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: **PC029**

DATE VERIFIED: **November 2, 2012**

QUALITY ASSURANCE TECHNICIAN: **Leah Hardenbergh**

Leah Hardenbergh

LOCATION: WILLIAMSBURG, VIRGINIA

Stormwater Division

MEMORANDUM

DATE: March 13, 2010

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

FROM: Jo Anna Ripley, Stormwater

PO: 270712

RE: Files Approved for Scanning

General File ID or BMP ID: PC029

PIN: 3740100002

Subdivision, Tract, Business or Owner Name (if known): Powhatan Secondary

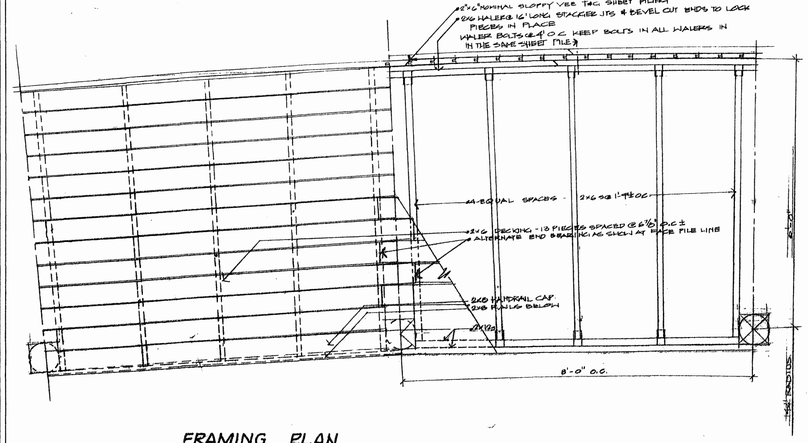
Property Description: Conservation Easement Phase 2

Site Address:

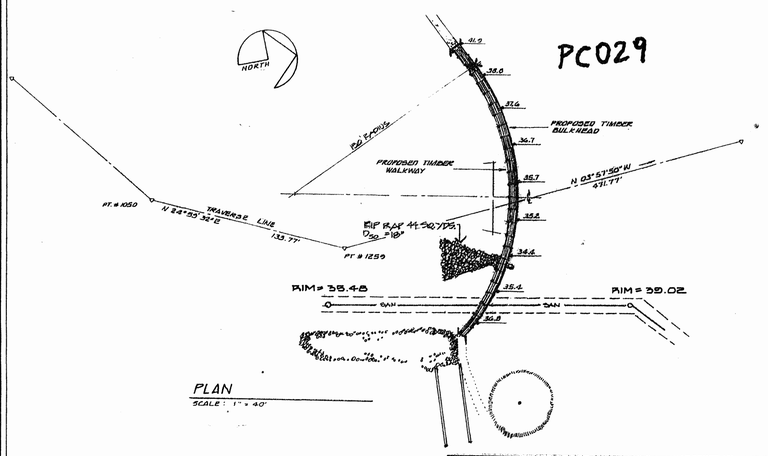
(For internal use only) **Box** 4 **Drawer:** 3

Agreements: (in file as of scan date) **N** **Book or Doc#:** **Page:**

Comments

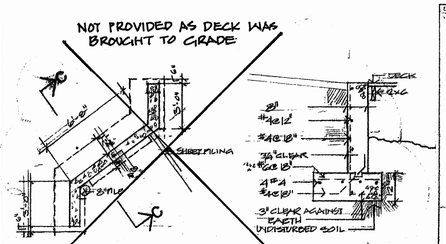


FRAMING PLAN
SCALE: 3/4" = 1'-0"



PLAN
SCALE: 1" = 40'

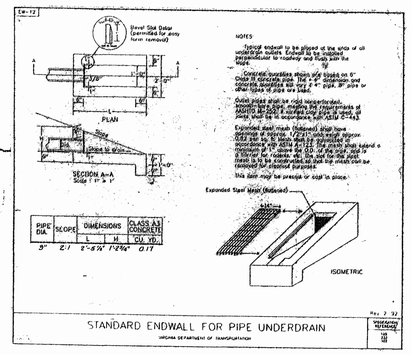
NOT PROVIDED AS DECK WAS BROUGHT TO GRADE



WEST ABUTMENT PLAN

ABUTMENT SECTION C:

EAST ABUTMENT similar but mirror image



GENERAL NOTES

1. BRIDGE WIDTH: 8' - 2" (OUT TO OUT) 8' - 4" (CLEAR)
2. DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES WITH VDOT MODIFICATIONS.
3. ALL MATERIALS AN WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, JANUARY 1994, AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AND THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION, LATEST EDITION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
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PILES:

1. ALL PILES SHALL BE 8" X 8" FACE PILES OR 8" ROUND TIMBER PILES IN ACCORDANCE WITH ASTM D25. TIMBER PILES SHALL BE SOUTHERN YELLOW PINE WITH A MINIMUM TIP CIRCUMFERENCE OF 25 INCHES.
2. ALL TIMBER PILES SHALL BE TREATED WITH WATER-BORNE PRESERVATIVES CCA, BY THE FULL-CELL PRESSURE PROCESS AND IN ACCORDANCE WITH AWPA C3 FOR LAND AND FRESH WATER PILES. NET RETENTION SHALL BE 0.8 P.C.F.
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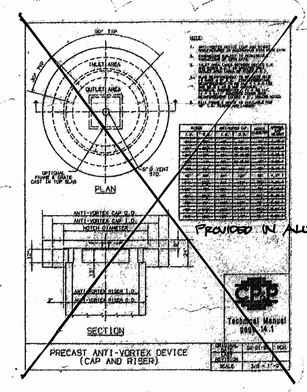

TIMBER:

1. ALL TIMBER SHALL BE NEW COMMERCIAL GRADE SOUTHERN YELLOW PINE NO. 1, AND MARKED BY THE SOUTHERN PINE INSPECTION BUREAU.
2. ALL TIMBER SHALL BE TREATED WITH WATER-BORNE PRESERVATIVES CCA, BY THE FULL-CELL PRESSURE PROCESS AND IN ACCORDANCE WITH AWPA C2. NET RETENTION SHALL BE 0.4 P.C.F.
3. ALL TIMBER DECKING, HANDRAIL AND HANDRAIL POSTS SHALL BE 6x6. TIMBER STRINGERS AND PILE CLAMPS MAY BE 3x6 TOP AND BOTTOM TO ASSURE SMOOTH AND LEVEL CONTACT SURFACES
4. CONTRACTOR SHALL NOT SUBJECT THE STRUCTURES TO ANY LOAD IN EXCESS OF THE DESIGN LOAD AS SHOWN.

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4. ALL TREATED WOOD PRODUCTS SHOULD BE HANDLED AND FIELD FABRICATED IN ACCORDANCE WITH AWPA STANDARD M4 FOR THE CARE OF PRESERVATIVE TREATED WOOD PRODUCTS.

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2. PILES ARE TO BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 5 TONS AS DIRECTED BY THE ENGINEER OR AS DETERMINED BY THE FOLLOWING FORMULAS:

$P = \frac{2WH}{S + 0.2}$ FOR SINGLE-ACTING STEAM HAMMERS

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WHERE:

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W = WEIGHT IN POUNDS OF STRIKING PART OF HAMMER.
H = HEIGHT OF FALL IN FEET.
S = THE AVERAGE PENETRATION IN INCHES PER BLOW FOR THE LAST 5 TO 10 BLOWS FOR GRAVITY HAMMERS AND THE LAST 10 TO 20 BLOWS FOR POWER HAMMERS.
A = AREA OF PISTON IN SQUARE INCHES.
P = STEAM PRESSURE IN POUNDS PER SQUARE INCH AT THE HAMMER.
E = EQUIVALENT ENERGY IN FOOT-POUNDS AS DETERMINED BY A GAGE ATTACHED TO THE HAMMER FOR HAMMERS HAVING ENCLOSED RAMS, OR THE WEIGHT IN POUNDS OF THE RAM TIMES THE LENGTH OF TRAVEL IN FEET FOR HAMMERS NOT HAVING ENCLOSED RAMS. IN NO CASE SHALL THE VALUE OF "E" EXCEED THE MANUFACTURER'S RATING FOR DEVELOPED ENERGY.

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3. MINIMUM PENETRATION SHALL BE 15 FEET AS MEASURES FROM THE EXISTING GROUND UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
4. IF ANY PILE IS FOUND TO BE TOO LONG AFTER DRIVING, IT SHALL BE CUT-OFF SQUARE WITH THE PILE AXIS TO THE PROPER ELEVATION AND THE CUT-OFF DISPOSED OF OFF-SITE.
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6. IF, IN DRIVING, IT IS FOUND THAT ANY PILE OF GROUP OF PILES IS NOT OF SUFFICIENT LENGTH TO REACH THE REQUIRED DRIVING RESISTANCE, DRIVING SHALL BE SUSPENDED WHEN THE BUTT OF THE PILE IS A MINIMUM OF 5 FEET ABOVE CUT-OFF ELEVATION, FOR A PERIOD OF NOT LESS THAN 12 HOURS. AFTER THE SPECIFIED PERIOD, DRIVING SHALL RESUME, RECORDING THE NUMBER OF BLOWS REQUIRED TO INITIATE VERTICAL MOVEMENT AND THE BLOWS TO DRIVE EACH FOOT THEREAFTER. FOR ANY GROUP OF PILES DRIVEN WITHIN A 24 HOUR PERIOD THAT DOES NOT ATTAIN SUFFICIENT DRIVING RESISTANCE, A MINIMUM OF 2 RETAPS SHALL BE REQUIRED AS SPECIFIED ABOVE. THE ENGINEER SHALL THEN DETERMINE IS SUFFICIENT BEARING HAS BEEN ATTAINED. IF SUFFICIENT BEARING HAS NOT BEEN ATTAINED THEN THE ENGINEER MAY REQUIRE ADDITIONAL RETAPS OF ONE OF THE FOLLOWING PROCEDURES:
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   B. DRIVE AN ADDITIONAL PILE OF THE LENGTH DIRECTED AT LOCATION DIRECTED BY THE ENGINEER.
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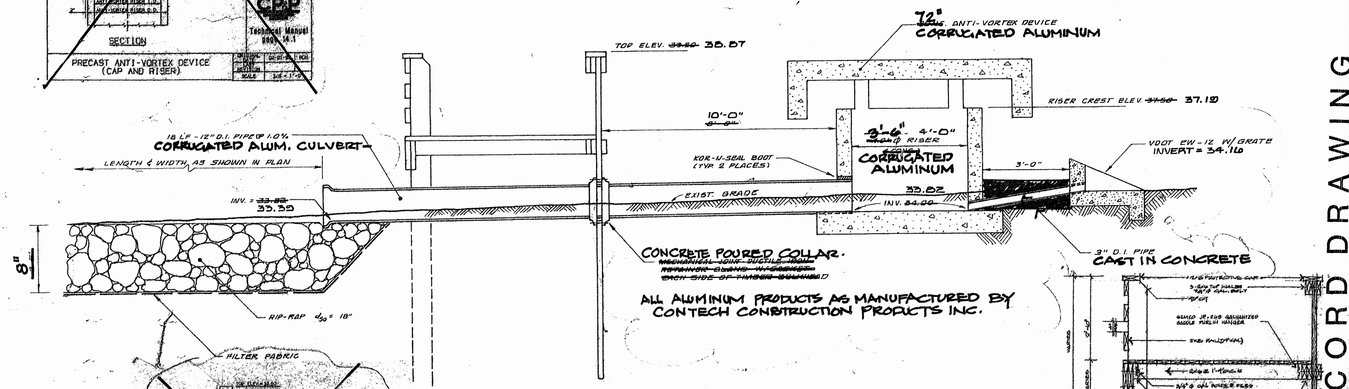
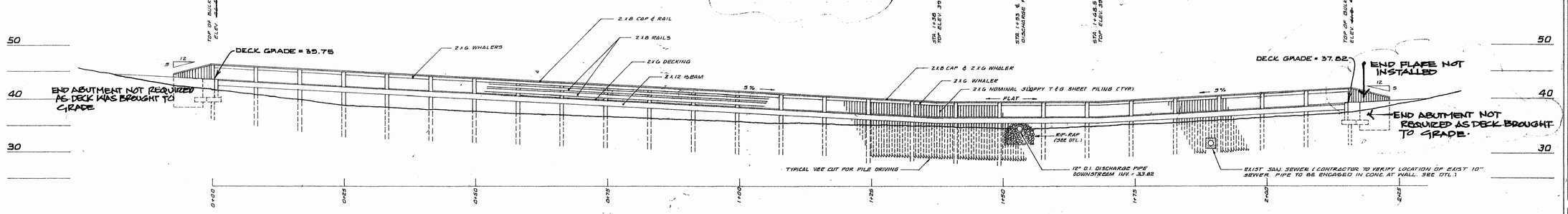


ALL ALUMINUM PRODUCTS AS MANUFACTURED BY CONTECH CONSTRUCTION PRODUCTS INC.

SECTION THRU TIMBER BULKHEAD AT DISCHARGE PIPE
SCALE: 1/2" = 1'-0"

FRAMING DETAIL
SCALE: 1/2" = 1'-0"



SOUTH ELEVATION AND PROFILE
SCALE: 1/8" = 1'-0"

RECORD INFORMATION OBTAINED & REVISED 6/26/97

COMMONWEALTH OF VIRGINIA
11-26-97
STEPHEN A. ROMEO
No. 1448
LAND SURVEYOR

Langley and McDonald, P.C.
Engineers · Surveyors · Planners
Landscape Architects · Environmental Consultants
VIRGINIA BEACH WILLIAMSBURG

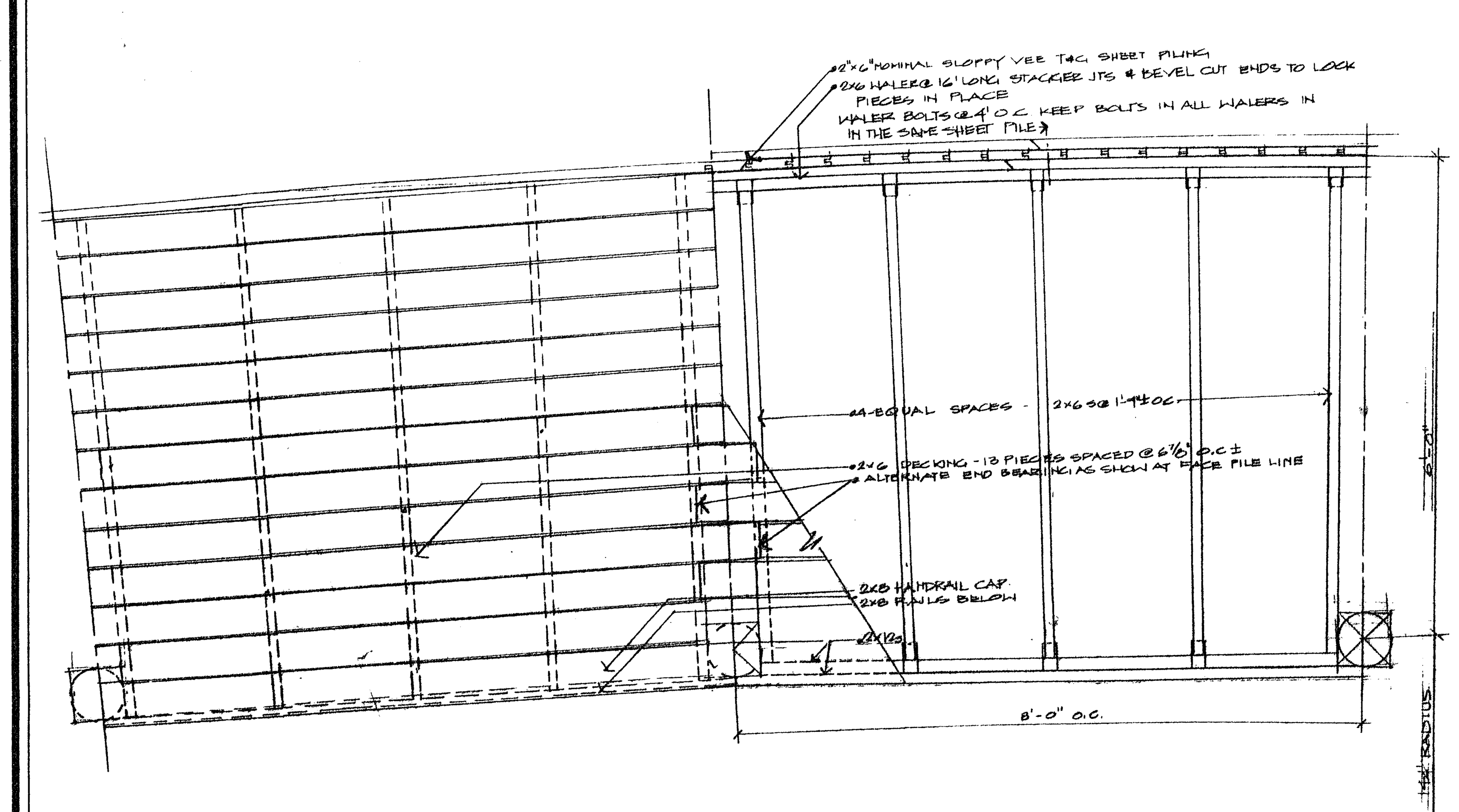
DES.	WEG
DWN.	MRG
CHK.	SAR
DATE	9 NOV 1995

RECORD DRAWING

AMENDMENT TO S-65-92
POWHATAN OF WILLIAMSBURG SECONDARY
PHASE IV-A
PREPARED FOR
BEAMER CONSTRUCTION CO.
JAMES CITY COUNTY, VA.
BMP #4 AND FOOTBRIDGE DETAILS

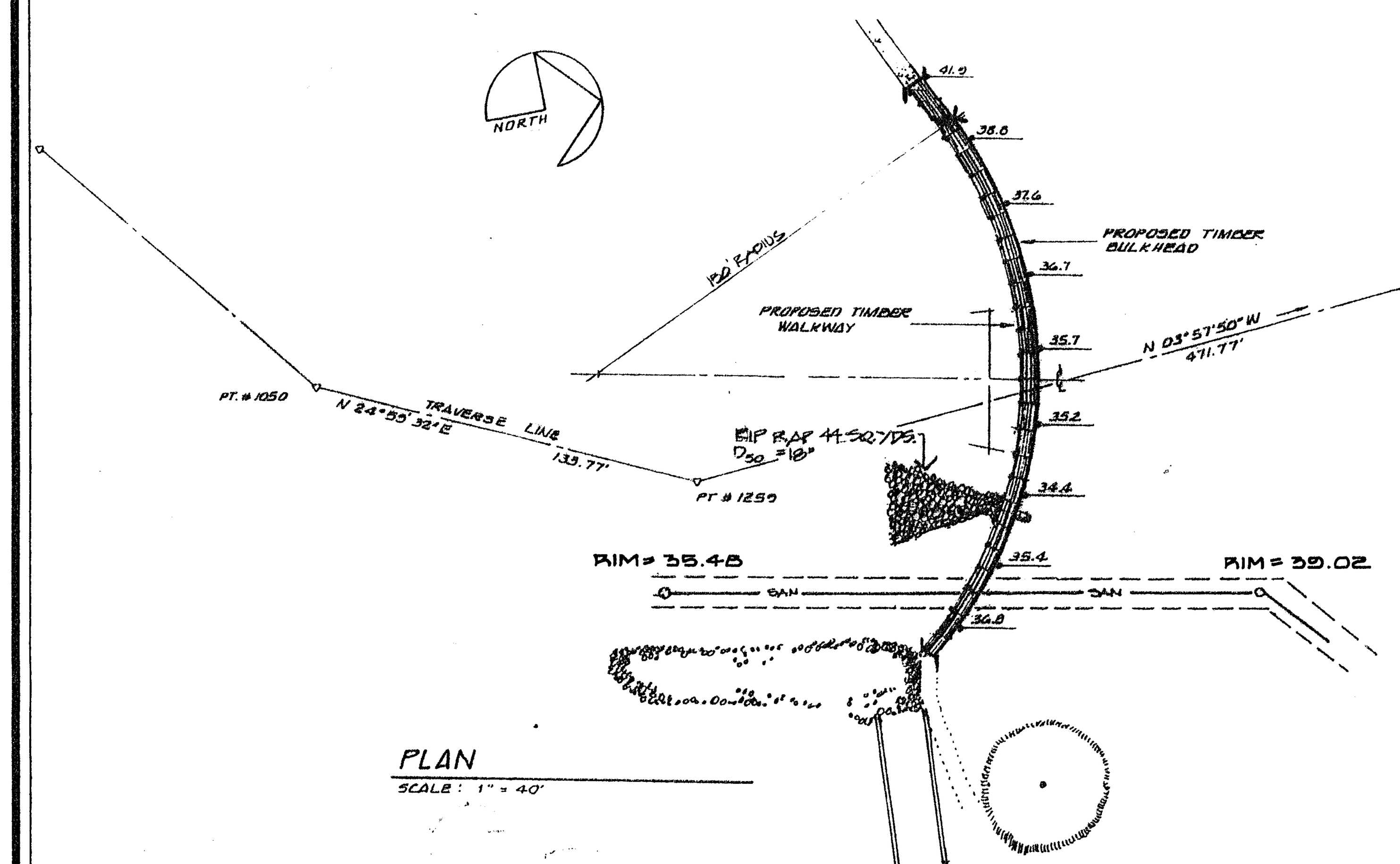
SHEET 1 OF 1
DISK
PROJ. NO. 78041
DWG. 2930GW

PC029_POWHATAN_SECONDARY_PHASE_2 - 003



FRAMING PLAN

SCALE : 3/4" = 1'-0"



PLAN

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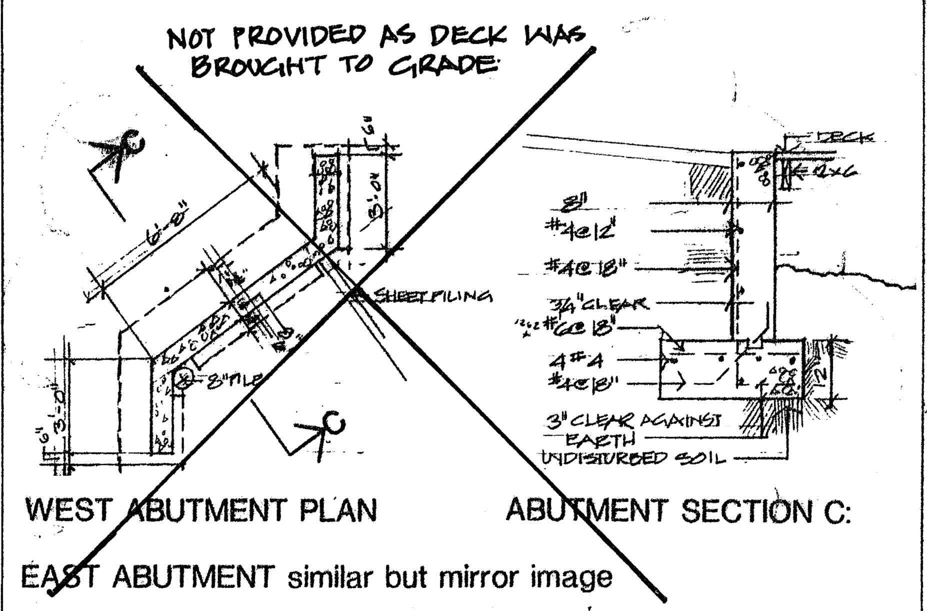

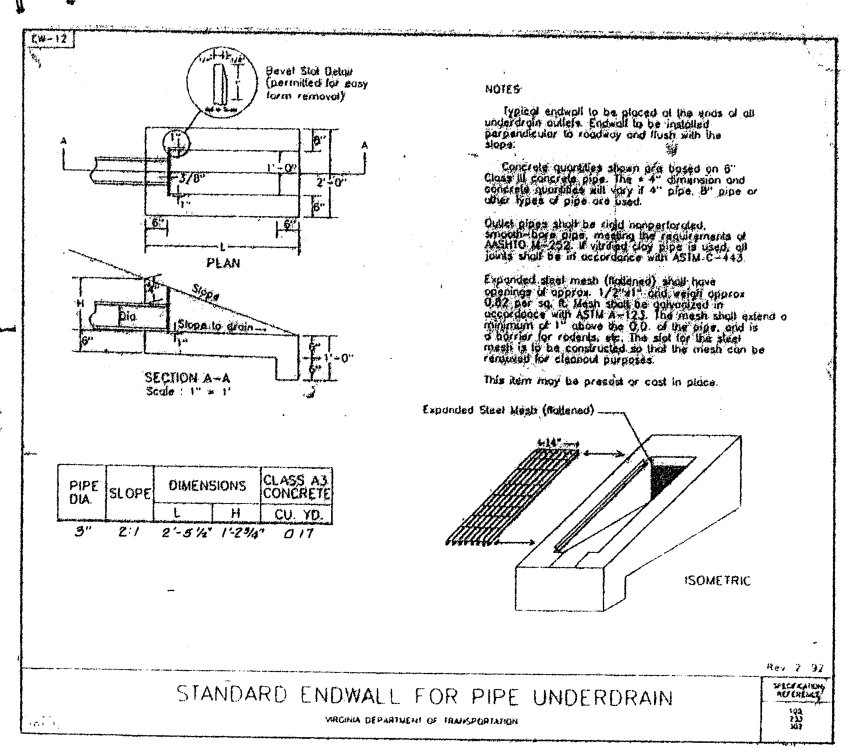

PIPE DIA.	SLOPE	DIMENSIONS		CLASS A3 CONCRETE
		L	H	CU. YD.
3"	2:1	2'-5 1/4"	1'-2 3/4"	0.17

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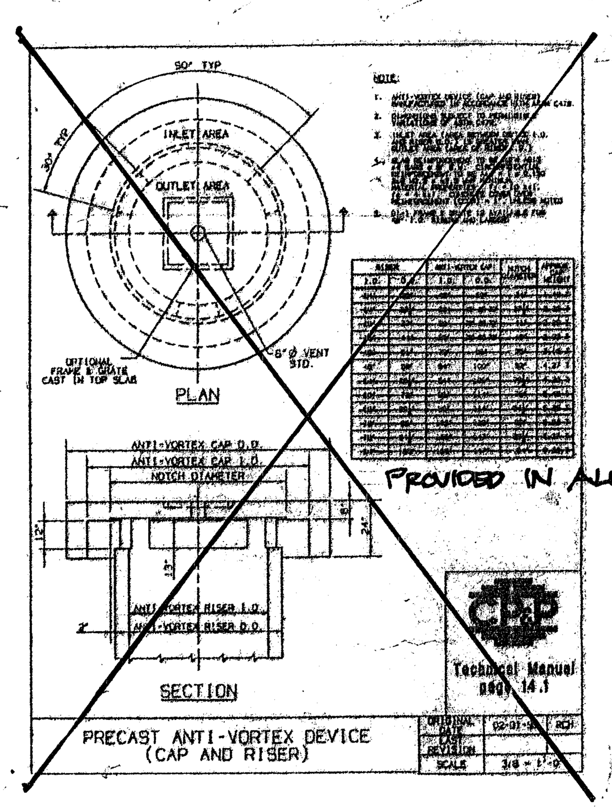

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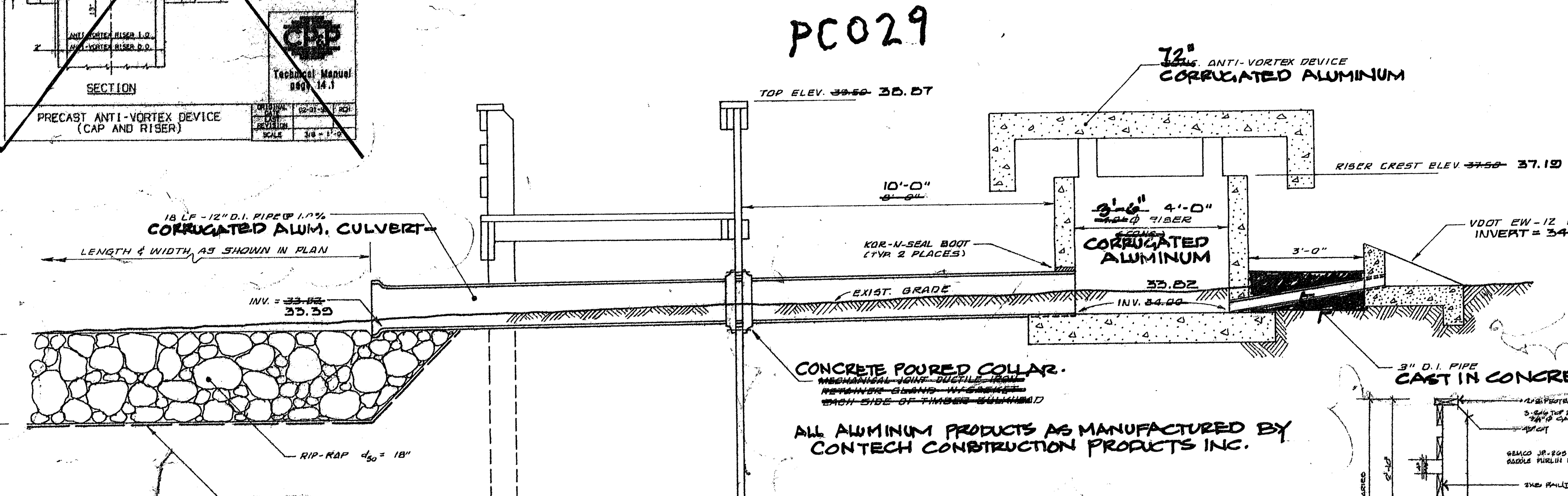
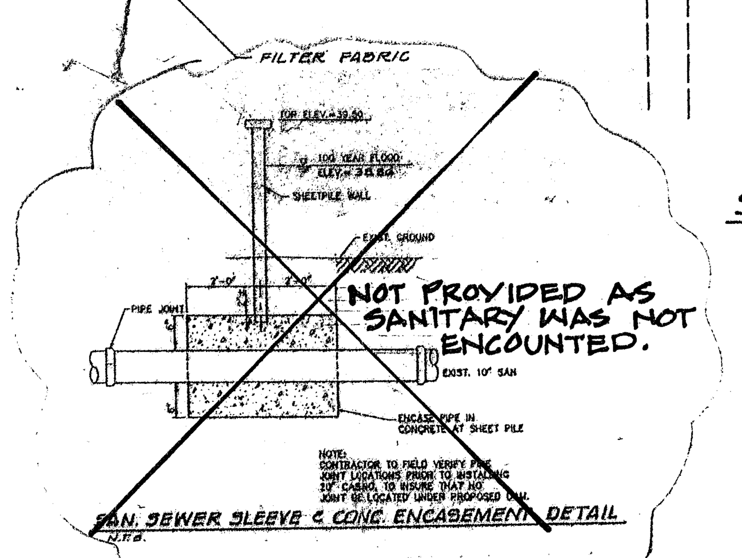
9. THE CONTRACTOR SHALL KEEP RECORDS OF ALL PILES DRIVEN AND FURNISH COPIES OF SUCH RECORDS TO THE OWNER. THE DATA SHALL INCLUDE TYPE AND SIZE OF HAMMER, NUMBER OF BLOWS REQUIRED FOR EACH FOOT OF PENETRATION, OPERATING SPEED OF HAMMER, CUT-OFF LOCATION AND TIP ELEVATION.

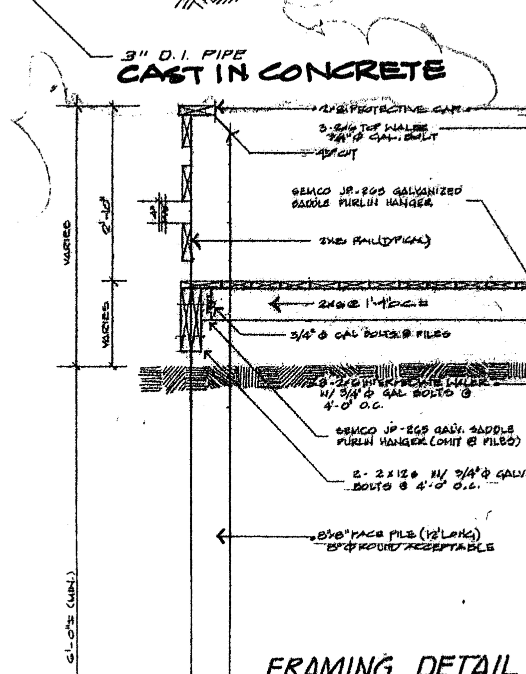
PC029



SECTION THRU TIMBER BULKHEAD AT DISCHARGE PIPE

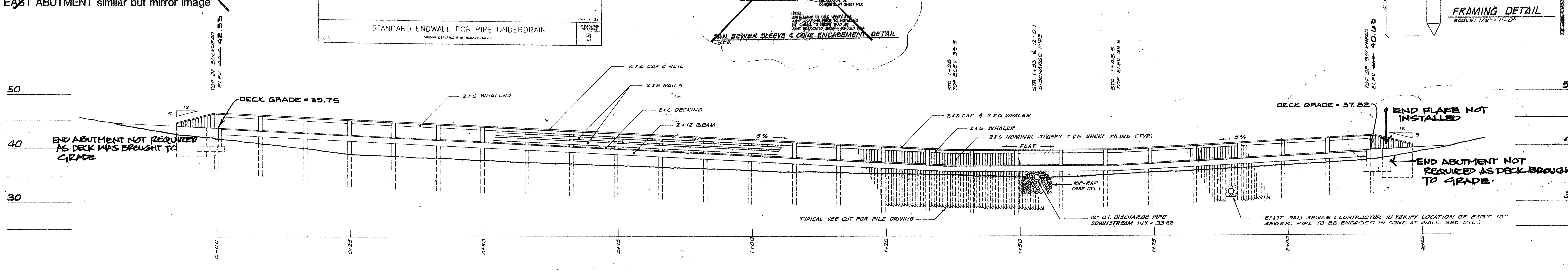
SCALE : 1/2" = 1'-0"





FRAMING DETAIL

SCALE: 1/2" = 1'-0"



SOUTH ELEVATION AND PROFILE

SCALE: 1/8" = 1'-0"

RECORD INFORMATION OBTAINED & REVISED 6/26/97

COMMONWEALTH OF VIRGINIA
11-16-95
STEPHEN A. ROMEO
No. 1448-B
LAND SURVEYOR

Langley and McDonald, P.C.
Engineers · Surveyors · Planners
Landscape Architects · Environmental Consultants
VIRGINIA BEACH WILLIAMSBURG

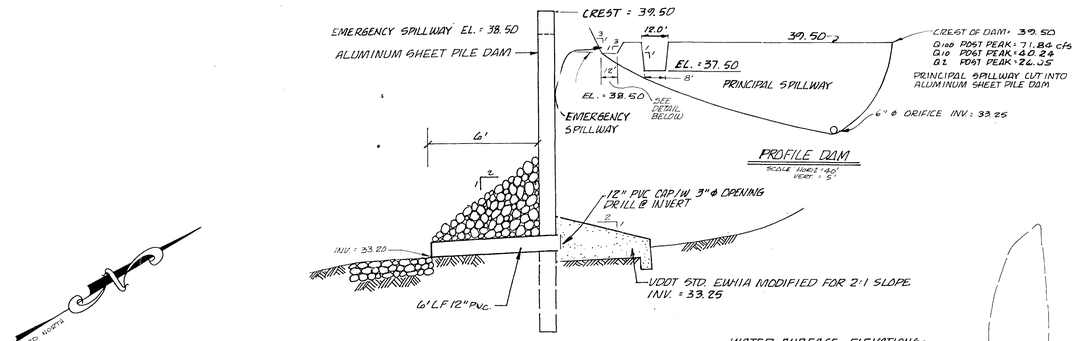
DES. WEG
DWN. MRG
CHK. SAR
DATE 9 NOV 1995

RECORD DRAWING

AMENDMENT TO S-65-92
POWHATAN OF WILLIAMSBURG SECONDARY
PHASE IV-A
PREPARED FOR
BEAMER CONSTRUCTION CO.
JAMES CITY COUNTY, VA.
BMP #4 AND FOOTBRIDGE DETAILS

SHEET 1 OF 1
DISK
PROJ. NO. 78041
DWG. 2930GW

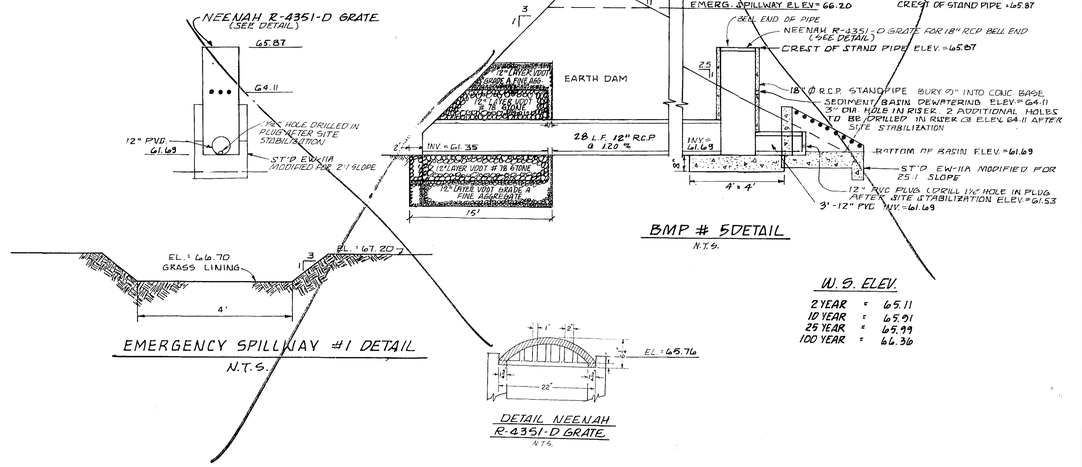
PC029_POWHATAN_SECONDARY_PHASE_2 - 004



ALUMINUM SHEET PILE DAM DETAIL
N.T.S.

WATER SURFACE ELEVATIONS:

2 YEAR	=	38.25
10 YEAR	=	38.50
25 YEAR	=	38.57
100 YEAR	=	38.87



EMERGENCY SPILLWAY #1 DETAIL
N.T.S.

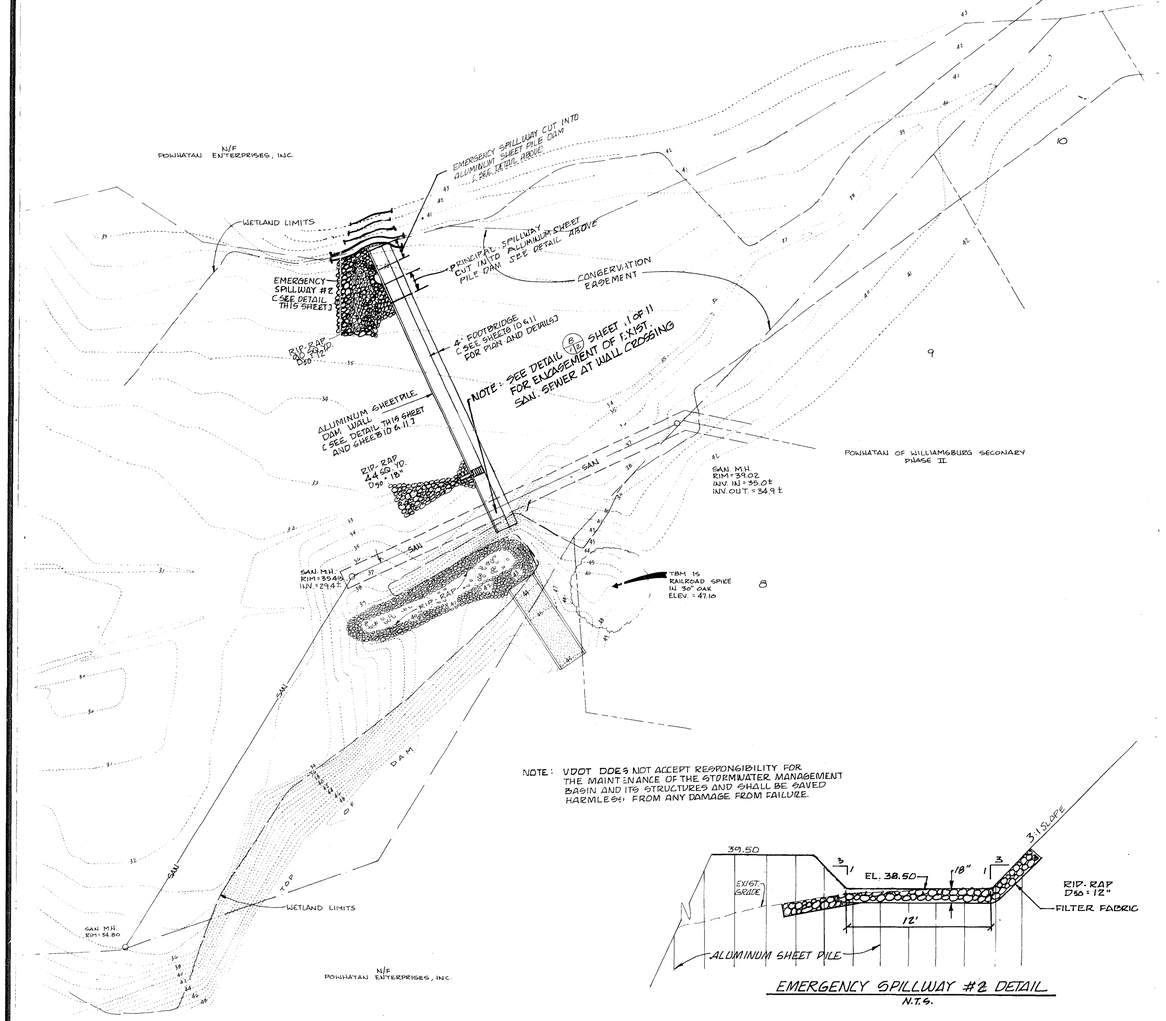
DETAIL NEENAH R-4351-D GRATE
N.T.S.

BMP # 5 DETAIL
N.T.S.

W.S. ELEV.

2 YEAR	=	65.11
10 YEAR	=	65.91
25 YEAR	=	65.99
100 YEAR	=	66.36

STORAGE @ ELEV.=64.11 = 11,342
DRAW DOWN TIME @ 0.045 cfs = 70.0 HRS.

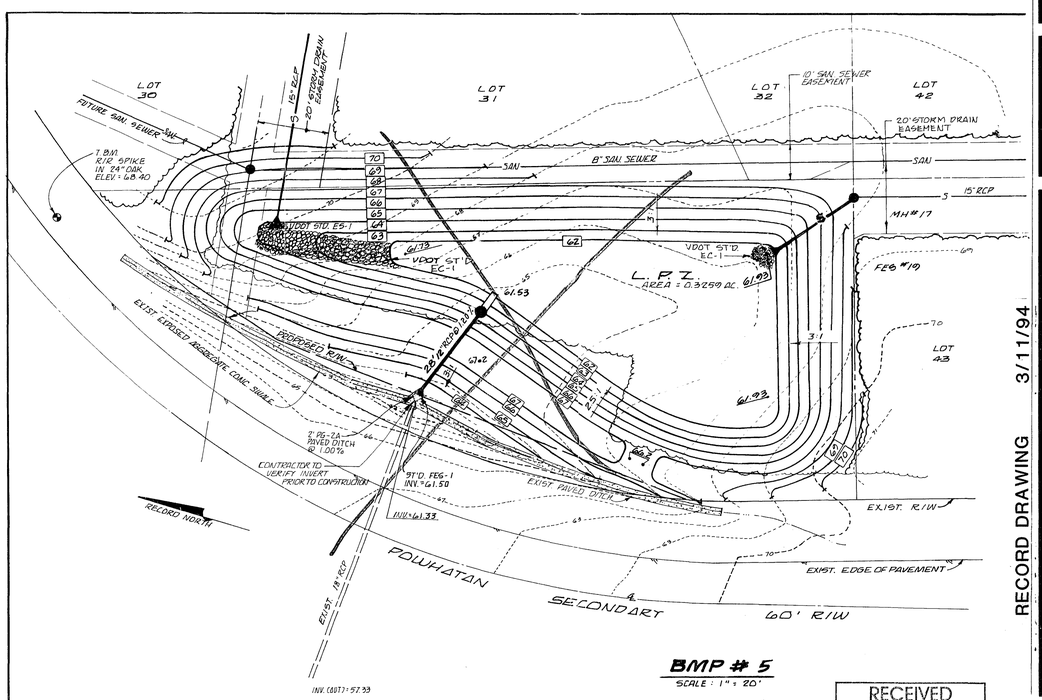


NOTE: VDOT DOES NOT ACCEPT RESPONSIBILITY FOR THE MAINTENANCE OF THE STORMWATER MANAGEMENT BASIN AND ITS STRUCTURES AND SHALL BE SAVED HARMLESS FROM ANY DAMAGE FROM FAILURE.

EMERGENCY SPILLWAY #2 DETAIL
N.T.S.

BMP # 4
SCALE: 1" = 40'

GRAPHIC SCALE 1" = 40'



BMP # 5
SCALE: 1" = 20'

NOTE: VDOT DOES NOT ACCEPT RESPONSIBILITY FOR THE MAINTENANCE OF THE STORMWATER MANAGEMENT BASIN AND ITS STRUCTURES AND SHALL BE SAVED HARMLESS FROM ANY DAMAGE FROM FAILURE.

PC015; SEP 5-92
PC029
BMP # 4

RECEIVED
FEB - -
ENVIRONMENTAL DIVISION

REVISED: 7/19/93 GENERAL REVISIONS PER JAMES CITY COUNTY COMMENTS
REVISED: 5/27/93 GENERAL REVISIONS PER JAMES CITY COUNTY COMMENTS

COMMONWEALTH OF VIRGINIA
STEPHEN A. ROMEO
No. 1448-B
LAND SURVEYOR

Langley and McDonald
A PROFESSIONAL CORPORATION
ENGINEERS • PLANNERS • SURVEYORS
VIRGINIA BEACH – WILLIAMSBURG, VIRGINIA

DES	SAR
DWN.	HTB
CHK.	SAR
DATE	3/29/93

RECORD DRAWING 3/11/94

POWHATAN OF WILLIAMSBURG SECONDARY
PHASE IV-A
PREPARED FOR
BEAMER CONSTRUCTION CO.
JAMES CITY COUNTY, VA

STORMWATER MANAGEMENT BASIN DETAILS

PROJ. NO.	78041
SCALE	AS SHOWN
SHEET	7 OF 11
DWG.	2930BW

Langley and McDonald Transmittal

ENGINEERS•PLANNERS•SURVEYORS

5544 Greenwich Road
☐ Virginia Beach, Virginia 23462
(804) 473-2000

201 Packets Court
☐ Williamsburg, Virginia 23185
(804) 253-2975

Project: POWHATAN OF WILLIAMSBURG SECONDARY BRIDGE BMP.

To: JCC PLANNING DEPT

From: W. GWILLIAM

Date:

Reply requested: ☐ Yes ☐ No

Reply to:

We are sending you:

- ☐ Attached
- ☐ Under separate cover via:
- ☒ Prints
- ☐ Copy of letter
- ☐ Plans
- ☐ Specifications
- ☐ Shop drawings
- ☐

Transmitted as checked below:

- ☒ For your use
- ☒ As requested
- ☐ For review and comment
- ☐ For approval
- ☐ Return for correction
- ☐ Approved as noted
- ☐ Approved
- ☐

SITE PLAN AMENDMENT & CAPACITY

Copies	Date	No.	Description
3	6/26/97	2930GW	RECORD DRAWINGS

RECEIVED JUL 1997 CODE COMPLIANCE OFFICE

Remarks: FOR YOUR RECORDS

Copies

1. File: 78041
2.
3.
4.

Enclosures

☐ ☐ ☐ ☐

Langley and McDonald

By: [signature]

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

#4

PC029_POWHATAN_SECONDARY_PHASE_2 - 006

Date Record Created:

Created By:

WS_BMPNO: PC029

PRINTED ON
Thursday, March 04, 2010
2:13:46 PM

WATERSHED	PC
BMP ID NO	029
PLAN NO	
TAX PARCEL	(37-4)(1-02)
PIN NO	3740100002
CONSTRUCTION DATE	
PROJECT NAME	Powhatan Section Phase 2
FACILITY LOCATION	Behind (west of) 229 Old Carriage Way
CITY-STATE	Williamsburg VA 23188
CURRENT OWNER	Powhatan Enterprises Inc.
OWNER ADDRESS	13441 Warwick Blvd.
OWNER ADDRESS 2	
CITY-STATE-ZIP CODE	Newport News, VA 23602
OWNER PHONE	
MAINT AGREEMENT	Yes
EMERG ACTION PLAN	No

MAINTENANCE PLAN	No
SITE AREA acre	10.7
LAND USE	SF Residential
old BMP TYP	Dry Pond
JCC BMP CODE	F2 Dry ED with forebay
POINT VALUE	6
SVC DRAIN AREA acres	25.5
SERVICE AREA DESCRI	Phase 2 Powhatan Secondary
IMPERV AREA acres	
RECV STREAM	UT of Powhatan Creek
EXT DET-WQ-CTRL	No
WTR QUAL VOL acre-ft	0.7
CHAN PROT CTRL	No
CHAN PROT VOL acre-ft	1.2
SW/FLOOD CONTROL	No
GEOTECH REPORT	No

CTRL STRUC DESC	PVC
CTRL STRUC SIZE inches	12
OTLT BARRL DESC	PVC
OTLT BARRL SIZE inch	12
EMERG SPILLWAY	Yes
DESIGN HW ELEV	38.87
PERM POOL ELEV	na
2-YR OUTFLOW cfs	20.05
10-YR OUTFLOW cfs	40.24
REC DRAWING	Yes
CONSTR CERTIF	No
LAST INSP DATE	10/31/2000
Inspected by:	
INTERNAL RATING	4

MISC/COMMENTS

BMP # 4 - Aluminum Sheet Pile wall.

Get Last BMP No | Return to Menu | Print Record

Additional Comments: