCSA
BSL
A=104.08
261' 8" @ .75%
15" RCP CL. III @ 0.75%
40.00'
197'-8" TRUSS SAN. SEW @ 1.62%
S 06°17'54"E 108.74'
A=96.40
28+78.8 H.P. INV. 9.48
A=52.82
32'-15" RCP
PRO. LIGHT POLE
BLOW OFF VALVE
EXIST. DRAIN. ESMT. (P.B. 57, PG. 1&2)
SEW. EASEMENT FOR VOL. 16" RCP
EX. PUMP STATION
EASEMENT (DB 598, PG. 172)
25'

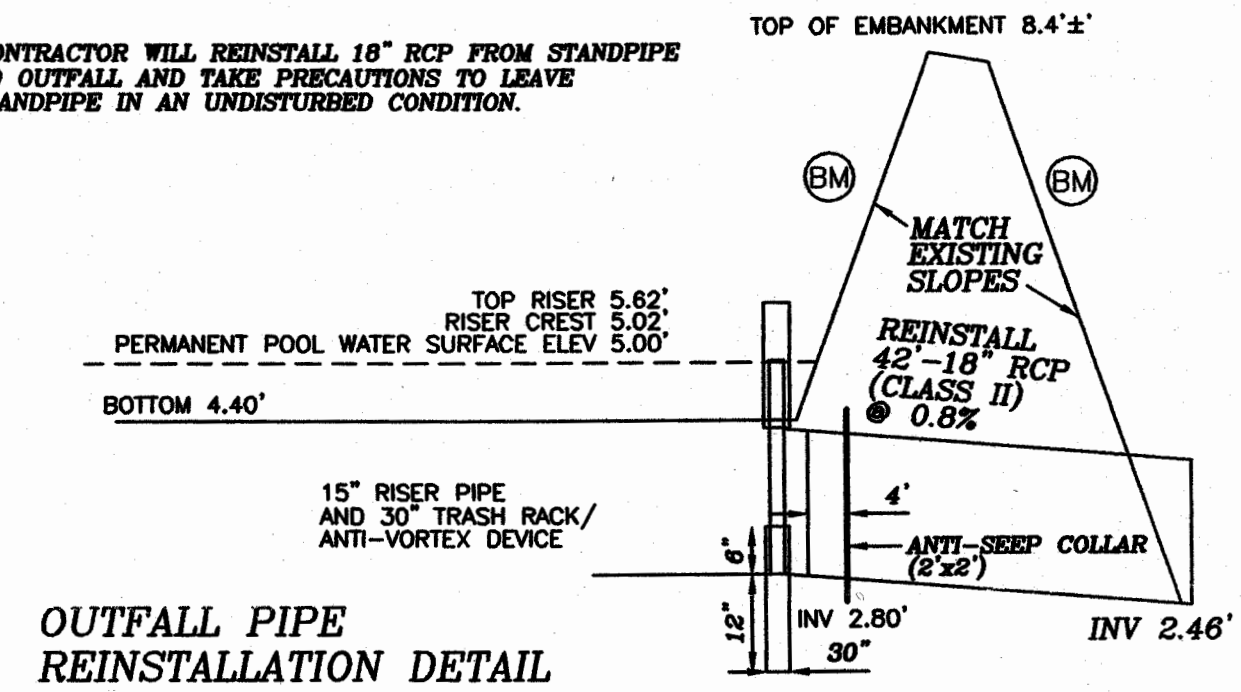




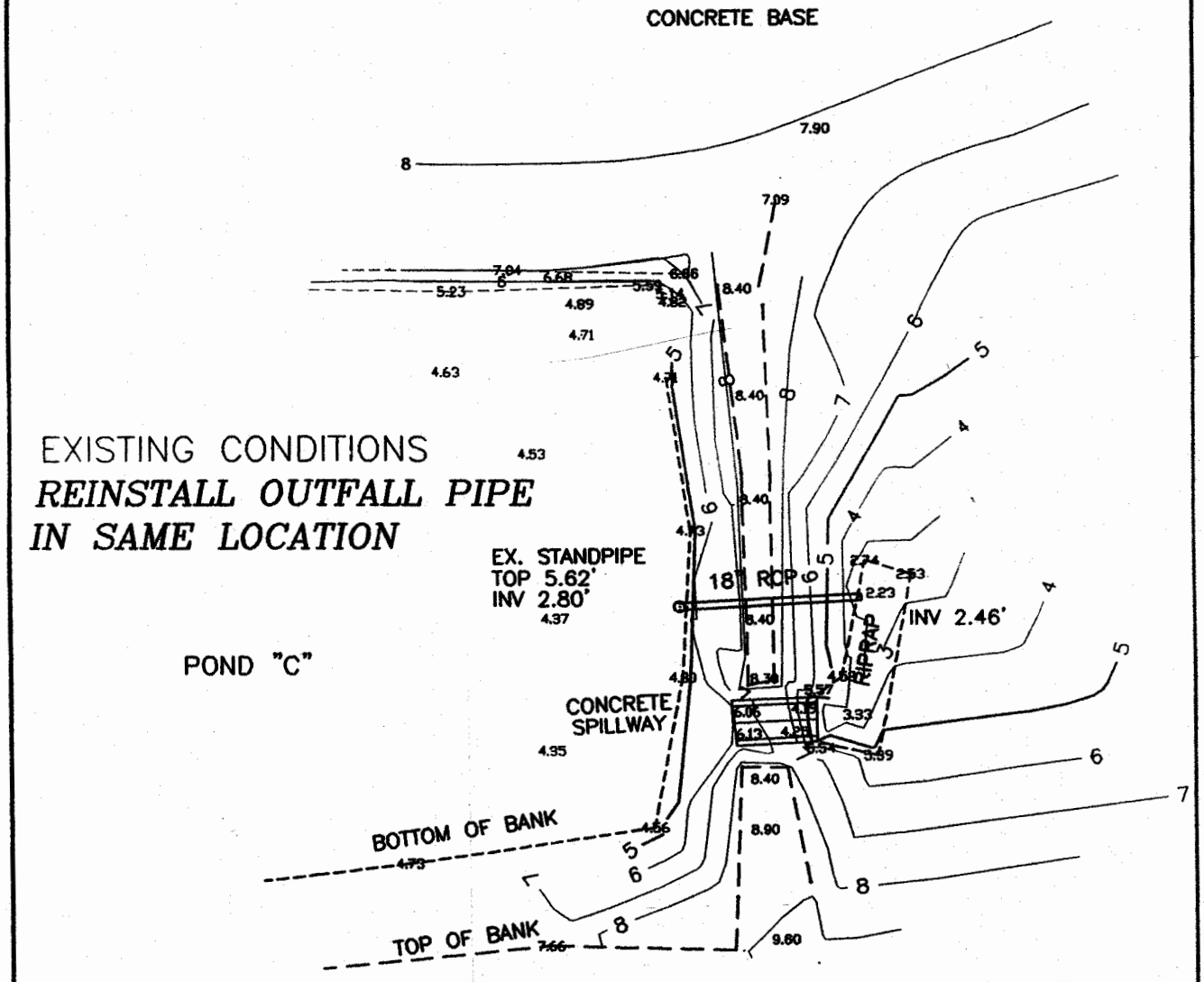
SEDIMENT BASIN "B" DETAIL

NTS

CONTRACTOR WILL REINSTALL 18" RCP FROM STANDPIPE TO OUTFALL AND TAKE PRECAUTIONS TO LEAVE STANDPIPE IN AN UNDISTURBED CONDITION.



OUTFALL PIPE REINSTALLATION DETAIL



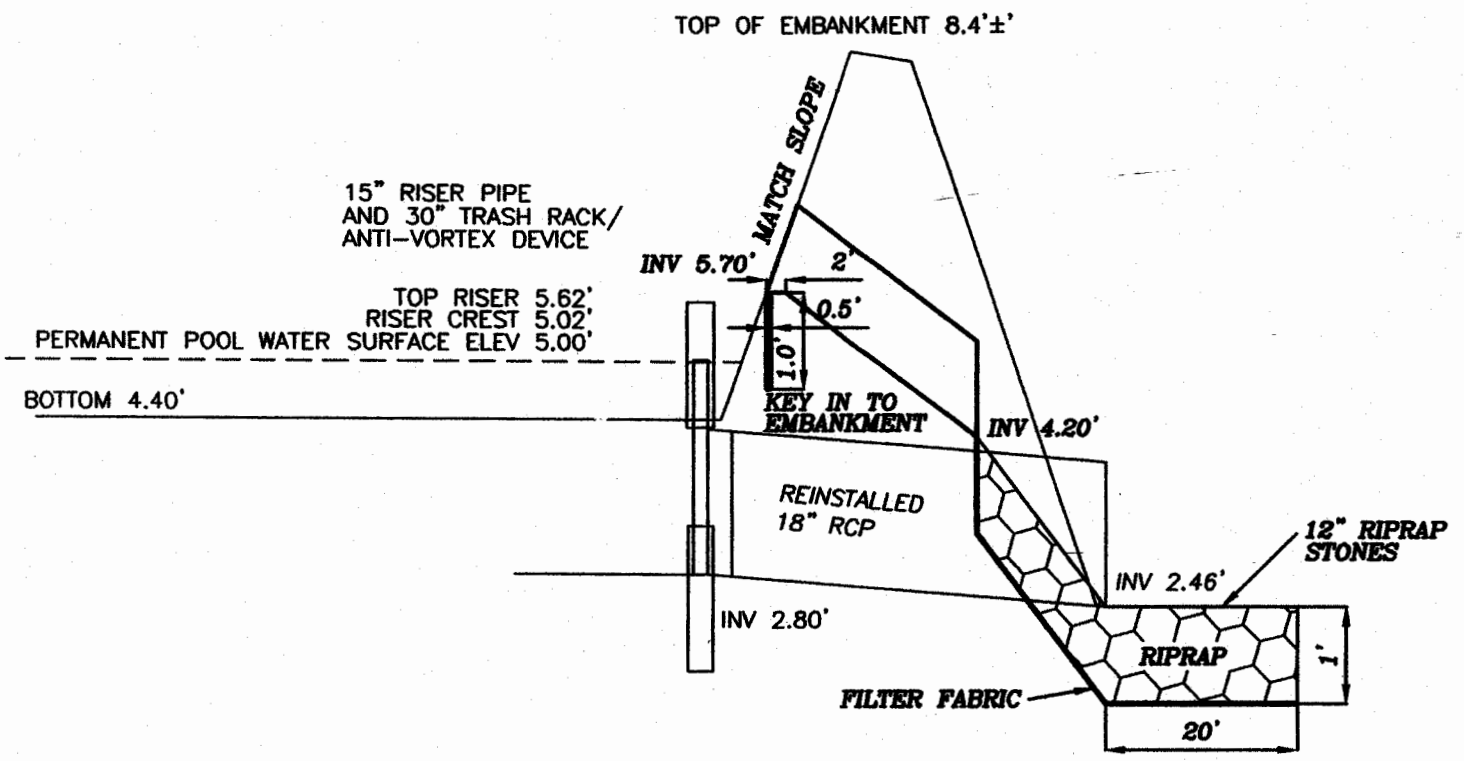
NOTE: CONTRACTOR WILL REINSTALL OUTFALL PIPE WHEN POND IS IN A DRY CONDITION.

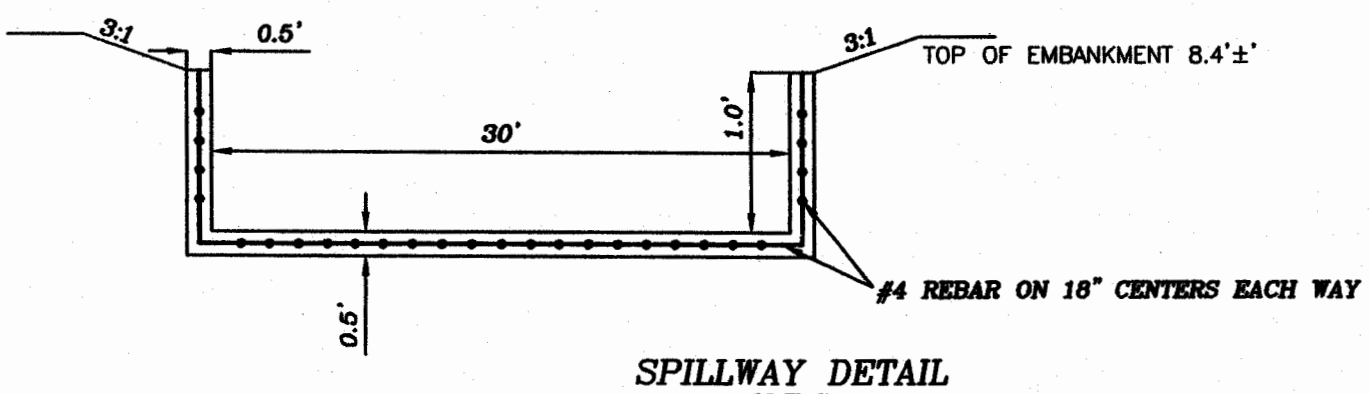
POND "C" OUTFALL DETAIL

NTS

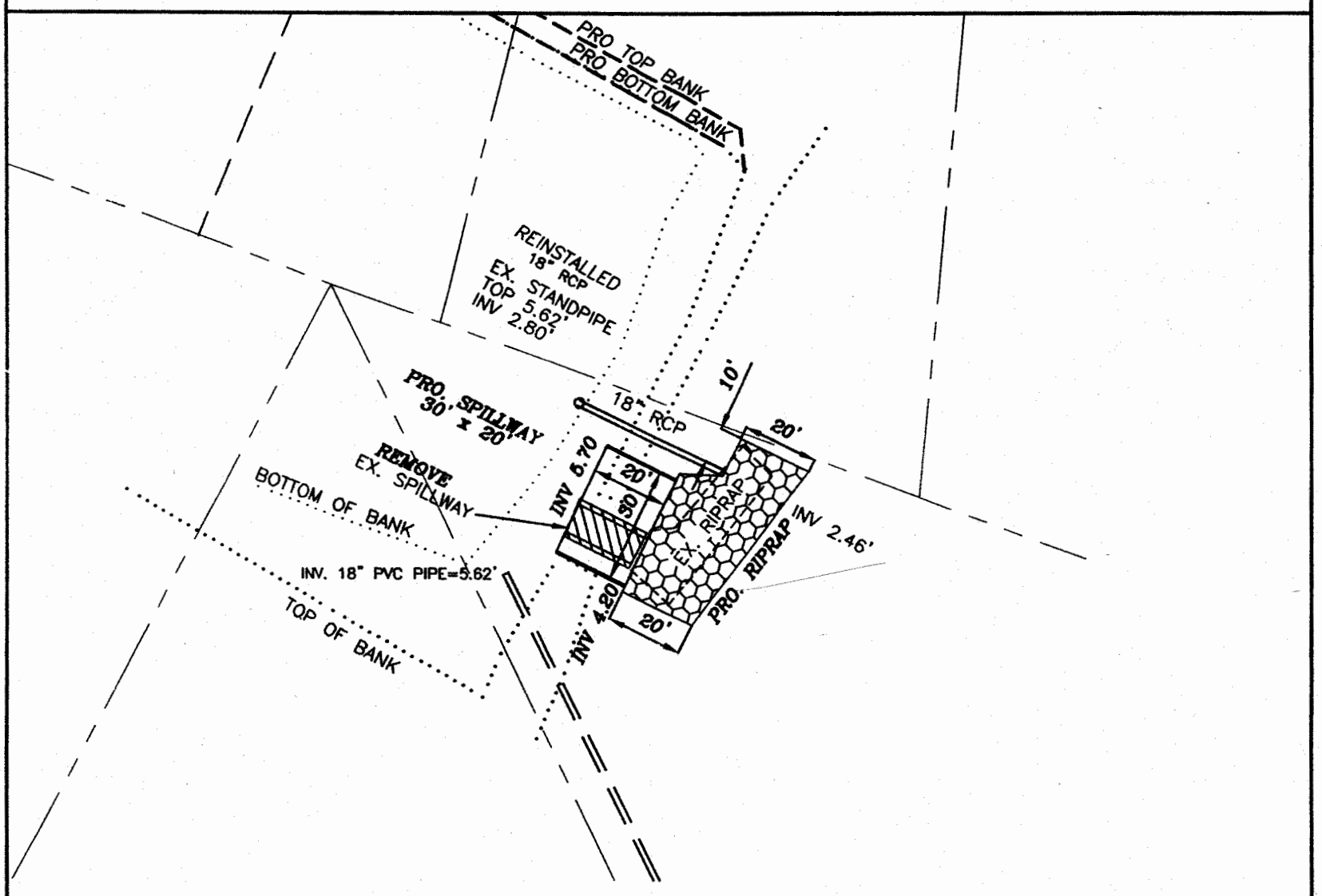
NOTES TO CONTRACTOR:

1. ***PERFORM GENERAL INSPECTION AND INCIDENTAL REPAIR TO THE RISER STRUCTURE AS NECESSARY. (i.e. PATCHING, SEALING, COATING OF TRASH RACK, ETC...)***
2. ***INSTALL ONE 2'x2' ANTI-SEEP COLLAR AS SHOWN***
3. ***INSURE A WATERTIGHT CONNECTION BETWEEN THE EXISTING RISER STRUCTURE AND THE REINSTALLED OUTLET PIPE***
4. ***INSTALLATION AND MATERIAL REQUIREMENTS FOR PIPE REINSTALLATION WILL BE ASSUMED***

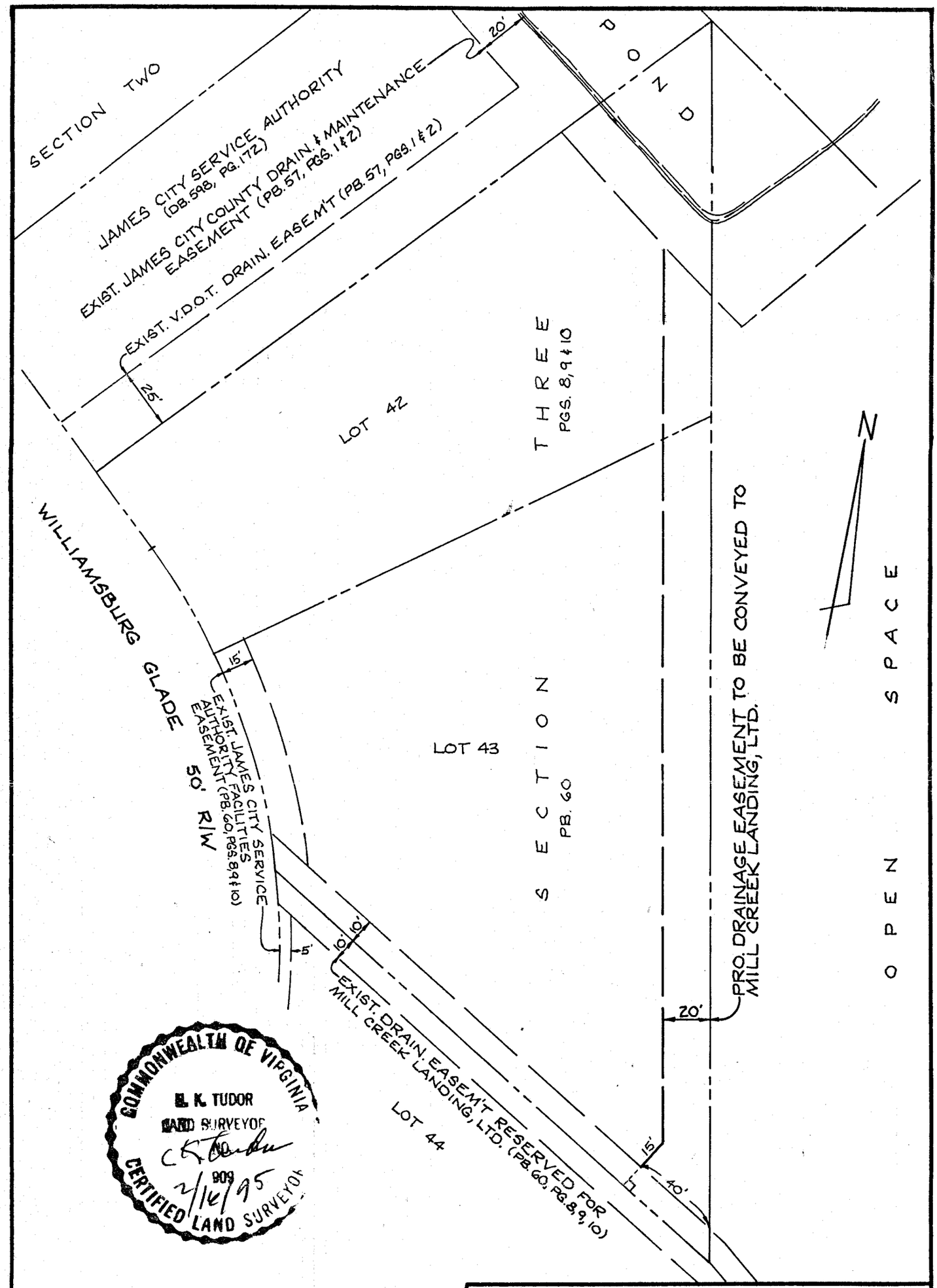




SPILLWAY DETAIL
N.T.S.



SPILLWAY DETAIL
1" = 40'



COMMONWEALTH OF VIRGINIA
C. K. TUDOR
LAND SURVEYOR
NO. 909
2/16/95
CERTIFIED LAND SURVEYOR

PLAT SHOWING PROPOSED DRAINAGE EASEMENT TO BE CONVEYED TO MILL CREEK LANDING, LTD.

PELEG'S POINT

SECTIONS TWO & THREE

JAMES CITY COUNTY, VIRGINIA

C. K. Tudor

C. K. TUDOR C.E. & C.L.S.

C.K. TUDOR ENGINEERS, INC.

NEWPORT NEWS, VIRGINIA

SCALE: 1" = 50' DATE: 2/16/95

F.B. _____ P G. _____

MC018_PELEGS_POINT_SUBDIVISION_030

#95-013

RECEIVED JAN 1 3 2004
S-49.03 PELEGS POINT SEC 5

DRAINAGE CALCULATION DATA
FOR

PELEG'S POINT

SECTION FIVE IMPROVEMENTS

POND "C" (MC018)

A.D. POTTS & ASSOCIATES, INC.
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA
PHONE: (757) 595-4610

12/09/03

Job File: S:\HAESTAD\PONDPACK\PELEGS-5-POND.PPW
Rain Dir: S:\HAESTAD\PONDPACK\

==========
JOB TITLE
==========

Peleg's Point Pond "C"
Section Five Improvements

Table of Contents

********** MASTER SUMMARY **********

Watershed..... Mod. Rational Grand Summary 1.01
Master Network Summary 1.02

********** TC CALCULATIONS **********

POST-DEVELOPMENT Tc Calcs 2.01

********** TIME VS.ELEV **********

POND OUT Dev.10
Time-Elev 3.01

********** TIME VS.VOL **********

POND OUT Dev.10
Time vs. Volume 4.01

********** POND VOLUMES **********

POND-CONTOUR.... Vol: Elev-Area 5.01

********** OUTLET STRUCTURES **********

POND OUTA..... Outlet Input Data 6.01

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MODIFIED RATIONAL METHOD
---- Grand Summary For All Storm Frequencies ----

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

Area = 61.750 acres Tc = 55.00 min

Freq. years	Adjusted 'C'	Duration min	I in/hr	Qpeak cfs	Allowable cfs	VOLUMES Inflow cu.ft	VOLUMES Storage cu.ft
2	.250	56.00	1.6733	26.05	7.31	87519	63175
100	.250	57.00	3.6750	57.21	11.34	195643	157530
10	.250	55.00	2.6250	40.86	8.95	134842	105311
25	.250	55.00	3.0833	48.00	10.08	158386	125108

MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID NORFOLK.IDQ IDF Storms 10

Return Event	Rainfall Type	IDF File	IDF ID
Dev..2	I-D-F Table	NORFOLK	norfolk 2yr
Dev100	I-D-F Table	NORFOLK	norfolk 100yr
Dev.10	I-D-F Table	NORFOLK	norfolk 10yr
Dev.25	I-D-F Table	NORFOLK	norfolk 25 yr

MASTER NETWORK SUMMARY
Modified Rational Method Network

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Storage Node ID		Type	Return Event	HYG Vol cu.ft	Trun	Qpeak min	Qpeak cfs	Max WSEL ft		Max Pond cu.ft
*OUTFALL		JCT	2	65795		90.00	10.83			
*OUTFALL		JCT	100	173920		70.00	45.64			
*OUTFALL		JCT	10	113118		75.00	26.96			
*OUTFALL		JCT	25	136662		70.00	34.70			
POND	IN	POND	2	87519		55.00	26.05			
POND	IN	POND	100	195643		55.00	57.21			
POND	IN	POND	10	134842		55.00	40.86			
POND	IN	POND	25	158386		55.00	48.00			
POND	OUT	POND	2	65795		90.00	10.83	5.85		65020
POND	OUT	POND	100	173920		70.00	45.64	6.26	DHW	88899
POND	OUT	POND	10	113118		75.00	26.96	6.07		77462
POND	OUT	POND	25	136662		70.00	34.70	6.15		82417
POST-DEVELOPMENT AREA			2	87519		55.00	26.05			
POST-DEVELOPMENT AREA			100	195643		55.00	57.21			
POST-DEVELOPMENT AREA			10	134842		55.00	40.86			
POST-DEVELOPMENT AREA			25	158386		55.00	48.00			

POND POST DEV INFLOW

POND RELEASE

TIME OF CONCENTRATION CALCULATOR

Segment #1: Tc: User Defined
Description: post-development

Segment #1 Time: 55.00 min

Total Tc: 55.00 min

Tc Equations used...

==== User Defined ==========

Tc = Value entered by user

Where: Tc = Time of concentration

TIME vs. ELEVATION (ft)

Time min	Output Time increment = 5.00 min Time on left represents time for first value in each row.				
.00	4.00	4.26	4.42	4.56	4.70
25.00	4.84	4.99	5.13	5.29	5.46
50.00	5.64	5.81	5.95	6.03	6.06
75.00	6.07	6.06	6.03	6.00	5.97
100.00	5.93	5.88	5.83	5.78	5.75
125.00	5.72	5.69	5.66	5.64	5.61
150.00	5.59	5.56	5.54	5.51	5.49
175.00	5.47	5.45	5.43	5.41	5.39
200.00	5.38	5.36	5.35	5.34	5.32
225.00	5.31	5.30	5.29	5.28	5.27
250.00	5.26	5.25	5.25	5.24	5.23
275.00	5.23	5.22	5.21	5.21	5.20
300.00	5.19	5.19	5.18	5.18	5.18
325.00	5.17	5.17	5.16	5.16	5.15
350.00	5.15	5.15	5.14	5.14	5.14
375.00	5.14	5.13	5.13	5.13	5.12
400.00	5.12	5.12	5.12	5.11	5.11
425.00	5.11	5.11	5.11	5.10	5.10
450.00	5.10	5.10	5.10	5.10	5.09
475.00	5.09	5.09	5.09	5.09	5.09
500.00	5.09	5.08	5.08	5.08	5.08
525.00	5.08	5.08	5.08	5.08	5.08
550.00	5.07	5.07	5.07	5.07	5.07
575.00	5.07	5.07	5.07	5.07	5.07
600.00	5.07	5.06	5.06	5.06	5.06
625.00	5.06	5.06	5.06	5.06	5.06
650.00	5.06	5.06	5.06	5.06	5.06
675.00	5.06	5.06	5.05	5.05	5.05
700.00	5.05	5.05	5.05	5.05	5.05
725.00	5.05	5.05	5.05	5.05	5.05
750.00	5.05	5.05	5.05	5.05	5.05
775.00	5.05	5.05	5.05	5.05	5.05
800.00	5.05	5.05	5.04	5.04	5.04
825.00	5.04	5.04	5.04	5.04	5.04
850.00	5.04	5.04	5.04	5.04	5.04
875.00	5.04	5.04	5.04	5.04	5.04
900.00	5.04	5.04	5.04	5.04	5.04
925.00	5.04	5.04	5.04	5.04	5.04
950.00	5.04	5.04	5.04	5.04	5.04
975.00	5.04	5.04	5.04	5.04	5.04
1000.00	5.04	5.03	5.03	5.03	5.03
1025.00	5.03	5.03	5.03	5.03	5.03
1050.00	5.03	5.03	5.03	5.03	5.03
1075.00	5.03	5.03	5.03	5.03	5.03
1100.00	5.03	5.03	5.03	5.03	5.03

TIME vs. ELEVATION (ft)

Time min	Output Time increment = 5.00 min Time on left represents time for first value in each row.				
1125.00	5.03	5.03	5.03	5.03	5.03
1150.00	5.03	5.03	5.03	5.03	5.03
1175.00	5.03	5.03	5.03	5.03	5.03
1200.00	5.03	5.03	5.03	5.03	5.03
1225.00	5.03	5.03	5.03	5.03	5.03
1250.00	5.03	5.03	5.03	5.03	5.03
1275.00	5.03	5.03	5.03	5.03	5.03
1300.00	5.03	5.03	5.03	5.03	5.03
1325.00	5.03	5.03	5.03	5.03	5.03
1350.00	5.03	5.03	5.03	5.03	5.03
1375.00	5.03	5.03	5.03	5.03	5.03
1400.00	5.03	5.03	5.03	5.03	5.03
1425.00	5.02	5.02	5.02	5.02	5.02
1450.00	5.02	5.02	5.02	5.02	5.02
1475.00	5.02	5.02	5.02	5.02	5.02
1500.00	5.02	5.02	5.02	5.02	5.02
1525.00	5.02	5.02	5.02	5.02	5.02
1550.00	5.02	5.02	5.02	5.02	5.02
1575.00	5.02	5.02	5.02	5.02	5.02
1600.00	5.02	5.02	5.02	5.02	5.02
1625.00	5.02	5.02	5.02	5.02	5.02
1650.00	5.02	5.02	5.02	5.02	5.02
1675.00	5.02	5.02	5.02	5.02	5.02
1700.00	5.02	5.02	5.02	5.02	5.02
1725.00	5.02	5.02	5.02	5.02	5.02
1750.00	5.02	5.02	5.02	5.02	5.02
1775.00	5.02	5.02	5.02	5.02	5.02
1800.00	5.02	5.02	5.02	5.02	5.02
1825.00	5.02	5.02	5.02	5.02	5.02
1850.00	5.02	5.02	5.02	5.02	5.02
1875.00	5.02	5.02	5.02	5.02	5.02
1900.00	5.02	5.02	5.02		

TIME vs. VOLUME (cu.ft)

Output Time increment = 5.00 min
Time on left represents time for first value in each row.

Time min					
.00	0	549	2208	5007	8915
25.00	13923	20044	27229	35255	43928
50.00	53283	62956	70709	75140	77115
75.00	77462	76774	75421	73638	71542
100.00	69201	66641	63848	61270	59251
125.00	57560	56048	54614	53209	51834
150.00	50487	49170	47884	46632	45427
175.00	44288	43230	42237	41312	40446
200.00	39631	38869	38155	37479	36843
225.00	36245	35682	35148	34643	34165
250.00	33713	33286	32881	32494	32126
275.00	31776	31443	31127	30827	30541
300.00	30266	30003	29751	29510	29279
325.00	29059	28848	28646	28452	28267
350.00	28090	27919	27754	27595	27442
375.00	27294	27151	27014	26881	26753
400.00	26630	26511	26396	26285	26179
425.00	26076	25977	25881	25789	25700
450.00	25614	25531	25450	25370	25293
475.00	25218	25145	25074	25004	24937
500.00	24871	24807	24745	24684	24624
525.00	24567	24510	24456	24402	24350
550.00	24300	24250	24202	24156	24110
575.00	24066	24022	23980	23939	23899
600.00	23860	23822	23785	23749	23714
625.00	23680	23647	23614	23583	23552
650.00	23522	23493	23464	23436	23409
675.00	23383	23357	23332	23308	23284
700.00	23261	23239	23217	23196	23175
725.00	23154	23135	23115	23097	23078
750.00	23059	23041	23023	23005	22988
775.00	22971	22953	22937	22920	22904
800.00	22887	22871	22856	22840	22825
825.00	22809	22794	22780	22765	22751
850.00	22737	22722	22709	22695	22681
875.00	22668	22655	22642	22629	22617
900.00	22604	22592	22580	22568	22556
925.00	22544	22533	22521	22510	22499
950.00	22488	22477	22467	22456	22446
975.00	22435	22425	22415	22405	22396
1000.00	22386	22377	22367	22358	22349
1025.00	22340	22331	22322	22314	22305
1050.00	22297	22288	22280	22272	22264
1075.00	22256	22248	22241	22233	22226
1100.00	22218	22211	22204	22197	22190

TIME vs. VOLUME (cu.ft)

Output Time increment = 5.00 min
Time on left represents time for first value in each row.

Time min					
1125.00	22183	22176	22169	22162	22156
1150.00	22149	22143	22137	22130	22124
1175.00	22118	22112	22106	22100	22095
1200.00	22089	22083	22078	22072	22067
1225.00	22062	22056	22051	22046	22041
1250.00	22036	22031	22026	22021	22017
1275.00	22012	22007	22003	21998	21994
1300.00	21989	21985	21981	21976	21972
1325.00	21968	21964	21960	21956	21952
1350.00	21948	21945	21941	21937	21934
1375.00	21930	21926	21923	21919	21916
1400.00	21913	21909	21906	21903	21899
1425.00	21896	21893	21890	21887	21884
1450.00	21881	21878	21875	21872	21870
1475.00	21867	21864	21861	21859	21856
1500.00	21853	21851	21848	21846	21843
1525.00	21841	21839	21836	21834	21831
1550.00	21829	21827	21825	21823	21820
1575.00	21818	21816	21814	21812	21810
1600.00	21808	21806	21804	21802	21800
1625.00	21798	21796	21795	21793	21791
1650.00	21789	21787	21786	21784	21782
1675.00	21781	21779	21778	21776	21774
1700.00	21773	21771	21770	21768	21767
1725.00	21765	21764	21763	21761	21760
1750.00	21758	21757	21756	21754	21753
1775.00	21752	21751	21749	21748	21747
1800.00	21746	21745	21743	21742	21741
1825.00	21740	21739	21738	21737	21736
1850.00	21735	21734	21733	21732	21731
1875.00	21730	21729	21728	21727	21726
1900.00	21725	21724	21723		

File.... S:\HAESTAD\PONDPACK\PELEGS-5-POND.PPW
Title... pond areas per contour

Elevation (ft)	Planimeter (sq.in)	Area (sq.ft)	A1+A2+sqr(A1*A2) (sq.ft)	Volume (cu.ft)	Volume Sum (cu.ft)
4.00	-----	16	0	0	0
4.50	-----	21533	22136	3689	3689
5.00	-----	48234	101995	16999	20688
5.15	-----	49617	146772	7339	28027
5.50	-----	52844	153666	17928	45955
6.00	-----	57185	165001	27500	73455
6.50	-----	65298	183590	30598	104053
7.00	-----	76531	212521	35420	139473
7.50	-----	89593	248929	41488	180961
8.00	-----	102299	287627	47938	228899

Top Dam 8.4
Bottom 4.4

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

File.... S:\HAESTAD\PONDPACK\PELEGS-5-POND.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 4.00 ft
Increment = .05 ft
Max. Elev.= 8.00 ft

****
OUTLET CONNECTIVITY
****

---> Forward Flow Only (UpStream to DnStream)
<--- Reverse Flow Only (DnStream to UpStream)
<---> Forward and Reverse Both Allowed

Structure	No.		Outfall	E1, ft	E2, ft
Stand Pipe	1	--->	TW	5.020	8.000
Weir-Rectangular	2	--->	TW	5.700	8.000

TW SETUP, DS Channel

BARREL 18"

File.... S:\HAESTAD\PONDPACK\PELEGS-5-POND.PPW

OUTLET STRUCTURE INPUT DATA

Structure ID = 1
Structure Type = Stand Pipe

# of Openings	=	1
Invert Elev.	=	5.02 ft ✓
Diameter	=	1.2500 ft ✓
Orifice Area	=	1.2272 sq.ft
Orifice Coeff.	=	.600
Weir Length	=	3.93 ft
Weir Coeff.	=	3.100
K, Submerged	=	.000
K, Reverse	=	1.000
Kb,Barrel	=	.000000 (per ft of full flow)
Barrel Length	=	.00 ft
Mannings n	=	.0000

Structure ID = 2
Structure Type = Weir-Rectangular

# of Openings	=	1
Crest Elev.	=	5.70 ft ✓
Weir Length	=	30.00 ft ✓
Weir Coeff.	=	3.100000 ✓

Weir TW effects (Use adjustment equation)

Structure ID = TW
Structure Type = TW SETUP, DS Channel

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...

Maximum Iterations	=	30
Min. TW tolerance	=	.01 ft
Max. TW tolerance	=	.01 ft
Min. HW tolerance	=	.01 ft
Max. HW tolerance	=	.01 ft
Min. Q tolerance	=	.10 cfs
Max. Q tolerance	=	.10 cfs

BARREL 18" ??

Index of Starting Page Numbers for ID Names

----- P -----
POND OUTA... 6.01
POND-CONTOUR... 5.01
POST-DEVELOPMENT... 2.01

----- W -----
Watershed... 1.01, 1.02

HYDROLOGIC REPORT

STAGE / STORAGE / DISCHARGE

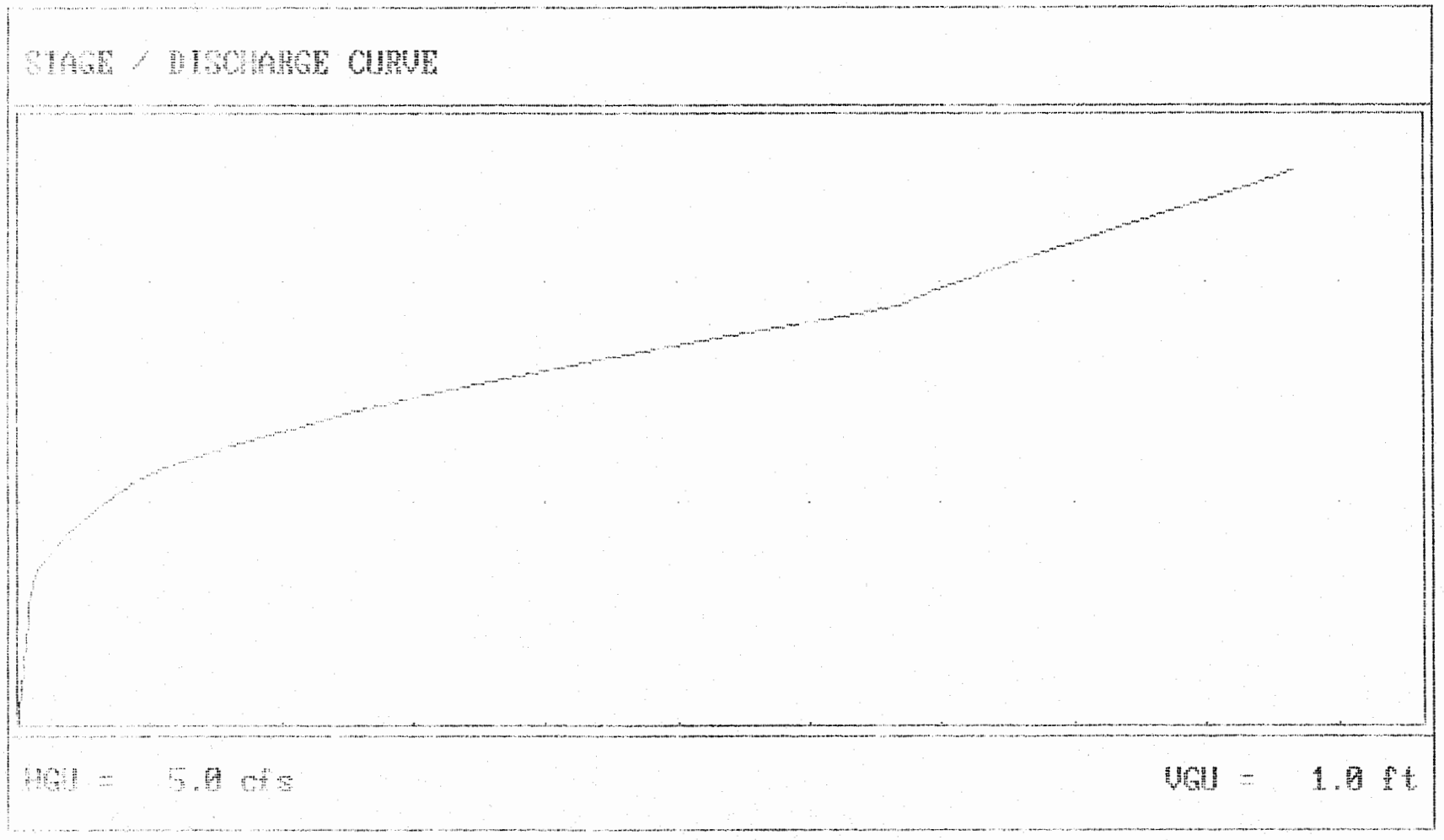
RESERVOIR NUMBER = 2

RESERVOIR NAME = DRY POND C. (* Controlled by Culv Structure A)
STORAGE VALUES WERE INPUT MANUALLY

DISCHARGE VALUES: CULVERT STRUCT A. Q = .6 *A*[2gh/k]^.5 * 1
CULVERT STRUCT B. Q = .6 *A*[2gh/k]^.5 * 1
* WEIR STRUCT A. Q = 2.79 * 8 * H ^ 1.5
WEIR STRUCT B. Q = 3 * 3.93 * H ^ 1.5

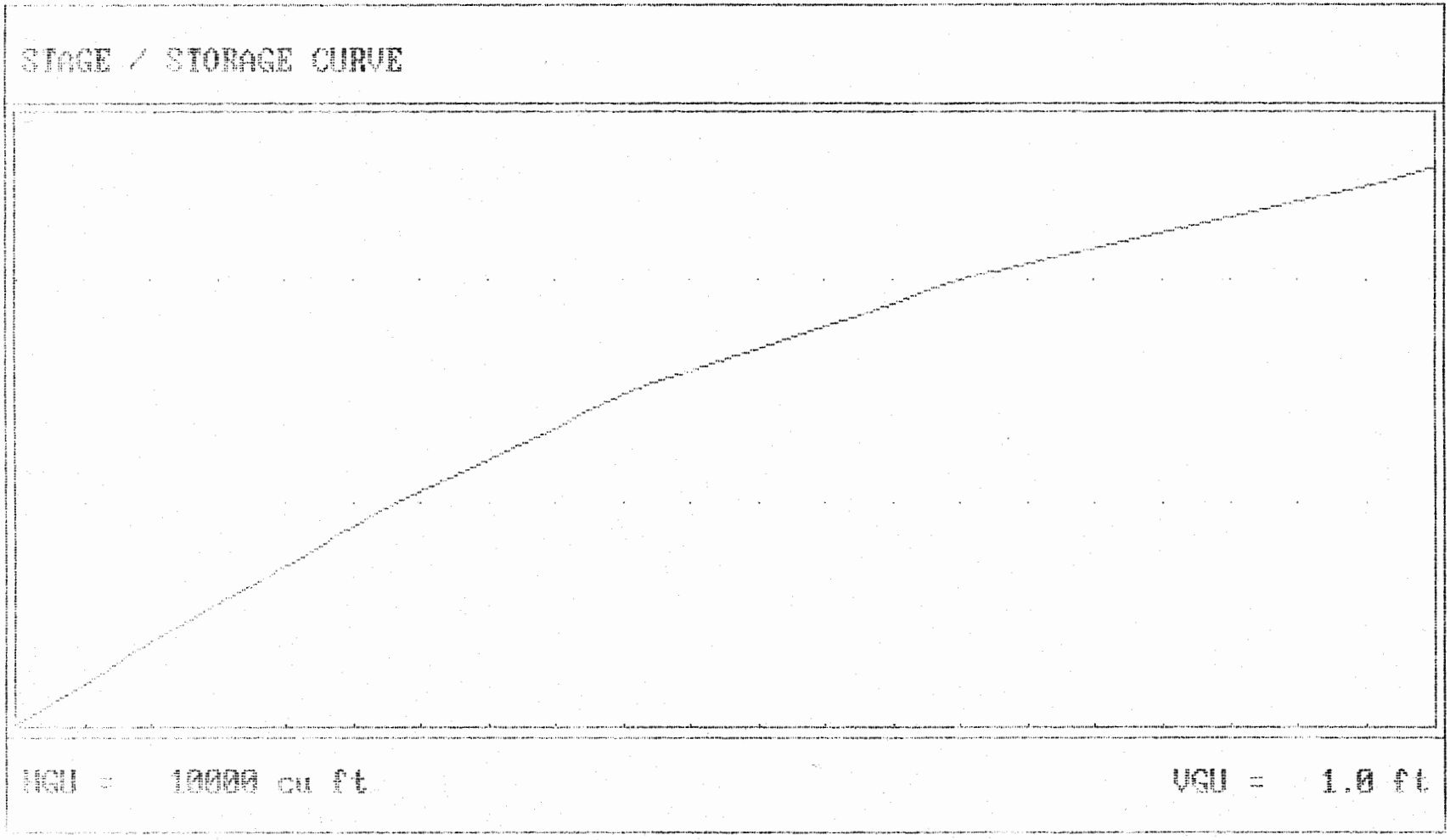
ELEVATION	DISCHARGE (cfs)			
	CULVERT A	CULVERT B	WEIR A	WEIR B
5.00	10.24	0.00	0.00	0.00
5.50	11.88	0.35	0.00	0.00
6.00	13.32	0.58	0.00	2.76
6.50	14.61	0.75	5.65	9.73
7.00	15.80	0.88	19.06	19.11
7.50	16.91	0.99	36.97	30.39
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
0.00	5.00	0	0	0.00
0.50	5.50	27287	27287	0.35
1.00	6.00	29262	56549	3.35
1.50	6.50	34843	91392	16.13
2.00	7.00	48843	140235	35.79
2.50	7.50	69718	209953	48.29
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00



[↵] Cont

[Esc] Exit



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HYDROLOGIC REPORT FOR

PELEGS POINT

DRY DETENTION POND C

INFLOW HYDROGRAPH

2 YEAR STORM

C.K. TUDOR ENGINEERS, INC.

NEWPORT NEWS, VIRGINIA
REV. FEB. 3, 1995

HYDROLOGIC REPORT

TOTAL DRAINAGE BASIN..
2 YEAR STORM.....
RUNOFF HYDROGRAPH.....

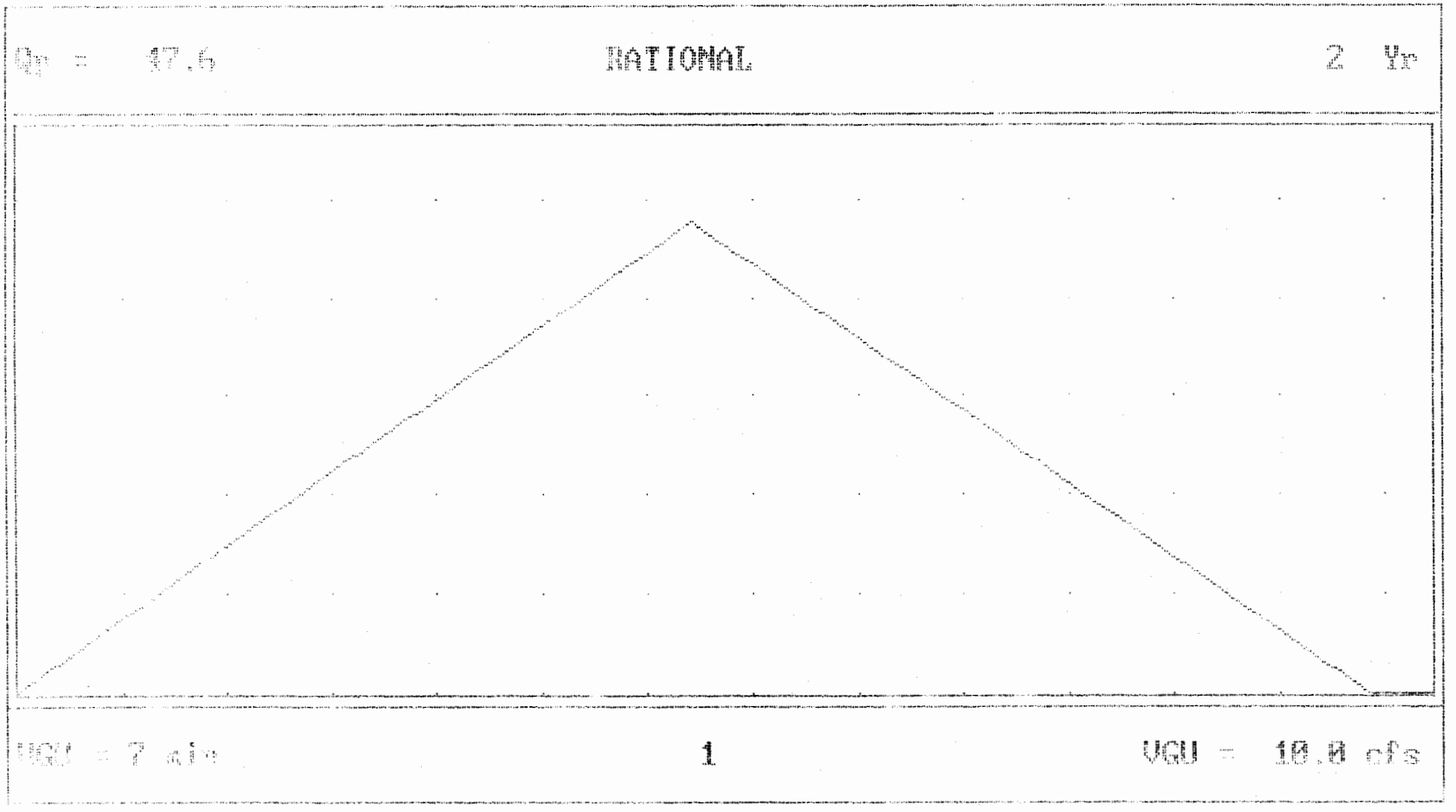
Hyd. No. 1

Hydrograph type = RATIONAL
Storm frequency = 2 yr
Time of conc. = 45 min
Runoff coeff. = .4

Peak discharge = 47.64 cfs
Time interval = 1 min
Intensity = 1.97 in/hr
Basin area = 60.39 ac

HYDROGRAPH DISCHARGE TABLE

TIME--OUTFLOW (hrs cfs)		TIME--OUTFLOW (hrs cfs)		TIME--OUTFLOW (hrs cfs)		TIME--OUTFLOW (hrs cfs)	
0.02	1.06	0.03	2.12	0.05	3.18	0.07	4.23
0.08	5.29	0.10	6.35	0.12	7.41	0.13	8.47
0.15	9.53	0.17	10.59	0.18	11.65	0.20	12.70
0.22	13.76	0.23	14.82	0.25	15.88	0.27	16.94
0.28	18.00	0.30	19.06	0.32	20.11	0.33	21.17
0.35	22.23	0.37	23.29	0.38	24.35	0.40	25.41
0.42	26.47	0.43	27.53	0.45	28.58	0.47	29.64
0.48	30.70	0.50	31.76	0.52	32.82	0.53	33.88
0.55	34.94	0.57	35.99	0.58	37.05	0.60	38.11
0.62	39.17	0.63	40.23	0.65	41.29	0.67	42.35
0.68	43.41	0.70	44.46	0.72	45.52	0.73	46.58
0.75	47.64	0.77	46.58	0.78	45.52	0.80	44.46
0.82	43.41	0.83	42.35	0.85	41.29	0.87	40.23
0.88	39.17	0.90	38.11	0.92	37.05	0.93	35.99
0.95	34.94	0.97	33.88	0.98	32.82	1.00	31.76
1.02	30.70	1.03	29.64	1.05	28.58	1.07	27.53
1.08	26.47	1.10	25.41	1.12	24.35	1.13	23.29
1.15	22.23	1.17	21.17	1.18	20.11	1.20	19.06
1.22	18.00	1.23	16.94	1.25	15.88	1.27	14.82
1.28	13.76	1.30	12.70	1.32	11.65	1.33	10.59
1.35	9.53	1.37	8.47	1.38	7.41	1.40	6.35
1.42	5.29	1.43	4.23	1.45	3.18	1.47	2.12
1.48	1.06	1.50	0.00	1.52	0.00	1.53	0.00



VOL (cuft/acft) = 120527 / 2.353

HYDROLOGIC REPORT FOR

PELEGS POINT

DRY DETENTION POND C

OUTFLOW HYDROGRAPH

2 YEAR STORM

C.K. TUDOR ENGINEERS, INC.

NEWPORT NEWS, VIRGINIA
REV. FEB. 3, 1995

HYDROLOGIC REPORT

2 YEAR STORM ROUTED...
POND C /15''RISER/5'.
ORIFICE/8' WEIR

Hyd. No. 2

Hydrograph type = RESERVOIR ROUTE Peak discharge = 17.30 cfs
Storm frequency = 2 yr Time interval = 1 min
Inflow hyd. no. = 1 Reservoir no. = 2

HYDROGRAPH DISCHARGE TABLE

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
0.02	1.06	2.12	1.06	1.06	0.00
0.03	2.12	3.18	4.23	4.23	0.00
0.05	3.18	4.23	9.52	9.53	0.00
0.07	4.23	5.29	16.93	16.94	0.00
0.08	5.29	6.35	26.45	26.46	0.00
0.10	6.35	7.41	38.09	38.10	0.00
0.12	7.41	8.47	51.84	51.85	0.01
0.13	8.47	9.53	67.71	67.72	0.01
0.15	9.53	10.59	85.69	85.71	0.01
0.17	10.59	11.65	105.78	105.80	0.01
0.18	11.65	12.70	127.97	128.01	0.02
0.20	12.70	13.76	152.27	152.32	0.02
0.22	13.76	14.82	178.67	178.74	0.03
0.23	14.82	15.88	207.17	207.26	0.04
0.25	15.88	16.94	237.76	237.87	0.06
0.27	16.94	18.00	270.44	270.58	0.07
0.28	18.00	19.06	305.20	305.37	0.08
0.30	19.06	20.11	342.06	342.26	0.10
0.32	20.11	21.17	381.01	381.24	0.11
0.33	21.17	22.23	422.01	422.29	0.14
0.35	22.23	23.29	465.09	465.42	0.17
0.37	23.29	24.35	510.24	510.61	0.18
0.38	24.35	25.41	557.47	557.88	0.20
0.40	25.41	26.47	606.77	607.23	0.23
0.42	26.47	27.53	658.12	658.64	0.26

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
0.43	27.53	28.58	711.54	712.11	0.28
0.45	28.58	29.64	767.04	767.65	0.31
0.47	29.64	30.70	824.62	825.27	0.32
0.48	30.70	31.76	884.27	884.96	0.35
0.50	31.76	32.82	946.00	946.73	0.37
0.52	32.82	33.88	1009.81	1010.58	0.38
0.53	33.88	34.94	1075.70	1076.50	0.40
0.55	34.94	35.99	1143.62	1144.51	0.44
0.57	35.99	37.05	1213.51	1214.55	0.52
0.58	37.05	38.11	1285.17	1286.56	0.69
0.60	38.11	39.17	1358.50	1360.34	0.92
0.62	39.17	40.23	1433.43	1435.79	1.18
0.63	40.23	41.29	1509.88	1512.83	1.48
0.65	41.29	42.35	1587.77	1591.39	1.81
0.67	42.35	43.41	1667.01	1671.40	2.19
0.68	43.41	44.46	1747.55	1752.76	2.61
0.70	44.46	45.52	1829.32	1835.42	3.05
0.72	45.52	46.58	1912.30	1919.30	3.50
0.73	46.58	47.64	1996.56	2004.40	3.92
0.75	47.64	46.58	2082.02	2090.78	4.38
0.77	46.58	45.52	2166.33	2176.24	4.96
0.78	45.52	44.46	2247.18	2258.43	5.62
0.80	44.46	43.41	2324.40	2337.17	6.38
0.82	43.41	42.35	2397.90	2412.27	7.19
0.83	42.35	41.29	2467.68	2483.65	7.99
0.85	41.29	40.23	2533.69	2551.31	8.81
0.87	40.23	39.17	2595.99	2615.21	9.61
0.88	39.17	38.11	2654.58	2675.39	10.40
0.90	38.11	37.05	2709.52	2731.86	11.17
0.92	37.05	35.99	2760.86	2784.69	11.91
0.93	35.99	34.94	2808.67	2833.90	12.61
0.95	34.94	33.88	2853.01	2879.60	13.30
0.97	33.88	32.82	2893.96	2921.82	13.93
0.98	32.82	31.76	2931.61	2960.66	14.52
1.00	31.76	30.70	2966.03	2996.19	15.08
1.02	30.70	29.64	2997.31	3028.49	15.59
1.03	29.64	28.58	3025.56	3057.65	16.05
1.05	28.58	27.53	3051.03	3083.78	16.38
1.07	27.53	26.47	3073.83	3107.14	16.65
1.08	26.47	25.41	3094.03	3127.82	16.90
1.10	25.41	24.35	3111.68	3145.90	17.11
1.12	24.35	23.29	3126.85	3161.44	17.29

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
1.13	23.29	22.23	3139.59	3174.49	17.45
1.15	22.23	21.17	3149.97	3185.12	17.57
1.17	21.17	20.11	3158.03	3193.37	17.67
1.18	20.11	19.06	3163.84	3199.32	17.74
1.20	19.06	18.00	3167.44	3203.01	17.79
1.22	18.00	16.94	3168.88	3204.49	17.80
1.23	16.94	15.88	3168.23	3203.82	17.79
1.25	15.88	14.82	3165.52	3201.05	17.76
1.27	14.82	13.76	3160.81	3196.22	17.71
1.28	13.76	12.70	3154.15	3189.40	17.62
1.30	12.70	11.65	3145.57	3180.62	17.52
1.32	11.65	10.59	3135.13	3169.92	17.39
1.33	10.59	9.53	3122.87	3157.37	17.25
1.35	9.53	8.47	3108.84	3142.99	17.08
1.37	8.47	7.41	3093.06	3126.83	16.89
1.38	7.41	6.35	3075.60	3108.94	16.67
1.40	6.35	5.29	3056.47	3089.36	16.44
1.42	5.29	4.23	3035.74	3068.12	16.19
1.43	4.23	3.18	3013.56	3045.26	15.85
1.45	3.18	2.12	2990.02	3020.97	15.47
1.47	2.12	1.06	2965.18	2995.32	15.07
1.48	1.06	0.00	2939.07	2968.36	14.64
1.50	0.00	0.00	2911.72	2940.13	14.20
1.52	0.00	0.00	2884.17	2911.72	13.78
1.53	0.00	0.00	2857.44	2884.17	13.37
1.55	0.00	0.00	2831.50	2857.44	12.97
1.57	0.00	0.00	2806.34	2831.50	12.58
1.58	0.00	0.00	2781.90	2806.34	12.22
1.60	0.00	0.00	2758.15	2781.90	11.88
1.62	0.00	0.00	2735.07	2758.15	11.54
1.63	0.00	0.00	2712.64	2735.07	11.22
1.65	0.00	0.00	2690.84	2712.64	10.90
1.67	0.00	0.00	2669.63	2690.84	10.61
1.68	0.00	0.00	2648.97	2669.63	10.33
1.70	0.00	0.00	2628.86	2648.97	10.06
1.72	0.00	0.00	2609.28	2628.86	9.79
1.73	0.00	0.00	2590.21	2609.28	9.53
1.75	0.00	0.00	2571.65	2590.21	9.28
1.77	0.00	0.00	2553.53	2571.65	9.06
1.78	0.00	0.00	2535.86	2553.53	8.84
1.80	0.00	0.00	2518.62	2535.86	8.62
1.82	0.00	0.00	2501.80	2518.62	8.41

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
1.83	0.00	0.00	2485.39	2501.80	8.21
1.85	0.00	0.00	2469.37	2485.39	8.01
1.87	0.00	0.00	2453.74	2469.37	7.82
1.88	0.00	0.00	2438.45	2453.74	7.64
1.90	0.00	0.00	2423.50	2438.45	7.48
1.92	0.00	0.00	2408.88	2423.50	7.31
1.93	0.00	0.00	2394.58	2408.88	7.15
1.95	0.00	0.00	2380.60	2394.58	6.99
1.97	0.00	0.00	2366.92	2380.60	6.84
1.98	0.00	0.00	2353.55	2366.92	6.69
2.00	0.00	0.00	2340.47	2353.55	6.54
2.02	0.00	0.00	2327.63	2340.47	6.42
2.03	0.00	0.00	2315.05	2327.63	6.29
2.05	0.00	0.00	2302.70	2315.05	6.17
2.07	0.00	0.00	2290.60	2302.70	6.05
2.08	0.00	0.00	2278.73	2290.60	5.94
2.10	0.00	0.00	2267.09	2278.73	5.82
2.12	0.00	0.00	2255.67	2267.09	5.71
2.13	0.00	0.00	2244.48	2255.67	5.60
2.15	0.00	0.00	2233.50	2244.48	5.49
2.17	0.00	0.00	2222.71	2233.50	5.39
2.18	0.00	0.00	2212.08	2222.71	5.31
2.20	0.00	0.00	2201.62	2212.08	5.23
2.22	0.00	0.00	2191.32	2201.62	5.15
2.23	0.00	0.00	2181.17	2191.32	5.07
2.25	0.00	0.00	2171.18	2181.17	4.99
2.27	0.00	0.00	2161.35	2171.18	4.92
2.28	0.00	0.00	2151.66	2161.35	4.84
2.30	0.00	0.00	2142.12	2151.66	4.77
2.32	0.00	0.00	2132.73	2142.12	4.70
2.33	0.00	0.00	2123.48	2132.73	4.62
2.35	0.00	0.00	2114.37	2123.48	4.55
2.37	0.00	0.00	2105.37	2114.37	4.50
2.38	0.00	0.00	2096.46	2105.37	4.45
2.40	0.00	0.00	2087.65	2096.46	4.41
2.42	0.00	0.00	2078.92	2087.65	4.36
2.43	0.00	0.00	2070.29	2078.92	4.32
2.45	0.00	0.00	2061.75	2070.29	4.27
2.47	0.00	0.00	2053.30	2061.75	4.22
2.48	0.00	0.00	2044.94	2053.30	4.18
2.50	0.00	0.00	2036.67	2044.94	4.14
2.52	0.00	0.00	2028.48	2036.67	4.09

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
2.53	0.00	0.00	2020.38	2028.48	4.05
2.55	0.00	0.00	2012.37	2020.38	4.01
2.57	0.00	0.00	2004.44	2012.37	3.97
2.58	0.00	0.00	1996.59	2004.44	3.92
2.60	0.00	0.00	1988.82	1996.59	3.88
2.62	0.00	0.00	1981.13	1988.82	3.85
2.63	0.00	0.00	1973.51	1981.13	3.81
2.65	0.00	0.00	1965.97	1973.51	3.77
2.67	0.00	0.00	1958.51	1965.97	3.73
2.68	0.00	0.00	1951.12	1958.51	3.70
2.70	0.00	0.00	1943.80	1951.12	3.66
2.72	0.00	0.00	1936.56	1943.80	3.62
2.73	0.00	0.00	1929.39	1936.56	3.59
2.75	0.00	0.00	1922.29	1929.39	3.55
2.77	0.00	0.00	1915.26	1922.29	3.51
2.78	0.00	0.00	1908.30	1915.26	3.48
2.80	0.00	0.00	1901.41	1908.30	3.45
2.82	0.00	0.00	1894.58	1901.41	3.41
2.83	0.00	0.00	1887.83	1894.58	3.38
2.85	0.00	0.00	1881.14	1887.83	3.34
2.87	0.00	0.00	1874.53	1881.14	3.31
2.88	0.00	0.00	1867.99	1874.53	3.27
2.90	0.00	0.00	1861.53	1867.99	3.23
2.92	0.00	0.00	1855.13	1861.53	3.20
2.93	0.00	0.00	1848.81	1855.13	3.16
2.95	0.00	0.00	1842.56	1848.81	3.13
2.97	0.00	0.00	1836.38	1842.56	3.09
2.98	0.00	0.00	1830.26	1836.38	3.06
3.00	0.00	0.00	1824.22	1830.26	3.02
3.02	0.00	0.00	1818.24	1824.22	2.99
3.03	0.00	0.00	1812.32	1818.24	2.96
3.05	0.00	0.00	1806.48	1812.32	2.92
3.07	0.00	0.00	1800.70	1806.48	2.89
3.08	0.00	0.00	1794.98	1800.70	2.86
3.10	0.00	0.00	1789.33	1794.98	2.83
3.12	0.00	0.00	1783.73	1789.33	2.80
3.13	0.00	0.00	1778.20	1783.73	2.77
3.15	0.00	0.00	1772.72	1778.20	2.74
3.17	0.00	0.00	1767.30	1772.72	2.71
3.18	0.00	0.00	1761.94	1767.30	2.68
3.20	0.00	0.00	1756.63	1761.94	2.65
3.22	0.00	0.00	1751.38	1756.63	2.63

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
.23	0.00	0.00	1746.18	1751.38	2.60
.25	0.00	0.00	1741.04	1746.18	2.57
.27	0.00	0.00	1735.95	1741.04	2.55
.28	0.00	0.00	1730.91	1735.95	2.52
.30	0.00	0.00	1725.92	1730.91	2.49
.32	0.00	0.00	1720.98	1725.92	2.47
.33	0.00	0.00	1716.10	1720.98	2.44
.35	0.00	0.00	1711.27	1716.10	2.42
.37	0.00	0.00	1706.48	1711.27	2.39
.38	0.00	0.00	1701.75	1706.48	2.37
.40	0.00	0.00	1697.07	1701.75	2.34
.42	0.00	0.00	1692.43	1697.07	2.32
.43	0.00	0.00	1687.84	1692.43	2.29
.45	0.00	0.00	1683.30	1687.84	2.27
.47	0.00	0.00	1678.80	1683.30	2.25
.48	0.00	0.00	1674.34	1678.80	2.23
.50	0.00	0.00	1669.92	1674.34	2.21
.52	0.00	0.00	1665.55	1669.92	2.19
.53	0.00	0.00	1661.22	1665.55	2.17
.55	0.00	0.00	1656.93	1661.22	2.15
.57	0.00	0.00	1652.68	1656.93	2.13
.58	0.00	0.00	1648.47	1652.68	2.10
.60	0.00	0.00	1644.30	1648.47	2.08
.62	0.00	0.00	1640.17	1644.30	2.06
.63	0.00	0.00	1636.08	1640.17	2.05
.65	0.00	0.00	1632.02	1636.08	2.03
.67	0.00	0.00	1628.01	1632.02	2.01
.68	0.00	0.00	1624.04	1628.01	1.99
.70	0.00	0.00	1620.10	1624.04	1.97
.72	0.00	0.00	1616.20	1620.10	1.95
.73	0.00	0.00	1612.34	1616.20	1.93
.75	0.00	0.00	1608.51	1612.34	1.91
.77	0.00	0.00	1604.72	1608.51	1.89
.78	0.00	0.00	1600.97	1604.72	1.88
.80	0.00	0.00	1597.25	1600.97	1.86
.82	0.00	0.00	1593.57	1597.25	1.84
.83	0.00	0.00	1589.92	1593.57	1.82
.85	0.00	0.00	1586.31	1589.92	1.81
.87	0.00	0.00	1582.72	1586.31	1.79
.88	0.00	0.00	1579.17	1582.72	1.78
.90	0.00	0.00	1575.64	1579.17	1.76
3.92	0.00	0.00	1572.15	1575.64	1.75

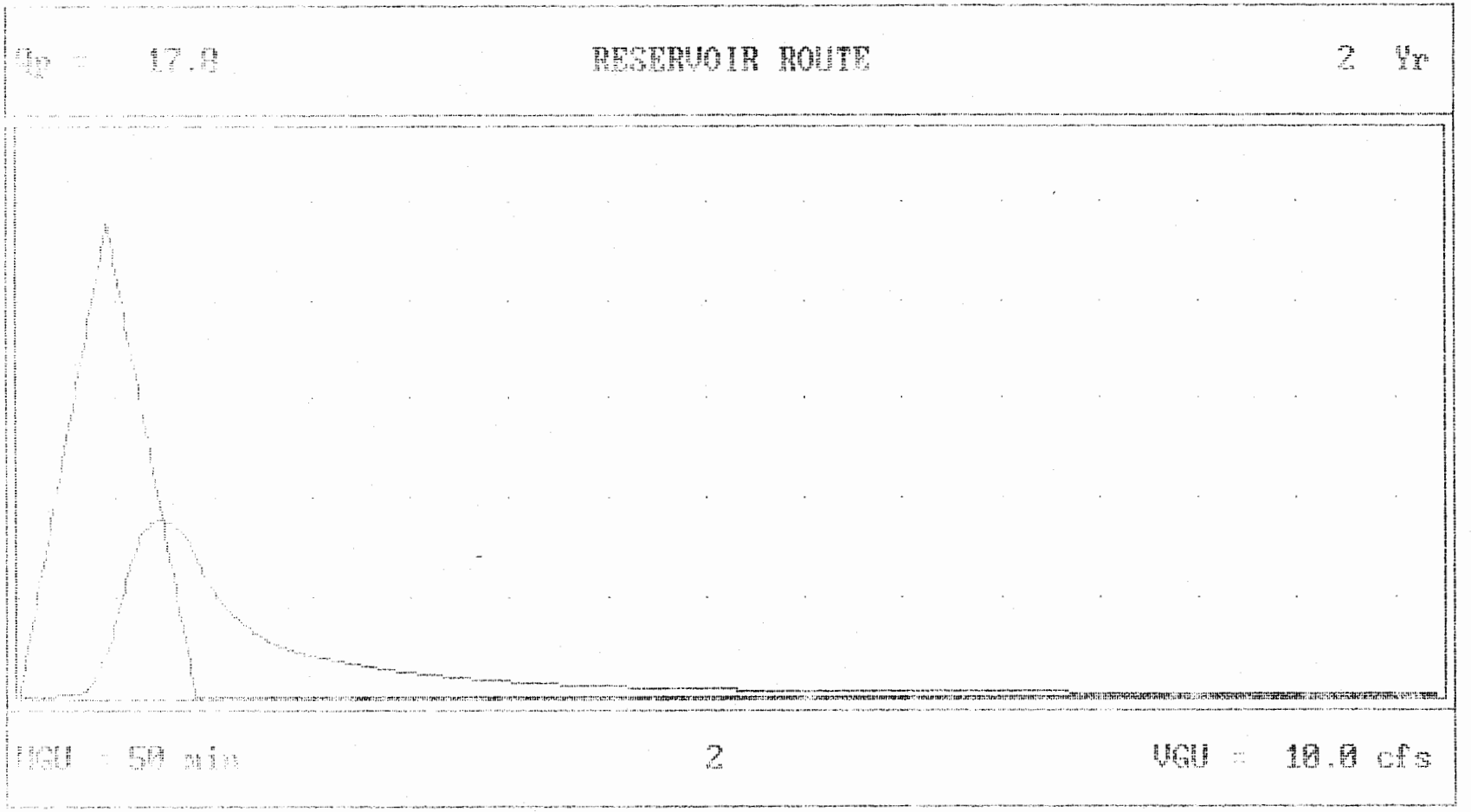
HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
3.93	0.00	0.00	1568.69	1572.15	1.73
3.95	0.00	0.00	1565.25	1568.69	1.72
3.97	0.00	0.00	1561.85	1565.25	1.70
3.98	0.00	0.00	1558.47	1561.85	1.69
4.00	0.00	0.00	1555.13	1558.47	1.67
4.02	0.00	0.00	1551.81	1555.13	1.66
4.03	0.00	0.00	1548.52	1551.81	1.64
4.05	0.00	0.00	1545.26	1548.52	1.63
4.07	0.00	0.00	1542.03	1545.26	1.62
4.08	0.00	0.00	1538.83	1542.03	1.60
4.10	0.00	0.00	1535.65	1538.83	1.59
4.12	0.00	0.00	1532.50	1535.65	1.57
4.13	0.00	0.00	1529.38	1532.50	1.56
4.15	0.00	0.00	1526.28	1529.38	1.55
4.17	0.00	0.00	1523.21	1526.28	1.53
4.18	0.00	0.00	1520.17	1523.21	1.52
4.20	0.00	0.00	1517.15	1520.17	1.51
4.22	0.00	0.00	1514.16	1517.15	1.50
4.23	0.00	0.00	1511.20	1514.16	1.48
4.25	0.00	0.00	1508.26	1511.20	1.47
4.27	0.00	0.00	1505.34	1508.26	1.46
4.28	0.00	0.00	1502.45	1505.34	1.44
4.30	0.00	0.00	1499.59	1502.45	1.43
4.32	0.00	0.00	1496.75	1499.59	1.42
4.33	0.00	0.00	1493.93	1496.75	1.41
4.35	0.00	0.00	1491.14	1493.93	1.40
4.37	0.00	0.00	1488.37	1491.14	1.39
4.38	0.00	0.00	1485.62	1488.37	1.38
4.40	0.00	0.00	1482.89	1485.62	1.37
4.42	0.00	0.00	1480.18	1482.89	1.36
4.43	0.00	0.00	1477.49	1480.18	1.34
4.45	0.00	0.00	1474.82	1477.49	1.33
4.47	0.00	0.00	1472.17	1474.82	1.32
4.48	0.00	0.00	1469.54	1472.17	1.31
4.50	0.00	0.00	1466.93	1469.54	1.30
4.52	0.00	0.00	1464.34	1466.93	1.29
4.53	0.00	0.00	1461.77	1464.34	1.28
4.55	0.00	0.00	1459.22	1461.77	1.27
4.57	0.00	0.00	1456.69	1459.22	1.26
4.58	0.00	0.00	1454.18	1456.69	1.25
4.60	0.00	0.00	1451.68	1454.18	1.24
4.62	0.00	0.00	1449.21	1451.68	1.24

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
4.63	0.00	0.00	1446.75	1449.21	1.23
4.65	0.00	0.00	1444.32	1446.75	1.22
4.67	0.00	0.00	1441.90	1444.32	1.21
4.68	0.00	0.00	1439.50	1441.90	1.20
4.70	0.00	0.00	1437.11	1439.50	1.19
4.72	0.00	0.00	1434.75	1437.11	1.18
4.73	0.00	0.00	1432.40	1434.75	1.17
4.75	0.00	0.00	1430.07	1432.40	1.16
4.77	0.00	0.00	1427.76	1430.07	1.16
4.78	0.00	0.00	1425.47	1427.76	1.15
4.80	0.00	0.00	1423.19	1425.47	1.14
4.82	0.00	0.00	1420.93	1423.19	1.13
4.83	0.00	0.00	1418.69	1420.93	1.12
4.85	0.00	0.00	1416.46	1418.69	1.11
4.87	0.00	0.00	1414.26	1416.46	1.10
4.88	0.00	0.00	1412.06	1414.26	1.10
4.90	0.00	0.00	1409.89	1412.06	1.09
4.92	0.00	0.00	1407.73	1409.89	1.08
4.93	0.00	0.00	1405.59	1407.73	1.07
4.95	0.00	0.00	1403.46	1405.59	1.06
4.97	0.00	0.00	1401.35	1403.46	1.06
4.98	0.00	0.00	1399.25	1401.35	1.05
5.00	0.00	0.00	1397.18	1399.25	1.04
5.02	0.00	0.00	1395.11	1397.18	1.03
5.03	0.00	0.00	1393.06	1395.11	1.03
5.05	0.00	0.00	1391.02	1393.06	1.02
5.07	0.00	0.00	1389.00	1391.02	1.01
5.08	0.00	0.00	1386.98	1389.00	1.01
5.10	0.00	0.00	1384.98	1386.98	1.00

Maximum outflow (cfs) = 17.80
Maximum storage (cu ft) = 95601
Maximum elevation (ft) = 6.54



MAX STORAGE = 956801

MAX ELEVATION = 6.53

HYDROLOGIC REPORT FOR

PELEGS POINT

DRY DETENTION POND C

INFLOW HYDROGRAPH

10 YEAR STORM

C.K. TUDOR ENGINEERS, INC.

NEWPORT NEWS, VIRGINIA

REV. FEB. 3, 1995

HYDROLOGIC REPORT

TOTAL DRAINAGE BASIN..
10 YEAR STORM.....
RUNOFF HYDROGRAPH.....

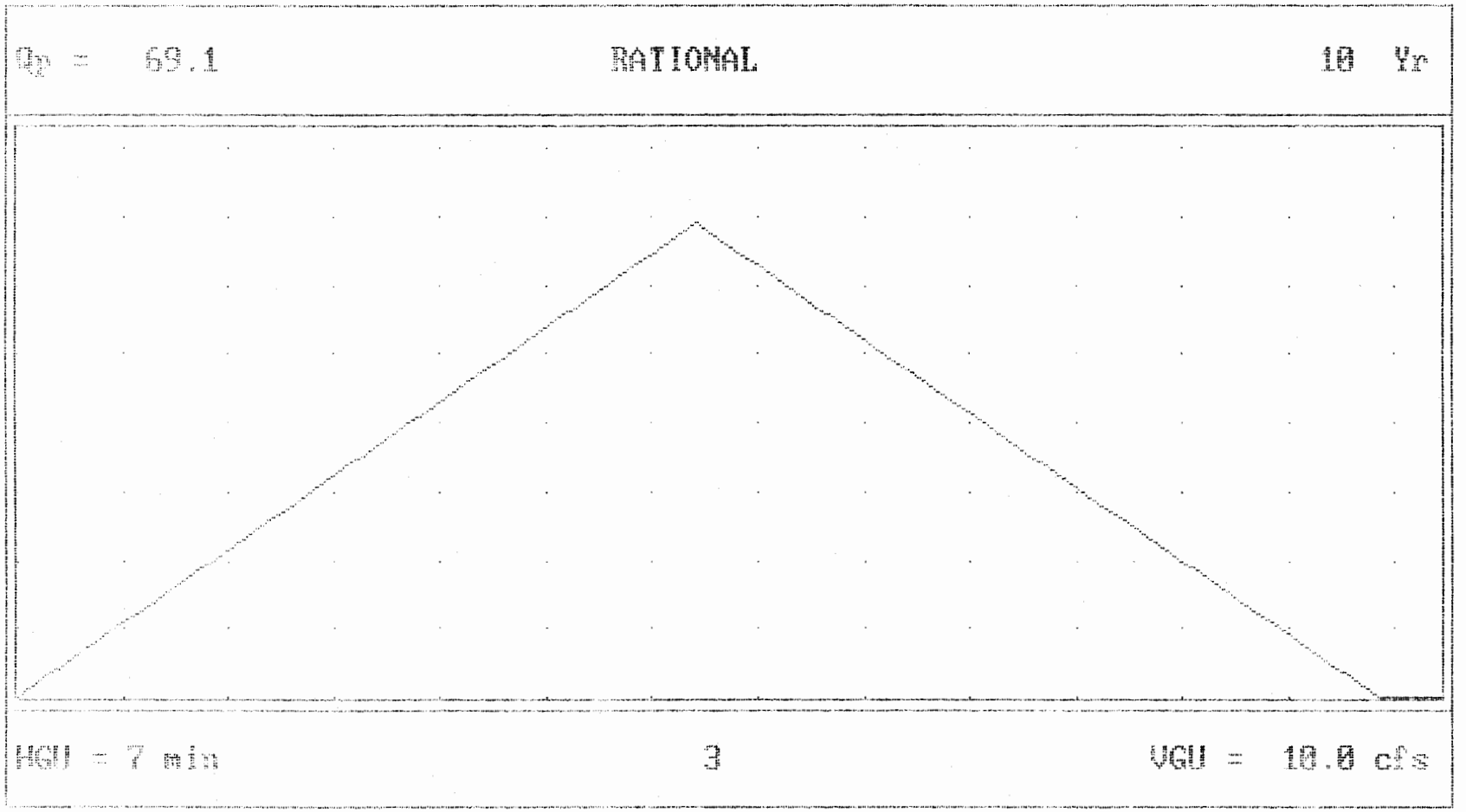
Hyd. No. 3

Hydrograph type = RATIONAL
Storm frequency = 10 yr
Time of conc. = 45 min
Runoff coeff. = .4

Peak discharge = 69.09 cfs
Time interval = 1 min
Intensity = 2.86 in/hr
Basin area = 60.39 ac

HYDROGRAPH DISCHARGE TABLE

TIME--OUTFLOW (hrs cfs)		TIME--OUTFLOW (hrs cfs)		TIME--OUTFLOW (hrs cfs)		TIME--OUTFLOW (hrs cfs)	
0.02	1.54	0.03	3.07	0.05	4.61	0.07	6.14
0.08	7.68	0.10	9.21	0.12	10.75	0.13	12.28
0.15	13.82	0.17	15.35	0.18	16.89	0.20	18.42
0.22	19.96	0.23	21.50	0.25	23.03	0.27	24.57
0.28	26.10	0.30	27.64	0.32	29.17	0.33	30.71
0.35	32.24	0.37	33.78	0.38	35.31	0.40	36.85
0.42	38.39	0.43	39.92	0.45	41.46	0.47	42.99
0.48	44.53	0.50	46.06	0.52	47.60	0.53	49.13
0.55	50.67	0.57	52.20	0.58	53.74	0.60	55.27
0.62	56.81	0.63	58.35	0.65	59.88	0.67	61.42
0.68	62.95	0.70	64.49	0.72	66.02	0.73	67.56
0.75	69.09	0.77	67.56	0.78	66.02	0.80	64.49
0.82	62.95	0.83	61.42	0.85	59.88	0.87	58.35
0.88	56.81	0.90	55.27	0.92	53.74	0.93	52.20
0.95	50.67	0.97	49.13	0.98	47.60	1.00	46.06
1.02	44.53	1.03	42.99	1.05	41.46	1.07	39.92
1.08	38.39	1.10	36.85	1.12	35.31	1.13	33.78
1.15	32.24	1.17	30.71	1.18	29.17	1.20	27.64
1.22	26.10	1.23	24.57	1.25	23.03	1.27	21.50
1.28	19.96	1.30	18.42	1.32	16.89	1.33	15.35
1.35	13.82	1.37	12.28	1.38	10.75	1.40	9.21
1.42	7.68	1.43	6.14	1.45	4.61	1.47	3.07
1.48	1.54	1.50	0.00	1.52	0.00	1.53	0.00



VOL = (cuft/acft) = 186552 / 4.283

HYDROLOGIC REPORT FOR

PELEGS POINT

DRY DETENTION POND C

OUTFLOW HYDROGRAPH

10 YEAR STORM

C.K. TUDOR ENGINEERS, INC.

NEWPORT NEWS, VIRGINIA

REV. FEB. 3, 1995

HYDROLOGIC REPORT

10 YEAR ROUTED THRU
POND C.....
.....

Hyd. No. 4

Hydrograph type = RESERVOIR ROUTE Peak discharge = 30.85 cfs
Storm frequency = 10 yr Time interval = 1 min
Inflow hyd. no. = 3 Reservoir no. = 2

HYDROGRAPH DISCHARGE TABLE

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
0.02	1.54	3.07	1.54	1.54	0.00
0.03	3.07	4.61	6.14	6.14	0.00
0.05	4.61	6.14	13.81	13.82	0.00
0.07	6.14	7.68	24.56	24.56	0.00
0.08	7.68	9.21	38.37	38.38	0.00
0.10	9.21	10.75	55.25	55.26	0.01
0.12	10.75	12.28	75.19	75.21	0.01
0.13	12.28	13.82	98.20	98.22	0.01
0.15	13.82	15.35	124.27	124.30	0.02
0.17	15.35	16.89	153.39	153.44	0.03
0.18	16.89	18.42	185.56	185.63	0.03
0.20	18.42	19.96	220.78	220.88	0.05
0.22	19.96	21.50	259.03	259.16	0.07
0.23	21.50	23.03	300.32	300.49	0.08
0.25	23.03	24.57	344.66	344.85	0.10
0.27	24.57	26.10	392.01	392.26	0.12
0.28	26.10	27.64	442.37	442.68	0.15
0.30	27.64	29.17	495.76	496.11	0.18
0.32	29.17	30.71	552.17	552.57	0.20
0.33	30.71	32.24	611.58	612.05	0.24
0.35	32.24	33.78	673.99	674.53	0.27
0.37	33.78	35.31	739.42	740.02	0.30
0.38	35.31	36.85	807.88	808.52	0.32
0.40	36.85	38.39	879.36	880.04	0.34
0.42	38.39	39.92	953.85	954.59	0.37

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
0.43	39.92	41.46	1031.38	1032.16	0.39
0.45	41.46	42.99	1111.92	1112.76	0.42
0.47	42.99	44.53	1195.39	1196.37	0.49
0.48	44.53	46.06	1281.54	1282.91	0.69
0.50	46.06	47.60	1370.22	1372.13	0.95
0.52	47.60	49.13	1461.32	1463.88	1.28
0.53	49.13	50.67	1554.71	1558.05	1.67
0.55	50.67	52.20	1650.28	1654.51	2.11
0.57	52.20	53.74	1747.94	1753.15	2.61
0.58	53.74	55.27	1847.57	1853.88	3.15
0.60	55.27	56.81	1949.21	1956.58	3.69
0.62	56.81	58.35	2052.85	2061.30	4.22
0.63	58.35	59.88	2158.22	2168.01	4.89
0.65	59.88	61.42	2264.85	2276.45	5.80
0.67	61.42	62.95	2372.35	2386.15	6.90
0.68	62.95	64.49	2480.43	2496.72	8.14
0.70	64.49	66.02	2588.84	2607.87	9.51
0.72	66.02	67.56	2697.36	2719.35	10.99
0.73	67.56	69.09	2805.80	2830.94	12.57
0.75	69.09	67.56	2913.98	2942.45	14.24
0.77	67.56	66.02	3018.75	3050.63	15.94
0.78	66.02	64.49	3117.96	3152.33	17.19
0.80	64.49	62.95	3211.80	3248.47	18.33
0.82	62.95	61.42	3300.34	3339.24	19.45
0.83	61.42	59.88	3383.66	3424.71	20.52
0.85	59.88	58.35	3461.86	3504.96	21.55
0.87	58.35	56.81	3535.04	3580.09	22.52
0.88	56.81	55.27	3603.29	3650.20	23.45
0.90	55.27	53.74	3666.74	3715.38	24.32
0.92	53.74	52.20	3725.46	3775.75	25.15
0.93	52.20	50.67	3779.59	3831.40	25.91
0.95	50.67	49.13	3829.24	3882.46	26.61
0.97	49.13	47.60	3874.50	3929.04	27.27
0.98	47.60	46.06	3915.50	3971.23	27.87
1.00	46.06	44.53	3952.36	4009.16	28.40
1.02	44.53	42.99	3985.19	4042.95	28.88
1.03	42.99	41.46	4014.08	4072.71	29.31
1.05	41.46	39.92	4039.16	4098.53	29.69
1.07	39.92	38.39	4060.52	4120.53	30.01
1.08	38.39	36.85	4078.27	4138.82	30.27
1.10	36.85	35.31	4092.53	4153.51	30.49
1.12	35.31	33.78	4103.39	4164.70	30.65

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
1.13	33.78	32.24	4110.95	4172.49	30.77
1.15	32.24	30.71	4115.32	4176.98	30.83
1.17	30.71	29.17	4116.57	4178.27	30.85
1.18	29.17	27.64	4114.80	4176.45	30.82
1.20	27.64	26.10	4110.11	4171.61	30.75
1.22	26.10	24.57	4102.57	4163.85	30.64
1.23	24.57	23.03	4092.27	4153.24	30.48
1.25	23.03	21.50	4079.28	4139.86	30.29
1.27	21.50	19.96	4063.70	4123.81	30.06
1.28	19.96	18.42	4045.59	4105.16	29.78
1.30	18.42	16.89	4025.02	4083.97	29.47
1.32	16.89	15.35	4002.08	4060.34	29.13
1.33	15.35	13.82	3976.80	4034.32	28.76
1.35	13.82	12.28	3949.26	4005.98	28.36
1.37	12.28	10.75	3919.52	3975.36	27.92
1.38	10.75	9.21	3887.63	3942.55	27.46
1.40	9.21	7.68	3853.66	3907.59	26.96
1.42	7.68	6.14	3817.66	3870.55	26.45
1.43	6.14	4.61	3779.66	3831.48	25.91
1.45	4.61	3.07	3739.71	3790.41	25.35
1.47	3.07	1.54	3697.88	3747.39	24.76
1.48	1.54	0.00	3654.19	3702.48	24.15
1.50	0.00	0.00	3608.67	3655.72	23.53
1.52	0.00	0.00	3562.86	3608.67	22.90
1.53	0.00	0.00	3518.28	3562.86	22.29
1.55	0.00	0.00	3474.84	3518.28	21.72
1.57	0.00	0.00	3432.51	3474.84	21.16
1.58	0.00	0.00	3391.27	3432.51	20.62
1.60	0.00	0.00	3351.08	3391.27	20.09
1.62	0.00	0.00	3311.88	3351.08	19.60
1.63	0.00	0.00	3273.65	3311.88	19.11
1.65	0.00	0.00	3236.37	3273.65	18.64
1.67	0.00	0.00	3200.00	3236.37	18.18
1.68	0.00	0.00	3164.50	3200.00	17.75
1.70	0.00	0.00	3129.84	3164.50	17.33
1.72	0.00	0.00	3096.00	3129.84	16.92
1.73	0.00	0.00	3062.96	3096.00	16.52
1.75	0.00	0.00	3030.69	3062.96	16.13
1.77	0.00	0.00	2999.45	3030.69	15.62
1.78	0.00	0.00	2969.18	2999.45	15.13
1.80	0.00	0.00	2939.87	2969.18	14.66
1.82	0.00	0.00	2911.47	2939.87	14.20

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
1.83	0.00	0.00	2883.92	2911.47	13.77
1.85	0.00	0.00	2857.20	2883.92	13.36
1.87	0.00	0.00	2831.27	2857.20	12.96
1.88	0.00	0.00	2806.12	2831.27	12.58
1.90	0.00	0.00	2781.68	2806.12	12.22
1.92	0.00	0.00	2757.94	2781.68	11.87
1.93	0.00	0.00	2734.86	2757.94	11.54
1.95	0.00	0.00	2712.44	2734.86	11.21
1.97	0.00	0.00	2690.65	2712.44	10.90
1.98	0.00	0.00	2669.44	2690.65	10.61
2.00	0.00	0.00	2648.78	2669.44	10.33
2.02	0.00	0.00	2628.68	2648.78	10.05
2.03	0.00	0.00	2609.10	2628.68	9.79
2.05	0.00	0.00	2590.04	2609.10	9.53
2.07	0.00	0.00	2571.48	2590.04	9.28
2.08	0.00	0.00	2553.37	2571.48	9.05
2.10	0.00	0.00	2535.70	2553.37	8.83
2.12	0.00	0.00	2518.46	2535.70	8.62
2.13	0.00	0.00	2501.65	2518.46	8.41
2.15	0.00	0.00	2485.24	2501.65	8.20
2.17	0.00	0.00	2469.23	2485.24	8.00
2.18	0.00	0.00	2453.60	2469.23	7.81
2.20	0.00	0.00	2438.31	2453.60	7.64
2.22	0.00	0.00	2423.37	2438.31	7.47
2.23	0.00	0.00	2408.75	2423.37	7.31
2.25	0.00	0.00	2394.45	2408.75	7.15
2.27	0.00	0.00	2380.47	2394.45	6.99
2.28	0.00	0.00	2366.80	2380.47	6.84
2.30	0.00	0.00	2353.43	2366.80	6.69
2.32	0.00	0.00	2340.35	2353.43	6.54
2.33	0.00	0.00	2327.52	2340.35	6.42
2.35	0.00	0.00	2314.93	2327.52	6.29
2.37	0.00	0.00	2302.59	2314.93	6.17
2.38	0.00	0.00	2290.49	2302.59	6.05
2.40	0.00	0.00	2278.62	2290.49	5.93
2.42	0.00	0.00	2266.98	2278.62	5.82
2.43	0.00	0.00	2255.57	2266.98	5.71
2.45	0.00	0.00	2244.37	2255.57	5.60
2.47	0.00	0.00	2233.40	2244.37	5.49
2.48	0.00	0.00	2222.61	2233.40	5.39
2.50	0.00	0.00	2211.98	2222.61	5.31
2.52	0.00	0.00	2201.52	2211.98	5.23

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
2.53	0.00	0.00	2191.22	2201.52	5.15
2.55	0.00	0.00	2181.08	2191.22	5.07
2.57	0.00	0.00	2171.09	2181.08	4.99
2.58	0.00	0.00	2161.26	2171.09	4.92
2.60	0.00	0.00	2151.57	2161.26	4.84
2.62	0.00	0.00	2142.03	2151.57	4.77
2.63	0.00	0.00	2132.64	2142.03	4.70
2.65	0.00	0.00	2123.40	2132.64	4.62
2.67	0.00	0.00	2114.29	2123.40	4.55
2.68	0.00	0.00	2105.29	2114.29	4.50
2.70	0.00	0.00	2096.38	2105.29	4.45
2.72	0.00	0.00	2087.57	2096.38	4.41
2.73	0.00	0.00	2078.84	2087.57	4.36
2.75	0.00	0.00	2070.21	2078.84	4.31
2.77	0.00	0.00	2061.68	2070.21	4.27
2.78	0.00	0.00	2053.23	2061.68	4.22
2.80	0.00	0.00	2044.87	2053.23	4.18
2.82	0.00	0.00	2036.59	2044.87	4.14
2.83	0.00	0.00	2028.41	2036.59	4.09
2.85	0.00	0.00	2020.31	2028.41	4.05
2.87	0.00	0.00	2012.30	2020.31	4.01
2.88	0.00	0.00	2004.37	2012.30	3.96
2.90	0.00	0.00	1996.52	2004.37	3.92
2.92	0.00	0.00	1988.75	1996.52	3.88
2.93	0.00	0.00	1981.06	1988.75	3.85
2.95	0.00	0.00	1973.44	1981.06	3.81
2.97	0.00	0.00	1965.91	1973.44	3.77
2.98	0.00	0.00	1958.44	1965.91	3.73
3.00	0.00	0.00	1951.05	1958.44	3.69
3.02	0.00	0.00	1943.74	1951.05	3.66
3.03	0.00	0.00	1936.49	1943.74	3.62
3.05	0.00	0.00	1929.32	1936.49	3.59
3.07	0.00	0.00	1922.22	1929.32	3.55
3.08	0.00	0.00	1915.19	1922.22	3.51
3.10	0.00	0.00	1908.23	1915.19	3.48
3.12	0.00	0.00	1901.34	1908.23	3.44
3.13	0.00	0.00	1894.52	1901.34	3.41
3.15	0.00	0.00	1887.77	1894.52	3.38
3.17	0.00	0.00	1881.08	1887.77	3.34
3.18	0.00	0.00	1874.47	1881.08	3.31
3.20	0.00	0.00	1867.93	1874.47	3.27
3.22	0.00	0.00	1861.47	1867.93	3.23

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
3.23	0.00	0.00	1855.08	1861.47	3.20
3.25	0.00	0.00	1848.75	1855.08	3.16
3.27	0.00	0.00	1842.50	1848.75	3.13
3.28	0.00	0.00	1836.32	1842.50	3.09
3.30	0.00	0.00	1830.21	1836.32	3.06
3.32	0.00	0.00	1824.16	1830.21	3.02
3.33	0.00	0.00	1818.18	1824.16	2.99
3.35	0.00	0.00	1812.27	1818.18	2.96
3.37	0.00	0.00	1806.42	1812.27	2.92
3.38	0.00	0.00	1800.64	1806.42	2.89
3.40	0.00	0.00	1794.93	1800.64	2.86
3.42	0.00	0.00	1789.27	1794.93	2.83
3.43	0.00	0.00	1783.68	1789.27	2.80
3.45	0.00	0.00	1778.15	1783.68	2.77
3.47	0.00	0.00	1772.67	1778.15	2.74
3.48	0.00	0.00	1767.26	1772.67	2.71
3.50	0.00	0.00	1761.89	1767.26	2.68
3.52	0.00	0.00	1756.58	1761.89	2.65
3.53	0.00	0.00	1751.33	1756.58	2.63
3.55	0.00	0.00	1746.13	1751.33	2.60
3.57	0.00	0.00	1740.99	1746.13	2.57
3.58	0.00	0.00	1735.90	1740.99	2.55
3.60	0.00	0.00	1730.86	1735.90	2.52
3.62	0.00	0.00	1725.87	1730.86	2.49
3.63	0.00	0.00	1720.94	1725.87	2.47
3.65	0.00	0.00	1716.06	1720.94	2.44
3.67	0.00	0.00	1711.22	1716.06	2.42
3.68	0.00	0.00	1706.44	1711.22	2.39
3.70	0.00	0.00	1701.71	1706.44	2.37
3.72	0.00	0.00	1697.02	1701.71	2.34
3.73	0.00	0.00	1692.39	1697.02	2.32
3.75	0.00	0.00	1687.80	1692.39	2.29
3.77	0.00	0.00	1683.26	1687.80	2.27
3.78	0.00	0.00	1678.76	1683.26	2.25
3.80	0.00	0.00	1674.30	1678.76	2.23
3.82	0.00	0.00	1669.88	1674.30	2.21
3.83	0.00	0.00	1665.51	1669.88	2.19
3.85	0.00	0.00	1661.18	1665.51	2.17
3.87	0.00	0.00	1656.89	1661.18	2.15
3.88	0.00	0.00	1652.64	1656.89	2.12
3.90	0.00	0.00	1648.43	1652.64	2.10
3.92	0.00	0.00	1644.26	1648.43	2.08

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
3.93	0.00	0.00	1640.13	1644.26	2.06
3.95	0.00	0.00	1636.04	1640.13	2.05
3.97	0.00	0.00	1631.99	1636.04	2.03
3.98	0.00	0.00	1627.97	1631.99	2.01
4.00	0.00	0.00	1624.00	1627.97	1.99
4.02	0.00	0.00	1620.06	1624.00	1.97
4.03	0.00	0.00	1616.16	1620.06	1.95
4.05	0.00	0.00	1612.30	1616.16	1.93
4.07	0.00	0.00	1608.48	1612.30	1.91
4.08	0.00	0.00	1604.69	1608.48	1.89
4.10	0.00	0.00	1600.94	1604.69	1.88
4.12	0.00	0.00	1597.22	1600.94	1.86
4.13	0.00	0.00	1593.54	1597.22	1.84
4.15	0.00	0.00	1589.89	1593.54	1.82
4.17	0.00	0.00	1586.27	1589.89	1.81
4.18	0.00	0.00	1582.69	1586.27	1.79
4.20	0.00	0.00	1579.14	1582.69	1.78
4.22	0.00	0.00	1575.61	1579.14	1.76
4.23	0.00	0.00	1572.12	1575.61	1.75
4.25	0.00	0.00	1568.66	1572.12	1.73
4.27	0.00	0.00	1565.22	1568.66	1.72
4.28	0.00	0.00	1561.82	1565.22	1.70
4.30	0.00	0.00	1558.44	1561.82	1.69
4.32	0.00	0.00	1555.10	1558.44	1.67
4.33	0.00	0.00	1551.78	1555.10	1.66
4.35	0.00	0.00	1548.49	1551.78	1.64
4.37	0.00	0.00	1545.23	1548.49	1.63
4.38	0.00	0.00	1542.00	1545.23	1.62
4.40	0.00	0.00	1538.80	1542.00	1.60
4.42	0.00	0.00	1535.62	1538.80	1.59
4.43	0.00	0.00	1532.47	1535.62	1.57
4.45	0.00	0.00	1529.35	1532.47	1.56
4.47	0.00	0.00	1526.25	1529.35	1.55
4.48	0.00	0.00	1523.18	1526.25	1.53
4.50	0.00	0.00	1520.14	1523.18	1.52
4.52	0.00	0.00	1517.13	1520.14	1.51
4.53	0.00	0.00	1514.13	1517.13	1.50
4.55	0.00	0.00	1511.17	1514.13	1.48
4.57	0.00	0.00	1508.23	1511.17	1.47
4.58	0.00	0.00	1505.32	1508.23	1.46
4.60	0.00	0.00	1502.43	1505.32	1.44
4.62	0.00	0.00	1499.56	1502.43	1.43

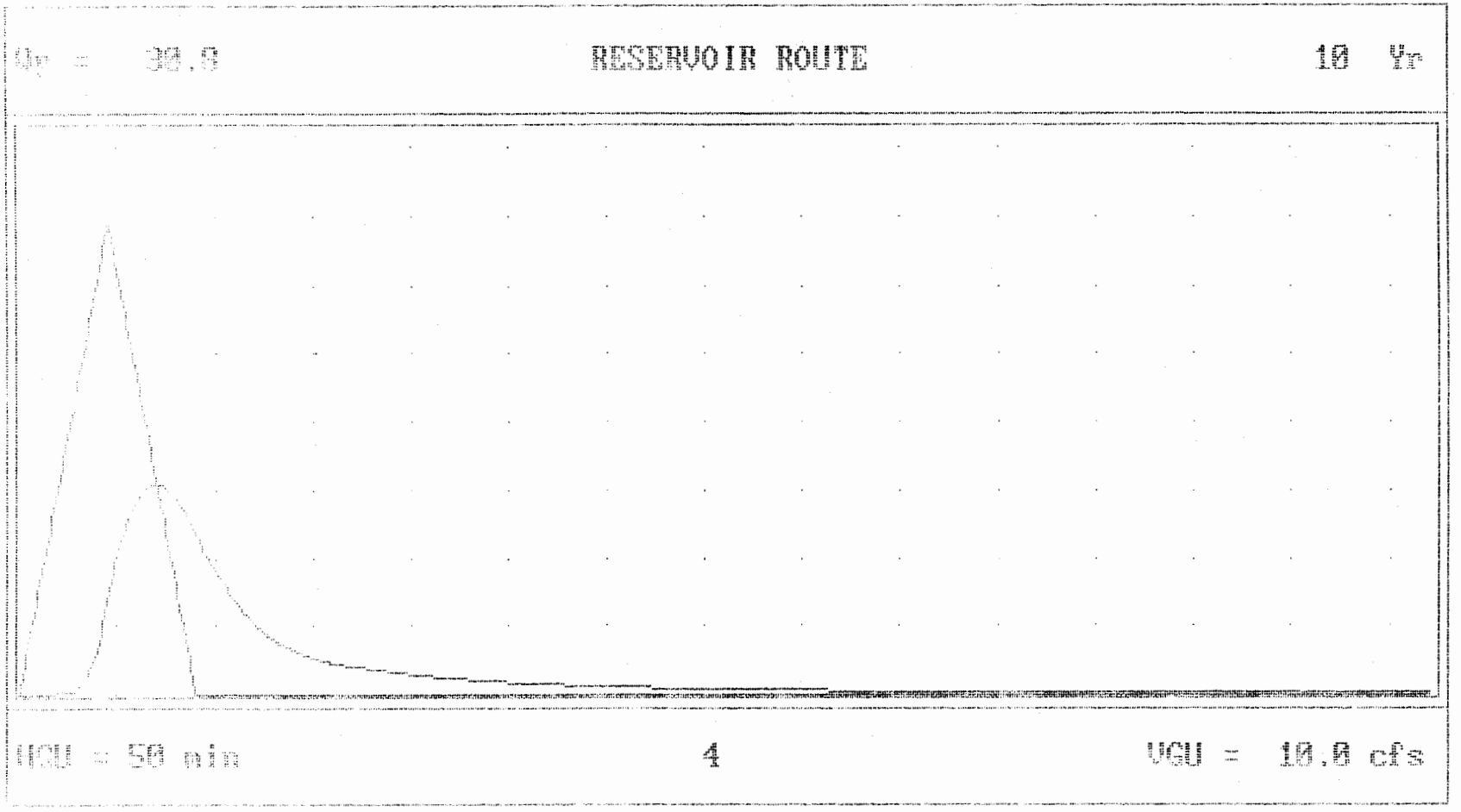
HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
4.63	0.00	0.00	1496.72	1499.56	1.42
4.65	0.00	0.00	1493.91	1496.72	1.41
4.67	0.00	0.00	1491.12	1493.91	1.40
4.68	0.00	0.00	1488.34	1491.12	1.39
4.70	0.00	0.00	1485.59	1488.34	1.38
4.72	0.00	0.00	1482.86	1485.59	1.37
4.73	0.00	0.00	1480.15	1482.86	1.35
4.75	0.00	0.00	1477.46	1480.15	1.34
4.77	0.00	0.00	1474.79	1477.46	1.33
4.78	0.00	0.00	1472.14	1474.79	1.32
4.80	0.00	0.00	1469.52	1472.14	1.31
4.82	0.00	0.00	1466.91	1469.52	1.30
4.83	0.00	0.00	1464.32	1466.91	1.29
4.85	0.00	0.00	1461.75	1464.32	1.28
4.87	0.00	0.00	1459.20	1461.75	1.28
4.88	0.00	0.00	1456.67	1459.20	1.27
4.90	0.00	0.00	1454.15	1456.67	1.26
4.92	0.00	0.00	1451.66	1454.15	1.25
4.93	0.00	0.00	1449.19	1451.66	1.24
4.95	0.00	0.00	1446.73	1449.19	1.23
4.97	0.00	0.00	1444.29	1446.73	1.22
4.98	0.00	0.00	1441.87	1444.29	1.21
5.00	0.00	0.00	1439.47	1441.87	1.20
5.02	0.00	0.00	1437.09	1439.47	1.19
5.03	0.00	0.00	1434.73	1437.09	1.18
5.05	0.00	0.00	1432.38	1434.73	1.17
5.07	0.00	0.00	1430.05	1432.38	1.16
5.08	0.00	0.00	1427.74	1430.05	1.16
5.10	0.00	0.00	1425.45	1427.74	1.15
5.12	0.00	0.00	1423.17	1425.45	1.14
5.13	0.00	0.00	1420.91	1423.17	1.13
5.15	0.00	0.00	1418.67	1420.91	1.12
5.17	0.00	0.00	1416.44	1418.67	1.11
5.18	0.00	0.00	1414.23	1416.44	1.10
5.20	0.00	0.00	1412.04	1414.23	1.10
5.22	0.00	0.00	1409.87	1412.04	1.09
5.23	0.00	0.00	1407.71	1409.87	1.08
5.25	0.00	0.00	1405.57	1407.71	1.07
5.27	0.00	0.00	1403.44	1405.57	1.06
5.28	0.00	0.00	1401.33	1403.44	1.06
5.30	0.00	0.00	1399.24	1401.33	1.05
5.32	0.00	0.00	1397.16	1399.24	1.04

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
5.33	0.00	0.00	1395.09	1397.16	1.03
5.35	0.00	0.00	1393.04	1395.09	1.03
5.37	0.00	0.00	1391.00	1393.04	1.02
5.38	0.00	0.00	1388.98	1391.00	1.01
5.40	0.00	0.00	1386.96	1388.98	1.01
5.42	0.00	0.00	1384.96	1386.96	1.00

Maximum outflow (cfs) = 30.85
Maximum storage (cu ft) = 124423
Maximum elevation (ft) = 6.84



MAX STORAGE = 124123

MAX ELEVATION = 6.84

HYDROLOGIC REPORT FOR

PELEGS POINT

DRY DETENTION POND C

INFLOW HYDROGRAPH

100 YEAR STORM

C.K. TUDOR ENGINEERS, INC.

NEWPORT NEWS, VIRGINIA

REV. FEB. 3, 1995

HYDROLOGIC REPORT

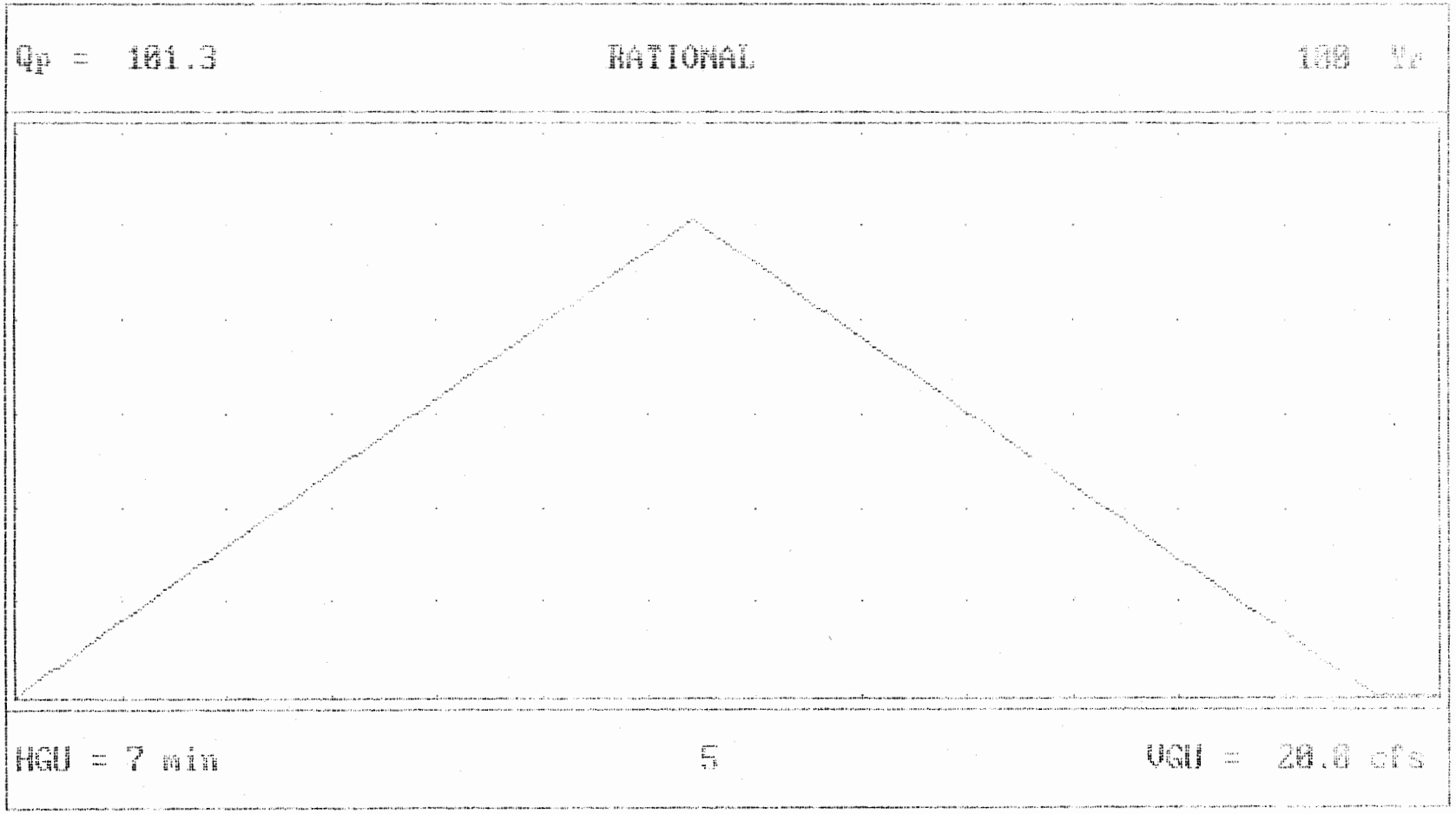
TOTAL DRAINAGE BASIN..
100 YEAR STORM.....
RUNOFF HYDROGRAPH.....

Hyd. No. 5

Hydrograph type	= RATIONAL	Peak discharge	= 101.29 cfs
Storm frequency	= 100 yr	Time interval	= 1 min
Time of conc.	= 45 min	Intensity	= 4.19 in/hr
Runoff coerf.	= .4	Basin area	= 60.39 ac

HYDROGRAPH DISCHARGE TABLE

TIME--OUTFLOW (hrs cfs)		TIME--OUTFLOW (hrs cfs)		TIME--OUTFLOW (hrs cfs)		TIME--OUTFLOW (hrs cfs)	
0.02	2.25	0.03	4.50	0.05	6.75	0.07	9.00
0.08	11.25	0.10	13.50	0.12	15.76	0.13	18.01
0.15	20.26	0.17	22.51	0.18	24.76	0.20	27.01
0.22	29.26	0.23	31.51	0.25	33.76	0.27	36.01
0.28	38.26	0.30	40.51	0.32	42.77	0.33	45.02
0.35	47.27	0.37	49.52	0.38	51.77	0.40	54.02
0.42	56.27	0.43	58.52	0.45	60.77	0.47	63.02
0.48	65.27	0.50	67.52	0.52	69.78	0.53	72.03
0.55	74.28	0.57	76.53	0.58	78.78	0.60	81.03
0.62	83.28	0.63	85.53	0.65	87.78	0.67	90.03
0.68	92.28	0.70	94.53	0.72	96.78	0.73	99.04
0.75	101.29	0.77	99.04	0.78	96.78	0.80	94.53
0.82	92.28	0.83	90.03	0.85	87.78	0.87	85.53
0.88	83.28	0.90	81.03	0.92	78.78	0.93	76.53
0.95	74.28	0.97	72.03	0.98	69.78	1.00	67.52
1.02	65.27	1.03	63.02	1.05	60.77	1.07	58.52
1.08	56.27	1.10	54.02	1.12	51.77	1.13	49.52
1.15	47.27	1.17	45.02	1.18	42.77	1.20	40.51
1.22	38.26	1.23	36.01	1.25	33.76	1.27	31.51
1.28	29.26	1.30	27.01	1.32	24.76	1.33	22.51
1.35	20.26	1.37	18.01	1.38	15.76	1.40	13.50
1.42	11.25	1.43	9.00	1.45	6.75	1.47	4.50
1.48	2.25	1.50	0.00	1.52	0.00	1.53	0.00



VOL = (cuft/acft) = 273473 / 6.278

HYDROLOGIC REPORT FOR

PELEGS POINT

DRY DETENTION POND C

OUTFLOW HYDROGRAPH

100 YEAR STORM

C.K. TUDOR ENGINEERS, INC.

NEWPORT NEWS, VIRGINIA

REV. FEB. 3, 1995

HYDROLOGIC REPORT

100 YEAR ROUTED.....
THRU POND C.....
.....

Hyd. No. 6

Hydrograph type = RESERVOIR ROUTE
Storm frequency = 100 yr
Inflow hyd. no. = 5

Peak discharge = 41.67 cfs
Time interval = 1 min
Reservoir no. = 2

HYDROGRAPH DISCHARGE TABLE

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
0.02	2.25	4.50	2.25	2.25	0.00
0.03	4.50	6.75	9.00	9.00	0.00
0.05	6.75	9.00	20.25	20.25	0.00
0.07	9.00	11.25	36.00	36.01	0.00
0.08	11.25	13.50	56.24	56.26	0.01
0.10	13.50	15.76	80.99	81.00	0.01
0.12	15.76	18.01	110.22	110.25	0.01
0.13	18.01	20.26	143.94	143.98	0.02
0.15	20.26	22.51	182.13	182.20	0.03
0.17	22.51	24.76	224.80	224.90	0.05
0.18	24.76	27.01	271.92	272.06	0.07
0.20	27.01	29.26	323.51	323.69	0.09
0.22	29.26	31.51	379.55	379.78	0.11
0.23	31.51	33.76	440.02	440.32	0.15
0.25	33.76	36.01	504.93	505.29	0.18
0.27	36.01	38.26	574.28	574.71	0.21
0.28	38.26	40.51	648.05	648.56	0.25
0.30	40.51	42.77	726.24	726.82	0.29
0.32	42.77	45.02	808.88	809.52	0.32
0.33	45.02	47.27	895.96	896.66	0.35
0.35	47.27	49.52	987.49	988.25	0.38
0.37	49.52	51.77	1083.47	1084.28	0.41
0.38	51.77	54.02	1183.80	1184.75	0.48
0.40	54.02	56.27	1288.18	1289.58	0.70
0.42	56.27	58.52	1396.40	1398.47	1.04

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
0.43	58.52	60.77	1508.25	1511.19	1.47
0.45	60.77	63.02	1623.57	1627.54	1.99
0.47	63.02	65.27	1742.21	1747.37	2.58
0.48	65.27	67.52	1864.01	1870.51	3.25
0.50	67.52	69.78	1989.04	1996.81	3.89
0.52	69.78	72.03	2117.19	2126.34	4.58
0.53	72.03	74.28	2247.73	2258.99	5.63
0.55	74.28	76.53	2380.06	2394.03	6.99
0.57	76.53	78.78	2513.74	2530.86	8.56
0.58	78.78	81.03	2648.41	2669.05	10.32
0.60	81.03	83.28	2783.72	2808.22	12.25
0.62	83.28	85.53	2919.39	2948.03	14.32
0.63	85.53	87.78	3055.34	3088.20	16.43
0.65	87.78	90.03	3192.47	3228.65	18.09
0.67	90.03	92.28	3330.62	3370.29	19.83
0.68	92.28	94.53	3469.63	3512.93	21.65
0.70	94.53	96.78	3609.37	3656.45	23.54
0.72	96.78	99.04	3749.72	3800.69	25.49
0.73	99.04	101.29	3890.53	3945.54	27.50
0.75	101.29	99.04	4031.71	4090.86	29.58
0.77	99.04	96.78	4168.82	4232.03	31.60
0.78	96.78	94.53	4298.09	4364.64	33.28
0.80	94.53	92.28	4420.92	4489.41	34.24
0.82	92.28	90.03	4537.60	4607.74	35.07
0.83	90.03	87.78	4648.23	4719.91	35.84
0.85	87.78	85.53	4753.29	4826.04	36.38
0.87	85.53	83.28	4852.84	4926.60	36.88
0.88	83.28	81.03	4946.92	5021.65	37.37
0.90	81.03	78.78	5035.58	5111.23	37.82
0.92	78.78	76.53	5118.88	5195.39	38.25
0.93	76.53	74.28	5196.87	5274.19	38.66
0.95	74.28	72.03	5269.59	5347.67	39.04
0.97	72.03	69.78	5337.10	5415.89	39.40
0.98	69.78	67.52	5399.45	5478.90	39.73
1.00	67.52	65.27	5456.69	5536.75	40.03
1.02	65.27	63.02	5508.87	5589.49	40.31
1.03	63.02	60.77	5556.06	5637.17	40.56
1.05	60.77	58.52	5598.29	5679.85	40.78
1.07	58.52	56.27	5635.61	5717.58	40.98
1.08	56.27	54.02	5668.09	5750.40	41.16
1.10	54.02	51.77	5695.76	5778.38	41.31
1.12	51.77	49.52	5718.69	5801.55	41.43

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
1.13	49.52	47.27	5736.92	5819.98	41.53
1.15	47.27	45.02	5750.50	5833.71	41.60
1.17	45.02	42.77	5758.45	5842.78	41.65
1.18	42.77	40.51	5763.92	5847.27	41.67
1.20	40.51	38.26	5763.86	5847.20	41.67
1.22	38.26	36.01	5759.34	5842.63	41.65
1.23	36.01	33.76	5750.41	5833.61	41.60
1.25	33.76	31.51	5737.13	5820.19	41.53
1.27	31.51	29.26	5719.53	5802.40	41.43
1.28	29.26	27.01	5697.67	5780.30	41.32
1.30	27.01	24.76	5671.59	5753.94	41.18
1.32	24.76	22.51	5641.33	5723.35	41.01
1.33	22.51	20.26	5606.94	5688.59	40.83
1.35	20.26	18.01	5568.46	5649.70	40.62
1.37	18.01	15.76	5525.93	5606.72	40.40
1.38	15.76	13.50	5479.39	5559.69	40.15
1.40	13.50	11.25	5428.89	5508.65	39.88
1.42	11.25	9.00	5374.46	5453.64	39.59
1.43	9.00	6.75	5316.15	5394.72	39.29
1.45	6.75	4.50	5253.98	5331.90	38.96
1.47	4.50	2.25	5188.00	5265.23	38.61
1.48	2.25	0.00	5118.26	5194.76	38.25
1.50	0.00	0.00	5044.77	5120.51	37.87
1.52	0.00	0.00	4969.80	5044.77	37.48
1.53	0.00	0.00	4895.60	4969.80	37.10
1.55	0.00	0.00	4822.15	4895.60	36.73
1.57	0.00	0.00	4749.43	4822.15	36.36
1.58	0.00	0.00	4677.45	4749.43	35.99
1.60	0.00	0.00	4606.33	4677.45	35.56
1.62	0.00	0.00	4536.21	4606.33	35.06
1.63	0.00	0.00	4467.07	4536.21	34.57
1.65	0.00	0.00	4398.90	4467.07	34.09
1.67	0.00	0.00	4331.67	4398.90	33.61
1.68	0.00	0.00	4265.95	4331.67	32.86
1.70	0.00	0.00	4201.88	4265.95	32.03
1.72	0.00	0.00	4139.50	4201.88	31.19
1.73	0.00	0.00	4078.93	4139.50	30.28
1.75	0.00	0.00	4020.12	4078.93	29.40
1.77	0.00	0.00	3963.01	4020.12	28.56
1.78	0.00	0.00	3907.51	3963.01	27.75
1.80	0.00	0.00	3853.59	3907.51	26.96
1.82	0.00	0.00	3801.16	3853.59	26.21

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
1.83	0.00	0.00	3750.17	3801.16	25.49
1.85	0.00	0.00	3700.58	3750.17	24.79
1.87	0.00	0.00	3652.34	3700.58	24.12
1.88	0.00	0.00	3605.37	3652.34	23.48
1.90	0.00	0.00	3559.66	3605.37	22.86
1.92	0.00	0.00	3515.15	3559.66	22.25
1.93	0.00	0.00	3471.79	3515.15	21.68
1.95	0.00	0.00	3429.54	3471.79	21.12
1.97	0.00	0.00	3388.38	3429.54	20.58
1.98	0.00	0.00	3348.26	3388.38	20.06
2.00	0.00	0.00	3309.14	3348.26	19.56
2.02	0.00	0.00	3270.97	3309.14	19.08
2.03	0.00	0.00	3233.75	3270.97	18.61
2.05	0.00	0.00	3197.45	3233.75	18.15
2.07	0.00	0.00	3162.01	3197.45	17.72
2.08	0.00	0.00	3127.41	3162.01	17.30
2.10	0.00	0.00	3093.62	3127.41	16.89
2.12	0.00	0.00	3060.64	3093.62	16.49
2.13	0.00	0.00	3028.45	3060.64	16.10
2.15	0.00	0.00	2997.27	3028.45	15.59
2.17	0.00	0.00	2967.07	2997.27	15.10
2.18	0.00	0.00	2937.82	2967.07	14.62
2.20	0.00	0.00	2909.49	2937.82	14.17
2.22	0.00	0.00	2882.00	2909.49	13.74
2.23	0.00	0.00	2855.33	2882.00	13.33
2.25	0.00	0.00	2829.46	2855.33	12.94
2.27	0.00	0.00	2804.36	2829.46	12.55
2.28	0.00	0.00	2779.98	2804.36	12.19
2.30	0.00	0.00	2756.28	2779.98	11.85
2.32	0.00	0.00	2733.25	2756.28	11.51
2.33	0.00	0.00	2710.87	2733.25	11.19
2.35	0.00	0.00	2689.13	2710.87	10.87
2.37	0.00	0.00	2667.96	2689.13	10.59
2.38	0.00	0.00	2647.34	2667.96	10.31
2.40	0.00	0.00	2627.27	2647.34	10.03
2.42	0.00	0.00	2607.73	2627.27	9.77
2.43	0.00	0.00	2588.71	2607.73	9.51
2.45	0.00	0.00	2570.18	2588.71	9.26
2.47	0.00	0.00	2552.10	2570.18	9.04
2.48	0.00	0.00	2534.47	2552.10	8.82
2.50	0.00	0.00	2517.26	2534.47	8.60
2.52	0.00	0.00	2500.47	2517.26	8.39

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
.53	0.00	0.00	2484.09	2500.47	8.19
.55	0.00	0.00	2468.11	2484.09	7.99
.57	0.00	0.00	2452.50	2468.11	7.80
.58	0.00	0.00	2437.24	2452.50	7.63
.60	0.00	0.00	2422.32	2437.24	7.46
.62	0.00	0.00	2407.72	2422.32	7.30
.63	0.00	0.00	2393.45	2407.72	7.14
.65	0.00	0.00	2379.49	2393.45	6.98
.67	0.00	0.00	2365.84	2379.49	6.83
.68	0.00	0.00	2352.49	2365.84	6.67
.70	0.00	0.00	2339.43	2352.49	6.53
.72	0.00	0.00	2326.62	2339.43	6.41
.73	0.00	0.00	2314.05	2326.62	6.28
.75	0.00	0.00	2301.73	2314.05	6.16
.77	0.00	0.00	2289.64	2301.73	6.04
.78	0.00	0.00	2277.79	2289.64	5.93
.80	0.00	0.00	2266.17	2277.79	5.81
.82	0.00	0.00	2254.77	2266.17	5.70
.83	0.00	0.00	2243.59	2254.77	5.59
.85	0.00	0.00	2232.63	2243.59	5.48
.87	0.00	0.00	2221.85	2232.63	5.39
.88	0.00	0.00	2211.24	2221.85	5.31
.90	0.00	0.00	2200.79	2211.24	5.22
.92	0.00	0.00	2190.50	2200.79	5.14
.93	0.00	0.00	2180.37	2190.50	5.07
.95	0.00	0.00	2170.39	2180.37	4.99
.97	0.00	0.00	2160.56	2170.39	4.91
.98	0.00	0.00	2150.89	2160.56	4.84
.00	0.00	0.00	2141.36	2150.89	4.76
.02	0.00	0.00	2131.98	2141.36	4.69
.03	0.00	0.00	2122.75	2131.98	4.62
.05	0.00	0.00	2113.65	2122.75	4.55
.07	0.00	0.00	2104.65	2113.65	4.50
.08	0.00	0.00	2095.75	2104.65	4.45
.10	0.00	0.00	2086.95	2095.75	4.40
.12	0.00	0.00	2078.23	2086.95	4.36
.13	0.00	0.00	2069.61	2078.23	4.31
.15	0.00	0.00	2061.07	2069.61	4.27
.17	0.00	0.00	2052.63	2061.07	4.22
.18	0.00	0.00	2044.28	2052.63	4.18
.20	0.00	0.00	2036.01	2044.28	4.13
.22	0.00	0.00	2027.83	2036.01	4.09

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
.23	0.00	0.00	2019.74	2027.83	4.05
.25	0.00	0.00	2011.73	2019.74	4.00
.27	0.00	0.00	2003.81	2011.73	3.96
.28	0.00	0.00	1995.97	2003.81	3.92
.30	0.00	0.00	1988.20	1995.97	3.88
.32	0.00	0.00	1980.52	1988.20	3.84
.33	0.00	0.00	1972.91	1980.52	3.80
.35	0.00	0.00	1965.37	1972.91	3.77
.37	0.00	0.00	1957.92	1965.37	3.73
.38	0.00	0.00	1950.53	1957.92	3.69
.40	0.00	0.00	1943.22	1950.53	3.66
.42	0.00	0.00	1935.98	1943.22	3.62
.43	0.00	0.00	1928.82	1935.98	3.58
.45	0.00	0.00	1921.72	1928.82	3.55
.47	0.00	0.00	1914.70	1921.72	3.51
.48	0.00	0.00	1907.74	1914.70	3.48
.50	0.00	0.00	1900.86	1907.74	3.44
.52	0.00	0.00	1894.04	1900.86	3.41
.53	0.00	0.00	1887.29	1894.04	3.37
.55	0.00	0.00	1880.61	1887.29	3.34
.57	0.00	0.00	1874.01	1880.61	3.30
.58	0.00	0.00	1867.47	1874.01	3.27
.60	0.00	0.00	1861.01	1867.47	3.23
.62	0.00	0.00	1854.63	1861.01	3.19
.63	0.00	0.00	1848.31	1854.63	3.16
.65	0.00	0.00	1842.06	1848.31	3.12
.67	0.00	0.00	1835.88	1842.06	3.09
.68	0.00	0.00	1829.78	1835.88	3.05
.70	0.00	0.00	1823.73	1829.78	3.02
.72	0.00	0.00	1817.76	1823.73	2.99
.73	0.00	0.00	1811.85	1817.76	2.95
.75	0.00	0.00	1806.01	1811.85	2.92
.77	0.00	0.00	1800.24	1806.01	2.89
.78	0.00	0.00	1794.52	1800.24	2.86
.80	0.00	0.00	1788.88	1794.52	2.82
.82	0.00	0.00	1783.29	1788.88	2.79
.83	0.00	0.00	1777.76	1783.29	2.76
.85	0.00	0.00	1772.29	1777.76	2.74
.87	0.00	0.00	1766.87	1772.29	2.71
.88	0.00	0.00	1761.51	1766.87	2.68
.90	0.00	0.00	1756.21	1761.51	2.65
.92	0.00	0.00	1750.96	1756.21	2.62

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
3.93	0.00	0.00	1745.77	1750.96	2.60
3.95	0.00	0.00	1740.63	1745.77	2.57
3.97	0.00	0.00	1735.54	1740.63	2.54
3.98	0.00	0.00	1730.51	1735.54	2.52
4.00	0.00	0.00	1725.52	1730.51	2.49
4.02	0.00	0.00	1720.59	1725.52	2.47
4.03	0.00	0.00	1715.71	1720.59	2.44
4.05	0.00	0.00	1710.88	1715.71	2.41
4.07	0.00	0.00	1706.10	1710.88	2.39
4.08	0.00	0.00	1701.37	1706.10	2.36
4.10	0.00	0.00	1696.69	1701.37	2.34
4.12	0.00	0.00	1692.06	1696.69	2.32
4.13	0.00	0.00	1687.48	1692.06	2.29
4.15	0.00	0.00	1682.94	1687.48	2.27
4.17	0.00	0.00	1678.44	1682.94	2.25
4.18	0.00	0.00	1673.98	1678.44	2.23
4.20	0.00	0.00	1669.57	1673.98	2.21
4.22	0.00	0.00	1665.20	1669.57	2.19
4.23	0.00	0.00	1660.87	1665.20	2.16
4.25	0.00	0.00	1656.58	1660.87	2.14
4.27	0.00	0.00	1652.34	1656.58	2.12
4.28	0.00	0.00	1648.13	1652.34	2.10
4.30	0.00	0.00	1643.97	1648.13	2.08
4.32	0.00	0.00	1639.84	1643.97	2.06
4.33	0.00	0.00	1635.75	1639.84	2.04
4.35	0.00	0.00	1631.70	1635.75	2.02
4.37	0.00	0.00	1627.69	1631.70	2.00
4.38	0.00	0.00	1623.72	1627.69	1.99
4.40	0.00	0.00	1619.79	1623.72	1.97
4.42	0.00	0.00	1615.89	1619.79	1.95
4.43	0.00	0.00	1612.03	1615.89	1.93
4.45	0.00	0.00	1608.21	1612.03	1.91
4.47	0.00	0.00	1604.42	1608.21	1.89
4.48	0.00	0.00	1600.67	1604.42	1.88
4.50	0.00	0.00	1596.96	1600.67	1.86
4.52	0.00	0.00	1593.28	1596.96	1.84
4.53	0.00	0.00	1589.63	1593.28	1.82
4.55	0.00	0.00	1586.02	1589.63	1.81
4.57	0.00	0.00	1582.44	1586.02	1.79
4.58	0.00	0.00	1578.89	1582.44	1.78
4.60	0.00	0.00	1575.36	1578.89	1.76
4.62	0.00	0.00	1571.87	1575.36	1.75

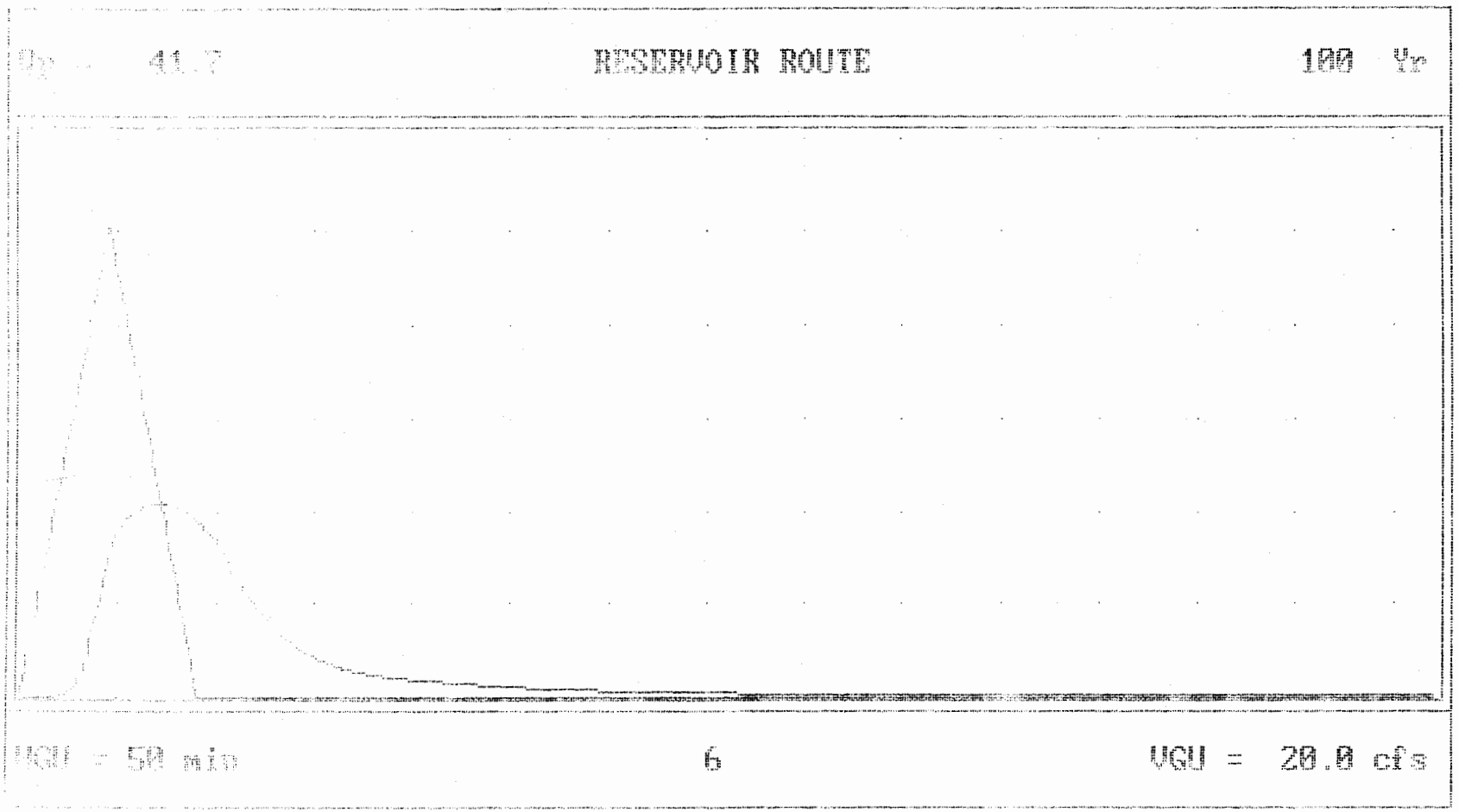
HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
4.63	0.00	0.00	1568.41	1571.87	1.73
4.65	0.00	0.00	1564.98	1568.41	1.72
4.67	0.00	0.00	1561.58	1564.98	1.70
4.68	0.00	0.00	1558.21	1561.58	1.69
4.70	0.00	0.00	1554.86	1558.21	1.67
4.72	0.00	0.00	1551.55	1554.86	1.66
4.73	0.00	0.00	1548.26	1551.55	1.64
4.75	0.00	0.00	1545.00	1548.26	1.63
4.77	0.00	0.00	1541.77	1545.00	1.62
4.78	0.00	0.00	1538.57	1541.77	1.60
4.80	0.00	0.00	1535.40	1538.57	1.59
4.82	0.00	0.00	1532.25	1535.40	1.57
4.83	0.00	0.00	1529.13	1532.25	1.56
4.85	0.00	0.00	1526.03	1529.13	1.55
4.87	0.00	0.00	1522.97	1526.03	1.53
4.88	0.00	0.00	1519.93	1522.97	1.52
4.90	0.00	0.00	1516.91	1519.93	1.51
4.92	0.00	0.00	1513.92	1516.91	1.49
4.93	0.00	0.00	1510.96	1513.92	1.48
4.95	0.00	0.00	1508.02	1510.96	1.47
4.97	0.00	0.00	1505.11	1508.02	1.46
4.98	0.00	0.00	1502.22	1505.11	1.44
5.00	0.00	0.00	1499.36	1502.22	1.43
5.02	0.00	0.00	1496.52	1499.36	1.42
5.03	0.00	0.00	1493.71	1496.52	1.41
5.05	0.00	0.00	1490.92	1493.71	1.40
5.07	0.00	0.00	1488.15	1490.92	1.39
5.08	0.00	0.00	1485.40	1488.15	1.37
5.10	0.00	0.00	1482.67	1485.40	1.36
5.12	0.00	0.00	1479.96	1482.67	1.35
5.13	0.00	0.00	1477.27	1479.96	1.34
5.15	0.00	0.00	1474.61	1477.27	1.33
5.17	0.00	0.00	1471.96	1474.61	1.32
5.18	0.00	0.00	1469.33	1471.96	1.31
5.20	0.00	0.00	1466.72	1469.33	1.30
5.22	0.00	0.00	1464.13	1466.72	1.29
5.23	0.00	0.00	1461.57	1464.13	1.28
5.25	0.00	0.00	1459.02	1461.57	1.27
5.27	0.00	0.00	1456.49	1459.02	1.26
5.28	0.00	0.00	1453.98	1456.49	1.26
5.30	0.00	0.00	1451.48	1453.98	1.25
5.32	0.00	0.00	1449.01	1451.48	1.24

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME hrs	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-O (i) cfs	2S/dt+O (j) cfs	OUTFLOW cfs
.33	0.00	0.00	1446.56	1449.01	1.23
.35	0.00	0.00	1444.12	1446.56	1.22
.37	0.00	0.00	1441.70	1444.12	1.21
.38	0.00	0.00	1439.30	1441.70	1.20
.40	0.00	0.00	1436.92	1439.30	1.19
.42	0.00	0.00	1434.56	1436.92	1.18
.43	0.00	0.00	1432.22	1434.56	1.17
.45	0.00	0.00	1429.89	1432.22	1.16
.47	0.00	0.00	1427.58	1429.89	1.15
.48	0.00	0.00	1425.29	1427.58	1.15
.50	0.00	0.00	1423.01	1425.29	1.14
.52	0.00	0.00	1420.75	1423.01	1.13
.53	0.00	0.00	1418.51	1420.75	1.12
.55	0.00	0.00	1416.29	1418.51	1.11
.57	0.00	0.00	1414.08	1416.29	1.10
.58	0.00	0.00	1411.89	1414.08	1.10
.60	0.00	0.00	1409.71	1411.89	1.09
.62	0.00	0.00	1407.56	1409.71	1.08
.63	0.00	0.00	1405.42	1407.56	1.07
.65	0.00	0.00	1403.29	1405.42	1.06
.67	0.00	0.00	1401.18	1403.29	1.05
.68	0.00	0.00	1399.09	1401.18	1.05
.70	0.00	0.00	1397.01	1399.09	1.04
.72	0.00	0.00	1394.95	1397.01	1.03
.73	0.00	0.00	1392.90	1394.95	1.03
.75	0.00	0.00	1390.86	1392.90	1.02
.77	0.00	0.00	1388.83	1390.86	1.01
5.78	0.00	0.00	1386.82	1388.83	1.01

Maximum outflow (cfs) = 41.67
Maximum storage (cu ft) = 174168
Maximum elevation (ft) = 7.24


RESERVOIR ROUTE
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HAMPTON
ROADS
DEVELOPMENT, LLC

703 Thimble Shoals Blvd., C-1 • Newport News, Virginia 23606
(757) 873-3646 • Fax (757) 873-8819 or 5931

To: Darryl Cook @ JCC Environmental
From: JoAnn Armstrong
Re: Peleg's Point
Date: March 08, 2004

Darryl,

Please find attached, as per your request, BMP Point System worksheet and drawings.

Thank You,
JoAnn

Don't follow what this demonstrates about compliance w/ 10 pt system.

Per JoAnn – this is just for informational purposes to let us know what had transpired in the past as far as master planning for stormwater.

TABLE 3

WORKSHEET FOR BMP POINT SYSTEM

A. STRUCTURAL BMP POINT ALLOCATION

BMP	BMP Points		Fraction of Site Served by BMP		Weighted BMP Points	
110.62	2		62%		1.2	1.2
Grass Swale Design 4 A (16.30)	9	x	9% 11.0	=	.8	.99
A, (29.57)	9	x	~~15.4%~~ 18.6	=	1.4	1.67
B (32.21 Ac)	9	x	18% 21.8	=	1.6	1.96
C (27.24 Ac)	9	x	15% 18.4	=	1.35	1.66
D (7.3 Ac) / 110.62	9		4% 4.9		.36	.44
TOTAL WEIGHTED STRUCTURAL BMP POINTS:					~~6.81~~	7.92

B. NATURAL OPEN SPACE CREDIT

Fraction of Site		Natural Open Space Credit		Points for Natural Open Space
02.8 Ac / 179.8	.5	3.5 (0.1 per 1%)	=	.78

C. TOTAL WEIGHTED POINTS

~~6.81~~ 7.92		.78	=	8.70
Structural BMP Points		Natural Open Space Points		TOTAL

On Site Drainage Area 179.88
RPA 31.99
149.89

TABLE 3

WORKSHEET FOR BMP POINT SYSTEM

A. STRUCTURAL BMP POINT ALLOCATION

	BMP	BMP Points		Fraction of Site Served by BMP		Weighted BMP Points
Design 4	A 16.3	9		9%		.8
	A1 27.6	9	x	15.4%	=	1.4
	B 32.2	9	x	17.9%	=	1.6
	C 27.24	9	x	15.2%	=	1.4
	D 7.3	9	x	4.1%	=	0.4
				TOTAL WEIGHTED STRUCTURAL BMP POINTS:		5.6

B. NATURAL OPEN SPACE CREDIT

Fraction of Site		Natural Open Space Credit (0.1 per 1%)		Points for Natural Open Space
62.8 / 179.8	x		=	3.5

C. TOTAL WEIGHTED POINTS

5.6	+	3.5	=	9.1
Structural BMP Points		Natural Open Space Points		TOTAL

TABLE 3

WORKSHEET FOR BMP POINT SYSTEM

A. STRUCTURAL BMP POINT ALLOCATION

BMP	BMP Points		Fraction of Site Served by BMP		Weighted BMP Points
DESIGN 4 DRY PONDS A-F	9	x	67%	=	6.03
GRASS SWALES & DITCHES	2	x	EST. 65%	=	1.3
		x		=	
		x		=	
			TOTAL WEIGHTED STRUCTURAL BMP POINTS:		7.33

B. NATURAL OPEN SPACE CREDIT

Fraction of Site		Natural Open Space Credit (0.1 per 1%)		Points for Natural Open Space
58.15 AC / 179.8 AC, 32%	x		=	3.2

C. TOTAL WEIGHTED POINTS

Structural BMP Points		Natural Open Space Points		TOTAL
7.33	+	3.2	=	10.53

+ CREDIT FOR OFF-SITE DRAIN. (17.97 AC)

1/9/92

TABLE 3

WORKSHEET FOR BMP POINT SYSTEM

WILLIAMSBURG GLADE

A. STRUCTURAL BMP POINT ALLOCATION

BMP	BMP Points		Fraction of Site Served by BMP		Weighted BMP Points
DESIGN 4 PONDS A-F DRY DETENTION	9	x	67%	=	6.0
GRASS SWALES & DITCHES	2	x	65%	=	1.3
		x		=	
		x		=	

TOTAL WEIGHTED STRUCTURAL BMP POINTS: 7.3

B. NATURAL OPEN SPACE CREDIT

Fraction of Site		Natural Open Space Credit (0.1 per 1%)		Points for Natural Open Space
66.28 Ac / 179.8 Ac. = 37%	x		=	3.7

C. TOTAL WEIGHTED POINTS

7.3	+	3.7	=	11.0
Structural BMP Points		Natural Open Space Points		TOTAL

CREDIT FOR OFF-SITE DRAINAGE?
(17.97 Ac.)

Williamsburg Glade
#86-508
3-6-92

TABLE 3

WORKSHEET FOR BMP POINT SYSTEM

A. STRUCTURAL BMP POINT ALLOCATION

BMP	BMP Points		Fraction of Site Served by BMP		Weighted BMP Points
Ponds A - F 137.81 Ac. Design 4 179.8	9	x	77%	=	6.93
		x		=	
		x		=	
		x		=	

Includes 17.97 Ac. off-site drainage

TOTAL WEIGHTED STRUCTURAL BMP POINTS: _____

B. NATURAL OPEN SPACE CREDIT

Fraction of Site		Natural Open Space Credit (0.1 per 1%)		Points for Natural Open Space
63.23 Ac. / 179.8 Ac. = 35%	x		=	3.5

C. TOTAL WEIGHTED POINTS

Structural BMP Points	+	Natural Open Space Points	=	TOTAL
	+		=	10.43

DRAFT

DATE: July 3, 2002

Jamestown MANAGEMENT COMPANY, LLC
213 Ingram Road
Williamsburg, Virginia 23188
(757) 220-0856
Fax: (757) 220-0916

PROJECT: Peleg's Point Ditch Retrofit
PROJECT NO. 1111

CHANNEL ADEQUACY COMPUTATIONS

Design City or County	James City County	

Sheet Flow	Segment ID	ONE
Surface Description		Bermudagrass
Manning's Roughness Coefficient	n1=	0.41
Flow Length	L=	300 Ft
Two Yr 24-Hr Rainfall	P2=	3.5 In
High Elevation		15 Ft
Low Elevation		10 Ft
Land Slope, s	s=	0.017 Ft/Ft
Compute Tt	Tt=	0.90 hr

Shallow Consentrated Flow	Segment ID	
Surface Description		
Flow Length	L=	Ft
High Elevation		Ft
Low Elevation		Ft
Watercourse Slope	s=	Ft/Ft
Average Velocity	V=	Ft/s
Compute Tt	Tt=	0.00 hr

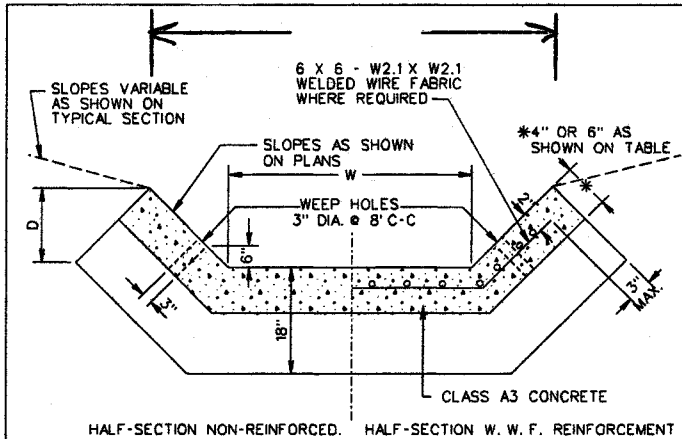
Channel Flow	Segment ID	N/A
Channel Shape		Trapezoidal Shape
Top Width	T=	10 Ft
Bottom Width	b=	4 Ft
Depth	d=	1.5 Ft
Cross Sectional Flow Area	a=	10.5 SqFt
Wetted Perimeter	Pw=	10.71 Ft
Hydraulic Radius	R=	0.98
Flow Length	L=	1600 Ft
High Elevation		10 Ft
Low Elevation		4.5 Ft
Channel Slope	s=	0.003 Ft/Ft
Surface Description		Concrete Lined Chann
Manning's Roughness Coefficient	n=	0.014
18 Compute V	V=	6.16 Ft/Sec
19 Compute Tt	Tt=	0.07 hr
20 Watershed Tc	Tc=	0.98 hr

use Section = VDOT-STD PG-5

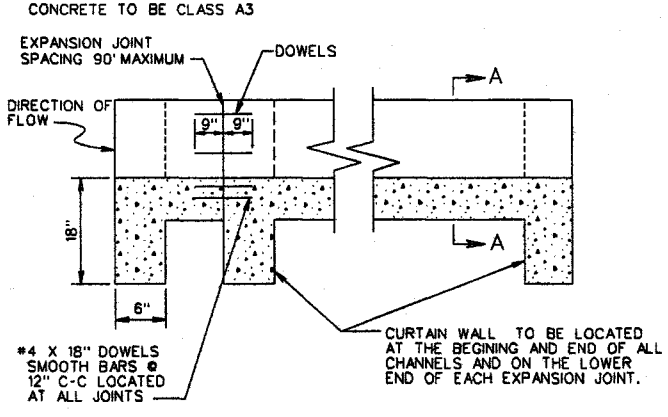
W = 4'
D = 1.5'
T = 10'
SS = 2:1

DRAFT

PG-5



SECTION A-A



ELEVATION

INDICATES CHANNEL WHERE WIRE MESH REINFORCEMENT IS NOT REQUIRED.

SQUARE YARDS PER LIN. FT. OF PAVED CHANNEL

CONC. THICK-NESS	D	W 1'	2'	3'	4'	5'	6'	7'	8'	9'	10'
1:1 SIDE SLOPES											
4"	1'	0.425	0.536	0.648	0.759	0.870	0.981	1.092	1.203	1.314	1.425
	2'	0.740	0.851	0.962	1.073	1.184	1.295	1.406	1.517	1.629	1.740
	3'	1.054	1.165	1.276	1.387	1.498	1.609	1.721	1.832	1.943	2.054
	4'	1.368	1.479	1.590	1.702	1.813	1.924	2.035	2.146	2.257	2.368
6"	5'	1.682	1.794	1.905	2.016	2.127	2.238	2.349	2.460	2.571	2.682
	6'	1.997	2.108	2.219	2.330	2.441	2.552	2.663	2.774	2.886	2.997
	7'	23.11	2.422	2.533	2.644	2.755	2.866	2.977	3.089	3.200	3.311
	8'	2.625	2.736	2.848	2.959	3.070	3.181	3.292	3.403	3.514	3.625
	9'	2.940	3.051	3.162	3.273	3.384	3.495	3.606	3.717	3.828	3.939
	10'	3.254	3.365	3.476	3.587	3.698	3.809	3.920	4.032	4.143	4.254
1.5:1 SIDE SLOPES											
4"	1'	0.512	0.623	0.734	0.845	0.956	1.067	1.178	1.290	1.401	1.512
	2'	0.912	1.023	1.135	1.246	1.357	1.468	1.579	1.690	1.801	1.912
	3'	1.313	1.424	1.535	1.646	1.757	1.869	1.980	2.091	2.202	2.313
	4'	1.714	1.825	1.936	2.047	2.158	2.269	2.380	2.491	2.602	2.714
6"	5'	2.114	2.225	2.336	2.448	2.559	2.670	2.781	2.892	3.003	3.114
	6'	2.515	2.626	2.737	2.848	2.959	3.070	3.181	3.293	3.404	3.515
	7'	2.915	3.027	3.138	3.249	3.360	3.471	3.582	3.693	3.804	3.915
	8'	3.316	3.427	3.538	3.649	3.760	3.872	3.983	4.094	4.205	4.316
	9'	3.717	3.828	3.939	4.050	4.161	4.272	4.383	4.494	4.606	4.717
	10'	4.117	4.228	4.340	4.451	4.562	4.673	4.784	4.895	5.006	5.117
2:1 SIDE SLOPES											
4"	1'	0.608	0.719	0.830	0.941	1.052	1.164	1.275	1.386	1.497	1.608
	2'	1.105	1.216	1.327	1.438	1.549	1.660	1.772	1.883	1.994	2.105
	3'	1.602	1.713	1.824	1.935	2.046	2.157	2.268	2.380	2.491	2.602
	4'	2.099	2.210	2.321	2.432	2.543	2.654	2.765	2.876	2.988	3.099
6"	5'	2.596	2.707	2.818	2.929	3.040	3.151	3.262	3.373	3.485	3.596
	6'	3.093	3.204	3.315	3.426	3.537	3.648	3.759	3.870	3.981	4.093
	7'	3.589	3.701	3.812	3.923	4.034	4.145	4.256	4.367	4.478	4.589
	8'	4.086	4.197	4.309	4.420	4.531	4.642	4.753	4.864	4.975	5.086
	9'	4.583	4.694	4.805	4.917	5.028	5.139	5.250	5.361	5.472	5.583
	10'	5.080	5.191	5.302	5.413	5.525	5.636	5.747	5.858	5.969	6.080

NOTES:
DEPTH (D) AND WIDTH (W) TO BE AS SHOWN ON PLANS.
WEEP HOLES ARE TO BE PROVIDED ON ALL CHANNELS WHERE W IS EQUAL TO OR GREATER THAN 4' AND D IS EQUAL TO OR GREATER THAN 2'.
WEEP HOLE WITH 12" X 12" PLASTIC HARDWARE CLOTH, 1/4" MESH OR GALVANIZED STEEL WIRE DIAMETER 0.03 INCH, NUMBER 4 MESH, HARDWARE CLOTH ANCHORED FIRMLY TO THE BOTTOM OF THE CHANNEL.

SPECIFICATION REFERENCE
502

STANDARD PAVED DITCHES

VIRGINIA DEPARTMENT OF TRANSPORTATION

109.03

DRAFT

Jamestown
MANAGEMENT COMPANY, LLC

213 Ingram Road
Williamsburg, Virginia 23188
(757) 220-0856
Fax: (757) 220-0916

DATE: July 3, 2002

PROJECT: Peleg's Point Ditch Retrofit
PROJECT NO. 1111

9	CHICKAHOMINY	D	1/2 Acre Lot	85	20	1700
12	DOGUE	C	1/2 Acre Lot	80	20	1600
23	NEWFLAT	D	1/2 Acre Lot	85	10	850
26B	PAMUNKEY	B	1/2 Acre Lot	70	15	1050
Weighted Curve Number =				80	65	5200

Watershed Data			
Drainge Area	65	Acres =	0.101563 SqMi
Runoff Curve Number		CN=	80
Time of Concentration		Tc=	0.98 hr
Pond and Swamp Percentage.			0.10 %
Initial Abstraction, Ia			0.50

Rainfall Type		Type II	Storm Distribution				
Design City or County		James City County					
Storm Frequency		1	2	5	10	50	100
24-Hour Rainfall Depth, In		2.8	3.5	4.7	5.8	7.2	8
Runoff, Q		1.10	1.64	2.63	3.60	4.88	5.63
Compute Ia/P		0.18	0.14	0.11	0.10	0.10	0.10
Storm Coefficients	C0=	2.53	2.56	2.59	2.59	2.59	2.59
	C1=	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62
	C2=	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16
Unit Peak Discharge	qu=	340.94	365.24	391.84	396.69	396.69	396.69
Pond and Swamp Adj.	Fp=	1.00	1.00	1.00	1.00	1.00	1.00
Peak Discharge	qp	38.16	60.70	104.78	145.09	196.58	226.62

DRAFT

Jamestown
MANAGEMENT COMPANY, LLC

DATE: July 3, 2002

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PROJECT: Peleg's Point Ditch Retrofit
PROJECT NO. 1111

Channel Flow	Segment ID	
12.1Channel Shape		Trapezoidal Shape
12.2Top Width	T=	10 Ft
12.3Bottom Width	b=	4 Ft
12.4Depth	d=	2 Ft
15.1 Flow Length	L=	950 Ft
15.2 High Elevation		6.5 Ft
15.3 Low Elevation		4.5 Ft
15.4 Channel Slope, s	s=	0.002 Ft/Ft
17 Manning's Roughness Coeff.	n=	0.014
16 Surface Description		Ordinary Firm Loam (Non-Colloid
17 Maximim Non-Erosive Velocity		3.50 Ft/Sec
1 Year Peak Discharge		38.16 CFS
2 Year Peak Discharge		60.70 CFS
5 Year Peak Discharge		104.78 CFS
10 Year Peak Discharge		145.09 CFS
50 Year Peak Discharge		196.58 CFS
100 Year Peak Discharge		226.62 CFS

Storm Event	Depth	Area	WP	Hyd. Radius	Velocity	Flow	Erosion
(Year)	(FT)	(SQ FT)		(FT)	(FT/SEC)	(CFS)	
	0.10	0.42	4.36	0.10	0.42	0.18	No
	0.20	0.86	4.72	0.18	1.35	1.16	No
	0.30	1.34	5.08	0.26	2.67	3.57	No
	0.40	1.84	5.44	0.34	4.36	8.02	Yes
	0.50	2.38	5.80	0.41	6.39	15.18	Yes
1	0.60	2.94	6.16	0.48	8.76	25.77	Yes
	0.70	3.54	6.52	0.54	11.47	40.56	Yes
2	0.80	4.16	6.88	0.60	14.52	60.40	Yes
5	0.90	4.82	7.24	0.66	17.91	86.22	Yes
10	1.00	5.50	7.61	0.72	21.64	119.01	Yes
50	1.10	6.22	7.97	0.78	25.72	159.85	Yes
100	1.20	6.96	8.33	0.84	30.16	209.90	Yes
	1.30	7.74	8.69	0.89	34.96	270.41	Yes
	1.40	8.54	9.05	0.94	40.13	342.69	Yes
	1.50	9.38	9.41	1.00	45.67	428.18	Yes
	1.60	10.24	9.77	1.05	51.60	528.38	Yes
	1.70	11.14	10.13	1.10	57.92	644.90	Yes
	1.80	12.06	10.49	1.15	64.63	779.45	Yes
	1.90	13.02	10.85	1.20	71.75	933.82	Yes
	2.00	14.00	11.21	1.25	79.28	1109.91	Yes

James City County, Virginia
Environmental Division

Pelegs Point
Williamsburg Glade Road to Pond C Area
(Paved Channel, Culvert and Natural Channel)

Channel & Culvert Analyses

June 13, 2001

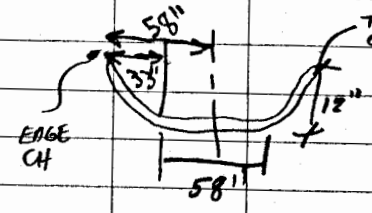
PELEGS POINT — WILLIAMSBURG GLADE U/S POND

	+	HI	−	EL.	
INV U/S SOUTH PIPE		15.30	8.88	6.42	NORTH U/S INV
INV U/S NORTH PIPE		15.30	9.13	6.17	SOUTH U/S INV
* NE TOP WALL			4.92		U/S TOP BM ENDWALL
		UPSTREAM PAVED ℄			
① U/S 50'		15.30	8.70	6.60	50' FROM C U/LV
② U/S 100'		15.30	8.64	6.66	
③ U/S 150'		15.30	8.52	6.78	
④ U/S 200'		15.30	8.45	6.85	
⑤ U/S 250'		15.30	8.32	6.98	
⑥ U/S 300'		15.30	8.21	7.09	
* ⊼	4.92	15.30		10.38	PER PLAN EW-6 TOP WALL

SEC ① — U/S @ 100' — AT Pt #2.

75	Ø 75	15.30	6.84	8.46	WOODS RT
60	15 60		7.61	7.69	EDGE CHANNEL
			8.62	6.68	BOTT CH
50	25 50		7.64	7.66	TOP CHANN
35	40 35		7.02	8.28	N.G.
0	75 0		6.24	9.06	N.G.

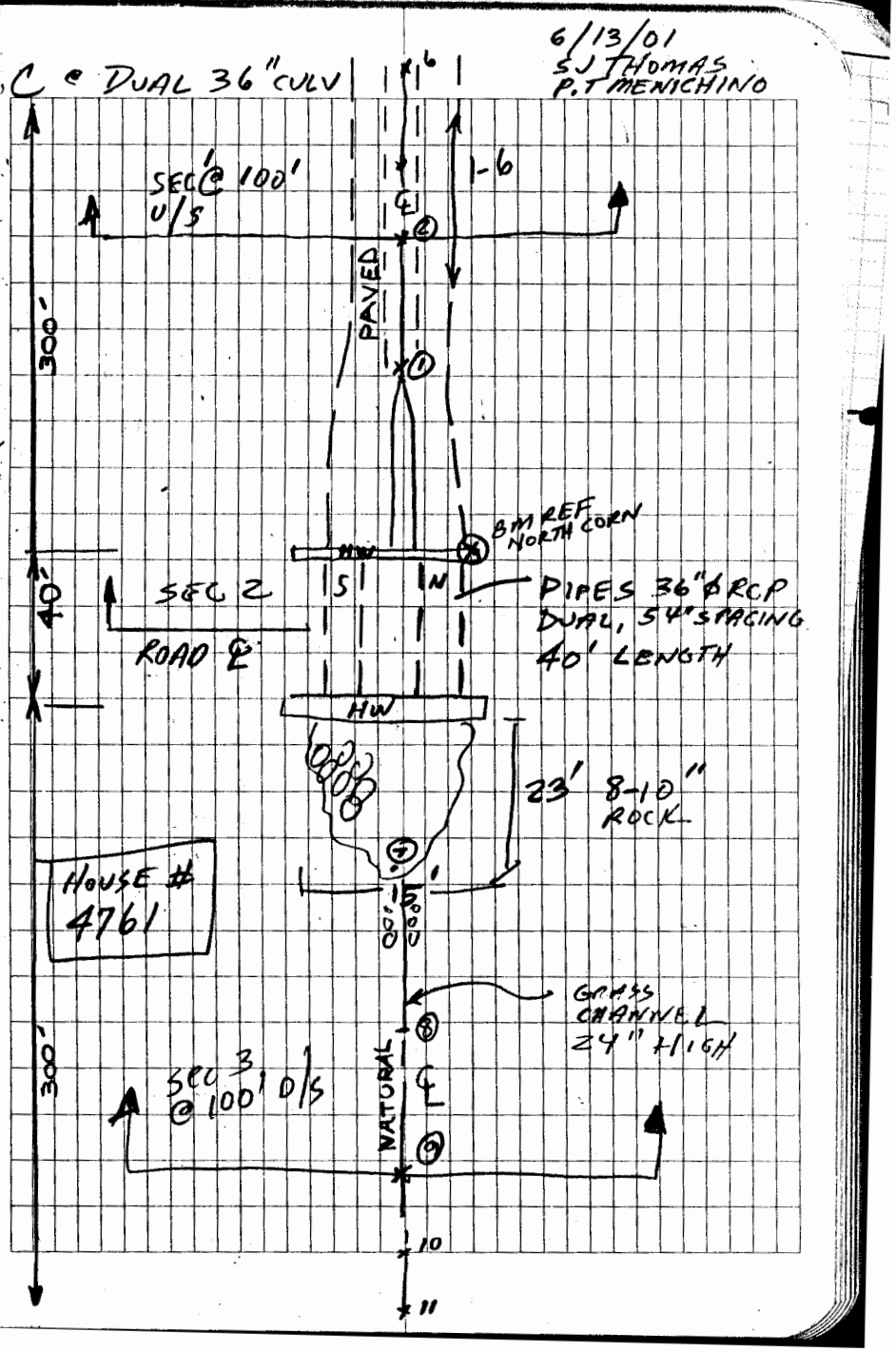
LEFT TO RT LOOKING D/S ADJUSTED



CHANNEL @ SEC ①

7½ 40
10 25
35 15

6/13/01
SJ THOMAS
P.T MENICHINO



PELEGS POINT NATURAL CHANNEL

SEC (2) @ ℄ ROAD LEFT TO RT. LOOKING D/S

	+	HI	−		
50	0	15.30	4.28	11.02	
15	35		4.45	10.85	
0	50		4.45	10.85	℄ CULV
	65		4.38	10.92	
	100		4.25	11.05	
INV D/S	SOUTH PIPE	15.30	8.91	6.39	
INV D/S	NORTH PIPE	15.30	8.96	6.34	
	NATURAL CHANNEL BELOW CULVERT				
(7) D/S @	23' FROM CULV. OUT	15.30	9.03	6.27	END
(8) D/S @	50' FROM CULV		8.69	6.61	
(9) D/S @	100' FROM CULV		8.77	6.53	
(10) D/S @	200' " "		8.90	6.40	
(11) D/S @	300' " "		9.13	6.17	
SEC 3 @	160' D/S CULV. pt 9				
LEFT TO RT. LOOKING D/S					
	0	15.30	6.88	8.42	
TB LT.	30		7.06	8.24	
	38		8.77	6.53	℄ CH.
TB RT.	46		7.07	8.23	
	29 81		6.49	8.81	

BETWEEN SECTIONS 2 & NEW SEC 5

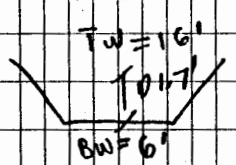
DATA TAKEN L = 640'

300' U/S PAVED CHANNEL

40' CULVERT INV to INV

300' D/S RIPRAP OF ℄ NAT CHANNEL

SEC 3



6.53 8.24 TOP BANK

6.53 ℄ CHANNEL

1.71' DEPTH OF CHANNEL

Hanson
Hanson Concrete Products, Inc.
Eastern Region

Roanoke, VA
540-342-6725

Richmond, VA
804-233-5471

Manasas, VA
703-361-4193

Jessup, MD
410-799-2600

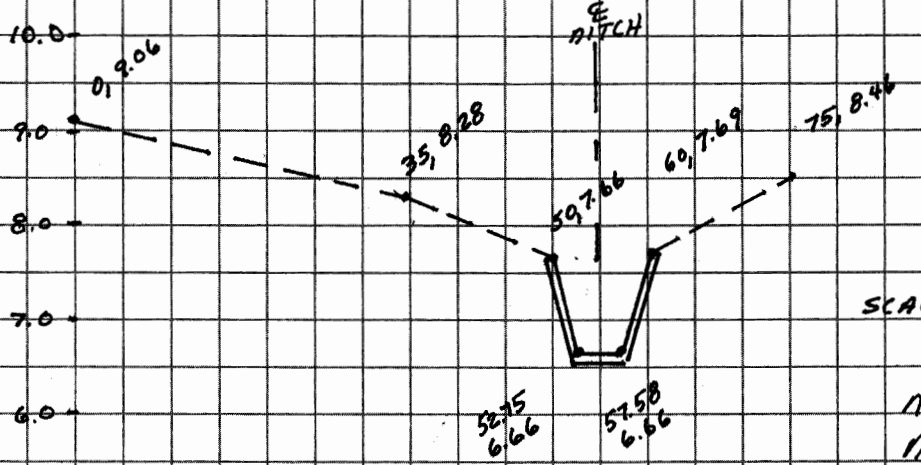
Chesapeake, VA
757-485-5228

PROJECT

PAGE OF FILE

BY DATE

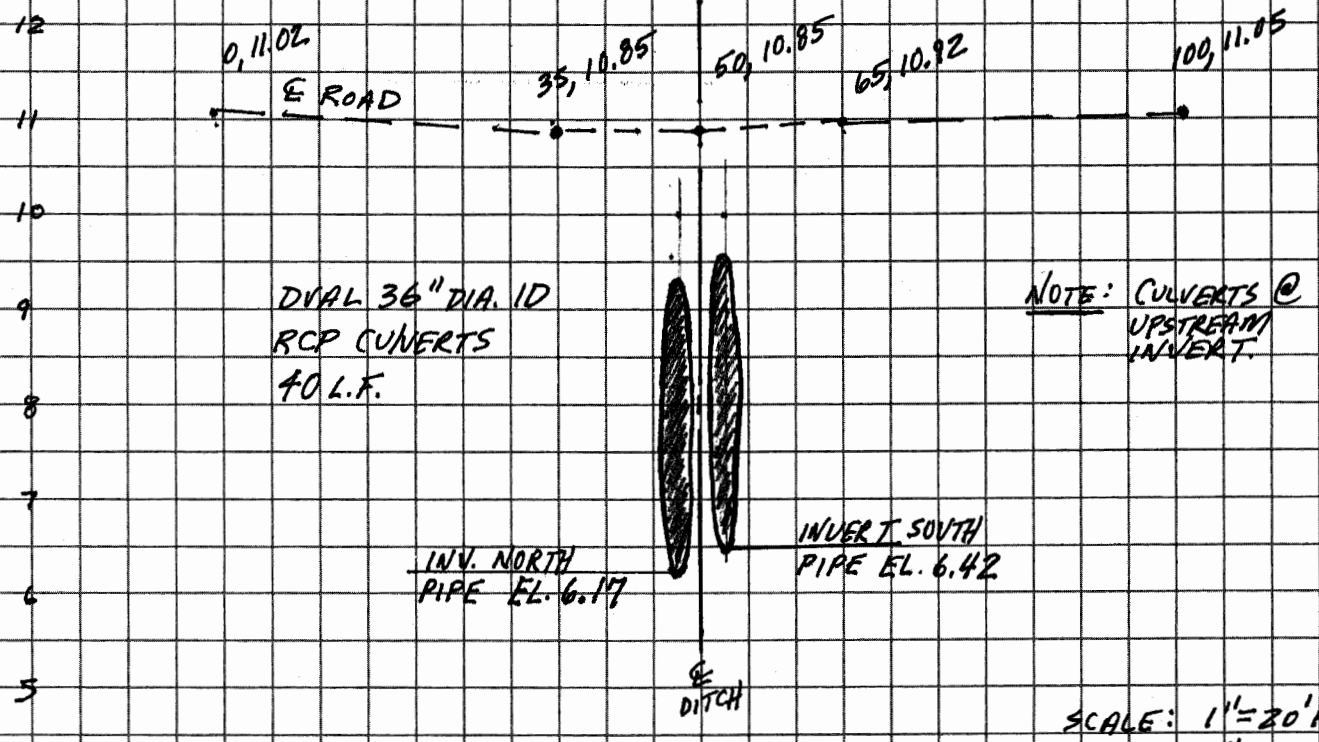
UPSTREAM SECTION 1 @ 100' U/S OF CULVERT (PAVED CHANNEL)



SCALE: 1" = 20' HORIZ
1" = 2' VERT.

$n_{CHANNEL} = 0.015$
$n_{OVERBANK} = 0.040$

STREAM SECTION 2 @ ℄ ROAD



DVAL 36" DIA. ID
RCP CULVERTS
40 L.F.

NOTE: CULVERTS @ UPSTREAM INVERT.

SCALE: 1" = 20' H
1" = 2' V

Hanson
Hanson Concrete Products, Inc.
Eastern Region

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540-342-6725

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PROJECT

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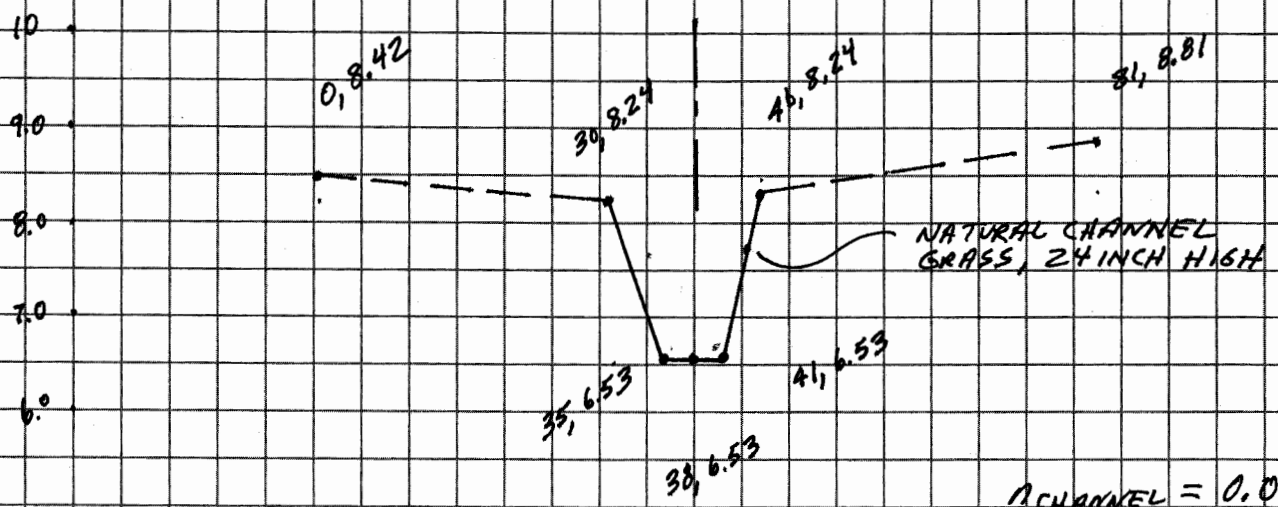
BY DATE

DOWNSTREAM SECTION 3 @ 100' D/S OF CULVERT OUTFALL



$n_{CHANNEL} = 0.070$
$n_{OVBANK} = 0.040$

USING QUICK-Z, IRREGULAR CHANNEL, NORMAL DEPTH COMP.

2-YEAR
SECTION 3
$Q_2 = 17.8$ CFS
$S = 0.0018$ FT/FT
Depth 1.7 ft.

WS ELEV$_2$ = 8.21 (1.68') ✓
Area = 18 SF
TW = 16'
HYD RAD = 1.1
FLOW = SUBCRITICAL
VELOC = 1.0 FPS ✓
WP = 16 FT.
FROUDE # = 0.16

10-YEAR
SECTION 3
$Q_{10} = 30.8$ CFS
$S = 0.0018$ FT/FT
Depth 1.7 ft

WS ELEV$_{10}$ = 8.53 (2.0 feet) ✓
Area = 32 SF
TW = 64 FT.
HYD RAD = 0.5
FLOW = SUBCRITICAL
VELOC = 1.1 fps ✓
WP = 64
FROUDE # = 0.27

Hanson
Hanson Concrete Products, Inc.
Eastern Region
Roanoke, VA 540-342-6725
Richmond, VA 804-233-5471
Manasas, VA 703-361-4193
Jessup, MD 410-799-2600
Chesapeake, VA 757-485-5228

PROJECT

PAGE OF FILE

BY DATE

SECTION 1 ANALYSES

2-YEAR

SECTION 1

$Q_2 = 17.8$ CFS

$S = 0.0018$ FT/FT

Depth = 1.00'

$WSELEV_2$ =	7.49 (0.96')
Area	6 SF
TW	9 FT.
HYD RAD	0.6 FT
FLOW	SUBCRITICAL
VELOC	3.1 FPS
WP	9 FT
FROUDE	0.68

10-YEAR

SECTION 1

$Q_{10} = 30.8$ CFS

$S = 0.0018$ FT/FT.

Depth = 1.00'

$WSELEV_{10}$ =	7.76 (1.23')
Area	9 SF
TW	14 FT.
HYD RAD	0.6
FLOW	SUBCRITICAL
VELOC	3.7 FPS
WP	14 FT.
FROUDE	0.82

C.K. TUDOR ENGINEERS, INC.

SUBJECT PELEG'S POINT - SECTIONS 2 & 3 — SHEET 1 OF 1

BY RC DATE FEB. 3, 1995 — ADDITIONAL DRAINAGE TO POND C — JOB NO. 95-013

CHKD BY ____ DATE ____ — JAMES CITY COUNTY, VIRGINIA — SCALE —

1. EXISTING DRAINAGE AREA TO POND "C" = 57.03 Ac.
REQ'D WETLAND AREA = 57.03 × 43560 × .25 × .0375 × 2 = 46,580 FT²
EXIST. "AS-BUILT" WETLAND AREA = 44,000 FT²
ADDITIONAL WETLAND AREA NEEDED AS IS = 2580 FT²

2. PROPOSED ADDITIONAL DRAINAGE AREA FROM SECTION 3 = 3.36 Ac.
REQ'D WETLAND AREA = 3.36 × 43560 × .25 × .0375 × 2 = 2744 FT²

TOTAL ADDITIONAL WETLAND AREA REQ'D. = 5324 FT²

3. REQ'D WATER QUALITY DRAWDOWN VOLUME = 60.39 × 43560 × .25 × .0375 = 24,662 FT³
VOLUME OF STORAGE FROM EXIST. 5"Ø ORIFICE (INV. 5.00) TO TOP OF EXIST. 15" RISER (ELEV. 5.62) = 32983 FT³

4. EXIST. 5"Ø DEWATERING ORIFICE
REQ'D REVISED FLOW FOR 24-30 HOUR DRAWDOWN VOLUME OF 24,662 FT³
24662 FT³ ÷ 108000 SEC. (30 HOURS) = 0.23 CFS

EXIST. 5"Ø } $A = \frac{Q}{[64.32 \times \frac{h}{2}]^{.5}(.6)}$ $A = .136(5")$ $h = .21'$

Q = .21 CFS - DRAWDOWN TIME = 32.6 HOURS - O.K.

5. AVAILABLE POND STORAGE AFTER ENLARGEMENT
(NOTE: SURFACE AREAS PLANIMETERED FROM EXISTING GROUND CONTOURS)

ELEV. (FT.)	SURFACE AREA (FT²)		STORAGE (FT³)	Σ STORAGE (FT³)
4.40 (BOTTOM)	49324	} 25481 FT³ PERM. POOL VOLUME	—	—
5.00 (INV. DEWATERING)	52600		—	—
5.50 ← TOP OF RISER @ ELEV. 5.62 - WATER QUALITY DRAWDOWN VOL. = 32983 FT³	56550	← INPUT POND STORAGE FROM HERE	27288	27288
6.00	60,500		29263	56551
6.50	78875		34844	91395
7.00	116500		48844	140239
7.50	162375		69719	209958

6. PRE-DEVELOPMENT & POST DEVELOPMENT PEAK DISCHARGES FROM DRAIN. BASIN C

PRE-DEVELOPMENT	POST-DEVELOPMENT (THRU POND)
D.A. = 51.15 Ac.	D.A. = 60.39 Ac.
Q_2 = 28.23 CFS	Q_2 = 17.8 CFS
Q_{10} = 42.35 CFS	Q_{10} = 30.8 CFS
Q_{100} = 63.53 CFS	Q_{100} = 41.7 CFS

Section 1-Channel 2-year Analyses

(Upstream)

Pelegs Sect 1 2-year
Worksheet for Irregular Channel

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 1
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.001800	ft/ft
Elevation range: 6.66 ft to 9.06 ft.		

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	9.06	0.00	50.00	0.040
35.00	8.28	50.00	60.00	0.015
50.00	7.66	60.00	75.00	0.040
52.75	6.66			
57.58	6.66			
60.00	7.69			
75.00	8.46			

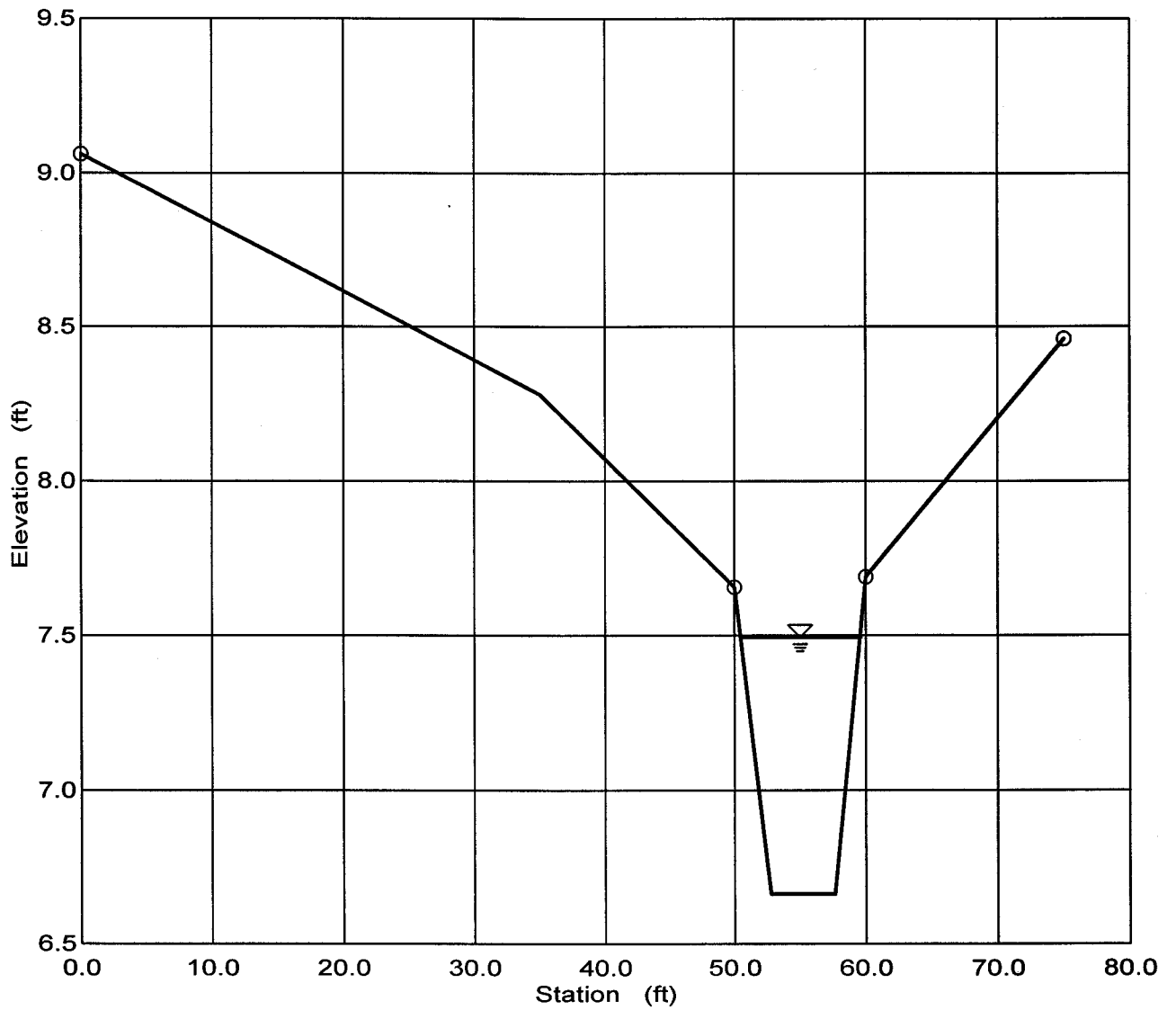
Discharge	17.80	cfs

Results		
Wtd. Mannings Coefficient	0.015	
Water Surface Elevation	7.50	ft
Flow Area	5.83	ft²
Wetted Perimeter	9.42	ft
Top Width	9.10	ft
Height	0.84	ft
Critical Depth	7.32	ft
Critical Slope	0.004227	ft/ft
Velocity	3.05	ft/s
Velocity Head	0.14	ft
Specific Energy	7.64	ft
Froude Number	0.67	
Flow is subcritical.		

Pelegs Sec 1 2-yr
Cross Section for Irregular Channel

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 1
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.015	
Channel Slope	0.001800	ft/ft
Water Surface Elevation	7.50	ft
Discharge	17.80	cfs



Section 1-Channel 10-year Analyses

(upstream)

Pelegs Sect 1 10-year
Worksheet for Irregular Channel

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 1
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.001800	ft/ft
Elevation range: 6.66 ft to 9.06 ft.		

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	9.06	0.00	50.00	0.040
35.00	8.28	50.00	60.00	0.015
50.00	7.66	60.00	75.00	0.040
52.75	6.66			
57.58	6.66			
60.00	7.69			
75.00	8.46			

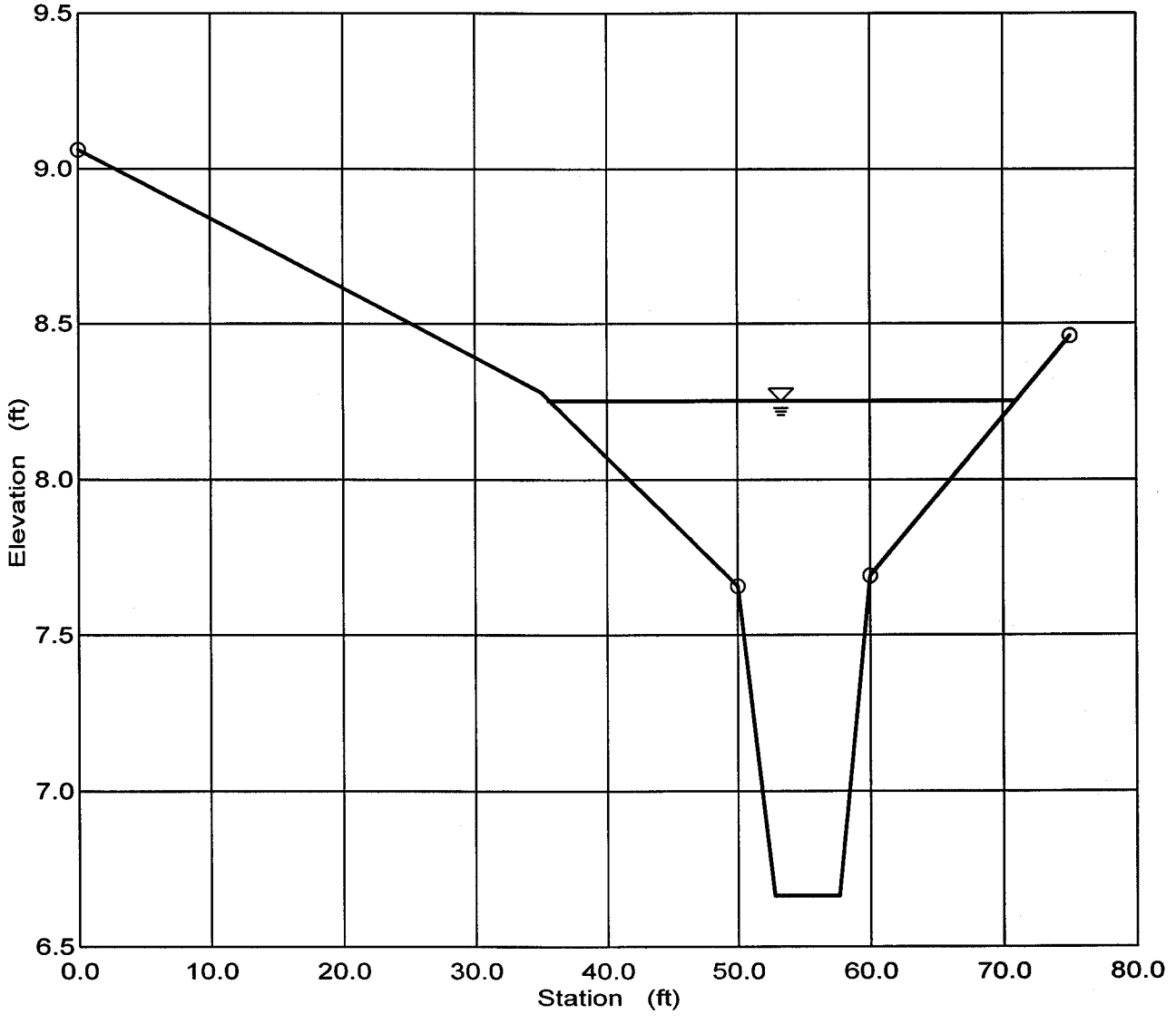
Discharge	30.80	cfs

Results		
Wtd. Mannings Coefficient	0.029	
Water Surface Elevation	8.26	ft
Flow Area	20.75	ft²
Wetted Perimeter	35.85	ft
Top Width	35.44	ft
Height	1.60	ft
Critical Depth	7.57	ft
Critical Slope	0.003894	ft/ft
Velocity	1.48	ft/s
Velocity Head	0.03	ft
Specific Energy	8.29	ft
Froude Number	0.34	
Flow is subcritical.		

Pelegs Sec 1 10-yr
Cross Section for Irregular Channel

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 1
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.029	
Channel Slope	0.001800	ft/ft
Water Surface Elevation	8.26	ft
Discharge	30.80	cfs



Culverts at Road
2-year Analyses

Culverts at Road
10-year Analyses

Culvert Calculator Report

~~2-year~~ 10-YEAR

Solve For: Headwater Elevation

Culvert Summary			
Allowable HW Elevation	10.85 ft	Headwater Depth/ Height	0.78
Computed Headwater Elevation	8.75 ft	Discharge	30.80 cfs
Inlet Control HW Elev	8.53 ft	Tailwater Elevation	8.53 ft
Outlet Control HW Elev	8.75 ft	Control Type	Outlet Control

Grades			
Upstream Invert	6.42 ft	Downstream Invert	6.39 ft
Length	40.00 ft	Constructed Slope	0.000750 ft/ft

Hydraulic Profile			
Profile	M1	Depth, Downstream	2.14 ft
Slope Type	Mild	Normal Depth	2.11 ft
Flow Regime	Subcritical	Critical Depth	1.25 ft
Velocity Downstream	2.85 ft/s	Critical Slope	0.004022 ft/ft

Section			
Section Shape	Circular	Mannings Coefficient	0.013
Section Material	Concrete	Span	3.00 ft
Section Size	36 inch	Rise	3.00 ft
Number Sections	2		

Outlet Control Properties			
Outlet Control HW Elev	8.75 ft	Upstream Velocity Head	0.13 ft
Ke	0.50	Entrance Loss	0.06 ft

Inlet Control Properties			
Inlet Control HW Elev	8.53 ft	Flow Control	Unsubmerged
Inlet Type	Square edge w/headwall	Area Full	14.1 ft²
K	0.00980	HDS 5 Chart	1
M	2.00000	HDS 5 Scale	1
C	0.03980	Equation Form	1
Y	0.67000		

$V_{10} = 2.85$ FPS
OUTLET CONTROL

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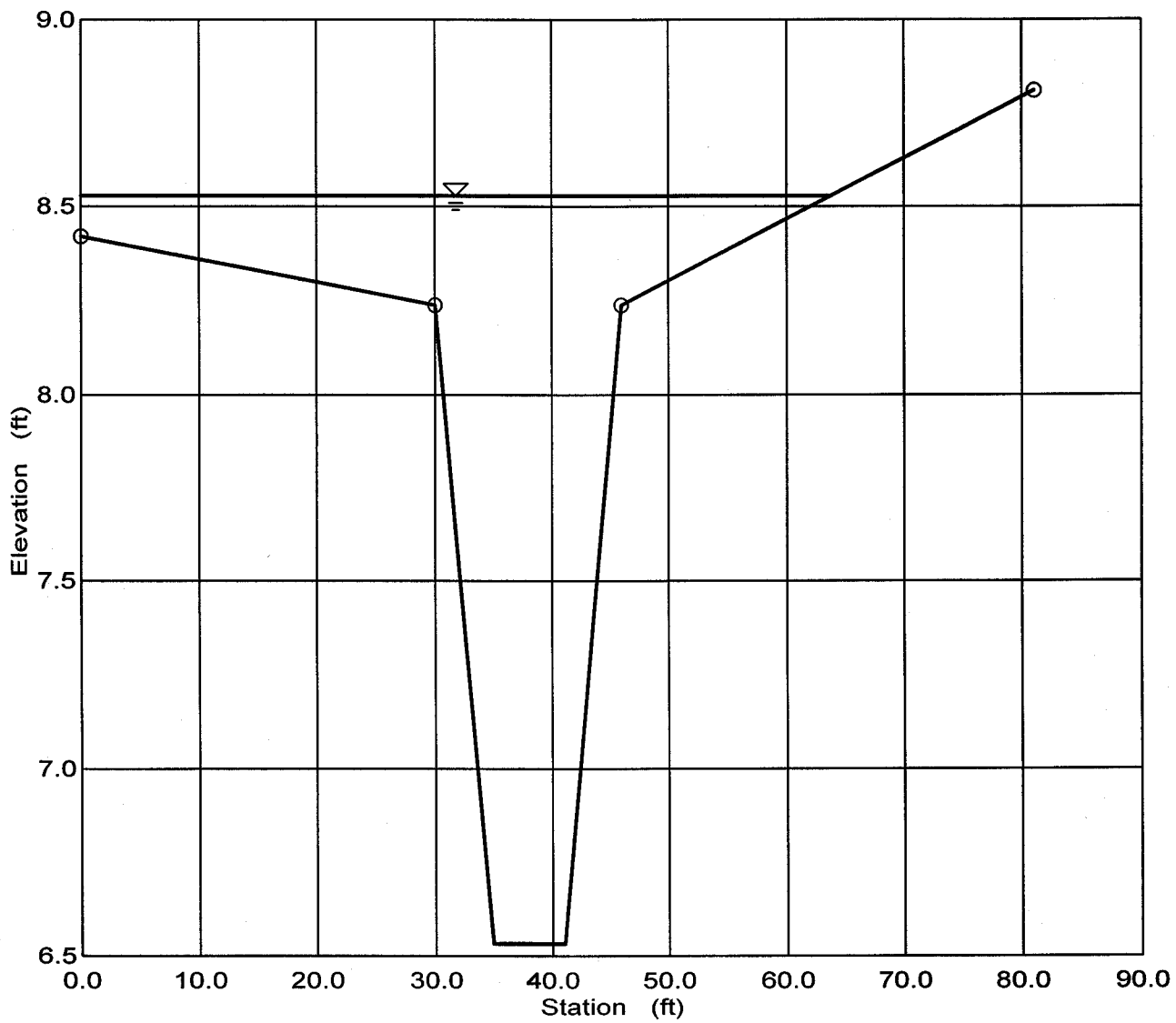
Sec 3 10-year
Cross Section for Irregular Channel

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 3
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.041	
Channel Slope	0.001800	ft/ft
Water Surface Elevation	8.53	ft
Discharge	30.80	cfs



Section 3-Channel 2-year Analyses

(Downstream)

Pelegs Section 3
Worksheet for Irregular Channel

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 3
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.001800	ft/ft
Elevation range: 6.53 ft to 8.81 ft.		
Discharge	17.80	cfs

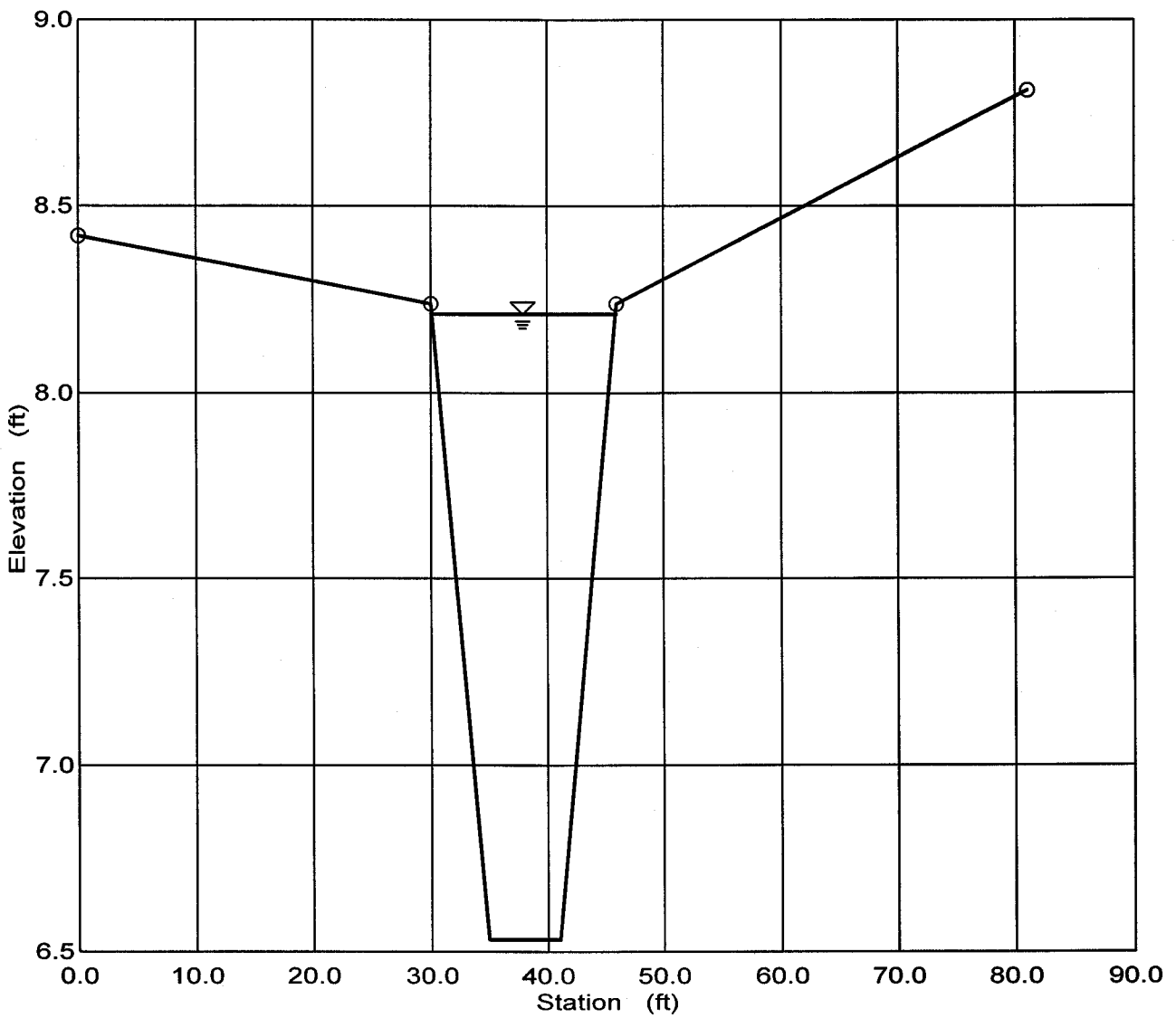
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	8.42	0.00	30.00	0.040
30.00	8.24	30.00	46.00	0.070
35.00	6.53	46.00	81.00	0.040
38.00	6.53			
41.00	6.53			
46.00	8.24			
81.00	8.81			

Results		
Wtd. Mannings Coefficient	0.070	
Water Surface Elevation	8.21	ft
Flow Area	18.34	ft²
Wetted Perimeter	16.38	ft
Top Width	15.83	ft
Height	1.68	ft
Critical Depth	7.12	ft
Critical Slope	0.093707	ft/ft
Velocity	0.97	ft/s
Velocity Head	0.01	ft
Specific Energy	8.22	ft
Froude Number	0.16	
Flow is subcritical.		

Sec 3 2-year
Cross Section for Irregular Channel

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 3
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.070	
Channel Slope	0.001800	ft/ft
Water Surface Elevation	8.21	ft
Discharge	17.80	cfs



Section 3-Channel 10-year Analyses

(Downstream)

Pelegs Section 3
Worksheet for Irregular Channel

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 3
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.001800	ft/ft
Elevation range: 6.53 ft to 8.81 ft.		
Discharge	30.80	cfs

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	8.42	0.00	30.00	0.040
30.00	8.24	30.00	46.00	0.070
35.00	6.53	46.00	81.00	0.040
38.00	6.53			
41.00	6.53			
46.00	8.24			
81.00	8.81			

Results		
Wtd. Mannings Coefficient	0.041	
Water Surface Elevation	8.53	ft
Flow Area	31.87	ft²
Wetted Perimeter	64.33	ft
Top Width	63.65	ft
Height	2.00	ft
Critical Depth	7.34	ft
Critical Slope	0.085918	ft/ft
Velocity	0.97	ft/s
Velocity Head	0.01	ft
Specific Energy	8.54	ft
Froude Number	0.24	
Flow is subcritical.		
Water elevation exceeds lowest end station by 0.11 ft.		

Culvert Calculator Report
2-year

Solve For: Headwater Elevation

Culvert Summary			
Allowable HW Elevation	10.85 ft	Headwater Depth/ Height	0.49
Computed Headwater Elevation	7.88 ft	Discharge	17.80 cfs
Inlet Control HW Elev	7.72 ft	Tailwater Elevation	7.50 ft
Outlet Control HW Elev	7.88 ft	Control Type	Outlet Control

Grades			
Upstream Invert	6.42 ft	Downstream Invert	6.39 ft
Length	40.00 ft	Constructed Slope	0.000750 ft/ft

Hydraulic Profile			
Profile	M2	Depth, Downstream	1.11 ft
Slope Type	Mild	Normal Depth	1.48 ft
Flow Regime	Subcritical	Critical Depth	0.94 ft
Velocity Downstream	3.74 ft/s	Critical Slope	0.003894 ft/ft

Section			
Section Shape	Circular	Mannings Coefficient	0.013
Section Material	Concrete	Span	3.00 ft
Section Size	36 inch	Rise	3.00 ft
Number Sections	2		

Outlet Control Properties			
Outlet Control HW Elev	7.88 ft	Upstream Velocity Head	0.18 ft
Ke	0.50	Entrance Loss	0.09 ft

Inlet Control Properties			
Inlet Control HW Elev	7.72 ft	Flow Control	Unsubmerged
Inlet Type	Square edge w/headwall	Area Full	14.1 ft²
K	0.00980	HDS 5 Chart	1
M	2.00000	HDS 5 Scale	1
C	0.03980	Equation Form	1
Y	0.67000		

100-year

Pelegs Sect 1 100-year
Worksheet for Irregular Channel

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 1
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.001800	ft/ft
Discharge	41.70	cfs

Elevation range: 6.66 ft to 9.06 ft.

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	9.06	0.00	50.00	0.040
35.00	8.28	50.00	60.00	0.015
50.00	7.66	60.00	75.00	0.040
52.75	6.66			
57.58	6.66			
60.00	7.69			
75.00	8.46			

Results		
Wtd. Mannings Coefficient	0.034	
Water Surface Elevation	8.49	ft
Flow Area	30.68	ft²
Wetted Perimeter	49.86	ft
Top Width	49.41	ft
Height	1.83	ft
Critical Depth	7.84	ft
Critical Slope	0.008575	ft/ft
Velocity	1.36	ft/s
Velocity Head	0.03	ft
Specific Energy	8.52	ft
Froude Number	0.30	

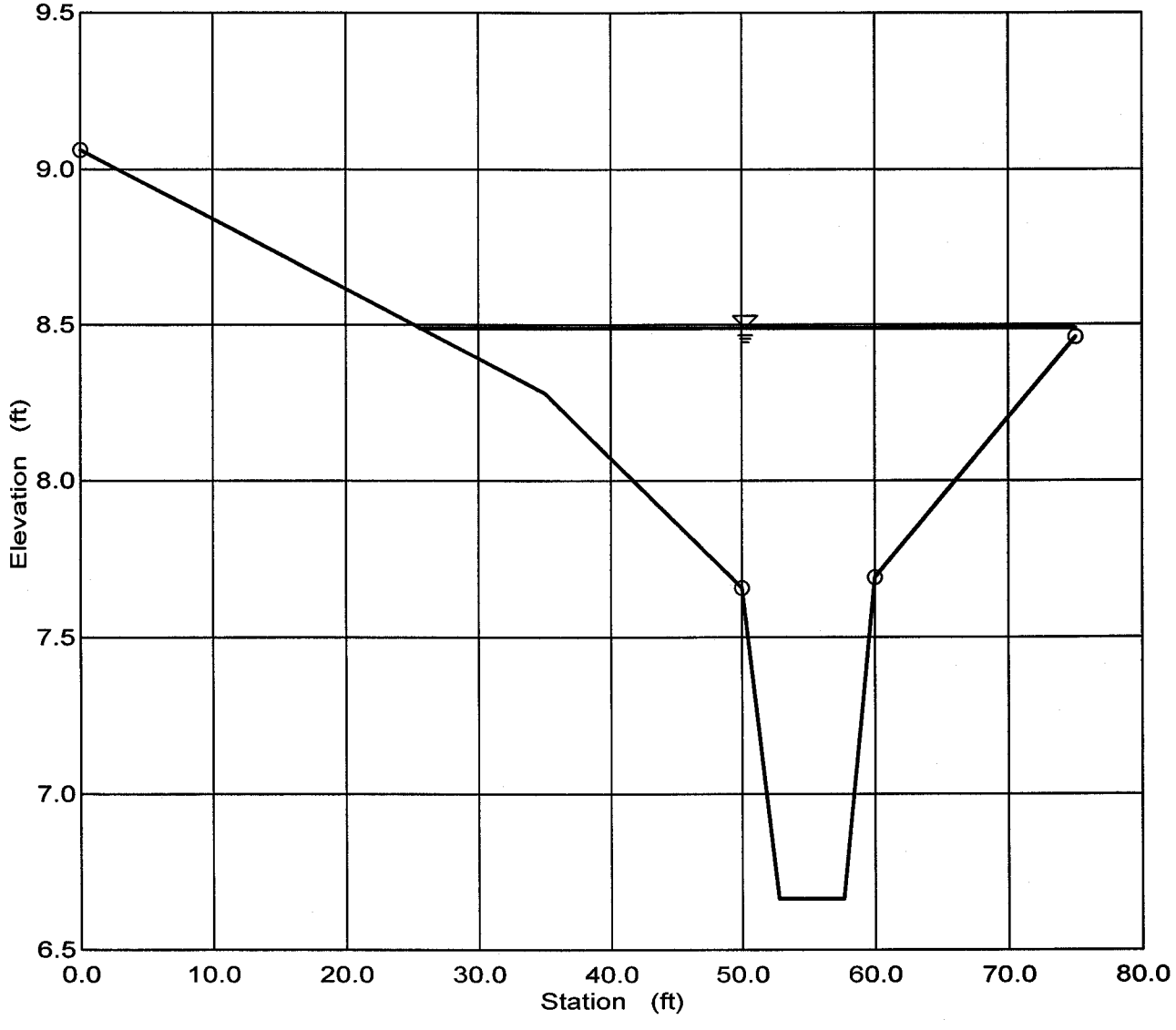
Flow is subcritical.

Water elevation exceeds lowest end station by 0.03 ft.

Pelegs Sec 1 100-yr
Cross Section for Irregular Channel

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 1
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.034	
Channel Slope	0.001800	ft/ft
Water Surface Elevation	8.49	ft
Discharge	41.70	cfs



Culvert Calculator Report

2-year 100-YR

Solve For: Headwater Elevation

Culvert Summary			
Allowable HW Elevation	10.85 ft	Headwater Depth/ Height	0.87
Computed Headwater Elevation	9.02 ft	Discharge	41.70 cfs
Inlet Control HW Elev	8.67 ft	Tailwater Elevation	8.67 ft
Outlet Control HW Elev	9.02 ft	Control Type	Outlet Control

Grades			
Upstream Invert	6.42 ft	Downstream Invert	6.39 ft
Length	40.00 ft	Constructed Slope	0.000750 ft/ft

Hydraulic Profile			
Profile	M2	Depth, Downstream	2.28 ft
Slope Type	Mild	Normal Depth	N/A ft
Flow Regime	Subcritical	Critical Depth	1.47 ft
Velocity Downstream	3.62 ft/s	Critical Slope	0.004218 ft/ft

Section			
Section Shape	Circular	Mannings Coefficient	0.013
Section Material	Concrete	Span	3.00 ft
Section Size	36 inch	Rise	3.00 ft
Number Sections	2		

Outlet Control Properties			
Outlet Control HW Elev	9.02 ft	Upstream Velocity Head	0.20 ft
Ke	0.50	Entrance Loss	0.10 ft

Inlet Control Properties			
Inlet Control HW Elev	8.67 ft	Flow Control	Unsubmerged
Inlet Type	Square edge w/headwall	Area Full	14.1 ft²
K	0.00980	HDS 5 Chart	1
M	2.00000	HDS 5 Scale	1
C	0.03980	Equation Form	1
Y	0.67000		

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Pelegs Section 3
Worksheet for Irregular Channel

100-YEAR

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 3
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.001800	ft/ft
Elevation range: 6.53 ft to 8.81 ft.		

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	8.42	0.00	30.00	0.040
30.00	8.24	30.00	46.00	0.070
35.00	6.53	46.00	81.00	0.040
38.00	6.53			
41.00	6.53			
46.00	8.24			
81.00	8.81			

Discharge	41.70	cfs

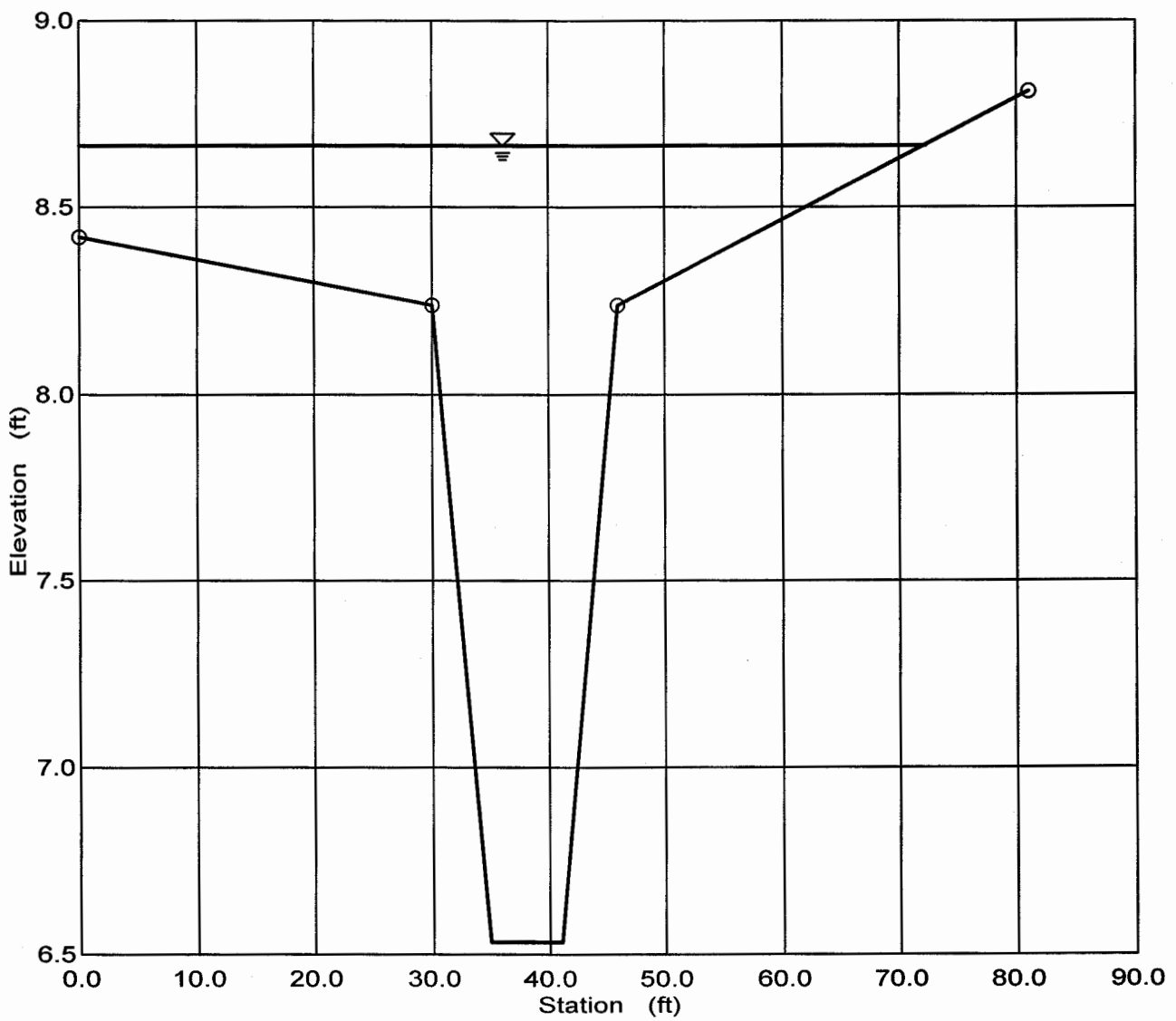
Results		
Wtd. Mannings Coefficient	0.043	
Water Surface Elevation	8.67	ft
Flow Area	41.33	ft²
Wetted Perimeter	73.02	ft
Top Width	72.20	ft
Height	2.14	ft
Critical Depth	7.50	ft
Critical Slope	0.082061	ft/ft
Velocity	1.01	ft/s
Velocity Head	0.02	ft
Specific Energy	8.68	ft
Froude Number	0.24	
Flow is subcritical.		
Water elevation exceeds lowest end station by 0.25 ft.		

> 8.5' RAISED 0.17' OR 2"

Sec 3 100-year
Cross Section for Irregular Channel

Project Description	
Project File	c:\haestad\academic\fmw\pelegs.fm2
Worksheet	Pelegs Point Sec 3
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Section Data		
Wtd. Mannings Coefficient	0.043	
Channel Slope	0.001800	ft/ft
Water Surface Elevation	8.67	ft
Discharge	41.70	cfs



DESIGN INFO "POND C" 08/22/00 SAT

Pond / BMP Design Data (Add Sheet If Necessary for Multiple Onsite Facilities):

☐ Check if None ☐ Provided: BMP # C Type: _____

Y N * See Below for Pertinent Water Quality Treatment Design Information.

- ☒ ☐ Top of Facility El. 8.50
- ☒ ☐ Design High Water El. 7.24
- ☒ ☐ Emergency Spillway (E.S.) Crest El. 6.10 BW: _____ SS: _____
- ☒ ☐ FreeBoard 1.26' 1 ft. or > with E.S.
  ☒ Acceptable ☐ Not Acceptable. _____ 2 ft. or > w/o E.S.
- ☒ ☐ Principal Spillway (Riser) Crest El. 5.62 Size/Type: UNKNOWN
- ☐ ☒ Principal Spillway Crest 1 ft. below crest of emergency spillway. ☐ Yes ☒ No ☐ N/A (0.48')
- ☒ ☐ Stage-Storage Curve or Data
- ☐ ☒ Outlet Rating Curve or Table (Discharge Structure Rating)
- ☐ ☒ 1-year design storm El. _____ or Volume _____
- ☐ ☒ 1-year, 24 hour detention criteria for Stream Channel Protection. ☐ Yes ☒ No ☐ N/A
- ☒ ☐ Extended Detention Provided (Min. 24 hours) ☒ Yes ☐ No ☐ N/A
- ☐ ☐ Normal/Permanent Pool El. 5.00 ☐ N/A
- ☐ ☐ Orifice/Weir #1 (highest El.) El. 5.62 Type: _____
- ☐ ☐ Orifice/Weir #2 El. 5.00 Type: 5"ϕ ORIFICE
- ☐ ☐ Orifice/Weir #3 El. _____ Type: _____
- ☐ ☐ Orifice/Weir #4 El. _____ Type: _____
- ☐ ☐ Orifice/Weir #5 (lowest El.) El. _____ Type: _____
- ☐ ☐ Low Flow Orifice (ExDet, CPv) El. 5.00 Type: 5"ϕ
- ☐ ☒ Pond Drain w/ Valve El. _____ Type: _____
- ☒ ☐ Pond Bottom El. 4.4± Riser Height: 7.82'
- ☐ ☒ Steps or Access Provided (for over 4 ft. depth) ☐ N/A
- ☐ ☐ Riser Base Bottom El. _____ Type: UNKNOWN
- ☒ ☐ Core Trench ☐ N/A BOTTOM EL 6.0 2H:1V KEY
- ☐ ☐ Anti-Seep Collars or other acceptable Seepage Control Method. ☐ N/A UNKNOWN
- ☐ ☐ Principal Spillway Anti-Vortex Device and Trash Rack. Type: UNKNOWN 24"
- ☐ ☒ Low Flow Orifice Cage-Type Trash Rack. Type: _____
- ☐ ☐ Outlet Barrel: Type/Class: RCP Size: 18"
  Inv. U/S: 2.60 Inv D/S: 2.46
  Slope: _____ Length: 40'± (ft.)
- ☐ ☒ Flared End Section. Matches Outlet Barrel material type.
- ☐ ☐ Outlet Protection.
  ☒ Standard riprap outlet protection (OP) Type: RIPRAP
  ☐ Special Dissipator Structure (SDS) Type: _____
- ☐ ☒ Sediment / Cleanout Elevation El. _____ or Depth _____
- ☐ ☐ Adequate Channel Downstream of BMP: ☐ 1-year, 24-hour, or ☒ MS # 19 criteria.

Sketch or Notes, If Necessary: TOP WIDTH = 6'

POND "C" LOCATED BETWEEN LOT 42 SECT 3 AND SEC 5.

- FEMA ZONE AE SFHA DAM CONSTRUCTED IN FLOOD ZONE

TOP DAM EL. 8.5 EFFECTIVELY CUTS OFF & CHANGED ZONE AE DELINEATION.

* WQV Design Information.

Imperv. Area	?
WQTV	?
Vol. Required	24,662 CF
Vol. Provided	32,983 CF

Sediment Trap & Basins

☐ Temporary Sediment Trap # 1 _____ DA = _____ < 3 acres

☐ Temporary Sediment Trap # 2 _____ DA = _____ < 3 acres

☐ Temporary Sediment Basin # 1 _____ DA = _____ ☐ BMP # ____ convert.

☐ Temporary Sediment Basin # 2 _____ DA = _____ ☐ BMP # ____ convert.

E&SC Plan Comments: _____

Soils Information: Site: _____ Hydric: ☐ Yes ☐ No
Soil Survey Sheet _____ DA: _____ HSG: _____
_____ BMP: _____ Hydric: ☐ Yes ☐ No
Description of Soils at BMP: _____
_____

BMP Control: ☐ None ☐ Onsite ☐ Offsite ☐ Previous Approved ☐ Manufactured BMP
BMP Types: 1- Name: _____ (JCC BMP Type _____ - _____), Points _____
2- Name: _____ (JCC BMP Type _____ - _____), Points _____
3- Name: _____ (JCC BMP Type _____ - _____), Points _____

OnSite Drainage Type: ☐ Reinforced Concrete Pipe ☐ Corrugated Metal Pipe ☐ Aluminum Type Pipe
☐ Corrugated Polyethylene Pipe ☐ PVC Type Pipe ☐ Open Channel Type
☐ Culverts Type: _____
☐ Other (Specify): _____

1. VDOT Standards & Specifications Referenced for work **within** R/W: ☐ Yes ☐ No
2. VDOT Standards & Specifications Referenced for work **outside** R/W: ☐ Yes ☐ No

Site Limitations: ☐ RPA ☐ RMA ☐ Steep Slopes ☒ Delineated Wetlands
☒ Hydric Soils ☒ Critical Soils ☐ Vegetated ☐ Buffers
☐ Defined Natural Drainage Features onsite ☐ Downstream Storm/Culv.
☐ Evidence of Downstream Channel Erosion (by Field Observation) _____
☐ Floodplain ☐ Problem Drainage Area ☐ Stormwater Hotspot
☐ Site Activities may warrant a General VPDES Permit for Discharge of Stormwater Associated with Industrial Activities (ie. process water, batch plants, etc.).
☐ Other (Specify): _____

Site Stormwater Management / BMP Control (Add sheets if necessary for Multiple Onsite Facilities):

☐ Yes ☐ No	# POND C			
Predev (Present)	DA = 51.15 ac.	C/CN =	Tc =	min / hrs.
2-year	28.23	cfs		
10-year	42.35	cfs		
100-year	63.53	cfs		
PostDev w/o Detention (Inflow)	DA = ac.	C/CN =	Tc =	min / hrs.
2-year		cfs		
10-year		cfs		
100-year		cfs		
PostDev with Detention (Routed)	DA = 61.75 ac.	C/CN =	Tc =	min / hrs.
2-year	~~17.8~~ 18.2	cfs	at El.	
10-year	~~30.8~~ 31.5	cfs	at El.	6.84
100-year (DHW)	~~41.7~~ 42.6	cfs	at El.	7.24

Downstream Tailwater Assumption for Pond Routing: UNKNOWN
Routed Peak Discharges (Outflows) from BMP meets Predevelopment Allowables: ☒ Yes ☐ No
Appears to Meet VESCH / E&SC Ordinance / CBP Ordinance Requirements: ☒ Yes ☐ No
(AT TIME)

PELEG'S POINT

Sect 1 Paved - both 6.66 - bank 7.66

7.5 - Q_2 - contained - 3.05 fps

8.26 - Q_{10} - came out 0.6' deep → TW - 35' wide -
w/culverts → could be 35' out of channel

8.49 - Q_{100} - came out 0.9' deep — TW - 49' wide (w/out culvert impact) (27-28')
w/ Road culverts → 9' → could be 50' on left (lots)

Culverts

Q_{10} - 8.75'

Q_{100} - 9.02'

Sect 3 - Natural

Q_{100} - 8.67' - 0.5' out of bank (8.24)

original floodplain - 28' wide on lots (left side)
w/ culverts - 50' " " " (left side)

Both BMPs have been inspected

C.K. TUDOR ENGINEERS, INC.

SUBJECT PELEG'S POINT - SECTIONS 2 & 3 — SHEET 1 OF 1

BY RC DATE FEB. 3, 1995 — ADDITIONAL DRAINAGE TO POND C — JOB NO. 95-013

CHKD BY ____ DATE ____ — JAMES CITY COUNTY, VIRGINIA — SCALE —

1. EXISTING DRAINAGE AREA TO POND "C" = ~~57.03~~ Ac. SEE REV CALCS
   REQ'D WETLAND AREA = 57.03 × 43560 × .25 × .0375 × 2 = 46,580 FT²
   EXIST. "AS-BUILT" WETLAND AREA = 44,000 FT²
   ADDITIONAL WETLAND AREA NEEDED AS IS = 2580 FT²

2. PROPOSED ADDITIONAL DRAINAGE AREA FROM SECTION 3 = 3.36 Ac.
   REQ'D WETLAND AREA: 3.36 × 43560 × .25 × .0375 × 2 = 2744 FT²

   TOTAL ADDITIONAL WETLAND AREA REQ'D. = 5324 FT²

3. REQ'D WATER QUALITY DRAWDOWN VOLUME = 60.39 × 43560 × .25 × .0375 = 24,662 FT³
   VOLUME OF STORAGE FROM EXIST. 5"Ø ORIFICE (INV. 5.00) TO TOP OF EXIST. 15" RISER (ELEV. 5.62) = 32983 FT³

4. EXIST. 5"Ø DEWATERING ORIFICE
   REQ'D REVISED FLOW FOR 24-30 HOUR DRAWDOWN VOLUME OF 24,662 FT³
   24662 FT³ ÷ 108000 SEC. (30 HOURS) = 0.23 CFS

   EXIST. 5"Ø ⇒ $A = \frac{Q}{[64.32 \times \frac{h}{2}]^{.5}(.6)}$ A = .136(5") h = .21'

   Q = .21 CFS - DRAWDOWN TIME = 32.6 HOURS - O.K.

5. AVAILABLE POND STORAGE AFTER ENLARGEMENT
   (NOTE: SURFACE AREAS PLANIMETERED FROM EXISTING GROUND CONTOURS)

ELEV. (FT.)	SURFACE AREA (FT²)	STORAGE (FT³)	Σ STORAGE (FT³)
4.40 (BOTTOM)	49324 } 25481 FT³ PERM. POOL VOLUME	—	—
5.00 (INV. DEWATERING)	52600 }	—	—
5.50 ← TOP OF RISER @ ELEV. 5.62 - WATER QUALITY DRAWDOWN VOL. = 32983 FT³	56550 ← INPUT POND STORAGE FROM HERE	27288	27288
6.00	60,500	29263	56551
6.50	78875	34844	91395
7.00	116500	48844	140239
7.50	162375	69719	209958

6. PRE-DEVELOPMENT & POST DEVELOPMENT PEAK DISCHARGES FROM DRAIN. BASIN C

PRE-DEVELOPMENT	POST-DEVELOPMENT (THRU POND)
D.A. = 51.15 Ac.	D.A. = 60.39 Ac. 61.75
Q_2 = 28.23 CFS	Q_2 = ~~17.8~~ CFS 18.2
Q_{10} = 42.35 CFS	Q_{10} = 30.8 CFS 31.5
Q_{100} = 63.53 CFS	Q_{100} ~~41.7~~ CFS 42.10

Calculated By: KC Date 2/3/95
Checked By: _____ Date _____
N = .013-PG-5, .012-PE PIPE
Storm Frequency 10 YEAR

STORM SEWER COMPUTATION SHEET

C. K. TUDOR ENGINEERS

Job No. 95-013
Project PELEGS PT. SEC. 3

Sheet 1 of 1 Sheets

REVISED DRAIN. TO POND "C"

LINE	LOCATION		RUN-OFF										PIPE - CHANNEL DESIGN									
			Increment (Acres)	Total (Acres)	RUNOFF COEF.	CXA	ACCUM. CXA	To Inlet (Mins.)	In Channel (Mins.)	Time of Concl. (Mins.)	INTENSITY (Inches per Hr.)	DISCHARGE (cfs)	Pipe Size (Inches) Channel Size (ft.)	SLOPE (ft/ft)	CAPACITY FULL (cfs)	VELOCITY FULL (fps)	DESIGN VELOCITY (fps)	LENGTH OF REACH (ft)	INVERT ELEV. UPPER END (ft)	INVERT ELEV. LOWER END (ft)	FRICTION SLOPE (ft/ft)	COVER ELEV. (ft)
NO	FROM	TO	A	A	C	CA	CA	T	T	T_c	i	Q	D or W	S_o	Q_f	V_f	V_o	L	E_i	E_o	S_f	F
PG-5	ES # 12	ES # 13	3.36	3.36	.40	1.34	1.34			19.8	4.6	6.16	2.75 2 1/3 1	.0030	14.84	4.65	3.62	250'	7.95	7.20		
P.E. OUT	ES # 13	ES # 14	—	3.36			1.34					6.16	18" PE.	.0035	6.72	3.80	4.37	390'	7.20	5.84		

PELEG'S POINT
REVISED FOR ELIMINATION
OF POND D
2/3/95

TABLE 3

WORKSHEET FOR BMP POINT SYSTEM

A. STRUCTURAL BMP POINT ALLOCATION

BMP	BMP Points		Fraction of Site Served by BMP		Weighted BMP Points
PONDS A-C,E,F $\frac{134.36}{179.8}$ DESIGN 4 (INCLUDES 17.97 AC. OFF-SITE DRAINAGE)	9	x	75%	=	6.75
		x		=	
		x		=	
		x		=	

TOTAL WEIGHTED STRUCTURAL BMP POINTS: _____

B. NATURAL OPEN SPACE CREDIT

Fraction of Site		Natural Open Space Credit (0.1 per 1%)		Points for Natural Open Space
$\frac{63.23}{179.8}$ = 35%	x		=	3.5

C. TOTAL WEIGHTED POINTS

Structural BMP Points		Natural Open Space Points		TOTAL
6.75	+	3.5	=	10.25 3.K,

Rickmond + Bury
ENGINEERING SOLUTIONS

Peleg's Point Section 6

July 8, 2005

RECEIVED
JUL 12 2005
ENVIRONMENTAL DIVISION

Mike / DEC

Mr. Darryl Cook
James City County Environmental Division
101E Mounts Bay Drive
Williamsburg, VA 23188

RE: Peleg's Point - Section 6
Environmental Inventory
RBI Project No. 210324171

Would this not be just cause to say there all is RPA buffer off of all non-tidal wetlands at the site per sec 23-3 (definitions) of the Ches Bay ord.?

Dear Mr. Cook:

In accordance with Section 23-10 of James City County's Plan of Development, Rickmond+Bury, Inc. has completed an Environmental Inventory on the referenced site. The site consists of one parcel located west of the intersection of Neck-O-Land Road and Williamsburg Glade. The subject site is approximately 98 acres in size and bounded by the Peleg's Point community to the west and south, undeveloped land to the north and Mill Creek to the east.

Wetland areas on the property are associated with Mill Creek. These wetlands are located along the southeast portion of the site. Typical flora found in these areas include: saltmarsh cordgrass (*Spartina alterniflora*), common reed (*Phragmites australis*), and narrow leaf cattail (*Typha angustifolia*). Soils in the tidal wetland areas were found to be low-chroma mucks and silts (10YR 3/1 – Munsell Soil Color Charts). Hydrologic indicators observed include: inundation, saturation within the upper 12 inches of the soil, rack lines, and water stained leaves.

Nontidal headwater wetlands are located in the northwestern portion of the property. These areas are typically defined by topography and a distinct shift in vegetation. All nontidal wetlands on the property are connected to tidal waters via ditches and natural drainages. Typical flora found in these wetlands include: sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), black gum (*Nyssa sylvatica*), green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*), soft rush (*Juncus effusus*), three-way sedge (*Dulichium arundinaceum*), southern waxy sedge (*Carex glaucescens*), and poison ivy (*Toxicodendron radicans*). Soils found in the nontidal wetlands typically were identified as mottled, low-chroma, sandy clay loams (10YR 5/2). Hydrologic indicators observed include: inundation, saturation within the upper 12 inches of the soil and water stained leaves.

A wetland delineation was completed by Rickmond+Bury, Inc. and confirmed by the U.S. Army Corps of Engineers in March 2003.

The upland portion of the site is comprised of a mature mixed deciduous hardwood forest. This area is predominantly vegetated by facultative and drier than facultative species including: sweet gum

RPA - Nontidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow.

Also would not FEMA SFHA Zone A/AE be evidence of connection between nontidal + tidal areas?

BURY+PARTNERS-VIRGINIA, INC.
1643 Merrimac Trail
Williamsburg, Virginia 23185

PHONE (757) 229-1776
FAX (757) 229-4683

www.rickmondbury.com

Fairfax • Warrenton • Williamsburg, Virginia
Austin • Dallas • Houston • San Antonio • Temple, Texas

A. D. Potts & Associates, Inc.
11524 Jefferson Avenue
Newport News, Virginia 23601
Phone: (757) 595-4610
Telefax: (757) 591-2723

Peleg's Point SEC 6
New SECTION

April 23, 2004

Mr. Scott Thomas
Senior Engineer
James City County Environmental Division
Via fax: 259-4032

Mr. Steven Martin
Environmental Scientist
Regulatory Branch
Via fax: 441-7678

Re: Peleg's Point Section Six

Dear Scott and Steve,

Per our meeting of 4-20-04, my understanding is this:

1. Pond "A" will need upgrading - perhaps with a wetlands bench and forebay. The outfall structure and spillway may need maintenance, repair or upgrade. The County would like us to bring Pond "A" into compliance with holding the 1 year storm (2.8") for 24 hours. If we upgrade Pond "A", we might get less stringent "points" requirements on the other BMP's we are proposing.

2. The Corps would like no wetlands within lots 15000 s.f. or less due to encroachment issues. There are no current laws or regulations, but Corps in-house guidance suggests having wetlands within smaller lots may be a problem. The Corps would prefer having the wetlands within open space or conservation easements.

3. The ditch between Sections One, Two, and Five can be graded and maintained under existing nationwide permits.

4. The proposed BMP's will each need separate permits. Location of each BMP needs to be in an area that causes the least impact, preferably outside mature hardwoods. Some of the existing wetlands may be of a quality to get partial mitigation credit for some of the proposed wetlands disturbance.

5. The wetlands near Gatehouse Farms needs to have an environmental evaluation to determine if it is perennial. If it is perennial, per the new CBLAD regulations there will be an RPA buffer from the wetlands.

Please check this against any notes you might have from the meeting. If this is different from what you understand, please contact me so that we can clarify the matter. Thank you for your help in this matter.

Sincerely,

Eric R. DuBois, L.S.
Survey Coordinator

cc: Hampton Roads Development / JoAnn

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) 253-2620

July 6, 2004

Mr. Matthew Roth
Senior Environmental Scientist
Rickmond Engineering, Inc.
1643 Merrimac Trail
Williamsburg, Virginia 23185

RE: Peleg's Point
Stream Evaluation/Resource Protection Area Delincation, dated May 26, 2004
REI Project No. 04171

Dear Mr. Roth,

The perennial stream evaluation and Resource Protection Area delincation for the Peleg's Point project, submitted on May 26, 2004 is acceptable to the County. Thank you for submitting the requested information that clarifies the limits of perenniality for this site. We ask that two additional copies of the map be supplied for our records.

Sincerely,

Michael D. Woolson, CLA
Watershed Planner
Environmental Division

RECEIVED
SEP 2 2004
ENVIRONMENTAL DIVISION

Jamestown
MANAGEMENT COMPANY, LLC

July 3, 2002

Mr. Darryl Cook
James City County Environmental Division
101 Mounts Bay Road
P. O. Box 8784
Williamsburg, Virginia 23187-8784

RE: Peleg's Point
Proposed Drainage Ditch Retro-fit
JMC Project No. 1111

Dear Mr. Cook,

Pursuant to conversations between this office and yours, due to apparent problems with the positive drainage and invasive vegetation found to exist within the existing ditch, we have been requested by your staff to provide a preliminary Drainage Ditch Retro-fit plan and assist in the engineering, permitting and construction of this Retro-fit Project.

A Preliminary Sketch Plan is being provided to indicate the proposed scope of work. A topographic Survey of the existing Ditch has been performed and an existing and proposed profile has been generated. Due to lack of proper maintenance and the very shallow slope of the ditch grade, it has been suggested that the ditch be regraded and paved using a ditch section similar to what is currently existing up-stream. The proposed ditch section shall be of type VDOT PG-5 Standard Paved Ditch with top width =10', bottom width=4' depth of 1.5' and side slopes of 2:1 and longitudinal slope of 0.26%.

Initial channel adequacy calculations, performed and included with this transmittal indicate that the 100 year storm can be conveyed by this section under the proposed conditions. The theoretical flow velocities become extremely high and will inevitably result in increased erosion, scour and additional problems at the downstream outlet and pond. As a result, it may be prudent to design the paved section to convey the 1 or 2 year event, with the balance of the section remaining earth.

213 INGRAM ROAD • WILLIAMSBURG, VIRGINIA 23188
(757) 220-0856 OFFICE • (747) 220-0916 FAX

Therefore, after your further review, it may be determined that a smaller paved section may be called for, if the intent of the project is to provide positive drainage and scour velocities sufficient to ensure unobstructed flow during sub-ten year storm events.

I hope that you will find the information provide sufficient to evaluate the scope of the project and allow you to make a determination of the required surety amount required to bond the construction phase of this project. As you may be aware, this information is necessary for up to perform certain contractual obligations as a partner in Mill Creek Landing, LTD., the project owner. I look forward to your continuing assistance with this project. Should you wish to discuss this matter further, or have any questions please feel free to contact me at (757) 220-0856.

Sincerely yours,
Jamestown Management Company, LLC

Christopher W. Gwaltney,
Project Engineer

Pat Menichino

From: Greg Johnson
Sent: Monday, November 08, 2010 3:44 PM
To: Pat Menichino
Cc: Joe Buchite
Subject: Peleg's Point

The two BMPs in question are in Phase 1 (PC018 and PC019). The surety was released on 12/6/95.
Storm Water should have the as built for the above mentioned BMPs. Which in my opinion is the responsibility of the HOA to maintain.
There was one modification in Phase 5 to a spillway and the ditch on the back side of the property. The ditch was just cleaned up of storm debris and sediment that filled in over the years. We are still holding surety for this as it is an active project.
Anything further you need let me know.

Gregory B. Johnson
Environmental Inspector II

Environmental Division
101-E Mounts Bay Road
Williamsburg, VA 23185
P: 757-253-6683
F: 757-259-4032
C: 757-592-6020
jccEgov.com

Pat Menichino

From: Pat Menichino
Sent: Monday, November 15, 2010 9:22 AM
To: Scott Thomas; Joe Buchite; Greg Johnson
Cc: Frances Geissler; Darryl Cook
Subject: Peleg's Point

Scott, Joe and Greg,

Can we meet to discuss the Peleg's Point BMPs. I am available any day this week.

Thanks,

Pat

Patrick T. Menichino
Stormwater Specialist

General Services Department
5320 Palmer Lane, Suite 2A
Williamsburg, VA 23188
P: 757-259-1443
F: 757-259-5833
jccEgov.com

Pat Menichino

From: Scott Thomas
Sent: Tuesday, November 09, 2010 12:34 PM
To: Pat Menichino; Joe Buchite
Cc: Greg Johnson
Subject: Pelegs
Attachments: Pelegs_3.pdf; Pelegs_1.pdf; Pelegs_2.pdf

Here is some past correspondence with the HOA at Pelegs. The front pond (Pond A) is scheduled to be modified if the Pelegs Section 6 plan ever moves forward, lots of issues and doubtful when that will occur. The back pond (Pond C?) by the pump station had some improvement work as part of the Section 5 plan, mainly clear trees from dam – emergency spillway repair – and perhaps some outfall repair. Would not be able to get anything additional to that pond outside that approved by the plan. I would say that Pond C is the HOAs responsibility, except for those items of improvement spelled out in the Section 5 plan (or Section 6 if it ever moves forward).

Scott J. Thomas
Director

Environmental Division
101-E Mounts Bay Road
Williamsburg, VA 23187
P: 757-253-6639
F: 757-259-4032
jccEgov.com

C. LEWIS WALTRIP II, INC.

P.O. BOX 3522 WILLIAMSBURG, VIRGINIA 23187 (804) 253-1883 FAX (804) 253-0706

12 February 1996

JAMES CITY COUNTY
Dept.Of Development Management
P.O. Box JC
Williamsburg, Virginia 23187

Attn: Mr. Pat Menichino

Re: As-Built Plans - Peleg's Point Drainage and Pond C

Dear Mr. Menichino,

The attached drawings of as-built conditions at Peleg's Point are provided for your information and use.

If you require any additional information or copies of drawings, please feel free to call.

Sincerely,

STAN DYKSTRA

Enclosure

C. LEWIS WALTRIP II, INC.

P.O. BOX 3522 WILLIAMSBURG, VIRGINIA 23187 (804) 253-1883 FAX (804) 253-0706

TRANSMITTAL LETTER

Date: FEB 10, 1997

Project: PELEGS POINT

To: Daryl Cook

The following items are being transmitted:

Date	Copies	Description
	1	POND AS BUILT

These items are transmitted for:

____ Information

____ Approval

__✓__ As Requested

____ Review and Comment

Other: _____

Comments: _____

Copy to: _____

Signed LYNN EVANS

Jamestown Management Co., LLC

213 Ingram Road
Williamsburg, Virginia 23188
(O) (757) 220-0856
(F) (757) 220-0916

LETTER OF TRANSMITTAL

DATE: 7-3-2002 JOB NO. 1111

ATTENTION: Daryl

RE: Peleg's Point
Drainage Ditch
Retrofit

To Daryl Cook

WE ARE SENDING YOU ☐ Attached ☐ Under Separate cover via _____ the following items:

☐ Shop Drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of Letter ☐ Change Order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
2	5/16/02	1	24" x 36" - Preliminary Plan
1	7/3/02		Cover Letter & Calcs

THESE ARE TRANSMITTED as checked below:

☐ For Approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution

☐ As requested ☐ Return for corrections ☐ Return _____ corrected prints

☒ For review and comment ☐ _____

☐ FOR BIDS DUE _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS For Construction w/ C.L.W. Letter / Bob O

COPY TO _____ SIGNED: _____

Bob Oliver, P.E.

If enclosures are not as noted, kindly notify us at once.

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

Database Inventory No. (if known): MC 018 (PHASE I)

Name of Facility: Pelegs Point Pond C BMP No.: "C" Date: 08/24/00

Location: Between Sections 2 & 5 WBG. GRADE RD.

Name of Owner: Mill Creek Landing LTD

Inspector: SJ Thomas, MD Woolson

Type of Facility:

Weather Conditions: Cloudy, Hot, Mid 80'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:				
Grass Height	X			None.
Vegetated Condition		X		D/S Loblolly Pine, Sweet Gum, Briars.
Weed Growth		X		High
Erosion	X			
Trash & Debris	X			
Seepage	X			None Visible except @ outlet barrel.
Fencing or Benches	X			
Constructed Wetlands (Interior Landscaped & Planted) Areas:	N/A	NATURAL SHALLOW MARSH		
Vegetated Conditions	X			Good Interior Veg.
Trash & Debris				
Floatables	X			
Erosion	X			
Sediment	X			
Dead Plant	X			
Aesthetics	X			NATURAL LOOK.
Other				

Facility Item	O.K.	Routine	Urgent	Comments
Water Pools ☐ Permanent Pool (Retention Basin) ☒ Shallow Marsh (Detention Basin)				DRY POND VEG & STANDING POOL
Shoreline Erosion	X			None.
Algae	X			None.
Trash & Debris	X			None.
Sediment		X		4-6" Deep @ Riser.
Aesthetics	X			
Other	X			Interior Wetland Veg. (cattail, woolgrass sedges, rushes, red maple, sweetgum)
Inflow Stuctures (Describe Locations): Inflow Channel & pipe @ emb. right.				
Condition of Structure	X			
Erosion	X			
Trash and Debris	X			
Sediment	X			
Aesthetics	X			Trees need removed at riser area.
Other				
Principal Flow Control Structure - Intake, Riser, etc. (Describe Location): Riser Pipe 18 or 24" dia; 3-2" ø Hol CMP CAP				
Condition of Structure	X			
Corrosion		X		u/s Toe
Trash and Debris	X			
Sediment	X			4-6" deep @ riser.
Aesthetics	X			
Other				
Principal Outlet Structure - Barrel, Conduit, etc. : 18" concrete barrel.				
Condition of Structure		X	X	Signs of settlement/piping d/s Toe.
Settlement		X	X	" "
Trash & Debris	X			
Sediment	X			
Erosion		X		
Other		X		Possible piping, seepage, internal erosion.
Emergency Spillway (Overflow): Concrete, Emb. Rt.				
Vegetation		X		Veg. needs removed along side walls.
Lining	X			
Erosion	X			
Trash & Debris	X			
Other	X			

Facility Item	O.K.	Routine	Urgent	Comments
Nuisance Type Conditions:				
Mosquito Breeding	X			Normal, not unusual problem.
Animal Burrows	X			
Graffiti	X			
Other	X			
Surrounding Perimeter Conditions:				
Land Uses	X			Woods & Groomed Res. Lawns.
Vegetation	X			OK.
Trash & Debris	X			None.
Aesthetics	X			GENERALLY NATURAL LOOK.
Access /Maintenance Roads or Paths	X			Good, JCSA sew. Pump Station.
Other		X		Adjacent owner complaint. Inflow pipe backs up drainage.

Remarks:

- D/s Embankment needs cleared. Also clear 15' within Riser.
- Wet Conditions d/s, mainly due to tidal floodplain.
- Emergency spillway signs of recent use.
- Dry Pond arrangement. No history of standing pool except during Large rainfall- runoff events.
- Riser cap lifts off, is heavy & firmly seats (Need 2 people.)
- Adj. Property owner cuts path to Emerg. Spillway

Overall Environmental Division Internal Rating: 2

Signature: Scott J. Thomas, P.E. **Date:** 09/12/00

Title: Civil Engineer, JCC Envir. Div.

SWMProg\BMP\CoInspProg\DetRet.wpd

DAM SAFETY PROGRAM

DEPARTMENT OF CONSERVATION & RECREATION

Division of Dam Safety
203 Governor Street, Suite 402
Richmond, Virginia 23219-2094

JCC ENV DIV. WORKSHEET

OWNER'S ANNUAL INSPECTION FORM

Name of Dam Pelegs Point Pond C
Name of Reservoir —
Owner's Name —
Address
Telephone ( )

Inventory Number MC 018
County/City —
Hazard Class I, II, III or IV N/A
Inspected by SJ Thomas, MD Woolson
Date 08/24/00

DIRECTIONS: MARK "X" in YES, NO or N/A COLUMN

ITEM	YES	NO	N/A	REMARKS
1. GENERAL CONDITIONS				
A. Alterations to dam?		X		
B. Development in downstream flood plain?		X		Signs of WSEL.
C. Grass cover adequate? (embankment & spillway)		X		
D. Settlements, misalignment, or cracks?	X			At D/S Barrel end.
E. Recent high water marks?	X			Elevation: In Emer. Spillway.
2. UPSTREAM SLOPE				
A. Erosion?		X		
B. Trees?	X			
C. Rodent holes?		X		
D. Cracks, settlement, or bulges?	X			U/S Toe @ Riser
E. Adequate and sound riprap?			X	
3. INTAKE STRUCTURE ☒ Concrete ☐ Metal	Metal	Cap		Water Surface Elevation:
A. Spalling, cracking, scaling?		X		
B. Exposed reinforcement?		X		
C. Corrosion present?	X			CMP Cap Rusting
D. Coating adequate?	X			
E. Leakage?	X			
F. Trash rack adequate?	X			
G. Obstacles to inlet?	X			Sediment & Veg.
H. Drawdown operative? ☐ Closed ☒ Open	X			
4. ABUTMENT CONTACTS				
A. Erosion, cracks or slides?		X		
B. Seepage?		X		Estimated GPM:
5. EMERGENCY SPILLWAY				
A. Obstructions?	X			Vegetation
B. Erosion?		X		
C. Rodent holes?		X		
6. DOWNSTREAM SLOPE				
A. Erosion?		X		
B. Trees?	X			Need Removed Riser & D/S Toe
C. Rodent holes?		X		

OWNER'S ANNUAL INSPECTION FORM — Inventory Number MC 018

ITEM	YES	NO	N/A	REMARKS
D. Cracks, settlements or bulges?		X		
E. Drains or wells flowing?		X		Estimated GPM:
F. Seepage or boils?	X			Estimated GPM: 2gpm @ BARREL
7. CONDUIT AND OUTLET ☐ Concrete ☐ Metal				Tail water elevation and flow:
A. Spalling, cracking, scaling?		X		
B. Exposed reinforcement?		X		
C. Joints displaced or offset?		X		
D. Joint material lost?		X		
E. Leakage?	X			
F. Earth erosion?	X			SIDES OF OUTLET BARREL.
G. Conduit misaligned?		X		
H. Outlet channel obstructed?		X		
8. STILLING BASIN				
A. Spalling, cracking, scaling?		X		
B. Exposed reinforcement?		X		
C. Joints displaced or offset?		X		
D. Joint material lost?		X		
E. Joints leak?		X		
F. Rock adequate?		X		
G. Dissipators deteriorating?	X			
H. Dissipators clean of debris?	X			
9. CONCRETE SPILLWAY				
A. Spalling, cracking, scaling?		X		
B. Exposed reinforcement?		X		
C. Joints displaced or offset?		X		
D. Joint material lost?		X		
E. Leakage?		X		
F. Dissipators deteriorating?		X		
G. Dissipators clean of debris?		X		
H. Earth erosion?		X		
I. Outlet channel eroding?		X		
10. GATES N/A				None.
A. Floodgates broken, bent?				
B. Floodgates eroded or rusted?				
C. Floodgates operational?				
11. RESERVOIR				
A. Development?	X			Exist Sec 2/3; Sec 5 Prop.
B. Slides or erosion on banks?		X		
C. Reservoir managed?		X		
12. INSTRUMENTS				
A. Is structure instrumented?		X		
B. Monitoring performed?		X		
13. SHOULD DAM BE INSPECTED BY ENGINEER?	X			Specific to Riser/Barrel/Seeps; Sec 5.
14. REEVALUATE HAZARD CLASSIFICATION			X	
15. IS EMERGENCY ACTION PLAN CURRENT?			X	

REMARKS: 3RD PARTY INSP. PERFORMED MARCH 13 2000 RECOMMENDS Repair. Approval Sec 5 Deleg's Point Pending.

Scott Thomas PE 09/12/00

James City County Stormwater Division Stormwater Management Facility (SWMF)Inspection Report

Score Definitions: 0-N/A, 1-Adequate, 2-Routine Maintenance, 3-Non-routine repair, 4-Urgent repair(s), item has failed or is failing.

BMP ID # MC018 PIN 4740100042 Responsible Party: HAMPTON ROADS DEVELOPMENT LLC

Site Address: District: 4

Location (other):

Date: 10/30/2008 Inspector: MM

Structure Type: Detention

(3 or 4 requires attention):

Total Score 1

Criteria	Score	Comments: (Listed below are the items/tasks that should be rectified/ completed prior to re-inspection)
1. Forebay Score:	0	
2. Inlet(s):	1	
*3. Outlet:	1	
*4. Principal Spillway:	1	
5. Emergency Spillway:	2	**Woody vegetation growing in spillway**
6. Basin Bottom and Side Slopes:	1	
7. Safety Devices:	0	
*8. Embankments:	2	**Woody vegetation within 10 feet of embankment** **Ground cover too short/bare spots**
*9. Structural Components:	1	
*10. Media:	0	

James City County Stormwater Division Stormwater Management Facility (SWMF)Inspection Report

Score Definitions: 0-N/A, 1-Adequate, 2-Routine Maintenance, 3-Non-routine repair, 4-Urgent repair(s), item has failed or is failing.

Criteria	Score	Comments: (Listed below are the items/tasks that should be rectified/ completed prior to re-inspection)
11. Routine Maintenance:	1	
12. Condition of Aquatic Environment:	0	
13. Vegetation:	1	
*14. Storage Volume:	1	
15. Debris/Sediment Accumulation:	1	
16. Standing Water:	1	
17. Safety and Aquatic Bench:	0	
18. Side Slope Vegetation:	1	
19. Other:		

Checked below identify corrective work required on your stormwater management facility.

- ☐ Remove all trees and other woody vegetation from the embankment (earthen dam) and also within 10' of the toe of the embankment slope.
- ☐ Remove all trees and other woody vegetation from within 10' of the principal spillway, any principal inlet devices, and the principal outfall.
- ☐ Remove all trees and other woody vegetation from within 10' of any inlet structures, such as: pipes, end sections, concrete channels, flumes, rip rap channels, etc.
- ☐ Remove all trees and other woody vegetation from within the emergency spillway and also from within 10' of the spillway.
- ☐ Investigate the cause of any settlement, sink holes, subsidence, or erosion, noted on the report and develop and implement an appropriate plan to correct the deficiencies noted permanently.
- ☐ Remove all accumulated sediment, leaves and debris from within any pipes, end sections, concrete channels, emergency spillways, flumes, rip rap channels, etc. and dispose of the material in an appropriate method and location.
- ☐ Stabilize any disturbed, unstable, denuded or bare soil areas, by installing top soil and planting a permanent grass seed to establish an effective grass ground cover over these areas.
- ☐ All grassed areas of the BMP such as: access roads, emergency spillways, embankments (earthen dam), or other non-treed areas, shall be maintained at a minimum grass height of 8", and should not be subjected to low mowing.
- ☐ Trees and woody vegetation should be cut flush with the ground, and smaller trees and limbs (less than 4" dia) may be processed with a wood chipper and dispersed in natural areas.

James City County Stormwater Division Stormwater Management Facility (SWMF)Inspection Report

Score Definitions: 0-N/A, 1-Adequate, 2-Routine Maintenance, 3-Non-routine repair, 4-Urgent repair(s), item has failed or is failing.

BMP ID # PC109 PIN 4732000001 Responsible Party: HAMPTON ROADS DEVELOPMENT LLC

Site Address: 4709 WILLIAMSBURG GLADE District: 4

Location (other):

Date: 1/4/2010 Inspector: TC

Structure Type: Constructed Stormwater Wetland

(3 or 4 requires attention):

Total Score 3

Criteria	Score	Comments: (Listed below are the items/tasks that should be rectified/ completed prior to re-inspection)
1. Forebay Score:	0	
2. Inlet(s):	2	**Inspect and repair the first joint at the concrete flared end section.** **Sediment debris or woody vegetation at the outfall of inlet**
*3. Outlet:	1	**Remove sediment debris or vegetation at outfall of pipe to insure an unobstructed flow.**
*4. Principal Spillway:	3	**Invetigate and repair the cause of subsidence around the principal riser structure.** **Remove any trees and woody vegetation within 10' of the riser.**
5. Emergency Spillway:	2	**Remove any trees and woody vegetation within 10' of the spillway.** **Debris or large stones should be removed from the concrete spillway.**
6. Basin Bottom and Side Slopes:	1	
7. Safety Devices:	0	
*8. Embankments:	1	
*9. Structural Components:	1	
*10. Media:	0	

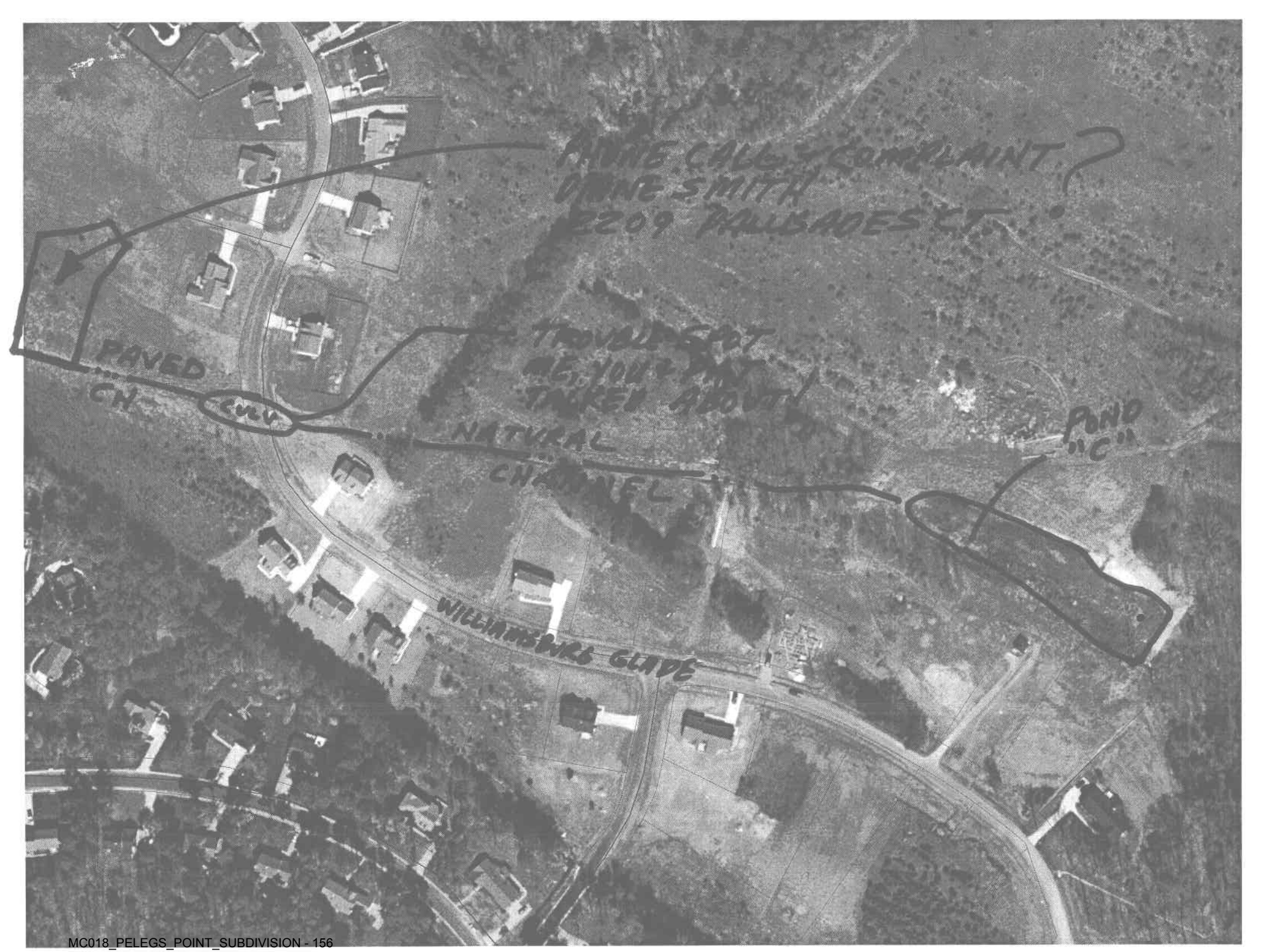
James City County Stormwater Division Stormwater Management Facility (SWMF)Inspection Report

Score Definitions: 0-N/A, 1-Adequate, 2-Routine Maintenance, 3-Non-routine repair, 4-Urgent repair(s), item has failed or is failing.

Criteria	Score	Comments: (Listed below are the items/tasks that should be rectified/ completed prior to re-inspection)
11. Routine Maintenance:	2	
12. Condition of Aquatic Environment:	1	
13. Vegetation:	1	
*14. Storage Volume:	1	
15. Debris/Sediment Accumulation:	1	
16. Standing Water:	1	
17. Safety and Aquatic Bench:	0	
18. Side Slope Vegetation:	1	
19. Other:	0	

Checked below identify corrective work required on your stormwater management facility.

- ☐ Remove all trees and other woody vegetation from the embankment (earthen dam) and also within 10' of the toe of the embankment slope.
- ☑ Remove all trees and other woody vegetation from within 10' of the principal spillway, any principal inlet devices, and the principal outfall.
- ☑ Remove all trees and other woody vegetation from within 10' of any inlet structures, such as: pipes, end sections, concrete channels, flumes, rip rap channels, etc.
- ☑ Remove all trees and other woody vegetation from within the emergency spillway and also from within 10' of the spillway.
- ☐ Investigate the cause of any settlement, sink holes, subsidence, or erosion, noted on the report and develop and implement an appropriate plan to correct the deficiencies noted permanently.
- ☑ Remove all accumulated sediment, leaves and debris from within any pipes, end sections, concrete channels, emergency spillways, flumes, rip rap channels, etc. and dispose of the material in an appropriate method and location.
- ☐ Stabilize any disturbed, unstable, denuded or bare soil areas, by installing top soil and planting a permanent grass seed to establish an effective grass ground cover over these areas.
- ☑ All grassed areas of the BMP such as: access roads, emergency spillways, embankments (earthen dam), or other non-treed areas, shall be maintained at a minimum grass height of 8", and should not be subjected to low mowing.
- ☑ Trees and woody vegetation should be cut flush with the ground, and smaller trees and limbs (less than 4" dia) may be processed with a wood chipper and dispersed in natural areas.


HOME CALL + COMPLAINT
DONE SMITH
2209 PALISADES CT.
TROUBLESPOT
AS YOUR SON
TALKED ABOUT
PAVED
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CMV
NATURAL
CHANNEL
POND
"C"
WILLIAMSBURG GLADE

DYNAMICS RESEARCH CORPORATION

1919 COMMERCE DRIVE, SUITE 360, HAMPTON, VA 23666
TEL. 757/838-9164 FAX: 757/838-9235

DAVID L. VOLZ 220-5784
Senior Technical Specialist
Command and Control Systems
E-mail: dvolz@drc.com david.volz@langley.af.mil

Volz & Volz Enterprises

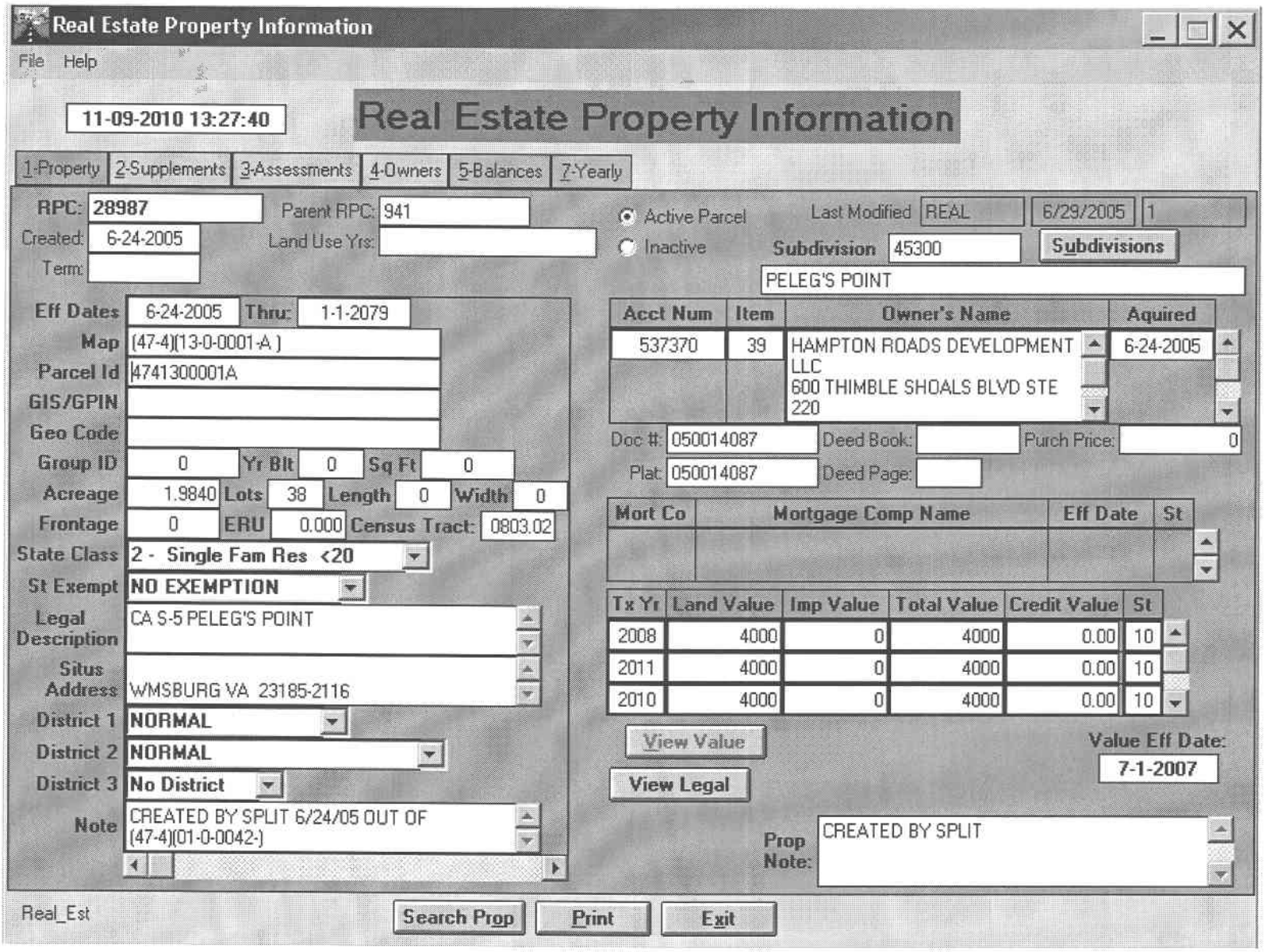
INTERNATIONAL DC CONNECTION

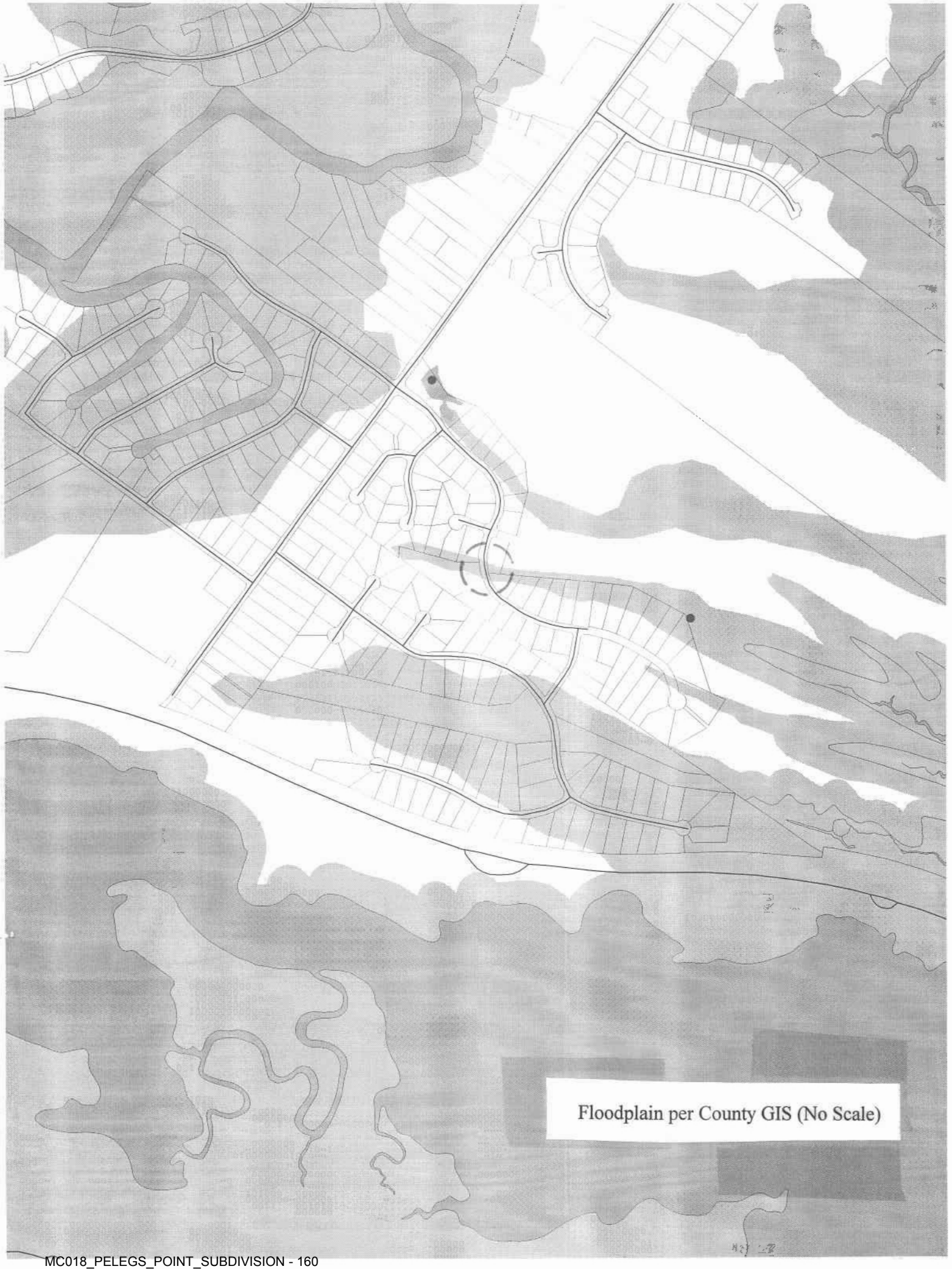
"AN ELECTRONIC COMMERCE BUSINESS FOR THE NEW MILLENNIUM"

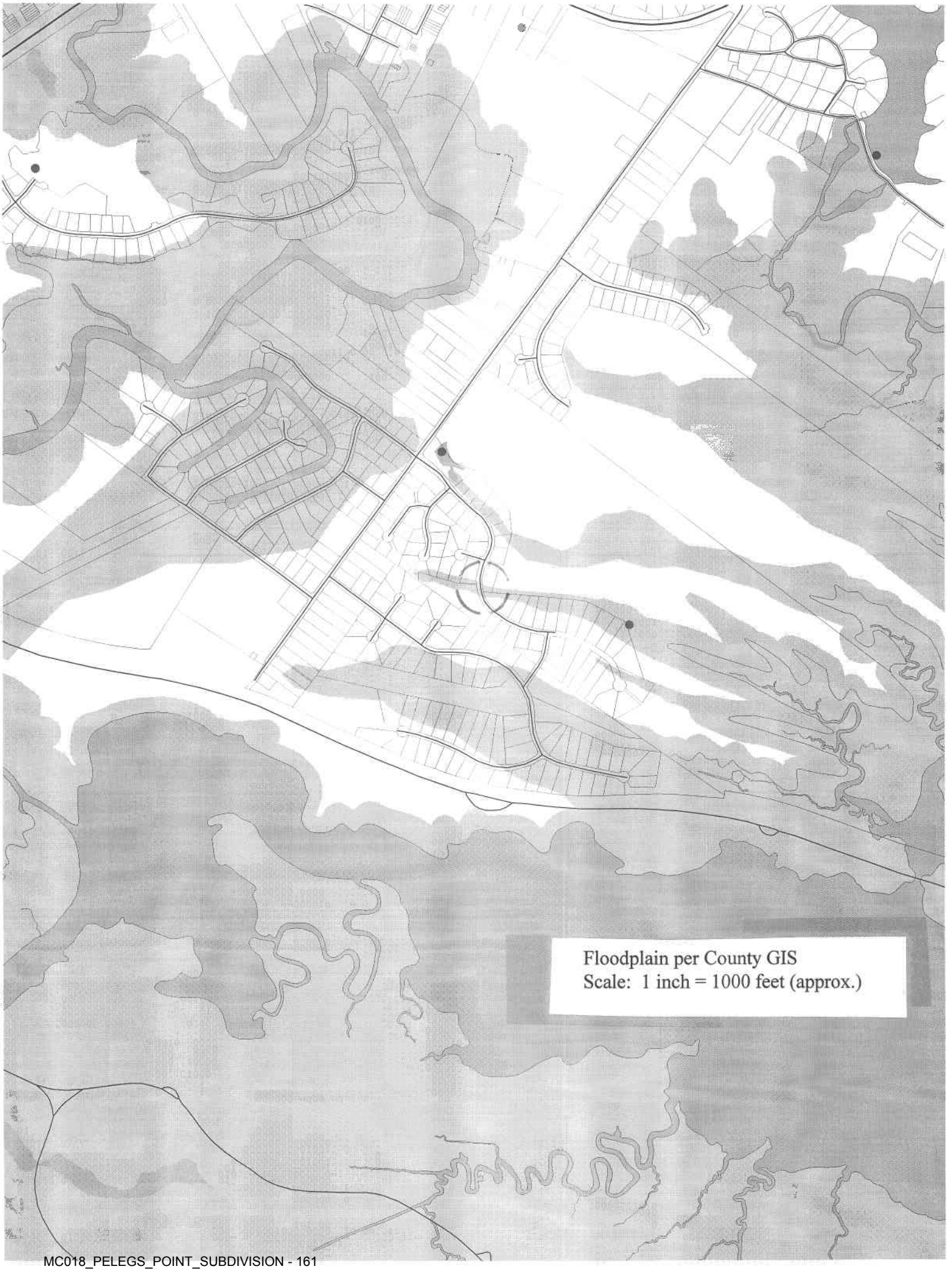
DAVE AND NANCY VOLZ

E-MAIL:
VOLZDL@AOL.COM
VOLZNE@AOL.COM

4724 WILLIAMSBURG GLADE
WILLIAMSBURG, VA 23185
HOME: (757) 259-0542
WORK: (757) 838-9164


Real Estate Property Information
File Help
11-09-2010 13:27:40
Real Estate Property Information
1-Property 2-Supplements 3-Assessments 4-Owners 5-Balances 7-Yearly
RPC: 28987
Parent RPC: 941
Created: 6-24-2005
Land Use Yrs:
Term:
Active Parcel
Inactive
Last Modified REAL 6/29/2005 1
Subdivision 45300
Subdivisions
PELEG'S POINT
Eff Dates 6-24-2005 Thru: 1-1-2079
Map (47-4)(13-0-0001-A)
Parcel Id 4741300001A
GIS/GPIN
Geo Code
Group ID 0 Yr Blt 0 Sq Ft 0
Acreage 1.9840 Lots 38 Length 0 Width 0
Frontage 0 ERU 0.000 Census Tract: 0803.02
State Class 2 - Single Fam Res <20
St Exempt NO EXEMPTION
Legal Description CA S-5 PELEG'S POINT
Situs Address WMSBURG VA 23185-2116
District 1 NORMAL
District 2 NORMAL
District 3 No District
Note CREATED BY SPLIT 6/24/05 OUT OF (47-4)(01-0-0042-)
Acct Num Item Owner's Name Aquired
537370 39 HAMPTON ROADS DEVELOPMENT LLC 600 THIMBLE SHOALS BLVD STE 220 6-24-2005
Doc #: 050014087 Deed Book: Purch Price: 0
Plat: 050014087 Deed Page:
Mort Co Mortgage Comp Name Eff Date St
Tx Yr Land Value Imp Value Total Value Credit Value St
2008 4000 0 4000 0.00 10
2011 4000 0 4000 0.00 10
2010 4000 0 4000 0.00 10
View Value
View Legal
Value Eff Date: 7-1-2007
Prop Note: CREATED BY SPLIT
Real_Est
Search Prop
Print
Exit


Floodplain per County GIS (No Scale)


Floodplain per County GIS
Scale: 1 inch = 1000 feet (approx.)

LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding; velocities also determined.

ZONE A99 To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.

ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

ZONE X Areas determined to be outside 500-year floodplain.

ZONE D Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

Floodplain Boundary

Floodway Boundary

Zone D Boundary

Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.

513 Base Flood Elevation Line; Elevation in Feet*

D — D Cross Section Line

(EL 987) Base Flood Elevation in Feet Where Uniform Within Zone*

RM7x Elevation Reference Mark

•M1.5 River Mile

*Referenced to the National Geodetic Vertical Datum of 1929

ZONE X
ZONE AE
(EL 8.5)
ZONE A
HISTORICAL
PARKWAY
MILL CREEK
GLEBE GUT
THE THOROFARE
RIVER
682
618
31

Approx. Location
Williamsburg Glade
Road Crossing

APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

JAMES CITY COUNTY, VIRGINIA
UNINCORPORATED AREAS

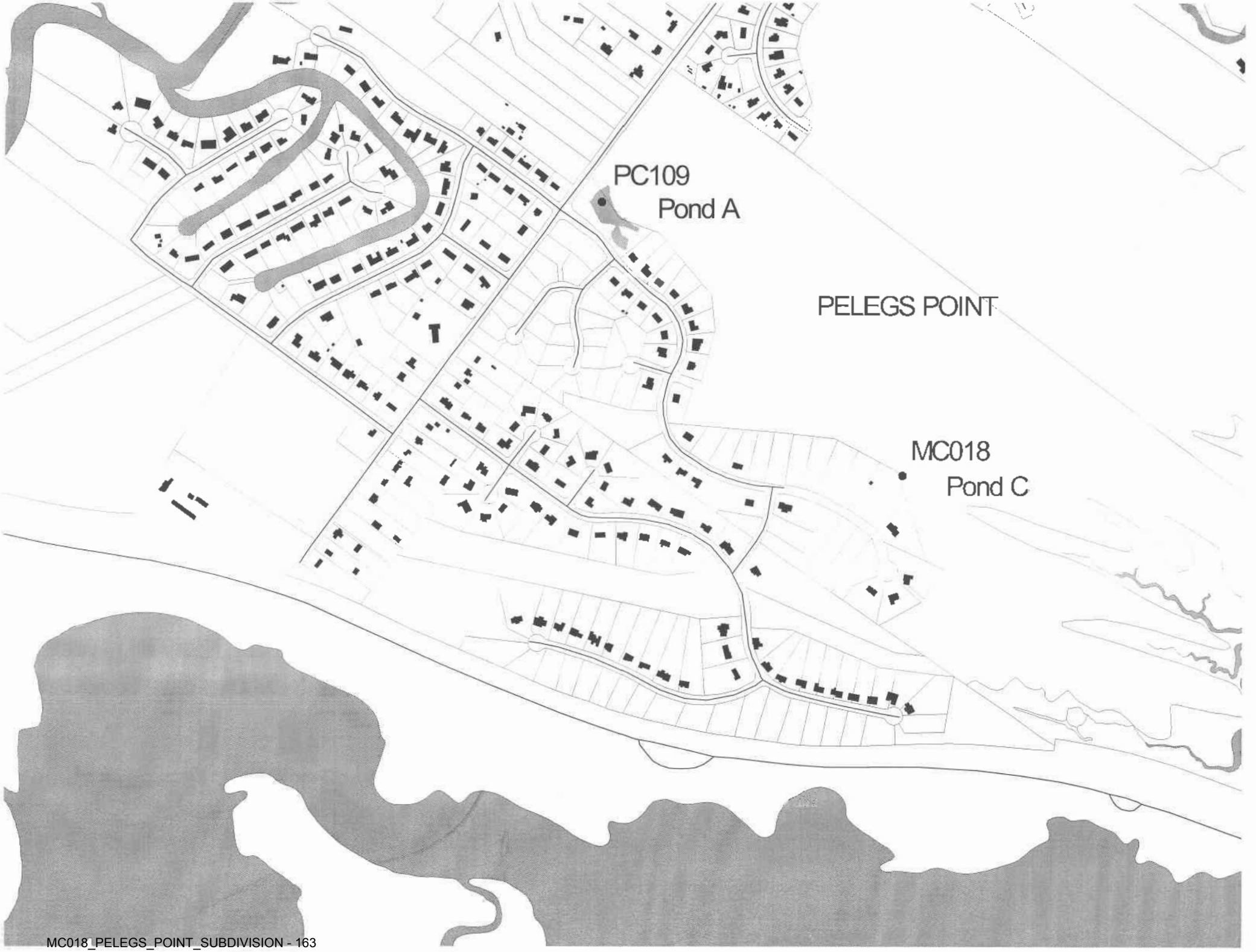
PANEL 45 OF 60
(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION

COMMUNITY-PANEL NUMBER
510201 0045 B

EFFECTIVE DATE:
FEBRUARY 6, 1991

Federal Emergency Management Agency


PC109
Pond A
PELEGS POINT
MC018
Pond C

General Notes Pertinent to All Testing

1. For trench and basin practices, a minimum field infiltration rate (f_c) of 0.5 inches per hour is required; areas yielding a lower rate preclude these practices. If the minimum f_c exceeds two inches per hour, half of the WQ_v must be treated by an upstream BMP that does allow infiltration. For sand filter and bioretention practices, no minimum infiltration rate is required if these facilities are designed with a "day-lighting" underdrain system; otherwise these facilities require a 0.5 inch per hour rate.

2. Number of required borings is based on the size of the proposed facility. Testing is done in two phases, (1) Initial Feasibility, and (2) Concept Design Testing.

3. Testing is to be conducted by a qualified professional. This professional shall either be a registered professional engineer, a soils scientist or geologist.

Initial Feasibility Testing

Feasibility testing is conducted to determine whether full-scale testing is necessary, and is meant to reduce screen unsuitable sites, and reduce testing costs. A soil boring is not required at this stage. However, a designer or landowner may opt to engage Concept Design Borings per Table E-1 at his or her discretion, without feasibility testing.

Initial testing involves either one field test per facility, regardless of type or size, or previous testing data, such as the following:

- septic percolation testing on-site, within 200 feet of the proposed BMP location, and on the same contour [can establish initial rate, water table and/or depth to bedrock]
- previous written geotechnical reporting on the site location as prepared by a qualified geotechnical consultant
- NRCS County Soil Mapping *showing an unsuitable soil group* such as a hydrologic group "D" soil in a low-lying area, or a Marlboro Clay

If the results of initial feasibility testing as determined by a qualified professional show that an infiltration rate of greater than 0.5 inches per hour is probable, then the number of *concept design test* pits shall be per the following table. An encased soil boring may be substituted for a test pit, if desired.

History Peleg's Point
May 31, 2006 DRC

- Formerly Williamsburg Glade, Section 1 started in 1989
- Split between Powhatan and Mill Creek watersheds
- Section 6 is last of six development sections (ultimate buildout)
    - Section 1 S-98-89
    - Section 2 S-93-93
    - Section 3 SP-3-93
    - Section 4 S-66-94
    - Section 5 S-49-03
    - Section 6 (currently under review)
- Poorly draining area, site not good for infiltration (HSG D)
- Very little fall for manmade drainage systems. Treatment systems which require deep excavation are prohibitive (ie. wet ponds, filter systems, etc.). Example: drainage channel between Sections 2/3 and 5 is only 0.09 percent which is about a tenth of an inch fall in 100 feet.
- Extensive FEMA SFHA floodplains (Zone AE, Zone X), wetlands and RPA on the site
- Complicated wetland permitting issues (old vs. new)
- Worked extensively w/applicant & plan preparer to revise the "Drainage and BMP Point Master Plan" from Sept of 2004 through April 2005. Approved revision on April 12, 2005
- Ultimate SWM Master Plan
    - Difficult case applying 10-point system
    - Existing Pond A, C dry shallow marsh
    - New Pond B wet ED (meets new standards)
    - BF 1, 2 and 3 biofilters (4-point BMPs per manual, unique)
    - Conservation easement
    - Selective upgrades to existing BMPs
    - SSC applies to development subarea A (Powhatan Creek)

Initial Plan of Development Screening for DRC - Preliminary Approval Purposes

Environmental Division - Tel. No. 253-6670 Fax No. 259-4032

Project Name: Peleg's Point Section 6

County Plan No.: S-59-05 Date of Review: January 24, 2006

Ok	*Not OK*	
☐	☑	Completeness of application (checklist, plans, design report, etc.)
☑	☐	Consistency with previously approved Master Stormwater Management Plan
☑	☐	Impervious cover for site less than 60 percent
☐	☑	Environmental Inventory completeness
☐	☑	Impacts to RPA, RPA Buffer or Steep Slope areas
☑	☐	Perennial Stream Determination
☑	☐	Compliance with County 10-point BMP Criteria
☐	☑	Compliance with County's Stream Channel Protection Criteria
☐	☑	Minimum Standard # 19 - Channel Adequacy
☐	☑	Erosion & Sediment Control Plan concept
☑	☐	Stormwater Management Plan concept
☑	☐	Drainage Plan concept
☑	☐	Lot-to-lot drainage
☑	☐	BMPs outlet into defined natural or man-made receiving channel.
☐	☑	Other, please describe. Buildable lot issues across the site

The Environmental Division hereby: ☐ Recommends ☑ Does not recommend granting preliminary approval for this project for the February 1, 2006 Development Review Committee (DRC) meeting.

If not OK, give specific reasons or examples:

Many Division comments as issued August 3, 2005 were not addressed in a proper manner. There are still many issues with the runoff control plan for land-disturbing activities as well as outstanding severe deficiencies with the environmental inventory and "buildable lot" issues for the site. Also, FEMA related issues as outlined in previous comment # 17 (August 3, 2005, road fill at Pelegs Way) was not addressed which could have a substantial impact on the general road and lot layout.

Name Scott J. Thomas Title Senior Engineer

Signature _____ Date 01/24/2006

DE

TRANSMITTAL SHEET

ENGINEERING & RESOURCE PROTECTION → STORMWATER

per Johnna 12/2/13 wrong id it should be MC018

Project: **Peleg's Point Phase 5**

County Plan No.: **SP-89-99**

Assigned BMP No.: **MC-018**

BMP Type: **Dry Pond**

Information Enclosed:

X Record Drawings (Asbuilts)

X Construction Certification

X Computations

X Other: Approved Plan and Deed of Easement Note:

This file is for the dam and spillway repair

Name: **Greg Johnson**

Date: **11/20/2013**

Signature: Greg B. Johnson

Repairs per plan, MAY 2006

July 18, 2006 AB/CC submitted

July 28, 2008 AB/CC submitted again

James City County Engineering and Resource Protection Division
Stormwater Management/BMP Record Drawing and Construction Certification Review Tracking Form

Project Name: PELEG'S POINT SECTION 5 POND "C")
County Plan No. (List any amendments): S-86-99 S-49-03
Stormwater Management Facility Type: DRY POND
BMP Phase #: ☐ I ☐ II ☒ III

- ☒ Information Package Submittal Date: 10/30/2012
- ☐ Completeness Check:
  - ☒ Record Drawing — Date/By: 10/10/2013 A.D. Potts
  - ☒ Construction Certification — Date/By: 8/8/2013 W. Lloyd Ward
  - ☒ RD/CC Standard Forms — (Ensure that all forms for the BMP type are included)
  - ☒ Insp/Maint Agreement — # / Date: 040014926 June 11, 2004
  - ☐ BMP Maintenance Plan — Location:
  - ☐ Special Considerations:
- ☐ Standard E&SC Notes on Approved Plan Requiring RD/CC or County comment in plan review
  Location (sheet #):
- ☒ **County BMP ID Code #:** MC-078 ← MC018
- ☒ Log into Division's "As-Built Tracking Log"
- ☒ Obtain basic site information (GPIN, Owner, Address, etc.)
- ☒ Log into Access Database (BMP ID #, Plan No., GPIN, Project Name, etc.)
- ☒ Copy from Active Project File (correspondence, H&H, design computations, etc.).
- ☒ Create As-Built File using Project File information (File label, folder, copy plan/details/design information, etc.).
- ☒ Inspector Review of RD/CC (consult with Chief Engineer prior to completion of comments).
- ☒ Record Drawing Review against Approved Plan prior to Field Inspection.
- ☒ Final Site Inspection (FI) Performed — Date:
- ☒ Record Drawing (RD) Review — Date: 10/30/12
- ☒ Construction Certification (CC) Review — Date: ~~10/30/12~~ 5/10/2013
- ☒ Actions:
  - ☐ No comments.
  - ☒ Comments. Letter Forwarded. — Date: 12/27/2012
  - ☒ Record Drawing (RD)
  - ☐ Construction Certification (CC)
  - ☒ Construction-Related (CR)
  - ☐ Site Issues (SI)
  - ☐ Other :
- ☐ Resubmittal (# and date):
- ☐ Re-inspection (if necessary):
- ☒ Drainage System Information Acceptable (RD/CC/System Info). Ok for bond release.
- ☒ Complete "Surety Request Form".
- ☒ Final Inspection of active file copying any relevant information to "As-Built" file.
- ☒ On County BMP Inventory (Phase I, II or III).
- ☐ Copy Final Inspection Report into County BMP Inspection Program file.
- ☐ Provide Digital Photographs of BMP and save into County BMP Inventory.
- ☐ Request mylar/reproducible from As-Built plan preparer.
- ☐ Complete "As-built Tracking Log".
- ☐ Last check of BMP Access Database (County BMP Inventory).
- ☐ Add BMP to JCC Hydrology & Hydraulic database (optional).
- ☐ Add BMP to Municipal BMP list (if a County-owned facility)
- ☐ Add BMP to PRIDE BMP ratings database.

Final Sign-Off

Inspector: _____ Date: _____

Chief Engineer: _____ Date: _____

*** See separate checklist, if needed.

Stormwater Management/BMP Facilities
Record Drawing and Construction Certification Forms

(Note: In accordance with the requirements of the Chesapeake Bay Preservation Ordinance, Chapter 23, Section 23-10(4), BMP's shall be designed and constructed in accordance with the manual entitled James City County Guidelines for Design and Construction of Stormwater Management BMP's. Erosion and sediment control policy and approved plans generally require that at the completion of the project and prior to release of surety, an "as-built" plan prepared by a registered Professional Engineer or Certified Land Surveyor must be provided for the drainage system for the project, including any Best Management Practice (BMP) facilities. In addition, for BMP facilities involving the construction of an impounding structure or dam embankment, certification is required by a Professional Engineer who has inspected the structure during its construction. Currently there are over 20 water quality type BMP's accepted by the County.)

Section 1 - Site Information:

Project Name: Peleg's Point Section 5
Structure/BMP Name: Pond C
Project Location: _____
BMP Location: South side Section 5
County Plan No.: _____

Project Type:
- ☑ Residential
- ☐ Commercial
- ☐ Institutional
- ☐ Public
- ☐ Other _____
- ☐ Business
- ☐ Office
- ☐ Industrial
- ☐ Roadway

Tax Map/Parcel No.: _____
BMP ID Code (if known): MC 018
Zoning District: _____
Land Use: _____
Site Area (sf or acres): _____

Brief Description of Stormwater Management/BMP Facility:
Reconstructed outfall structure and spillway on existing extended detention basin

Nearest Visible Landmark to SWM/BMP Facility: _____

Nearest Vertical Ground Control (if known):

☐ JCC Geodetic Ground Control ☐ USGS ☐ Temporary ☐ Arbitrary ☐ Other

Station Number or Name: _____
Datum or Reference Elevation: _____
Control Description: _____
Control Location from Subject Facility: _____

Section 2 - Stormwater Management/BMP Facility Construction Information:

Pre-Construction Meeting Held for Construction of SWM/BMP Facility: ☐ Yes ☐ No ☐ Unknown
Approx. Construction Start Date for SWM/BMP Facility: _____
Facility Monitored by County Representative during Construction: ☐ Yes ☐ No ☐ Unknown
Name of Site Work Contractor Who Constructed Facility: _____
Name of Professional Firm Who Routinely Monitored Construction: _____
Date of Completion for SWM/BMP Facility: _____
Date of Record Drawing/Construction Certification Submittal: Original 6-21-06, rev 3-9-07, new asbuilt 10-10-12 Rev 4/2/13, Rev 5/10/13

(Note: Record Drawing and Construction Certifications are required within thirty (30) days of the completion of Stormwater Management and/or BMP facility construction. Record Drawings and Construction Certifications must be reviewed and approved by the James City County Engineering and Resource Protection Division prior to final inspection, acceptance and bond or surety release.)

Section 3 - Owner/Designer/Contractor Information:

Owner/Developer: *(Note: Site Owner or Applicant responsible for development of the project.)*

Name: Hampton Roads Development
Mailing Address: _____
_____
Business Phone: _____ Fax: _____
Contact Person: _____ Title: _____

Design Professional: *(Note: Professional Engineer or Certified Land Surveyor responsible for the design and preparation of plans and specifications for the Stormwater Management / BMP facility.)*

Firm Name: A.D. Potts & Associates
Mailing Address: 11524 Jefferson Ave
Newport News, VA 23601
Business Phone: 757-595-4610
Fax: 757-591-2723
Responsible Plan Preparer: Eric DuBois, LS
Title: Survey Coordinator
Plan Name: Peleg's Point Section 5
Firm's Project No. _____
Plan Date: Final rev 1-28-04
Sheet No.'s Applicable to SWM/BMP Facility: 3 / 8 / _____ / _____ / _____

BMP Contractor: *(Note: Site Work Contractor directly responsible for construction of the Stormwater Management/BMP facility.)*

Firm Name: _____
Mailing Address: _____
_____
Business Phone: _____

Fax: _____
Contact Person: _____
Site Foreman/Supervisor: _____
Specialty Subcontractors and Purpose (for BMP Construction Only): _____

Section 4 - Professional Certifications:

Certifying Professionals: *(Note: A Registered Professional Engineer or Certified Land Surveyor is responsible for preparation of a Record Drawing, sometimes referred to as an As-Built plan, for the drainage system for the project including any Stormwater Management/BMP Facilities. A Registered Professional Engineer is responsible for the inspection, monitoring and certification of Stormwater Management / BMP facilities during its construction.)*

Record Drawing and Construction Certifications for Stormwater Management/BMP Facilities

Record Drawing Certification

Firm Name: A.D. Potts & Associates
Mailing Address: 11524 Jefferson Ave
Newport News, VA 23601
Business Phone: 757-595-4610
Fax: 757-591-2729
Name: Duane Potts
Title: President
Signature: Anthony D. Potts
Date: 10-10-12

I hereby certify to the best of my knowledge and belief that this record drawing represents the actual condition of the Stormwater Management/BMP facility. The facility appears to conform to the provisions of the approved design plan, specifications design, and stormwater management plan, except as specifically noted.

COMMONWEALTH OF VIRGINIA
Anthony D. Potts
No. 001487B
10-10-12
LAND SURVEYOR

_____ (Seal)

Virginia Registered Professional Engineer or Certified Land Surveyor

Construction Certification

Firm Name: EES MID-ATLANTIC, LLC
Mailing Address: 108 INGRAM ROAD
WILLIAMSBURG, VA 23188
Business Phone: 757-229-6677
Fax: 757-229-9978
Name: W. LLOYD WARD, P.E.
Title: VP / BRANCH MANAGER
Signature: _____
Date: 8/8/13

I hereby certify to the best of my knowledge and belief that this Stormwater Management/BMP facility was monitored and constructed in accordance with the provisions of the approved plan, specifications, and stormwater management plan, except as specifically noted.

COMMONWEALTH OF VIRGINIA
W. LLOYD WARD
Lic. No. 034612
8/8/13
PROFESSIONAL ENGINEER

_____ (Seal)

Virginia Registered Professional Engineer

Section 5 - Record Drawing and Construction Certification Requirements and Instructions:

☐ Pre-Construction Meeting - Provides an opportunity to review SWM/BMP facility construction, maintenance and operation plans and addresses any questions regarding construction and/or monitoring of the structure. The design engineer, certifying professionals (if different), Owner/Applicant, Contractor and County representative(s) are encouraged to attend the preconstruction meeting. Advanced notice to the Engineering and Resource Protection Division is requested. Usually, this requirement can be met simultaneously with Erosion and Sediment Control preconstruction meetings held for the project.

☑ A fully completed ***STORMWATER MANAGEMENT / BMP FACILITIES, RECORD DRAWING and CONSTRUCTION CERTIFICATION FORM*** and ***RECORD DRAWING CHECKLIST***. All applicable sections shall be completed in their entirety and certification statements signed and sealed by the registered professional responsible for individual record drawing and/or construction certification.

☑ The Record Drawing shall be prepared by a Registered Professional Engineer or Certified Land Surveyor for the drainage system of the project including any Best Management Practices.

☐ Construction Certification - Construction of Stormwater Management / BMP facilities which contain impoundments, embankments and related engineered appurtenances including subgrade preparation, compacted soils, structural fills, liners, geosynthetics, filters, seepage controls, cutoffs, toe drains, hydraulic flow control structures, etc. shall be visually observed and monitored by a Registered Professional Engineer or his/her authorized representative. The Engineer must certify that the structure, embankment and associated appurtenances were built in accordance with the approved design plan, specifications and stormwater management plan and standard accepted construction practice and shall submit a written certification and/or drawings to the Engineering and Resource Protection Division as required. Soil and compaction test reports, concrete test reports, inspection reports, logs and other required construction material or installation documentation may be required by the Engineering and Resource Protection Division to substantiate the certification, if specifically requested. The Engineer shall have the authority and responsibility to make minor changes to the approved plan, in coordination with the assigned County inspector, in order to compensate for unsafe or unusual conditions encountered during construction such as those related to bedrock, soils, groundwater, topography, etc. as long as changes do not adversely affect the integrity of the structure(s). Major changes to the approved design plan or structure must be reviewed and approved by the original design professional and the James City County Environmental Division.

☐ Record Drawing and Construction Certifications are required within **thirty (30) days** of the completion of Stormwater Management / BMP facility construction. Submittals must be reviewed and accepted by James City County Engineering and Resource Protection Division prior to final inspection, acceptance and bond/surety release.

Dual Purpose Facilities - Completion of construction also includes an interim stage for Stormwater Management / BMP facilities which serve dual purpose as temporary sediment basins during construction and as permanent stormwater management / BMP facilities following construction, once development and stabilization are substantially complete. For these dual purpose facilities, construction certification is required once the temporary sediment basin phase of construction is complete. Final record drawing and construction certification of additional permanent components is required once permanent facility construction is complete.

Interim Construction Certification is required for those dual purpose embankment-type facilities that are generally ten (10) feet or greater in dam height (*) and may not be converted, modified or begin function as a permanent SWM / BMP structure for a period generally ranging from six (6) to eighteen (18) months or more from issuance of a Land Disturbance permit for construction.

Interim or final record drawing and construction certifications are not required for temporary sediment basins which are designed and constructed in accordance with current minimum standards and specifications for temporary sediment basins per the Virginia Erosion and Sediment Control Handbook (VESCH); have a temporary service life of less than eighteen (18) months; and will be removed completely once associated disturbed areas are stabilized, unless a distinct hazard to the public's health, safety and welfare is determined by the Engineering and Resource Protection Division due to the size or presence of the structure or due to evidence of improper construction.

(*Note: Dam Height as referenced above is generally defined as the vertical distance from the natural bed of the stream or waterway at the downstream toe of the embankment to the top of the embankment structure in accordance with 4VAC50-20-30, Virginia Impoundment Structure Regulations and the Virginia Dam Safety Program.)

☑ Record Drawings shall provide, at a minimum, all information as shown within these requirements and the attached **RECORD DRAWING CHECKLIST** specific to the type of SWM/BMP facility being constructed. Other additional record data may be formally requested by the James City County Engineering and Resource Protection Division. *(Note: Refer to the current edition of the James City County Guidelines for Design and Construction of Stormwater Management BMP's manual for a complete list of acceptable BMP's. Currently there are over 20 acceptable water quality type BMP's accepted by the County.)*

☑ Record Drawings shall consist of blue/black line prints and a reproducible (mylar, sepia, diazo, etc.) set of the approved stormwater management plan including applicable plan views, profiles, sections, details, maintenance plans, etc. as related to the subject SWM / BMP facility. The set shall indicate **"RECORD DRAWING "** in large text in the lower right hand corner of each sheet with record elevations, dimensions and data drawn in a clearly annotated format and/or boxed beside design values. Approved design plan values, dimensions and data shall not be removed or erased. Drawing sheet revision blocks shall be modified as required to indicate record drawing status. Elevations to the nearest 0.1' are sufficiently accurate except where higher accuracy is needed to show positive drainage. Certification statements as shown in Section 4 of the Record Drawing and Construction Certification Form, ***or similar forms thereof***, and professional signatures and seals, with dates matching that of the record drawing status in the revision or title block, are also required on all associated record drawing plans, prints or reproducibles.

☐ Submission Requirements - Initial and subsequent submissions for review shall consist of a minimum of one (1) blue/black line set for record drawings and one copy of the construction certification documents with appropriate transmittal. Under certain circumstances, it is understood that the record drawing and construction certification submissions may be performed by different professional firms. Therefore, record drawing submission may be in advance of construction certification or vice versa. Upon approval and prior to release of bond/surety, final submission shall include one (1) reproducible set of the record drawings, one (1) blue/black line set of the record drawings and one (1) copy of the construction certification. Also for current and/or future incorporation into the County BMP database and GIS system,

it is requested that the record drawings also be submitted to the Engineering and Resource Protection Division on a diskette or CD-ROM in an acceptable electronic file format such as *.dxf, *.dwg, etc. or in a standard scanned and readable format. The electronic file requirement can be discussed and coordinated with Engineering and Resource Protection Division staff at the time of final submission.

STORMWATER MANAGEMENT/BMP FACILITIES
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

I. **Methods and Presentation:** *(Required for all Stormwater Management/BMP facilities.)*

XX 1. All constructed facilities meet approved design plans, unless otherwise shown. Record information or deviations from approved design plan shown in clearly annotated format and/or boxed beside design values.

XX 2. Elevations to the nearest 0.1' unless higher accuracy is needed to show positive drainage.

XX 3. All plan sheets labeled with "RECORD DRAWING" in large text in lower right hand corner. (Approved County Plan Number and BMP ID Code can be included if known).

XX 4. All plan sheet revision blocks modified to indicate date and record drawing status.

XX 5. All plan sheets have certification statements and certifying professional's signature and seal.

II. **Minimum Standards:** *(Required for all Stormwater Management / BMP facilities, as applicable.)*

XX 1. All requirements of Section I (Methods and Presentation) apply to this section.

XX 2. Plan Views: Show general location, arrangement and dimensions. Location and alignment shall generally match approved design plans.

XX 3. Profile or elevations along top or berm of the facility. At a minimum, elevations are required at each end, at intervals not to exceed 50 feet and where low spots may be present. Top of embankment or berm elevations must be no less than design elevation plus any settlement allowances.

XX 4. Top widths, berm widths, and embankment side slopes.

XX 5. Show length, width and depth of facility or grading, contours or spot elevations as required to verify permanent pool and design storage volumes were met or were reasonably close to the approved design. Evaluation of as-built grading, contours, spot elevations, or cross-sections, may be necessary by the professional to ensure approved design configurations, depths and volumes were closely maintained. If grading or elevations are significantly different from the approved plan, the Engineering and Resource Protection Division shall be contacted immediately to determine whether the variation is acceptable or whether further evidence will be required. Facilities which do not closely resemble approved plan grades, elevations or configurations may require regrading by the Contractor; check volumetric computations; and/or a check hydraulic routing to ensure approved design water surface elevations, discharges or freeboard were closely maintained.

XX 6. Cross-section of the embankment through the principal spillway or outlet barrel. Must extend at least 100 ft. downstream of the pipe outlet or to recorded site property line, whichever is closer. Proper correlation is required between principal spillway (control structure) crest, emergency spillway crest, orifice, and weirs and the top of the dam or facility. All elevations and dimensions must reasonably match the design plan or be sequentially relative to each other and the facility must reflect the required design storage volume(s) and/or design depth.

XX 7. Profile or elevations along the entire centerline of the emergency spillway. Emergency spillway may be steeper, but no flatter or narrower than design.

XX 8. Elevation of the principal spillway crest or outlet crest of the structure.

XX 9. Primary control structure (riser) diameter or dimensions, height, type of material and base size. Indicate provisions for access that are present such as steps, ladders, etc.

XX 10. Dimensions, locations and elevations of outlet orifices, weirs, slots and drains.

XX 11. Type and size of anti-vortex and trash rack device. Height, diameter, dimensions, bar spacings (if applicable) and elevations relative to the principal spillway crest. Indicate if lockable hatch is present or not.

____ 12. Type, location, size, and number of anti-seep collars or documentation of other methods utilized for seepage control. **May need to obtain this information during construction.**

____ 13. Top of impervious core embankment, core trench limits and elevation of cut-off trench bottom. **May need to obtain this information during construction.**

XX 14. Elevation of the principal spillway barrel (outlet pipe) inlet and outlet invert.

XX 15. Outlet barrel diameter, length, slope, type, and thickness class of material and type of flared end sections, headwall or endwall.

XX 16. Outfall protection dimension, type and depth of rock and if underlain filter fabric is present.

____ 17. BMP interior and periphery landscaping zones conform with arrangements and requirements of the approved design plan.

____ 18. Maintenance plan taken from approved design plan transposed onto record drawing set.

____ 19. Fencing location and type, if applicable to facility.

____ 20. BMP vicinity properly cleaned of stockpiles and construction debris.

____ 21. No visual signs of erosion or channel degradation immediately downstream of facility.

____ 22. Any other information formally requested by the Environmental Division specific to the constructed SWM/BMP facility.

STORMWATER MANAGEMENT/BMP FACILITIES
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

VIII. Group F - Extended Dry Detention *(Includes F-1 Timber Walls; and F-2 Dry Extended Detention with Forebay)*

XX F1. All requirements of Section II, Minimum Standards, apply to Group F facilities.

XX F2. Basin bottom has positive slope and drainage from all basin inflow points to the riser (or outflow) location.

N/A F3. Timber wall BMP used in intermittent stream only. (ie. Prohibited in perennial streams.)

N/A F4. Forebay provided approximately 20 ft. upstream of the facility. Forebays generally 4 to 6 feet in depth.

XX F5. A reverse slope pipe, vertical stand pipe or mini-barrel and riser was provided to prevent clogging.

XX F6. Principal spillway and outlet barrel provided consisting of reinforced concrete pipe with O-Ring gaskets for watertight joint construction.

XX F7. Mini-barrel and riser, if used, contains a removable trash rack to reduce clogging.

N/A F8. Low flow orifice, if used, has a minimum diameter of three (3) inches or two (2) inches if internal orifice control was utilized and a small, cage type external trash rack.

N/A F9. Timbers properly reinforced or concrete footing provided if soil conditions were prohibitive.

N/A F10. Timber wall cross members extended to a minimum depth of two (2) feet below ground elevation.

N/A F11. Protection against erosion and scour from the low flow orifice and weir-flow trajectory provided.

N/A F12. Stilling basin or standard outlet protection provided at principal spillway outlet.

N/A F13. Adequate, direct access provided to the facility. Access corridor to facility is at least ten (10) feet wide; slope is less than twenty (20) percent and appropriate stabilization provided for equipment and vehicle use. Access extends to forebay, standpipe and timber wall, as applicable.

N/A F14. No visual signs of undercutting of timber walls or clogging of the low orifice were present.

XX F15. No visual signs of erosion or channel degradation immediately downstream of facility.

____ F16. No visible signs of accumulated silt/sediment were present in the facility following construction or alternately, accumulated silt/sediment was properly removed and no adverse affects to the function of the facility are anticipated.

STORMWATER MANAGEMENT/BMP FACILITIES
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

X. Storm Drainage Systems (Associated with BMP's Only)

(Includes all incidental stormwater drainage conveyance systems associated with SWM/BMP facilities such as onsite or offsite storm drains, open channels, inlets, manholes, junctions, outlet protections, deflectors, etc. These facilities are external to the treatment function of, but are directly associated with drainage to and/or from a constructed SWM/BMP facility. The intent of this portion of the certification is to accurately identify the type and quantity of inflow or outflow points associated with the facility for future reference. The Professional may use his/her own discretion to determine inclusive facilities to meet the intent of this section. As a general rule, storm drainage systems would include incidental facilities to the nearest access structure upslope or downslope from the normal physical limits of the facility or 800 feet of storm drainage conveyance system length, whichever is less.)

XX SD1. All requirements of Section II, Minimum Standards, apply to Storm Drainage Systems.

XX SD2. Horizontal location of all pipe and structures relative to the SWM/BMP facility.

XX SD3. Type, top elevation and invert elevation of all access type structures (inlets, manholes, etc.).

XX SD4. Material type, size or diameter, class, invert elevations, lengths and slopes for all pipe segments.

XX SD5. Class, length, width and depth of riprap and outlet protections or dimensions of special energy dissipation structures.

XI. Other Systems *(Includes any non-typical, specialty, manufactured or innovative stormwater management/BMP practices or systems generally accepted for use as or in conjunction with other acceptable stormwater management/BMP practices. Requires evidence of prior satisfactory industry use and prior Environmental Division approval, waiver or exception.)*

_____ O1. All requirements of Section II, Minimum Standards, apply to this section.

_____ O2. Certification criteria to be determined on a case-by-case basis by the Engineering and Resource Protection Division specific to the proposed SWM/BMP facility.

Stormwater Management/BMP Facilities
Record Drawing and Construction Certification Forms

(Note: In accordance with the requirements of the Chesapeake Bay Preservation Ordinance, Chapter 23, Section 23-10(4), BMP's shall be designed and constructed in accordance with the manual entitled James City County Guidelines for Design and Construction of Stormwater Management BMP's. Erosion and sediment control policy and approved plans generally require that at the completion of the project and prior to release of surety, an "as-built" plan prepared by a registered Professional Engineer or Certified Land Surveyor must be provided for the drainage system for the project, including any Best Management Practice (BMP) facilities. In addition, for BMP facilities involving the construction of an impounding structure or dam embankment, certification is required by a Professional Engineer who has inspected the structure during its construction. Currently there are over 20 water quality type BMP's accepted by the County.)

Environmental Division

OCT 04 2013

RECEIVED

Section 1 - Site Information:

Project Name: Peleg's Point Section 5

Structure/BMP Name: Pond C

Project Location: _____

BMP Location: South side Section 5

County Plan No.: _____

Project Type: ☑ Residential ☐ Business ☐ Commercial ☐ Office ☐ Institutional ☐ Industrial ☐ Public ☐ Roadway ☐ Other _____

Tax Map/Parcel No.: _____

BMP ID Code (if known): MC 018

Zoning District: _____

Land Use: _____

Site Area (sf or acres): _____

Brief Description of Stormwater Management/BMP Facility:

Reconstructed outfall structure and spillway on existing extended detention basin

Nearest Visible Landmark to SWM/BMP Facility: _____

Nearest Vertical Ground Control (if known):

☐ JCC Geodetic Ground Control ☐ USGS ☐ Temporary ☐ Arbitrary ☐ Other

Station Number or Name: _____

Datum or Reference Elevation: _____

Control Description: _____

Control Location from Subject Facility: _____

Section 2 - Stormwater Management/BMP Facility Construction Information:

Pre-Construction Meeting Held for Construction of SWM/BMP Facility: ☐Yes ☐No ☐Unknown
Approx. Construction Start Date for SWM/BMP Facility: _____
Facility Monitored by County Representative during Construction: ☐Yes ☐No ☐Unknown
Name of Site Work Contractor Who Constructed Facility: _____
Name of Professional Firm Who Routinely Monitored Construction: _____
Date of Completion for SWM/BMP Facility: _____
Date of Record Drawing/Construction Certification Submittal: Original 6-21-06, rev 3-9-07, new asbuilt 10-10-12
Rev 4/2/13, Rev 5/10/13

(Note: Record Drawing and Construction Certifications are required within thirty (30) days of the completion of Stormwater Management and/or BMP facility construction. Record Drawings and Construction Certifications must be reviewed and approved by the James City County Engineering and Resource Protection Division prior to final inspection, acceptance and bond or surety release.)

Section 3 - Owner/Designer/Contractor Information:

Owner/Developer: *(Note: Site Owner or Applicant responsible for development of the project.)*

Name: Hampton Roads Development
Mailing Address: _____
_____
Business Phone: _____ Fax: _____
Contact Person: _____ Title: _____

Design Professional: *(Note: Professional Engineer or Certified Land Surveyor responsible for the design and preparation of plans and specifications for the Stormwater Management / BMP facility.)*

Firm Name: A.D. Potts & Associates
Mailing Address: 11524 Jefferson Ave
Newport News, VA 23601
Business Phone: 757-595-4610
Fax: 757-591-2723
Responsible Plan Preparer: Eric DuBois, LS
Title: Survey Coordinator
Plan Name: Peleg's Point Section 5
Firm's Project No. _____
Plan Date: Final rev 1-28-04
Sheet No.'s Applicable to SWM/BMP Facility: 3 / 8 / _____ / _____ / _____

BMP Contractor: *(Note: Site Work Contractor directly responsible for construction of the Stormwater Management/BMP facility.)*

Firm Name: _____
Mailing Address: _____
_____
Business Phone: _____

Fax: _____
Contact Person: _____
Site Foreman/Supervisor: _____
Specialty Subcontractors and Purpose (for BMP Construction Only): _____
_____
_____
_____
_____

Section 4 - Professional Certifications:

Certifying Professionals: *(Note: A Registered Professional Engineer or Certified Land Surveyor is responsible for preparation of a Record Drawing, sometimes referred to as an As-Built plan, for the drainage system for the project including any Stormwater Management/BMP Facilities. A Registered Professional Engineer is responsible for the inspection, monitoring and certification of Stormwater Management / BMP facilities during its construction.)*

Record Drawing and Construction Certifications for Stormwater Management/BMP Facilities

Record Drawing Certification

Firm Name: A. D. Potts & Associates, Inc.
Mailing Address: 11524 Jefferson Avenue
Newport News, VA 23601
Business Phone: 757-595-4610
Fax: 757-591-2723
Name: Anthony D. Potts
Title: President
Signature: Anthony D Potts
Date: 5-10-13

I hereby certify to the best of my knowledge and belief that this record drawing represents the actual condition of the Stormwater Management/BMP facility. The facility appears to conform to the provisions of the approved design plan, specifications design, and stormwater management plan, except as specifically noted.

COMMONWEALTH OF VIRGINIA
Anthony D. Potts
No. 001487B
5-10-13
LAND SURVEYOR

_____ (Seal)

Virginia Registered Professional Engineer or Certified Land Surveyor

Construction Certification

Firm Name: _____
Mailing Address: _____
_____
Business Phone: _____
Fax: _____
Name: _____
Title: _____
Signature: _____
Date: _____

I hereby certify to the best of my knowledge and belief that this Stormwater Management/BMP facility was monitored and constructed in accordance with the provisions of the approved plan, specifications, and stormwater management plan, except as specifically noted.

_____ (Seal)

Virginia Registered Professional Engineer

Section 5 - Record Drawing and Construction Certification Requirements and Instructions:

☐ Pre-Construction Meeting - Provides an opportunity to review SWM/BMP facility construction, maintenance and operation plans and addresses any questions regarding construction and/or monitoring of the structure. The design engineer, certifying professionals (if different), Owner/Applicant, Contractor and County representative(s) are encouraged to attend the preconstruction meeting. Advanced notice to the Engineering and Resource Protection Division is requested. Usually, this requirement can be met simultaneously with Erosion and Sediment Control preconstruction meetings held for the project.

☑ A fully completed ***STORMWATER MANAGEMENT / BMP FACILITIES, RECORD DRAWING and CONSTRUCTION CERTIFICATION FORM*** and ***RECORD DRAWING CHECKLIST***. All applicable sections shall be completed in their entirety and certification statements signed and sealed by the registered professional responsible for individual record drawing and/or construction certification.

☑ The Record Drawing shall be prepared by a Registered Professional Engineer or Certified Land Surveyor for the drainage system of the project including any Best Management Practices.

☐ Construction Certification - Construction of Stormwater Management / BMP facilities which contain impoundments, embankments and related engineered appurtenances including subgrade preparation, compacted soils, structural fills, liners, geosynthetics, filters, seepage controls, cutoffs, toe drains, hydraulic flow control structures, etc. shall be visually observed and monitored by a Registered Professional Engineer or his/her authorized representative. The Engineer must certify that the structure, embankment and associated appurtenances were built in accordance with the approved design plan, specifications and stormwater management plan and standard accepted construction practice and shall submit a written certification and/or drawings to the Engineering and Resource Protection Division as required. Soil and compaction test reports, concrete test reports, inspection reports, logs and other required construction material or installation documentation may be required by the Engineering and Resource Protection Division to substantiate the certification, if specifically requested. The Engineer shall have the authority and responsibility to make minor changes to the approved plan, in coordination with the assigned County inspector, in order to compensate for unsafe or unusual conditions encountered during construction such as those related to bedrock, soils, groundwater, topography, etc. as long as changes do not adversely affect the integrity of the structure(s). Major changes to the approved design plan or structure must be reviewed and approved by the original design professional and the James City County Environmental Division.

☐ Record Drawing and Construction Certifications are required within **thirty (30) days** of the completion of Stormwater Management / BMP facility construction. Submittals must be reviewed and accepted by James City County Engineering and Resource Protection Division prior to final inspection, acceptance and bond/surety release.

Dual Purpose Facilities - Completion of construction also includes an interim stage for Stormwater Management / BMP facilities which serve dual purpose as temporary sediment basins during construction and as permanent stormwater management / BMP facilities following construction, once development and stabilization are substantially complete. For these dual purpose facilities, construction certification is required once the temporary sediment basin phase of construction is complete. Final record drawing and construction certification of additional permanent components is required once permanent facility construction is complete.

Interim Construction Certification is required for those dual purpose embankment-type facilities that are generally ten (10) feet or greater in dam height (*) and may not be converted, modified or begin function as a permanent SWM / BMP structure for a period generally ranging from six (6) to eighteen (18) months or more from issuance of a Land Disturbance permit for construction.

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(*Note: Dam Height as referenced above is generally defined as the vertical distance from the natural bed of the stream or waterway at the downstream toe of the embankment to the top of the embankment structure in accordance with 4VAC50-20-30, Virginia Impoundment Structure Regulations and the Virginia Dam Safety Program.)

☑ Record Drawings shall provide, at a minimum, all information as shown within these requirements and the attached **RECORD DRAWING CHECKLIST** specific to the type of SWM/BMP facility being constructed. Other additional record data may be formally requested by the James City County Engineering and Resource Protection Division. *(Note: Refer to the current edition of the James City County Guidelines for Design and Construction of Stormwater Management BMP's manual for a complete list of acceptable BMP's. Currently there are over 20 acceptable water quality type BMP's accepted by the County.)*

☑ Record Drawings shall consist of blue/black line prints and a reproducible (mylar, sepia, diazo, etc.) set of the approved stormwater management plan including applicable plan views, profiles, sections, details, maintenance plans, etc. as related to the subject SWM / BMP facility. The set shall indicate **"RECORD DRAWING "** in large text in the lower right hand corner of each sheet with record elevations, dimensions and data drawn in a clearly annotated format and/or boxed beside design values. Approved design plan values, dimensions and data shall not be removed or erased. Drawing sheet revision blocks shall be modified as required to indicate record drawing status. Elevations to the nearest 0.1' are sufficiently accurate except where higher accuracy is needed to show positive drainage. Certification statements as shown in Section 4 of the Record Drawing and Construction Certification Form, ***or similar forms thereof***, and professional signatures and seals, with dates matching that of the record drawing status in the revision or title block, are also required on all associated record drawing plans, prints or reproducibles.

☐ Submission Requirements - Initial and subsequent submissions for review shall consist of a minimum of one (1) blue/black line set for record drawings and one copy of the construction certification documents with appropriate transmittal. Under certain circumstances, it is understood that the record drawing and construction certification submissions may be performed by different professional firms. Therefore, record drawing submission may be in advance of construction certification or vice versa. Upon approval and prior to release of bond/surety, final submission shall include one (1) reproducible set of the record drawings, one (1) blue/black line set of the record drawings and one (1) copy of the construction certification. Also for current and/or future incorporation into the County BMP database and GIS system,

it is requested that the record drawings also be submitted to the Engineering and Resource Protection Division on a diskette or CD-ROM in an acceptable electronic file format such as *.dxf, *.dwg, etc. or in a standard scanned and readable format. The electronic file requirement can be discussed and coordinated with Engineering and Resource Protection Division staff at the time of final submission.

STORMWATER MANAGEMENT/BMP FACILITIES
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

I. Methods and Presentation: *(Required for all Stormwater Management/BMP facilities.)*

XX 1. All constructed facilities meet approved design plans, unless otherwise shown. Record information or deviations from approved design plan shown in clearly annotated format and/or boxed beside design values.

XX 2. Elevations to the nearest 0.1' unless higher accuracy is needed to show positive drainage.

XX 3. All plan sheets labeled with "RECORD DRAWING" in large text in lower right hand corner. (Approved County Plan Number and BMP ID Code can be included if known).

XX 4. All plan sheet revision blocks modified to indicate date and record drawing status.

XX 5. All plan sheets have certification statements and certifying professional's signature and seal.

II. Minimum Standards: *(Required for all Stormwater Management / BMP facilities, as applicable.)*

XX 1. All requirements of Section I (Methods and Presentation) apply to this section.

XX 2. Plan Views: Show general location, arrangement and dimensions. Location and alignment shall generally match approved design plans.

XX 3. Profile or elevations along top or berm of the facility. At a minimum, elevations are required at each end, at intervals not to exceed 50 feet and where low spots may be present. Top of embankment or berm elevations must be no less than design elevation plus any settlement allowances.

XX 4. Top widths, berm widths, and embankment side slopes.

XX 5. Show length, width and depth of facility or grading, contours or spot elevations as required to verify permanent pool and design storage volumes were met or were reasonably close to the approved design. Evaluation of as-built grading, contours, spot elevations, or cross-sections, may be necessary by the professional to ensure approved design configurations, depths and volumes were closely maintained. If grading or elevations are significantly different from the approved plan, the Engineering and Resource Protection Division shall be contacted immediately to determine whether the variation is acceptable or whether further evidence will be required. Facilities which do not closely resemble approved plan grades, elevations or configurations may require regrading by the Contractor; check volumetric computations; and/or a check hydraulic routing to ensure approved design water surface elevations, discharges or freeboard were closely maintained.

XX 6. Cross-section of the embankment through the principal spillway or outlet barrel. Must extend at least 100 ft. downstream of the pipe outlet or to recorded site property line, whichever is closer. Proper correlation is required between principal spillway (control structure) crest, emergency spillway crest, orifice, and weirs and the top of the dam or facility. All elevations and dimensions must reasonably match the design plan or be sequentially relative to each other and the facility must reflect the required design storage volume(s) and/or design depth.

XX 7. Profile or elevations along the entire centerline of the emergency spillway. Emergency spillway may be steeper, but no flatter or narrower than design.

XX 8. Elevation of the principal spillway crest or outlet crest of the structure.

XX 9. Primary control structure (riser) diameter or dimensions, height, type of material and base size. Indicate provisions for access that are present such as steps, ladders, etc.

XX 10. Dimensions, locations and elevations of outlet orifices, weirs, slots and drains.

XX 11. Type and size of anti-vortex and trash rack device. Height, diameter, dimensions, bar spacings (if applicable) and elevations relative to the principal spillway crest. Indicate if lockable hatch is present or not.

____ 12. Type, location, size, and number of anti-seep collars or documentation of other methods utilized for seepage control. **May need to obtain this information during construction.**

____ 13. Top of impervious core embankment, core trench limits and elevation of cut-off trench bottom. **May need to obtain this information during construction.**

XX 14. Elevation of the principal spillway barrel (outlet pipe) inlet and outlet invert.

XX 15. Outlet barrel diameter, length, slope, type, and thickness class of material and type of flared end sections, headwall or endwall.

XX 16. Outfall protection dimension, type and depth of rock and if underlain filter fabric is present.

____ 17. BMP interior and periphery landscaping zones conform with arrangements and requirements of the approved design plan.

____ 18. Maintenance plan taken from approved design plan transposed onto record drawing set.

____ 19. Fencing location and type, if applicable to facility.

____ 20. BMP vicinity properly cleaned of stockpiles and construction debris.

____ 21. No visual signs of erosion or channel degradation immediately downstream of facility.

____ 22. Any other information formally requested by the Environmental Division specific to the constructed SWM/BMP facility.

STORMWATER MANAGEMENT/BMP FACILITIES
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

VIII. Group F - Extended Dry Detention *(Includes F-1 Timber Walls; and F-2 Dry Extended Detention with Forebay)*

XX F1. All requirements of Section II, Minimum Standards, apply to Group F facilities.

XX F2. Basin bottom has positive slope and drainage from all basin inflow points to the riser (or outflow) location.

N/A F3. Timber wall BMP used in intermittent stream only. (ie. Prohibited in perennial streams.)

N/A F4. Forebay provided approximately 20 ft. upstream of the facility. Forebays generally 4 to 6 feet in depth.

XX F5. A reverse slope pipe, vertical stand pipe or mini-barrel and riser was provided to prevent clogging.

XX F6. Principal spillway and outlet barrel provided consisting of reinforced concrete pipe with O-Ring gaskets for watertight joint construction.

XX F7. Mini-barrel and riser, if used, contains a removable trash rack to reduce clogging.

N/A F8. Low flow orifice, if used, has a minimum diameter of three (3) inches or two (2) inches if internal orifice control was utilized and a small, cage type external trash rack.

N/A F9. Timbers properly reinforced or concrete footing provided if soil conditions were prohibitive.

N/A F10. Timber wall cross members extended to a minimum depth of two (2) feet below ground elevation.

N/A F11. Protection against erosion and scour from the low flow orifice and weir-flow trajectory provided.

N/A F12. Stilling basin or standard outlet protection provided at principal spillway outlet.

N/A F13. Adequate, direct access provided to the facility. Access corridor to facility is at least ten (10) feet wide; slope is less than twenty (20) percent and appropriate stabilization provided for equipment and vehicle use. Access extends to forebay, standpipe and timber wall, as applicable.

N/A F14. No visual signs of undercutting of timber walls or clogging of the low orifice were present.

XX F15. No visual signs of erosion or channel degradation immediately downstream of facility.

____ F16. No visible signs of accumulated silt/sediment were present in the facility following construction or alternately, accumulated silt/sediment was properly removed and no adverse affects to the function of the facility are anticipated.

STORMWATER MANAGEMENT/BMP FACILITIES
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

X. Storm Drainage Systems (Associated with BMP's Only)

(Includes all incidental stormwater drainage conveyance systems associated with SWM/BMP facilities such as onsite or offsite storm drains, open channels, inlets, manholes, junctions, outlet protections, deflectors, etc. These facilities are external to the treatment function of, but are directly associated with drainage to and/or from a constructed SWM/BMP facility. The intent of this portion of the certification is to accurately identify the type and quantity of inflow or outflow points associated with the facility for future reference. The Professional may use his/her own discretion to determine inclusive facilities to meet the intent of this section. As a general rule, storm drainage systems would include incidental facilities to the nearest access structure upslope or downslope from the normal physical limits of the facility or 800 feet of storm drainage conveyance system length, whichever is less.)

XX SD1. All requirements of Section II, Minimum Standards, apply to Storm Drainage Systems.

XX SD2. Horizontal location of all pipe and structures relative to the SWM/BMP facility.

XX SD3. Type, top elevation and invert elevation of all access type structures (inlets, manholes, etc.).

XX SD4. Material type, size or diameter, class, invert elevations, lengths and slopes for all pipe segments.

XX SD5. Class, length, width and depth of riprap and outlet protections or dimensions of special energy dissipation structures.

XI. Other Systems *(Includes any non-typical, specialty, manufactured or innovative stormwater management/BMP practices or systems generally accepted for use as or in conjunction with other acceptable stormwater management/BMP practices. Requires evidence of prior satisfactory industry use and prior Environmental Division approval, waiver or exception.)*

____ O1. All requirements of Section II, Minimum Standards, apply to this section.

____ O2. Certification criteria to be determined on a case-by-case basis by the Engineering and Resource Protection Division specific to the proposed SWM/BMP facility.

COPY

COUNTY OF JAMES CITY, VIRGINIA

DECLARATION OF COVENANTS

INSPECTION/MAINTENANCE OF DRAINAGE SYSTEM

THIS DECLARATION, made this 17th day of May, 2004, between Hampton Roads Development, L.L.C., and all successors in interest, ("COVENANTOR(S),") owner(s) of the following property: Peleg's Point, Section Five, project name, P-A,B PT Neck-O-Land Road - 324 Neck-O-Land Road (47-4)(01-0-0042) Document No. _____, Deed Book _____, Page No. _____; Instrument No. 040023587, and the County of James City, Virginia ("COUNTY.")

WITNESSETH:

We, the COVENANTOR(S), with full authority to execute deeds, mortgages, other covenants, and all rights, titles and interests in the property described above, do hereby covenant with the COUNTY as follows:

1. The COVENANTOR(S) shall provide maintenance for the drainage system including any runoff control facilities, conveyance systems and associated easements, hereinafter referred to as the "SYSTEM," located on and serving the above-described property to ensure that the SYSTEM is and remains in proper working condition in accordance with approved design standards, and with the law and applicable executive regulations. The SYSTEM shall not include any elements located within any Virginia Department of Transportation rights-of-way.

2. If necessary, the COVENANTOR(S) shall levy regular or special assessments against all present or subsequent owners of property served by the SYSTEM to ensure that the SYSTEM is properly maintained.

3. The COVENANTOR(S) shall provide and maintain perpetual access from public right-of-ways to the SYSTEM for the COUNTY, its agent and its contractor.

4. The COVENANTOR(S) shall grant the COUNTY, its agent and its contractor a right of entry to the SYSTEM for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the SYSTEM.

5. If, after reasonable notice by the COUNTY, the COVENANTOR(S) shall fail to maintain the SYSTEM in accordance with the approved design standards and with the law and applicable executive regulations, the COUNTY may perform all necessary repair or maintenance work, and the COUNTY may assess the COVENANTOR(S) and/or all property served by the SYSTEM for the cost of the work and any applicable penalties.

Instrument # 040014926

Recorded on June 11, 2004

6. The COVENANTOR(S) shall indemnify and save the COUNTY harmless from any and all claims for damages to persons or property arising from the installation, construction, maintenance, repair, operation or use of the SYSTEM.

7. The COVENANTOR(s) shall promptly notify the COUNTY when the COVENANTOR(S) legally transfers any of the COVENANTOR(S)' responsibilities for the SYSTEM. The COVENANTOR(S)' shall supply the COUNTY with a copy of any document of transfer, executed by both parties.

8. The covenants contained herein shall run with the land and shall bind the COVENANTOR(S) and the COVENANTOR(S)' heirs, executors, administrators, successors and assignees, and shall bind all present and subsequent owners of property served by the SYSTEM.

9. This COVENANT shall be recorded in the County Land Records.

IN WITNESS WHEREOF, the COVENANTOR(S) have executed this DECLARATION OF COVENANTS as of the date first above written.

COVENANTOR(S)
Hampton Roads Development, L.L.C.
By: Virginia Enterprises, Inc. a Virginia Corporation, its Manager

Print Name/Title George E. Fiscella, President

ATTEST:

John B. Armstrong

COVENANTOR(S)

Print Name/Title

ATTEST:

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Newport News

I hereby certify that on this 17th day of May, 2004, before the subscribed, a Notary Public of the State of Virginia, and for the City/County of Newport News, aforesaid personally appeared George E. Fiscella and did acknowledge the aforegoing instrument to be their Act.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal this 17th day of May, 2004.

John B. Armstrong
Notary Public

My Commission expires: March 31, 2007

Approved as to form:

County Attorney

This Declaration of Covenants prepared by:

Hampton Roads Development, LLC
(Print Name)
George E. Fiscella
President
(Title)

703 Thimble Shoals Blvd, C-1
(Address)

Newport News VA 23606
(City) (State) (Zip)

757-873-3646

drainage.pre

Memorandum of Understanding

February 19, 2004

Agreement of understanding between the **PELEG'S POINT OWNERS' ASSOCIATION (PPOA) AND HAMPTON ROADS DEVELOPMENT, L.L.C. (HRD)**

1. **PPOA** agrees to accept the earthern drainage ditch in its current condition.

2. Easement
   a. **PPOA** agrees to become the holder of the easement.
   b. **PPOA** agrees to enter into a Drainage and Maintenance Agreement with James City County.
   c. **PPOA** agrees to record a Supplement to the Declaration of Restrictions to include the responsibilities of maintenance.

3. **HRD** agrees to be the responsible party for the maintenance upkeep and expenses for the earthern drainage ditch including the Pond up until the 26th Closing in Section 5.

4. **HRD** agrees to contribute $2,400 (representing 2 years of maintenance costs) upon the 26th Closing in Section 5 to the **PPOA** to be used for a maintenance reserve fund by the **PPOA** for the earthern drainage ditch.

5. Upon the completion of the above items 3 and 4 the **PPOA** agrees to take over the maintenance responsibilities and all expenses associated with the maintenance of the earthern drainage ditch. Maintenance shall consist of the following:

   a. The earthern drainage ditch shall be free of debris and growth ten (10) feet on both sides from the centerline of the ditch.
   b. Natural growth in the earthern drainage ditch shall not exceed a height of approximately 5"+/-.
   c. Sediment shall be removed as required (or at least a minimum of 3 times a year) to allow for water to move freely through the earthern drainage ditch.

PELEG'S POINT OWNERS' ASSOCIATION, INC.

By: David L. Volz
DAVID L. VOLZ

Title: President, Peleg's Point Owners Association

Date: 11 March 2004

HAMPTON ROADS DEVELOPMENT, L.L.C.
a Virginia limited liability company
By: Virginia Enterprises, Inc., a Virginia Corporation, its Manager

By: _____

Title: President

Date: 3-12-4

AGREEMENT TO PROVIDE ADEQUATE DRAINAGE FACILITIES

THIS AGREEMENT, made this 9th day of April 2004, by and between HAMPTON ROADS DEVELOPMENT, L.L.C., a Virginia Limited Liability Company, and all successors in interest (hereinafter called "Developer"), party of the first part, and the COUNTY OF JAMES CITY, Virginia, hereinafter called "County", party of the second part, and DARRYL COOK, Environmental Division Director (hereinafter called "Agent), party of the third part.

WITNESSETH:

WHEREAS, Developer, desires issuance of a land disturbance permit by the Agent for the County of James City, for a project known as Peleg's Point, Section Five, (previously known as Williamsburg Glade), located in the Jamestown magisterial district in James City County, Virginia, and

WHEREAS, a drainage problem has been identified in that the existing ditch that drains to the rear of Section 5 is not providing adequate drainage for the surrounding area, and

WHEREAS, County desires to ensure the installation, maintenance and adequate performance of drainage facilities in Section Five and other sections of the Peleg's Point project.

NOW, THEREFORE, WITNESSETH: For and in consideration of the foregoing premises and the following terms and conditions, and in further consideration of the issuance of a land disturbance permit by the County, the parties hereto agree as follows:

1. Developer has furnished the County an irrevocable letter of credit, whose terms and conditions are acceptable in substance and in form to the County Attorney, in the sum of Fifty Thousand dollars ($50,000.00), which letter of credit is under and subject to the terms of this agreement. The letter of credit ("Security Instrument") is designed to insure performance of the Developer's obligations and to insure reimbursement to the County in the event that it

performs work or causes work to be performed pursuant to paragraph 3 of this agreement. The sum of the letter of credit may be reduced upon work completed if the County approves of such reduction.

2. a. Developer has prepared a plan showing the rip rap area to be modified by lining the first 20 feet of the channel with concrete and then lining the next 30 feet of the channel with Pyramat, a high performance turf-reinforcement mat. In addition, the ditch just below this area needs to be graded to allow positive drainage from the described channel improvements into the existing channel. This could involve grading the bottom of the channel for several hundred feet at a positive grade of from 0.1 to 0.2%. The aforementioned plan entitled, "Pipe Outfall & Ditch Handgrading Plan, Peleg's Point, Sections One, Two and Five", dated February 27, 2004, revised April 02, 2004 and made by A. D. Potts & Associates, Inc.

b. The scope of work of the Developer under this agreement shall be limited to those activities necessary to resolve the drainage issues that are of concern to the County. Any approval by the County contemplated in this agreement shall not be unreasonably withheld.

3. In the event the facilities described in paragraph 2 are not constructed on or before the date that the Common Areas in Peleg's Point Section Five are transferred to the Homeowners' Association or five (5) years from the date of this Agreement, whichever is earlier, the County or its authorized agent shall have the right to enter upon Developer's property and construct such measures or do such other work as may be necessary to provide adequate drainage of stormwater runoff for the Drainage Easement Area and surrounding areas, provided that County shall first give notice in writing to Developer or his superintendent of its intent so to do.

4. Notwithstanding any other provision of this Agreement, before Developer is released from responsibility, the vegetative portion of the work must be in place for at least 6 months.

5. a. In the event the County determines work shall be performed or causes to be performed work of any nature, including labor, use of equipment, and materials, under the provisions of paragraph 3 above, either by County forces or contract, it may draw such sum or sums from the Security Instrument as it deems appropriate. Such surety may be drawn in total, if at the time the surety is to expire, all improvements are not complete and surety has not been adequately extended or replaced to ensure completion of the improvements. In addition, the County may draw the Security Instrument in the event it is not renewed or amended to remain in effect at least 10 days prior to its expiration. A notice that such draw has been made shall be delivered or mailed by the County to Developer.

b. In the event the County calls, collects or otherwise draws on the Security Instrument pledged under this agreement, Developer agrees to either pay, or have the County use the proceeds to draw to pay, a reasonable administrative fee of $35.00 plus any costs actually incurred by the County in drawing on the Security Instrument. The charge for an administrative fee plus costs shall apply regardless of whether the County later accepts a renewal or amendment of the Security Instrument.

6. In the event the County makes disbursement pursuant hereto, Developer agrees to furnish an additional irrevocable letter of credit in the amount of the draft within ten (10) days of such disbursement.

7. It is expressly agreed by all parties hereto that it is the purpose and intent of this agreement to ensure the installation, maintenance, and performance of measures to provide for

adequate drainage, and for the restoration of function of facilities for drainage if such facilities are adversely affected in their function by uncontrolled drainage from the Peleg's Point project. Upon the execution of this Agreement and the Developer's provision of a letter of credit pursuant of paragraph 1, any drainage problems related to the Drainage Easement Area shall not be considered as a factor in the issuance of any land disturbance permit for Peleg's Point, Section Five subject to the Developer meeting all of the normal and usual requirements for such permit exclusive of any drainage problem related to the Drainage Easement Area.

8. It is expressly agreed by the parties hereto that the letter of credit shall be held by the Agent unless distributed in accordance with paragraph 4 above, or paid to County as part of the cost to complete improvements required by ordinance and/or agreement, or released in writing by County, through its Agent.

IN WITNESS WHEREOF, the parties hereto, being first duly authorized, have affixed their signatures on the date first above written.

HAMPTON ROADS DEVELOPMENT, L.L.C.
A Virginia limited liability company

By: Virginia Enterprises, Inc., a Virginia corporation, its Manager

By: _____
George E. Fiscella, President

COUNTY OF JAMES CITY

By: _____
County Administrator

ATTEST:

Mary Frances Rieger
Legal Secretary
for Attorney's Office

APPROVED AS TO FORM

_____
COUNTY ATTORNEY

AGENT

By: Darryl E Cook
Darryl Cook, Director
Environmental Division

Approved as to form: Lee P. Rogers
County Attorney

REVIEWED AND AGREED TO:
PELEG'S POINT OWNERS' ASSOCIATION, INC.

By: David L. Vogt
DAVID L. VOGT

Title: PRESIDENT, PPOA INC.

#909657 v2

Environ... Division

MAY 4 2012

TM #(47-4)(1-42)

050011245

RECEIVED

EXEMPT FROM RECORDATION TAX UNDER VIRGINIA CODE SECTION 58.1-811(A)(3), AS AMENDED

DEED OF EASEMENT FOR NATURAL OPEN SPACE

THIS DEED OF EASEMENT, made as of May 3, 2005, by and between HAMPTON ROADS DEVELOPMENT, L.L.C., a Virginia limited liability company, and its successors and assigns ("Grantor"); and the COUNTY OF JAMES CITY, VIRGINIA ("Grantee").

WHEREAS, the Grantor is the owner of certain property consisting of a tract of land containing 5.21 acres, more or less, more particularly shown on the plat attached hereto as Exhibit "A" (the "Easement Property"); and

WHEREAS, Grantee has adopted the Chesapeake Bay Preservation Ordinance, Chapter 23 of the James City County Code, as required by Chapter 21 of Title 10.1 of the Code of Virginia to protect the Chesapeake Bay and its tributaries from non-point source pollution within the Chesapeake Bay drainage area; and

WHEREAS, the Grantor wishes to preserve land as natural open space as part of Grantor's efforts to improve the quality of storm water runoff from the Easement Property and the adjoining land of the Grantor which is to be developed into the Peleg's Point, Section Five subdivision.

NOW, THEREFORE, in recognition of the foregoing and in consideration of the sum of Ten Dollars ($10.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, the Grantor does hereby grant and convey to Grantee an easement in perpetuity in gross, with the right in perpetuity to restrict the use as described below, of the portion herein described of that certain tract, lot, piece or parcel of land ("Easement Property"), to wit:

> All that certain tract or parcel of land located in James City County, Virginia, containing 5.21 acres, more or less, shown cross-hatched and designated as "CONSERVATION EASEMENT" on that certain plat entitled "PLAT SHOWING

Prepared by: Kaufman & Canoles, 2236 Cunningham Drive, Hampton, Virginia 23666

6

A CONSERVATION EASEMENT TO BE DEDICATED TO JAMES CITY COUNTY, CONSERVATION EASEMENT... 5.21± ACRES, PELEG'S POINT, SECTION FIVE, JAMES CITY COUNTY, VIRGINIA", dated July 9, 2004, made by A.D. POTTS & ASSOCIATES, INC., a copy of which is attached hereto and made a part hereof.

The restrictions hereby imposed on the use of the Easement Property, the acts which the Grantor covenants to do or not to do, and the restrictions which the Grantee is hereby entitled to enforce, shall be as follows:

1. No building or structure shall be built or maintained on the Easement Property without the express written consent of the County Engineer.

2. The Easement Property shall he kept free and clear of any junk, trash, rubbish, or other unsightly or offensive material.

3. No new signs, billboards, outdoor advertising, road or utility lines shall be placed on the Easement Property without the express written consent of the County Engineer.

4. The Easement Property shall remain in its natural condition with respect to natural leaf litter or other ground covering vegetation, under-story vegetation or shrub layer, and tree canopy. The activities of Grantor within the Easement Property shall be limited to those which do not remove or damage any vegetation or disturb any soil. Such activities include selective trimming and pruning which will not alter the natural character of the Easement Property; with the express written consent of the County Engineer. Grantor may install walking trails or remove dead, diseased, poisonous or invasive vegetation with the express written consent of the County Engineer.

5. Grantee and its representatives may enter upon the Easement Property from time to time for inspection, to enforce the terms of this Easement and to post a sign or marker identifying Grantee's interest in the Easement Property as natural open space.

6. In the event of a violation of this Easement, the Grantee shall have the right to seek all appropriate legal and equitable relief, including but not limited to, reasonable attorney's fees and costs, the right to restore the Easement Property to its natural condition and assess the cost of such restoration as a lien against the Easement Property.

Although this Easement in gross will benefit the public in the ways cited above, nothing herein shall be construed to convey a right to the public of access to or use of the Easement Property, except as expressly provided in this Agreement, and the Grantor shall retain exclusive right to such assess and use, subject only to the provisions herein recited.

Witness the following signatures and seals on the date first above written.

HAMPTON ROADS DEVELOPMENT, L.L.C., a
Virginia limited liability company
By: Virginia Enterprises, Inc., a Virginia corporation,
its Manager

By: _____
George E. Fiscella, President

STATE OF VIRGINIA
CITY OF Newport News, to-wit:

The foregoing instrument was acknowledged before me this 3rd day of May, 2005, by George E. Fiscella, who is personally known to me as President of Virginia Enterprises, Inc., a Virginia corporation and the Manager of Hampton Roads Development, L.L.C., a Virginia limited liability company, for and on behalf of the company.

My commission expires: March 31, 2007

John B. Armstrong
Notary Public

The form of this Deed of Easement is approved and, pursuant to Resolution of the Board of Supervisors of James City County, Virginia, duly executed on the 17th day of May, ~~1993~~ 2005, this conveyance is hereby accepted on behalf of said County.

Date: 5-19-05

Approved by County Attorney
Asst

STATE OF VIRGINIA
CITY/COUNTY OF James City, to-wit:

The foregoing instrument was acknowledged before me this 19th day of May, 2005 by Michael H. Drewry, County Attorney for the County of James City, Virginia, for and on behalf of the County.

My commission expires: October 31, 2005

Mary Frances Rieger
Notary Public

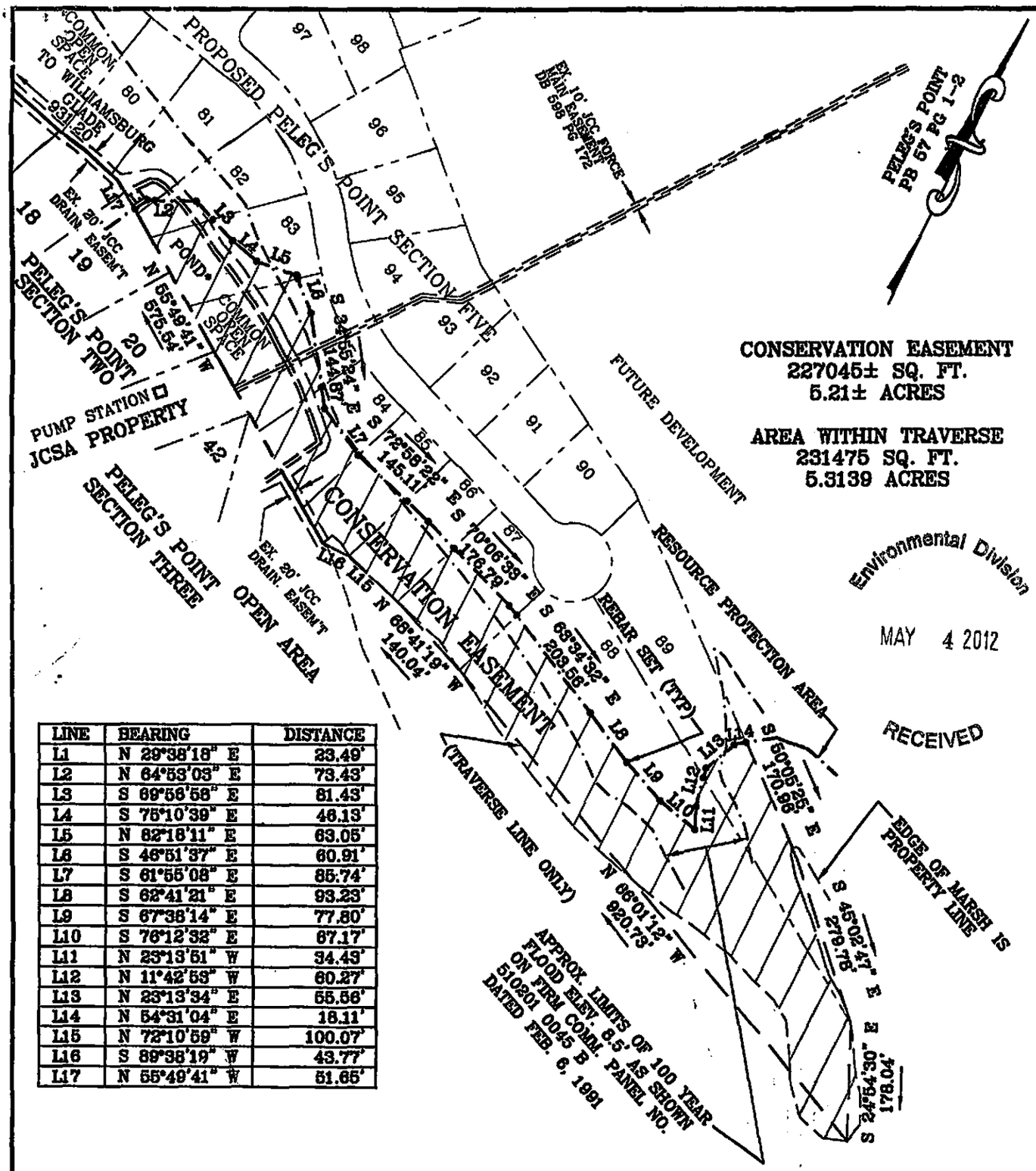
#4028430

PLAT ATTACHED

VIRGINIA: CITY OF WILLIAMSBURG & COUNTY OF JAMES CITY
This document was admitted to record on 20 May 05
at 2:46 AM/PM. The taxes imposed by Virginia Code
Section 58.1-801, 58.1-802 & 58.1-814 have been paid.

STATE TAX	LOCAL TAX	ADDITIONAL TAX
$ —	$ —	$ —

TESTE: BETSY B. WOOLRIDGE, CLERK
BY: Betsy B. Woolridge Clerk



CONSERVATION EASEMENT
227045± SQ. FT.
5.21± ACRES

AREA WITHIN TRAVERSE
231475 SQ. FT.
5.3139 ACRES

Environmental Division

MAY 4 2012

RECEIVED

LINE	BEARING	DISTANCE
L1	N 29°38'18" E	23.49'
L2	N 64°53'03" E	73.43'
L3	S 69°56'56" E	81.43'
L4	S 75°10'39" E	46.13'
L5	N 82°18'11" E	63.05'
L6	S 46°51'37" E	60.91'
L7	S 61°55'08" E	85.74'
L8	S 62°41'21" E	93.23'
L9	S 67°38'14" E	77.80'
L10	S 76°12'32" E	67.17'
L11	N 23°13'51" W	34.43'
L12	N 11°42'53" W	60.27'
L13	N 23°13'34" E	55.56'
L14	N 54°31'04" E	16.11'
L15	N 72°10'59" W	100.07'
L16	S 89°38'19" W	43.77'
L17	N 55°49'41" W	51.65'

* A DRAINAGE AND MAINTENANCE EASEMENT FOR THE POND SHALL INCLUDE ALL THE AREA INSIDE A LINE MEASURED 20' FROM THE WATER SURFACE ELEVATION SHOWN UNLESS NOTED OTHERWISE. EASEMENT TO RESERVED FOR MILL CREEK LANDING, LTD

REBARS WILL BE SET AS SHOWN AT EASEMENT CORNERS AND WHERE PROPOSED SECTION FIVE LOT LINES CROSS THE EASEMENT. REBARS WILL BE SET PRIOR TO CONSTRUCTION OF SECTION FIVE.

REF: INST# 020023587

COMMONWEALTH OF VIRGINIA
ANTHONY D. POTTS
NO. 001487-B
7-9-04
LAND SURVEYOR

I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY, TO THE BEST OF MY KNOWLEDGE AND BELIEF IS CORRECT AND COMPLIES WITH THE MINIMUM PROCEDURES AND STANDARDS ESTABLISHED BY THE VIRGINIA BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS.

ANTHONY D. POTTS L.S.

F.B. ----- PG. -----

PP5-CONSV-ESMT.DWG
JOB NO. 04-477

HRD/ERD

PLAT SHOWING A CONSERVATION EASEMENT TO BE DEDICATED TO JAMES CITY COUNTY

CONSERVATION EASEMENT...5.21± ACRES

PELEG'S POINT
SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

ADPA
A.D. POTTS & ASSOCIATES, INC.
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601
PHONE: (757)-595-4610

SCALE: 1"=200' DATE: 7/9/04

ECS MID-ATLANTIC, LLC *"Setting the Standard for Service"*
Geotechnical • Construction Materials • Environmental • Facilities

AUG 13 2012

July 25, 2013

Ms. JoAnn Armstrong
VEI Homes
600 Thimble Shoals Boulevard, Suite 230
Newport News, Virginia 23606

RECEIVED

ECS Project No: 07:11656

Reference: Verification Letter
Peleg's Point Section 5, Pond C
James City County, Virginia

Dear Ms. Armstrong:

A representative of ECS Mid-Atlantic, LLC visited the project site on February 7, 2013 to observe the embankment pipe removal and replacement. The pipe bedding and backfilling was verified to be performed in accordance with applicable standards and specifications, as required by James City County. Compaction testing has been performed on the pipe backfill materials. The compaction test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory using the Standard Proctor Method (ASTM D 698).

We appreciate being of service during this project. Should you have any questions or require additional information, please do not hesitate to call.

Respectfully,
ECS MID-ATLANTIC, LLC

Sara B. Phillips
Project Geologist

COMMONWEALTH OF VIRGINIA
W. LLOYD WARD
Lic. No. 034612
PROFESSIONAL ENGINEER

W. Lloyd Ward, P.E.
V.P., Williamsburg Branch Manager

ECS MID-ATLANTIC, LLC
"Setting the Standard for Service"
Geotechnical • Construction Materials • Environmental • Facilities

July 25, 2013

Ms. JoAnn Armstrong
VEI Homes
600 Thimble Shoals Boulevard, Suite 230
Newport News, Virginia 23606

ECS Project No: 07:11656

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James City County, Virginia

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Sara B. Phillips
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Sara B. Phillips
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VEI Homes
600 Thimble Shoals Boulevard, Suite 230
Newport News, Virginia 23606

ECS Project No: 07:11656

Reference: Verification Letter
Peleg's Point Section 5, Pond C
James City County, Virginia

Dear Ms. Armstrong:

A representative of ECS Mid-Atlantic, LLC visited the project site on February 7, 2013 to observe the embankment pipe removal and replacement. The pipe bedding and backfilling was verified to be performed in accordance with applicable standards and specifications, as required by James City County. Compaction testing has been performed on the pipe backfill materials. The compaction test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory using the Standard Proctor Method (ASTM D 698).

We appreciate being of service during this project. Should you have any questions or require additional information, please do not hesitate to call.

Respectfully,
ECS MID-ATLANTIC, LLC

Sara B. Phillips
Project Geologist

COMMONWEALTH OF VIRGINIA
W. LLOYD WARD
Lic. No. 034612
PROFESSIONAL ENGINEER

W. Lloyd Ward, P.E.
V.P., Williamsburg Branch Manager

ECS MID-ATLANTIC, LLC *"Setting the Standard for Service"*
Geotechnical • Construction Materials • Environmental • Facilities

July 25, 2013

Ms. JoAnn Armstrong
VEI Homes
600 Thimble Shoals Boulevard, Suite 230
Newport News, Virginia 23606

ECS Project No: 07:11656

Reference: Verification Letter
Peleg's Point Section 5, Pond C
James City County, Virginia

Dear Ms. Armstrong:

A representative of ECS Mid-Atlantic, LLC visited the project site on February 7, 2013 to observe the embankment pipe removal and replacement. The pipe bedding and backfilling was verified to be performed in accordance with applicable standards and specifications, as required by James City County. Compaction testing has been performed on the pipe backfill materials. The compaction test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory using the Standard Proctor Method (ASTM D 698).

We appreciate being of service during this project. Should you have any questions or require additional information, please do not hesitate to call.

Respectfully,
ECS MID-ATLANTIC, LLC

Sara B. Phillips
Project Geologist

COMMONWEALTH OF VIRGINIA
W. LLOYD WARD
Lic. No. 034612
PROFESSIONAL ENGINEER

W. Lloyd Ward, P.E.
V.P., Williamsburg Branch Manager

ECS MID-ATLANTIC, LLC *"Setting the Standard for Service"*

Geotechnical • Construction Materials • Environmental • Facilities

ENVIRONMENTAL DIVISION

August 14, 2012

Mr. Edward Fiscella
VEI Homes
600 Thimble Shoals Boulevard, Suite 230
Newport News, Virginia 23606

OCT 30 2012

RECEIVED

ECS Project No: 07:7574

Reference: Site Visit Observation Letter
Peleg's Point Section 5, Pond C
James City County, Virginia

Dear Mr. Fiscella:

ECS Mid-Atlantic, LLC was called to the site on July 26, 2012 to observe the condition of a portion of the dam embankment and underlying barrel pipe for Pond "C" as recommended in a response letter provided by ECS dated July 10, 2012.

An excavator and hand equipment were utilized to expose the embankment soils and barrel pipe in the area containing the vertical hole. During the excavation, it was observed that the vertical hole was caused by natural causes (underground animal burrowing) and was not caused by piping of soils. The excavated soils were observed to be in a stable condition, with no excessive moisture noted. The barrel pipe in the excavated area was observed to be in good condition, containing no visible signs of damage or conduits for piping.

Based on the field observations, ECS recommended to backfill the resulting excavations with compacted lifts of the soil material that was excavated to expose the barrel pipe. Compaction testing will need to be performed in this area to confirm properly compacted embankment fill materials. A bulk soil sample of the soil material was obtained and returned to the ECS Williamsburg laboratory for proctor analysis and testing. The backfilled area will be tested once the laboratory testing is complete.

We appreciate being of service during this project. Should you have any questions or require additional information, please do not hesitate to call.

Respectfully,
ECS MID-ATLANTIC, LLC

Sara B. Phillips
Project Geologist

COMMONWEALTH OF VIRGINIA
W. LLOYD WARD
Lic. No. 034612
PROFESSIONAL ENGINEER

W. Lloyd Ward, P.E.
V.P., Williamsburg Branch Manager

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

September 17, 2012

Virginia Enterprises, Inc.
600 Thimble Shoals Boulevard
Suite 220
Newport News, VA 23606

ATTN: Mr. Ed Fiscella

RE: **Peleg's Point Pond C**

ECS Job # **07:11656**

Permits:

Location: **Benomi Drive**
Williamsburg, VA

We are enclosing:

_X_ Materials Engineering Division Reports
_X_ For your use
_X_ As requested

ENCL:

Field Report # 1	09/13/2012	Compaction Testing

COMMONWEALTH OF VIRGINIA
W. LLOYD WARD
PROFESSIONAL ENGINEER

W. Lloyd Ward No. 034612 **SEP 17 2012**
Branch Manager, Principal Engineer

Sara B. Phillips
Staff Project Manager

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:11656
Report No.	1
Day & Date	Thursday 09/13/2012
Weather	80°/ Sunny
On-Site Time	1.50
Lab Time	0.50
Travel Time*	0.50
Total	2.50
Re Obs.Time	0.00

Project	Peleg's Point Pond C
Location	Williamsburg, VA
Client	Virginia Enterprises, Inc. - Ed Fiscella
Contractor	Virginia Enterprises, Inc. - Ed Fiscella

Remarks: Compaction Testing

Trip Charges* | Tolls/Parking* | Mileage* 15

Chargeable Items: 1 - Nuclear Gauge Rental

Time of: Arrival 01:30P | Departure 03:00P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to observe the placement and compaction of soils for pipe backfill on the dam embankment. Please see the attached sketch.

Utilizing the nuclear test method to check the compaction of soils; test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory using the Standard Proctor Method (ASTM D-698).

Locations and elevations of all tests are based on stakeout provided by others. We cannot be responsible for structures located off of the observed engineered pad, misaligned utilities or stakeout errors causing uncontrolled fill to be placed in structural areas.

The soils observed on this date appeared to be placed in accordance with project drawings and specifications with regard to lift thickness and moisture content.

By **Aaron John Irons** 1800

Field Compaction Summary, ASTM D6938

ECS MID-ATLANTIC, LLC

Project No: 11656 Project Name: Peleg's Point Pond C Date: 09/13/12

Client: Virginia Enterprises, Inc.

Contractor: Virginia Enterprises, Inc.

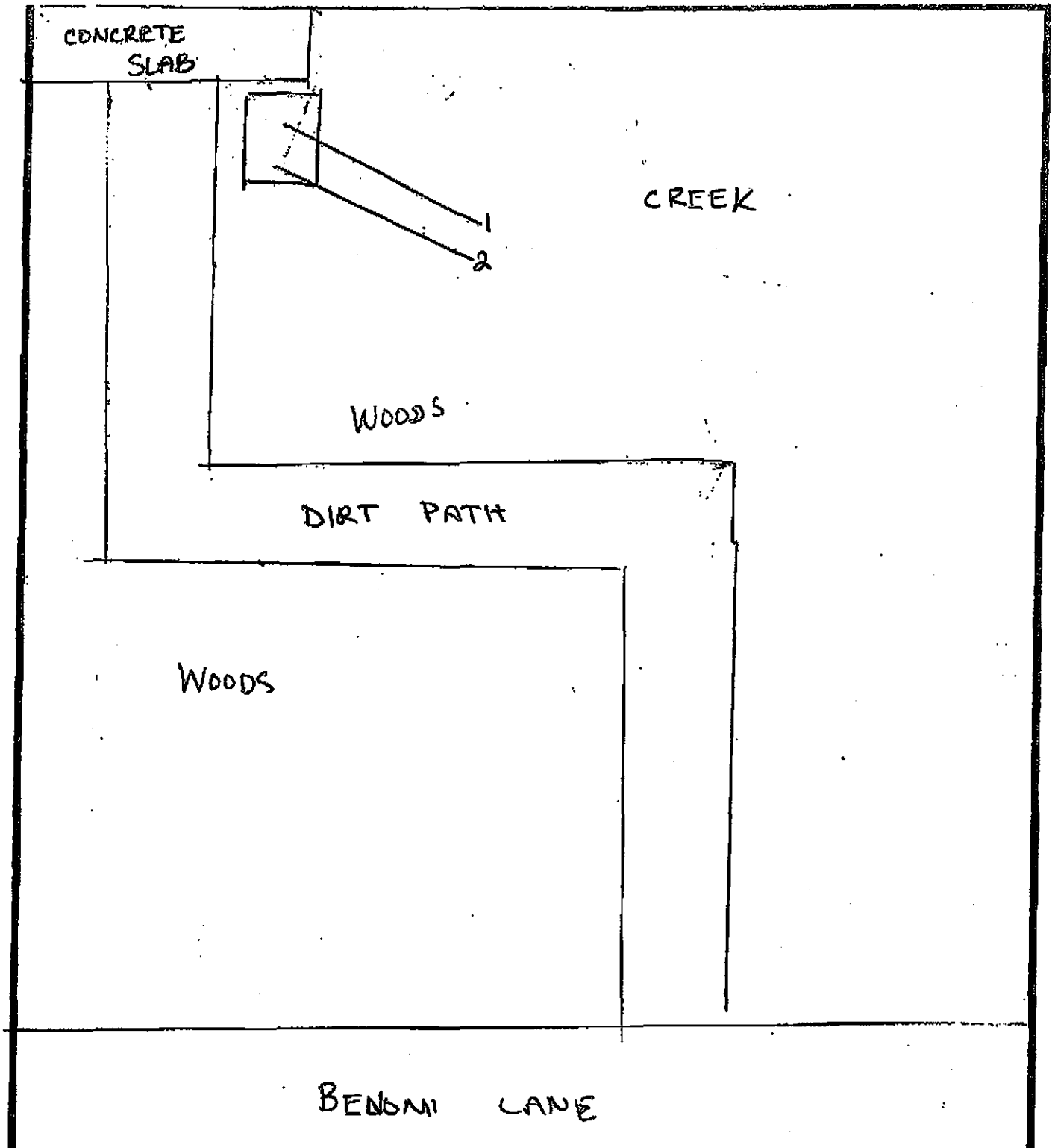
Technician: Aaron John Irons

Test Method ASTM D6938			
Nuclear Gauge No. 3			
Make		Density Std	2247
Model		Moisture Std	556
Ser. No.	23457		

Sample: **B-1** Description: **Clayey F-M SAND, Brown** Proctor Method: **Standard Proctor Method (ASTM D-698)** Uncorrected Max. Density: **108.30** Uncorrected Opt. MC: **16.70**

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	6	pipe backfill on dam embankment	FG	0.00	108.30	16.70	118.5	104.1	13.9	96.1	P	
2	DT	6	pipe backfill on dam embankment	FG	0.00	108.30	16.70	118.0	104.1	13.3	96.1	P	

Test Mode: DT = Direct Transmission BS = Back Scatter



LOCATION: BENOMI DRIVE

TECHNICIAN: A. IRONS

DATE: 9-13-12

ECS LLC MID-ATLANTIC

SITE DRAWING

ECS PROJECT NAME: Peleg's Point Pond C

ECS PROJECT NO.: 11656

WORK ORDER ID #: 67754

James City County
VIRGINIA
Jamestown 1607

Development Management
101-A Mounts Bay Road
P.O. Box 8784
Williamsburg, VA 23187-8784
P: 757-253-6671
F. 757-253-6822
devman@james-city.va.us

jamescitycountyva.gov

Building Safety and Permits 757-253-6620
Engineering and Resource Protection 757-253-6670
Planning 757-253-6685
Zoning Enforcement 757-253-6671

December 27, 2012

Mr. Edward Fiscella
VEI Homes
600 Thimble Shoals Boulevard, Suite 220
Newport News, Virginia 23606

Re: Peleg's Point Section 5
SP-086-99
County BMP ID Code: MC 018

Mr. Fiscella:

The Engineering and Resource Protection Division received the latest record drawing and construction on October 30th 2012 for the stormwater management facility known as Pond C and located in Section 5 of the Peleg's Point development. A record drawing (asbuilt) was provided for the stormwater management facility with as-built information for the dry extended detention basin along with a letter from W. Lloyd Ward of ECS Mid-Atlantic LLC supporting the reconstruction of the embankment.

As necessitated by the submittal of a record drawing, I performed an inspection of the facility on December 26th and found the following deficiencies which must be addressed prior to the release of surety and for our division to proceed with the closing out of the project:

Record Drawing & Construction Certification:

1. The updated Record Drawing appears to be in proper order and is acceptable for this submittal. Should there be any alterations of the dam or associated components of the facility, appropriate revisions of the record drawings will be required.

2. The submittal package was incomplete as previously requested materials were not provided. As previously requested, once all work has been completed as is outlined below, please provide new signed, sealed, and dated copies of the required Record Drawing and Construction Certification forms. These forms can be found on the James City County web site at http://www.jccegov.com/resourceprotection/index.html and under the headings of "Development" and then "Forms." Both the Record Drawing and Construction Certification sections are required to be filled out and submitted with the next submittal of the record drawings.

Construction - Related Items:

3. Piping. A recent site inspection reveals that the embankment has been repaired; however, piping continues to be an issue. Prior to address and resubmittal of the required documentation, it is recommended that the developer, developer's representative, or geotechnical engineer arrange a meeting with engineering staff on site to discuss the ongoing issues and the course of action that is needed to address the site issues in order for this project to be

completed and released. The major items that remain include the continuing piping from within the facility, improper backfill of the embankment to make a smooth transition to surrounding grade, and what appears to be settling of the recent backfill associated with the most recent repair.

Once this work is satisfactorily completed, please contact our office immediately so that a reinspection may be provided. Should we find that all work has been appropriately completed, we will then proceed with final release of the surety and/or close-out the project. One reproducible and one blue/black line set of the record drawings or pdf drawings contained on a CD must be provided with the final submittal.

Please contact me at 757-253-6702 or the assigned Engineering and Resource Protection Division inspector at 757-253-6683 should you have any comments or questions.

Sincerely,

William Cain, P.E., CFM
Chief Civil Engineer
Engineering and Resource Protection

cc: File

\\jccdeptstore\dmo1\DMData\environmental\Projects\AsBuilts\Reviews\Fina\S8699.mc018.1

DRAINAGE CALCULATION DATA
FOR

PELEG'S POINT

SECTION FIVE IMPROVEMENTS

POND "C"

S-49-03

A.D. POTTS & ASSOCIATES, INC.
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA
PHONE: (757) 595-4610

12/09/03

Job File: S:\HAESTAD\PONDPACK\PELEGS-5-POND.PPW
Rain Dir: S:\HAESTAD\PONDPACK\

JOB TITLE

Peleg's Point Pond "C"
Section Five Improvements

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MODIFIED RATIONAL METHOD
---- Grand Summary For All Storm Frequencies ----

Q = CiA * Units Conversion; Where Conversion = 43560 / (12 * 3600)

Area = 61.750 acres Tc = 55.00 min

Freq. years	Adjusted 'C'	Duration min	I in/hr	Qpeak cfs	Allowable cfs	VOLUMES Inflow cu.ft	VOLUMES Storage cu.ft
2	.250	56.00	1.6733	26.05	7.31	87519	63175
100	.250	57.00	3.6750	57.21	11.34	195643	157530
10	.250	55.00	2.6250	40.86	8.95	134842	105311
25	.250	55.00	3.0833	48.00	10.08	158386	125108

MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID NORFOLK.IDQ IDF Storms 10

Return Event	Rainfall Type	IDF File	IDF ID
Dev..2	I-D-F Table	NORFOLK	norfolk 2yr
Dev100	I-D-F Table	NORFOLK	norfolk 100yr
Dev.10	I-D-F Table	NORFOLK	norfolk 10yr
Dev.25	I-D-F Table	NORFOLK	norfolk 25 yr

MASTER NETWORK SUMMARY
Modified Rational Method Network

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Storage Node ID		Type	Return Event	HYG Vol cu.ft	Trun	Qpeak min	Qpeak cfs	Max WSEL ft	Max Pond cu.ft
*OUTFALL		JCT	2	65795		90.00	10.83		
*OUTFALL		JCT	100	173920		70.00	45.64		
*OUTFALL		JCT	10	113118		75.00	26.96		
*OUTFALL		JCT	25	136662		70.00	34.70		
POND	IN	POND	2	87519		55.00	26.05		
POND	IN	POND	100	195643		55.00	57.21		
POND	IN	POND	10	134842		55.00	40.86		
POND	IN	POND	25	158386		55.00	48.00		
POND	OUT	POND	2	65795		90.00	10.83	5.85	65020
POND	OUT	POND	100	173920		70.00	45.64	6.26	88899
POND	OUT	POND	10	113118		75.00	26.96	6.07	77462
POND	OUT	POND	25	136662		70.00	34.70	6.15	82417
POST-DEVELOPMENT		AREA	2	87519		55.00	26.05		
POST-DEVELOPMENT		AREA	100	195643		55.00	57.21		
POST-DEVELOPMENT		AREA	10	134842		55.00	40.86		
POST-DEVELOPMENT		AREA	25	158386		55.00	48.00		

File.... S:\HAESTAD\PONDPACK\PELEGS-5-POND.PPW

TIME OF CONCENTRATION CALCULATOR

Segment #1: Tc: User Defined
Description: post-development

Segment #1 Time: 55.00 min

Total Tc: 55.00 min

Tc Equations used...

==== User Defined ==========

Tc = Value entered by user

Where: Tc = Time of concentration

TIME vs. ELEVATION (ft)

Time min	Output Time increment = 5.00 min Time on left represents time for first value in each row.				
.00	4.00	4.26	4.42	4.56	4.70
25.00	4.84	4.99	5.13	5.29	5.46
50.00	5.64	5.81	5.95	6.03	6.06
75.00	6.07	6.06	6.03	6.00	5.97
100.00	5.93	5.88	5.83	5.78	5.75
125.00	5.72	5.69	5.66	5.64	5.61
150.00	5.59	5.56	5.54	5.51	5.49
175.00	5.47	5.45	5.43	5.41	5.39
200.00	5.38	5.36	5.35	5.34	5.32
225.00	5.31	5.30	5.29	5.28	5.27
250.00	5.26	5.25	5.25	5.24	5.23
275.00	5.23	5.22	5.21	5.21	5.20
300.00	5.19	5.19	5.18	5.18	5.18
325.00	5.17	5.17	5.16	5.16	5.15
350.00	5.15	5.15	5.14	5.14	5.14
375.00	5.14	5.13	5.13	5.13	5.12
400.00	5.12	5.12	5.12	5.11	5.11
425.00	5.11	5.11	5.11	5.10	5.10
450.00	5.10	5.10	5.10	5.10	5.09
475.00	5.09	5.09	5.09	5.09	5.09
500.00	5.09	5.08	5.08	5.08	5.08
525.00	5.08	5.08	5.08	5.08	5.08
550.00	5.07	5.07	5.07	5.07	5.07
575.00	5.07	5.07	5.07	5.07	5.07
600.00	5.07	5.06	5.06	5.06	5.06
625.00	5.06	5.06	5.06	5.06	5.06
650.00	5.06	5.06	5.06	5.06	5.06
675.00	5.06	5.06	5.05	5.05	5.05
700.00	5.05	5.05	5.05	5.05	5.05
725.00	5.05	5.05	5.05	5.05	5.05
750.00	5.05	5.05	5.05	5.05	5.05
775.00	5.05	5.05	5.05	5.05	5.05
800.00	5.05	5.05	5.04	5.04	5.04
825.00	5.04	5.04	5.04	5.04	5.04
850.00	5.04	5.04	5.04	5.04	5.04
875.00	5.04	5.04	5.04	5.04	5.04
900.00	5.04	5.04	5.04	5.04	5.04
925.00	5.04	5.04	5.04	5.04	5.04
950.00	5.04	5.04	5.04	5.04	5.04
975.00	5.04	5.04	5.04	5.04	5.04
1000.00	5.04	5.03	5.03	5.03	5.03
1025.00	5.03	5.03	5.03	5.03	5.03
1050.00	5.03	5.03	5.03	5.03	5.03
1075.00	5.03	5.03	5.03	5.03	5.03
1100.00	5.03	5.03	5.03	5.03	5.03

TIME vs. ELEVATION (ft)

Time min	Output Time increment = 5.00 min Time on left represents time for first value in each row.				
1125.00	5.03	5.03	5.03	5.03	5.03
1150.00	5.03	5.03	5.03	5.03	5.03
1175.00	5.03	5.03	5.03	5.03	5.03
1200.00	5.03	5.03	5.03	5.03	5.03
1225.00	5.03	5.03	5.03	5.03	5.03
1250.00	5.03	5.03	5.03	5.03	5.03
1275.00	5.03	5.03	5.03	5.03	5.03
1300.00	5.03	5.03	5.03	5.03	5.03
1325.00	5.03	5.03	5.03	5.03	5.03
1350.00	5.03	5.03	5.03	5.03	5.03
1375.00	5.03	5.03	5.03	5.03	5.03
1400.00	5.03	5.03	5.03	5.03	5.03
1425.00	5.02	5.02	5.02	5.02	5.02
1450.00	5.02	5.02	5.02	5.02	5.02
1475.00	5.02	5.02	5.02	5.02	5.02
1500.00	5.02	5.02	5.02	5.02	5.02
1525.00	5.02	5.02	5.02	5.02	5.02
1550.00	5.02	5.02	5.02	5.02	5.02
1575.00	5.02	5.02	5.02	5.02	5.02
1600.00	5.02	5.02	5.02	5.02	5.02
1625.00	5.02	5.02	5.02	5.02	5.02
1650.00	5.02	5.02	5.02	5.02	5.02
1675.00	5.02	5.02	5.02	5.02	5.02
1700.00	5.02	5.02	5.02	5.02	5.02
1725.00	5.02	5.02	5.02	5.02	5.02
1750.00	5.02	5.02	5.02	5.02	5.02
1775.00	5.02	5.02	5.02	5.02	5.02
1800.00	5.02	5.02	5.02	5.02	5.02
1825.00	5.02	5.02	5.02	5.02	5.02
1850.00	5.02	5.02	5.02	5.02	5.02
1875.00	5.02	5.02	5.02	5.02	5.02
1900.00	5.02	5.02	5.02		

TIME vs. VOLUME (cu.ft)

Time min	Output Time increment = 5.00 min Time on left represents time for first value in each row.				
.00	0	549	2208	5007	8915
25.00	13923	20044	27229	35255	43928
50.00	53283	62956	70709	75140	77115
75.00	77462	76774	75421	73638	71542
100.00	69201	66641	63848	61270	59251
125.00	57560	56048	54614	53209	51834
150.00	50487	49170	47884	46632	45427
175.00	44288	43230	42237	41312	40446
200.00	39631	38869	38155	37479	36843
225.00	36245	35682	35148	34643	34165
250.00	33713	33286	32881	32494	32126
275.00	31776	31443	31127	30827	30541
300.00	30266	30003	29751	29510	29279
325.00	29059	28848	28646	28452	28267
350.00	28090	27919	27754	27595	27442
375.00	27294	27151	27014	26881	26753
400.00	26630	26511	26396	26285	26179
425.00	26076	25977	25881	25789	25700
450.00	25614	25531	25450	25370	25293
475.00	25218	25145	25074	25004	24937
500.00	24871	24807	24745	24684	24624
525.00	24567	24510	24456	24402	24350
550.00	24300	24250	24202	24156	24110
575.00	24066	24022	23980	23939	23899
600.00	23860	23822	23785	23749	23714
625.00	23680	23647	23614	23583	23552
650.00	23522	23493	23464	23436	23409
675.00	23383	23357	23332	23308	23284
700.00	23261	23239	23217	23196	23175
725.00	23154	23135	23115	23097	23078
750.00	23059	23041	23023	23005	22988
775.00	22971	22953	22937	22920	22904
800.00	22887	22871	22856	22840	22825
825.00	22809	22794	22780	22765	22751
850.00	22737	22722	22709	22695	22681
875.00	22668	22655	22642	22629	22617
900.00	22604	22592	22580	22568	22556
925.00	22544	22533	22521	22510	22499
950.00	22488	22477	22467	22456	22446
975.00	22435	22425	22415	22405	22396
1000.00	22386	22377	22367	22358	22349
1025.00	22340	22331	22322	22314	22305
1050.00	22297	22288	22280	22272	22264
1075.00	22256	22248	22241	22233	22226
1100.00	22218	22211	22204	22197	22190

TIME vs. VOLUME (cu.ft)

Time min	Output Time increment = 5.00 min Time on left represents time for first value in each row.				
1125.00	22183	22176	22169	22162	22156
1150.00	22149	22143	22137	22130	22124
1175.00	22118	22112	22106	22100	22095
1200.00	22089	22083	22078	22072	22067
1225.00	22062	22056	22051	22046	22041
1250.00	22036	22031	22026	22021	22017
1275.00	22012	22007	22003	21998	21994
1300.00	21989	21985	21981	21976	21972
1325.00	21968	21964	21960	21956	21952
1350.00	21948	21945	21941	21937	21934
1375.00	21930	21926	21923	21919	21916
1400.00	21913	21909	21906	21903	21899
1425.00	21896	21893	21890	21887	21884
1450.00	21881	21878	21875	21872	21870
1475.00	21867	21864	21861	21859	21856
1500.00	21853	21851	21848	21846	21843
1525.00	21841	21839	21836	21834	21831
1550.00	21829	21827	21825	21823	21820
1575.00	21818	21816	21814	21812	21810
1600.00	21808	21806	21804	21802	21800
1625.00	21798	21796	21795	21793	21791
1650.00	21789	21787	21786	21784	21782
1675.00	21781	21779	21778	21776	21774
1700.00	21773	21771	21770	21768	21767
1725.00	21765	21764	21763	21761	21760
1750.00	21758	21757	21756	21754	21753
1775.00	21752	21751	21749	21748	21747
1800.00	21746	21745	21743	21742	21741
1825.00	21740	21739	21738	21737	21736
1850.00	21735	21734	21733	21732	21731
1875.00	21730	21729	21728	21727	21726
1900.00	21725	21724	21723		

File.... S:\HAESTAD\PONDPACK\PELEGS-5-POND.PPW
Title... pond areas per contour

Elevation (ft)	Planimeter (sq.in)	Area (sq.ft)	A1+A2+sqr(A1*A2) (sq.ft)	Volume (cu.ft)	Volume Sum (cu.ft)
4.00	-----	16	0	0	0
4.50	-----	21533	22136	3689	3689
5.00	-----	48234	101995	16999	20688
5.15	-----	49617	146772	7339	28027
5.50	-----	52844	153666	17928	45955
6.00	-----	57185	165001	27500	73455
6.50	-----	65298	183590	30598	104053
7.00	-----	76531	212521	35420	139473
7.50	-----	89593	248929	41488	180961
8.00	-----	102299	287627	47938	228899

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

File.... S:\HAESTAD\PONDPACK\PELEGS-5-POND.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 4.00 ft
Increment = .05 ft
Max. Elev.= 8.00 ft

****
OUTLET CONNECTIVITY
****

---> Forward Flow Only (UpStream to DnStream)
<--- Reverse Flow Only (DnStream to UpStream)
<---> Forward and Reverse Both Allowed

Structure	No.		Outfall	E1, ft	E2, ft
Stand Pipe	1	--->	TW	5.020	8.000
Weir-Rectangular	2	--->	TW	5.700	8.000

TW SETUP, DS Channel

OUTLET STRUCTURE INPUT DATA

Structure ID = 1
Structure Type = Stand Pipe

# of Openings	=	1
Invert Elev.	=	5.02 ft
Diameter	=	1.2500 ft
Orifice Area	=	1.2272 sq.ft
Orifice Coeff.	=	.600
Weir Length	=	3.93 ft
Weir Coeff.	=	3.100
K, Submerged	=	.000
K, Reverse	=	1.000
Kb,Barrel	=	.000000 (per ft of full flow)
Barrel Length	=	.00 ft
Mannings n	=	.0000

Structure ID = 2
Structure Type = Weir-Rectangular

# of Openings	=	1
Crest Elev.	=	5.70 ft
Weir Length	=	30.00 ft
Weir Coeff.	=	3.100000

Weir TW effects (Use adjustment equation)

Structure ID = TW
Structure Type = TW SETUP, DS Channel

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...

Maximum Iterations	=	30
Min. TW tolerance	=	.01 ft
Max. TW tolerance	=	.01 ft
Min. HW tolerance	=	.01 ft
Max. HW tolerance	=	.01 ft
Min. Q tolerance	=	.10 cfs
Max. Q tolerance	=	.10 cfs

Index of Starting Page Numbers for ID Names

----- P -----
POND OUTA... 6.01
POND-CONTOUR... 5.01
POST-DEVELOPMENT... 2.01

----- W -----
Watershed... 1.01, 1.02

REV 12/9/03
REV 7/24/00
REV 3/8/00
DATE 8/26/99

SEWER DATA SHEET
APPENDIX "B"

I. PROJECT NAME Raleg's Point Sec 5

II. PROJECT LOCATION Raleg's Point Sub @ W.H. Glade / Palisade CT WT.

III. ~~ENGINEER~~ Surveyor - A.D. Potts & Ass., Inc

IV. POINT OF CONNECTION TO AUTHORITY SYSTEM Exist M.H @ Pump Sta W.H.S Subdivision in Williamsburg Shore

V. DESIGN POPULATION (NUMBER AND TYPE OF DWELLINGS) 125 Single family

VI. AVERAGE DESIGN FLOW 26.04 gpm = [(125 x 300 gpd ÷ 24 hr] ÷ 60 min/hr

VII. PEAK DESIGN FLOW 65.10 gpm = (26.04 x 2.5)

VIII. PIPE MATERIAL PVC & DUCTILE IRON

IX. PIPE DIAMETER

(INCHES)	LENGTH (FEET)
4" (laterals)	375
6"	387'
8"	2279
10"	
12"	
15"	
18"	
21"	
24"	
TOTAL FEET	

X. MANHOLES (A) STANDARD 9 (NUMBER) AVERAGE DEPTH 14'
(B) DROP — (NUMBER) AVERAGE DEPTH —

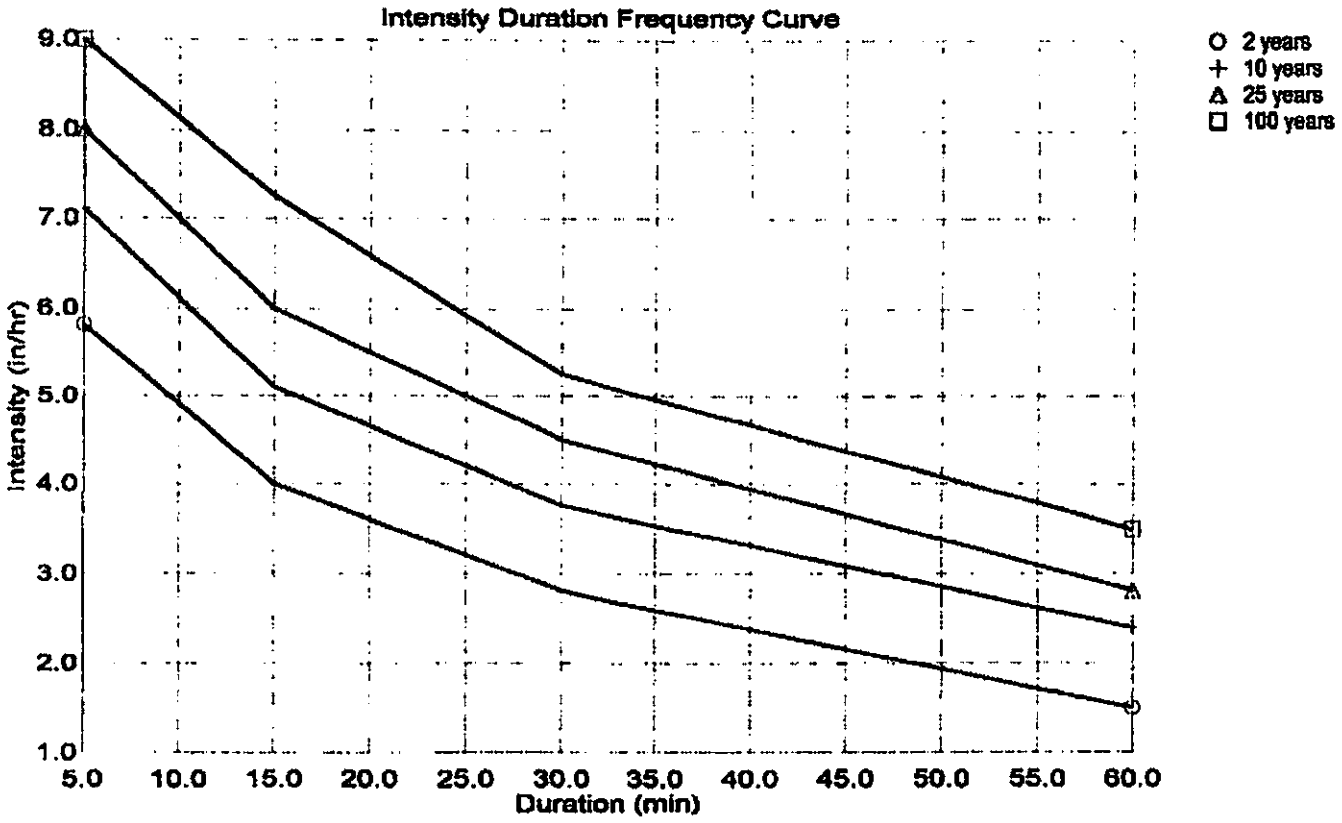
XI. (A) PUMP STATIONS SIZE _____ (GPM)
(B) FORCE MAIN (SIZE LENGTH) 6" - 61 (FEET)

DRAINAGE CALCULATIONS FOR

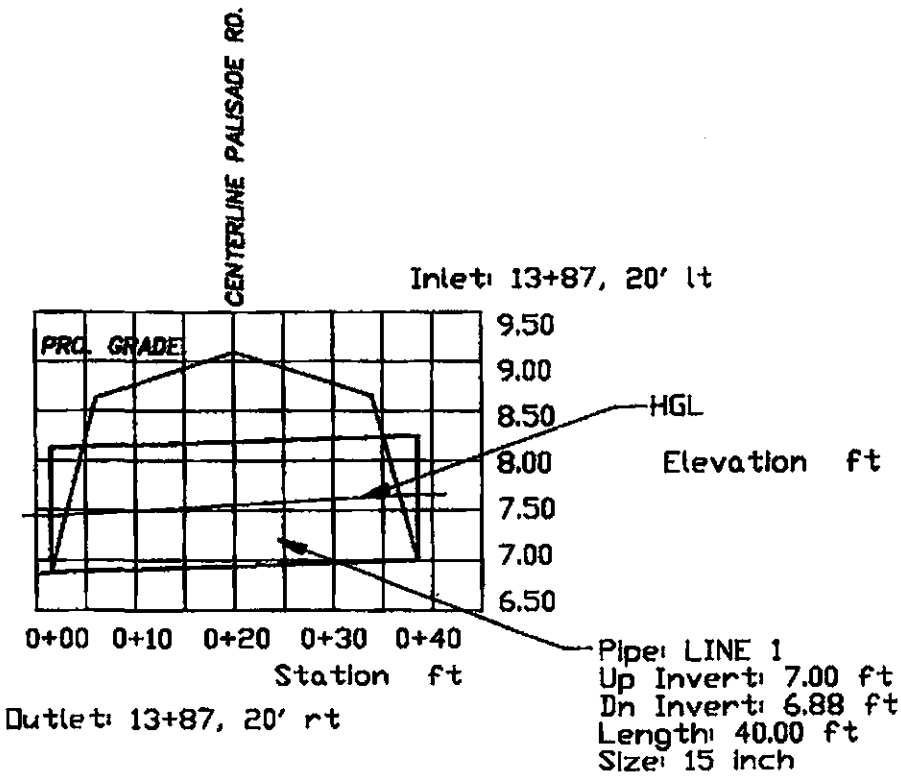
PELEG'S POINT

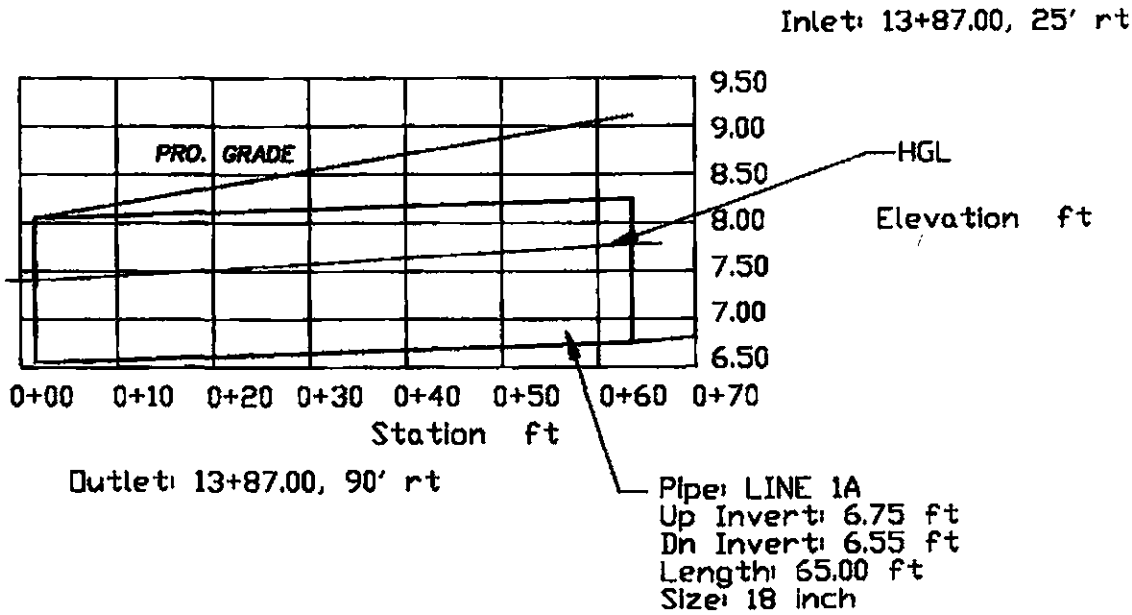
SECTION FIVE

A.D. POTTS & ASSOCIATES, INC.
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA
PHONE: (757)–595–4610


Intensity Duration Frequency Curve
Intensity (in/hr)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
55.0
60.0
Duration (min)
2 years
10 years
25 years
100 years

A.D. POTTS & ASSOCIATES, L. .	SUBJECT DRAINAGE CALCULATIONS ..NE 1 & 1A	SHEET 1 OF 4
BY ADP DATE 8/20/99	PELEG'S POINT SECTION FIVE STA. 13+87	JOB NO. 99-151
CKD BY DATE	JAMES CITY COUNTY, VIRGINIA	SCALE 1"=20' HZ. 1"= 2' VT.





Detailed Report for Pipe LINE 1

Section Material: Concrete
Section Shape: Circular
Section Size: 15 inch
Number Sections: 1

Description		Description	
Discharge	2.37 cfs	Capacity	3.64 cfs
Mannings Coefficient	0.013	Hydraulic Drop	0.23 ft
Length	40.00 ft	Energy Slope	0.37e-2 ft/ft
Constructed Slope	0.3e-2 ft/ft	Upstream Velocity	3.20 ft/s
Upstream Flow Time	25.00 min	Average Velocity	3.57 ft/s
Pipe Flow Time	0.19 min	Downstream Velocity	3.94 ft/s
System Flow Time	25.19 min		

Grade Elevations

Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	7.00	9.20	8.25	0.95	0.73	7.73	7.89
Downstream	6.88	9.20	8.13	1.07	0.62	7.50	7.74

Description:
pipe @ sta 13+87.00 palisade

Messages:
Profile: Mild subcritical drawdown profile (M2).
Profile: Critical depth assumed downstream.
Violation: does not meet minimum cover constraint at upstream end.

Detailed Report for Pipe LINE 1A

Section Material: Concrete
Section Shape: Circular
Section Size: 18 inch
Number Sections: 1

Description			Description	
Discharge	5.92	cfs	Capacity	5.83 cfs
Mannings Coefficient	0.013		Hydraulic Drop	0.41 ft
Length	65.00	ft	Energy Slope	0.41e-2 ft/ft
Constructed Slope	0.31e-2	ft/ft	Upstream Velocity	4.06 ft/s
Upstream Flow Time	20.00	min	Average Velocity	4.57 ft/s
Pipe Flow Time	0.24	min	Downstream Velocity	5.08 ft/s
System Flow Time	20.24	min		

Grade Elevations

Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	6.75	9.20	8.25	0.95	1.15	7.90	8.16
Downstream	6.65	9.20	8.05	1.15	0.94	7.49	7.89

Description:
outfall pipe @ sta 13+87 palisade

Messages:
Profile: Mild subcritical drawdown profile (M2).
Profile: Critical depth assumed downstream.
Violation: does not meet minimum cover constraint at upstream end.

A.D. POTTS & ASSOCIATES, INC.

BY ADP DATE 8/20/99

CKD BY _____ DATE _____

SUBJECT DRAINAGE CALCULATIONS - LINE 2 & 2A

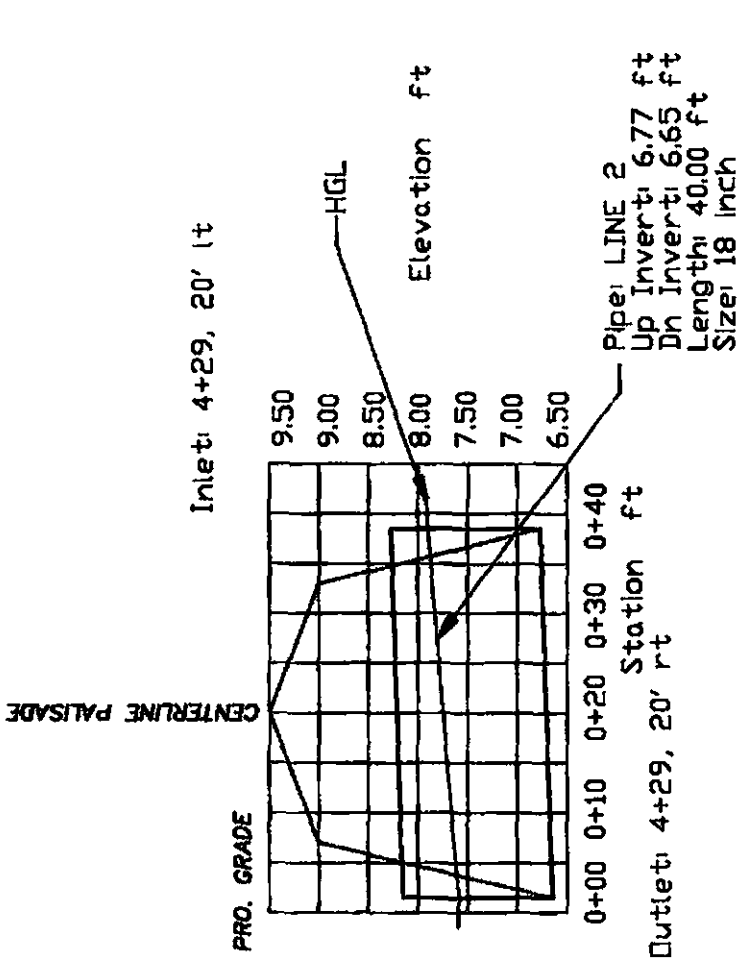
PELEG'S POINT SECTION FIVE STA. 4+28.80

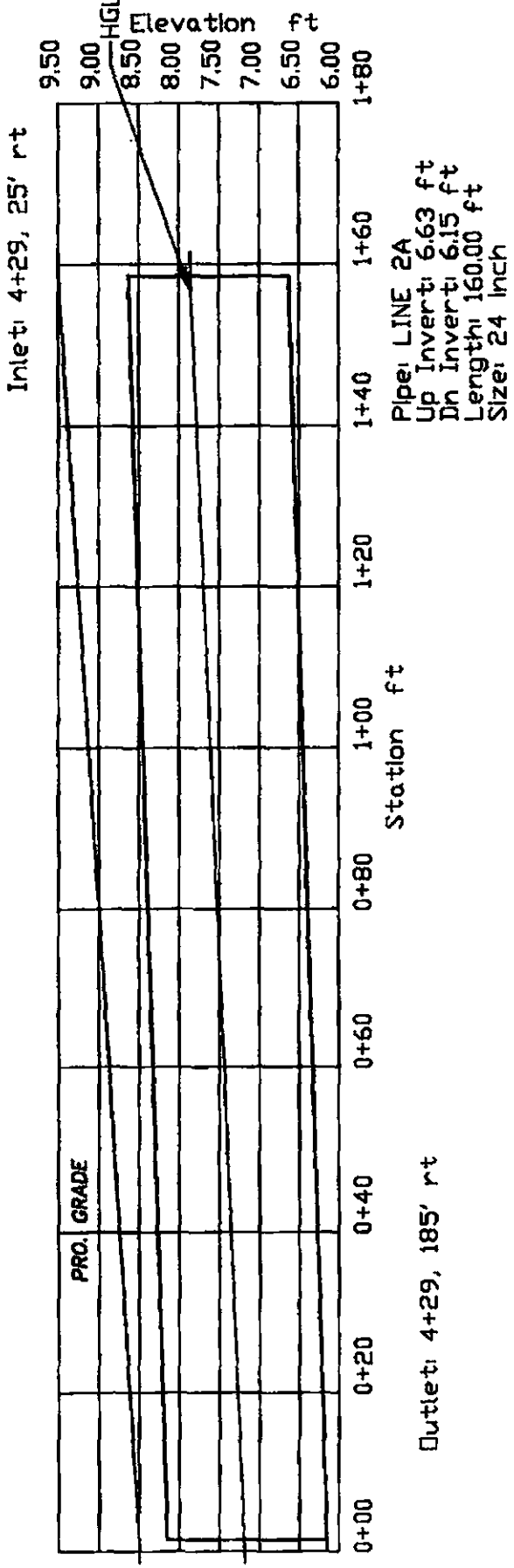
JAMES CITY COUNTY, VIRGINIA

SHEET 2 OF 4

JOB NO. 99-151

SCALE 1"=20' HZ. 1"= 2' VT.





Detailed Report for Pipe LINE 2

Section Material: Concrete
Section Shape: Circular
Section Size: 18 inch
Number Sections: 1

Description		Description	
Discharge	7.01 cfs	Capacity	5.76 cfs
Mannings Coefficient	0.013	Hydraulic Drop	0.35 ft
Length	40.00 ft	Energy Slope	0.49e-2 ft/ft
Constructed Slope	0.3e-2 ft/ft	Upstream Velocity	4.43 ft/s
Upstream Flow Time	20.00 min	Average Velocity	4.94 ft/s
Pipe Flow Time	0.13 min	Downstream Velocity	5.45 ft/s
System Flow Time	20.13 min		

Grade Elevations

Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	6.77	9.50	8.27	1.23	1.26	8.03	8.33
Downstream	6.65	9.50	8.15	1.35	1.03	7.68	8.14

Description:
pipe crossing @ 4+29

Messages:
Profile: Mild subcritical drawdown profile (M2).
Violation: does not meet minimum slope constraint.

Detailed Report for Pipe LINE 2A

Section Material: Concrete
Section Shape: Circular
Section Size: 24 inch
Number Sections: 1

Description			Description	
Discharge	9.21	cfs	Capacity	12.39 cfs
Mannings Coefficient	0.013		Hydraulic Drop	0.88 ft
Length	160.00	ft	Energy Slope	0.33e-2 ft/ft
Constructed Slope	0.3e-2	ft/ft	Upstream Velocity	4.33 ft/s
Upstream Flow Time	20.00	min	Average Velocity	4.81 ft/s
Pipe Flow Time	0.55	min	Downstream Velocity	5.30 ft/s
System Flow Time	20.55	min		

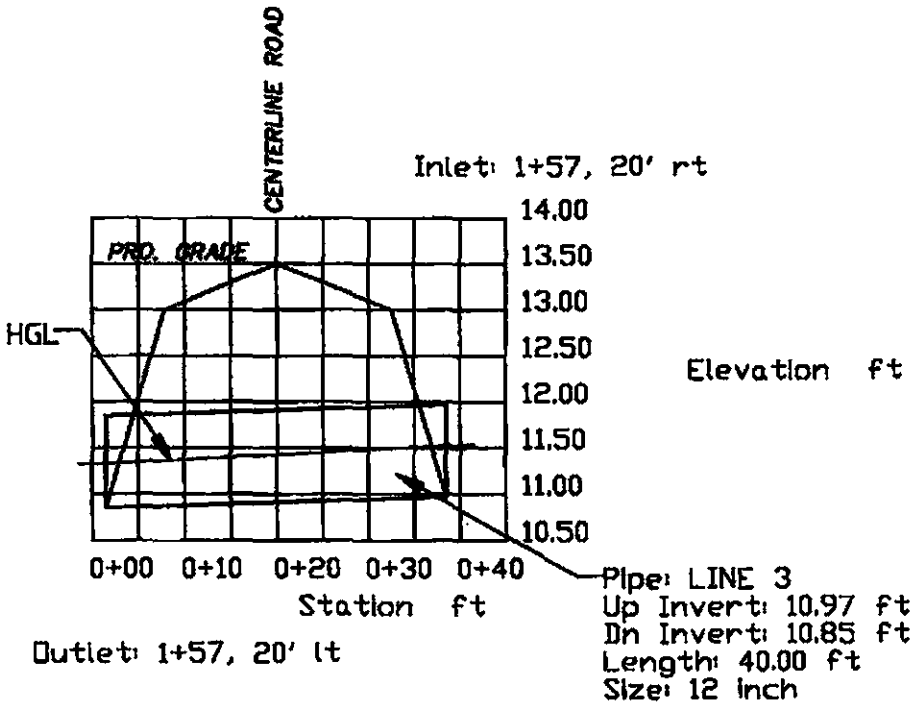
Grade Elevations

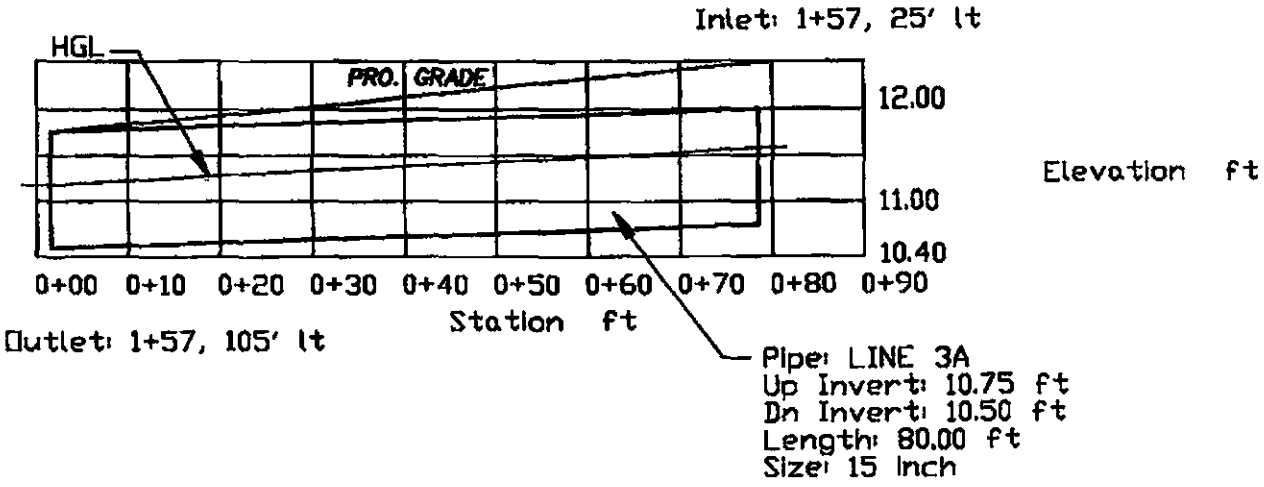
Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	6.63	9.50	8.63	0.87	1.29	7.91	8.20
Downstream	6.15	8.50	8.15	0.35	1.08	7.23	7.67

Description:
outfall pipe @ 4+29 palisade

Messages:
Profile: Mild subcritical drawdown profile (M2).
Violation: does not meet minimum cover constraint at downstream end.

A.D. POTTS & ASSOCIATES, INC.	SUBJECT DRAINAGE CALCULATIONS LINE 3 & 3A	SHEET 3 OF 4
BY ADP DATE 8/20/99	PELEG'S POINT SECTION FIVE STA. 1+57	JOB NO. 99-151
CKD BY DATE	JAMES CITY COUNTY, VIRGINIA	SCALE 1"=20' HZ. 1"= 2' VT.





Detailed Report for Pipe LIN

Section Material: Concrete
Section Shape: Circular
Section Size: 12 inch
Number Sections: 1

Description		Description	
Discharge	1.41 cfs	Capacity	1.95 cfs
Mannings Coefficient	0.013	Hydraulic Drop	0.23 ft
Length	40.00 ft	Energy Slope	0.38e-2 ft/ft
Constructed Slope	0.3e-2 ft/ft	Upstream Velocity	2.81 ft/s
Upstream Flow Time	10.00 min	Average Velocity	3.19 ft/s
Pipe Flow Time	0.21 min	Downstream Velocity	3.57 ft/s
System Flow Time	10.21 min		

Grade Elevations

Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	10.97	12.90	11.97	0.93	0.61	11.58	11.70
Downstream	10.85	12.90	11.85	1.05	0.50	11.35	11.55

Description:
pipe crossing @ 1+57

Messages:
Profile: Mild subcritical drawdown profile (M2).
Profile: Critical depth assumed downstream.
Violation: does not meet minimum cover constraint at upstream end.

Detailed Report for Pipe LINE 3A

Section Material: Concrete
Section Shape: Circular
Section Size: 15 inch
Number Sections: 1

Description			Description	
Discharge	2.73	cfs	Capacity	3.61 cfs
Mannings Coefficient	0.013		Hydraulic Drop	0.39 ft
Length	80.00	ft	Energy Slope	0.38e-2 ft/ft
Constructed Slope	0.31e-2	ft/ft	Upstream Velocity	3.28 ft/s
Upstream Flow Time	10.00	min	Average Velocity	3.70 ft/s
Pipe Flow Time	0.36	min	Downstream Velocity	4.13 ft/s
System Flow Time	10.36	min		

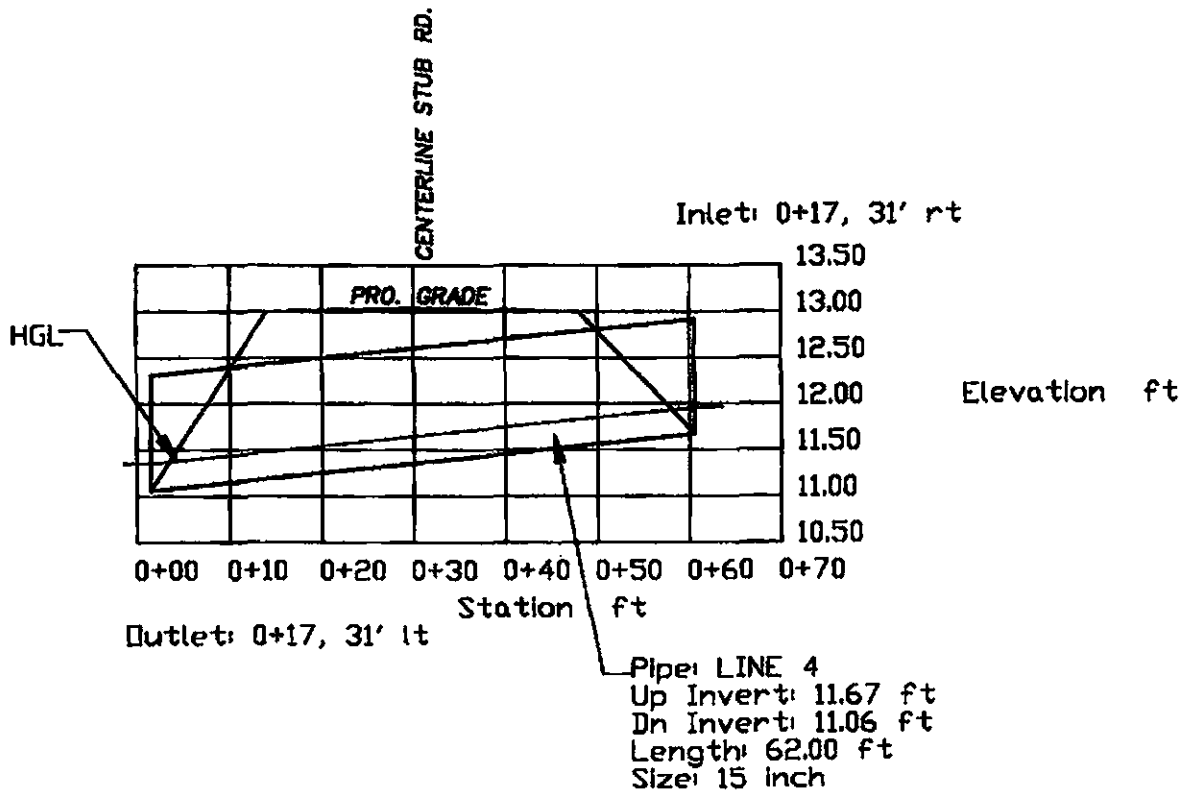
Grade Elevations

Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	10.75	12.00	12.00	0.00	0.80	11.55	11.72
Downstream	10.50	12.00	11.75	0.25	0.68	11.18	11.43

Description:
outfall pipe @ 1+57

Messages:
Profile: Mild subcritical drawdown profile (M2).
Violation: does not meet minimum cover constraint at downstream end.

A.D. POTTS & ASSOCIATES, INC.	SUBJECT DRAINAGE CALCULATIONS — LINE 4	SHEET 4 OF 4
BY ADP DATE 8/20/99	PELEG'S POINT SECTION FIVE STA. 0+17	JOB NO. 99-151
CKD BY DATE	JAMES CITY COUNTY, VIRGINIA	SCALE 1"=20' HZ. 1"= 2' VT.



Detailed Report for Pipe LINE 4

Section Material: Concrete
Section Shape: Circular
Section Size: 15 inch
Number Sections: 1

Description		Description	
Discharge	0.55 cfs	Capacity	6.41 cfs
Mannings Coefficient	0.013	Hydraulic Drop	0.61 ft
Length	62.00 ft	Energy Slope	0.01 ft/ft
Constructed Slope	0.01 ft/ft	Upstream Velocity	2.57 ft/s
Upstream Flow Time	10.00 min	Average Velocity	2.57 ft/s
Pipe Flow Time	0.40 min	Downstream Velocity	2.57 ft/s
System Flow Time	10.40 min		

Grade Elevations

Location	Invert (ft)	Ground (ft)	Crown (ft)	Cover (ft)	Depth (ft)	HGL (ft)	EGL (ft)
Upstream	11.87	13.04	12.92	0.12	0.29	11.96	12.06
Downstream	11.06	13.04	12.31	0.73	0.29	11.35	11.45

Description:
pipe crossing @ 0+17' stub rd.

Messages:
Profile: Steep subcritical backwater profile (S1).
Profile: Critical depth assumed upstream.
Profile: Hydraulic jump formed.
Violation: does not meet minimum cover constraint at downstream end.

A.D. POTTS & ASSOCIATES, IN

BY ADP DATE 8/19/99

CKD BY _____ DATE _____

SUBJECT SEDIMENT TRAP "A" CALCULATIONS

DESCRIPTION PELEG'S POINT SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

SHEET 1 OF 4

JOB NO. 99-151

SCALE N/A

DRAINAGE AREA = 2.25 Ac.
VOLUME REQUIRED= 2.25 Ac. x 134 c.y./Ac. x 27 c.f./c.y.=8140 c.f.
PERMANENT POOL VOLUME = 8140 c.f.÷2= 4070 c.f.
AREA @ BOTTOM(60' x 30')= 1800 s.f.
PERIMETER @ BOTTOM = 180
@ 2:1 SLOPES; 1x180=180 sf ADDITIONAL AREA PER 0.5' RISE IN ELEVATION

STAGE (FT.)	ELEV.	SURFACE AREA (S.F.)	STORAGE (C.F.)	ΣSTORAGE (C.F.)
0	4.15	1800	---	---
.5	4.65	1980	945	945
1	5.15	2160	1035	1980
1.5	5.65	2340	1125	3105
1.89	6.05			PERM. POOL @ 4070 ELEV.=6.05'
2	6.15	2520	1215	4320
2.5	6.65	2700	1305	5625
3	7.15	2880	1395	7020
3.38	7.52'			TOTAL VOL. REQ'D @ 8140
3.5	7.65	3060	1485	8505
4	8.15			

LENGTH OF OUTLET = 6x2.25=13.50'
WIDTH OF OUTLET = 3'

TOP OF EMBANKMENT @ ELEV.=8.52'

NOTE:
STATION 13+67, PALISADE

A.D. POTTS & ASSOCIATES, I.	SUBJECT SEDIMENT TRAP "C" CA. JLATIONS	SHEET 3 OF 4
BY ADP DATE 8/19/99	DESCRIPTION PELEG'S POINT SECTION FIVE	JOB NO. 99-161
CKD BY DATE	JAMES CITY COUNTY, VIRGINIA	SCALE N/A

DRAINAGE AREA = 0.89 Ac.
VOLUME REQUIRED= 0.89 Ac. x 134 c.y./Ac. x 27 c.f./c.y.=3220 c.f.
PERMANENT POOL VOLUME = 3220 c.f.-2= 1610 c.f.
AREA @ BOTTOM(50' x 25')= 1250 s.f.
PERIMETER @ BOTTOM = 150
@ 2:1 SLOPES; 1x150=150 sf ADDITIONAL AREA PER 0.5' RISE IN ELEVATION

STAGE (FT.)	ELEV.	SURFACE AREA (S.F.)	STORAGE (C.F.)	≤STORAGE (C.F.)
0	8.85	1250	---	---
.5	9.35	1400	663	663
1	9.85	1550	738	1371
1.15	10.00			PERM. POOL @ 1610 ELEV.=10.00'
1.5	10.35	1700	813	2184
2	10.85	1850	888	3072
2.08	10.93'			TOTAL VOL. REQ'D @ 3220
2.5	11.35	2000	963	4035
3	11.85	2150	1038	5073
3.5				
4				

LENGTH OF OUTLET = 6x0.89=5.34'
WIDTH OF OUTLET = 2.5'

TOP OF EMBANKMENT @ ELEV.=11.92'

NOTE:
STATION 1+67, WHATEVER DR

A.D. POTTS & ASSOCIATES, INC.

BY ADP DATE 6/19/99

CKD BY _____ DATE _____

SUBJECT SEDIMENT TRAP "B" CALCULATIONS

DESCRIPTION PELEG'S POINT SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

SHEET 2 OF 4

JOB NO. 99-161

SCALE N/A

DRAINAGE AREA = 3.93 Ac.
VOLUME REQUIRED= 3.93 Ac. x 134 c.y./Ac. x 27 c.f./c.y.=14219 c.f.
PERMANENT POOL VOLUME = 14219 c.f.-2= 7109 c.f.
AREA @ BOTTOM(100' x 40')= 4000 s.f.
PERIMETER @ BOTTOM = 280
@ 2:1 SLOPES; 1x280=280 sf ADDITIONAL AREA PER 0.5' RISE IN ELEVATION

STAGE (FT.)	ELEV.	SURFACE AREA (S.F.)	STORAGE (C.F.)	ΣSTORAGE (C.F.)
0	4.40	4000	---	---
.5	4.90	4280	2070	2070
1	5.40	4560	2210	4280
1.5	5.90	4840	2350	6630
1.60	6.00			PERM. POOL @ 7109 ELEV.=6.00'
2	6.40	5120	2490	9120
2.5	6.90	5400	2630	11750
2.95	7.35'			TOTAL VOL. REQ'D @ 14219
3	7.40	5680	2770	14520
3.5	7.90	5960	2910	17430
4	8.40	6240	3050	20480

LENGTH OF OUTLET = 6x3.93=23.58'
WIDTH OF OUTLET = 4.5'

TOP OF EMBANKMENT @ ELEV.=8.35'

NOTE:
STATION 4+29, PALISADE

A.D. POTTS & ASSOCIATES, INC.	SUBJECT SEDIMENT TRAP "D" CALCULATIONS	SHEET 4 OF 4
BY ADP DATE 6/19/99	DESCRIPTION PELEG'S POINT SECTION FIVE	JOB NO. 99-151
CKD BY DATE	JAMES CITY COUNTY, VIRGINIA	SCALE N/A

DRAINAGE AREA = 0.46 Ac.
VOLUME REQUIRED= 0.46 Ac. x 134 c.y./Ac. x 27 c.f./c.y.=1664 c.f.
PERMANENT POOL VOLUME = 1664 c.f.-2= 832 c.f.
AREA @ BOTTOM(40' x 20')= 800 s.f.
PERIMETER @ BOTTOM = 120
@ 2:1 SLOPES; 1x120=120 sf ADDITIONAL AREA PER 0.5' RISE IN ELEVATION

STAGE (FT.)	ELEV.	SURFACE AREA (S.F.)	STORAGE (C.F.)	ΣSTORAGE (C.F.)
0	9.10	800	---	---
.5	9.60	920	430	430
0.91	10.00			PERM. POOL @ 832 ELEV.=10.00'
1	10.10	1040	490	920
1.5	10.60	1160	550	1470
1.65	10.75			TOTAL VOL. REQ'D @ 1664
2	11.10	1280	610	2080
2.5	11.60	1400	670	2750
3	12.10	1520	730	3480
3.5				
4				

LENGTH OF OUTLET = 6x0.46=2.76'
WIDTH OF OUTLET = 3'

TOP OF EMBANKMENT @ ELEV.=11.75'

NOTE:
STATION 5+97, WHATEVER DR

A.D. POTTS & ASSOCIATES, INC.

BY ADP DATE 8/19/99

CKD BY _____ DATE _____

SUBJECT ADDITIONAL DRAINAGE TO POND "C"

DESCRIPTION PELEG'S POINT SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

SHEET 1 OF 1

JOB NO. 99-151

SCALE N/A

1. EXISTING DRAINAGE AREA TO POND "C": 60.39 Ac.
   EXISTING WETLAND AREA= 60.39 x 43560 x 0.25 x 0.0375 x 2=49324 sf
   EXISTING "AS-BUILT WETLAND AREA= 48350 sf
   ADDITIONAL WETLAND AREA NEEDED AS IS= 974 sf

2. PROPOSED ADDITIONAL DRAINAGE AREA FROM SECTION 5= 1.36 Ac.
   REQUIRED WETLAND AREA= 1.36 x 43560 x 0.25 x 0.0375 x 2= 1111 sf

   TOTAL ADDITIONAL WETLAND AREA REQUIRED= 2085 sf

3. REQUIRED WATER QUALITY DRAWDOWN VOLUME= 61.75 x 43560 x 0.25 x 0.0375= 25217 cf
   VOLUME OF EXISTING STORAGE FROM EXISTING 5"ø ORIFICE (INV. 5.00') TO TOP OF
   EXISTING 16" RISER (ELEV. 5.62') = 32983 cf

4. EXISTNG 5" ø DEWATERING ORIFICE
   REQUIRED REVISED FLOW FOR 24-30 HOUR DRAWDOWN VOLUME OF 25217 cf
   25217 cf / 108000 SEC. (30 hr)= 0.23 cfs

   EXISTING 5"ø $A=Q/[64.32 \times h/2]^{0.5}(0.6)$ A=0.136 (5") h=0.21
   A=0.21 cfs DRAWDOWN TIME: 32.6 hrs- OK

5. AVAILABLE POND STORAGE AFTER ENLARGEMENT
   (NOTE: SURFACE AREAS PLANIMETERED FROM EXISTING GROUND CONTOURS)

ELEV. (ft)		SURFACE AREA (sf)		STORAGE (cf)	↑STORAGE (cf)
4.40 (BOTTOM)		49324	25481 cf PERM. POOL VOLUME	---	---
5.00 (INV. DEWATERING)		52800		---	---
5.50	<-TOP OF RISER @ ELEV	56550		27288	27288
6.00	5.62 WATER QUALITY	60500		29263	56551
6.50	DRAWDOWN VOL.=	78875		34844	91395
7.00	32983 cf	116500		48844	140239
7.50		162375		69719	209958

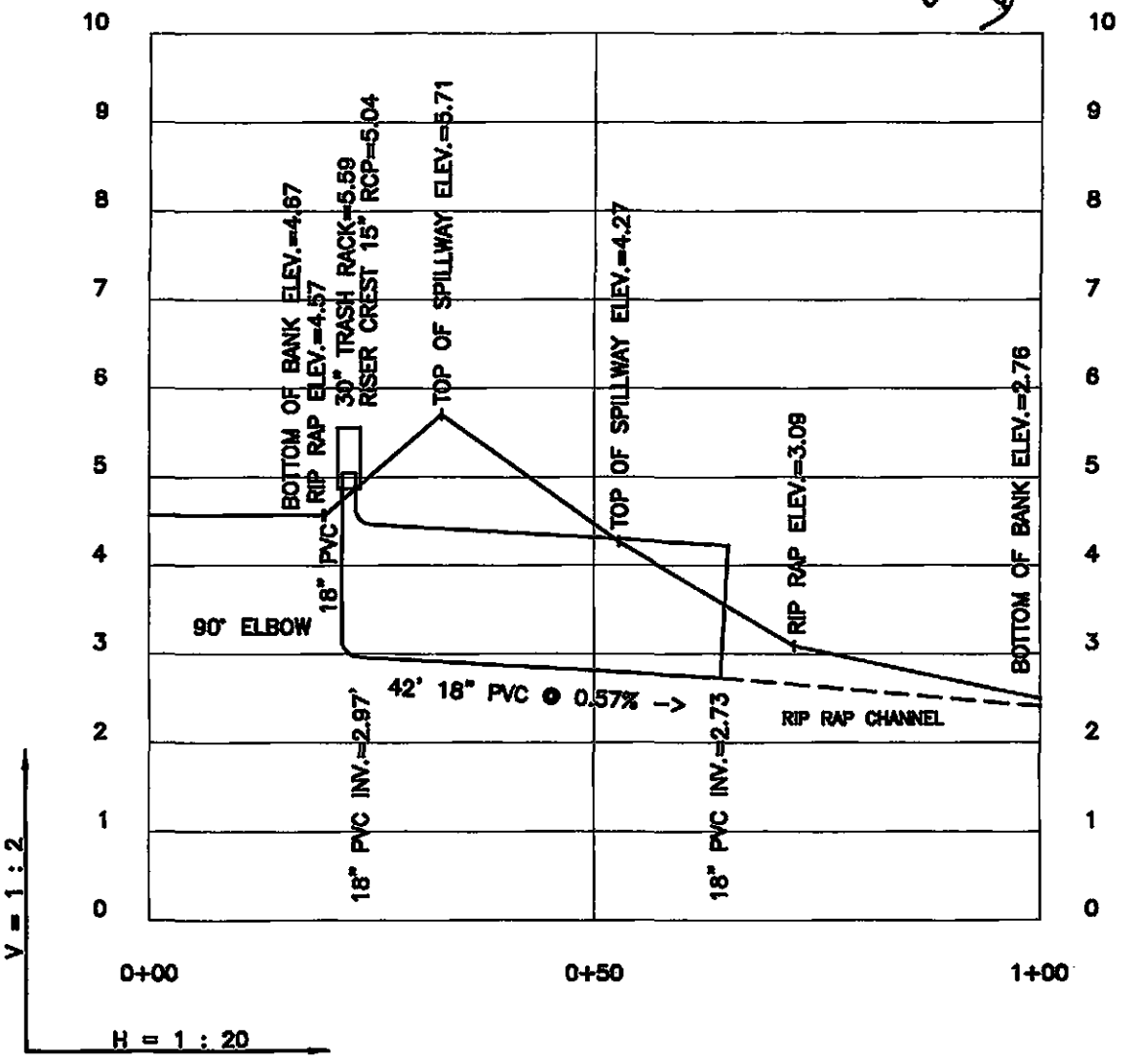
6. PRE-DEVELOPMENT & POST-DEVELOPMENT PEAK DISCHARGES FROM DRAINAGE BASIN "C"

PRE-DEVELOPMENT	POST-DEVELOPMENT
DRAINAGE AREA=61.15 Ac.	DRAINAGE AREA=61.75 Ac.
Q_2=28.23 cfs	Q_2=17.8 cfs
Q_{10}=42.35 cfs	Q_{10}=30.8 cfs
Q_{100}=63.53 cfs	Q_{100}=41.7 cfs

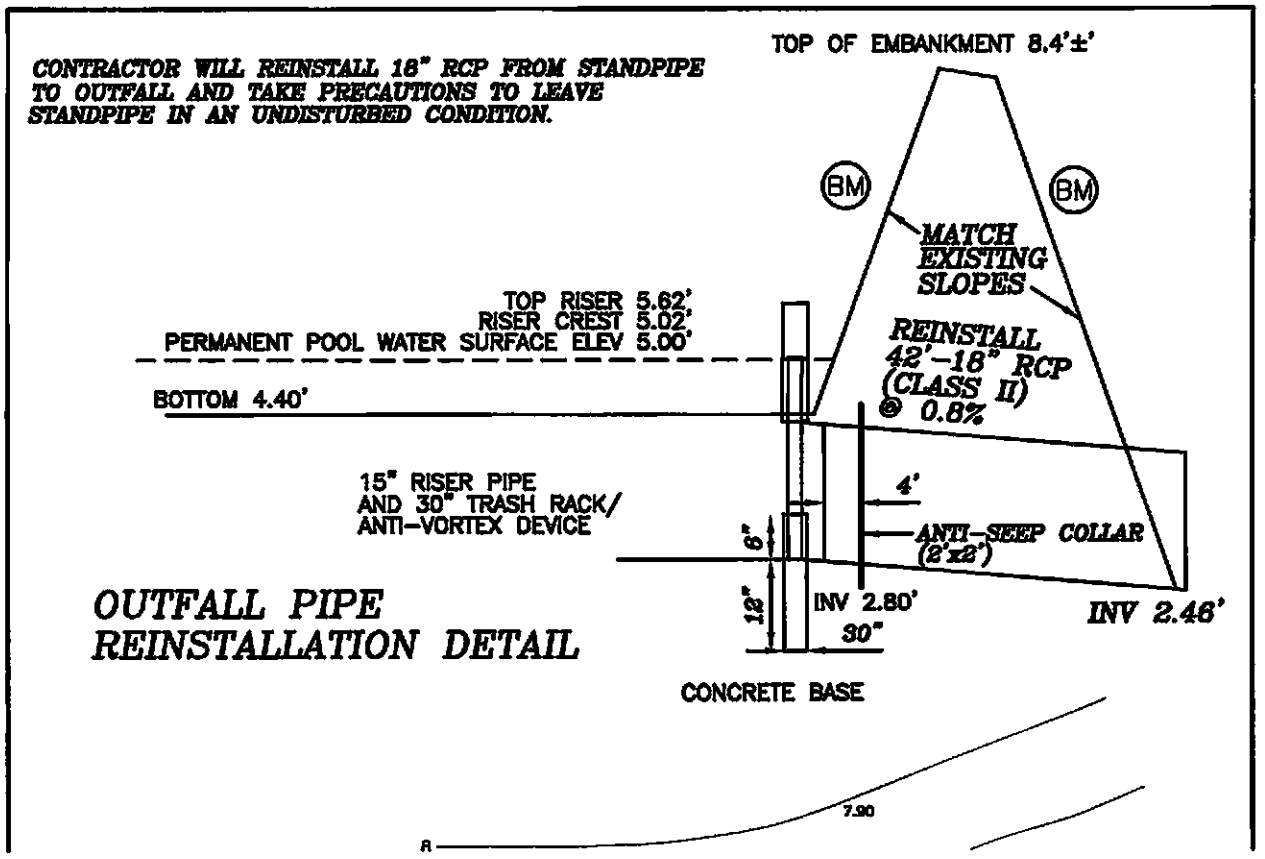
Per 4/11 email from Jason Armstrong

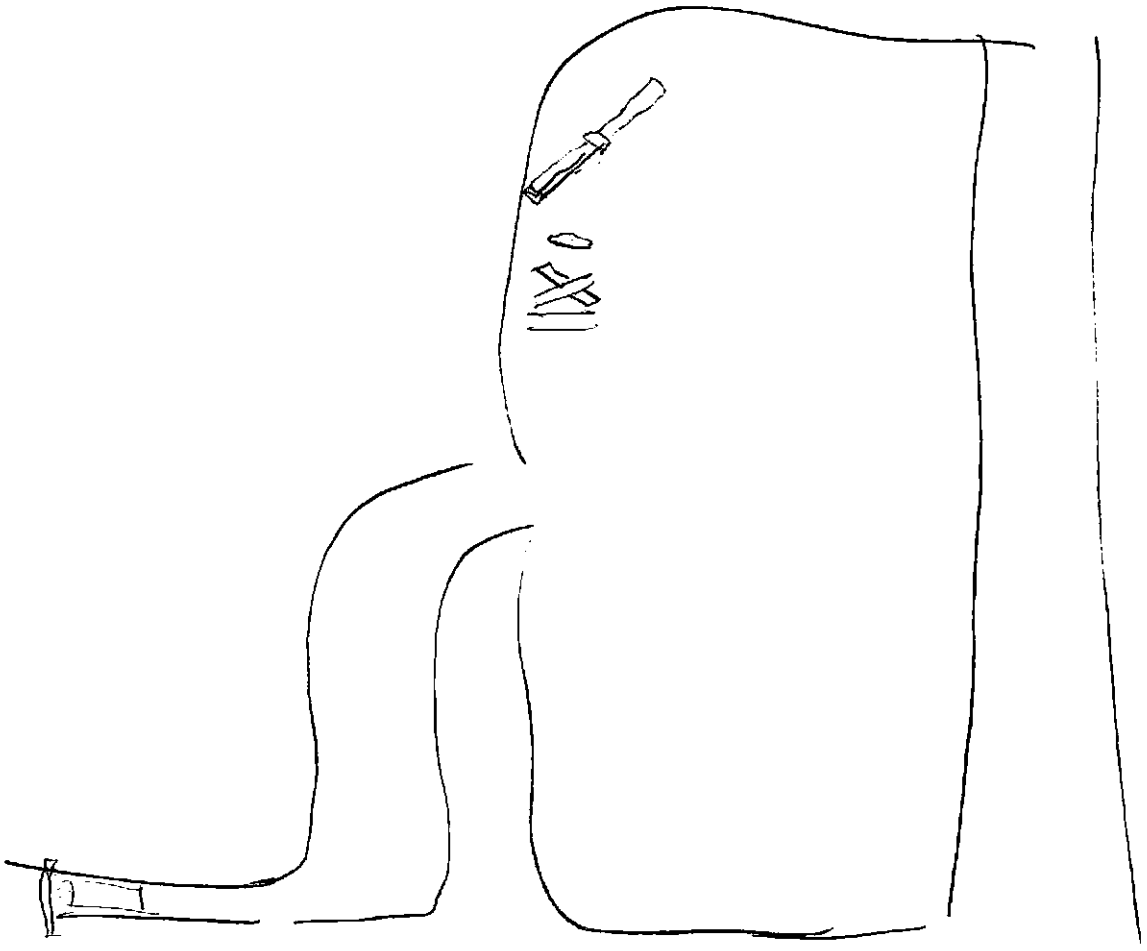
STANDPIPE HAS 30" TRASH RACK
TRASH RACK DOES NOT HAVE LOCKING COVER.
NO STEPS OR LADDER.

NOT OBSERVED DURING CONSTRUCTION, SO CANNOT VERIFY ANTI-SEEP COLLAR INSTALLED.



POND SPILLWAY
PROFILE


CONTRACTOR WILL REINSTALL 18" RCP FROM STANDPIPE TO OUTFALL AND TAKE PRECAUTIONS TO LEAVE STANDPIPE IN AN UNDISTURBED CONDITION.
TOP OF EMBANKMENT 8.4'±
BM
BM
MATCH EXISTING SLOPES
TOP RISER 5.62'
RISER CREST 5.02'
PERMANENT POOL WATER SURFACE ELEV 5.00'
REINSTALL 42'-18" RCP (CLASS II) @ 0.8%
BOTTOM 4.40'
15" RISER PIPE AND 30" TRASH RACK/ ANTI-VORTEX DEVICE
4'
ANTI-SEEP COLLAR (2'x2')
6"
12"
INV 2.80'
30"
INV 2.46'
CONCRETE BASE
7.90
R
OUTFALL PIPE REINSTALLATION DETAIL



WILLIAMSBURG GLADE

SECTION ONE

JAMESTOWN DISTRICT

JAMES CITY COUNTY, . VIRGINIA

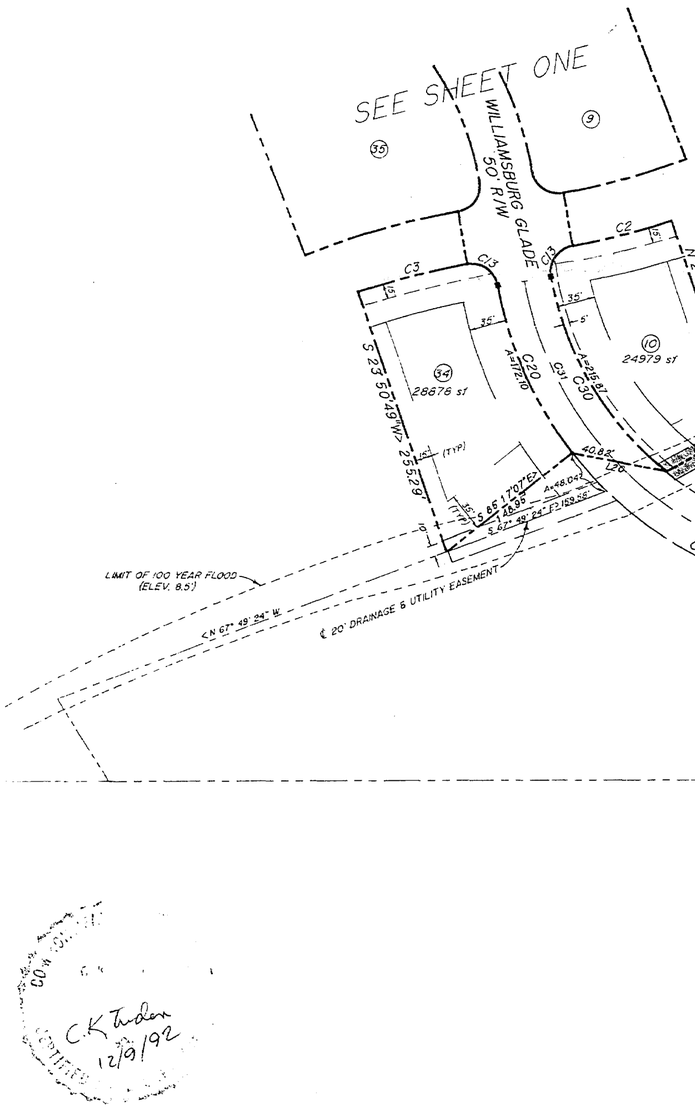
C. K. TUDOR ENGINEERS, INC.
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601

SCALE: 1" = 100' DECEMBER 2, 1992

SHEET 2 OF 2

LINE	BEARING	DISTANCE
L1	S 46° 55' 17" E	66.26
L2	S 71° 40' 38" E	70.69
L3	S 42° 42' 06" W	39.27
L4	N 42° 42' 06" E	39.27
L5	S 71° 40' 38" E	71.75
L6	S 47° 17' 54" E	83.50
L7	N 47° 17' 54" W	83.50
L8	N 46° 55' 17" W	66.26
L9	N 75° 40' 38" W (NR)	79.48
L20	S 35° 44' 02" E	88.93
L21	S 46° 55' 17" E	66.26
L22	S 47° 17' 54" E	83.50
L23	N 42° 42' 06" E	39.27
L24	N 18° 19' 22" E	50.00

CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD	CHORD BRG
C20	26° 03'36"	351.41	172.10	87.81	170.38	S 18° 44'40" W
C21	51° 38'10"	351.41	316.70	170.02	306.09	S 21° 06'10" E
C22	24° 45' 21"	834.60	360.61	183.16	357.81	N 59° 17' 58" W
C23	24° 22' 44"	235.03	100.00	50.77	99.25	S 30° 30' 44" W
C24	24° 22' 44"	285.03	121.28	61.57	120.37	N 30° 30' 44" E
C25	24° 22' 44"	750.10	319.59	162.25	317.18	S 59° 29' 16" E
C26	01° 10' 14"	801.10	16.37	8.18	16.37	N 47° 52' 59" W
C27	24° 22' 44"	801.10	340.86	173.05	338.30	N 59° 29' 16" W
C28	24° 45' 21"	784.60	339.00	172.18	336.37	N 59° 17' 58" W
C29	36° 39'38"	301.41	203.36	105.73	199.54	N 27° 35'24" W
C30	41° 02'07"	301.41	215.87	112.80	211.29	N 12° 15'24" E
C31	35° 31'14"	326.41	190.96	98.30	188.25	S 16° 00'50" W
C32	46° 10'32"	326.41	263.06	139.14	256.00	S 23° 49'59" E
C33	24° 45' 21"	809.60	349.81	177.68	347.09	S 59° 17' 58" E
C34	24° 22' 44"	260.03	110.64	56.17	109.81	N 30° 30' 44" E
C35	24° 22' 44"	776.10	330.23	167.65	327.74	S 59° 29' 16" E
C2	6° 18' 06"	655.18'	94.93	47.55	94.85	S 61° 22' 44" E
C3	6° 55' 40"	675.00'	102.18	52.70	103.07	S 61° 41' 21" E
C13	90° 00' 00"	25.00'	39.27	25.00	35.36	



C.K. Tudor 12/9/92

JOB NO. 86-508 FILE NO. 10-936

POOR QUALITY

ORIGINAL(S) FOLLOW

THIS IS THE BEST COPY AVAILABLE

VCE
DOCUMENT
CONVERSION

PALISADE CT.
50' R/W

PELEG'S POINT

PRO. BENOMI DRIVE
50' R/W

SECTION ONE
PB 57 PG 1

PRO. SECTION FIVE

SECTION TWO
PB 60 PG 8

PROPOSED DRAINAGE & ACCESS EASEMENT (PRIVATE)
20'

LOT 10
LOT 75
LOT 76
LOT 77
LOT 78
LOT 79
LOT 80
LOT 81
LOT 82
LOT 83
LOT 84
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LOT 18
LOT 19
LOT 20

EXISTING 20' VDOT DRAINAGE EASEMENT PB 57 PG 1

EXISTING 20' JCC DRAINAGE EASEMENT PB 57 PG 1

HEADWALL
TOP=10.69'
INV. 36" (N) 6.49'
INV. 36" (S) 6.54'

DELINEATED WETLANDS

HUB & TACK SET

INV. 6.60'

INV. 6.33'

GROUND (TYP)

TOP BANK

BOTTOM BANK

REBAR FD

HUB & TACK SET

WETLAND MITIGATION AREA
COMMON AREA

950' PG-5 @ 0.20%-->

INV. 5.07'

612' PG-5 @ 0.20%-->
(b=4', z=2, d=1.5')

INV. 5.28'

105' PG-5 @ 0.20%-->
(b=4'->5', z=2, d=1.5')

INV. PAVED DITCH=6.38'

EX PAVED DITCH

543' PG-5 @ 0.20%-->
(b=5', z=2, d=1.5')

REBAR FD

INV. 4.60'

RPA

DELINEATED WETLANDS

EXISTING DRAINAGE EASEMENT RESERVED FOR MILL CREEK LANDING, LTD.

WILLIAMSBURG GLADE
50' R/W

ABBITT'S LANE
50' R/W

PROGRESS PRINT

recd 8/9/02

PP2-5-DITCH.DWG
PB 636,837

PROPOSED DITCH & POND SPILLWAY

PELEG'S POINT

SECTION TWO & SECTION FIVE

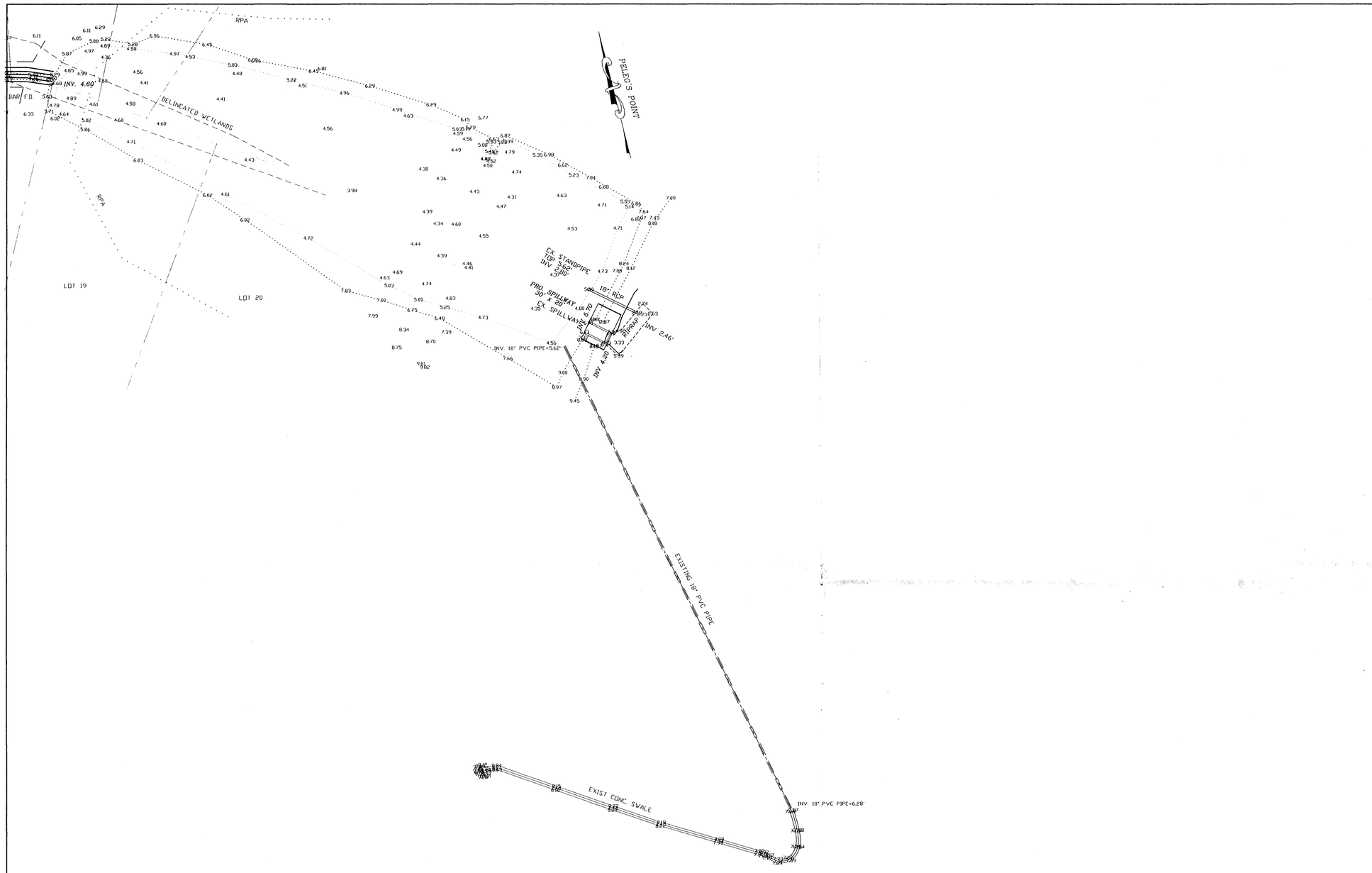
JAMES CITY COUNTY, VIRGINIA

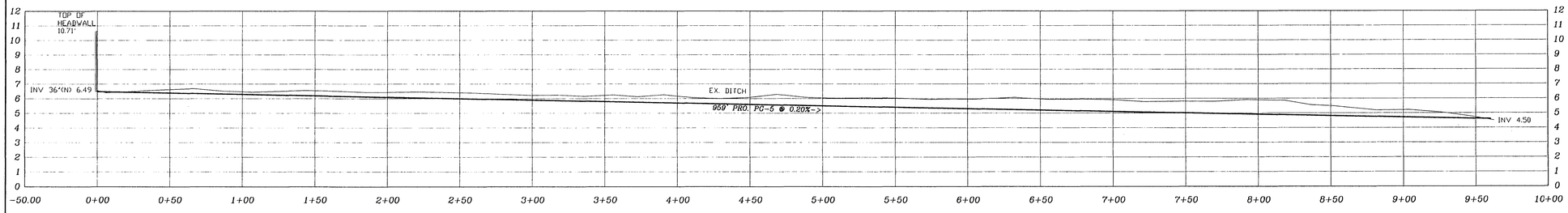
ADPA
A.D. POTTS & ASSOCIATES, INC.
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601
PHONE: (757)-595-4610

SCALE	DATE
1"=40'	8/09/02

DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
ADP	ADP	ERD	02-274	1 OF 2

FILE NO. 22-1146





PROGRESS PRINT

PROPOSED DITCH & POND SPILLWAY

PELEG'S POINT

SECTION TWO & SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

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11524 JEFFERSON AVENUE
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DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
ADP	ADP	ERD	02-274	2 OF 2

FILE NO. 22-1146

PP2-5-DITCH.DWG
FB 836,837

20' EASEMENT AROUND POND TO BE 20' FROM POND SURFACE ELEVATION OF 5.00' EASEMENT IS LISTED BOTH AS JCC DRAINAGE EASEMENT AND RESERVED EASEMENT FOR MILL CREEK LANDING.

EASEMENT AS SHOWN PER ORIGINAL PLAT.

BENOMI DRIVE
50' R/W

SAN MH

PELEG'S POINT SECTION FIVE

JCSA UTILITY EASEMENT 20'
DRAINAGE EASEMENT 20'
10' JCSA FORCE MAIN EASEMENT
15' VIRGINIA POWER EASEMENT

ZONE X (SHADED)
ZONE AE (ELEV 7.5)(NAVD 88)

JCC DRAINAGE & MAINTENANCE EASEMENT 20'

COMMON OPEN SPACE

RPA LINE

CONSERVATION EASEMENT

83

84

85

RBF

JCC GEODETIC NORTH STATION 334

SATELLITE DISH

TOP OF BANK 6.69
BOTTOM OF BANK 4.94
4.97
7.82
8.11
7.89
4.63
ORIGINAL DESIGN
WATER LEVEL (RISER CREST) 5.00'
POND BOTTOM 4.50'
10.0'
8.25
3.5:1 SLOPES (AVG)
TOP OF BANK 7.46
BOTTOM OF BANK 5.38
7.26
4.75
8.01
18" PVC INV=2.97'
18" PVC INV=2.73
4.90
7.55
7.18
4.93
7.61
20'
JCC DRAINAGE EASEMENT
DELINEATED WETLANDS

STANDPIPE 4.55
TOP OF 30" TRASH RACK 5.59'
RISER CREST 5.04'
18" PVC 6.85
5.83
RIPRAP
PROFILE CL 4.58
SPILLWAY 4.92
6.69
7.49
3.39
5.05
6.34
BOTTOM OF BANK 4.99
TOP OF BANK 6.45
9.57
8.46
6.93
7.75
9.28
6.56

DELINEATED WETLANDS

BMP MC 018

8" SANITARY SEWER

20'

ZONE AE (ELEV 7.5)(NAVD88)
ZONE X (SHADED)

DRAINAGE EASEMENT 20'

EXIST. PUMP STA.

SAN MH

20

JCSA PROPERTY

25' VDOT DRAINAGE EASEMENT

42

PELEG'S POINT SECTION TWO

PELEG'S POINT SECTION THREE

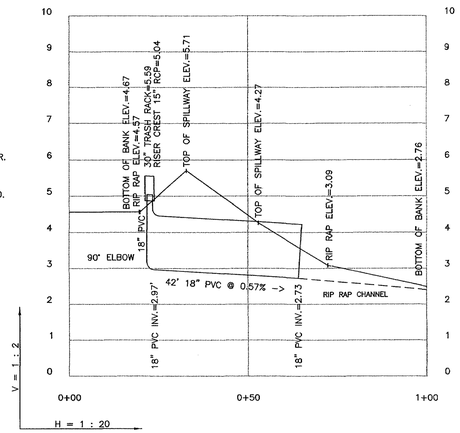
COMMON OPEN SPACE

0' 20' 40' 60'

ELEVATIONS SHOWN ARE NGVD 29 DATUM

STANDPIPE HAS 30" TRASH RACK
TRASH RACK DOES NOT HAVE LOCKING COVER.
NO STEPS OR LADDER.

NOT OBSERVED DURING CONSTRUCTION, SO CANNOT VERIFY ANTI-SEEP COLLAR INSTALLED.



POND SPILLWAY PROFILE

RECORD DRAWING

REV 5/10/13
REV 4/2/13

COMMONWEALTH OF VIRGINIA
ANTHONY D. POTTS
LIC. NO. 001487-B
10-10-12
LAND SURVEYOR

THE POND AND STORM STRUCTURE LOCATIONS AND GRADES SHOWN ON THESE DRAWINGS ARE ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF AND I CERTIFY THAT I, OR MY AGENT, HAS MADE SUFFICIENT INSPECTIONS TO ENSURE THE ACCURACY OF THIS STATEMENT.

ANTHONY D POTTS L.S.

FB 926, 929, 932

POND "C" 2012 AS-BUILT

PELEG'S POINT
SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

ADPA *A.D. POTTS & ASSOCIATES, INC.*
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601
PHONE: (757)-595-4610

SCALE	DATE
1"=20'	10/10/12

DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
XXX	ERD	ADP	12-256	1 OF 1

PP5-POND-C-OUTFALL-2012.DWG FILE NO. 22-1386

20' EASEMENT AROUND POND TO BE 20' FROM POND SURFACE ELEVATION OF 5.00' EASEMENT IS LISTED BOTH AS JCC DRAINAGE EASEMENT AND RESERVED EASEMENT FOR MILL CREEK LANDING.

EASEMENT AS SHOWN PER ORIGINAL PLAT.

BENOMI DRIVE
50' R/W

SAN MH

RBF

PELEG'S POINT SECTION FIVE

JCSA UTILITY EASEMENT 20'

DRAINAGE EASEMENT 20'

10' JCSA FORCE MAIN EASEMENT

15' VIRGINIA POWER EASEMENT

ZONE X (SHADED)
ZONE AE (ELEV 7.5)(NAVD 88)

JCC DRAINAGE & MAINTENANCE EASEMENT

COMMON OPEN SPACE

83

84

85

RPA LINE

CONSERVATION EASEMENT

SATELLITE DISH

TOP OF BANK 6.65

BOTTOM OF BANK 4.94

ORIGINAL DESIGN
WATER LEVEL (RISER CREST) 5.00'
POND BOTTOM 4.50'

10.0'

3.5:1 SLOPES (AVG)

18" PVC INV=2.97'

18" PVC INV=2.73

DELINEATED WETLANDS

JCC DRAINAGE EASEMENT

STANDPIPE 4.55
TOP OF 30" TRASH RACK 5.59'
RISER CREST 5.04'

18" PVC 6.65

PROFILE CL 4.58

RIPRAP

SPILLWAY 4.92

BOTTOM OF BANK 4.99

TOP OF BANK 6.25

DELINEATED WETLANDS

BMP MC 018

8" SNAITARY SEWER

ZONE AE (ELEV 7.5)(NAVD88)

ZONE X (SHADED)

DRAINAGE EASEMENT 20'

EXIST. PUMP STA.

SAN MH

20

JCSA PROPERTY

25' VDOT DRAINAGE EASEMENT

42

PELEG'S POINT SECTION TWO

PELEG'S POINT SECTION THREE

COMMON OPEN SPACE

0' 20' 40' 60'

FB 926, 929, 932

ELEVATIONS SHOWN ARE NGVD 29 DATUM

JCC GEODETIC NORTH
STATION 554

STANDPIPE HAS 30" TRASH RACK
TRASH RACK DOES NOT HAVE LOCKING COVER.
NO STEPS OR LADDER.

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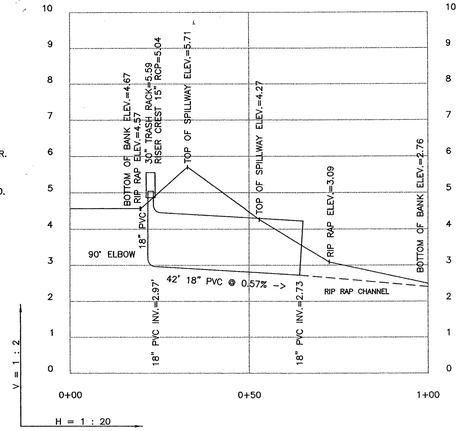


POND SPILLWAY
PROFILE

RECORD DRAWING

REV 5/10/13
REV 4/2/13

COMMONWEALTH OF VIRGINIA
ANTHONY D. POTTS
LIC. NO. 001487-B
10-10-12
LAND SURVEYOR

THE POND AND STORM STRUCTURE LOCATIONS AND GRADES SHOWN ON THESE DRAWINGS ARE ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF AND I CERTIFY THAT I, OR MY AGENT, HAS MADE SUFFICIENT INSPECTIONS TO ENSURE THE ACCURACY OF THIS STATEMENT.

ANTHONY D POTTS L.S.

POND "C" 2012 AS-BUILT

PELEG'S POINT
SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

ADPA *A.D. POTTS & ASSOCIATES, INC.*
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601
PHONE: (757)-595-4610

SCALE	DATE
1"=20'	*10/10/12*

DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
XXX	*ERD*	*ADP*	*12-256*	*1* OF *1*

PP5-POND-C-OUTFALL-2012.DWG FILE NO. *22-1386*

20' EASEMENT AROUND POND TO BE 20' FROM POND SURFACE ELEVATION OF 5.00'
EASEMENT IS LISTED BOTH AS JCC DRAINAGE EASEMENT AND RESERVED EASEMENT FOR MILL CREEK LANDING.

EASEMENT AS SHOWN PER ORIGINAL PLAT.

BENOMI DRIVE
50' R/W

SAN MH

RBF

PELEG'S POINT SECTION FIVE

ZONE X (SHADED)
ZONE AE (ELEV 7.5)(NAVD 88)

JCSA UTILITY EASEMENT 20'
DRAINAGE EASEMENT 20'
10' JCSA FORCE MAIN EASEMENT
15' VIRGINIA POWER EASEMENT

JCC DRAINAGE & MAINTENANCE EASEMENT 20'

83

COMMON OPEN SPACE

84

85

RPA LINE

CONSERVATION EASEMENT

SATELLITE DISH

TOP OF BANK 6.65
BOTTOM OF BANK 4.94
4.97
7.91
8.11
4.88
4.63
ORIGINAL DESIGN
WATER LEVEL (RISER CREST) 5.00'
POND BOTTOM 4.50'
10.0'
8.25
3.5:1 SLOPES (AVG)
8.01
4.75
18" PVC INV.=2.97'
18" PVC INV.=2.73
DELINEATED WETLANDS
JCC DRAINAGE EASEMENT 20'
7.61
7.55
7.18
9.13
STANDPIPE 4.55
TOP OF 30" TRASH RACK 5.59'
RISER CREST 5.04'
18" PVC 6.15
5.63
RIPRAP
PROFILE CL 4.58
SPILLWAY 4.52
BOTTOM OF BANK 4.99
8.57
7.75
6.85
9.58
6.95
COMMON OPEN SPACE

DELINEATED WETLANDS

BMP MC 018

8" SANITARY SEWER

ZONE AE (ELEV 7.5)(NAVD88)
ZONE X (SHADED)

DRAINAGE EASEMENT 20'

EXIST. PUMP STA.

SAN MH

20

JCSA PROPERTY

25' VDOT DRAINAGE EASEMENT

42

PELEG'S POINT SECTION TWO

PELEG'S POINT SECTION THREE

0' 20' 40' 60'

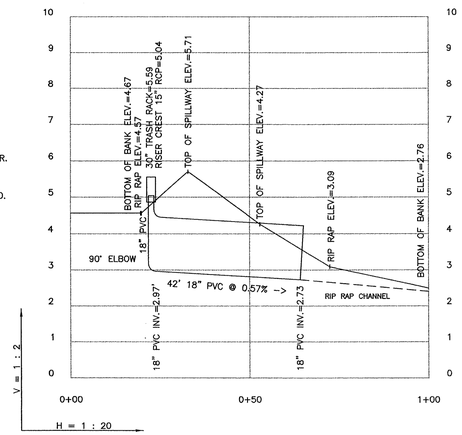
FB 926, 929, 932

JCC GEODETIC NORTH STATION 394

ELEVATIONS SHOWN ARE NGVD 29 DATUM

STANDPIPE HAS 30" TRASH RACK
TRASH RACK DOES NOT HAVE LOCKING COVER.
NO STEPS OR LADDER.

NOT OBSERVED DURING CONSTRUCTION, SO CANNOT VERIFY ANTI-SEEP COLLAR INSTALLED.



POND SPILLWAY PROFILE

RECORD DRAWING

REV 5/10/13
REV 4/2/13

COMMONWEALTH OF VIRGINIA
ANTHONY D. POTTS
LIC. NO. 001487-B
10-10-12
LAND SURVEYOR

THE POND AND STORM STRUCTURE LOCATIONS AND GRADES SHOWN ON THESE DRAWINGS ARE ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF AND I CERTIFY THAT I, OR MY AGENT, HAS MADE SUFFICIENT INSPECTIONS TO ENSURE THE ACCURACY OF THIS STATEMENT.

ANTHONY D POTTS L.S.

POND "C" 2012 AS-BUILT

PELEG'S POINT
SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

ADPA *A.D. POTTS & ASSOCIATES, INC.*
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601
PHONE: (757)-595-4610

SCALE	DATE
1"=20'	10/10/12

DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
XXX	ERD	ADP	12-256	1 OF 1

PP5-POND-C-OUTFALL-2012.DWG FILE NO. 22-1386

20' EASEMENT AROUND POND TO BE 20' FROM POND SURFACE ELEVATION OF 5.00'
EASEMENT IS LISTED BOTH AS JCC DRAINAGE EASEMENT AND RESERVED EASEMENT FOR MILL CREEK LANDING.

EASEMENT AS SHOWN PER ORIGINAL PLAT.

BENOMI DRIVE
50' R/W

SAN MH

PELEG'S POINT SECTION FIVE

JCSA UTILITY EASEMENT
DRAINAGE EASEMENT
20'
10'
JCSA FORCE MAIN EASEMENT
15'
VIRGINIA POWER EASEMENT

ZONE X (SHADED)
ZONE AE (ELEV 7.5)(NAVD 88)

JCC DRAINAGE & MAINTENANCE EASEMENT

COMMON OPEN SPACE

83

84

85

RPA LINE

CONSERVATION EASEMENT

JCC DRAINAGE EASEMENT

SATELLITE DISH

TOP OF BANK
BOTTOM OF BANK

ORIGINAL DESIGN
WATER LEVEL (RISER CREST) 5.00'
POND BOTTOM 4.50'

10.0'
3.5:1 SLOPES (AVG)

18" PVC INV.=2.97'
18" PVC INV.=2.73'

DELINEATED WETLANDS

STANDPIPE 4.55
TOP OF 30" TRASH RACK 5.59'
RISER CREST 5.04'

18" PVC 4.46

PROFILE CL 4.58

RIPRAP

SPILLWAY 4.52

BOTTOM OF BANK 4.99

TOP OF BANK

DELINEATED WETLANDS

BMP MC 018

8" SANITARY SEWER

ZONE AE (ELEV 7.5)(NAVD88)
ZONE X (SHADED)

DRAINAGE EASEMENT
20'

EXIST. PUMP STA.

SAN MH

20

JCSA PROPERTY

25'
VDOT DRAINAGE EASEMENT

PELEG'S POINT SECTION TWO

PELEG'S POINT SECTION THREE

42

COMMON OPEN SPACE

0' 20' 40' 60'

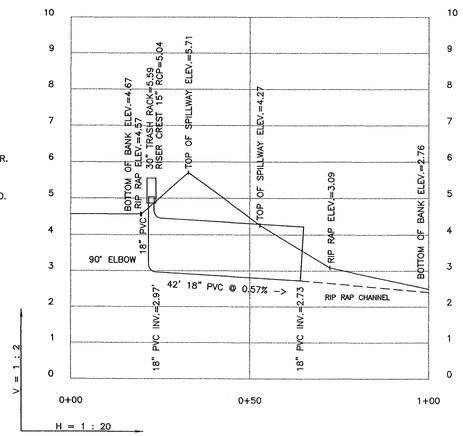
FB 926, 929, 932

JCC GEODETIC NORTH
STATION 564

ELEVATIONS SHOWN ARE NGVD 29 DATUM

STANDPIPE HAS 30" TRASH RACK
TRASH RACK DOES NOT HAVE LOCKING COVER.
NO STEPS OR LADDER.

NOT OBSERVED DURING CONSTRUCTION, SO CANNOT VERIFY ANTI-SEEP COLLAR INSTALLED.



POND SPILLWAY
PROFILE

RECORD DRAWING

REV 5/10/13
REV 4/2/13

COMMONWEALTH OF VIRGINIA
ANTHONY D. POTTS
LIC. NO. 001497-B
10-10-12
LAND SURVEYOR

THE POND AND STORM STRUCTURE LOCATIONS AND GRADES SHOWN ON THESE DRAWINGS ARE ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF AND I CERTIFY THAT I, OR MY AGENT, HAS MADE SUFFICIENT INSPECTIONS TO ENSURE THE ACCURACY OF THIS STATEMENT.

ANTHONY D POTTS L.S.

POND "C" 2012 AS-BUILT

PELEG'S POINT
SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

ADPA *A.D. POTTS & ASSOCIATES, INC.*
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601
PHONE: (757)-595-4610

SCALE	DATE
1"=20'	10/10/12

DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
XXX	ERD	ADP	12-256	1 OF 1

PP5-POND-C-OUTFALL-2012.DWG FILE NO. 22-1386

20' EASEMENT AROUND POND TO BE 20' FROM POND SURFACE ELEVATION OF 5.00' EASEMENT IS LISTED BOTH AS JCC DRAINAGE EASEMENT AND RESERVED EASEMENT FOR MILL CREEK LANDING.

EASEMENT AS SHOWN PER ORIGINAL PLAT.

BENOMI DRIVE
50' R/W

SAN MH

RBF

PELEG'S POINT SECTION FIVE

ZONE X (SHADED)
ZONE AE (ELEV 7.5)(NAVD 88)

JCSA UTILITY EASEMENT 20'
DRAINAGE EASEMENT 20'
10' JCSA FORCE MAIN EASEMENT
15' VIRGINIA POWER EASEMENT

JCC DRAINAGE & MAINTENANCE EASEMENT 20'

COMMON OPEN SPACE

83

84

85

RPA LINE

CONSERVATION EASEMENT

SATELLITE DISH

ORIGINAL DESIGN
WATER LEVEL (RISER CREST) 5.00'
POND BOTTOM 4.50'

TOP OF BANK
BOTTOM OF BANK

3.5:1 SLOPES (AVG)

10.0'

DELINEATED WETLANDS

JCC DRAINAGE EASEMENT 20'

18" PVC INV=2.97'

18" PVC INV=2.73

STANDPIPE 4.55
TOP OF 30" TRASH RACK 5.59'
RISER CREST 5.04'

18" PVC 6.16

PROFILE CL 4.58

RIPRAP

SPILLWAY 4.92

BOTTOM OF BANK 4.99

TOP OF BANK 6.95

DELINEATED WETLANDS

BMP MC 018

8" SANITARY SEWER

ZONE AE (ELEV 7.5)(NAVD88)

ZONE X (SHADED)

EXIST. PUMP STA.

DRAINAGE EASEMENT 20'

SAN MH

20

JCSA PROPERTY

25' VDOT DRAINAGE EASEMENT

42

PELEG'S POINT SECTION TWO

PELEG'S POINT SECTION THREE

COMMON OPEN SPACE

0' 20' 40' 60'

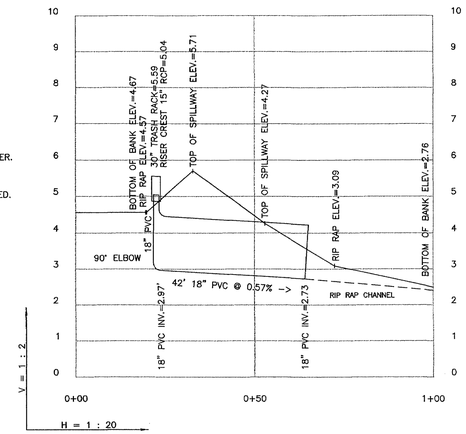
FB 926, 929, 932

ELEVATIONS SHOWN ARE NGVD 29 DATUM

JCC GEODETIC NORTH STATION 324

STANDPIPE HAS 30" TRASH RACK
TRASH RACK DOES NOT HAVE LOCKING COVER.
NO STEPS OR LADDER.

NOT OBSERVED DURING CONSTRUCTION, SO CANNOT VERIFY ANTI-SEEP COLLAR INSTALLED.



POND SPILLWAY PROFILE

RECORD DRAWING

REV 5/10/13
REV 4/2/13

COMMONWEALTH OF VIRGINIA
ANTHONY D. POTTS
LIC. NO. 001487-B
10-10-12
LAND SURVEYOR

THE POND AND STORM STRUCTURE LOCATIONS AND GRADES SHOWN ON THESE DRAWINGS ARE ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF AND I CERTIFY THAT I, OR MY AGENT, HAS MADE SUFFICIENT INSPECTIONS TO ENSURE THE ACCURACY OF THIS STATEMENT.

ANTHONY D POTTS L.S.

POND "C" 2012 AS-BUILT

PELEG'S POINT
SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

ADPA *A.D. POTTS & ASSOCIATES, INC.*
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601
PHONE: (757)-595-4610

SCALE	DATE
1"=20'	10/10/12

DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
XXX	ERD	ADP	12-256	1 OF 1

PP5-POND-C-OUTFALL-2012.DWG FILE NO. 22-1386

20' EASEMENT AROUND POND TO BE 20' FROM POND SURFACE ELEVATION OF 5.00'
EASEMENT IS LISTED BOTH AS JCC DRAINAGE EASEMENT AND RESERVED EASEMENT FOR MILL CREEK LANDING.

EASEMENT AS SHOWN PER ORIGINAL PLAT.

BENOMI DRIVE
50' R/W

SAN MH

PELEG'S POINT SECTION FIVE

JCSA UTILITY EASEMENT
DRAINAGE EASEMENT

JCC DRAINAGE & MAINTENANCE EASEMENT

JCSA FORCE MAIN EASEMENT

VIRGINIA POWER EASEMENT

ZONE X (SHADED)
ZONE AE (ELEV 7.5)(NAVD 88)

COMMON OPEN SPACE

RPA LINE

CONSERVATION EASEMENT

SATELLITE DISH

ORIGINAL DESIGN
WATER LEVEL (RISER CREST) 5.00'
POND BOTTOM 4.50'

TOP OF BANK
BOTTOM OF BANK

3.5:1 SLOPES (AVG)

DELINEATED WETLANDS

18" RCP INV=2.80'
18" RCP INV=2.41'

STANDPIPE 4.93
TOP OF 30" TRASH RACK 5.59'
RISER CREST 5.00'

18" RCP 6.16

PROFILE CL

RIPRAP

SPILLWAY

BMP MC 018

8" SANITARY SEWER

EXIST. PUMP STA.

SAN MH

VDOT DRAINAGE EASEMENT

JCSA PROPERTY

PELEG'S POINT SECTION TWO

PELEG'S POINT SECTION THREE

83

84

85

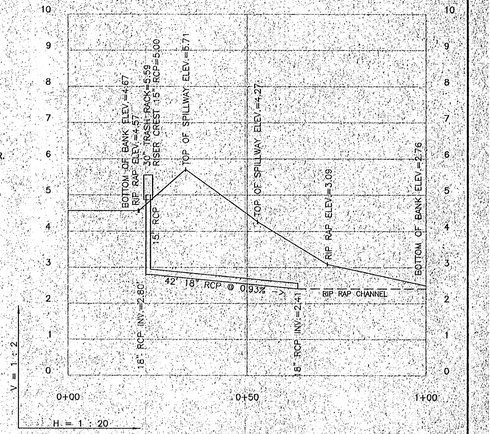
20

42

ELEVATIONS SHOWN ARE NGVD 29 DATUM

JCC GEODETIC NORTH
STATION "334"

STANDPIPE HAS 30" TRASH RACK
TRASH RACK DOES NOT HAVE LOCKING COVER.
NO STEPS OR LADDER.



POND SPILLWAY PROFILE

RECORD DRAWING

COMMONWEALTH OF VIRGINIA
ANTHONY D. POTTS
LIC. NO. 001467-B
10-10-12
LAND SURVEYOR

THE POND AND STORM STRUCTURE LOCATIONS AND GRADES SHOWN ON THESE DRAWINGS ARE ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF AND I CERTIFY THAT I, OR MY AGENT, HAS MADE SUFFICIENT INSPECTIONS TO ENSURE THE ACCURACY OF THIS STATEMENT.

ANTHONY D POTTS L.S.

POND "C" 2012 AS-BUILT

PELEG'S POINT
SECTION FIVE

JAMES CITY COUNTY, VIRGINIA

ADPA	A.D. POTTS & ASSOCIATES, INC. 11524 JEFFERSON AVENUE NEWPORT NEWS, VIRGINIA 23601 PHONE: (757)-595-4610		SCALE	DATE
			1"=20'	10/10/12
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
XXX	ERD	ADP	12-256	1 OF 1
PP5-POND-C-OUTFALL-2012.DWG			FILE NO.	22-1386

FB 926, 929

20' EASEMENT AROUND POND TO BE 20' FROM POND SURFACE ELEVATION OF 5.00'
EASEMENT IS LISTED BOTH AS JCC DRAINAGE EASEMENT AND RESERVED EASEMENT FOR MILL CREEK LANDING.

EASEMENT AS SHOWN PER ORIGINAL PLAT.

PELEG'S POINT SECTION FIVE

BENOMI DRIVE
50' R/W

SAN MH

JCC GEODETIC NORTH
STATION 1884

JCSA UTILITY EASEMENT
DRAINAGE EASEMENT 20'

20'

10' JCSA FORCE MAIN EASEMENT

15' VIRGINIA POWER EASEMENT

COMMON OPEN SPACE

RPA LINE

JCC DRAINAGE & MAINTENANCE EASEMENT

CONSERVATION EASEMENT

ZONE X (SHADED)

ZONE AE (ELEV 7.5)

DELINEATED WETLANDS

BOTTOM OF BANK

ORIGINAL DESIGN
WATER LEVEL (RISER CREST) 5.00'
POND BOTTOM 4.50'

TRASH RACK

DITCH

RBF

DELINEATED WETLANDS

STANDPIPE 4.55
TOP OF 30" TRASH RACK 5.59'
RISER CREST 5.00'

18" RCP

RIPRAP

SPILLWAY

8" SANITARY SEWER

JCC DRAINAGE EASEMENT

ZONE AE (ELEV 7.5)

ZONE X (SHADED)

COMMON OPEN SPACE

EXIST. PUMP STA.

DRAINAGE EASEMENT 20'

SAN MH

25' VDOT DRAINAGE EASEMENT

JCSA PROPERTY

PELEG'S POINT SECTION TWO

PELEG'S POINT SECTION THREE

82 83 84 85 81 20 19 18 42

0' 20' 40' 60'

Environmental Division
MAY 4 2012
RECEIVED

FB 926

POND C ELEVATIONS

PELEG'S POINT
SECTIONS 2 & 5

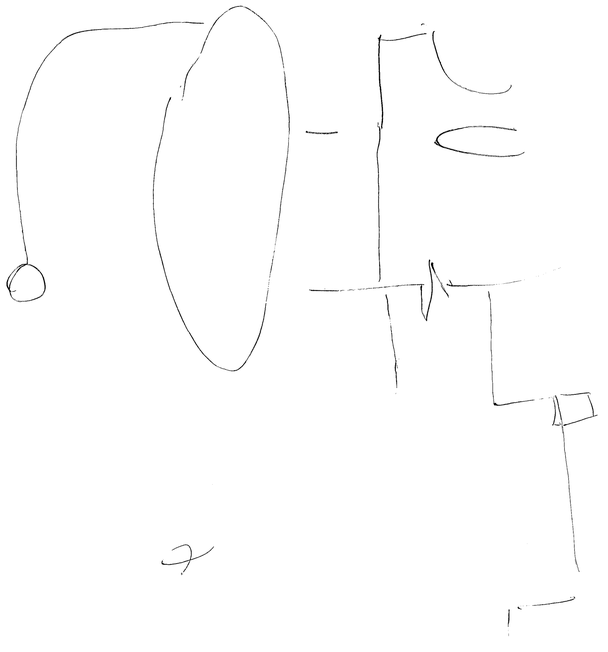
JAMES CITY COUNTY, VIRGINIA

ADPA
A.D. POTTS & ASSOCIATES, INC.
11524 JEFFERSON AVENUE
NEWPORT NEWS, VIRGINIA 23601
PHONE: (757)-595-4610

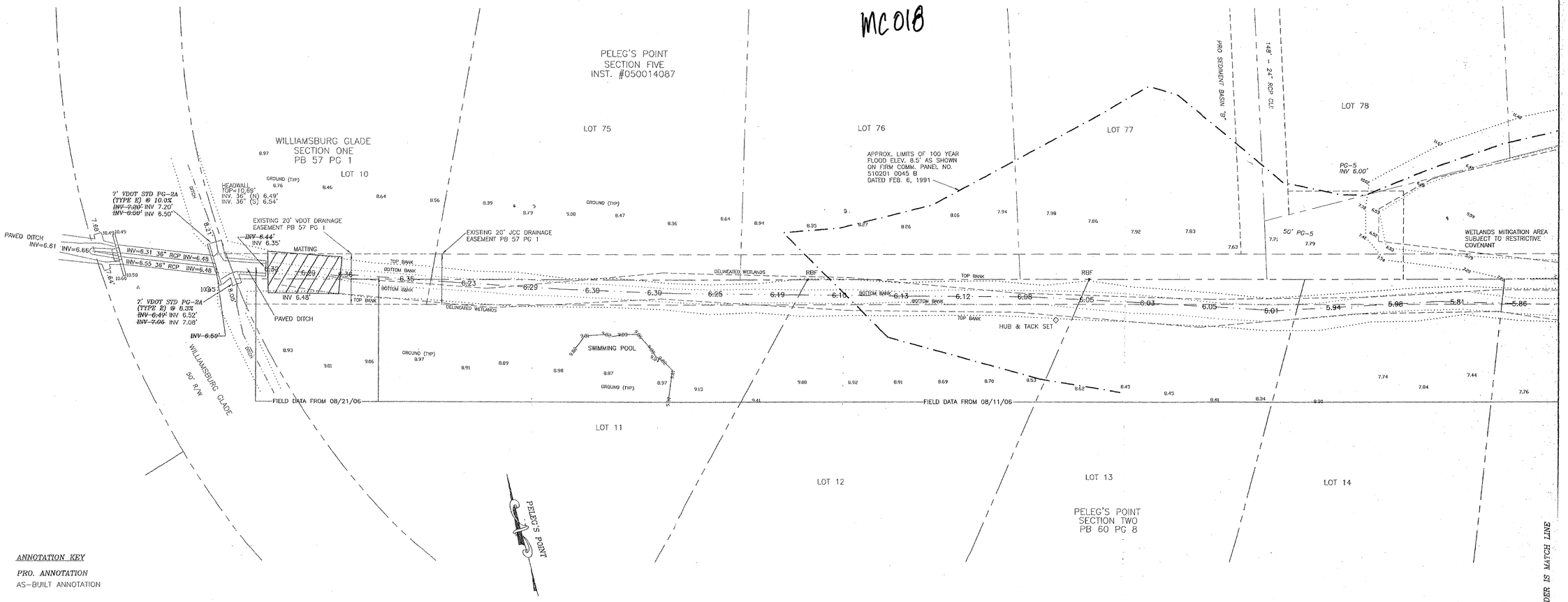
SCALE	DATE
1"=20'	4/11/12

DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
XXX	ERD	ADP	12-082	1 OF 1

PP5-POND-C-2012.DWG FILE NO. 22-1376



MC018



ANNOTATION KEY

PRO. ANNOTATION

AS-BUILT ANNOTATION

0' 20' 40' 60'

FB 636, 837, 889, 895

Environmental Division
MAY 4 2012
RECEIVED

COMMONWEALTH OF VIRGINIA
ANTHONY D. POTTS
NO. 001487-B
3-14-06
LAND SURVEYOR

UNDERGROUND UTILITY LINES SHOWN ON THIS DRAWING ARE BASED UPON THE BEST INFORMATION AVAILABLE TO THE SURVEYOR. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN THE EXACT LOCATION OF THE UTILITY SHOWN AND TO ASCERTAIN THE LOCATION OF OTHER UTILITIES NOT SHOWN HEREON.

REVISED: 03/06/07 ADDITIONAL GRADES ADDED
REVISED: 09/26/06 NEW ELEVATIONS PER REGRADING

PIPE OUTFALL & DITCH AS-BUILT

PELEG'S POINT

SECTIONS ONE, TWO & FIVE

JAMES CITY COUNTY, VIRGINIA

ADPA	*A.D. POTTS & ASSOCIATES, INC.* 11524 JEFFERSON AVENUE NEWPORT NEWS, VIRGINIA 23601 PHONE: (757)-595-4610		SCALE	DATE
			1"=20'	*3/14/06*
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
ERD	*GCB*	*WSF*	*06-388*	*1* OF *2*
PP2-5-DITCH-ASBUILT.DWG			FILE NO.	*22-1266*

LOT 79

COMMON AREA

PELEG'S POINT
SECTION FIVE
INST. #050014087

LOT 80

LOT 81

LOT 82

LOT 83

PELEG'S POINT

DRAINAGE & MAINTENANCE EASEMENT (20' FROM WATER SURFACE)

DELINEATED WETLANDS

RPA

PRO TOP BANK

PRO BOTTOM BANK

EXISTING 20' JCC DRAINAGE EASEMENT PB 57 PG 1

EX. DITCH

RBF

TOP BANK

BOTTOM BANK

INV. PAVED DITCH=5.38'

POND "C"

FIELD DATA FROM 08/11/06

FIELD DATA FROM 09/26/06

FIELD DATA FROM 03/06/07

LOT 15

LOT 16

LOT 17

LOT 18

LOT 19

LOT 20

EX. PAVED DITCH

PELEG'S POINT
SECTION TWO
PB 60 PG 8

20'

EXISTING DRAINAGE EASEMENT RESERVED FOR MILL CREEK LANDING, LTD.

DRAINAGE & MAINTENANCE EASEMENT (20' FROM WATER SURFACE)

BORDER IS MATCH LINE

0' 20' 40' 60'

FB 836, 837, 889, 895

UNDERGROUND UTILITY LINES SHOWN ON THIS DRAWING ARE BASED UPON THE BEST INFORMATION AVAILABLE TO THE SURVEYOR. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN THE EXACT LOCATION OF THE UTILITY SHOWN AND TO ASCERTAIN THE LOCATION OF OTHER UTILITIES NOT SHOWN HEREON.

COMMONWEALTH OF VIRGINIA
ANTHONY D. POTTS
NO. 001487
3-4-06
LAND SURVEYOR

REVISED: 03/06/07 ADDITIONAL GRADES ADDED
REVISED: 08/26/06 NEW ELEVATIONS PER REGRADING

PIPE OUTFALL & DITCH AS-BUILT

PELEG'S POINT

SECTIONS ONE, TWO & FIVE

JAMES CITY COUNTY, VIRGINIA

ADPA	A.D. POTTS & ASSOCIATES, INC. 11524 JEFFERSON AVENUE NEWPORT NEWS, VIRGINIA 23601 PHONE: (757)-595-4619		SCALE	DATE
			1"=20'	3/14/06
DESIGN BY	DRAWN BY	CHECKED BY	JOB NO.	SHEET
ERD	GCB	WSF	06-388	2 OF 2
PP2-5-DITCH-ASBUILT.DWG			FILE NO.	22-1266