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: **JR016**

DATE VERIFIED: **June 26, 2012**

QUALITY ASSURANCE TECHNICIAN: **Leah Hardenbergh**

Leah Hardenbergh

LOCATION: WILLIAMSBURG, VIRGINIA

Stormwater Division

MEMORANDUM

DATE: March 11, 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: JR016

PIN: 4410100007

Subdivision, Tract, Business or Owner Name (if known): Governors Land

Property Description: Phase 5

Site Address:

(For internal use only) **Box** 14 **Drawer:** 7

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

Comments
Located behind 3001 Travis Close

JR-016

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

James City County, Virginia
Environmental Division

Stormwater Management/BMP Facilities
Record Drawing/Construction Certification
Review Tracking Form

County Plan No.: SP-145-89
Project Name: GOVERNORS LAND – TRAVIS POND
Stormwater Management Facility: WET POND
Phase: ☑ I ☐ II ☐ III

- ☐ Information Received. Date: MAR 13 2002 AES
- ☐ Administrative Check.
  - ☐ Record Drawing Date: AES DATE 6/01; Cert 3/6/02
  - ☐ Construction Certification Date: Post Geotech Report ~~EES~~ (6221)
  - ☐ RD/CC Standard Forms (Required after Feb 1st 2001Only)
  - ☐ Insp/Maint Agreement Info: _____
  - ☐ BMP Maintenance Plan Location: _____
  - ☐ Other: _____
- ☐ Standard E&SC Note on Approved Plan Requiring RD/CC or County comment in plan review file. CC NOTE SHT 10 SEC B-B
  - ☐ Yes ☐ No Location: VARIOUS CORRESPONDANCE F/C
- ☐ Assign County BMP ID Code Code: JR016
- ☑ Log into Division's "As-Built" Tracking Log
- ☑ Add Location to GIS Database Map. Obtain GIS site information (GPIN, Owner, Site Area, Address, etc.)
- ☑ Preliminary Log into BMP Database (BMP ID #, Site Plan #, GPIN, Project Name)
- ☑ Active Project File Review (correspondence, H&H, etc.).
- ☑ Initial As-Built File setup (label, copy hydraulics, BMP information, etc.).
- ☐ Inspector Check of RD/CC.
- ☑ Pre-Inspection Drawing Review - Approved Plan (Quick look prior to field inspection).
- ☑ Final Inspection (FI) Performed Date: 3/13/03 RH; 2/6/03 AES
- ☑ Record Drawing (RD) Review Date: MAY 16 '03 SJT
- ☑ Construction Certification (CC) Review Date: MAY 16 '03 SJT
- ☐ Actions:
  - ☐ No comments.
  - ☑ Comments. Letter Forwarded. Date: May 16 '03
    - ☐ Record Drawing (RD)
    - ☐ Construction Certification (CC)
    - ☑ Construction-Related (CR)
    - ☐ Site Issues (SI)
    - ☐ Other : _____
- ☐ Second Submission: 6-26-03 RO (AES)
- ☐ Third Submission: _____
- ☑ Acceptable for stormwater managment facility purposes (RD/CC/CR/Other). Proceed with bond release.
- ☑ Notify Darryl/Joan/Pat of acceptability using email (preferred), form or verbal.
- ☑ Check/Clean active file of any remaining material and finish "As-Built" file.
- ☑ Add to County BMP Inventory/Inspection schedule (Phase I, II or III).
- ☑ Copy Final Inspection Report into County BMP Inspection Program file.
- ☑ Digital Photographs obtained.
- ☐ Add to JCC Hydrology & Hydraulic database (optional).

BMP Certification Information Acceptable

Plan Reviewer: _____ P.E. Date: 7/10/03

James City County, Virginia
Environmental Division

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: GOVERNOR'S LAND GOLF COURSE
Structure/BMP Name: TRAVIS POND
Project Location: THE GOVERNOR'S LAND AT TWO RIVERS, ROUTE 5
BMP Location: SOUTH EAST OF INTERSECT OF TWO RIVERS ROAD AND TRAVIS POND ROAD
County Plan No.: SP - 145 - 89

Project Type: ☒ Residential ☐ Business ☐ Commercial ☐ Office ☐ Institutional ☐ Industrial ☐ Public ☐ Roadway ☒ Other RECREATION

Tax Map/Parcel No.: 4410100007
BMP ID Code (if known): JR016
Zoning District:: POWHATAN DISTRICT
Land Use: RECREATIONAL / RESIDENTIAL
Site Area (sf or acres):

Brief Description of Stormwater Management/BMP Facility:
WET POND WITH LOW FLOW ORIFICE (LOW FLOW ORIFICE DISCHARGE ~~IT~~ RUNOFF FROM WATERSHED IN 24 HOURS)

Nearest Visible Landmark to SWM/BMP Facility: GREEN OF 9TH HOLE LOCATED DUE NORTH

Nearest Vertical Ground Control (if known):
☒ JCC Geodetic Ground Control ☐ USGS ☐ Temporary ☐ Arbitrary ☐ Other
Station Number or Name: 336
Datum or Reference Elevation: 78.20
Control Description: JCC MAIN STATION
Control Location from Subject Facility: NORTH OF SITE, APPROXIMATELY 9000 FEET

Section 2 - Stormwater Management / BMP Facility Construction Information:

PreConstruction Meeting Held for Construction of SWM/BMP Facility: ☑ Yes ☐ No ☐ Unknown
Approx. Construction Start Date for SWM/BMP Facility: SUMMER 1990
Facility Monitored by County Representative during Construction: ☐ Yes ☐ No ☑ Unknown
Name of Site Work Contractor Who Constructed Facility: WADSWORTH GOLF CONSTRUCTION
Name of Professional Firm Who Routinely Monitored Construction: UNKNOWN
Date of Completion for SWM/BMP Facility: 1991
Date of Record Drawing/Construction Certification Submittal: MARCH 2002

(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 Environmental 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: GOVERNORS LAND ASSOCIATES
Mailing Address: 9701 MILL POND RUN
TOANO, VIRGINIA
Business Phone: 757-234-5000 Fax: 757-234-5111
Contact Person: MR. JIM BENNETT Title: VICE PRESIDENT - DEVELOPMENT

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: AES CONSULTING ENGINEERS
Mailing Address: 5248 OLDE TOWNE ROAD, SUITE 1
WILLIAMSBURG, VIRGINIA 23188
Business Phone: 757-253-0040
Fax: 757-220-8994
Responsible Plan Preparer: G. ARCHER MARSTON
Title: VICE PRESIDENT
Plan Name: TWO RIVERS GOLF COURSE
Firm's Project No. 7173
Plan Date: 12/22/89
Sheet No.'s Applicable to SWM/BMP Facility: 6 / 10 / ____ / ____ / ____

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

Name: WADSWORTH GOLF CONSTRUCTION COMPANY
Mailing Address: 1901 VAN DYKE ROAD
PLAINFIELD, ILLINOIS 60544
Business Phone: 815-436-8400
Fax: 815-436-8404
Contact Person: BRIAN R. CUNFER
Site Foreman/Supervisor: JACK DOUGHTERY
Specialty Subcontractors & 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: AES Consulting Engineers
Mailing Address: 5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
Business Phone: 757-253-0040
Fax: 757-220-5994

Name: V Marc Bennett
Title: Senior Project Manager

Signature: V Marc Bennett
Date: 3/6/02

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 with the provisions of the approved design plan, specifications and stormwater management plan, except as specifically noted.

COMMONWEALTH OF VIRGINIA
VAN MARC BENNETT
No. 26628
PROFESSIONAL ENGINEER

V Marc Bennett (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 design 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:

- ☐ PreConstruction Meeting - Provides an opportunity to review SWM / BMP facility construction, maintenance and operation plans and address 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 Environmental 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 Environmental 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 Environmental 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 Environmental 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 Environmental 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 Environmental 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 Environmental 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 Environmental 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 Environmental 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.
INC	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.**
INC	13.	Top of impervious core embankment, core trench limits and elevation of cut-off trench bottom. **May need to obtain this information during construction.**
INC	14.	Elevation of the principal spillway barrel (outlet pipe) inlet and outlet invert.
INC	15.	Outlet barrel diameter, length, slope, type and thickness class of material and type of flared end sections, headwall or endwall.
INC	16.	Outfall protection dimension, type and depth of rock and if underlain filter fabric is present.
INC	17.	BMP interior and periphery landscaping zones conform with arrangements and requirements of the approved design plan.
INC	18.	Maintenance plan taken from approved design plan transposed onto record drawing set.
N/A	19.	Fencing location and type, if applicable to facility.
XX	20.	BMP vicinity properly cleaned of stockpiles and construction debris.
XX	21.	No visual signs of erosion or channel degradation immediately downstream of facility.
XX	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)

III. Group A - Wet Ponds *(Includes A-1 Small Wet Ponds; A-2 Wet Ponds; A-3 Wet Ext Det Ponds.)*

INC A1. All requirements of Section II, Minimum Standards, apply to Group A facilities.

INC A2. Principal spillway consists of reinforced concrete pipe with O-Ring gaskets for watertight joint construction.

N/A A3. Sediment forebays or pretreatment devices provided at inlets to pond. Generally 4 to 6 ft. deep.

N/A A4. Access for maintenance and equipment is provided to the forebay(s). Access corridors are at least 12 ft. wide, have a maximum slope of 15 percent and are adequately stabilized to withstand heavy equipment or vehicle use.

N/A A5. Adequate fixed vertical sediment depth markers installed in the forebay(s) for future sediment monitoring purposes.

N/A A6. Pond liner (if required) provided. Either clay liners, polyliners, bentonite liners or use of chemical soil additives based on requirements of the approved plan.

N/A A7. Minimum 6 percent slope safety bench extending a minimum of 15 feet outward from normal pool edge and/or an aquatic bench extending a minimum of 10 feet inward from the normal shoreline with a maximum depth of 12 inches below the normal pool elevation, if applicable, per the approved design plans. (Note: Safety benches may be waived if pond side slopes are no steeper than 4H:1V).

INC A8. No trees are present within a zone 15 feet around the embankment toe and 25 feet from the principal spillway structure.

XX A9. Wet permanent pool, typically 3 to 6 feet deep, is provided and maintains level within facility.

XX A10. Low flow orifice has a non-clogging mechanism.

XX A11. A pond drain pipe with valve was provided.

N/A A12. Pond side slopes are not steeper than 3H:1V, unless approved plan allowed for steeper slope.

N/A A13. End walls above barrels (outlet pipe) greater than 48 inch in diameter are fenced to prevent a fall hazard.

STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST

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

IV. Group B - Wetlands *(Includes B-1 Shallow Marsh; B-2 Ext Det Shallow Wetlands; B-3 Pond Wetland System and B-4 Pocket Wetland)*

N/A B1. Same requirements as Group A Wet Ponds.

___ B2. Minimum 2:1 length to width flow path provided across the facility.

___ B3. Micropool provided at or around outlet from BMP (generally 3 to 6 ft. deep).

___ B4. Wetland type landscaping provided in accordance with approved plan. Includes correct pondscaping zones, plant species, planting arrangements, wetland beds, etc. Wetland plants include 5 to 7 emergent wetland species. Individual plants at 18 inches on center in clumps.

___ B5. Adequate wetland buffer provided (Typically 25 ft. outward from maximum design water surface elevation and 15 ft. setback to structures).

___ B6. No more than one-half (½) of the wetland surface area is planted.

___ B7. Topsoil or wetland mulch provided to support vigorous growth of wetland plants.

N/A B8. Planting zones staked or flagged in field and locations subsequently established by appropriate field surveying methods for record drawing presentation.

STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST

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

V. Group C - Infiltration Practices *(Includes C-1 Infiltration Trench; C-2 Infiltration Trench; C-3 Infiltration Basin; and C-4 Infiltration Basin)*

N/A C1. All requirements of Section II, Minimum Standards, apply to Group C facilities as applicable.

___ C2. Facility is not located on fill slopes or on natural ground in excess of six (6) percent.

___ C3. Pretreatment devices provided prior to entry into the infiltration facility. Acceptable pretreatment devices include sediment forebays, sediment basins, sediment traps, sump pits or inlets, grass channels, plunge pools or other acceptable measures.

___ C4. Three (3) or more of the following pretreatment devices provided to protect long term integrity of structure: grass channel; grass filter strip; bottom sand layer; upper filter fabric layer; use of washed bank run gravel aggregate.

___ C5. Sides of infiltration practice lined with filter fabric.

___ C6. Facility was not used for erosion and sediment control purposes and sediment was prevented from entering the facility to the greatest extent possible during construction.

___ C7. Stabilization and acceptable vegetative cover established over contributing drainage area prior to conveyance of stormwater to the facility.

___ C8. Minimum one hundred (100) foot separation horizontally from any known water supply well and minimum one hundred (100) foot separation upslope from any building.

___ C9. Minimum twenty-five (25) foot separation down gradient from any structure.

___ C10. Stormwater outfalls provided for overflow associated with larger design storms.

___ C11. No visual signs of erosion or channel degradation immediately downstream of facility.

___ C12. Facility does not currently cause any apparent surface or subsurface water problems to downgrade properties.

___ C13. Observation well provided.

N/A C14. Adequate, direct access provided to the facility for future maintenance, operation and inspection.

STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST

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

VI. Group D - Filtering Systems *(Includes D-1 Bioretention Cells; D-2 Surface Sand Filters; D-3 Underground Sand Filters; D-4 Perimeter Sand Filters; D-5 Organic Filters; and D-6 Pocket Sand Filters)*

N/A D1. All requirements of Section II, Minimum Standards, apply to Group D facilities.

____ D2. Sediment pretreatment devices provided.

____ D3. For D-1 BMPs (Bioretention Cells), pretreatment consisting of a grass filter strip below level spreader (deflector); a gravel diaphragm; and mulch and planting soil layers were provided.

____ D4. For D-1 BMPs (Bioretention Cells), plantings consist of native plant species; vegetation provided was based on zones of hydric tolerances; trees and understory of shrubs and herbaceous materials were provided; woody vegetation is absent from inflow locations; and trees are located around facility perimeter.

____ D5. Facility was not used for erosion and sediment control purposes and sediment was prevented from entering the facility to the greatest extent possible during construction.

____ D6. No visible signs of accumulated silt/sediment were present in the facility following construction or alternately, accumulated silt/sediment was properly removed .

____ D7. Filtering system is off-line from storm drainage conveyance system.

____ D8. Overflow outlet has adequate erosion protection.

____ D9. Deflector, diversion, flow splitter or regulator structure provided to divert the water quality volume to the filtering structure.

____ D10. Minimum four (4) inch perforated underdrain provided in a clean aggregate envelope layer beneath the facility.

____ D11. Minimum fifty (50) foot separation from any slope fifteen (15) percent or greater. Minimum one hundred (100) foot separation horizontally from any known water supply well. Minimum one hundred (100) foot separation upslope and twenty-five (25) foot separation downslope from any building.

____ D12. Stabilization and acceptable vegetative cover established over contributing drainage area prior to conveyance of stormwater to the facility.

____ D13. No visual signs of erosion or channel degradation immediately downstream of facility.

N/A D14. Adequate, direct access provided to the pretreatment area and/or filter bed for future maintenance.

STORMWATER MANAGEMENT / BMP FACILITIES
AS-BUILT PLAN CHECKLIST

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

VII. Group E - Open Channel Systems *(Includes E-1 Wet Swales (Check Dams); E-2 Dry Swales;and E-3 Biofilters)*

N/A E1. All requirements of Section II, Minimum Standards, apply to Group E facilities as applicable.

___ E2. Open channel system has constructed longitudinal slope of less than four (4) percent.

___ E3. No visual signs of erosion in the open channel system's soil and/or vegetative cover.

___ E4. Open channel side slopes are no steeper than 2H:1V at any location. Preferred channel sideslope is 3H:1V or flatter.

___ E5. No visual signs of ponding are present at any location in the open channel system, except at rock check dam locations for E-1 systems (Wet Swales).

___ E6. For E-2 BMPs (Dry Swales), an underdrain system was provided.

___ E7. Treated timber or rock check dams provided as pretreatment devices for the open channel system.

___ E8. Gravel diaphragm provided in areas where lateral sheet flow from impervious surfaces are directly connected to the open channel system.

___ E9. Grass cover/stabilization in the open channel system appears adaptable to the specific soils and hydric conditions for the site and along the channel system.

___ E10. Open channel system areas with grass covers higher than four (4) to six (6) inches were properly mowed.

___ E11. Facility was not used for erosion and sediment control purposes and sediment was prevented from entering the facility to the greatest extent possible during construction.

___ E12. 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.

___ E13. For E-3 BMPs (Biofilters), the bottom width is six (6) feet maximum at any location.

___ E14. For E-3 BMPs (Biofilters), sideslopes are 3H:1V maximum at any location.

___ E15. For E-3 BMPs (Biofilters), the constructed channel slope is less than or equal to three (3) percent at any location.

N/A E16. For E-3 BMPs (Biofilters), the constructed grass channel is approximately equivalent to the constructed roadway length.

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)*

N/A	F1.	All requirements of Section II, Minimum Standards, apply to Group F facilities.
	F2.	Basin bottom has positive slope and drainage from all basin inflow points to the riser (or outflow) location.
	F3.	Timber wall BMP used in intermittent stream only. (ie. Prohibited in perennial streams.)
	F4.	Forebay provided approximately 20 ft. upstream of the facility. Forebays generally 4 to 6 feet in depth.
	F5.	A reverse slope pipe, vertical stand pipe or mini-barrel and riser was provided to prevent clogging.
	F6.	Principal spillway and outlet barrel provided consisting of reinforced concrete pipe with O-Ring gaskets for watertight joint construction.
	F7.	Mini-barrel and riser, if used, contains a removable trash rack to reduce clogging.
	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.
	F9.	Timbers properly reinforced or concrete footing provided if soil conditions were prohibitive.
	F10.	Timber wall cross members extended to a minimum depth of two (2) feet below ground elevation.
	F11.	Protection against erosion and scour from the low flow orifice and weir-flow trajectory provided.
	F12.	Stilling basin or standard outlet protection provided at principal spillway outlet.
	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.
	F14.	No visual signs of undercutting of timber walls or clogging of the low orifice were present.
	F15.	No visual signs of erosion or channel degradation immediately downstream of facility.
N/A	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)

IX. Group G - Open Spaces *(Includes All Open Space Types G-1; G-2; and G-3)*

N/A G1. All requirements of Section II, Minimum Standards, apply to Group G facilities as applicable.

G2. Constructed impervious areas appear to conform with locations indicated on the approved plan and appear less than sixty (60) percent impervious in accordance with the requirements of the James City County Chesapeake Bay Preservation Ordinance.

G3. Dedicated open space areas are in undisturbed common areas, conservation easements or are protected by other enforceable instruments that ensures perpetual protection.

G4. Provisions included to clearly specify how the natural vegetated areas utilized as dedicated open space will be managed and field identified (marked).

G5. Adequate protection measures were implemented during construction to protect the defined dedicated open space areas.

N/A G6. Dedicated open space areas were not disturbed during construction (ie. cleared, grubbed or graded).

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.)

RECORD DRAWINGS OF STORM SYSTEM PREPARED FOR VDOT (BUT ARE NOT INCLUDED)

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

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

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

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

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

XII. 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 .)

N/A O1. All requirements of Section II, Minimum Standards, apply to this section.

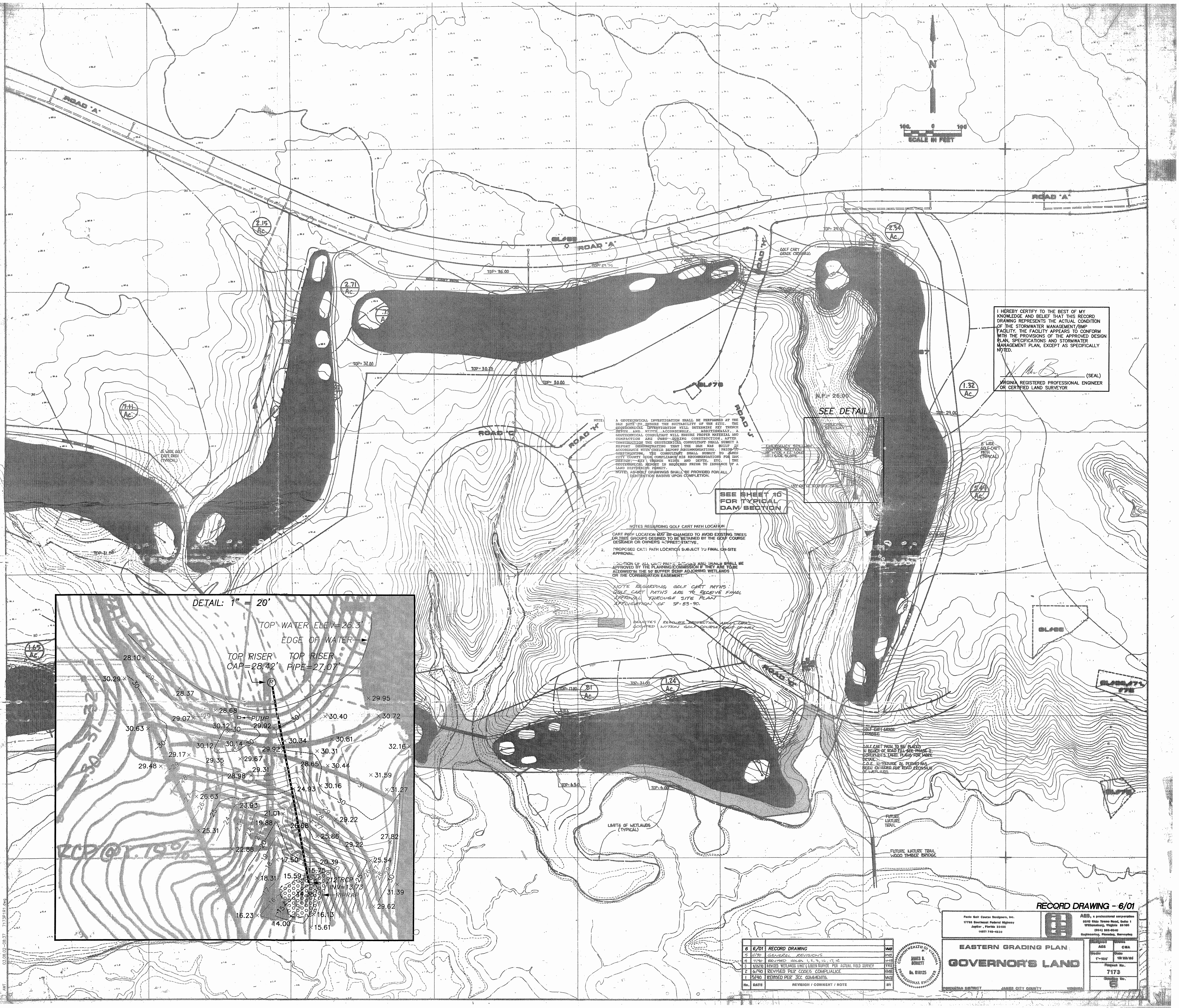
N/A O2. Certification criteria to be determined on a case-by-case basis by the Environmental Division specific to the proposed SWM/BMP facility.

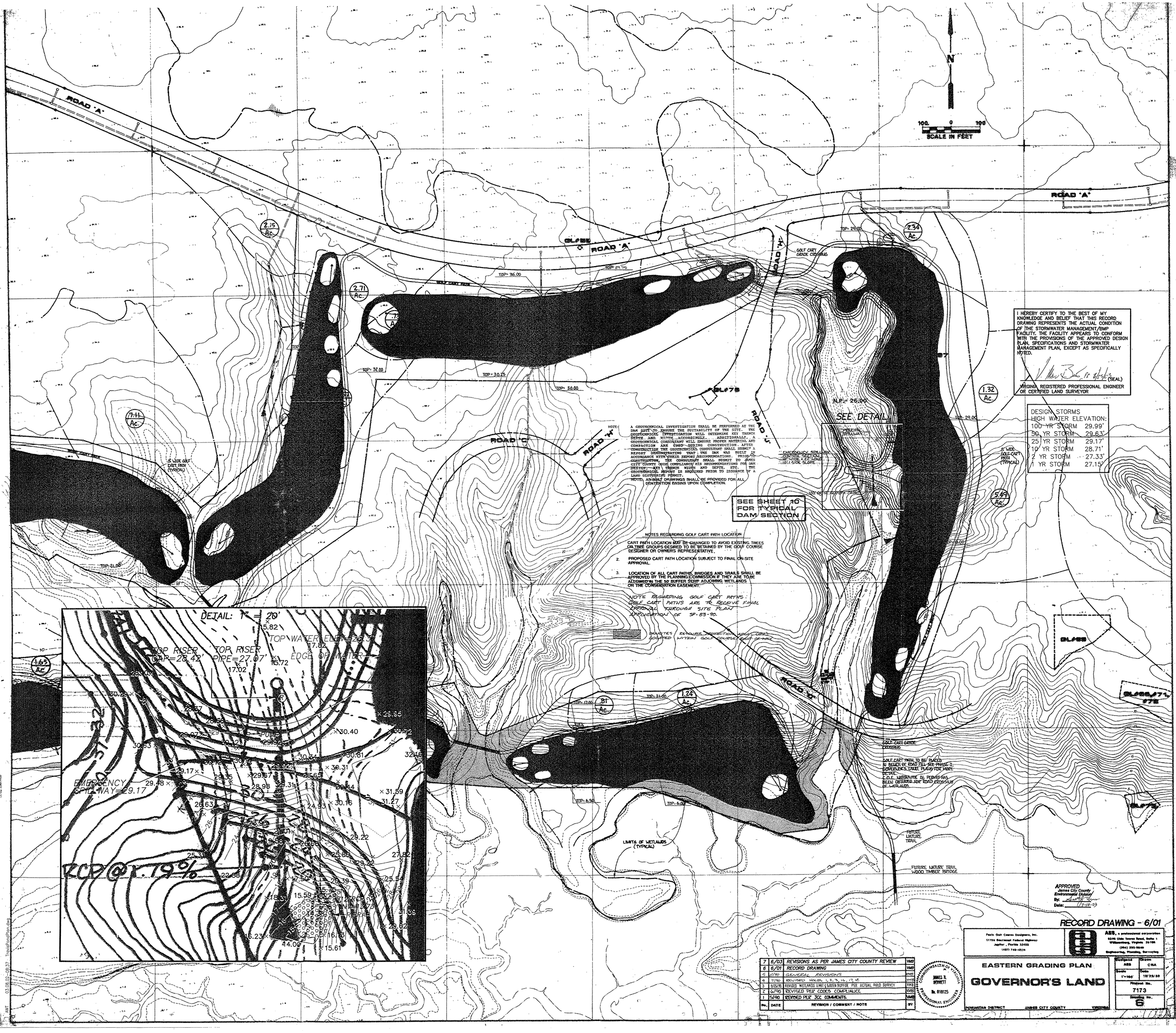
XIII. References

(The James City County Record Drawing and Construction Certification Forms and Checklists for Stormwater Management / BMP facilities were developed using the following sources and references.)

- ❒ Baltimore County, Maryland Soil Conservation District, As-Built Stormwater Management Pond Checklist.
- ❒ James City County, Virginia, Guidelines for Design and Construction of Stormwater Management BMP's (October 1999).
- ❒ James City County, Virginia, Stormwater Detention/Retention Basin Design Checklist and Erosion and Sediment Control and Stormwater Management Design Plan Checklists.
- ❒ James City County Stormwater Policy Framework, Final Report of the James City County BMP Policy Project, October 1998, The Center for Watershed Protection.
- ❒ Prince Georges County, Maryland, As-Built Requirements Retention or Detention Pond/Basin.
- ❒ Prince William County, Virginia, Stormwater Management Fact Sheet.
- ❒ Stafford County, Virginia, As-Built Plan Checklist.
- ❒ Stormwater Management Design Manual, NRCS Maryland Code No. 378, Pond Standards and Specifications.
- ❒ USEPA/Watershed Management Institute, Stormwater Management Inspection Forms.
- ❒ Virginia Impounding Structure Regulations (Dam Safety), Department of Conservation & Recreation, 1997.
- ❒ Virginia Erosion and Sediment Control Handbook, Third Edition 1992, Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation.
- ❒ Virginia Stormwater Management Handbook, 1999 edition, Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation.

File: Shared\SWMProg\BMP\Certif\RDCC.wpd


ROAD 'A'
SCALE IN FEET
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 WITH THE PROVISIONS OF THE APPROVED DESIGN PLAN, SPECIFICATIONS AND STORMWATER MANAGEMENT PLAN, EXCEPT AS SPECIFICALLY NOTED.
(SEAL)
VIRGINIA REGISTERED PROFESSIONAL ENGINEER OR CERTIFIED LAND SURVEYOR
N.P.= 26.00
SEE DETAIL
ROAD 'C'
ROAD 'H'
ROAD 'J'
NOTE: A GEOTECHNICAL INVESTIGATION SHALL BE PERFORMED AT THE DAM SITE TO ENSURE THE SUITABILITY OF THE SITE. THE GEOTECHNICAL INVESTIGATION WILL DETERMINE KEY TRENCH DEPTH AND WIDTH ACCORDINGLY. ADDITIONALLY, A GEOTECHNICAL CONSULTANT WILL ENSURE PROPER MATERIAL AND COMPACTION ARE USED DURING CONSTRUCTION. AFTER CONSTRUCTION THE GEOTECHNICAL CONSULTANT SHALL SUBMIT A REPORT DEMONSTRATING THAT THE DAM WAS BUILT IN ACCORDANCE WITH THEIR REPORT RECOMMENDATIONS. PRIOR TO CONSTRUCTION, THE CONSULTANT SHALL SUBMIT TO JAMES CITY COUNTY CODE COMPLIANCE HIS RECOMMENDATIONS FOR DAM DESIGN, KEY TRENCH WIDTH AND DEPTH, ETC. THE GEOTECHNICAL REPORT IS REQUIRED PRIOR TO ISSUANCE OF A LAND DISTURBING PERMIT.
NOTE: AS-BUILT DRAWINGS SHALL BE PROVIDED FOR ALL DENTENTION BASINS UPON COMPLETION.
SEE SHEET 10 FOR TYPICAL DAM SECTION
NOTES REGARDING GOLF CART PATH LOCATION
1. CART PATH LOCATION MAY BE CHANGED TO AVOID EXISTING TREES OR TREE GROUPS DESIRED TO BE RETAINED BY THE GOLF COURSE DESIGNER OR OWNER'S REPRESENTATIVE.
2. PROPOSED CART PATH LOCATION SUBJECT TO FINAL ON-SITE APPROVAL.
3. LOCATION OF ALL CART PATHS, BRIDGES AND TRAILS SHALL BE APPROVED BY THE PLANNING COMMISSION IF THEY ARE TO BE ALLOWED IN THE 50' BUFFER STRIP ADJOINING WETLANDS OR THE CONSERVATION EASEMENT.
NOTE REGARDING GOLF CART PATHS: GOLF CART PATHS ARE TO RECEIVE FINAL APPROVAL THROUGH SITE PLAN APPLICATION OF SP-83-90.
DENOTES RESOURCE PROTECTION AREAS (RPA) LOCATED WITHIN GOLF COURSE RIGHT-OF-WAY
8' WIDE GOLF CART PATH (TYPICAL)
LIMITS OF WETLANDS (TYPICAL)
FUTURE NATURE TRAIL
FUTURE NATURE TRAIL WOOD TIMBER BRIDGE
DETAIL: 1" = 20'
TOP WATER ELEV=26.3'
EDGE OF WATER
TOP RISER CAP=28.42'
TOP RISER PIPE=27.07'
PUMP
12"RCP INV=13.73
RIPRAP
RCP @ 1.79%
RECORD DRAWING - 6/01
Fazio Golf Course Designers, Inc.
17755 Southeast Federal Highway
Jupiter, Florida 33469
(407) 748-4539
AES, a professional corporation
Williamsburg, Virginia
Engineering, Planning, Surveying
6 | 6/01 | RECORD DRAWING | VMB
5 | 11/90 | GENERAL REVISIONS | VMB
4 | 7/90 | REVISED HOLES 1, 2, 3, 16, 17, 18 | VMB
3 | 6/25/90 | REVISED WETLANDS LIMIT & GREEN BUFFER PER ACTUAL FIELD SURVEY | VMB
2 | 6/90 | REVISED PER CODES COMPLIANCE | VMB
1 | 5/90 | REVISED PER JCC COMMENTS. | VMB
No. | DATE | REVISION / COMMENT / NOTE | BY
COMMONWEALTH OF VIRGINIA
JAMES H. BENNETT
No. 010125
PROFESSIONAL ENGINEER
EASTERN GRADING PLAN
GOVERNOR'S LAND
JAMES CITY COUNTY
Designed AES
Drawn CMA
Scale 1"=100'
Project No. 7173
6



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NOTE: AS-BUILT DRAWINGS SHALL BE PROVIDED FOR ALL DETENTION BASINS UPON COMPLETION.

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NOTE REGARDING GOLF CART PATHS:
GOLF CART PATHS ARE TO RECEIVE FINAL APPROVAL THROUGH SITE PLAN APPLICATION OF SP-85-90.

DENOTES REQUIRED PROTECTIVE APPLIQUE LOCATED WITHIN GOLF COURSE OUT OF WAY

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 WITH THE PROVISIONS OF THE APPROVED DESIGN PLAN, SPECIFICATIONS AND STORMWATER MANAGEMENT PLAN, EXCEPT AS SPECIFICALLY NOTED.

(SEAL)

VIRGINIA REGISTERED PROFESSIONAL ENGINEER OR CERTIFIED LAND SURVEYOR

DESIGN STORMS HIGH WATER ELEVATION:	
100 YR STORM	29.99'
50 YR STORM	29.63'
25 YR STORM	29.17'
10 YR STORM	28.71'
2 YR STORM	27.33'
1 YR STORM	27.15'

APPROVED
James City County
Environmental Division
By:
Date: 11-12-03

RECORD DRAWING - 6/01

No.	DATE	REVISION / COMMENT / NOTE	BY
7	6/03	REVISIONS AS PER JAMES CITY COUNTY REVIEW	VMB
6	6/01	RECORD DRAWING	VMB
5	11/10	GENERAL REVISIONS	VMB
4	7/10	RENUMBER LOTS 1, 2, 3, 16, 17 & 18	VMB
3	5/10/91	REVISED WETLANDS LIMIT & BUFFER PER ACTUAL FIELD SURVEY	VMB
2	6/90	REVISED PER CODES COMPLIANCE	VMB
1	5/90	REVISED PER JCC COMMENTS.	VMB

JAMES R. BENNETT No. 018125 COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER

Fazio Golf Course Designers, Inc.
11780 Southeast Federal Highway
Jupiter, Florida 33458
(407) 748-4539

AES, a professional corporation
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(804) 220-8268
Engineering, Planning, Surveying

EASTERN GRADING PLAN

GOVERNOR'S LAND

POWHATAN DISTRICT JAMES CITY COUNTY VIRGINIA

Designed	Drawn
AES	CMA
Scale 1"=100'	Date 12/23/99
Project No. 7173	
Drawing No. 6	

AWT 03.08.02 - 08:37 TravisPondPlan.dwg

JR016_GOVERNORS_LAND_TRAVIS_POND_WEST_POND - 022

N

100 0 100
SCALE IN FEET

ROAD "A"

ROAD "H"

ROAD "J"

ROAD "E"

GL#55

GL#78

GL#88

GL#88,#71, #72

TOP= 29.75

TOP= 36.00

TOP= 30.00

TOP= 29.00

TOP= 21.00

TOP= 17.00

TOP= 6.50

TOP= 6.00

TOP= 18.00

2.34 Ac.

1.32 Ac.

5.49 Ac.

1.24 Ac.

.81 Ac.

GOLF CART GRADE CROSSING

Hole 9

EDGE OF WATER AT NORMAL POOL (FIELD SURVEYED)

25.74'

N.P.= 26.00

15' OF 12" D.I.P. INV. IN = 16.8'

PERIODIC SPILLWAY

EMERGENCY SPILLWAY CONTROL SECTION 100' WIDE x 23' LONG 10:1 SIDE SLOPE

140' OF 12" RCP INCLUDING 1 ES-1 END SECTION

8' WIDE GOLF CART PATH (TYPICAL)

NOTE: A GEOTECHNICAL INVESTIGATION SHALL BE PERFORMED AT THE DAM SITE TO ENSURE THE SUITABILITY OF THE SITE. THE GEOTECHNICAL INVESTIGATION WILL DETERMINE KEY TRENCH DEPTH AND WIDTH ACCORDINGLY. ADDITIONALLY, A GEOTECHNICAL CONSULTANT WILL ENSURE PROPER MATERIAL AND COMPACTION ARE USED DURING CONSTRUCTION. AFTER CONSTRUCTION THE GEOTECHNICAL CONSULTANT SHALL SUBMIT A REPORT DEMONSTRATING THAT THE DAM WAS BUILT IN ACCORDANCE WITH THEIR REPORT RECOMMENDATIONS. PRIOR TO CONSTRUCTION, THE CONSULTANT SHALL SUBMIT TO JAMES CITY COUNTY CODE COMPLIANCE HIS RECOMMENDATIONS FOR DAM DESIGN, KEY TRENCH WIDTH AND DEPTH, ETC. THE GEOTECHNICAL REPORT IS REQUIRED PRIOR TO ISSUANCE OF A LAND DISTURBING PERMIT.

NOTE: AS-BUILT DRAWINGS SHALL BE PROVIDED FOR ALL DENTENTION BASINS UPON COMPLETION.

SEE SHEET 10 FOR TYPICAL DAM SECTION

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DENOTES RESOURCE PROTECTION AREAS (RPA) LOCATED WITHIN GOLF COURSE RIGHT-OF-WAY

GOLF CART GRADE CROSSING

GOLF CART PATH TO BE PLACED ON BERM OF ROAD FILL SEE PHASE I, GOVERNOR'S LAND, PLANS FOR MORE DETAIL. C.O.E. NATIONWIDE 26 PERMIT HAS BEEN OBTAINED FOR ROAD CROSSING OF WETLANDS

FUTURE NATURE TRAIL

FUTURE NATURE TRAIL WOOD TIMBER BRIDGE

LIMITS OF WETLANDS (TYPICAL)

BORE HOLE THRU ANTI-VORTEX CAP TO ALLOW EXTENSION OF BUTTERFLY VALVE CONTROL ROD THRU CAP

PRECAST LINTEL 5 5/8" x 7 5/8"

78" PRECAST ANTI-VORTEX CAP

4" ORIFICE

TOP OF RISER = 26.75'

NORMAL POOL = 26.00' 26.1'

PROVIDE BRACES AS NECESSARY FOR MANUAL BUTTERFLY VALVE CONTROL ROD

VALVE CONTROL ROD

WATER QUALITY STORAGE AREA

48"

5"

MANUAL BUTTERFLY VALVE OR EQUAL

45' RISER

5.5' EXTENDED BASE SECTION

12" DIP DEWATERING PIPE

INV. = 16.50' 16.6'

FLOW

12" RCP

FLOW

ELEV. = 16.00'

8"

8" COMPACTED LEVELING COURSE

73 1/2"

FILL BASE UNIT WITH 2000 PSI CONCRETE TO ELEV. = 16.50'

PRINCIPAL SPILLWAY STRUCTURE
FOR HOLE #9 POND
N.T.S.

No.	DATE	REVISION / COMMENT / NOTE	BY
6	6/91	AS-BUILTS - TRAVIS POND	VMB
5	11/90	GENERAL REVISIONS	VMB
4	7/90	REVISED HOLES 1, 2, 3, 16, 17, 18	VMB
3	6/25/90	REVISED WETLANDS LIMIT & GREEN BUFFER PER ACTUAL FIELD SURVEY	VMB
2	6/90	REVISED PER CODES COMPLIANCE	VMB
1	5/90	REVISED PER JCC COMMENTS.	VMB

COMMONWEALTH OF VIRGINIA
JAMES H. BENNETT
No. 018125
PROFESSIONAL ENGINEER

JR 016

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17755 Southeast Federal Highway
Jupiter, Florida 33458
(407) 746-9539

AES, a professional corporation
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(804) 253-0040
Engineering, Planning, Surveying

AS-BUILT - TRAVIS POND
EASTERN GRADING PLAN
GOVERNOR'S LAND

Designed	Drawn
AES	CMA
Scale	Date
1"=100'	12/22/89
Project No.	
7173	

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 with 15 days of installation. An on-site pre-construction meeting will be held between the Department of Public Works 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 Public Works 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. 1.16) 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. Department of Public Works 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 1.75. Seeding will then take place as soon as the season permits.

12. The term Seeding, Final Vegetative Cover or Stabilization, on this site 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 1.66, 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.

14. 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.

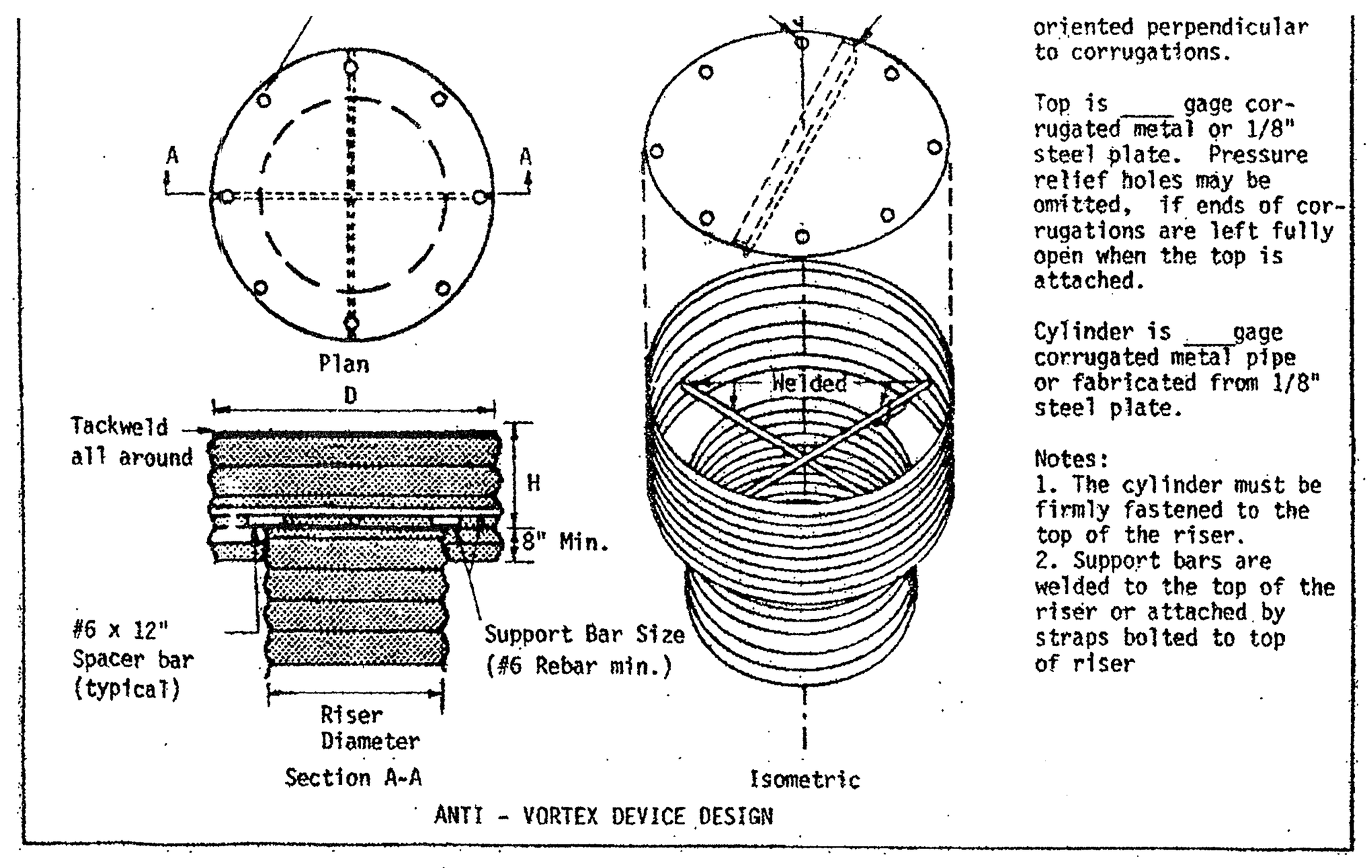
16. Paved ditches shall be required wherever erosion is evident. Particular attention shall be paid to those areas where grades exceed 3%.

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.

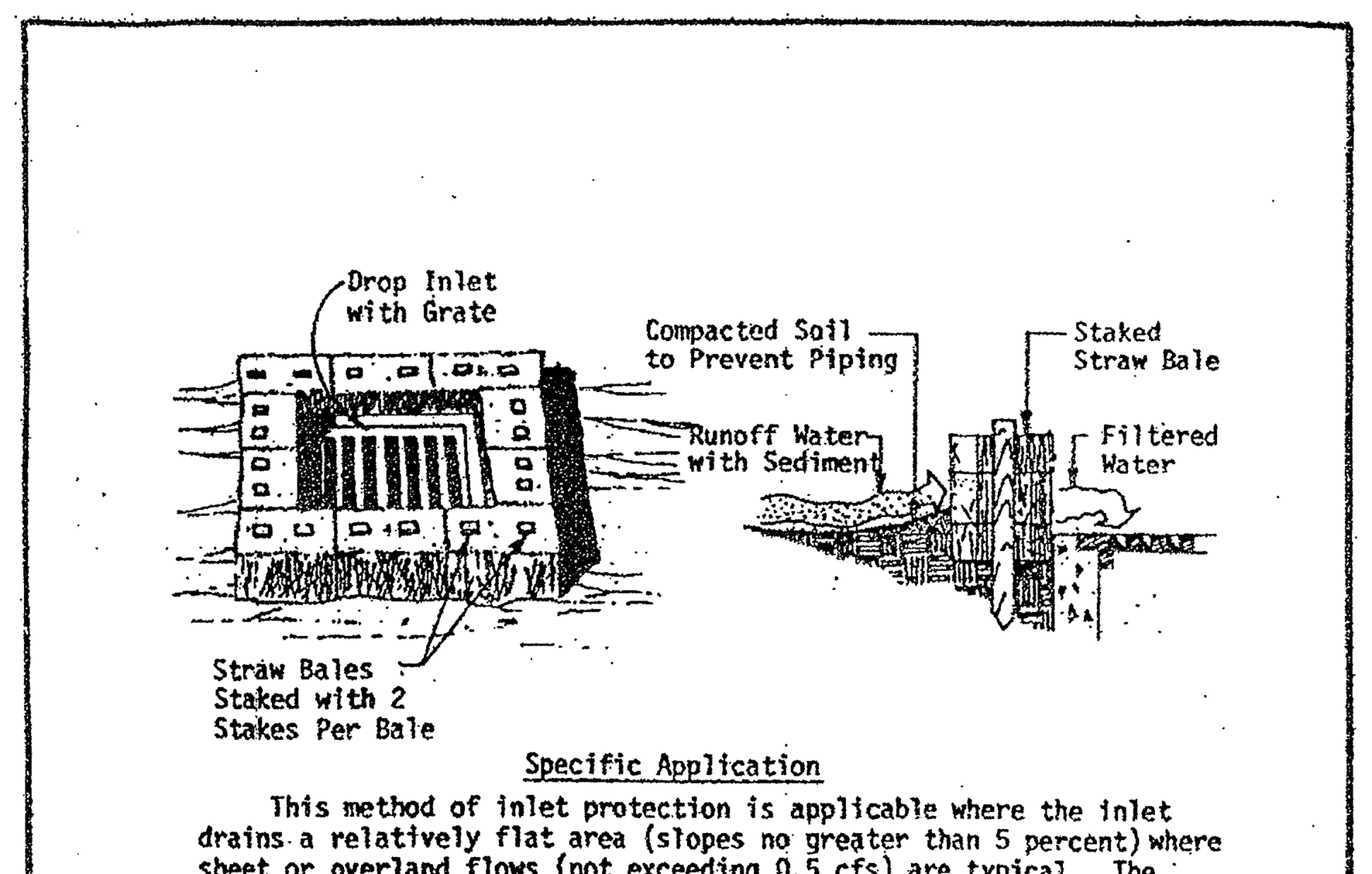
18. Off-site waste or borrow areas shall be approved by James City County prior to the import of any borrow or export of any waste to or from the project site.

19. All paved and/or piped outfalls will be constructed before road grading and utility installation begins.

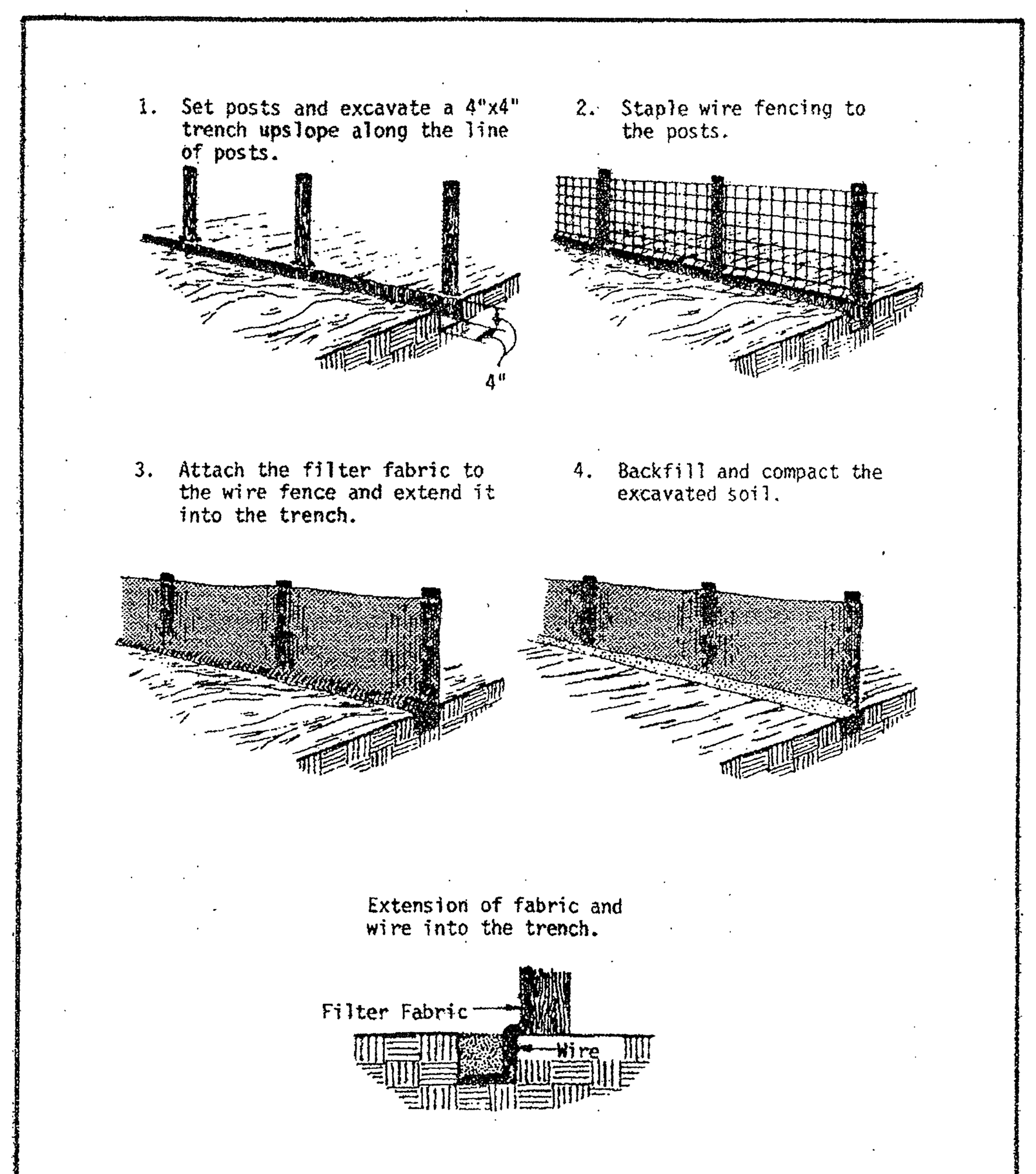
20. AS-BUILT DRAWINGS SHALL BE PROVIDED FOR ALL DENTENTION BASINS UPON COMPLETION.



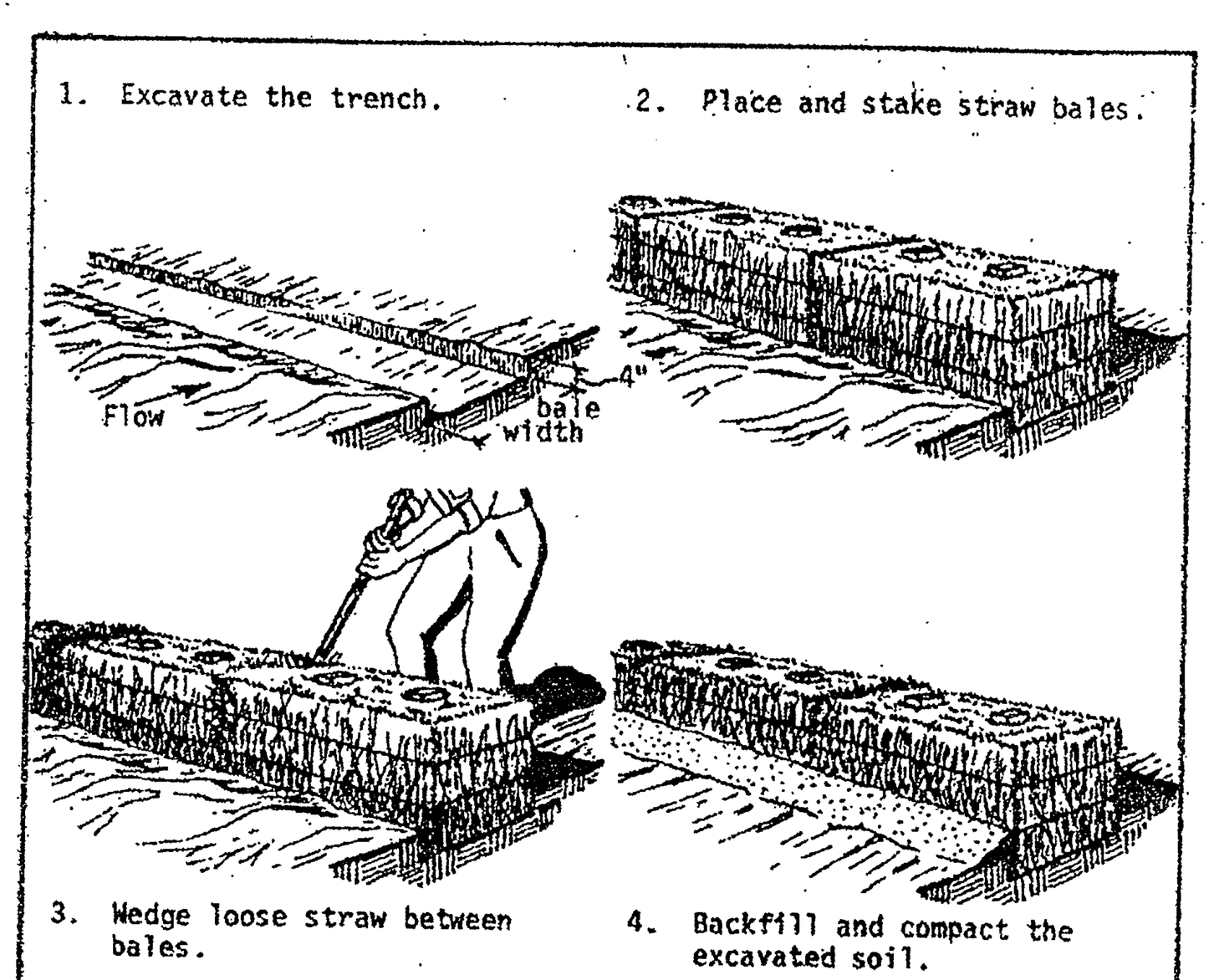
ANTI - VORTEX DEVICE DESIGN



(IP) STRAW BALE DROP INLET SEDIMENT FILTER

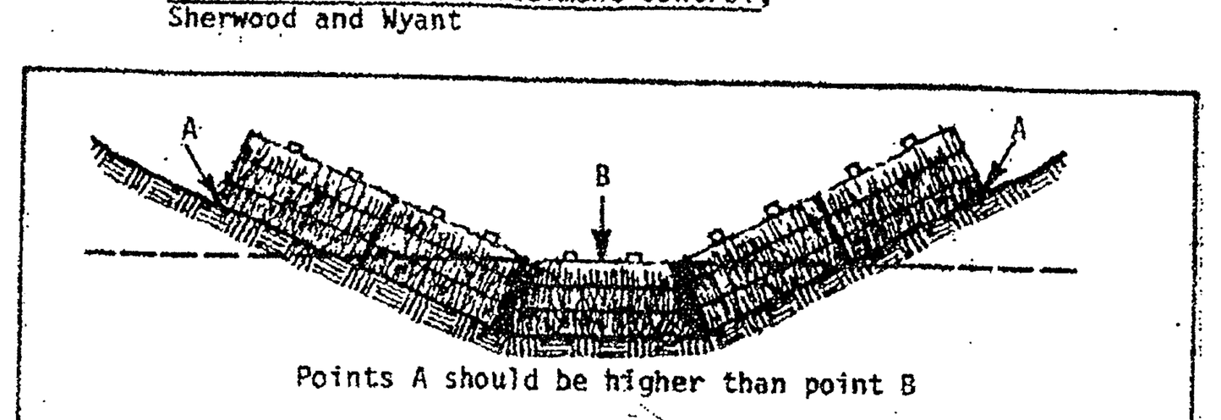


(SF) CONSTRUCTION OF A SILT FENCE

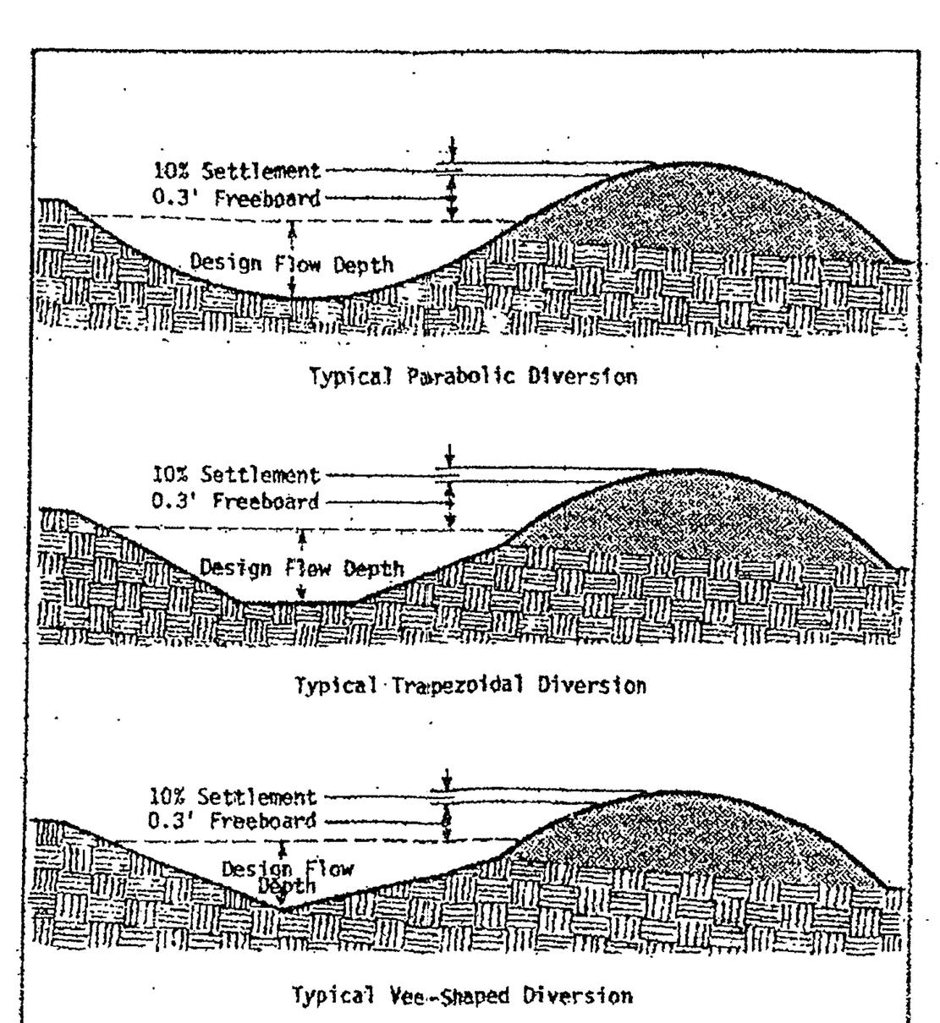


CONSTRUCTION OF A STRAW BALE BARRIER

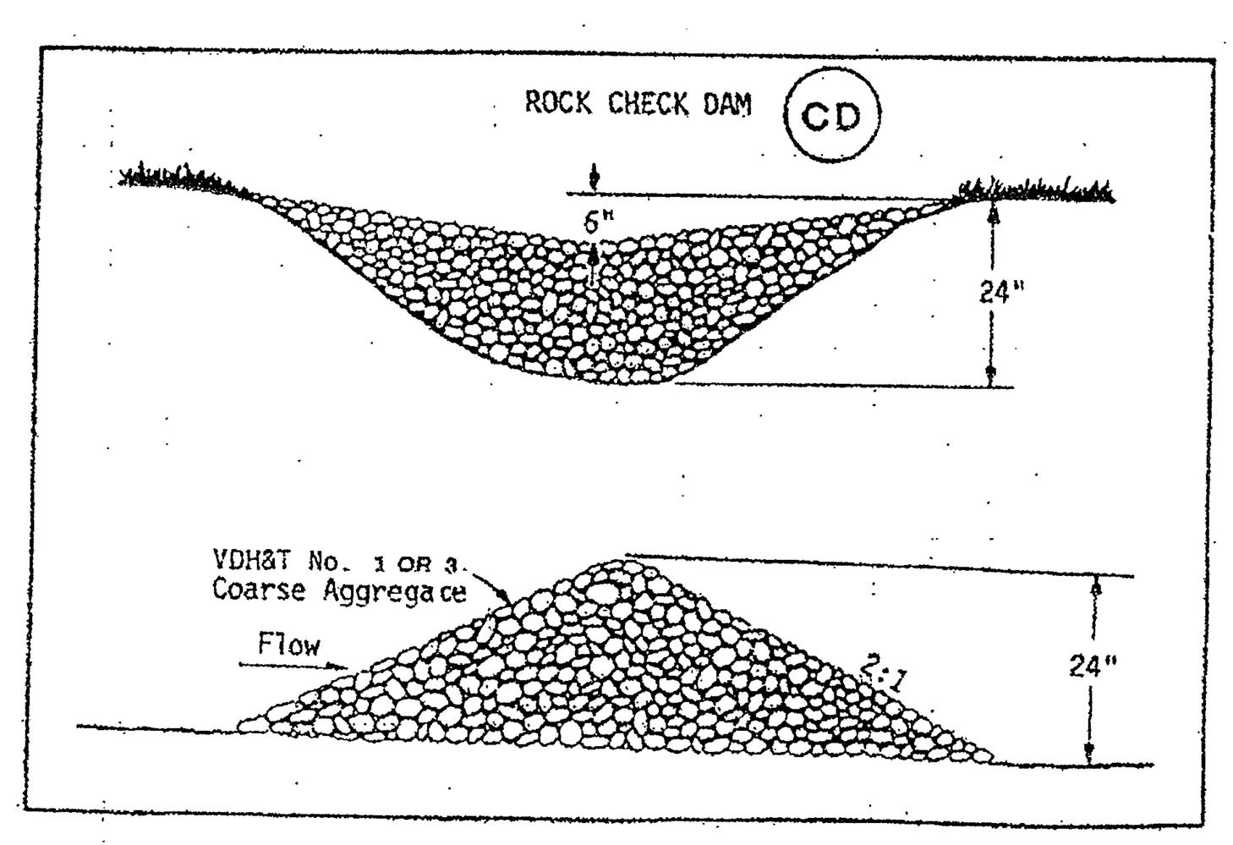
Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant — Plate 1.05c



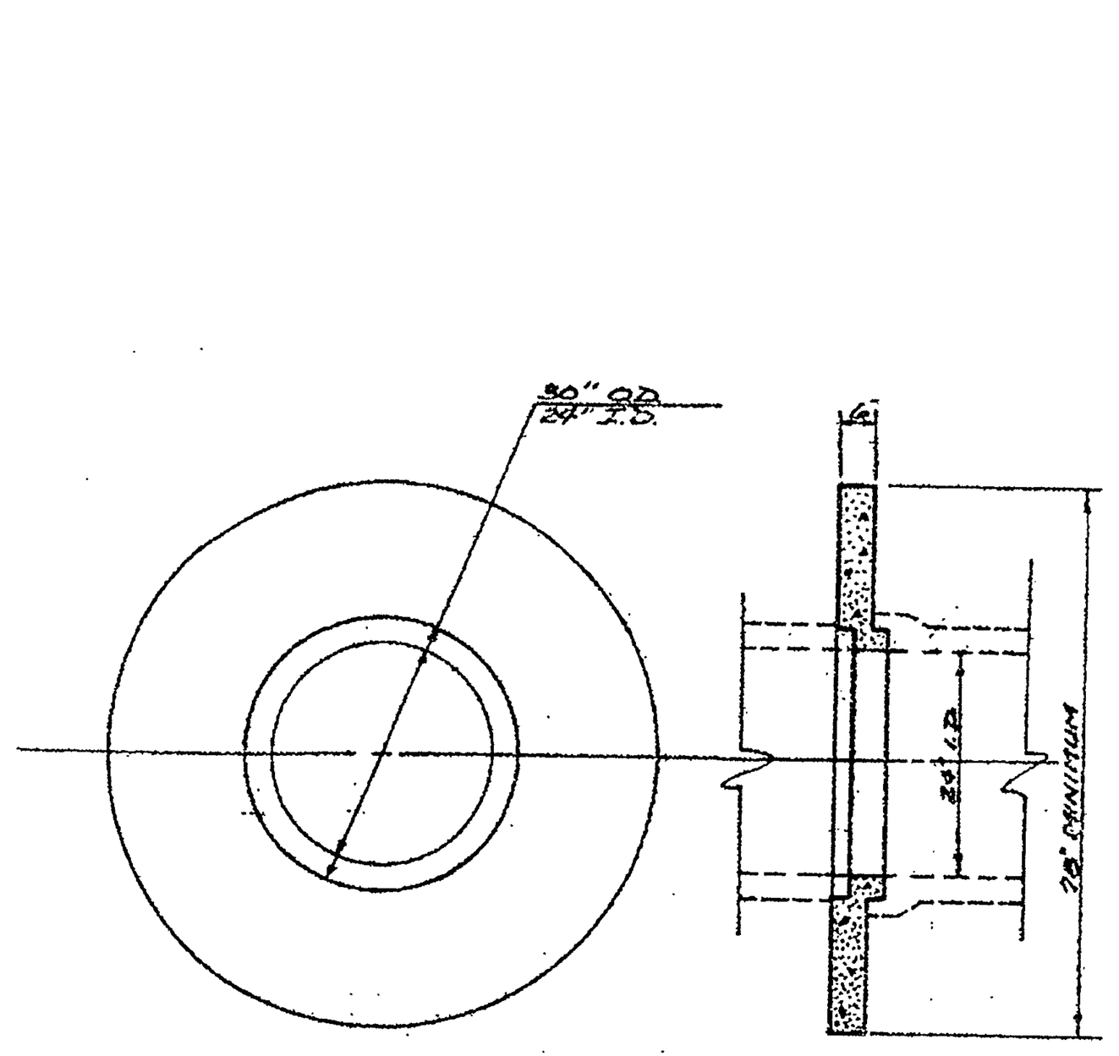
PROPER PLACEMENT OF STRAW BALE BARRIER IN DRAINAGE WAY



(DV) DIVERSIONS

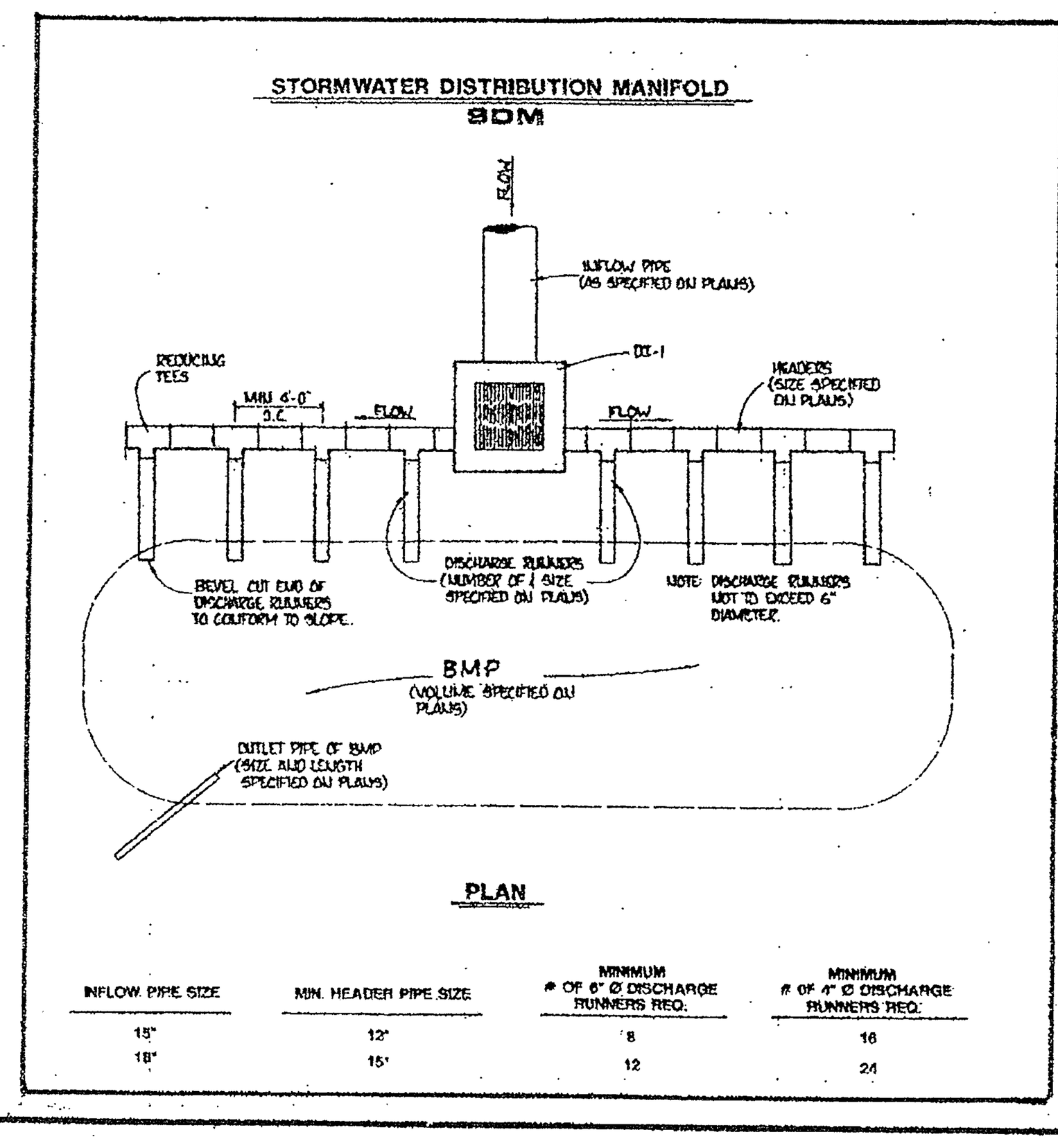


ROCK CHECK DAM (CD)



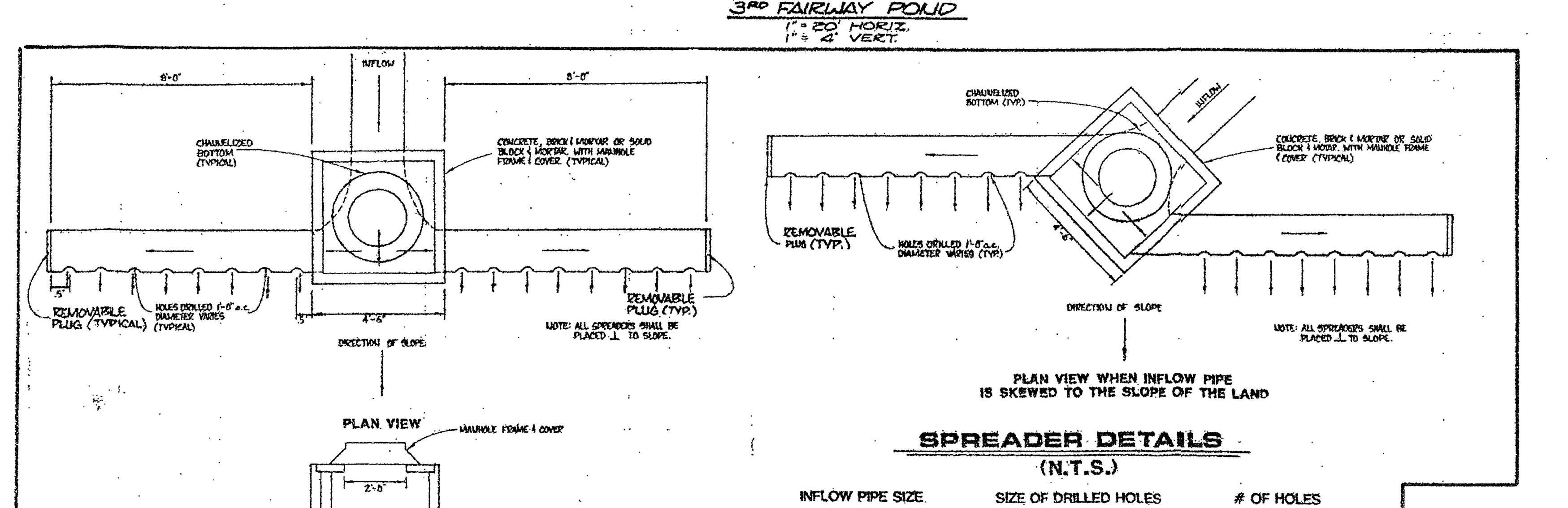
ANTI-SEEP COLLAR DETAIL

N.T.S.



STORMWATER DISTRIBUTION MANIFOLD

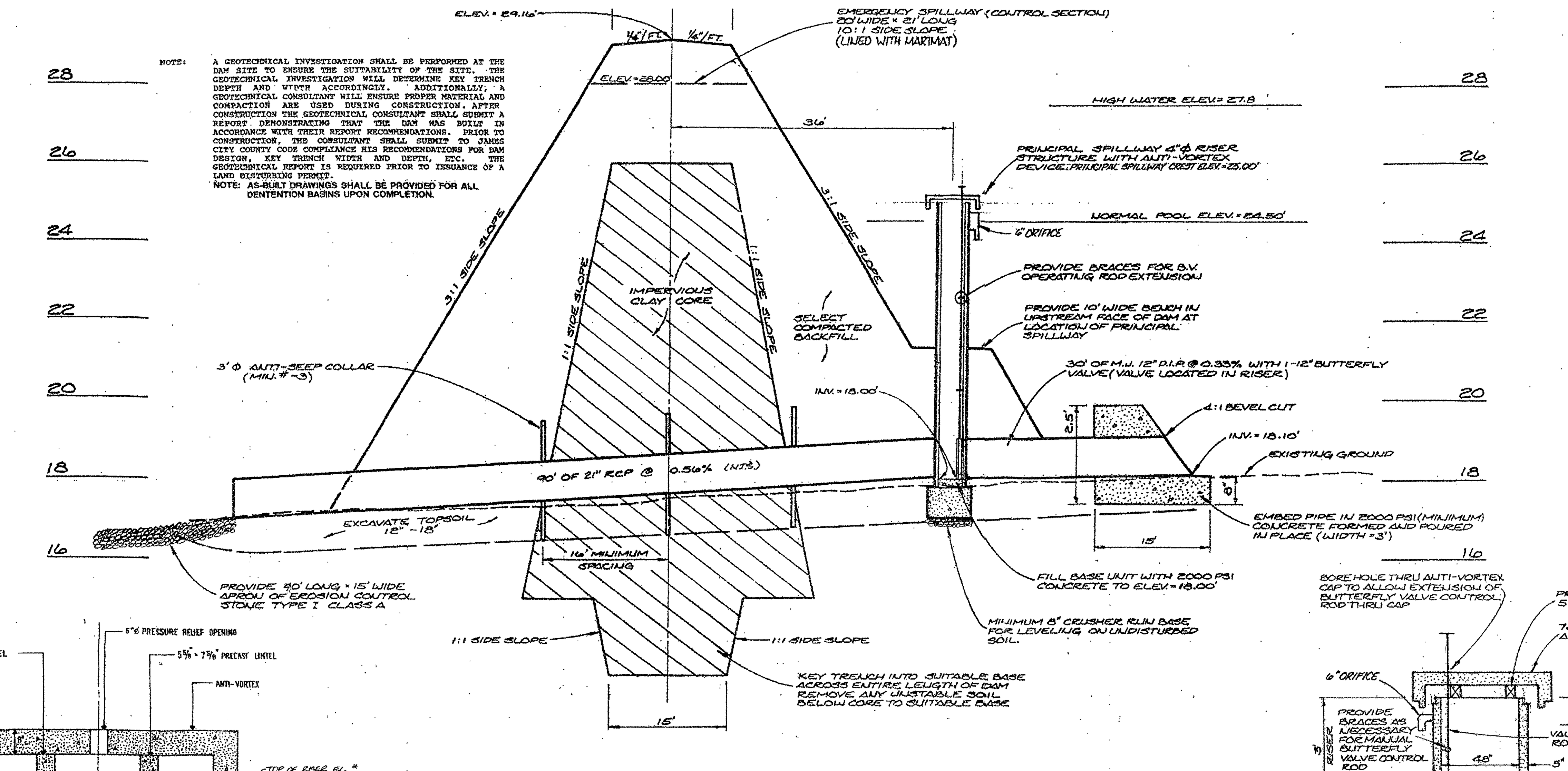
SDM



SPREADER DETAILS

(N.T.S.)

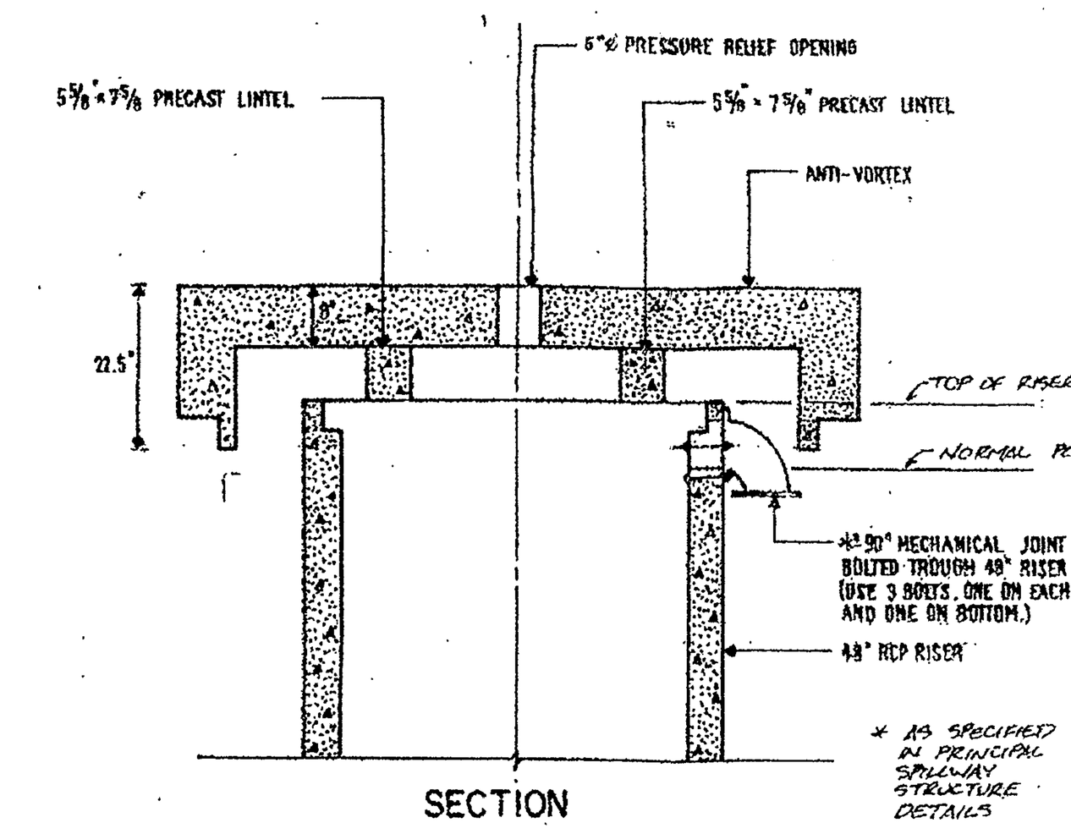
INFLOW PIPE SIZE	SIZE OF DRILLED HOLES	# OF HOLES
15"	4"Ø	16
18"	5"Ø	16
21"	6"Ø	16
24"	6"Ø	16



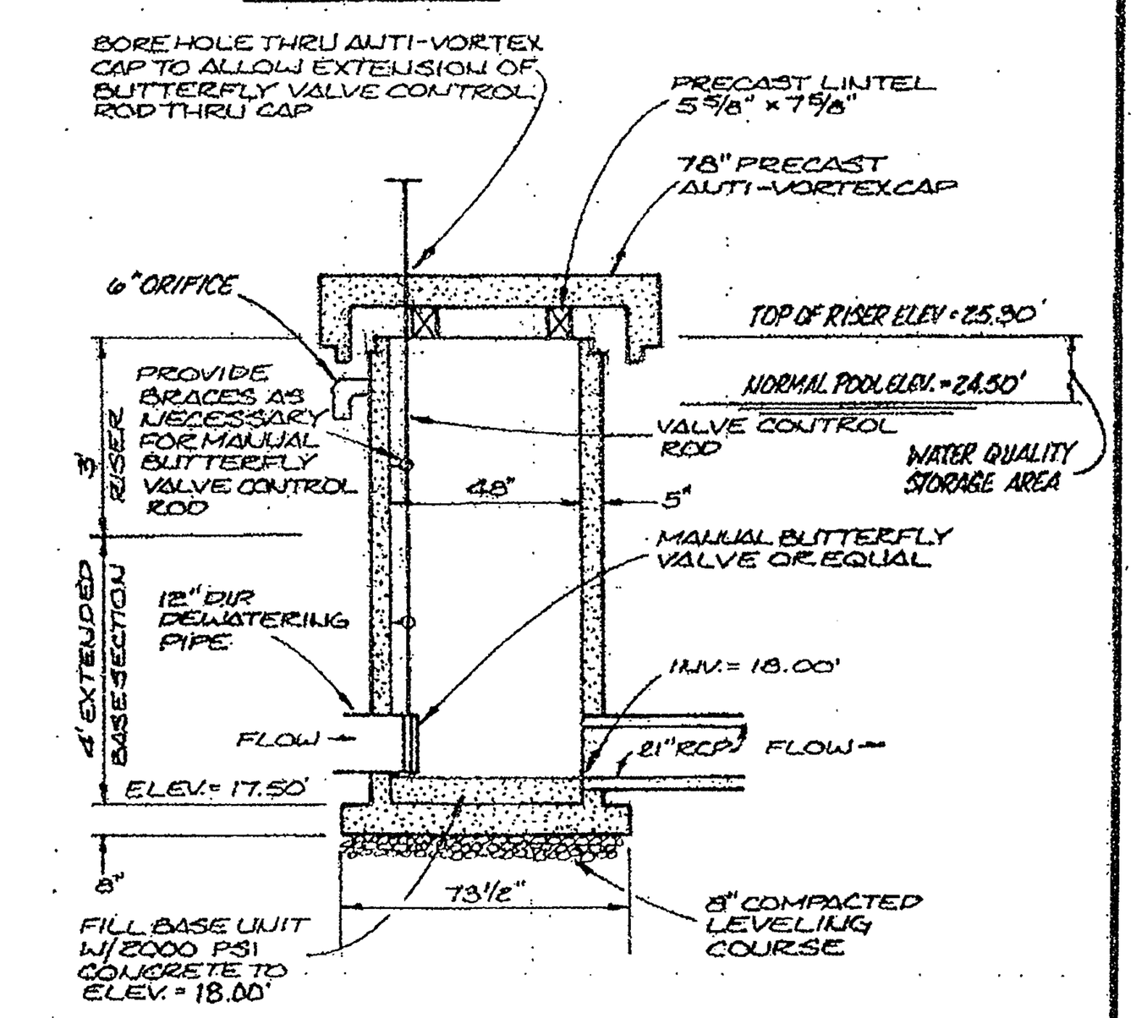
SECTION A-A

4TH FAIRWAY POND

1" = 10' HORIZ. 1" = 4' VERT.

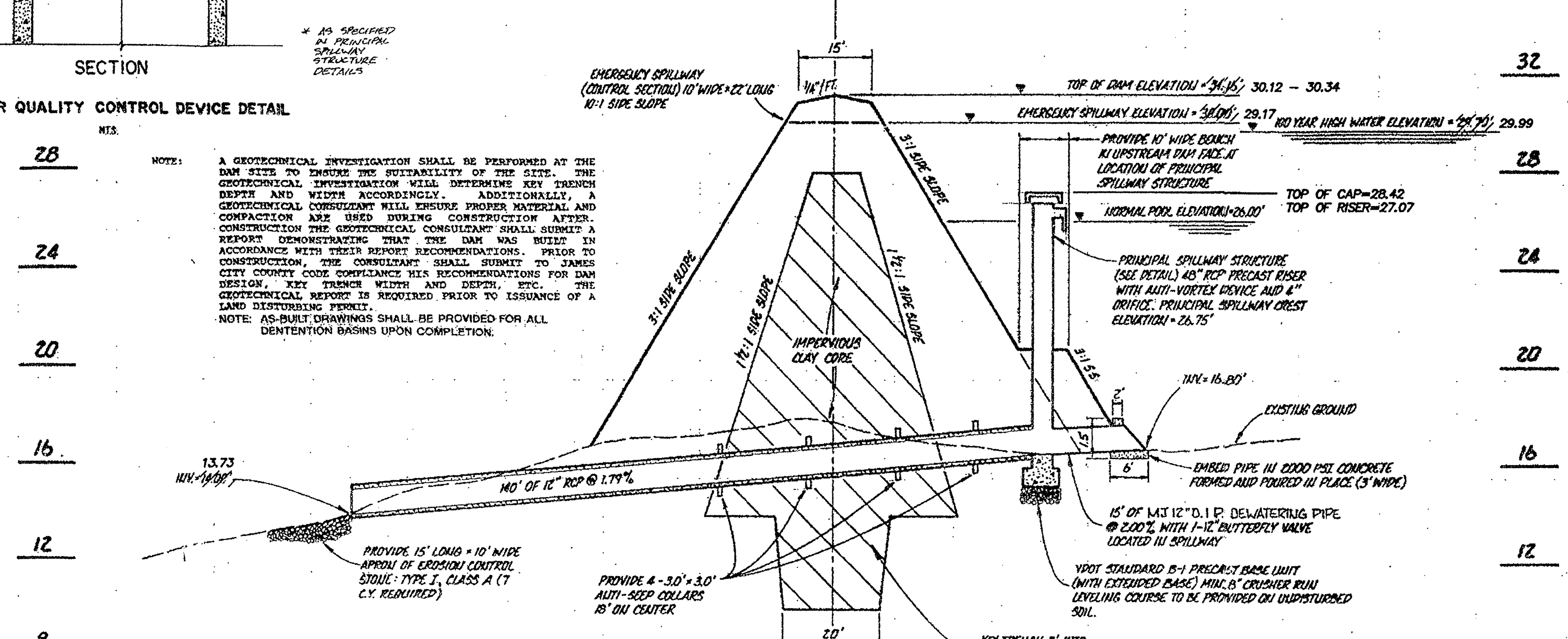


WATER QUALITY CONTROL DEVICE DETAIL



PRINCIPAL SPILLWAY STRUCTURE

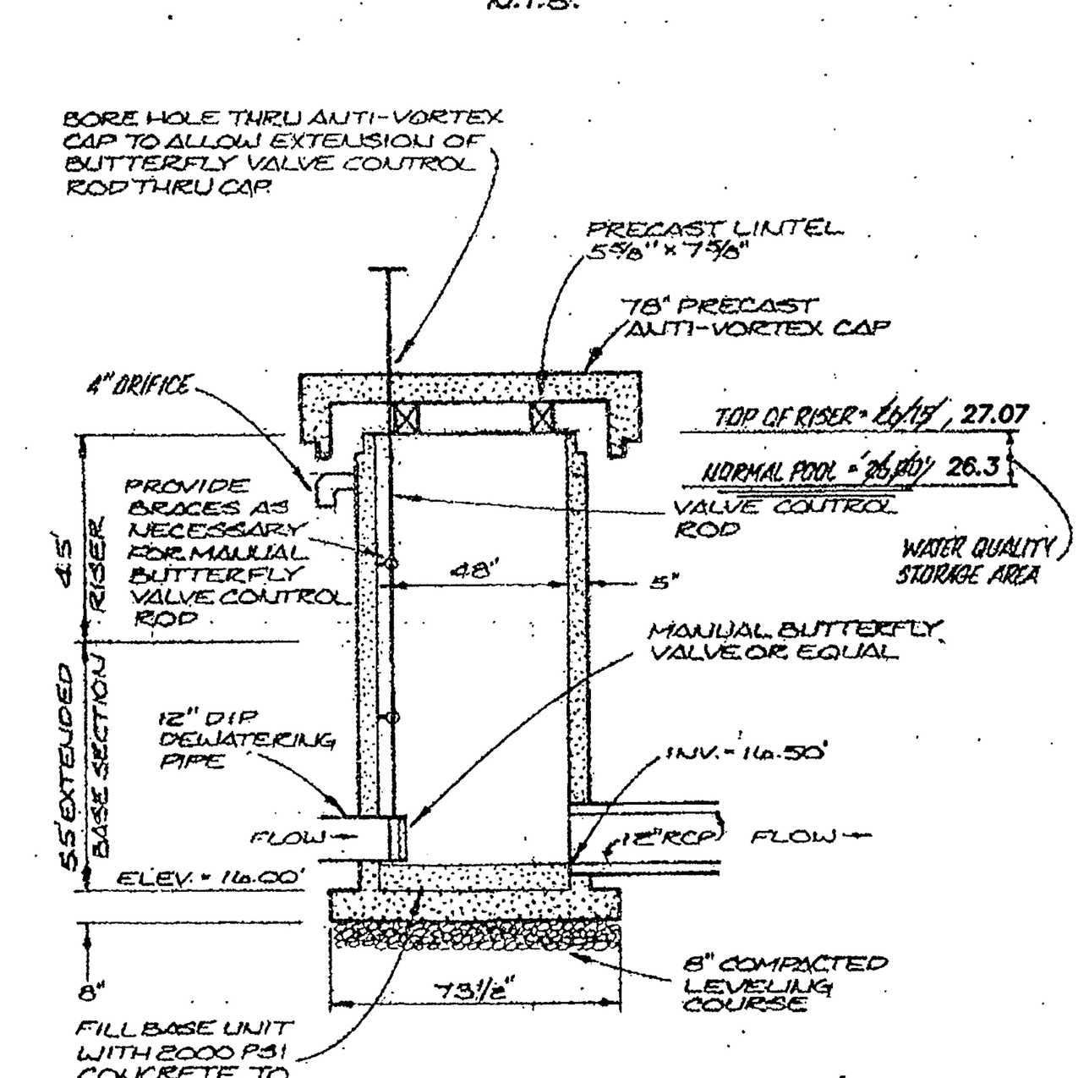
FOR FAIRWAY #4 POND



(TRAVIS POND)

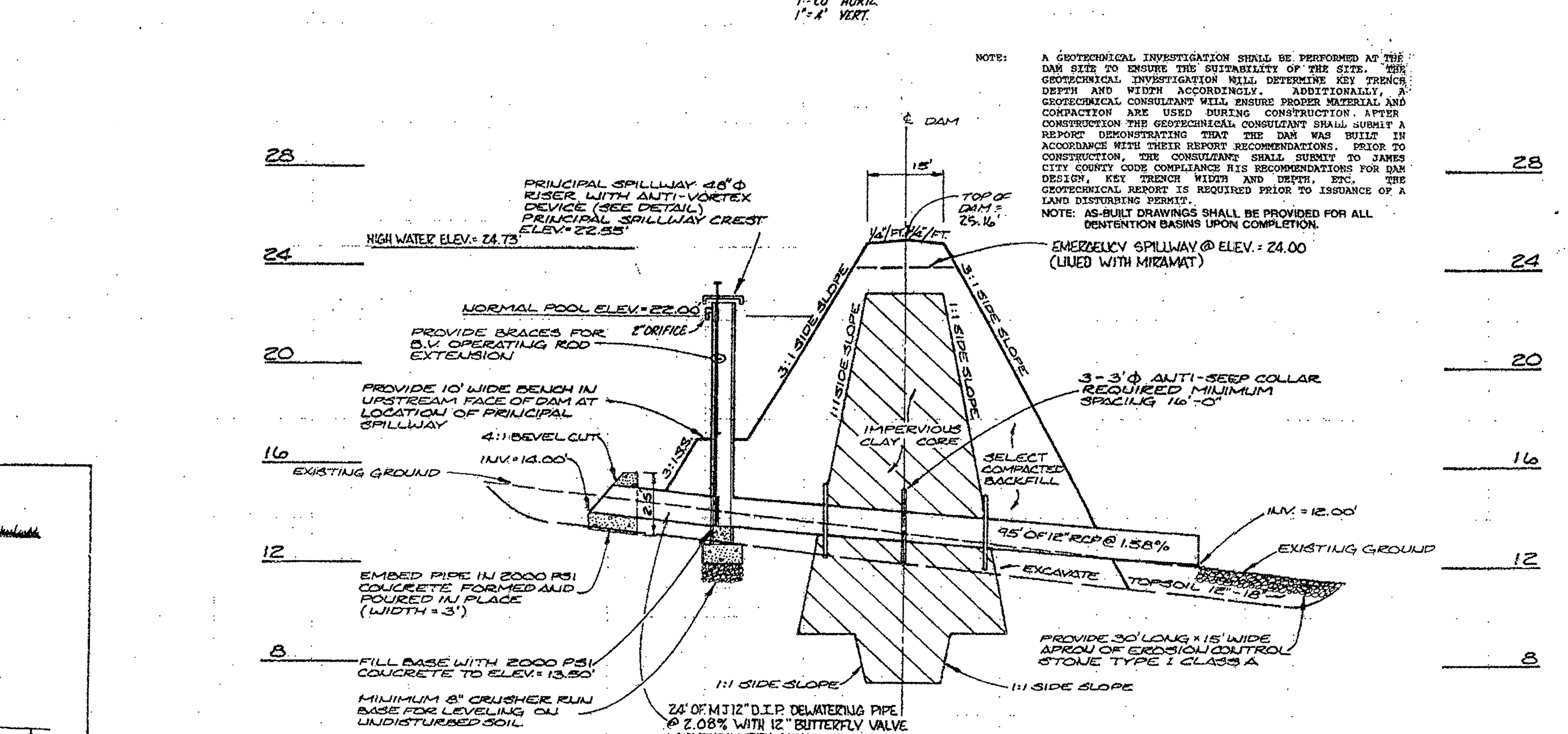
DAM CROSS SECTION B-B

9TH HOLE POND



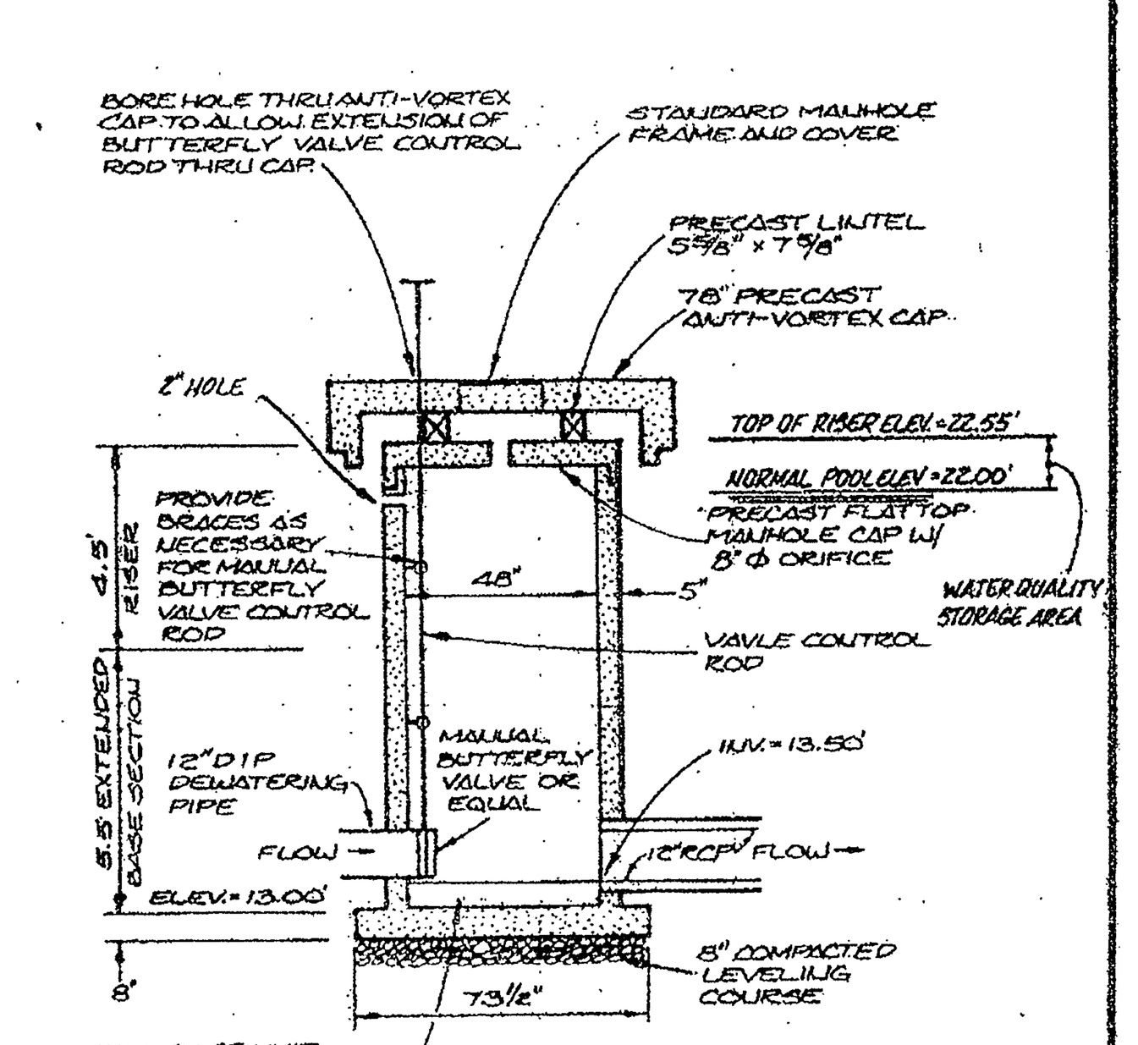
PRINCIPAL SPILLWAY STRUCTURE

FOR HOLE #9 POND



SECTION C-C

3RD FAIRWAY POND



PRINCIPAL SPILLWAY STRUCTURE

FOR FAIRWAY #3 POND

N.T.S.

APPROVED
James City County
Environmental Division
By: [signature]
Date: 7-10-03

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 WITH THE PROVISIONS OF THE APPROVED DESIGN PLAN, SPECIFICATIONS AND STORMWATER MANAGEMENT PLAN, EXCEPT AS SPECIFICALLY NOTED.

[signature], P.E. 6/25/03 (SEAL)

VIRGINIA REGISTERED PROFESSIONAL ENGINEER OR CERTIFIED LAND SURVEYOR

No.	DATE	REVISION / COMMENT / NOTE	BY
6	6/03	REVISIONS AS PER JAMES CITY COUNTY REVIEW	VMB
5	4/02	RECORD DRAWING	VMB
4	11/90	GENERAL REVISIONS	VMB
3	7/90	REVISED HOLES 1, 2, 3, 16, 17, 18	VMB
2	6/90	REVISED PER CODES COMPLIANCE.	VMB
1	5/90	REVISED PER JCC COMMENTS	VMB

Fazio Golf Course Designers, Inc.
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Williamsburg, Virginia 23188
(804) 253-0040
Engineering, Planning, Surveying

NOTES AND DETAILS

GOVERNOR'S LAND

POWHATAN DISTRICT — JAMES CITY COUNTY — VIRGINIA

Designed	Drawn
AES	C.A.N.
Scale 1"=100'	Date 12/22/88
Project No. 7173	
Drawing No. 10	

RECORD DRAWING—4/02

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 with 15 days of installation. An on-site pre-construction meeting will be held between the Department of Public Works 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 Public Works 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. 1.16) 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. Department of Public Works 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 1.75. Seeding will then take place as soon as the season permits.

12. The term Seeding, Final Vegetative Cover or Stabilization, on this site 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 1.66, 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.

14. 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.

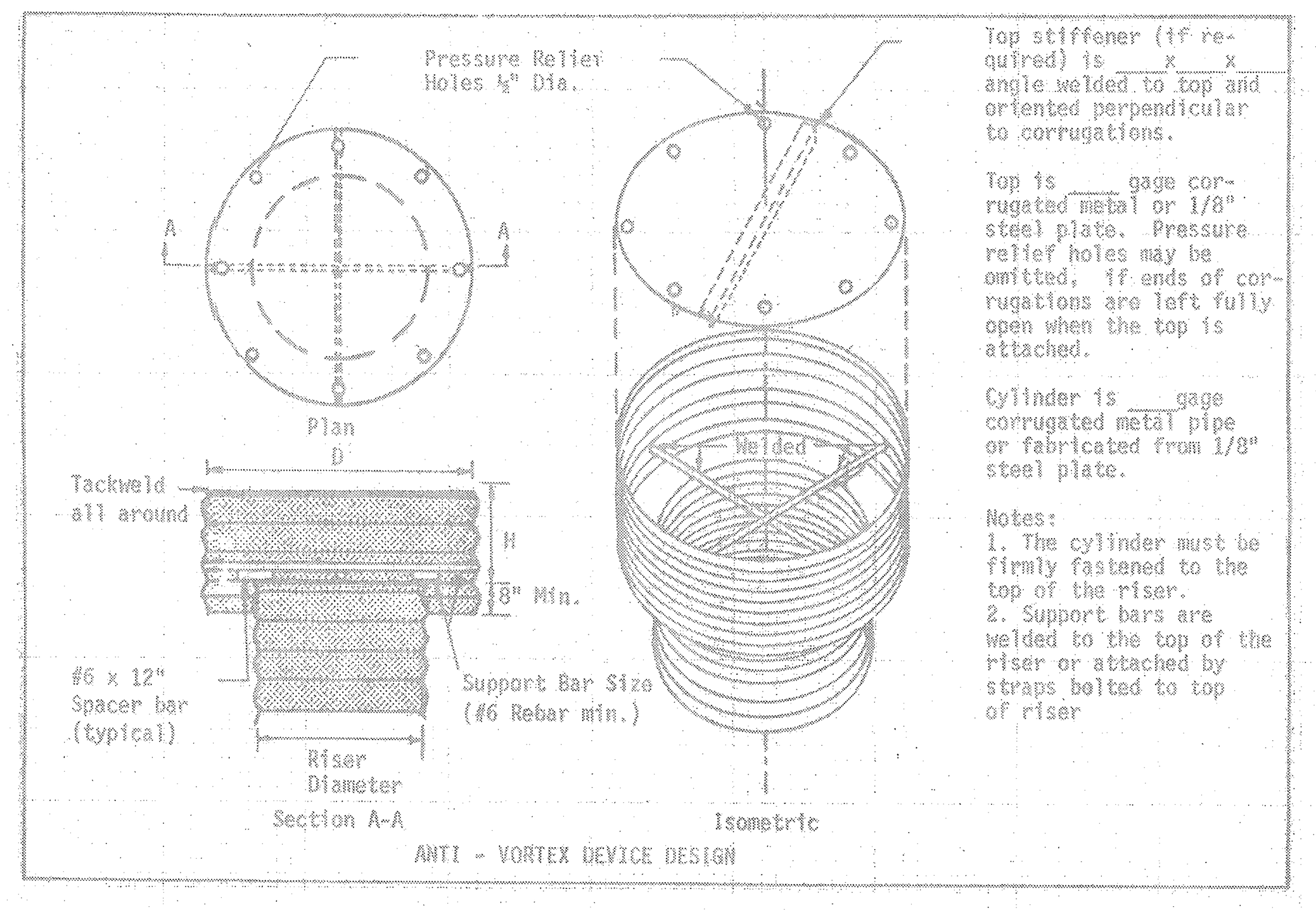
16. Paved ditches shall be required wherever erosion is evident. Particular attention shall be paid to those areas where grades exceed 3%.

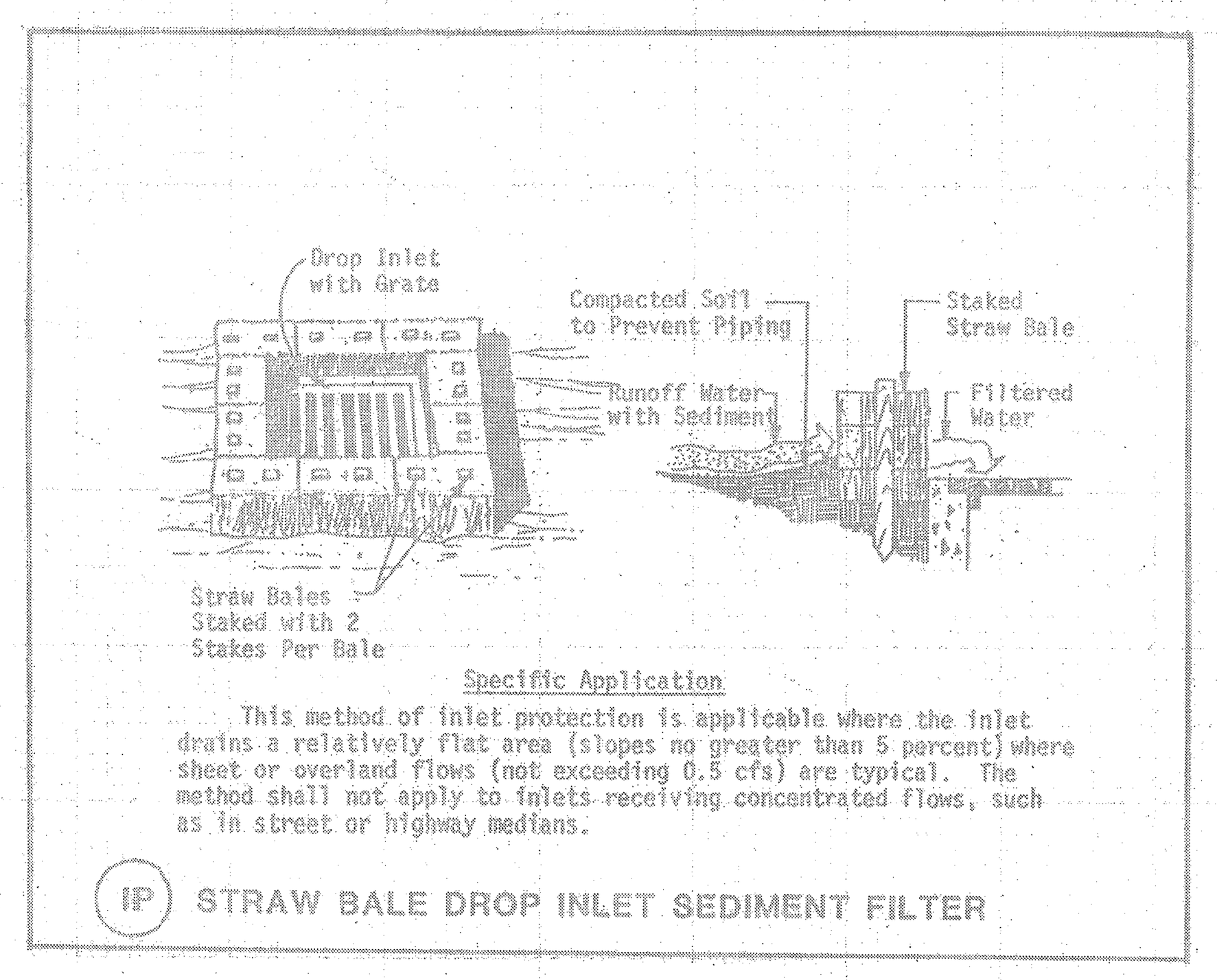
17. Temporary erosion control measures are not to be removed until all disturbed areas are stabilized. After stabilization is complete, all measures shall be removed within 30 days. Trapped sediment shall be spread and seeded.

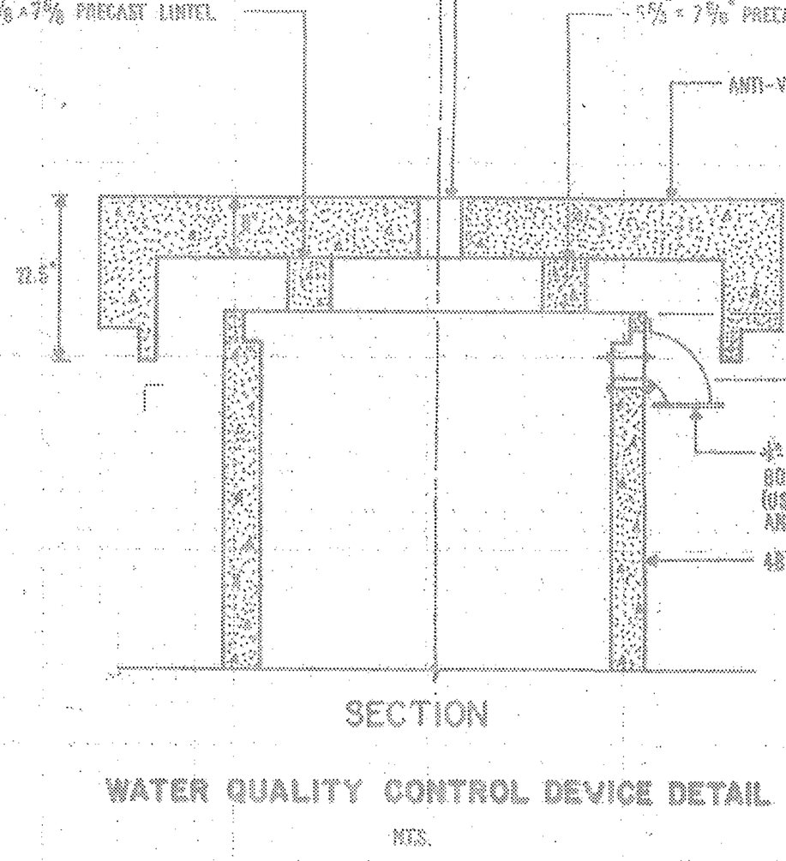
18. Off-site waste or borrow areas shall be approved by James City County prior to the import of any borrow or export of any waste to or from the project site.

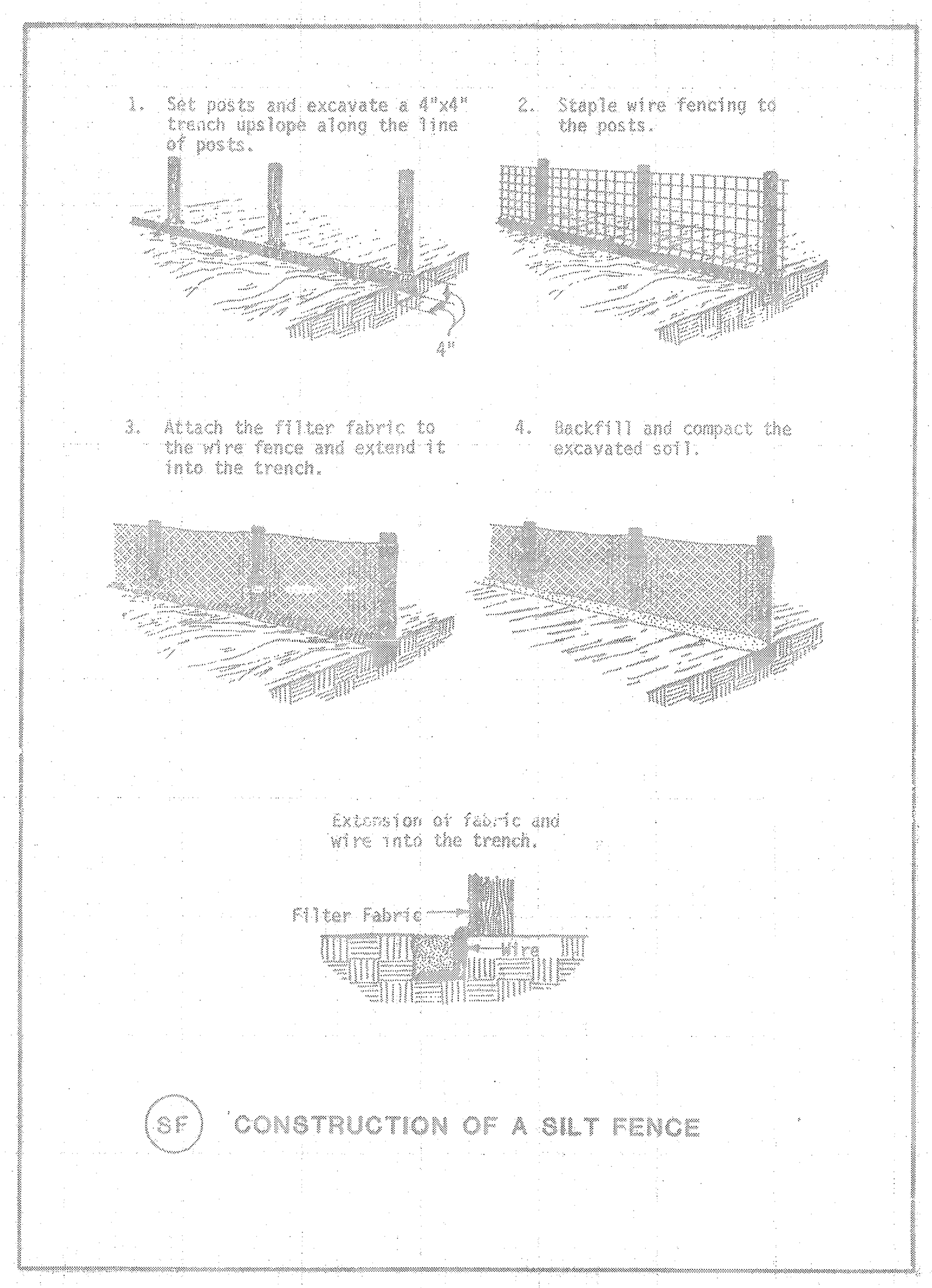
19. All paved and/or piped outfalls will be constructed before road grading and utility installation begins.

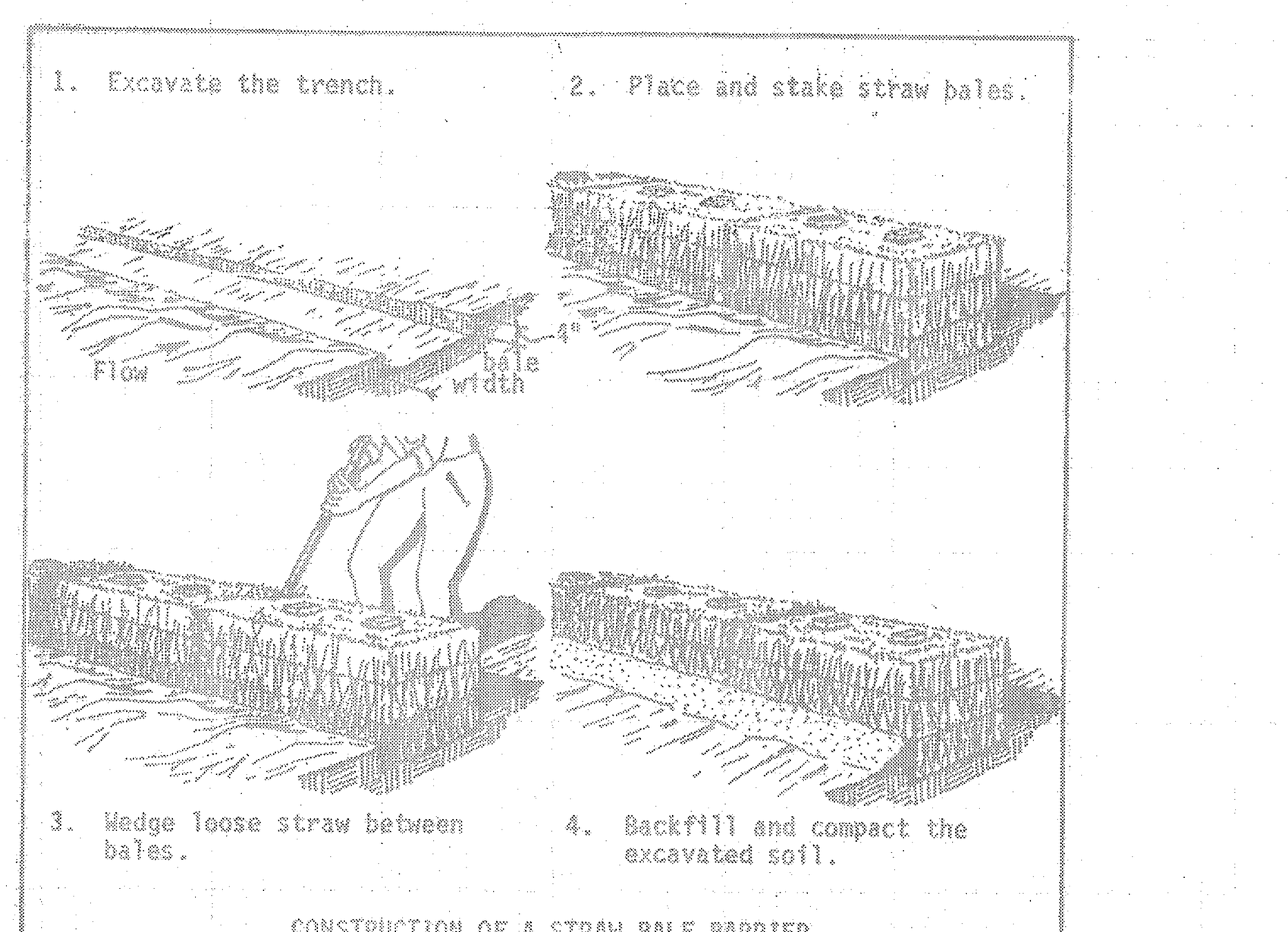
20. AS-BUILT DRAWINGS SHALL BE PROVIDED FOR ALL DENTENTION BASINS UPON COMPLETION.



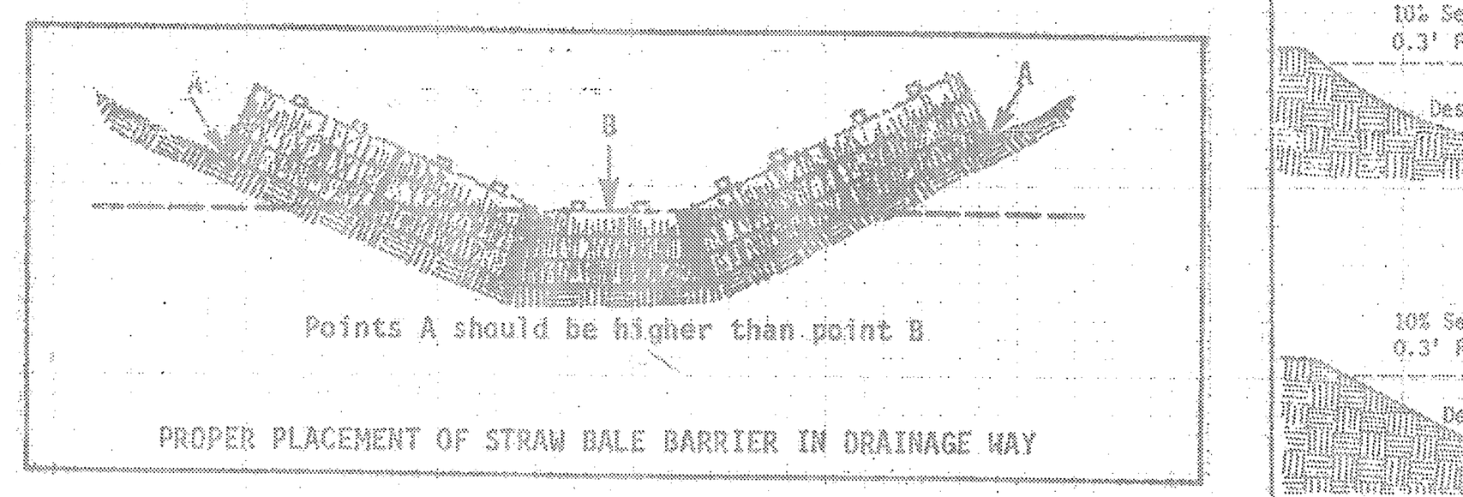

Specific Application
This method of inlet protection is applicable where the inlet drains a relatively flat area (slopes no greater than 5 percent) where sheet or overland flows (not exceeding 0.5 cfs) are typical. The method shall not apply to inlets receiving concentrated flows, such as in street or highway medians.
IP STRAW BALE DROP INLET SEDIMENT FILTER

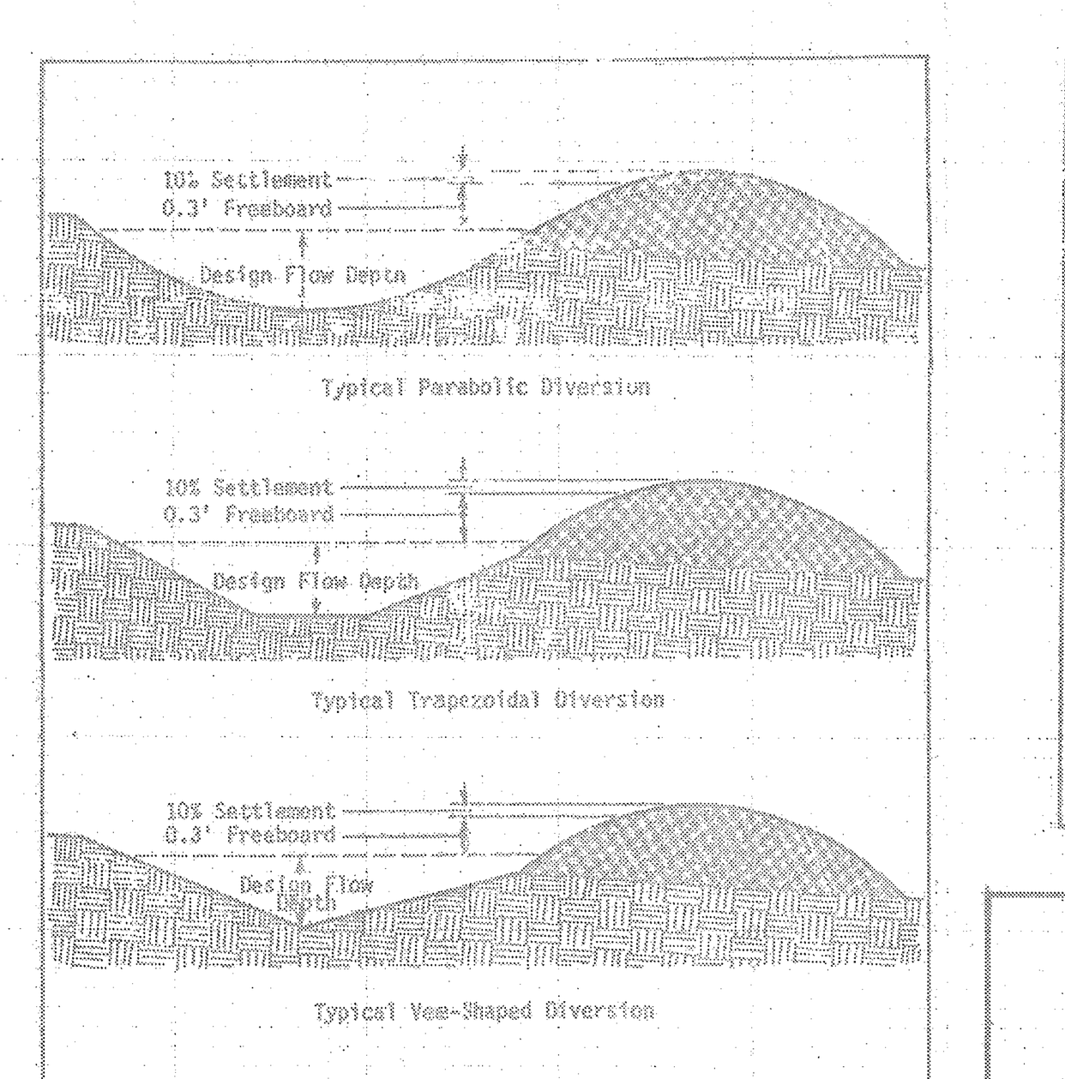


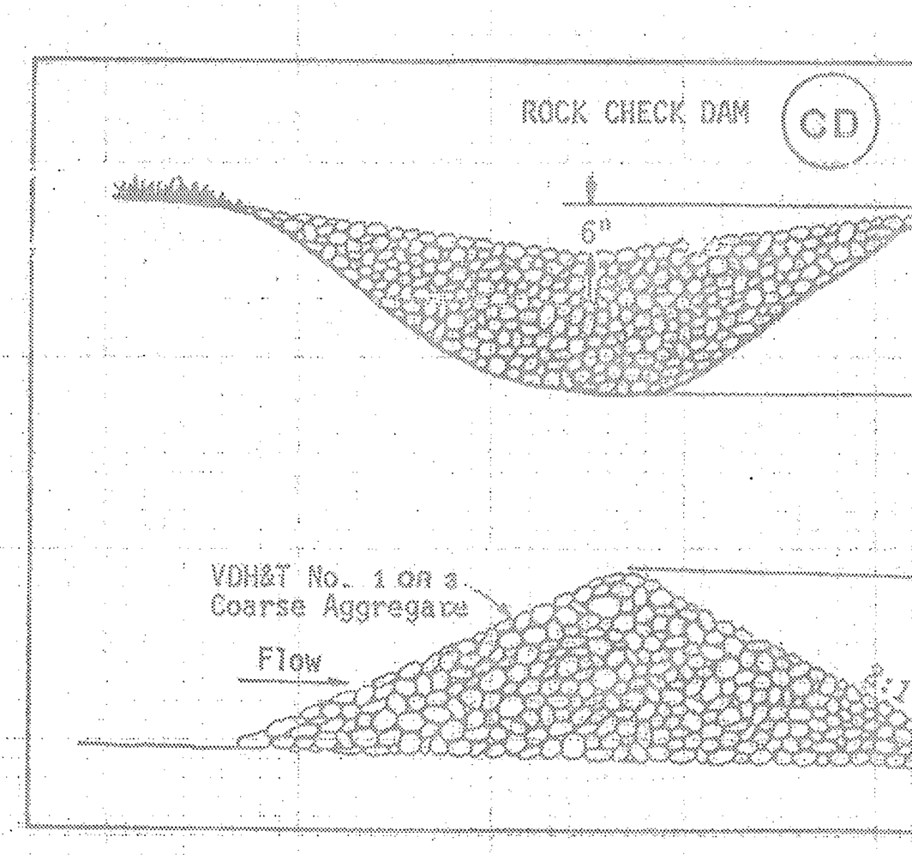

1. Set posts and excavate a 4"x4" trench upslope along the line of posts.
2. Staple wire fencing to the posts.
3. Attach the filter fabric to the wire fence and extend it into the trench.
4. Backfill and compact the excavated soil.
Extension of fabric and wire into the trench.
Filter Fabric
SF CONSTRUCTION OF A SILT FENCE

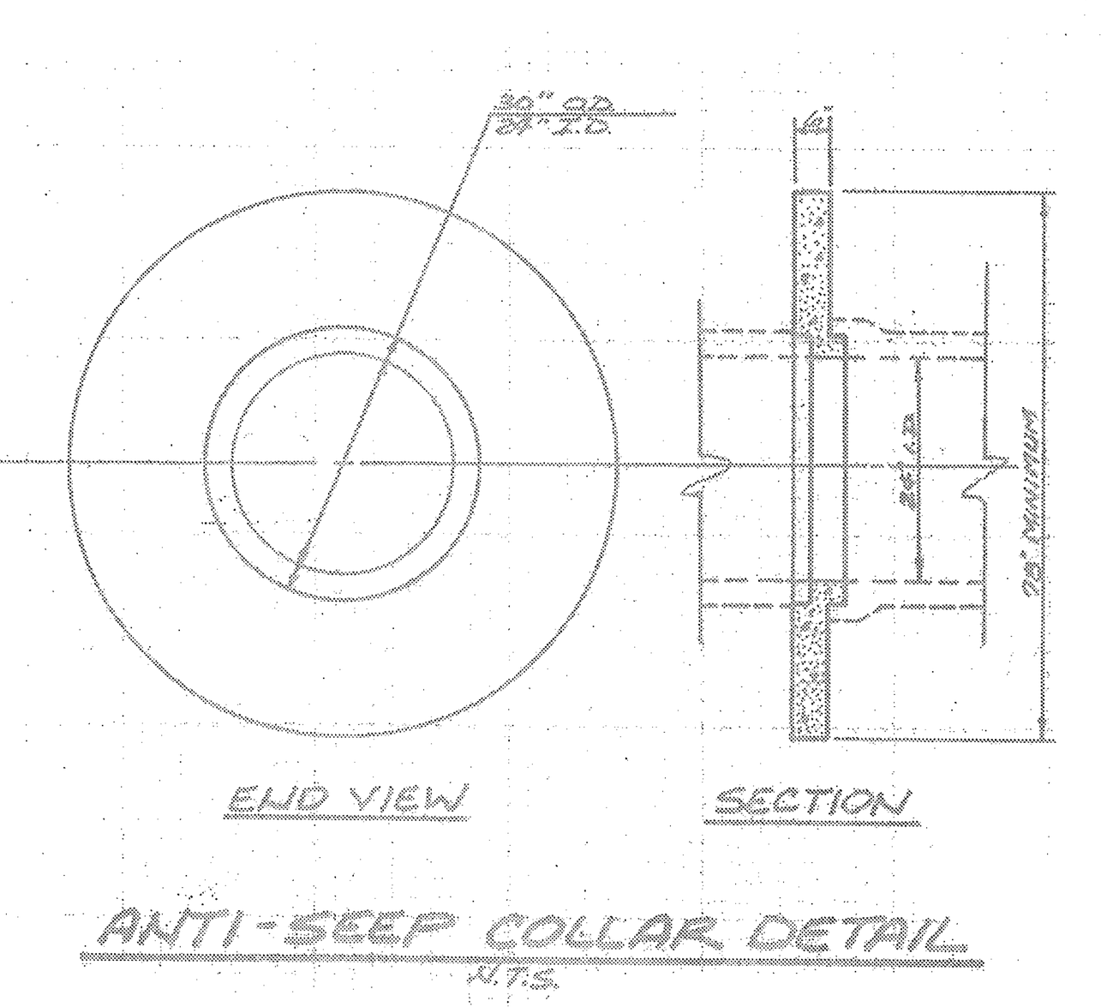


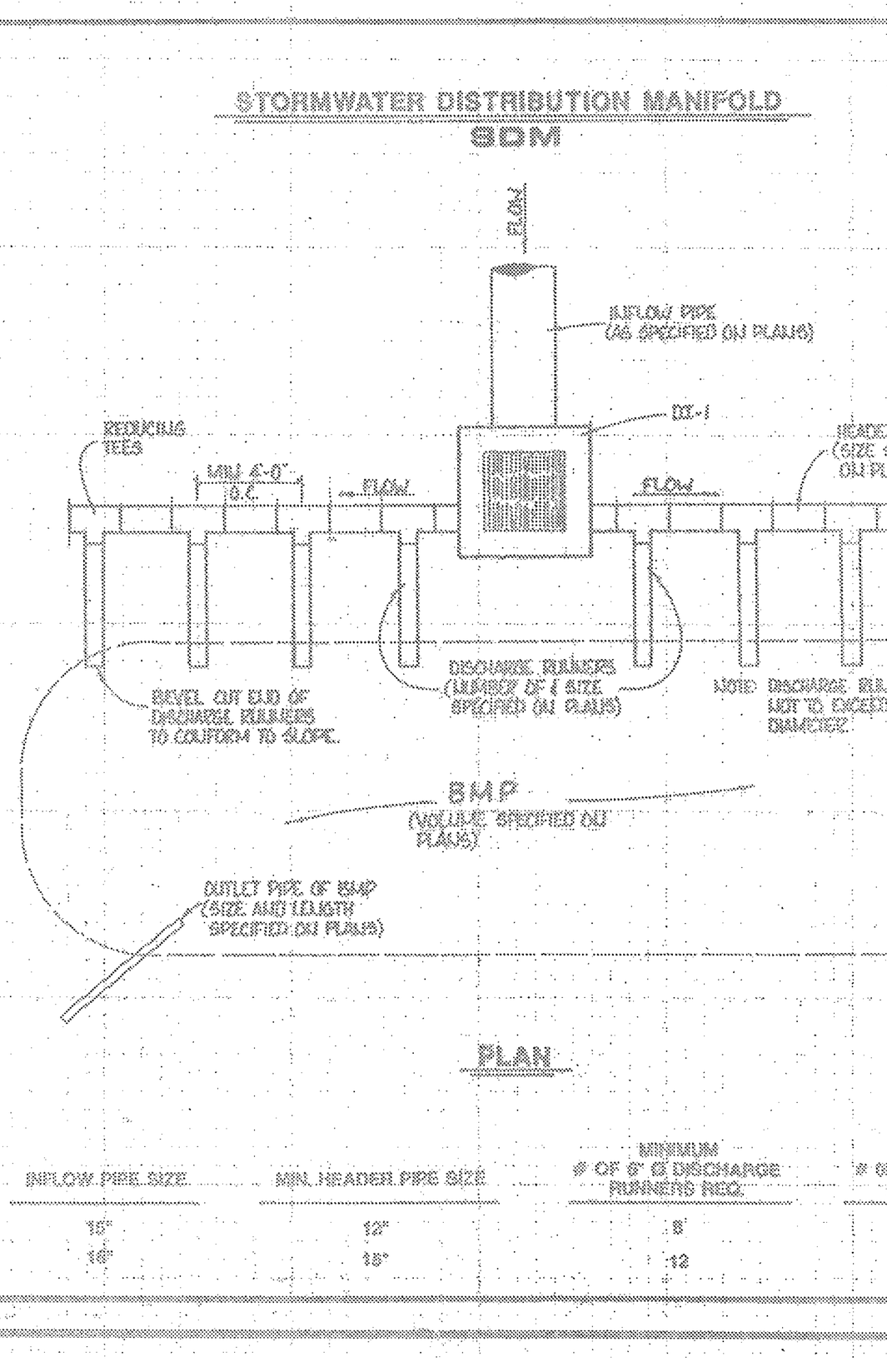
Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant — Plate 1.06c

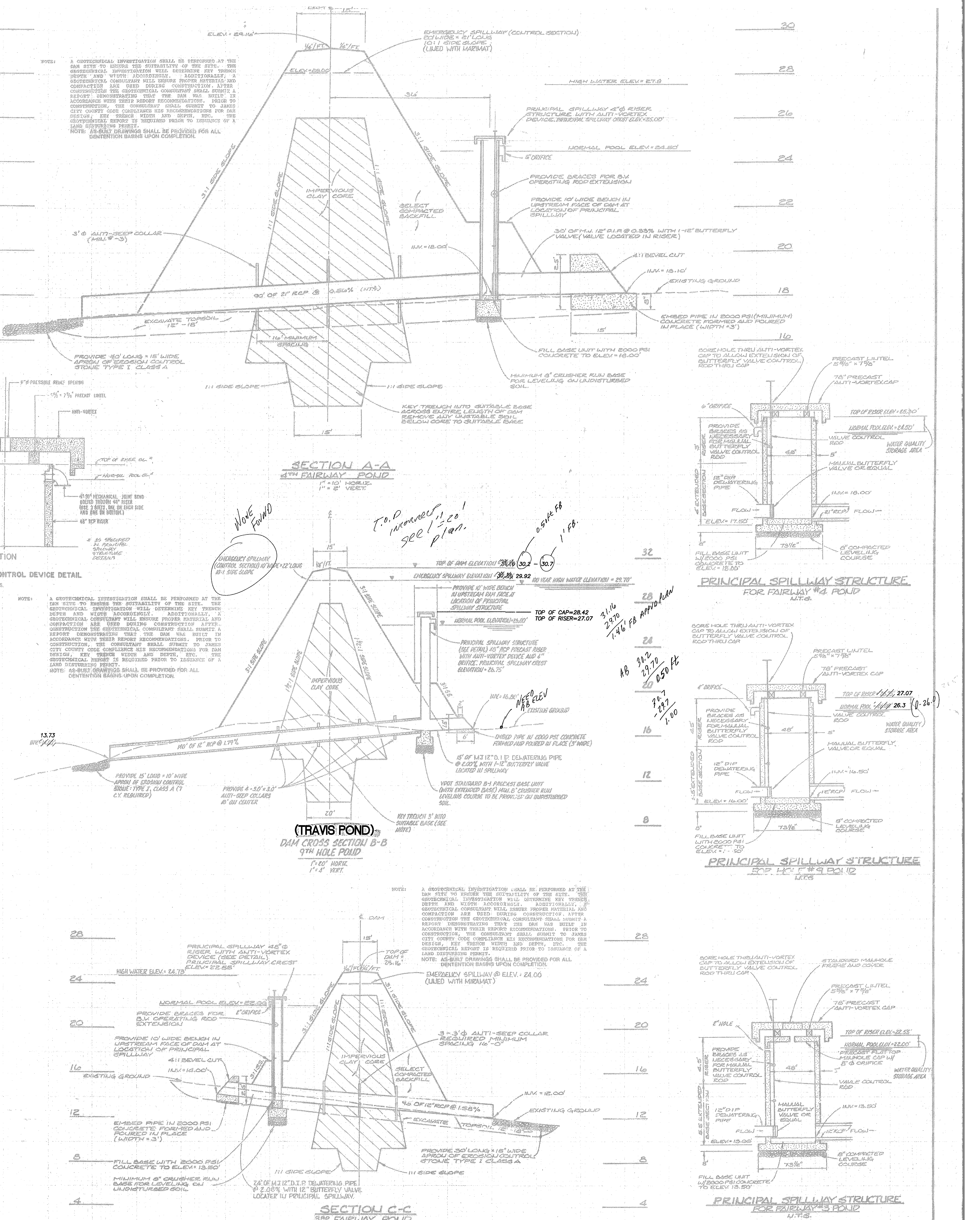


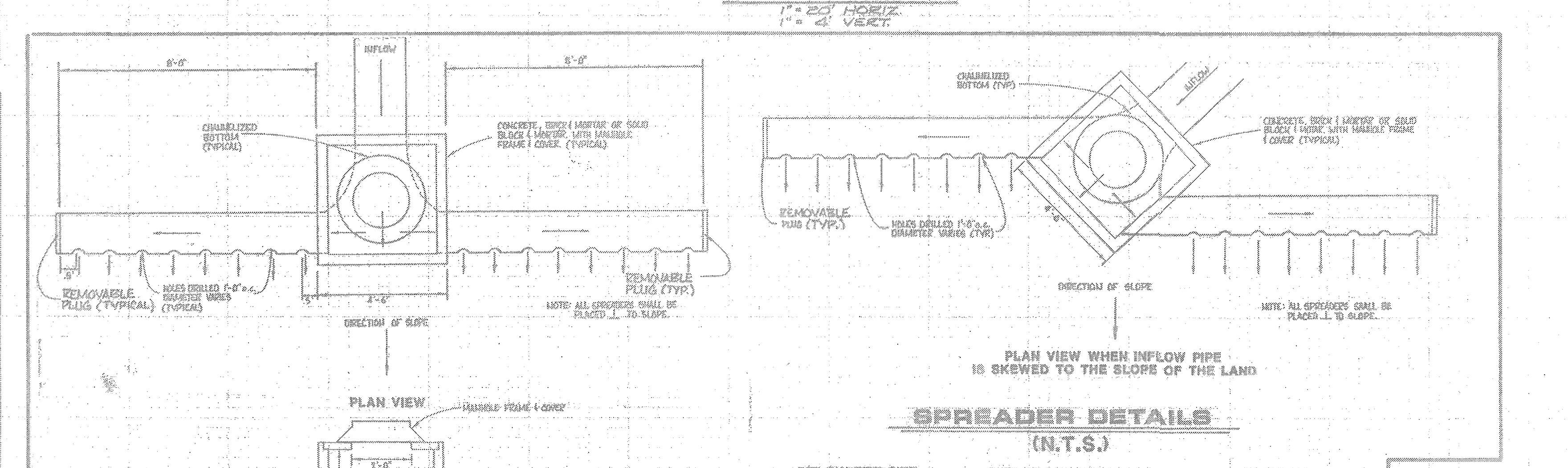









SECTION A-A
4TH FAIRWAY POND
PRINCIPAL SPILLWAY STRUCTURE
FOR FAIRWAY #4 POND
(TRAVIS POND)
DAM CROSS SECTION B-B
9TH HOLE POND
PRINCIPAL SPILLWAY STRUCTURE
FOR HOLE #9 POND
SECTION C-C
3RD FAIRWAY POND
PRINCIPAL SPILLWAY STRUCTURE
FOR FAIRWAY #3 POND



SPREADER DETAILS
(N.T.S.)

INFLOW PIPE SIZE	SIZE OF DRILLED HOLES	# OF HOLES
15"	4"Ø	16
18"	5"Ø	16
21"	6"Ø	16
24"	6"Ø	16

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 WITH THE PROVISIONS OF THE APPROVED DESIGN PLAN, SPECIFICATIONS AND STORMWATER MANAGEMENT PLAN, EXCEPT AS SPECIFICALLY NOTED.

_____________ (SEAL)
VIRGINIA REGISTERED PROFESSIONAL ENGINEER OR CERTIFIED LAND SURVEYOR

No.	DATE	REVISION / COMMENT / NOTE	BY
5	10/01	RECORD DRAWING	VMB
4	11/90	GENERAL REVISIONS	VMB
3	7/90	REVISED HOLES 1, 2, 3, 16, 17, 18	VMB
2	6/90	REVISED PER CODES COMPLIANCE	VMB
1	5/90	REVISED PER JCC COMMENTS	VMB

Fazio Golf Course Designers, Inc.
17755 Southeast Federal Highway
Jupiter, Florida 33458
(407) 746-4539

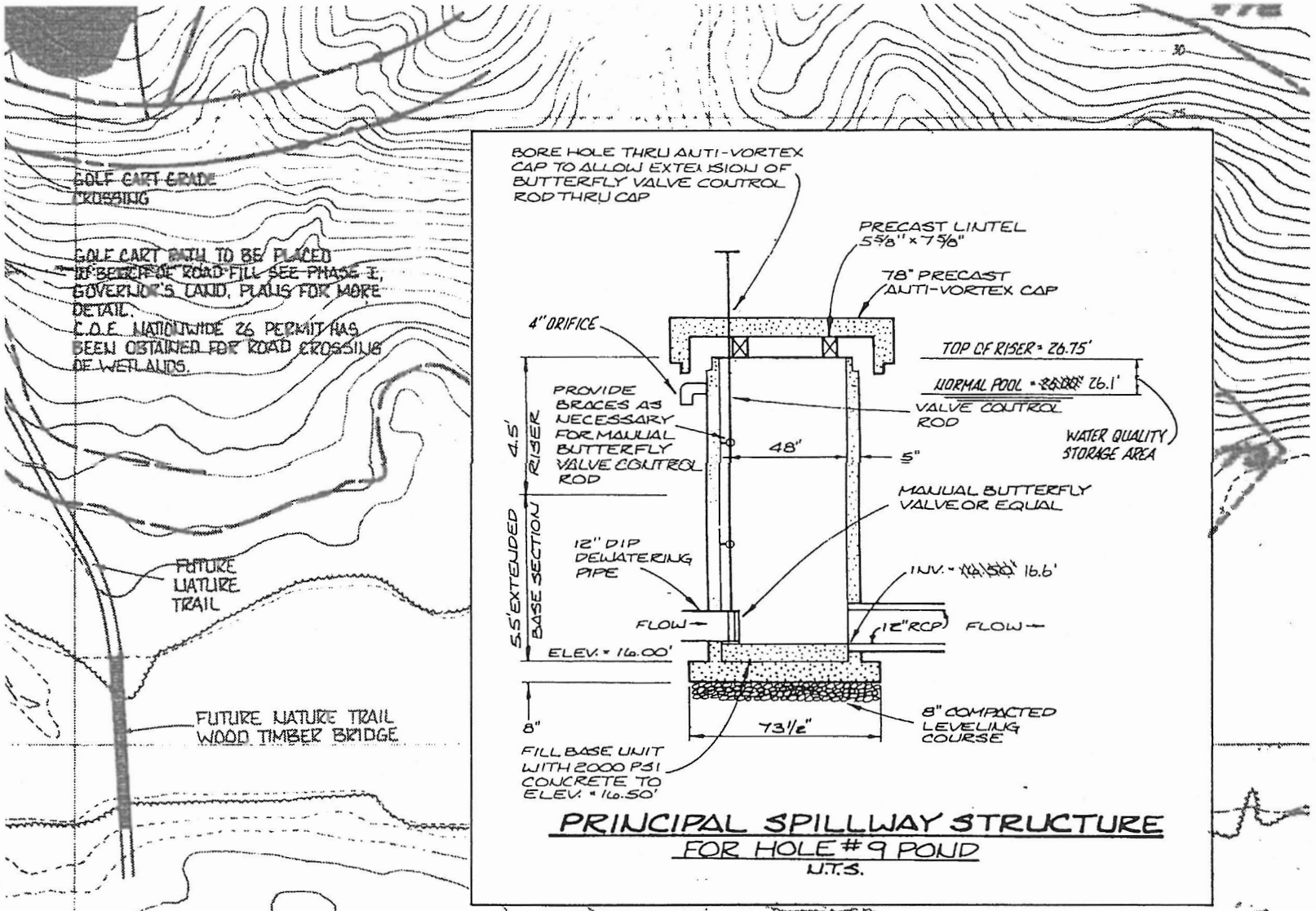
AES, a professional corporation
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(804) 253-0040
Engineering, Planning, Surveying

NOTES AND DETAILS
GOVERNOR'S LAND

POWHATAN DISTRICT — JAMES CITY COUNTY — VIRGINIA

Designed: AES | Drawn: C.A.M. | Scale: 1"=100' | Date: 12/22/89 | Project No.: 7178 | Drawing No.: 10

RECORD DRAWING–10/16/01



PRINCIPAL SPILLWAY STRUCTURE
FOR HOLE #9 POND
N.T.S.

JR 016

Pazio Golf Course Designers, Inc.
17755 Southeast Federal Highway
Jupiter, Florida 33458
(407) 746-4539

AES, a professional corporation
6248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(804) 253-8048
Engineering, Planning, Surveying

AS-BUILT - TRAVIS POND
EASTERN GRADING PLAN

GOVERNOR'S LAND

Designed	Drawn
AES	CMA
Scale	Date
1"=100'	12/23/99

Project No.
7173

VMB
VMB
VMB
AL FIELD SURVEY VMB
VMB

COMMONWEALTH OF VIRGINIA
JAMES N. BERNETT
NO. 018125

Record Drawing/Construction Certification Submittal for a BMP Facility

Date: April 29, 2002

Inspector:
- ☑ Pat Menichino
- ☐ Gerry Lewis
- ☐ Beth Davis
- ☐ Mike Woolson
- ☐ Joe Buchite
- ☐ Other: _____

Project: Governors LAND
BMP Facility: TRAVIS POND
Plan No. SP-145-89
BMP ID Code: JR016

I have received a transmittal for a ☑ Record Drawing and ☐ Construction Certification for the above referenced facility on MARCH 13 2002. Prior to full engineering review of these items and a field inspection, I am first forwarding the items to you to cursory review in case any major field changes were performed that I should be aware of and/or to ensure the record drawing accurately portrays what you saw in the field. Please review the drawing and return to me promptly so I can proceed with the review for certification purposes.

During my review, I will look at issues related to the BMP and its primary inflow and outflow conveyance systems, and will make comment in the following areas: Record Drawing (RD), Construction Certification (CC) and Construction-Related (CR) punch list items. If you have any other related non-BMP site issues such as erosion, stabilization, removal of erosion & sediment controls, etc. that are not related to the BMP, I can easily add these items to any comment letter that I may forward to the Owner/Engineer. Let me know if any outstanding site issues remain.

If I don't hear from you I will ask you if any other outstanding issues remain before I forward any letters to the Owner/Engineer.

Scott

SWMProg\BMP\ConInsp\Insp.trans

AES CONSULTING ENGINEERS
Engineering, Surveying and Planning
5248 Olde Towne Road, Suite 1
WILLIAMSBURG, VIRGINIA 23188

(757) 253-0040
FAX (757) 220-8994

LETTER OF TRANSMITTAL

DATE	JOB NO.
March 11, 2002	7173

ATTENTION: Mike Woolson

RE: Governor's Land

TO James City County Environmental Division

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
1			Record Drawing Checklist for Whittaker's Lake, with Excerpt from Geo-Technical Investigation, Blackline Drawings of Record Drawings (JR019)
1			Record Drawing, Checklist for Timber Structure at Two Rivers Country Club. with Blackline Record Drawings (JR035)
1			Travis Pond Record Drawings, Checklist, Excerpt from Geo-Technical Investigation (JR016)
1			~~Re~~ Fowler's Lake Record Drawings, Checklist, Excerpt from Geo-Technical Investigation

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 ☐ Returned for corrections ☐ Return _____ corrected prints

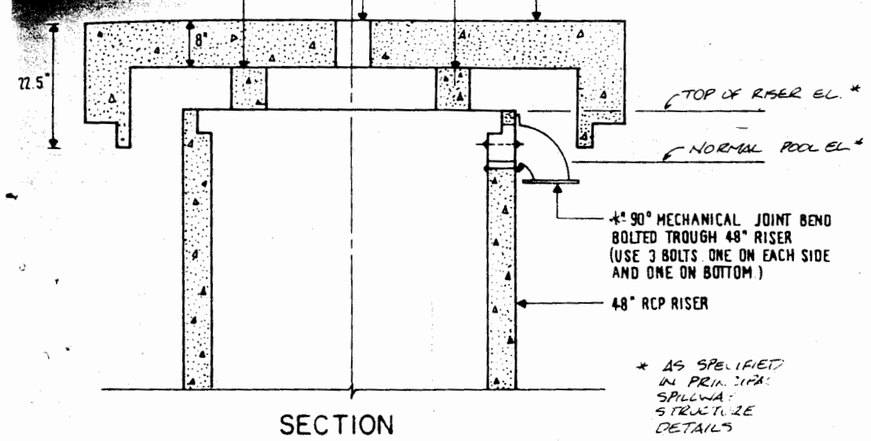
☐ For review and comment ☐ _____

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

REMARKS

Post Construction Geotech Report

COPY TO _____ SIGNED: V. Marc Bass



SECTION

WATER QUALITY CONTROL DEVICE DETAIL

NTS.

28

24

20

16

12

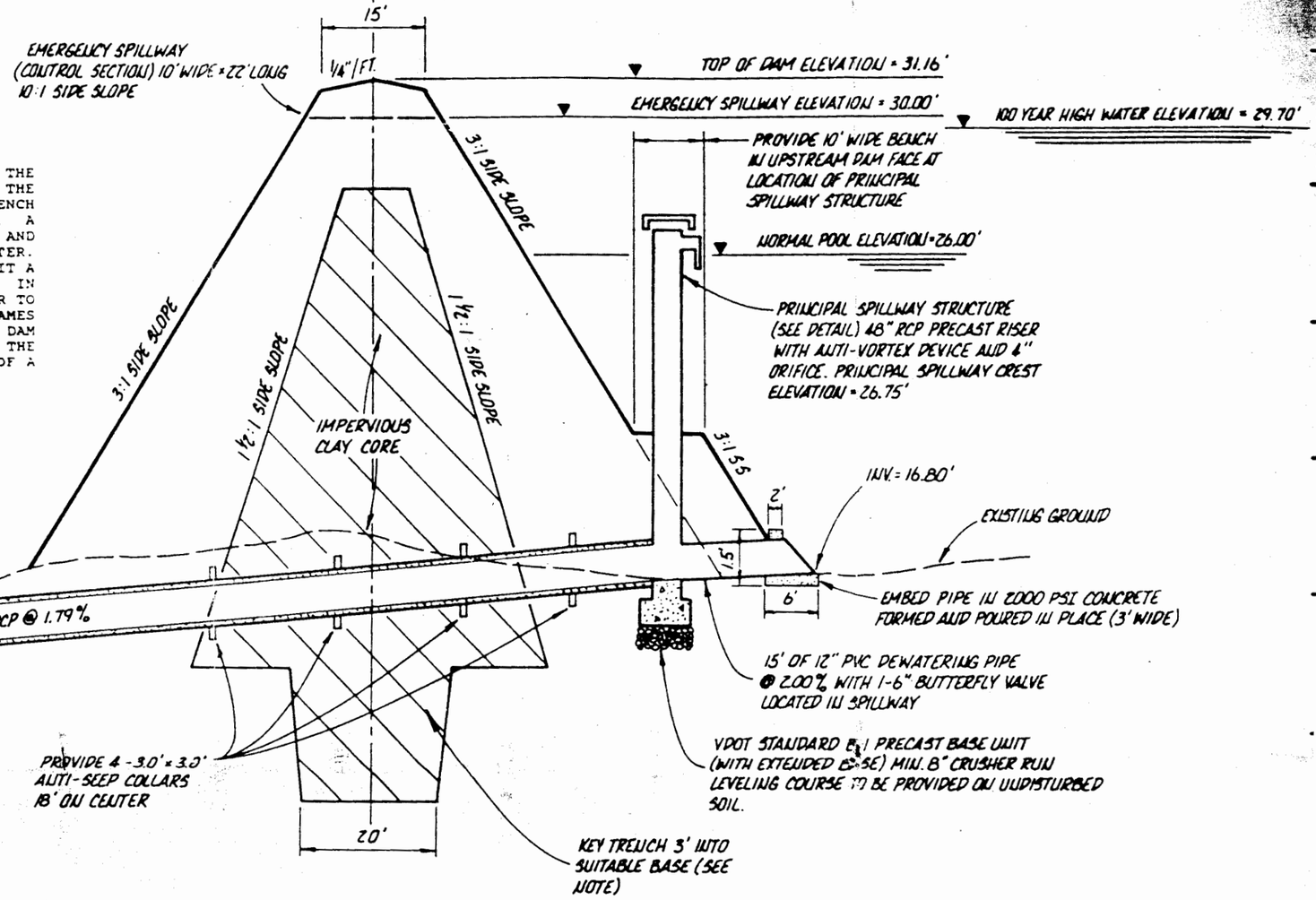
8

NOTE: A GEOTECHNICAL INVESTIGATION SHALL BE PERFORMED AT THE DAM SITE TO ENSURE THE SUITABILITY OF THE SITE. THE GEOTECHNICAL INVESTIGATION WILL DETERMINE KEY TRENCH DEPTH AND WIDTH ACCORDINGLY. ADDITIONALLY, A GEOTECHNICAL CONSULTANT WILL ENSURE PROPER MATERIAL AND COMPACTION ARE USED DURING CONSTRUCTION AFTER. CONSTRUCTION THE GEOTECHNICAL CONSULTANT SHALL SUBMIT A REPORT DEMONSTRATING THAT THE DAM WAS BUILT IN ACCORDANCE WITH THEIR REPORT RECOMMENDATIONS. PRIOR TO CONSTRUCTION, THE CONSULTANT SHALL SUBMIT TO JAMES CITY COUNTY CODE COMPLIANCE HIS RECOMMENDATIONS FOR DAM DESIGN, KEY TRENCH WIDTH AND DEPTH, ETC. THE GEOTECHNICAL REPORT IS REQUIRED PRIOR TO ISSUANCE OF A LAND DISTURBING PERMIT.

SECTION A-A
4TH FAIRWAY POND
1" = 10' HORIZ.
1" = 2' VERT.

Hunters Lake

DESIGN PLAN

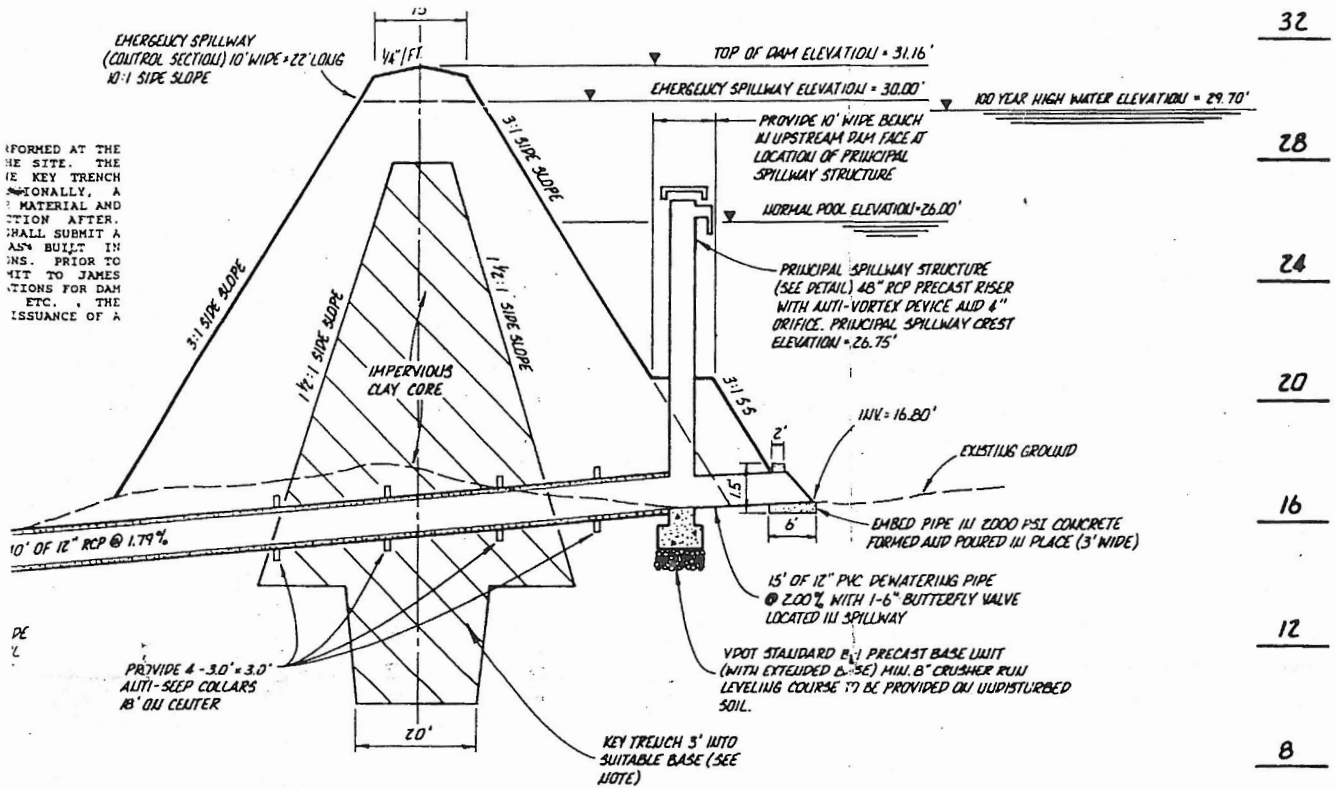


DAM CROSS SECTION B-B
9TH HOLE POND
1"=20' HORIZ.
1"=4' VERT.

Ham's Pond

NOTE: A GEOTECHNICAL INVESTIGATION SHALL BE PERFORMED AT THE DAM SITE TO ENSURE THE SUITABILITY OF THE SITE. THE GEOTECHNICAL INVESTIGATION WILL DETERMINE KEY TRENCH DEPTH AND WIDTH ACCORDINGLY. ADDITIONALLY, A GEOTECHNICAL CONSULTANT WILL ENSURE PROPER MATERIAL AND COMPACTION ARE USED DURING CONSTRUCTION. AFTER CONSTRUCTION THE GEOTECHNICAL CONSULTANT SHALL SUBMIT A REPORT DEMONSTRATING THAT THE DAM WAS BUILT IN

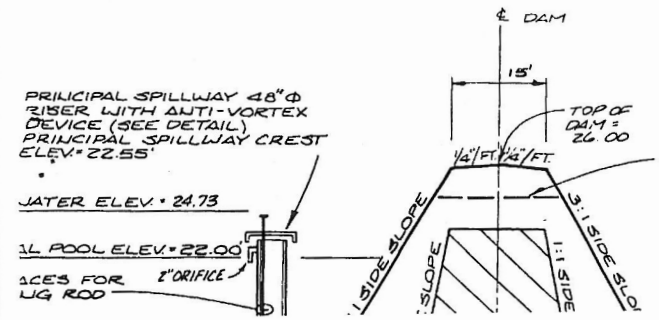
& DAM

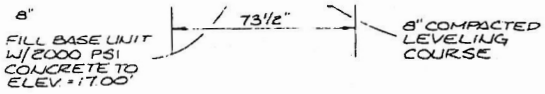


DAM CROSS SECTION B-B
9TH HOLE POND
1" = 20' HORIZ.
1" = 4' VERT.

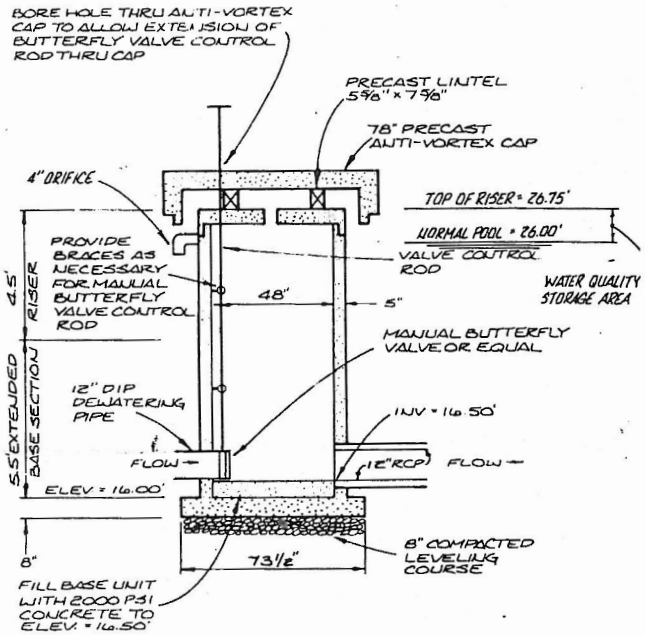
Hans's Pond

NOTE: A GEOTECHNICAL INVESTIGATION SHALL BE PERFORMED AT THE DAM SITE TO ENSURE THE SUITABILITY OF THE SITE. THE GEOTECHNICAL INVESTIGATION WILL DETERMINE KEY TRENCH DEPTH AND WIDTH ACCORDINGLY. ADDITIONALLY, A GEOTECHNICAL CONSULTANT WILL ENSURE PROPER MATERIAL AND COMPACTION ARE USED DURING CONSTRUCTION. AFTER CONSTRUCTION THE GEOTECHNICAL CONSULTANT SHALL SUBMIT A REPORT DEMONSTRATING THAT THE DAM WAS BUILT IN ACCORDANCE WITH THEIR REPORT RECOMMENDATIONS PRIOR TO CONSTRUCTION, THE CONSULTANT SHALL SUBMIT TO JAMES CITY COUNTY CODE COMPLIANCE HIS RECOMMENDATIONS FOR DAM DESIGN, KEY TRENCH WIDTH AND DEPTH, ETC. THE GEOTECHNICAL REPORT IS REQUIRED PRIOR TO ISSUANCE OF A LAND DISTURBING PERMIT.

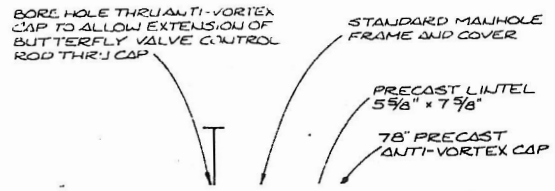




PRINCIPAL SPILLWAY STRUCTURE
FOR FAIRWAY #4 POND
N.T.S.



PRINCIPAL SPILLWAY STRUCTURE
FOR HOLE #9 POND
N.T.S.



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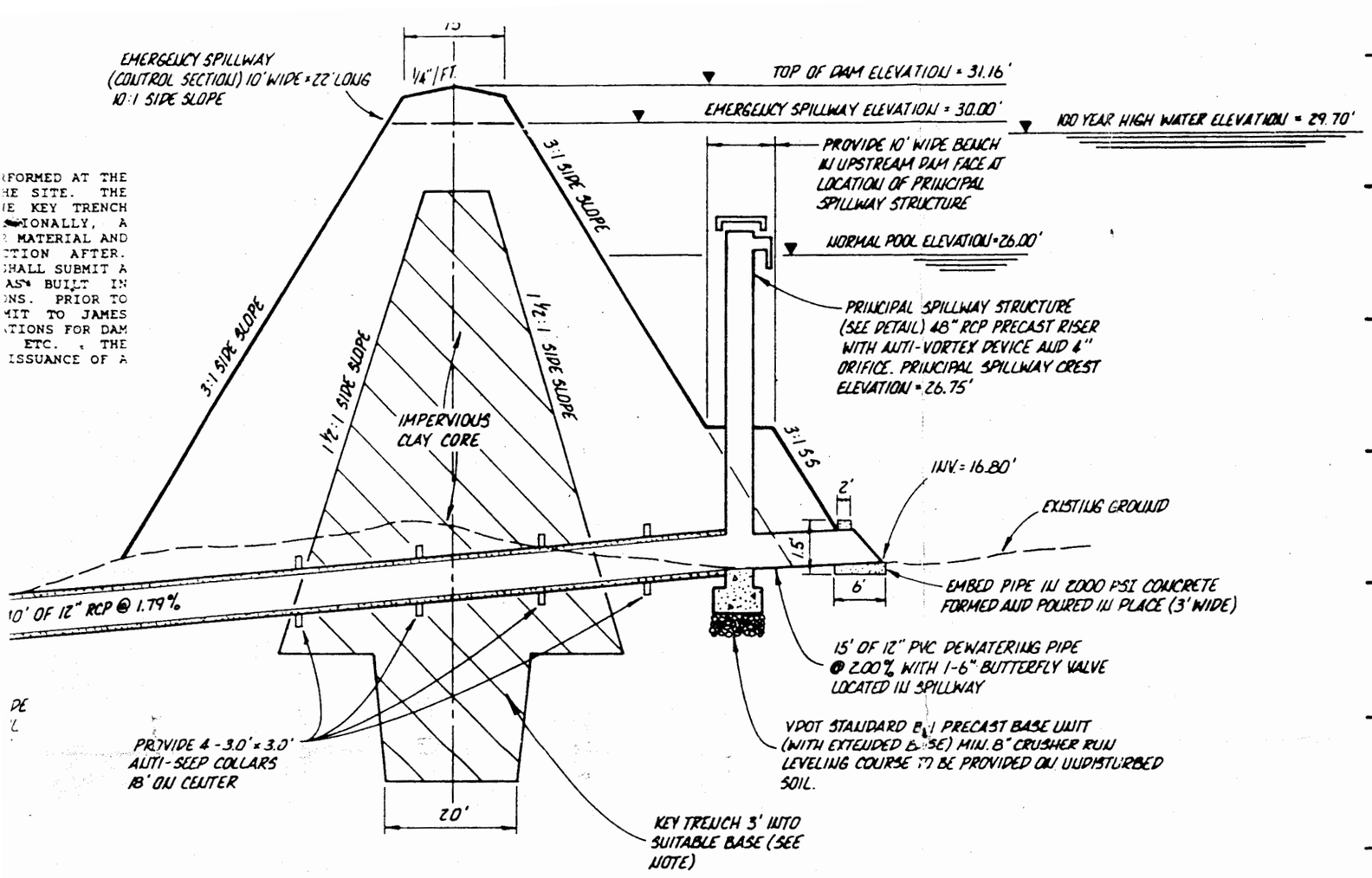
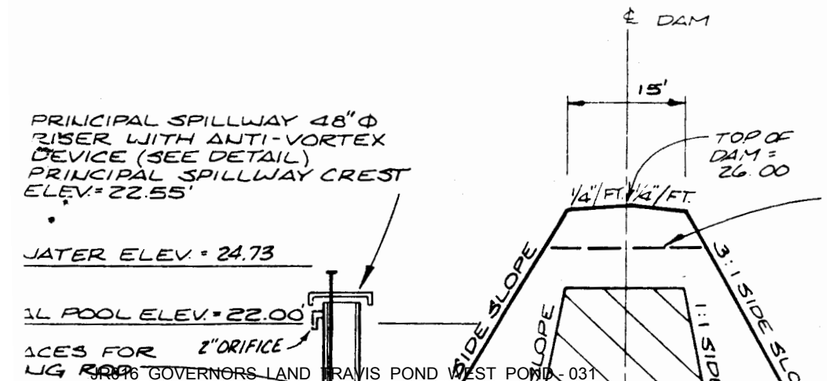


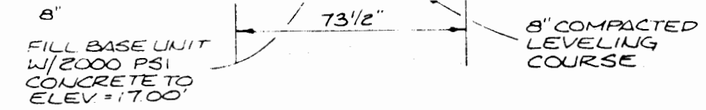
DAM CROSS SECTION B-B
9TH HOLE POND

1" = 20' HORIZ.
1" = 4' VERT.

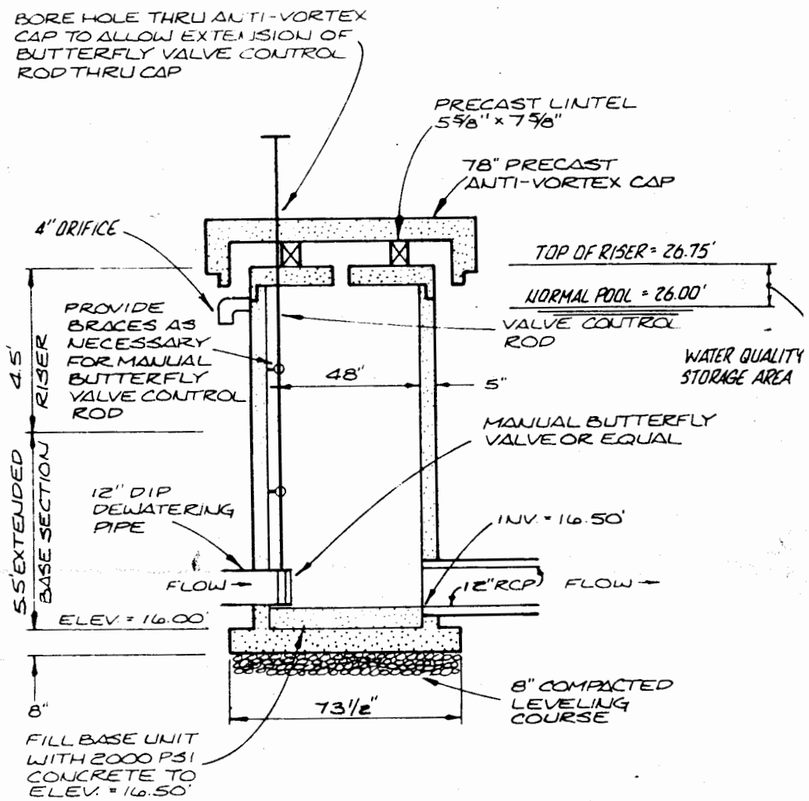
Hans Pond

NOTE: A GEOTECHNICAL INVESTIGATION SHALL BE PERFORMED AT THE DAM SITE TO ENSURE THE SUITABILITY OF THE SITE. THE GEOTECHNICAL INVESTIGATION WILL DETERMINE KEY TRENCH DEPTH AND WIDTH ACCORDINGLY. ADDITIONALLY, A GEOTECHNICAL CONSULTANT WILL ENSURE PROPER MATERIAL AND COMPACTION ARE USED DURING CONSTRUCTION. AFTER CONSTRUCTION THE GEOTECHNICAL CONSULTANT SHALL SUBMIT A REPORT DEMONSTRATING THAT THE DAM WAS BUILT IN ACCORDANCE WITH THEIR REPORT RECOMMENDATIONS PRIOR TO CONSTRUCTION, THE CONSULTANT SHALL SUBMIT TO JAMES CITY COUNTY CODE COMPLIANCE HIS RECOMMENDATIONS FOR DAM DESIGN, KEY TRENCH WIDTH AND DEPTH, ETC. THE GEOTECHNICAL REPORT IS REQUIRED PRIOR TO ISSUANCE OF A LAND DISTURBING PERMIT.

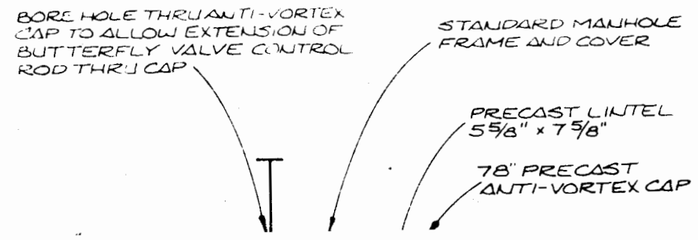




PRINCIPAL SPILLWAY STRUCTURE
FOR FAIRWAY #4 POND
N.T.S.



PRINCIPAL SPILLWAY STRUCTURE
FOR HOLE #9 POND
N.T.S.



AES CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253-0040
Fax: (757) 220-8994
E-Mail: aes@aesva.com

PROJECT GOVERNOR'S LAND
PROJECT NO. 7173-09
SUBJECT BMP MAINTENANCE
SHEET NO. 1 OF 8
CALCULATED BY VAB DATE 6/24/03

COMPOSITE CURVE NUMBER FOR POST DEVELOPMENT DRAINAGE AREA TO TRAVIS POND.

DESCRIPTION	CN	AREA	CN x AREA
RESIDENTIAL DISTRICTS w/ ½ ACRE LOTS	80	25.41 Ac.	2,032.80
GOLF / POND AREA	74	11.67 Ac.	863.58
OPEN / WOODS AREA	70	14.34 Ac	1,003.80
Σ	224	51.42	3,900.18

POST DEVELOPMENT COMPOSITE CN $\frac{3900.18}{51.42} = 75.85 \rightarrow$ USE 76

As Built Routing Analyses

DHW = EL 29.99
FB 0.13 ft.

TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve

Hyd. No. 1

Post Development
Storm frequency = yrs

Sheet Flow

Manning's n-value	= 0.400
Flow length	= 300.0 ft
Two-year 24-hr precip.	= 3.60 in
Land slope	= 0.5 %

Travel Time ..... **= 84.9 min**

Shallow Concentrated Flow

Flow length	= 1300 ft
Watercourse slope	= 0.5 %
Surface description	= Unpaved
Average velocity	= 1.14 ft/s

Travel Time ..... **= 19.0 min**

Channel Flow

Cross section flow area	= 6.0 sqft
Wetted perimeter	= 12.0 ft
Channel slope	= 2.0 %
Manning's n-value	= 0.015
Velocity	= 8.83 ft/s
Flow length	= 1360.0 ft

$\frac{1360\,FT}{2.5\,FT/sec} \times \frac{1\,min}{60\,sec} = 9.07\,min$

Travel Time ..... ~~**= 2.6 min**~~

Total Travel Time, Tc ..... ~~**= 106.4 min**~~ 112.97 min = 1.88 hrs

USE 113 mins

Reservoir Report

Hydraflow Hydrographs by Intelisolve

Reservoir No. 1 - Travis Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	26.30	135,871	0	0
1.70	28.00	147,223	240,630	240,630
3.70	30.00	160,567	307,790	548,420
5.70	32.00	173,911	334,478	882,898

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise in	= 12.0 ✓	4.0	0.0	0.0
Span in	= 12.0 ✓	4.0	0.0	0.0
No. Barrels	= 1	1	0	0
Invert El. ft	= 16.51	26.30	0.00	0.00
Length ft	= 140.0	0.5	0.0	0.0
Slope %	= 1.98	0.00	0.00	0.00
N-Value	= .013	.013	.000	.000
Orif. Coeff.	= 0.60	0.60	0.00	0.00
Multi-Stage	= n/a	Yes	No	No

Weir Structures

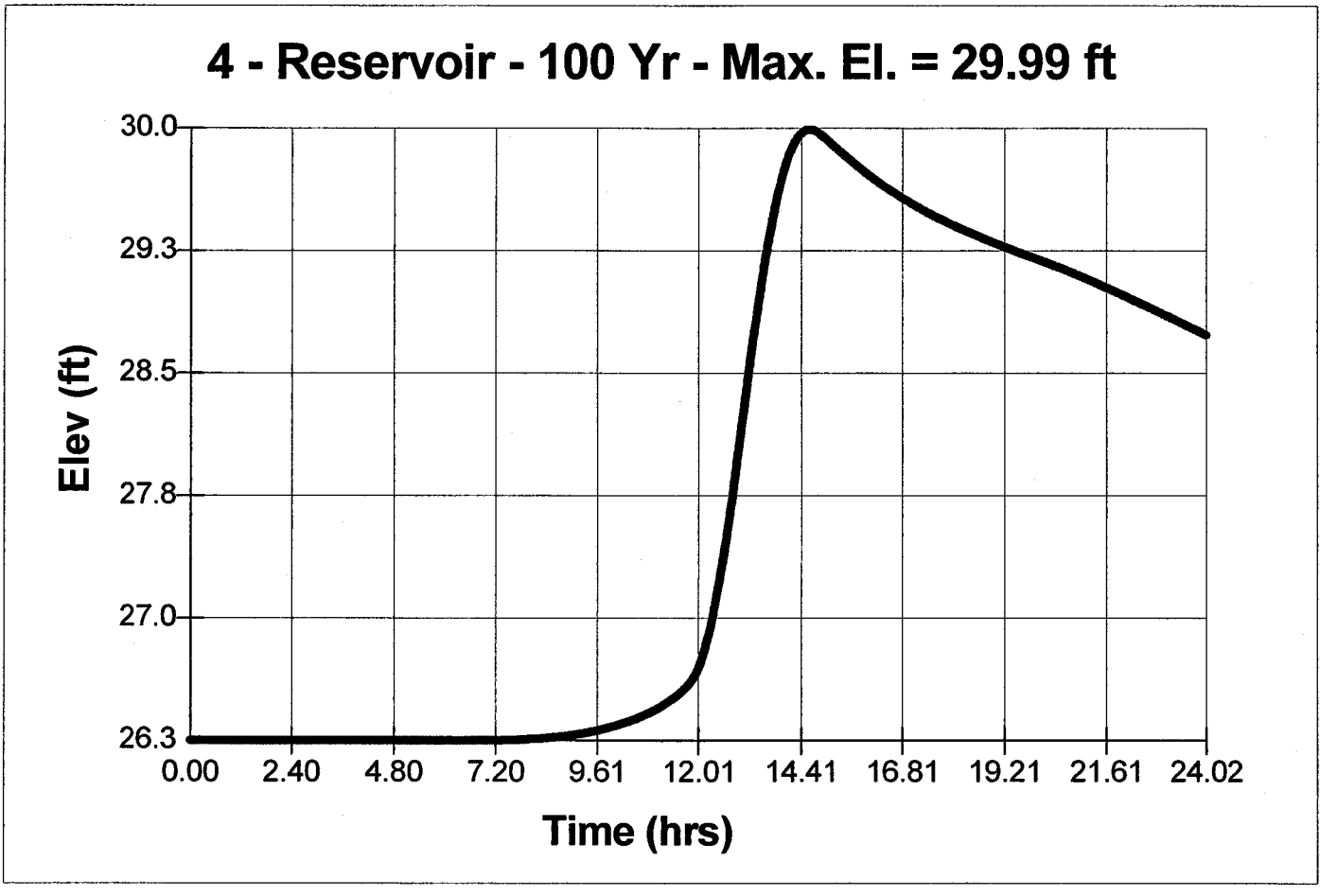
	[A]	[B]	[C]	[D]
Crest Len ft	= 12.57	10.00	220.00	0.00
Crest El. ft	= 27.07 AB	29.17 AB	30.12	0.00
Weir Coeff.	= 3.33	2.60	2.60	0.00
Weir Type	= Riser	Broad	Broad	---
Multi-Stage	= Yes	No	No	No

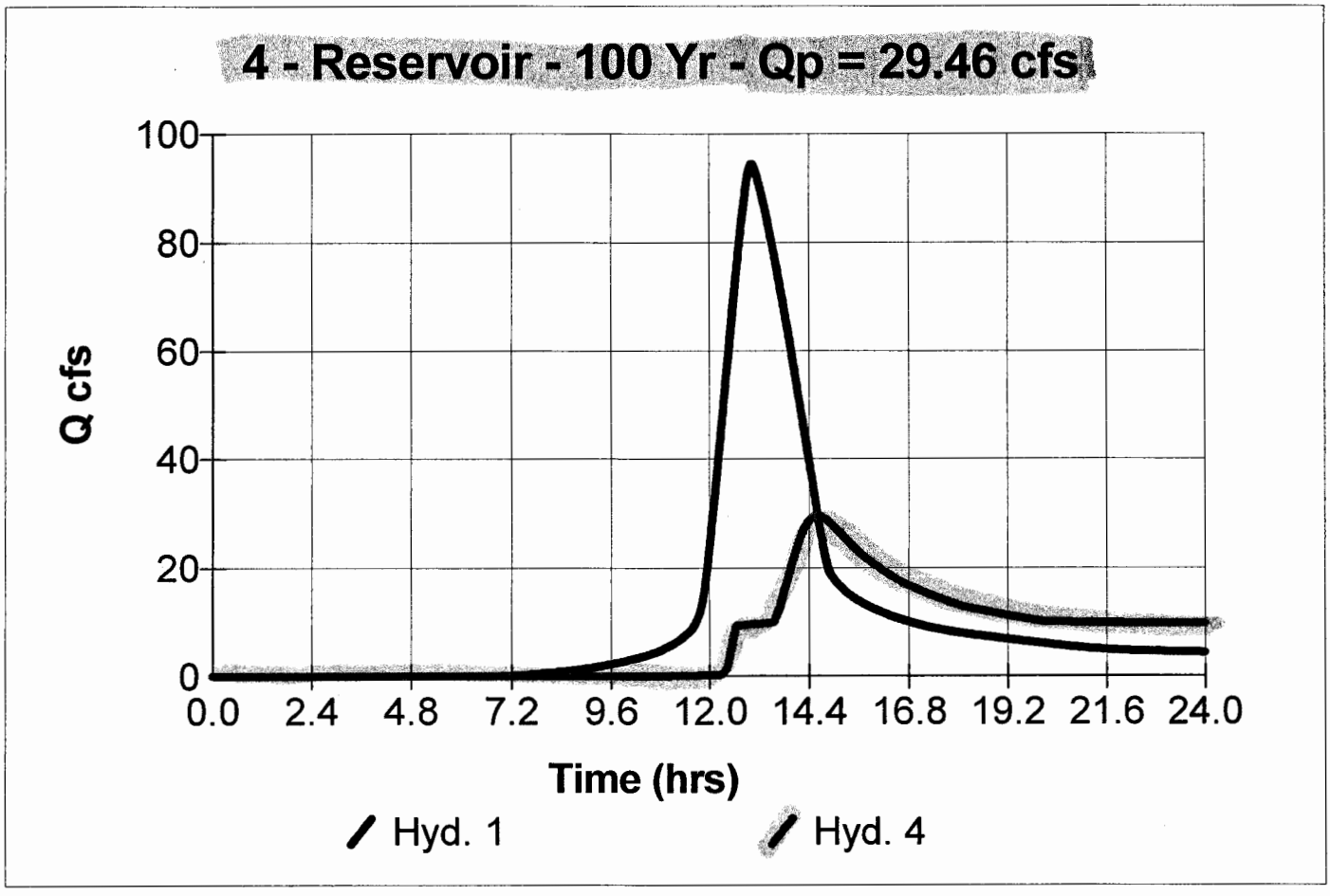
Exfiltration Rate = 0.00 in/hr/sqft Tailwater Elev. = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.00	0	26.30	0.00	0.00	---	---	0.00	0.00	0.00	---	---	0.00
1.70	240,630	28.00	9.49	0.06	---	---	9.42	0.00	0.00	---	---	9.48
3.70	548,420	30.00	10.19	0.01	---	---	10.08	19.66	0.00	---	---	29.75
5.70	882,898	32.00	10.84	0.01	---	---	10.72	123.78	1474.46	---	---	1608.96


4 - Reservoir - 100 Yr - Max. El. = 29.99 ft
30.0
29.3
28.5
27.8
27.0
26.3
Elev (ft)
0.00
2.40
4.80
7.20
9.61
12.01
14.41
16.81
19.21
21.61
24.02
Time (hrs)


4 - Reservoir - 100 Yr - Qp = 29.46 cfs
Q cfs
100
80
60
40
20
0
0.0
2.4
4.8
7.2
9.6
12.0
14.4
16.8
19.2
21.6
24.0
Time (hrs)
Hyd. 1
Hyd. 4

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	-------	14.43	23.57	-------	-------	58.30	67.99	81.13	94.43	Post Development
4	Reservoir	1	1.42	5.85	-------	-------	9.70	9.99	17.89	29.46	Routing Travis Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	94.43	1	781	943,342	----	------	------	Post Development
4	Reservoir	29.46	1	877	587,570	1	29.99	547,110	Routing Travis Pond

Proj. file: Travis Pond.gpw | Return Period: 100 yr | Run date: 06-24-2003

- **Travis Pond Dam**

It is our estimation that the existing dam at Travis Pond is approximately 200 feet long. The front (pond) side of the dam was vegetated with manicured grass. The topography of the crest of the dam is relatively flat. The back (downstream) side of the dam was vegetated with manicured grass.

- **Whittaker's Lake Dam**

It is our estimation that the existing dam at Whittaker Lake is approximately 400 feet long. The front side of the dam was vegetated with grass. The topography of the crest of the dam is relatively flat. The backside of the dam was heavily vegetated with underbrush and small trees.

- **Bennett's Pond Dam**

It is our estimation that the existing dam at Bennett's Pond is approximately 330 feet long. The front side of the dam was lightly vegetated with tall grass. The topography of the crest of the dam is relatively flat. The backside of the dam is vegetated with manicured grass.

- **Founder's Hill Pond Dam**

It is our estimation that the existing dam at Founder's Hill detention pond is approximately 85 feet long. The front side of the dam was lightly vegetated with tall grass. The topography of the crest of the dam is relatively flat. The backside of the dam is vegetated with manicured grass. Organic debris was observed partially blocking the spillway pipe on the backside of the dam, with 2 to 3 inches of water in the pipe.

- **Wingfield Lake Dam**

Plan and topography information was not available for Wingfield Lake Dam; however, from the site reconnaissance it is estimated that the dam is approximately 300 feet long. The front side of the dam was vegetated with grass. The topography of the crest of the dam is relatively flat. The backside of the dam is heavily wooded with underbrush and small to medium trees.

The natural soils underlying the fill material generally consist of erratic deposits of medium dense Clayey SANDS (SC), soft to very stiff Sandy Lean CLAY (CL) and stiff Fat CLAY (CH).

Significant moisture was not observed within the dam fill material.

- **Travis Pond Dam**

The results of our soil test borings and laboratory testing indicates that the existing dam, at the areas and depths sampled, is generally comprised of fill material to depths of about 15 to 18 feet below top of dam surface. The fill layers, which comprise the top shell and the inner core, are classified as Fat CLAY (CH) and clayey SAND (SC). The clay soils are soft to very stiff in consistency. The sand soils are loose in density. The transitions from the fill material (clay core) into the natural original soils were not determined along the shoulders of the dam (borings B-1 and B-3). With regard to the center boring (B-2), it appears that proper steps were taken to remove heavy topsoil and/or thick vegetation prior to fill placement. The transition between the fill and the original ground surface in boring B-2, which was performed near the center of the dam, was marked by the presence of a layer of orangish brown and gray, Clayey SAND (SC). This stratum was observed between the approximate depths of 13 feet and 28 feet, and appears to represent the original ground surface.

The natural soils underlying the fill material generally consist of erratic deposits of medium dense Clayey SANDS (SC) and Silty SAND with Gravel (SP-SM).

Significant moisture was not observed within the dam fill material. Groundwater was encountered in boring B-2 at a depth of about 23 feet below top of the dam surface. The presence of water at this depth does not present a problem with the stability of the dam.

- **Whittaker's Lake Dam**

The results of our soil test borings and laboratory testing indicates that the existing dam, at the areas and depths sampled, is generally comprised of fill material to depths of about 15 to 28 feet below top of dam surface. The fill layers, which comprise the top shell and the inner core, are classified as Fat CLAY (CH) and Sandy Lean CLAY (CL). The clay soils are soft to very stiff in consistency. The transitions from the fill material into the natural original soils were not determined along the shoulders of the dam (borings B-1 and B-3). With regard to the center boring (B-2), it appears that proper steps were taken to remove heavy topsoil and/or thick vegetation prior to fill placement. The transition between the fill (clay core) and the original ground surface in boring B-2, which was performed near the center of the dam, was marked by the presence of a layer of orangish brown and tan, Poorly-Graded SAND (SP). This stratum was observed between the

ENGINEERING EVALUATION AND CONCLUSIONS:

Based on the results of our soil test borings and laboratory testing, it is our opinion that the existing dams ***satisfy*** the current state dam design criteria, and/or other commonly accepted dam design criteria, with regard to embankment composition (material type and density) and overall stability. In general, the dams are classified as Zoned Earthen Dam structures, comprised predominantly of an impervious clay core with clayey and sandy soils comprising the shell.

General maintenance, however, should be provided for each dam on a routine basis. This should include annual inspections for surface erosion or vertical and horizontal cracking in the embankment. In addition, the toe drain and stilling basin should be inspected for erosion and loss of rip-rap, seepage beyond the toe drain, or increased flow or movement of fines through the drains. All large bushes and trees should be removed from the embankment face (both front and back sides), and animal burrows or other holes/cavities along the embankment should be thoroughly inspected and filled as appropriate.

ECS, Ltd. has appreciated the opportunity to be of service to you on this project. Please contact this office should you have any questions or need further assistance.

Respectfully,

ENGINEERING CONSULTING SERVICES, LTD.

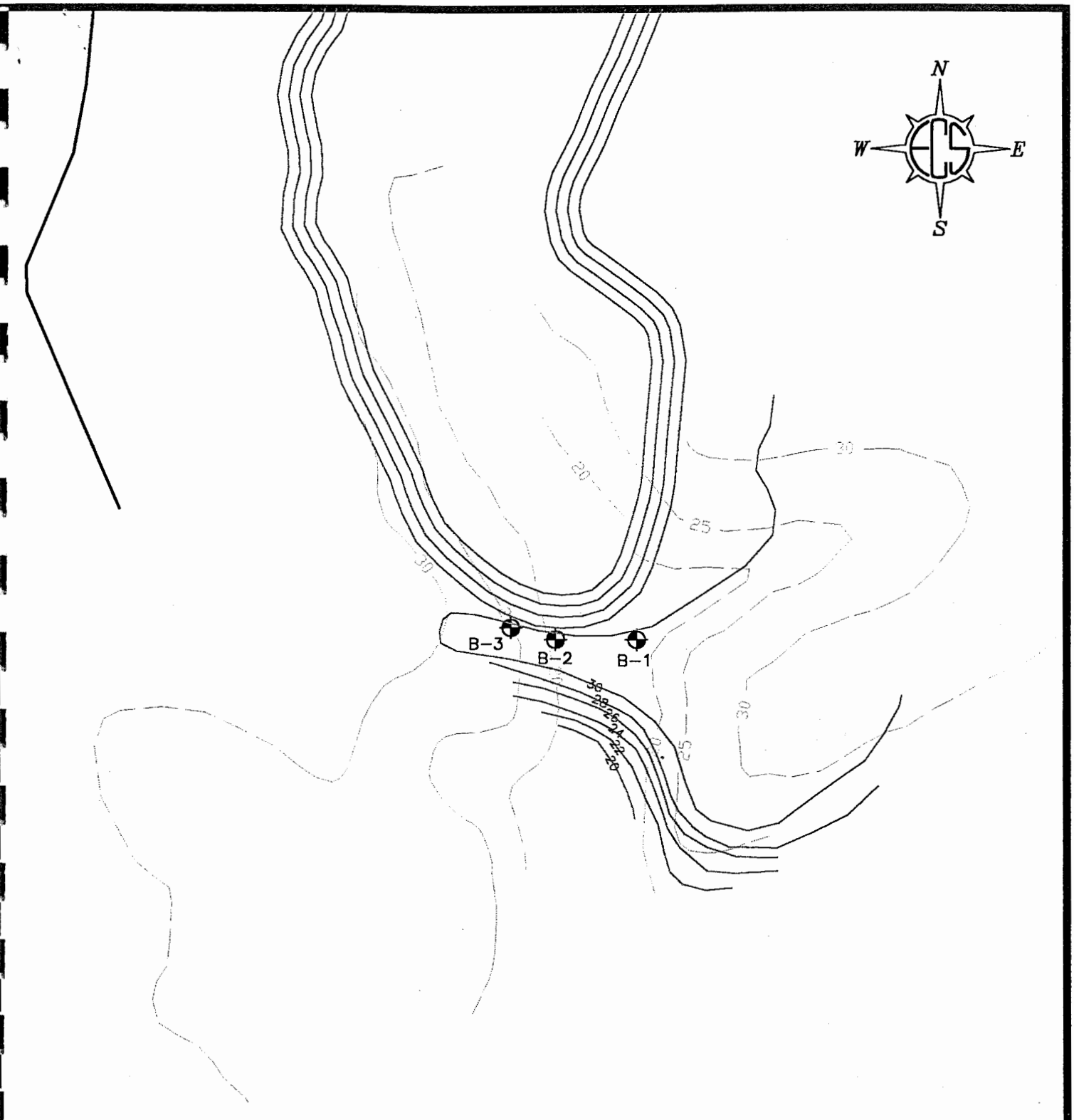
David J. Schlotterer
Staff Geologist/Project Manager

David E. Stinnette, P.E.
Engineering Services Manager

COMMONWEALTH OF VIRGINIA
DAVID E. STINNETTE
NO. 028419
PROFESSIONAL ENGINEER

Copies: (3) Jim Bennett (Dominion Land Management Co.)

GEOTECH/REPORTS/6221



⊕ – Approximate Boring Location

Scale: 1"=100'

PREPARED FOR:

DOMINION LAND MANAGEMENT

ECS LTD

ENGINEERING CONSULTING SERVICES, LTD

BORING LOCATION DIAGRAM

GOVERNOR'S LAND
TRAVIS POND
JAMES CITY COUNTY, VIRGINIA

ECS, LTD. PROJECT NO. 6221

CLIENT	JOB #	BORING #	SHEET
DOMINION LAND MANAGEMENT CO.	6221	B-1	1 OF 1
PROJECT NAME	**ARCHITECT-ENGINEER**		
GOVERNOR'S LAND DAMS (EMBANKMENT EVAL.)	AES, INC.		

ECS LTD

SITE LOCATION
TRAVIS POND, JAMES CITY COUNTY, VIRGINIA

ENGLISH UNITS

SURFACE ELEVATION 31.10

CALIBRATED PENETROMETER TONS/FT.^{2} (1 2 3 4 5+)

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ (10 20 30 40 50+)

STANDARD PENETRATION BLOWS/FT. ⊗ (10 20 30 40 50+)

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
0	1	SS	24	24	Topsoil-6", (FILL)	30	3
	2	SS	24	24	Fat CLAY With Fine Sand and Roots, Brown and Light Gray, Moist, Soft, (CH-FILL)		10
5	3	SS	24	24	Fat CLAY With Roots and Wood Fragments, Trace Fine Sand, Orangish Brown and Gray, Moist, Medium Stiff to Very Stiff, (CH-FILL) [Wood fragments found in samples 2 and 6]	25	10
	4	SS	24	24			18
	5	SS	24	24			8
10	6	SS	24	24		20	13
	7	SS	24	24			14
	8	SS	12	12			7
15					END OF BORING @ 15.0'	15	
20						10	
25						5	
30							

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL DRY WS OR WD	BORING STARTED 10-24-00	TOPSOIL DEPTH 6"
▽WL(AB) ▼WL(AC)	BORING COMPLETED 10-24-00	CAVE IN DEPTH @
▽WL	RIG FISHBURNE FOREMAN ED	DRILLING METHOD HOLLOW STEM AGUER

CLIENT	JOB #	BORING #	SHEET
DOMINION LAND MANAGEMENT CO.	6221	B-2	1 OF 1
PROJECT NAME	ARCHITECT-ENGINEER		
GOVERNOR'S LAND DAMS (EMBANKMENT EVAL.)	AES, INC.		

SITE LOCATION: TRAVIS POND, JAMES CITY COUNTY, VIRGINIA

ENGLISH UNITS

SURFACE ELEVATION 31.10

CALIBRATED PENETROMETER TONS/FT.^{2} (1 2 3 4 5+)

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ (10 20 30 40 50+)

STANDARD PENETRATION BLOWS/FT. ⊗ (10 20 30 40 50+)

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
0	1	SS	24	24	Topsoil-6", (FILL)	30	6
	2	SS	24	24	Fat CLAY With Roots and Organics, Orangish Brown and Gray, Moist, Medium Stiff to Stiff, (CH-FILL) [Organics found to a depth of 4 feet]		10
5	3	SS	24	24		25	7
	4	SS	24	24			13
	5	SS	24	24			13
10	6	SS	24	24		20	10
	7	SS	24	24			19
15	8	SS	24	24			8
	9	SS	24	24		15	9
	10	SS	24	24	Clayey Fine to Medium SAND, Orangish Brown and Gray, Wet to Saturated, Medium Dense, (SC)		13
20	11	SS	24	24		10	18
	12	SS	24	24			14
25	13	SS	24	24			5
	14	SS	24	24		5	10
	15	SS	24	24	Silty Fine to Coarse SAND With Fine to Medium Gravel, Dark Brown and Tan, Saturated, Medium Dense, (SP-SM)		22
30					END OF BORING @ 30.0'		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 23.0' WS OR WD	BORING STARTED 10-24-00	TOPSOIL DEPTH 6"
▽WL(AB) ▽WL(AC)	BORING COMPLETED 10-24-00	CAVE IN DEPTH @
▽WL	RIG FISHBURNE FOREMAN ED	DRILLING METHOD HOLLOW STEM AGUER

CLIENT	JOB #	BORING #	SHEET
DOMINION LAND MANAGEMENT CO.	6221	B-3	1 OF 1

PROJECT NAME	ARCHITECT-ENGINEER
GOVERNOR'S LAND DAMS (EMBANKMENT EVAL.)	AES, INC.

ECS LTD

SITE LOCATION
TRAVIS POND, JAMES CITY COUNTY, VIRGINIA

CALIBRATED PENETROMETER TONS/FT.^{2} (1, 2, 3, 4, 5+)

PLASTIC LIMIT % (X) — WATER CONTENT % (●) — LIQUID LIMIT % (Δ) (10, 20, 30, 40, 50+)

STANDARD PENETRATION BLOWS/FT. (⊗) (10, 20, 30, 40, 50+)

DESCRIPTION OF MATERIAL

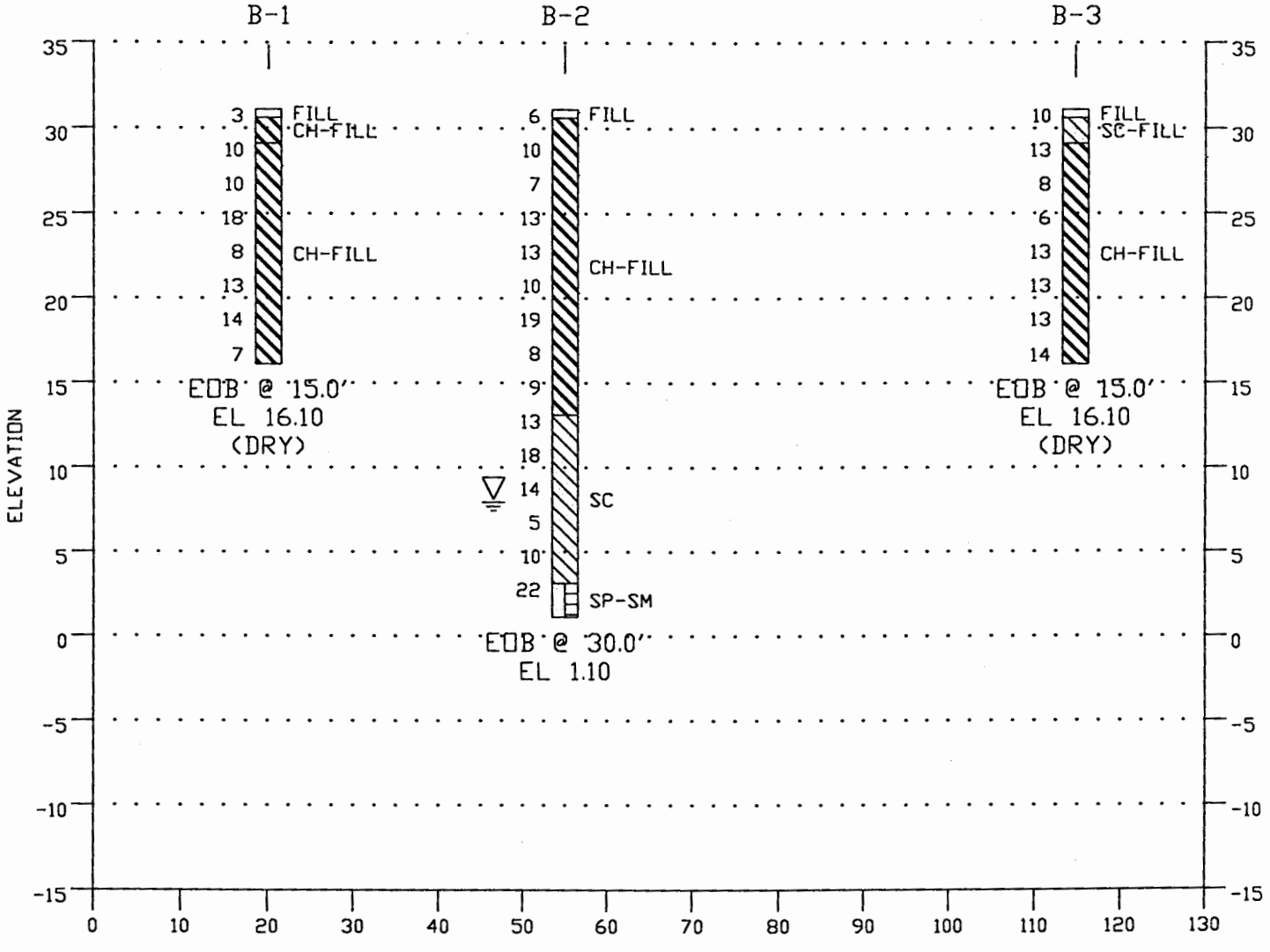
ENGLISH UNITS

SURFACE ELEVATION 31.10

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE (IN)	RECOVERY (IN)	WATER LEVELS ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
0	1	SS	24	24	30	10
						Topsoil-6", (FILL)
	2	SS	24	24		13
						Clayey Fine SAND, Orangish Brown and Gray, Moist, Loose, (SC-FILL)
5	3	SS	24	24	25	8
						Fat CLAY, Trace Fine Sand and Organics, Orangish Brown and Gray, Moist, Stiff, (CH-FILL)
	4	SS	24	24		6
	5	SS	24	24		13
10	6	SS	24	24	20	13
	7	SS	24	24		13
	8	SS	12	12		14
15					15	END OF BORING @ 15.0'
20					10	
25					5	
30						

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL DRY WS OR WD	BORING STARTED 10-24-00	TOPSOIL DEPTH 6"
▽WL(AB) ▽WL(AC)	BORING COMPLETED 10-24-00	CAVE IN DEPTH ●
▽WL	RIG FISHBURNE FOREMAN ED	DRILLING METHOD HOLLOW STEM AGUER



SCALE
VERTICAL SCALE 1"=10'
HORIZONTAL SCALE 1"=20'

PREPARED FOR:

DOMINION LAND MGMNT. CO.

ECS LTD
ENGINEERING
CONSULTING
SERVICES, LTD

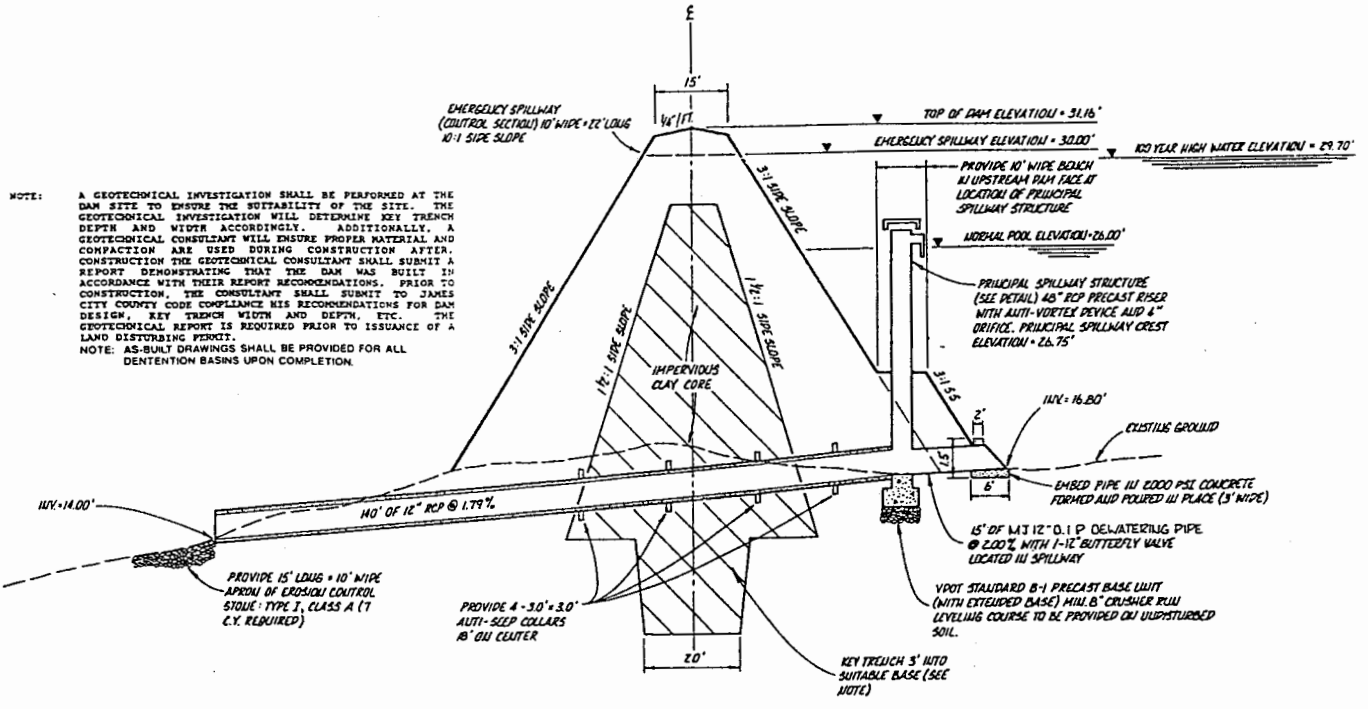
GENERALIZE CROSS SECTION

TRAVIS POND
GOVERNOR'S LAND DAMS
JAMES CITY COUNTY, VIRGINIA

ECS, LTD. PROJECT NO. 6221

NOTE: A GEOTECHNICAL INVESTIGATION SHALL BE PERFORMED AT THE DAM SITE TO ENSURE THE SUITABILITY OF THE SITE. THE GEOTECHNICAL INVESTIGATION WILL DETERMINE KEY TRENCH DEPTH AND WIDTH ACCORDINGLY. ADDITIONALLY, A GEOTECHNICAL CONSULTANT WILL ENSURE PROPER MATERIAL AND COMPACTION ARE USED DURING CONSTRUCTION AFTER CONSTRUCTION THE GEOTECHNICAL CONSULTANT SHALL SUBMIT A REPORT DEMONSTRATING THAT THE DAM WAS BUILT IN ACCORDANCE WITH THEIR REPORT RECOMMENDATIONS. PRIOR TO CONSTRUCTION, THE CONSULTANT SHALL SUBMIT TO JAMES CITY COUNTY CODE COMPLIANCE HIS RECOMMENDATIONS FOR DAM DESIGN, KEY TRENCH WIDTH AND DEPTH, ETC. THE GEOTECHNICAL REPORT IS REQUIRED PRIOR TO ISSUANCE OF A LAND DISTURBING PERMIT.

NOTE: AS-BUILT DRAWINGS SHALL BE PROVIDED FOR ALL DENTENTION BASINS UPON COMPLETION.



DAM CROSS SECTION B-B
9TH HOLE POND

PREPARED FOR:

DOMINION LAND MANAGEMENT

ECS LTD
ENGINEERING CONSULTING SERVICES, LTD

DAM SCHEMATIC

GOVERNOR'S LAND
TRAVIS POND
JAMES CITY COUNTY, VIRGINIA

ECS, LTD. PROJECT NO. 6221

Complaint
RE: JR016 & 3009 Travis Pond Rd
D/E into complaint database
1/12/2012

Pat Menichino

From: Pat Menichino
Sent: Thursday, January 12, 2012 1:16 PM
To: 'Brent Graham'
Subject: RE: Two Rivers CC pond Issue

Brent,

I visited the site this morning and reviewed the issue described in your email. My first observation was that the principal spillway riser orifice is clogged resulting in pond surface elevation 8" higher than normal. So if you unclog the orifice the pond surface elevation will be lowered somewhat.

It appears that the basement floor elevation at 3009 Travis Pond Rd. is approximately +2' higher in elevation than the normal pond surface (if you have the actual basement floor elevation it would be helpful). The pond's 100 year storm event surface elevation is approximately + 3.7' higher than the normal pond surface, therefore the basement may be as much as 1.7' lower than the pond surface during a 100 year storm event.

I do not recommend the use of the mechanical dewatering device as a solution to this problem. If lowering the normal pond surface is considered than it should be accomplished through a permanent engineered solution.

Lowering the normal pool elevation could potentially reduce the frequency of flooding but will not eliminate the flooding during significant rain events.

Let me know if you would like to discuss this matter further.

Thanks,

Pat

Patrick T. Menichino
Project Manager
Stormwater Specialist

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

From: Brent Graham [mailto:bgraham@tworiversclub.com]
Sent: Monday, January 09, 2012 1:01 PM
To: Pat Menichino
Cc: 'Brent Graham'
Subject: Two Rivers CC pond Issue

Pat,
We have a resident that lives on Travis Pond (lot #55 3009 Travis Pond Rd.) with a basement that floods every time we get prolonged heavy rainfall and the pond level rises a few feet. The concrete overflow in the pond is working properly and this is the only house on the pond that has any flooding issues, even during the heaviest of rain events. We have had a few instances where the water has risen up and gone over the emergency overflow cutout in the dam, and even during an event like this, the 3009 Travis Pond residence was the only house on the pond with any water entry problems. This resident would like us to open the maintenance valve on the concrete overflow to lower the lake level before a forecasted rainfall event of around 2+ inches. The thought is that the pond would have more room to fill up before reaching the level that would cause problems with this one house. Is this smart? Wouldn't this potentially lead to bigger problems using a maintenance valve that often for this manner? What is the JCC standard SOP for situations like this (if any)?

Thanks for your help,

Brent Graham
Director of Golf Maintenance
Two Rivers Country Club
1950 Two Rivers Rd.
Williamsburg, VA 23185
Office: 757-258-4606
Cell: 757-592-0840
Fax: 757-258-4751

Memorandum

DATE: **June 24, 2003**

TO: **Scott Thomas**

FROM: **Victoria Bains**

SUBJECT: **Travis Pond, County BMP ID Code: JR016**

In response to your letter dated May 16, 2003 AES Consulting Engineers has taken several actions.

Construction Certification:
No further action required.

Record Drawings:
Spot elevations for the bottom of the pond were added to plan view of the drawings. From this information, there is no significant sediment accumulation in this pond.

The approximate location of the emergency spillway has been added to the plan sheet in the 1"=20' inset and the elevation has been corrected on the detail sheet.

Hydraulic calculations were performed using as-built information and a complete fresh look was taken to assure accuracy due to the level that this project is built out. From the calculations it is shown that the emergency spillway is used during the 50 and 100-year storms and minimum freeboard standards are not met for these storm events (50-yr, 0.50' of freeboard; and 100-yr, 0.13' of freeboard). However there is no physical evidence of failure or strain on the emergency spillway or the dam embankment and this facility did have upstream flooding during Hurricane Floyd (17 inches of rain in 36 hours) that caused Two Rivers Road to be closed. There has been no mention of any repairs to the facility after any historic event. There is no physical evidence downstream from this facility of erosion problems and Travis Pond Dry Pond #1 is in excellent condition and is located approximately 1000 feet downstream. In conclusion from the calculations and physical evidence Travis Pond is functioning satisfactory even though it was not built in accordance with the design and due to this AES recommends that the facility be left as constructed and allowed to function in its present condition.

Construction – Related Items:
The golf coarse maintenance has fixed the leak in the irrigation system and stabilized the disturbed area on the top of dam.

The large pieces of concrete that appeared to obstruct the outlet end of the pipe barrel have been broken up and used for outlet protection.

All vegetation, brush, debris and sediment have been cleared and removed from within 10 feet of the outfall.

Rock outlet protection pad has been restored to approved plan dimensions.

Please advise should any question arise from review of this information

---

AES CONSULTING ENGINEERS

5248 Olde Towne Road • Suite 1 • Williamsburg, Virginia 23188
(757) 253-0040 • Fax (757) 220-8994 • E-mail aes@aesva.com

Scott Thomas

From: Scott Thomas
Sent: Wednesday, November 08, 2000 2:13 PM
To: Mike Woolson
Subject: Governors Land BMP's

Mike

Here are my comments for the 3 BMP facilities we looked at in Governors Land on October 25th.

JR 017 Governors Land - Wingfield Lake
Description: Large lake (wet pond) at end of John Vaughan and Wingfield Lake Roads.

1. Certification of the constructed pond fill embankment is requested.
2. Clean and remove trees and woody vegetation on the downslope embankment. Saturated roots mats combined with high wind can cause trees to overtop and accelerate soil erosion and embankment failure.
3. Clean and remove trees and vegetation within 15 feet of the pond riser and clean all weirs and orifices.
4. Clean and remove vegetation and establish riprap outlet protection at the downstream pond barrel outfall.
5. Remove large, dead woody debris from the emergency spillway.
6. Remove previously installed downstream toe silt fence which is deteriorated.

JR 031 Governors Land - Wingfield Drive
Description: Timber crib detention structure in back of 3251 Wingfield Lake Road, Lot 40.

1. An 8 inch diameter tree located between the timber crib wall and riser structure has fallen and caused serious structural damage to the pretreated wood structure. The wall is 45 degree offset from vertical. Inspection by a qualified professional is required to assess the structural and stormwater integrity of the timber crib wall and outlet barrel pipe and overall impact to function of the basin. A report with recommendations for action/repair is required.
2. Clean and remove all debris from along the upstream base of wall and within 15 feet of the riser.
3. Outlet protection is required at the downstream pond barrel outfall.
4. The EC-1 Type A stone (toe protection) required along the downstream edge of wall was not visible and needs installed.

JR 016 Governors Land - Travis Pond
Description: Large wet pond at end of Travis Close Road near Golf Course Hole 9.

1. Certification of the constructed pond fill embankment is requested.
2. Fill and stabilize erosion gullies which have formed on the downstream embankment.
3. Clean and remove construction debris from the downstream embankment toe and at the pond barrel outfall. A considerable amount of 1 to 3 foot size concrete rubble was present and is severely restricting outflow from the pond barrel and may have damaged the pipe.
4. The valve control mechanism was not visible on the concrete riser. The design plans requires a 12 inch PVC dewatering pipe with a 6 inch butterfly valve. It is unclear if the drain and valve were installed since an access hatch or inspection port was not present on the riser cap.

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

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

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environ@james-city.va.us

PLANNING
(757) 253-6685
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COUNTY ENGINEER
(757) 253-6678

INTEGRATED PEST MANAGEMENT
(757) 253-2620

May 16, 2003

Mr. James H. Bennett
Governors Land Associates
9701 Mill Pond Run
Toano, Va. 23168

Re: Governor's Land - Travis Pond
County Plan No. SP-145- 89
Stormwater Management Facility
County BMP ID Code: JR 016

Dear Mr. Bennett:

The Environmental Divisions has reviewed a record drawing (asbuilt) and postconstruction geotechnical report (ECS # 6221 dated December 31st 2000) as submitted to our office for the above referenced BMP. The record drawing provides asbuilt information for a large lake BMP situated between the Whitaker Island Block A and the Travis Pond sections of Governor's Land near golf course Fairway # 9.

Based on our review of the project and a concurrent field inspection as performed on March 13th 2003, the following items must be addressed prior to release of the developer's surety instrument for the stormwater management/BMP facility at the site and to proceed with closing out the project

Construction Certification:

1. In accordance with notes on Sheet 6 and on Section B-B of Sheet 10 of the approved plan, construction certification was required for the BMP. This note stated that "... after construction, the geotechnical consultant shall submit a report demonstrating that the dam was built in accordance with their report recommendations." None was provided. Although not provided, a post-construction geotechnical analyses of the dam embankment was performed. The portion of the post-construction geotechnical report for Travis Pond appears to satisfy any outstanding construction certification requirements for the facility.

Record Drawing:

2. Provide an asbuilt elevation for the bottom of the pond at the upstream toe of the dam embankment near the invert elevation of the pond drain to verify that design depth (elevation) was achieved and that excessive sedimentation does not exist in the bottom of the facility. The approved plan shows a design elevation at El. 16.80 or approximately 9.5 ft. below current normal pool.

3. Based on field observations, it does not appear that an emergency spillway was present on the facility. The approved plan called for an emergency spillway 10 ft. wide with 10H:1V side slopes at El. 30.0. However, Section B-B and the 1"=20 ft. inset plan on the record drawing indicate an asbuilt emergency spillway elevation at El. 29.92. Show the approximate location of the emergency spillway as constructed on 1"=20' inset plan portion of the record drawing.

4. Based on the approved plan, proposed top of dam was at El. 31.16 and design high water is at El. 29.70, thus the approved design was intended to achieve 1.46 ft. of freeboard. Based on asbuilt data on the Section B-B drawing, asbuilt elevations for top of dam ranged from El. 30.2 to El. 30.7 and emergency spillway crest was at El. 29.92. Firstly, this does not agree with asbuilt spot elevation data shown on the 1"=20' inset plan which shows dam crest elevations even lower than El. 30.2 in some locations, especially on the west abutment of the dam. Secondly, asbuilt data shows that proposed top of dam elevations (El. 30.16) were not achieved nor were consistent top of dam elevations achieved to meet minimum freeboard requirements. Minimum freeboard requirements are 1 ft. between design high water and top of dam, if an emergency spillway is present on the facility. This would correspond to consistent minimum top of dam elevations at El. 30.7 if an emergency spillway was or will be constructed. Therefore, it appears most of the top of dam crest was not constructed high enough to even meet minimum freeboard standards. Provide additional asbuilt spot elevation data along top of dam to show proposed top of dam elevations or top of dam elevations to minimum El. 30.7 were achieved; or alternatively, construct the dam to minimum top of dam El. 30.7 or provide an asbuilt hydraulic routing to ensure minimum freeboard of 1 ft. exists at the BMP.

Construction - Related Items:

5. At the time of inspection, there was an erosion gully on the middle portion of the downstream face of the dam. It is presumed that the cause of the erosion was not due to overflow from the BMP or surface runoff from the adjacent areas, but due to a leaking joint or valve associated with the irrigation piping system (non-stormwater related) as constructed across the top of dam. This condition may result in continued erosion and piping of soil on the downstream face of dam which could eventually threaten the structural integrity of the facility. Investigate and repair as necessary. Stabilize any disturbed areas that occur as a result of repair activities with seed and mulch or matting.

6. The outlet end of the pipe barrel through the dam was nearly completely blocked (obstructed) with large pieces of concrete debris. Flow out of the pond must not be obstructed by debris.

7. Clear and remove all vegetation, brush, debris and sediment within 10 feet of the outfall end of the pipe barrel through the dam. Flow out of the basin shall not be obstructed by vegetation, brush, debris and sediment.

8. Restore the rock outlet protection pad at the downstream end of the pipe barrel through the dam to approved plan dimensions and specifications.

Once this work is satisfactorily completed, contact our office appropriately for reinspection. We can then proceed with final release of the surety and/or closing out the project. One reproducible and one blue/black line set of the record drawings will be required once the above items are adequately addressed.

Please contact me at 757-253-6639 or the assigned Environmental Division inspector, Joe Buchite at 757-253-6643 if you have any further comments or questions.

Sincerely,

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

cc: Marc Bennett, AES - via fax

G:\AsBuilts\Review\GovLand\SP14589.jr016

DEVELOPMENT MANAGEMENT

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			(757) 253-2620

May 16, 2003

Mr. James H. Bennett
Governors Land Associates
9701 Mill Pond Run
Toano, Va. 23168

Reinspect
6-2-03

Re: Governor's Land - Travis Pond
County Plan No. SP-145- 89
Stormwater Management Facility
County BMP ID Code: JR 016

Dear Mr. Bennett:

The Environmental Divisions has reviewed a record drawing (asbuilt) and postconstruction geotechnical report (ECS # 6221 dated December 31st 2000) as submitted to our office for the above referenced BMP. The record drawing provides asbuilt information for a large lake BMP situated between the Whitaker Island Block A and the Travis Pond sections of Governor's Land near golf course Fairway # 9.

Based on our review of the project and a concurrent field inspection as performed on March 13th 2003, the following items must be addressed prior to release of the developer's surety instrument for the stormwater management/BMP facility at the site and to proceed with closing out the project

Construction Certification:

1. In accordance with notes on Sheet 6 and on Section B-B of Sheet 10 of the approved plan, construction certification was required for the BMP. This note stated that "... after construction, the geotechnical consultant shall submit a report demonstrating that the dam was built in accordance with their report recommendations." None was provided. Although not provided, a post-construction geotechnical analyses of the dam embankment was performed. The portion of the post-construction geotechnical report for Travis Pond appears to satisfy any outstanding construction certification requirements for the facility.

Record Drawing:

2. Provide an asbuilt elevation for the bottom of the pond at the upstream toe of the dam embankment near the invert elevation of the pond drain to verify that design depth (elevation) was achieved and that excessive sedimentation does not exist in the bottom of the facility. The approved plan shows a design elevation at El. 16.80 or approximately 9.5 ft. below current normal pool.

El. 15-17 ok

3. Based on field observations, it does not appear that an emergency spillway was present on the facility. The approved plan called for an emergency spillway 10 ft. wide with 10H:1V side slopes at El. 30.0. However, Section B-B and the 1"=20 ft. inset plan on the record drawing indicate an asbuilt emergency spillway elevation at El. 29.92. Show the approximate location of the emergency spillway as constructed on 1"=20' inset plan portion of the record drawing.

4. Based on the approved plan, proposed top of dam was at El. 31.16 and design high water is at El. 29.70, thus the approved design was intended to achieve 1.46 ft. of freeboard. Based on asbuilt data on the Section B-B drawing, asbuilt elevations for top of dam ranged from El. 30.2 to El. 30.7 and emergency spillway crest was at El. 29.92. Firstly, this does not agree with asbuilt spot elevation data shown on the 1"=20' inset plan which shows dam crest elevations even lower than El. 30.2 in some locations, especially on the west abutment of the dam. Secondly, asbuilt data shows that proposed top of dam elevations (El. 30.16) were not achieved nor were consistent top of dam elevations achieved to meet minimum freeboard requirements. Minimum freeboard requirements are 1 ft. between design high water and top of dam, if an emergency spillway is present on the facility. This would correspond to consistent minimum top of dam elevations at El. 30.7 if an emergency spillway was or will be constructed. Therefore, it appears most of the top of dam crest was not constructed high enough to even meet minimum freeboard standards. Provide additional asbuilt spot elevation data along top of dam to show proposed top of dam elevations or top of dam elevations to minimum El. 30.7 were achieved; or alternatively, construct the dam to minimum top of dam El. 30.7 or provide an asbuilt hydraulic routing to ensure minimum freeboard of 1 ft. exists at the BMP.

Construction - Related Items:

5. At the time of inspection, there was an erosion gully on the middle portion of the downstream face of the dam. It is presumed that the cause of the erosion was not due to overflow from the BMP or surface runoff from the adjacent areas, but due to a leaking joint or valve associated with the irrigation piping system (non-stormwater related) as constructed across the top of dam. This condition may result in continued erosion and piping of soil on the downstream face of dam which could eventually threaten the structural integrity of the facility. Investigate and repair as necessary. Stabilize any disturbed areas that occur as a result of repair activities with seed and mulch or matting.

6. The outlet end of the pipe barrel through the dam was nearly completely blocked (obstructed) with large pieces of concrete debris. Flow out of the pond must not be obstructed by debris.

7. Clear and remove all vegetation, brush, debris and sediment within 10 feet of the outfall end of the pipe barrel through the dam. Flow out of the basin shall not be obstructed by vegetation, brush, debris and sediment.

8. Restore the rock outlet protection pad at the downstream end of the pipe barrel through the dam to approved plan dimensions and specifications.

Once this work is satisfactorily completed, contact our office appropriately for reinspection. We can then proceed with final release of the surety and/or closing out the project. One reproducible and one blue/black line set of the record drawings will be required once the above items are adequately addressed.

Please contact me at 757-253-6639 or the assigned Environmental Division inspector, Joe Buchite at 757-253-6643 if you have any further comments or questions.

Sincerely,

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

cc: Marc Bennett, AES - via fax

G:\AsBuilts\Review\GovLand\SP14589.jr016

MR KING 253-0320

OUR BMP FILES CONTAIN DOCUMENTS SIMILAR TO THE ONE ATTACHED. PLEASE CALL MR AT 259-1441 IF YOU WANT LOOK AT THE FILES

Wayland Bass

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

County BMP ID Code (if known): JR016

Name of Facility: TRAVIS POND BMP No.: 1 of Date: 2/6/03

Location: GOVERNOR'S LAND

Name of Owner: DOMINION LAND MANAGEMENT CO.

Name of Inspector: VICTORIA BAINS

Type of Facility: POND

Weather Conditions: CLEAR Type: ☐ Final Inspection ☐ County BMP Inspection Program ☒ Owner Inspection

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. No action required.
Routine - The item checked requires attention, but does not present an immediate threat to the function/integrity of the BMP.
Urgent - The item checked requires immediate attention to keep the BMP operational and to 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	✓			
Vegetation Condition	✓			
Tree Growth		✓		SOME WOODY VEGETATION ABOVE OUTFA
Erosion		✓		SOME ABOVE OUTFALL & LARGE CONC. PIECES HA BEEN DUMPED TO STOP EROSION.
Trash & Debris	✓			
Seepage				
Fencing or Benches	✓			
Interior Landscaping/Planted Areas: ☒ None ☐ Constructed Wetland/Shallow Marsh ☐ Naturally Established Vegetation				
Vegetated Conditions	N/A			
Trash & Debris	✓			NO TRASH OR DEBRIS
Floating Material	✓			NO OBJECTS FLOATING
Erosion	✓			NO SIGNS OF EROSION ON SHORELINES
Sediment	✓			NO SIGNS OF SEDIMENT, BUT NEED TO GO OVER SURVEY
Dead Plant	✓			NO SIGNS OF DEAD PLANTS IN POND
Aesthetics	✓			
Other				
Notes:				

Facility Item	O.K.	Routine	Urgent	Comments
Water Pools: ☒ Permanent Pool (Retention Basin) ☐ Shallow Marsh (Detention Basin) ☐ None, Dry (Detention Basin)				
Shoreline Erosion	✓			SHORELINE IN GOOD SHAPE
Algae	✓			NO ALGAE PRESENT
Trash & Debris	✓			NO TRASH OR DEBRIS FLOATING
Sediment				NEED TO COMPARE SURVEY TO DESIGN
Aesthetics	✓			
Other				
Inflows (Describe Types/Locations):				
Condition of Structure				
Erosion				
Trash and Debris				
Sediment				
Outlet Protection				
Other				
Principal Flow Control Structure - Riser, Intake, etc. (Describe Type): RISER				
Condition of Structure	✓			RISER LOOKS IN GOOD SHAPE
Corrosion	✓			NO SIGNS OF CORROSION
Trash and Debris	✓			NO TRASH OR DEBRIS AROUND RISER
Sediment	✓			
Vegetation	✓			
Other				
Principal Outlet Structure - Barrel, Conduit, etc. :				
Condition of Structure	✓			PIPE LOOKS IN GOOD SHAPE
Settlement	✓			
Trash & Debris	✓			
Erosion/Sediment		✓		SOME EROSION ABOVE PIPE
Outlet Protection		✓		NEEDS TO BE RESHAPED AND ADDED TO
Other				
Emergency Spillway (Overflow):				
Vegetation	✓			
Lining	N/A			
Erosion	✓			
Trash & Debris	✓			
Other				

Notes:

Facility Item	O.K.	Routine	Urgent	Comments
Nuisance Type Conditions:				
Mosquito Breeding	✓			
Animal Burrows	✓			
Graffiti	✓			
Other				
Surrounding Perimeter Conditions:				
Land Uses	✓			
Vegetation	✓			
Trash & Debris	✓			
Aesthetics	✓			
Access /Maintenance Roads or Paths	✓			
Other				

Remarks:

THIS POND IS LOCATED NEXT TO THE 9th's GREEN AND FAIRWAY. THE SHORELINE IS IN EXCELENT CONDITION. THE OUTFALL HOWEVER HAS LARGE PIECES OF CONCRETE DUMPED ON EMBANKMENT ABOUE AND SOME PIECES HAVE FALLEN AND MAY BE BLOCKING FLOWOUT OF OUTFALL.

Overall Environmental Division Internal Rating: _____

Signature: Victoria Bains **Date:** 2/6/03

Title: PROJECT ENGINEER

SWMProg\BMP\CoInspProg\DetRet.wpd

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

County BMP ID Code (if known): JR016

Name of Facility: TRAVIS POND BMP No.: 1 of 25 Date: 2/6/03

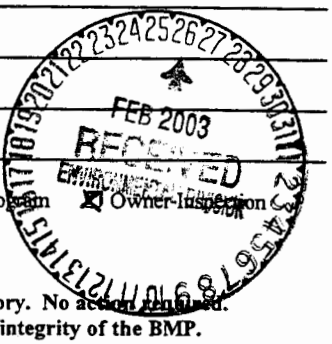
Location: GOVERNOR'S LAND

Name of Owner: DOMINION LAND MANAGEMENT CO.

Name of Inspector: VICTORIA BAINS

Type of Facility: POND

Weather Conditions: CLEAR Type: ☐ Final Inspection ☐ County BMP Inspection Program ☒ Owner Inspection



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. No action required.
Routine - The item checked requires attention, but does not present an immediate threat to the function/integrity of the BMP.
Urgent - The item checked requires immediate attention to keep the BMP operational and to 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	✓			LOOKS AS IF REGULARLY MOWED
Vegetation Condition	✓			NO BARE SPOTS FOUND
Tree Growth	✓			NO TREES
Erosion	✓			NO SIGNS OF EROSION
Trash & Debris	✓			NO TRASH OR DEBRIS FOUND
Seepage	✓			NO SIGNS
Fencing or Benches	N/A			
Interior Landscaping/Planted Areas: ☒ None ☐ Constructed Wetland/Shallow Marsh ☐ Naturally Established Vegetation				
Vegetated Conditions	N/A			
Trash & Debris	✓			NO TRASH OR DEBRIS FLOATI
Floating Material	✓			NO OBJECTS FLOATING
Erosion	✓			NO SIGNS OF EROSION
Sediment	✓			NO SIGNS OF SEDIMENT BUT NEED TO GO OVER SURE
Dead Plant	✓			NO SIGNS OF DEAD PLANTS IN POND
Aesthetics	✓			
Other				
Notes:				

Facility Item	O.K.	Routine	Urgent	Comments
Water Pools: ☒ Permanent Pool (Retention Basin) ☐ Shallow Marsh (Detention Basin) ☐ None, Dry (Detention Basin)				
Shoreline Erosion	✓			SHORELINE IN GOOD SHAPE
Algae	✓			NO ALGAE PRESENT
Trash & Debris	✓			NO TRASH OR DEBRIS FLOATING
Sediment				NEED TO COMPARE SURVEY TO DESIGN
Aesthetics	✓			
Other				
Inflows (Describe Types/Locations):				
Condition of Structure				
Erosion				
Trash and Debris				
Sediment				
Outlet Protection				
Other				
Principal Flow Control Structure - Riser, Intake, etc. (Describe Type): RISER				
Condition of Structure	✓			RISER IS IN GOOD SHAPE
Corrosion	✓			NO SIGNS OF CORROSION
Trash and Debris	✓			NO TRASH OR DEBRIS AROUND RISER
Sediment	✓			
Vegetation	✓			
Other				
Principal Outlet Structure - Barrel, Conduit, etc. :				
Condition of Structure	✓			PIPE IN GOOD SHAPE
Settlement	✓			
Trash & Debris	✓			
Erosion/Sediment	✓			NO SIGNS OF EROSION OR SEDIMENT
Outlet Protection	✓			PLENTY OF RIPRAP
Other				
Emergency Spillway (Overflow):				
Vegetation	✓			
Lining	N/A			
Erosion	✓			
Trash & Debris	✓			
Other				
Notes:				

Facility Item	O.K.	Routine	Urgent	Comments
Nuisance Type Conditions:				
Mosquito Breeding	✓			
Animal Burrows	✓			
Graffiti	✓			
Other				
Surrounding Perimeter Conditions:				
Land Uses	✓			
Vegetation	✓			
Trash & Debris	✓			
Aesthetics	✓			
Access /Maintenance Roads or Paths	✓			
Other				

Remarks:

THIS POND IS LOCATED NEXT TO THE 9th's GREEN & FAIRWAY AND SHORELINE IS IN EXCELENT CONDITION. THE OUTFALL HAS PLENTY OF RIP RAP AND I SAW NO EVIDENCE OF EROSION AT THE OUTFALL. ALSO NO SIGNS OF SEDIMENT.

concrete Debris at outfall?

Overall Environmental Division Internal Rating: 4

Signature: Victoria Bains **Date:** 2/6/03

Title: PROJECT ENGINEER

SWMProg\BMP\CoInspProg\DetRet.wpd

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

County BMP ID Code (if known): JR016 TRAVIS POND

Name of Facility: GOVERNORS LAND BMP No.: ___ of ___ Date: 3/13/03

Location: NEAR 2013 TRAVIS CLOSE RD.

Name of Owner: ___

Name of Inspector: Rick Hall

Type of Facility: Wet pond

Weather Conditions: Sunny - mild Type: ☒ Final Inspection ☐ County BMP Inspection Program ☐ Owner Inspection

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. No action required.
Routine - The item checked requires attention, but does not present an immediate threat to the function/integrity of the BMP.
Urgent - The item checked requires immediate attention to keep the BMP operational and to 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	✓			EXCAVATED POND
Vegetation Condition	✓			
Tree Growth	✓			
Erosion	✓			
Trash & Debris	✓			
Seepage	~~✓~~	✓		SEEPAGE NEAR BOTTOM
Fencing or Benches				OF SLOPE
Interior Landscaping/Planted Areas: ☒ None ☐ Constructed Wetland/Shallow Marsh ☐ Naturally Established Vegetation				
Vegetated Conditions				
Trash & Debris				
Floating Material				
Erosion				
Sediment				
Dead Plant				
Aesthetics				
Other				
Notes:				

Facility Item	O.K.	Routine	Urgent	Comments
Water Pools: ☒ Permanent Pool (Retention Basin) ☐ Shallow Marsh (Detention Basin) ☐ None, Dry (Detention Basin)				
Shoreline Erosion	✓			HAS pumps - deep water "lake"
Algae	✓			
Trash & Debris	✓			
Sediment	✓			
Aesthetics	✓			
Other				
Inflows (Describe Types/Locations): VARIOUS SUBMERGED PIPES AND SURFACE FLOW.				
Condition of Structure	✓			
Erosion	✓			
Trash and Debris	✓			
Sediment	✓			
Outlet Protection	✓			
Other				
Principal Flow Control Structure - Riser, Intake, etc. (Describe Type): RCP RISER & CAP				
Condition of Structure	✓			
Corrosion	✓			
Trash and Debris	✓			
Sediment	✓			
Vegetation	✓			
Other				
Principal Outlet Structure - Barrel, Conduit, etc. : ASSUME RCP				
Condition of Structure			✓	Outlet end buried with concrete waste slabs, it's below grade of slope but is flowing
Settlement	✓			
Trash & Debris	✓			
Erosion/Sediment			✓	
Outlet Protection		✓		Protection is poor
Other				
Emergency Spillway (Overflow): NONE				
Vegetation				
Lining				
Erosion				
Trash & Debris				
Other				
Notes:				

Facility Item	O.K.	Routine	Urgent	Comments
Nuisance Type Conditions:				
Mosquito Breeding	✓			
Animal Burrows	✓			
Graffiti	✓			
Other				
Surrounding Perimeter Conditions:				
Land Uses	✓			
Vegetation	✓			
Trash & Debris	✓			
Aesthetics	✓			
Access /Maintenance Roads or Paths		✓		No direct access
Other				

Remarks: Outlet of barrel obscured by concrete debris, tall weeds, and sediment. Needs additional protection

Damp ground or seepage near bottom of slope

Overall Environmental Division Internal Rating: 2

Signature: _____ **Date:** 3/31/03

Title: ENVIR. Spec.

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

Database Inventory No. (if known): JR 016

Name of Facility: Travis Pond - Governors Land BMP No.: 1 of 1 Date: 10/25/00

Location: End Travis Close behind Lot 51 - Golf Course Hole #9

Name of Owner: Governors Land Management (Dominion)

Inspector: SJ Thomas, MD Woolson 3001 TRAVIS POND ROAD — END Travis Close

Type of Facility: Wet Embankment Pond

Weather Conditions: Sunny, Cool 70's GOLF COURSE POND Emb - South

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			Golf Course Turf
Vegetation Condition	X			Good Condition
Tree Growth	X			None, except beyond toe.
Erosion		X		Minor @ East side o/s emb.
Trash & Debris		X		1-3' concrete debris at base
Seepage				
Fencing or Benches				
Interior Landscaping/Planted Areas: ☒ None ☐ Constructed Wetland/Shallow Marsh ☐ Naturally Established Vegetation				
Vegetated Conditions				Wet Normal. Pool depth unk.
Trash & Debris				Mainly manicured grass to
Floating Material				water pool due to golf course
Erosion				Cuts. About 10-20% of
Sediment				perimeter in SW corner is
Dead Plant				good shoreline grass
Aesthetics				Golf course irrigated.
Other				

Paved low profile C+G roadways → inlet → to pond.

GPIN 4410100007

Facility Item	O.K.	Routine	Urgent	Comments
Water Pools	☒ Permanent Pool (Retention Basin) ☐ Shallow Marsh (Detention Basin) ☐ None (Detention Basin)			
Shoreline Erosion		X		8" erosion east (golf course) side
Algae	X			due to wave & level fluc
Trash & Debris	X			Minor north emb.
Sediment	X			benching at shoreline due to bank eros.
Aesthetics				
Other				3-4' deep at riser (pool)
Inflow Stuctures (Describe Locations):	Various Channel + Pipe Inflow - submerged pipes.			
Condition of Structure	X			
Erosion	X			
Trash and Debris	X			
Sediment	X			
Aesthetics	X			
Other				
Principal Flow Control Structure - Intake, Riser, etc. (Describe Location):	48" RCP w/ conc. cap (inaccessible due to water pool)			
Condition of Structure		X	X	Valve Mechanism Control Missing
Corrosion				
Trash and Debris				
Sediment				
Aesthetics				
Other				Note: PLAN SHOWED 12" PVC DEWATER PIPE WITH BUTTERFLY VALVE.
Principal Outlet Structure - Barrel, Conduit, etc. :	12"d RCP w/ Endwall			
Condition of Structure			X	90% blockage 1-3' size concrete rubble
Settlement	X			
Trash & Debris			X	
Sediment				
Erosion	X			
Other			X	Remove concrete rubble, vegetation reestablish @ outfall
Emergency Spillway (Overflow):	None Per Design. Apparent Low at Lot 51 west emb.			
Vegetation				
Lining				
Erosion				
Trash & Debris				
Other				

Facility Item	O.K.	Routine	Urgent	Comments
Nuisance Type Conditions:				
Mosquito Breeding	X			
Animal Burrows		X		Minor west side emb.
Graffiti	X			
Other	X			
Surrounding Perimeter Conditions:	West Perimeter (Simpletam); East Perimeter (Golf Course			
Land Uses	X			East
Vegetation	X			Good shoreline grass SW Corner.
Trash & Debris	X			Rest is Golf-course Lot grass.
Aesthetics	X			
Access /Maintenance Roads or Paths		X		No Apparent access except thru golf course or Lot 51.
Other				

Remarks:

3 borings flagged @ 50' spacing (B-1, B-2 & B-3)
- Erosion East D/S Emb.
- Concrete Rubble at base D/S emb; barrel outfall needs removed. 90% blockage.
- Valve mechanism for pond drain is missing or not evident. Could not access riser for inspection about 15' off-shore.
- Note: Aerator with electric service about 35' SW of riser. electric service thru emb. East Model O with lock box.

Overall Environmental Division Internal Rating: 2

Signature: Geoff Thrower **Date:** 10/25/00

Title: Civil Engineer Environmental Division

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Date Record Created:

Created By:

WS_BMPNO: JR016

Print Record

PRINTED ON
Thursday, March 11, 2010
1:27:02 PM

WATERSHED	JR
BMP ID NO	016
PLAN NO	SP-145-89
TAX PARCEL	(44-1)(1-7)
PIN NO	4410100007
CONSTRUCTION DATE	1/1/1991
PROJECT NAME	Governor's Land - Travis Pond
FACILITY LOCATION	Near 2013 Travis Close Road
CITY-STATE	Williamsburg, Va. 23185
CURRENT OWNER	Governors Land Management Co.
OWNER ADDRESS	2700 Two Rivers Road
OWNER ADDRESS 2	
CITY-STATE-ZIP CODE	Williamsburg, Va. 23185
OWNER PHONE	
MAINT AGREEMENT	Yes
EMERG ACTION PLAN	No

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MAINTENANCE PLAN	No
SITE AREA acre	1400
LAND USE	Res Planned Com
old BMP TYP	Wet Pond
JCC BMP CODE	A2 Wet Pond
POINT VALUE	11
SVC DRAIN AREA acres	51.42
SERVICE AREA DESCRI	SF, Roadway and Golf Course
IMPERV AREA acres	
RECV STREAM	UT to James River
EXT DET-WQ-CTRL	Yes
WTR QUAL VOL acre-ft	14.6
CHAN PROT CTRL	No
CHAN PROT VOL acre-ft	0
SW/FLOOD CONTROL	Yes
GEOTECH REPORT	No

CTRL STRUC DESC	RCP Riser
CTRL STRUC SIZE inches	48
OTLT BARRL DESC	RCP Barrel
OTLT BARRL SIZE inch	12
EMERG SPILLWAY	Yes
DESIGN HW ELEV	29.99
PERM POOL ELEV	26.30
2-YR OUTFLOW cfs	5.85
10-YR OUTFLOW cfs	9.70
REC DRAWING	Yes
CONSTR CERTIF	Yes
LAST INSP DATE	3/13/2002
Inspected by:	
INTERNAL RATING	3

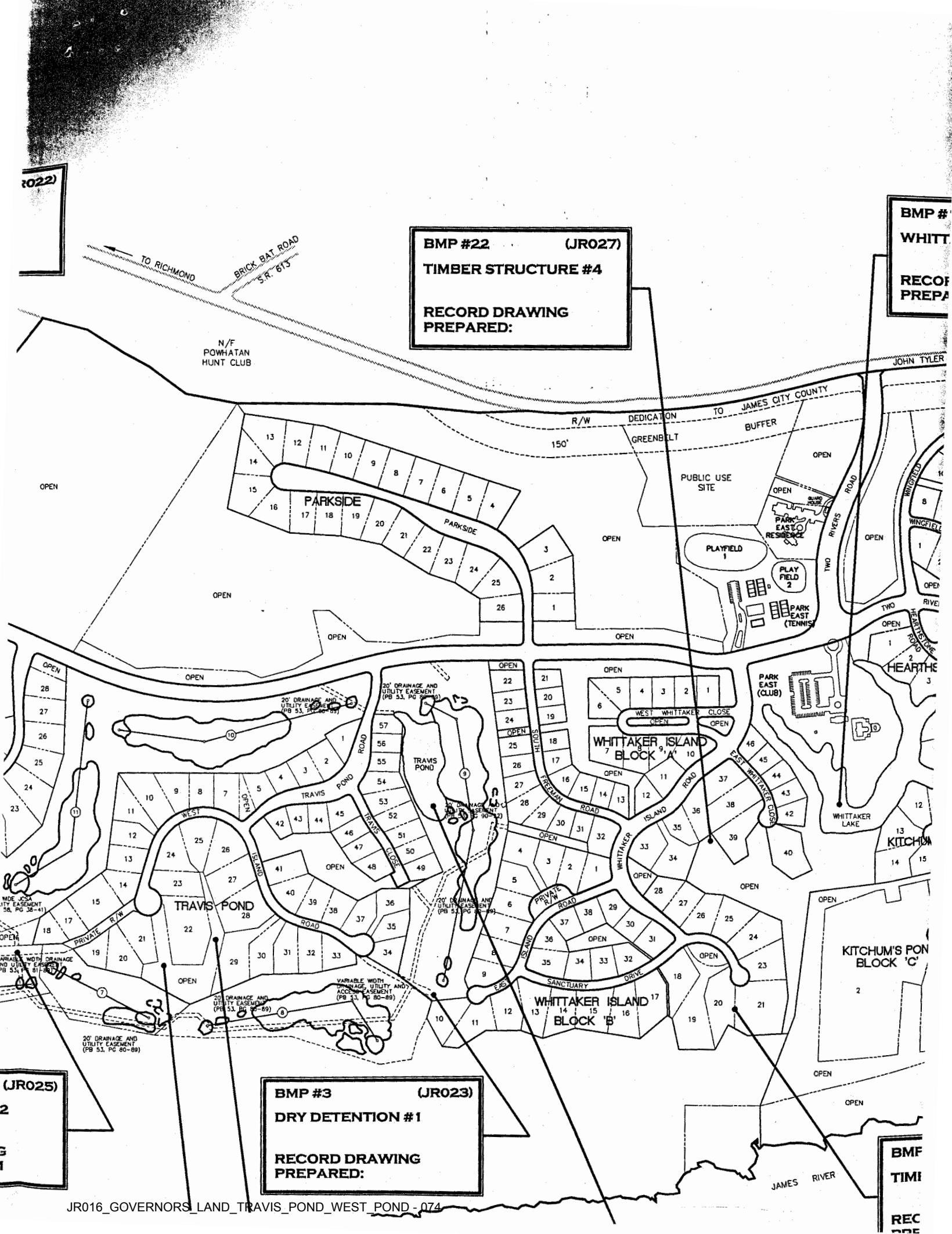
MISC/COMMENTS

Large wet pond next to Golf Course Hole 9.

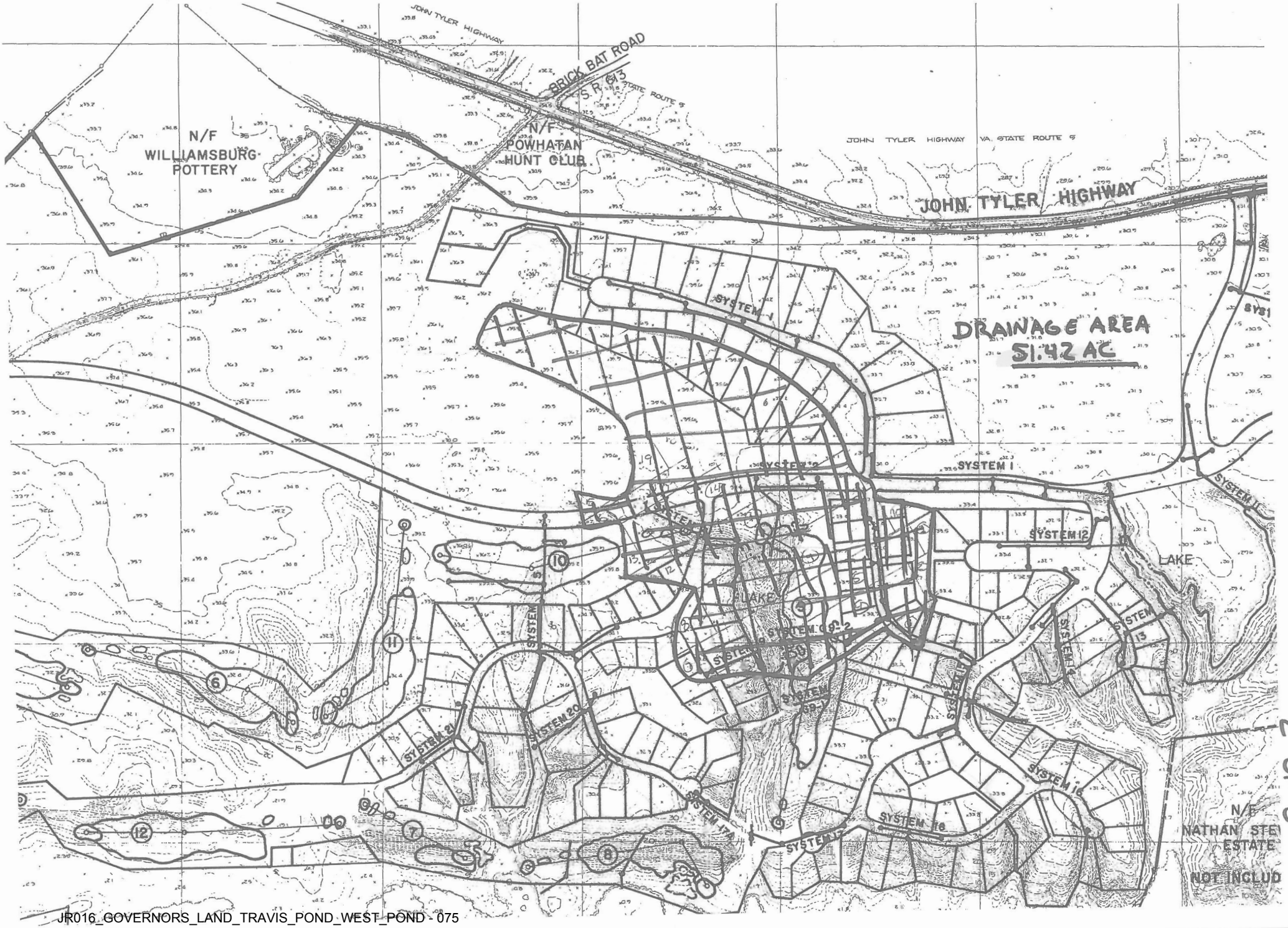
Additional Comments:

JR016_GOVERNORS_LAND_TRAVIS_POND_WEST_POND - 072

JR016_GOVERNORS_LAND_TRAVIS_POND_WEST_POND - 073



JR016_GOVERNORS_LAND_TRAVIS_POND_WEST_POND - 074



JR016_GOVERNORS_LAND_TRAVIS_POND_WEST_POND - 075