

MC-021

**Contents for Stormwater Management Facilities As-built Files**

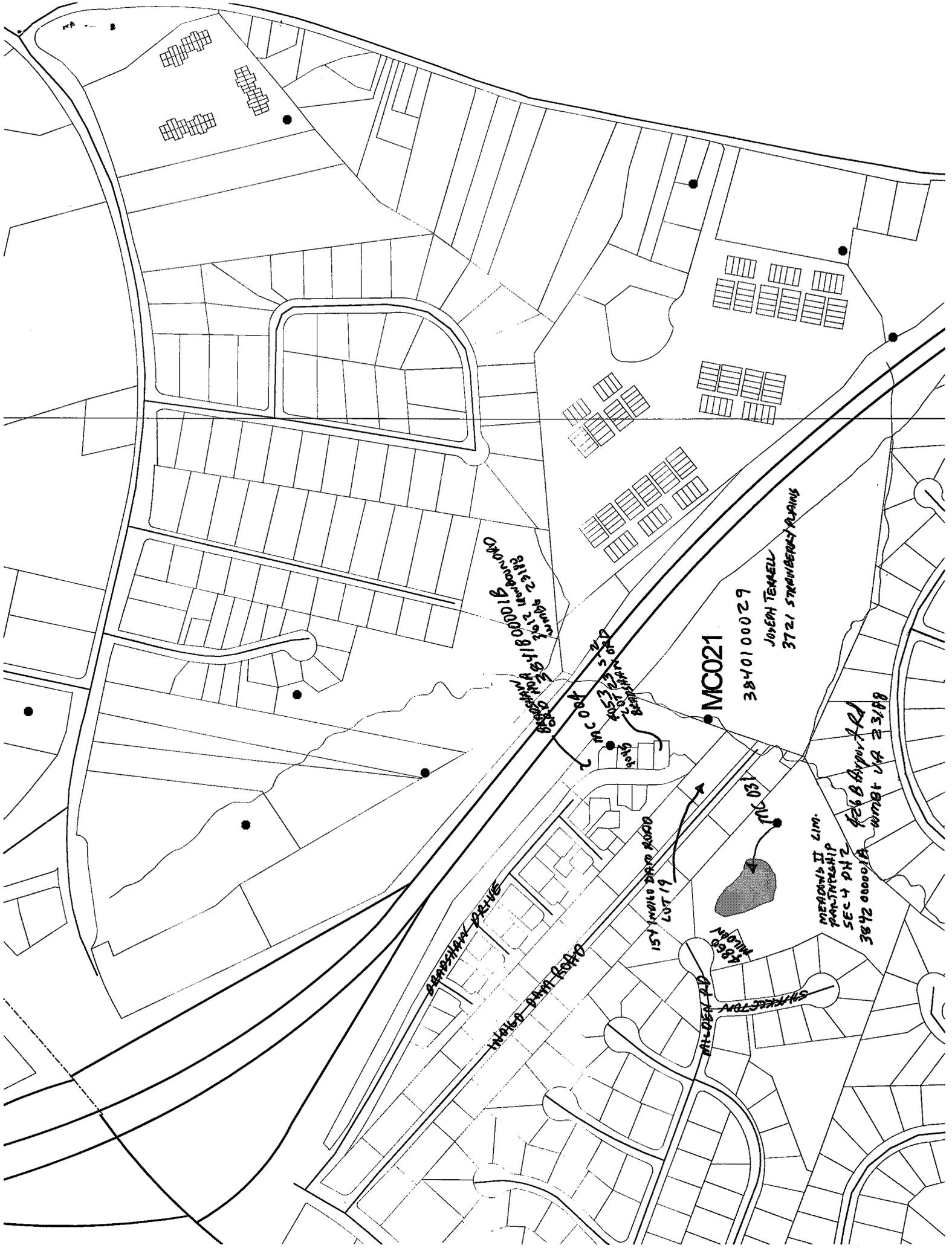
Each file is to contain:

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

|                     |                                      |                       |                             |                        |  |
|---------------------|--------------------------------------|-----------------------|-----------------------------|------------------------|--|
| WATERSHED           | MC                                   | MAINTENANCE PLAN      | No                          | CTRL STRUC DESC        | Mod EW-11  |
| BMP ID NO           | 021                                  | SITE AREA acre        |                             | CTRL STRUC SIZE inches | 10' x 4.1  |
| PLAN NO             |                                      | LAND USE              |                             | OTLT BARRL DESC        | RCP Barrel   |
| TAX PARCEL          | (38-4)(1-29)                         | old BMP TYP           | Dry Pond                    | OTLT BARRL SIZE inch   | 42   |
| PIN NO              | 3840100029                           | JCC BMP CODE          |                             | EMERG SPILLWAY         | Yes  |
| CONSTRUCTION DATE   | 1/1/1993                             | POINT VALUE           |                             | DESIGN HW ELEV         | 63.0   |
| PROJECT NAME        | Mill Creek Detention Basin           |                       |                             | PERM POOL ELEV         | na   |
| FACILITY LOCATION   | Regional Basin-End of Bradshaw Drive | SVC DRAIN AREA acres  |                             | 2-YR OUTFLOW cfs       | 0.00   |
| CITY-STATE          | Williamsburg, Va. 23188              |                       |                             | 10-YR OUTFLOW cfs      | 0.00   |
| CURRENT OWNER       | James City County, Virginia          |                       |                             | REG DRAWING            | No   |
| OWNER ADDRESS       | 101 Mounts Bay Road                  | SERVICE AREA DESCRI   | Areas Adjacent US Route 199 | CONSTR CERT            | No   |
| OWNER ADDRESS 2     | P. O. Box 8784                       | IMPERV AREA acres     |                             | LAST INSP DATE         | 12/7/2000  |
| CITY-STATE-ZIP CODE | Williamsburg, Va. 23187              | RECV STREAM           | Mill Creek                  | INTERNAL RATING        | 4  |
| OWNER PHONE         |                                      | EXT DET-WQ-CTRL       | Yes                         | MISC/COMMENTS          | form Terrells Barn basin. JCC retrofit work Summer 97. |
| MAINT AGREEMENT     | Yes                                  | WTR QUAL VOL acre-ft  | No                          |                        |  |
| EMERG ACTION PLAN   | No                                   | CHAN PROT CTRL        | Yes                         |                        |  |
|                     |                                      | CHAN PROT VOL acre-ft | No                          |                        |  |
|                     |                                      | SW/FLOOD CONTROL      | Yes                         |                        |  |
|                     |                                      | GEOTECH REPORT        | No                          |                        |  |

Get Last BMP No

Return to Menu



38162 SPURWAY  
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MC021

3840100029

JOSEPH TENNELL  
3721 STRAMBERT RIFLES

386 BAYVIEW RD  
WIMBT VA #3188

MEADOWS II LIM.  
PARTNERSHIP  
SEC 4 PH 2  
3842 000018

4869 MICHIGAN RD

154 MILLS BARN ROAD  
LOT 19

SANDY LAKE DRIVE  
WALTON PARK ROAD

SUNNYSIDE RD



2nd Draft

MEMORANDUM

DATE: October 23, 1990  
TO: The Board of Supervisors  
FROM: Bernard M. Farmer, Jr.  
SUBJECT: Regional Drainage Improvement

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As development takes place within the Mill Creek/Lake Powell watershed it has been our desire to take steps to limit the adverse effects of this development in relation to water quality. This memorandum will outline a proposal to use funds from the Environmental Protection CIP account, along with donations of land and easements from the property owners involved, to design and construct a drainage control facility.

In 1988 the Board of Supervisors commissioned a study of the Mill Creek/Lake Powell watershed area to develop a watershed management plan. The plan's objective was to address stormwater control on a regional basis in order to improve water quality and lessen erosion and sedimentation. The study recommended use of a cost sharing program to install regional control facilities, as opposed to the continued piecemeal use of individual on site practices. Based on the Board's direction this program was never implemented and staff has worked as development proposals have been submitted to persuade developers to install the control facilities on a voluntary basis. This approach has worked well in large developments where all of the contributing drainage area is controlled by a single entity (examples are Ford's Colony and Warhill) yet we have not been as successful with smaller developments involving multiple owners.

Presently several sites within the drainage area bounded generally by Indigo Dam Road, Ironbound Road and Strawberry Plains Road are under development. Other sites within this area have recently developed, with existing proposals for more development. Staff feels that a regional drainage detention facility would best prevent degradation of water quality as a result of the increases in impervious surface area. The drainage basin study recommended a site between the Midlands project and Bradshaw's Ordinary on land controlled by the Digges Brothers. Drainage easements would be required from adjacent property controlled by Joe Terrell as the proposed impoundment would periodically cover some of his property. Staff has informally approached both property owners and they have agreed to donate the land or easements for construction of the facility and impoundment of the water.

Attached is a preliminary cost analysis and sketch prepared for the project based on a conceptual design of a dry (meaning it

BOS Memo  
October 12, 1990  
page 2

only impounds water for a short period after it rains) detention facility. The proposed structure would incorporate extended detention measures for water quality improvement capability as well as provide capacity to control the increases in quantity of water. Access would be provided from the Bradshaw's Ordinary development and needed only for construction and infrequent maintenance of the structure. *Long term maintenance would be a County responsibility*

~~Unless objection is raised by the Board, staff will proceed to utilize the Environmental Protection money as outlined in the attachment and begin design of the facility.~~ Staff recommends that the attached resolution be approved authorizing the County Administrator to execute documents required for construction. We will periodically provide updates to keep the board apprised of progress on the project. Staff is available to provide any further information desired or to answer any questions pertaining to the project that Board members might have.

*design and*

*of the facility*

Attachments

*(estimate + resolution)*

MILL CREEK REGIONAL BASIN  
PRELIMINARY PROJECT ESTIMATE

| Item                            | Amount     |
|---------------------------------|------------|
| 1. Engineering & Permits        | \$3000.    |
| 2. Plat Preparation & Survey    | \$4500.    |
| 3. Right of Way Agent Time      | \$2000.    |
| 4. Construction Cost (lump sum) | \$105,000. |
| <u>TOTAL</u>                    | \$114,500. |

Estimate assumes no cost for land acquisition.

## MEMORANDUM

DATE: December 17, 1990  
TO: The Board of Supervisors  
FROM: Bernard M. Farmer, Jr., Director of Code Compliance  
SUBJECT: Regional Drainage Improvement

---

As development takes place within the Mill Creek/Lake Powell watershed, it has been our desire to take steps to limit the adverse effects in relation to water quality. This memorandum will outline a proposal to use funds from the Environmental Protection CIP account, along with donations of land and easements from the property owners involved, to design and construct a drainage control facility that will help to preserve the quality of water flows to Lake Powell and Mill Creek.

In 1988, the Board of Supervisors commissioned a study of the Mill Creek/Lake Powell watershed area to develop a watershed management plan. The plan's objective was to address stormwater control on a regional basis in order to improve water quality and lessen erosion, sedimentation and potential flooding. The study recommended use of a cost-sharing program to install regional control facilities, as opposed to the continued piecemeal use of individual on-site practices. This program was not implemented but staff has worked as development proposals have been submitted to persuade developers to install the control facilities on a voluntary basis. This approach has worked well in large developments where all of the contributing drainage area is controlled by a single entity (examples are Ford's Colony and Warhill) yet we have not been as successful with smaller developments involving multiple owners, who have instead generally preferred installation of small on-site facilities serving their individual projects. *when not implemented*

Presently, several sites within the drainage area bounded by Indigo Dam Road, Ironbound Road and Strawberry Plains Road are under development. Other ~~sites~~ *Develop* have submitted proposals for more development. Staff feels that regional drainage detention facilities would best prevent degradation of water quality as opposed to the use of individual on-site practices. The drainage basin study recommended four regional detention basins in the Mill Creek watershed including a site between the Midlands project and Bradshaw's Ordinary on land controlled by the Digges Brothers. Drainage easements would be required from adjacent property controlled by Joe Terrell as the proposed impoundment would periodically cover some of his property. Staff has informally approached both property owners and they have agreed to donate the land or easements for construction of the facility and impoundment of the water.

Attached is a preliminary cost analysis and sketch prepared for the project based on a conceptual design of a dry (meaning it only impounds water for a short period after it rains) detention facility. The proposed structure would incorporate extended detention measures for water quality improvement capability, as well as provide capacity to control the increases in quantity of water. Access would be provided from the Bradshaw's Ordinary development and needed only for construction and infrequent maintenance of the structure. Long term maintenance of the facility would be a County responsibility.

Staff recommends that the attached resolution be approved authorizing the County Administrator to execute documents required for design and construction of the facility. We will periodically provide updates to keep the Board apprised of progress on the project. Staff is available to provide any further information desired or to answer any questions pertaining to the project that Board members might have.

  
Bernard M. Farmer, Jr.

BMF/bkh  
1528b

*concur*

Attachments

---

*John T P Home*

**RESOLUTION**

**REGIONAL DRAINAGE BASIN FUNDS**

WHEREAS, the adopted Mill Creek/Lake Powell Watershed Drainage Study recommends a regional basin adjacent to Indigo Dam; and

WHEREAS, funds are available to construct a facility in this location in the Environmental Protection CIP account.

NOW, THEREFORE, BE IT RESOLVED that the ~~County Administrator of James City County, Virginia, is hereby authorized and directed~~ <sup>BOB of JCC Va hereby authorizes & directs</sup> to execute all documents required for easement acquisition and construction of a Regional Drainage Control Facility on and adjacent to the Bradshaw's Ordinary Project.

\_\_\_\_\_  
Perry M. DePue  
Chairman, Board of Supervisors

ATTEST:

\_\_\_\_\_  
David B. Norman  
Clerk to the Board

Adopted by the Board of Supervisors of James City County, Virginia,  
this 17th day of December, 1990.

1548w

# MEMORANDUM

*Final accepted  
version*

DATE: December 17, 1990  
TO: The Board of Supervisors  
FROM: Bernard M. Farmer, Jr., Director of Code Compliance  
SUBJECT: Regional Drainage Improvement

---

As development takes place within the Mill Creek/Lake Powell watershed, it has been our desire to take steps to limit the adverse effects in relation to water quality. This memorandum will outline a proposal to use funds from the Environmental Protection CIP account, along with donations of land and easements from the property owners involved, to design and construct a drainage control facility that will help to preserve the quality of water flows to Lake Powell and Mill Creek.

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Presently, several sites within the drainage area bounded by Indigo Dam Road, Ironbound Road and Strawberry Plains Road are under development. Other developers have submitted proposals for more development. Staff feels that regional drainage detention facilities would best prevent degradation of water quality as opposed to the use of individual on-site practices. The drainage basin study recommended four regional detention basins in the Mill Creek watershed including a site between the Midlands project and Bradshaw's Ordinary on land controlled by the Digges Brothers. Drainage easements would be required from adjacent property controlled by Joe Terrell as the proposed impoundment would periodically cover some of his property. Staff has informally approached both property owners and they have agreed to donate the land or easements for construction of the facility and impoundment of the water.

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Staff recommends that the attached resolution be approved authorizing the County Administrator to execute documents required for design and construction of the facility. We will periodically provide updates to keep the Board apprised of progress on the project. Staff is available to provide any further information desired or to answer any questions pertaining to the project that Board members might have.

---

Bernard M. Farmer, Jr.

CONCUR:

---

John T. P. Horne

BMF/bkh  
1528b

Attachments

MILL CREEK REGIONAL BASIN  
PRELIMINARY PROJECT ESTIMATE

| <u>Item</u>                     | <u>Amount</u>  |
|---------------------------------|----------------|
| 1. Engineering and Permits      | \$ 3,000       |
| 2. Plat Preparation and Survey  | 4,500          |
| 3. Right-of-Way Agent Time      | 2,000          |
| 4. Construction Cost (lump sum) | <u>105,000</u> |
| Total                           | \$114,500      |

Estimate assumes no cost for land acquisition.

1528b



ADMINISTRATION  
NATURAL HERITAGE  
PLANNING AND RECREATION RESOURCES  
SOIL AND WATER CONSERVATION  
STATE PARKS

# COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

DIVISION OF NATURAL HERITAGE

Main Street Station, 1500 East Main Street -- Suite 312

TDD (804) 786-2121 Richmond, Virginia 23219 (804) 786-7951 FAX: (804) 371-2674

23 December 1991

Darryl E. Cook  
Development Engineer  
Department of Development Management  
P.O. Box JC  
Williamsburg, VA 23187-3627

Dear Mr. Cook:

I am writing in response to your letter of November 26 to Timothy O'Connell regarding the Mill Creek Detention Basin. As you may be aware, our office has recently completed a three-year natural areas inventory of James City County, Williamsburg City, and York County. During this inventory, we identified 25 natural areas: sites that support unique or exemplary natural communities (habitats) or animals and plants that are rare in Virginia. We have been working with Wayland Bass on this project. He has a copy of our report if you would like to see it.

We are currently working on a one-year project to follow up on the natural areas inventory. The goal of this project is to develop specific management recommendations for each of the 25 natural areas. Larry Smith, of our Natural Areas Program, is coordinating this effort.

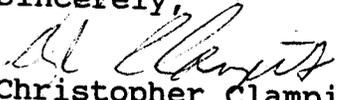
The site shown on your map encompasses the most significant portion of the Mount Pleasant Church Natural Area, which is one of the top eight sites identified in our inventory. (A copy of our site report is included for your information.) This site supports two rare plant species: Virginia Least Trillium (Trillium pusillum var. virginianum) and New Jersey Rush (Juncus cesaeriensis). Both species are very rare globally (G2; see the attached explanation of natural heritage rarity ranks) and in Virginia (S2). They are also category two candidates for listing under the US Endangered Species Act.

Mill Creek Detention Basin  
23 December 1991

Impounding Mill Creek to the 65' contour would destroy the habitat for these species. Therefore, we request that you seek another location for the detention basin. We would be glad to review alternative sites that you consider in this process.

Thank you for providing us an opportunity to comment on this project. Feel free to contact either Larry Smith or me at (804) 786-7951 if you would like to discuss this project further.

Sincerely,

  
Christopher Clampitt  
Ecologist

CC: Wayland Bass  
Larry Smith  
Tim O'Connell

## LOWER PENINSULA NATURAL HERITAGE INVENTORY

Table 1. Definition of Natural Heritage state rarity ranks. Global rarity ranks are similar, but refer to a species' rarity throughout its range. State and Global ranks are denoted, respectively, with an "S" or a "G" followed by a character. Note that GA and GN are not used and GX means extinct. These ranks should not be interpreted as legal designations.

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- S1 Extremely rare; usually 5 or fewer occurrences in the state; or may be a few remaining individuals; often especially vulnerable to extirpation.
  - S2 Very rare; usually between 5 and 20 occurrences; or with many individuals in fewer occurrences; often susceptible to becoming endangered.
  - S3 Rare to uncommon; usually between 20 and 100 occurrences; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances.
  - S4 Common; usually >100 occurrences, but may be fewer with many large populations; may be restricted to only a portion of the state; usually not susceptible to immediate threats.
  - S5 Very common; demonstrably secure under present conditions.
  - SA Accidental in the state.
  - SH Historically known from the state, but not verified for an extended period, usually >15 years; this rank is used primarily when inventory has been attempted recently.
  - SN Regularly occurring migrants; transients; seasonal, non-breeding residents. Usually no specific site can be identified with its range in the state. (Note that congregation and staging areas are monitored separately).
  - SU Status uncertain, often because of low search effort or cryptic nature of the element.
  - SX Apparently extirpated from the state.
-

## LOWER PENINSULA NATURAL HERITAGE INVENTORY

The natural areas identified during this natural areas inventory (Table 1) are described in the following pages on standard natural area reports. The sections of these reports, and their content, are outlined below.

**SIZE:** The approximate acreage included within the conservation planning boundary for the natural area.

**BIODIVERSITY RANK:** The overall (global) significance of the natural area in terms of the rarity of the natural heritage resources and the quality (health, abundance, etc.) of their occurrences. As discussed on p. 5, these ranks range from B1 (Outstanding significance) to B5 (General Biodiversity Significance).

**LOCATION:** The city or county and USGS 7.5' quadrangle that include the natural area. The Natural Heritage code for the quadrangle is noted in parentheses (e.g. 3707636 is the Williamsburg quad).

**GENERAL DESCRIPTION:** A brief narrative picture of the topography, vegetation, and current use of the natural area. Scientific names for all species mentioned are included in Appendix C.

**NATURAL HERITAGE RESOURCE SIGNIFICANCE:** A synopsis of the rare species and significant natural communities that occur on the natural area. Many rare species and some natural communities are sensitive to disturbance or may be sought out by collectors. For this reason, Virginia law provides a limited exemption to the requirements of the Freedom of Information Act for natural heritage resources and the names of the species and their precise locations are not included in this report. Requests for additional information on these natural areas should be addressed to:

Department of Conservation and Recreation  
Division of Natural Heritage  
Main Street Station  
1500 East Main Street, Suite 312  
Richmond, VA 23219  
(804) 786-7951

**CURRENT STATUS:** A summary of the ownership, degree of protection currently afforded the natural area, and threats to the site or natural heritage resources, as determined to date.

**BOUNDARY JUSTIFICATION:** The conservation planning boundary delineated in this report includes all known occurrences of natural heritage resources and the adjacent lands required for their immediate protection. A discussion of the major factors that were given special consideration can be found on p. 17.

**PROTECTION AND MANAGEMENT CONSIDERATIONS:** A summary of the major issues and factors that are known or likely to affect the protection and management of the natural area.

# LOWER PENINSULA NATURAL HERITAGE INVENTORY

## MOUNT PLEASANT CHURCH

SIZE: ca. 85 acres

BIODIVERSITY RANK: B3

LOCATION: James City County  
Norge & Williamsburg Quadrangles (3707637 & 3707636)

**GENERAL DESCRIPTION:** The natural area encompasses the headwaters of Mill Creek. The head of the ravine is amphitheater-like, with peatmoss-dominated seepage areas on the side slopes. Sweetgum, red maple, black gum and tulip poplar dominate the overstory. There is a dense layer of sweet pepperbush, sweetbay magnolia, American holly, and other shrubs over a fern and grass understory. The stream itself is entrenched and shows evidence of being impounded by the old indigo dam. The area was logged in the late 1970s, and has since grown up in dense shrubs, which appear to be shading out the rare plants.

**NATURAL HERITAGE RESOURCE SIGNIFICANCE:** This natural area supports healthy populations of two globally rare plants.

**CURRENT STATUS:** The natural area is in private ownership and advertised as being for sale. Survey lines now cross the tract in several places. The proposed route for highway 199 crosses Mill Creek near the rare plant locations.

**BOUNDARY JUSTIFICATION:** The natural area includes the known rare plant habitat along with a forested buffer.

**PROTECTION AND MANAGEMENT CONSIDERATIONS:** The major concern is destruction of the wetland habitat, either by road construction or development. The effects on the rare plants of shading by the dense growth of shrubs needs to be monitored.

**M E M O R A N D U M**

**DATE:** September 21, 1992  
**TO:** The Board of Supervisors  
**FROM:** Bernard M. Farmer, Jr.  
**SUBJECT:** Easement Acquisition for Regional Drainage Basin

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Staff has been unable to obtain the final easement necessary for construction of the Mill Creek regional drainage control facility. We are recommending acquisition of this easement by condemnation.

Approximately 18 months ago the Board approved in concept use of funds from the Environmental Protection CIP account to construct the first of the several regional drainage facilities recommended by the Mill Creek/Lake Powell watershed study. Prior to seeking Board approval, staff had approached several major landowners and had agreement for donation of easements and land for construction of the dam. Despite previous agreement and numerous contacts staff has been unable to obtain the final easement necessary to construct the dam from Mr. Joseph S. Terrell. We do not feel that any further contacts or offers for purchase of the easement will be successful.

The basin design is presently complete and all other needed easements have been acquired (one homeowner's association has agreed to grant the easement but won't execute the documents until their regular October meeting). Bid documents and specifications are near completion and staff could promptly proceed with advertisement and bid procedures. As previously directed staff would obtain Board approval prior to award of any contract for construction.

A resolution is attached authorizing condemnation proceedings for acquisition of the easement with an appraised value of \$613. We recommend the adoption of the resolution.

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Bernard M. Farmer, Jr.

CONCUR:

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John T. P. Horne

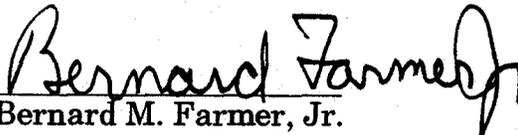
attachments

## MEMORANDUM

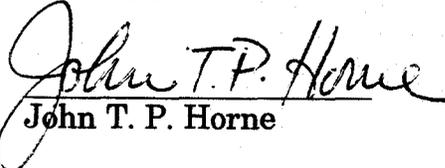
DATE: October 21, 1992  
TO: The Board of Supervisors  
FROM: Bernard M. Farmer, Jr., Director of Code Compliance  
SUBJECT: Condemnation For an Easement Acquisition

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Attached is a resolution giving authority to proceed with a condemnation needed for an easement on property owned by Joseph S. and Essie G. Terrell. The easement is necessary for construction of the Mill Creek regional drainage control facility. Approximately 18 months ago the Board approved, in concept, the use of funds from the Environmental Protection CIP account to construct the first of the several regional drainage facilities recommended by the Mill Creek/Lake Powell watershed study. Staff has obtained all other necessary easements and is prepared to proceed with bidding the project, except for this easement acquisition. We recommend approval of the attached resolution.

  
Bernard M. Farmer, Jr.

CONCUR:

  
John T. P. Horne

BMF/iow  
1584b

Attachment

## MEMORANDUM

DATE: October 21, 1992

TO: The Board of Supervisors

FROM: Bernard M. Farmer, Jr., Director of Code Compliance  
Leo P. Rogers, Assistant County Attorney  
Cindy Fuchs, Susan Broaddus, Kurt Venables, Marshall-Wythe Students

SUBJECT: Changes to the Erosion and Sedimentation Control Ordinance

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The 1992 Virginia General Assembly amended Title 10.1-562 of the Code of Virginia authorizing adoption of civil penalties for enforcement of erosion control programs. These proposed amendments would adopt a schedule of civil penalties and allow certain violations to be charged as civil, rather than criminal, violations of the law. The proposed amendments to the County Code have been prepared by students from The Marshall-Wythe School of Law who are participating in a seminar on local government legislative power and process, taught by Professor Ronald Rosenberg. Assistance was provided by Leo Rogers and Bernard Farmer.

Currently, the Erosion and Sedimentation Control Ordinance requires that any charges brought for a violation be charged as a criminal offense. In some cases administration of criminal actions has required excessive amounts of staff time and the courts have been reluctant to render a criminal conviction given the "minor nature" of the offenses as compared to other criminal cases before the court. There also appears to be reluctance because of the stigma attached to a "criminal" conviction.

Staff feels that use of the civil penalties would provide for more efficient administration and be a more effective enforcement tool. Once adopted as a civil offense, we would be precluded by law from charging that specific offense under a criminal action. Similar provisions which were adopted for zoning enforcement and have proven to be effective in gaining corrective action for minor violations, the ultimate goal of our enforcement actions. Due to our experience in administration of the zoning civil penalties, we are seeking similar authority for erosion control.

Briefly summarized, the changes are:

1. Under Section 5A-5b(2) a reference to criminal conviction was deleted.
2. Under the penalties section a schedule of civil offenses and charges has been proposed. This schedule considers that violations may occur either with or without a permit, and specifies both. The penalties may overlap, yet a single set of facts would result in only one civil penalty being sought.
3. Procedures in accordance with the enabling statute were inserted into the penalty section limiting the number of times a civil penalty may be levied, and prohibiting criminal action if the offense is listed as a civil penalty.
4. A provision was added specifying that civil penalties paid are to be placed into the county treasury.

5. Several minor wording changes were made to the section pertaining to stop work orders to allow more efficient administration. These word changes are of a "housekeeping" nature and not related to the civil penalties.

Staff recommends that the attached Ordinance allowing Civil Penalties for Erosion Control violations be approved.

---

Bernard M. Farmer, Jr.

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Leo P. Rogers

CONCUR:

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Frank M. Morton, III

BMF/iow  
1583b

Attachment

## RESOLUTION

### EASEMENT ACQUISITION - MILL CREEK/LAKE POWELL REGIONAL

#### DRAINAGE FACILITY

WHEREAS, the County requires certain easements for construction, operation, and maintenance of the Mill Creek/Lake Powell Regional Basin; and

WHEREAS, .37 acres of land is required to be obtained by easement for the dam from property owned by Joseph S. and Essie G. Terrell, of record in the Clerk's Office of the Circuit Court of James City County, Virginia in Deed Book 162, page 538; and

WHEREAS, .58 acres of land is required to be obtained by easement for the basin from property owned by Joseph S. and Essie G. Terrell, of record in the Clerk's Office of the Circuit Court of James City County, Virginia, in Deed book 162, page 538; and

WHEREAS, repeated contacts with the property owner have been made in an attempt to obtain the easement; and

WHEREAS, efforts to purchase and obtain the needed easement have failed.

NOW, THEREFORE, BE IT RESOLVED:

1. That in the opinion of the Board of Supervisors of James City County, a public necessity exists for the acquisition of permanent easements described below for the construction, operation and maintenance of a stormwater management facility for the preservation of health, safety, good order and welfare of James City County;
2. Pursuant to Section 15.1-283 of the Code of Virginia, 1950, as amended, permanent easements are hereby directed to be taken, for public purposes and construction of a regional drainage facility serving citizens of the County, from the interests of Joseph S. and Essie G. Terrell, in and to the property described below:

OWNER: Joseph S. and Essie G. Terrell

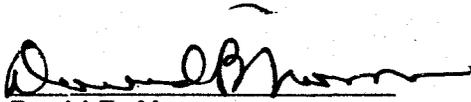
DESCRIPTION: All that certain lot, piece or parcel of land lying and situate in Berkeley District, James City County, Virginia, shown and designated as: "hatched area" containing 16,023.97 s.f., or .37 acres, on that certain plat entitled: "PLAT TO ACCOMPANY CONVEYANCE OF EASEMENT FOR A STORMWATER MANAGEMENT BASIN," dated July 22, 1991, made by Spearman and Associates, P.C., Surveying and Planning, Williamsburg, Virginia, and "hatched area" containing 23,415 s.f. or .58 acres, on that certain plat entitled "PLAT TO ACCOMPANY CONVEYANCE OF EASEMENT FOR A STORMWATER MANAGEMENT DAM" dated July 12, 1991, made by Spearman and Associates P.C. Surveying and Planning, Williamsburg, Virginia.

3. That the County Administrator is authorized to act for and on behalf of the County in agreeing or disagreeing with the owner of the property upon compensation and damages, if any, to be limited as provided by an appraisal by Real Estate Assessments.

BE IT FURTHER RESOLVED that the Chairman of the Board of Supervisors and the Treasurer of James City County, Virginia, are hereby authorized and directed to execute a Certificate of Deposit for acquisition of the above-described property.

  
\_\_\_\_\_  
Jack D. Edwards  
Chairman, Board of Supervisors

ATTEST:

  
\_\_\_\_\_  
David B. Norman  
Clerk to the Board

| <u>SUPERVISOR</u> | <u>VOTE</u> |
|-------------------|-------------|
| DEPUE             | AYE         |
| TAYLOR            | AYE         |
| SISK              | AYE         |
| KNUDSON           | AYE         |
| EDWARDS           | AYE         |

Adopted by the Board of Supervisors of James City County, Virginia, this 21st day of October, 1992.

2294w

## RESOLUTION

### EASEMENT ACQUISITION - MILL CREEK/LAKE POWELL REGIONAL

#### DRAINAGE FACILITY

WHEREAS, the County requires certain easements for construction, operation, and maintenance of the Mill Creek/Lake Powell Regional Basin; and

WHEREAS, .37 acres of land is required to be obtained by easement for the dam from property owned by Joseph S. and Essie G. Terrell, of record in the Clerk's Office of the Circuit Court of James City County, Virginia in Deed Book 162, page 538; and

WHEREAS, .58 acres of land is required to be obtained by easement for the basin from property owned by Joseph S. and Essie G. Terrell, of record in the Clerk's Office of the Circuit Court of James City County, Virginia, in Deed book 162, page 538; and

WHEREAS, repeated contacts with the property owner have been made in an attempt to obtain the easement; and

WHEREAS, efforts to purchase and obtain the needed easement have failed.

NOW, THEREFORE, BE IT RESOLVED:

1. That in the opinion of the Board of Supervisors of James City County, a public necessity exists for the acquisition of easements described below for the construction, operation, and maintenance of a stormwater management facility for the preservation of health, safety, good order, and welfare of James City County;
2. That the interest of Joseph S. and Essie G. Terrell, in and to the property described below is hereby directed to be taken for public purposes and for construction of a regional drainage facility serving citizens of the County:

OWNER: Joseph S. and Essie G. Terrell

DESCRIPTION: All that certain lot, piece or parcel of land lying and situate in Berkeley District, James City County, Virginia, shown and designated as: "hatched area" containing 16,023.97 s.f., or .37 acres, on that certain plat entitled: "PLAT TO ACCOMPANY CONVEYANCE OF EASEMENT FOR A STORMWATER MANAGEMENT BASIN," dated July 22, 1991, made by Spearman and Associates, P.C., Surveying and Planning, Williamsburg, Virginia, and "hatched area" containing 23,415 s.f. or .58 acres, on that certain plat entitled "PLAT TO ACCOMPANY CONVEYANCE OF EASEMENT FOR A STORMWATER MANAGEMENT DAM" dated July 12, 1991, made by Spearman and Associates P.C. Surveying and Planning, Williamsburg, Virginia.

3. That the County Administrator is authorized to act for and on behalf of the County in agreeing or disagreeing with the owner of the property upon compensation and damages, if any, to be limited as provided by an appraisal by Real Estate Assessments.

BE IT FURTHER RESOLVED that the Chairman of the Board of Supervisors and the Treasurer of James City County, Virginia, are hereby authorized and directed to execute a Certificate of Deposit for acquisition of the above-described property.

---

Jack D. Edwards  
Chairman, Board of Supervisors

ATTEST:

---

David B. Norman  
Clerk to the Board

Adopted by the Board of Supervisors of James City County, Virginia,  
this 21st day of October, 1992.

2294w

## MEMORANDUM

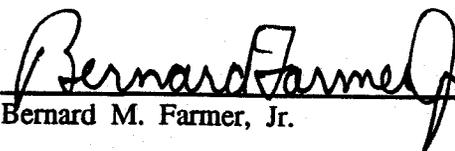
DATE: March 1, 1993  
TO: The Board of Supervisors  
FROM: Bernard M. Farmer, Jr., Director of Code Compliance  
SUBJECT: Regional Drainage Improvement Contract

---

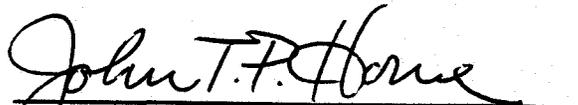
In December of 1990 the Board authorized staff to design, acquire property rights, and bid construction of a regional drainage control facility along Mill Creek in the vicinity of Indigo Dam Road. The Board authorized all work to be done up to the point of awarding the contract at which time we were to return for further approval. Staff proposed to use the Environmental Protection CIP account for funding based on our preliminary estimates prior to design. Our original estimate for design and construction was \$114,500, with no estimate or quantity proposed for easement acquisitions.

We are now prepared to proceed with construction of the project. To date, we have fully designed the basin, acquired necessary easements and property rights and received bids for construction. The low bid, submitted by EMP General Contractors, has been further reduced by negotiation to \$113,200 through substitution of one item. Our expenditures to date have totaled \$20,511, to make a total project cost of \$133,711. This total cost exceeds our original 1990 pre-design estimates by \$19,211, or 17 percent. We believe this amount to be reasonable considering almost \$7,000 was expended for easement acquisition, an amount not originally planned.

Staff recommends that the additional funds needed for construction of the basin come from the Capital Contingency Account. We further recommend that the Board execute the attached resolution authorizing the County Administrator to enter into contracts for construction of the regional stormwater control facility.

  
Bernard M. Farmer, Jr.

CONCUR:

  
John T. P. Horne

BMF/bkh  
RgDContr.mem

Attachment

**R E S O L U T I O N**

**REGIONAL DRAINAGE BASIN CONSTRUCTION**

WHEREAS, the adopted Mill Creek/Lake Powell Watershed Drainage Study recommends a regional basin adjacent to Indigo Dam and design of the basin is complete; and

WHEREAS, funds are available to construct a facility in this location in the Environmental Protection CIP account, and the Capital Contingency Fund.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of James City County, Virginia, hereby authorizes and directs the County Administrator to execute all necessary construction documents for a Regional Drainage Control Facility along Mill Creek in the vicinity of Indigo Dam.

---

Judith N. Knudson  
Chairman, Board of Supervisors

ATTEST:

---

David B. Norman  
Clerk to the Board

Adopted by the Board of Supervisors of James City County, Virginia, this 1st day of March, 1993.

RgDBasin.res



APPROX. PROPERTY VALUE  
OF EASEMENT  
TERRELL (38-4) (1-29)

In 35' set Back  
18,000  $\square'$   $=$  638

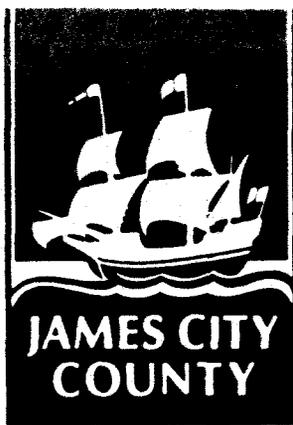
Remainder  
41,200  $\square'$   $=$  2132  
~~2170~~ SAY 2200

59,200  $\square'$  or 1.36  $\pm$  acres

Home owners Assoc. (38-4) (15-1A)  
21,500  $\square'$   $=$  150

Roger, for info

Mailing Address:  
P.O. Box JC  
Williamsburg, Va.  
23187-3627



DEPARTMENT OF DEVELOPMENT MANAGEMENT  
COUNTY GOVERNMENT CENTER, 101 MOUNTS BAY ROAD

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Mr. Joseph Terrell  
3721 Strawberry Plains Road  
Williamsburg, VA 23185

March 1, 1990

Dear Mr. Terrell:

Recently you were approached by Darryl Cook regarding use of property you own adjacent to the Midlands project for creation of a stormwater retention facility. We consider this project important for the protection of the Mill Creek drainageway, and beneficial to the surrounding properties as it will provide needed stormwater protection. This stormwater retention would otherwise have to be provided on site as development takes place. This facility was identified by the County's comprehensive Mill Creek drainage study as one of the needed regional retention facilities.

As you are aware a project for the adjacent property owned by the Digges Brothers has presently been submitted as the Irongate Residential Cluster Development. The Digges have indicated a willingness to donate the needed property for the retention facility and possibly to contribute to its construction. It is our hope that you will donate the necessary drainage easements along your property so that we may proceed with development of this facility concurrent with the Irongate project. Most of this needed area is contained within setbacks, is stream bed or not considered developable due to steep slopes. We ask that you please give this proposal serious consideration, keeping in mind the numerous benefits to the environment, adjacent properties, downstream waters and the citizens at large. We hope to hear a positive response regarding donation of the easements, but would appreciate your decision not later than March 15 so that we may decide on the feasibility of the project. Thank you for your consideration.

Very truly yours:

A handwritten signature in cursive script that reads "John T. P. Horne". The signature is written in black ink and is positioned above the typed name and title.

John T. P. Horne  
Manager, Development Management

## Letter of Opinion

Property of: Joseph S. and Essie G. Terrell      Tax Map No.: (38-4)(1-29)

The subject property is located north of Mill Creek Landing Subdivision, adjacent to the Midlands Townhouse Development. The subject is further bounded on the north by property of James City County, and on the west by property of Sasha L. Digges, Development Corporation. The subject property was inspected by walking the site as identified on the County property identification and topographic maps.

The method of estimating value that is relied upon is the market comparison approach. The date of appraisal is December 31, 1991.

The subject property contains 16,023.97 square feet of which approximately 3,750 square feet are in an existing sanitary sewer easement, leaving 12,273.97 square feet of new easement to be acquired. The subject property is to be conveyed to the County as an easement to be used as part of a stormwater management dam.

Conclusion:

It is estimated that the loss of utility the subject property will suffer is equal to 10 percent of its market value.

After making adjustments for the different characteristics between the sales and the subject, it is concluded that the subject property has a present market value of \$.50 per square foot.

Therefore, 16,023.97 square feet - 3,750 square feet (existing easement) = 12,273.97 square feet  
x \$.50 = \$6,136.99 x .10 = \$613.70, rounded to \$613.00.

terrell.opinion

Sale #1

Grantor: Wm C. Plemmons  
Grantee: W. D. Richardson  
Location: (38-4)(03-0-0013) & (38-4)(03-0-0014)  
Zoning: R-2  
Size: 0.67 Ac & 0.492 Ac TOTAL 1.16 Ac  
Date: 10/24/89  
Deed Book: 453/600  
Consideration: \$ 25,000  
Price per sqft: \$ 0.49

---

Sale #2

Grantor: Helen R. Roberts  
Grantee: Spencer Bldrs. Inc.  
Location: (52-3)(02-0-0013)  
Zoning: R-3  
Size: 3.943 Ac  
Date: 11/20/90  
Deed Book: 495/433  
Consideration: \$52,000  
Price per sqft: \$ 0.30

---

Sale #3

Grantor: Willie Mae Brown  
Grantee: Mack Banks  
Location: (52-3)(06-0-0003)  
Zoning: R-3  
Size: 0.263 Ac  
Date: 08/16/89  
Deed Book: 445/37  
Consideration: \$ 5000  
Price per sqft: \$ 0.44

03/29/91

01:54

☎8042536663

JAMES CITY CO.

☑001

ACTIVITY REPORT

RECEPTION OK

|                |              |
|----------------|--------------|
| TRANSACTION #  | 9402         |
| CONNECTION TEL | 804 229 4507 |
| CONNECTION ID  | G3           |
| START TIME     | 03/29 01:50  |
| USAGE TIME     | 03' 47       |
| PAGES          | 3            |

55' contour

$$1.30 \times 40,000 = 52,000 \text{ sq. in}$$

(58-4)

144

361 Sq. Ft

60' contour

$$6.5 \times 40,000 = 260,000 \text{ sq. in}$$

144

1806 Sq. Ft

65' contour

$$13.56 \times 40,000 = 542,400 \text{ sq. in}$$

144

3767 Sq. Ft

**Williamsburg Environmental Group, Inc.**

Post Office Box 3584  
Williamsburg, Virginia 23187  
(804) 220-6869

**Facsimile Transmittal**

File \_\_\_\_\_  
Date 3/29/91  
To Bernie Farmer  
From Mike Kelly  
Phone Number of Receiving  
Telecopy Machine 253-6663  
Number of Pages Following 4

If you do not receive all pages of this telecopy, please contact  
at (804) 220-6869 as soon as possible.

M, Kelly

**Special Instructions**

Bernie,

Per our conversation!

Please make sure that as a result of  
the proposed project no threatened or  
endangered species will be impacted, no  
archaeological sites will be impacted, and  
the filling for the dam structure will  
not impact a water supply. (These are conditions  
to qualify for Nationwide 26 verification - see  
enclosure).

Outfall structure will qualify for Nationwide 7.

Please call me with any questions.

Good luck  
Mike

navigable waters of the United States (i.e., isolated waters).

(b) Conditions. The following special conditions must be followed in order for the nationwide permits identified in paragraph (a) of this section to be valid:

(1) That any discharge of dredged or fill material will not occur in the proximity of a public water supply intake.

(2) That any discharge of dredged or fill material will not occur in areas of concentrated shellfish production unless the discharge is directly related to a shellfish harvesting activity authorized by paragraph (a)(4) of this section.

(3) That the activity will not jeopardize a threatened or endangered species as identified under the Endangered Species Act (ESA), or destroy or adversely modify the critical habitat of such species. In the case of federal agencies, it is the agencies' responsibility to comply with the requirements of the ESA. If the activity may adversely affect any listed species or critical habitat, the district engineer must initiate Section 7 consultation in accordance with the ESA. In such cases, the district engineer may:

(i) Initiate section 7 consultation and then, upon completion, authorize the activity under the nationwide permit by adding, if appropriate, activity specific conditions, or

(ii) Prior to or concurrent with section 7 consultation he may recommend discretionary authority (See section 330.8) or use modification, suspension, or revocation procedures (See 33 CFR 325.7).

(4) That the activity shall not significantly disrupt the movement of those species of aquatic life indigenous to the waterbody (unless the primary purpose of the fill is to impound water);

(5) That any discharge of dredged or fill material shall consist of suitable material free from toxic pollutants (see section 307 of the Clean Water Act) in toxic amounts;

(6) That any structure or fill authorized shall be properly maintained.

(7) That the activity will not occur in a component of the National Wild and Scenic River System; nor in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status;

(8) That the activity shall not cause an unacceptable interference with navigation;

(9) That, if the activity may adversely affect historic properties which the National Park Service has listed on, or determined eligible for listing on, the National Register of Historic Places, the permittee will notify the district

engineer. If the district engineer determines that such historic properties may be adversely affected, he will provide the Advisory Council on Historic Preservation an opportunity to comment on the effects on such historic properties or he will consider modification, suspension, or revocation in accordance with 33 CFR 325.7.

Furthermore, that, if the permittee before or during prosecution of the work authorized, encounters a historic property that has not been listed or determined eligible for listing on the National Register, but which may be eligible for listing in the National Register, he shall immediately notify the district engineer.

(10) That the construction or operation of the activity will not impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights;

(11) That in certain states, an individual state water quality certification must be obtained or waived (See § 330.9);

(12) That in certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (See § 330.10);

(13) That the activity will comply with regional conditions which may have been added by the division engineer (See § 330.6(a)); and

(14) That the management practices listed in § 330.6 of this part shall be followed to the maximum extent practicable.

(c) Further information. (1) District engineers are authorized to determine if an activity complies with the terms and conditions of a nationwide permit unless that decision must be made by the division engineer in accordance with § 330.7.

(2) Nationwide permits do not obviate the need to obtain other Federal, state or local authorizations required by law.

(3) Nationwide permits do not grant any property rights or exclusive privileges.

(4) Nationwide permits do not authorize any injury to the property or rights of others.

(5) Nationwide permits do not authorize interference with any existing or proposed Federal project.

(d) Modification, Suspension or Revocation of Nationwide Permits. The Chief of Engineers may modify, suspend, or revoke nationwide permits in accordance with the relevant procedures of 33 CFR 325.7. Such authority includes, but is not limited to: adding individual, regional, or nationwide conditions; revoking authorization for a category of activities

or a category of waters by requiring individual or regional permits; or revoking an authorization on a case-by-case basis. This authority is not limited to concerns for the aquatic environment as is the discretionary authority in § 330.8.

#### § 330.8 Management practices.

(a) In addition to the conditions specified in § 330.6 of this Part, the following management practices shall be followed, to the maximum extent practicable, in order to minimize the adverse effects of these discharges on the aquatic environment. Failure to comply with these practices may be cause for the district engineer to recommend, or the division engineer to take, discretionary authority to regulate the activity on an individual or regional basis pursuant to § 330.9 of this Part.

(1) Discharges of dredged or fill material into waters of the United States shall be avoided or minimized through the use of other practical alternatives.

(2) Discharges in spawning areas during spawning seasons shall be avoided.

(3) Discharges shall not restrict or impede the movement of aquatic species indigenous to the waters or the passage of normal or expected high flows or cause the relocation of the water (unless the primary purpose of the fill is to impound waters).

(4) If the discharge creates an impoundment of water, adverse impacts on the aquatic system caused by the accelerated passage of water and/or the restriction of its flow shall be minimized.

(5) Discharge in wetlands areas shall be avoided.

(6) Heavy equipment working in wetlands shall be placed on mats.

(7) Discharges into breeding areas for migratory waterfowl shall be avoided.

(8) All temporary fills shall be removed in their entirety.

#### § 330.7 Notification procedures.

(a) The general permittee shall not begin discharges requiring pre-discharge notification pursuant to the nationwide permit at § 330.5(a)(26):

(1) Until notified by the district engineer that the work may proceed under the nationwide permit with any special conditions imposed by the district or division engineer; or

(2) If notified by the district or division engineer that an individual permit may be required; or

(3) Unless 20 days have passed from receipt of the notification by the district engineer and no notice has been

should be required for categories of activities, or in specific geographic areas. However, only the Chief of Engineers may modify, suspend, or revoke nationwide permits on a statewide or nationwide basis. The division engineer will announce the decision to persons affected by the action. The district engineer will then regulate the activity or activities by processing an application(s) for an individual permit(s) pursuant to 33 CFR Part 325.

(d) For the nationwide permit found at § 330.5(a)(20), after the applicable provisions of § 330.7(a) (1) and (3) have been satisfied, the permittee's right to proceed under the general permit may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 325.7.

(e) A copy of all modifications or revocations of activities covered by nationwide permits will be forwarded to the Office of the Chief of Engineers, ATTN: DAEN-CWO-N.

#### § 330.9 State water quality certification.

(a) State water quality certification is required for nationwide permits which may result in any discharge into waters of the United States. If a state issues a water quality certification which includes special conditions, the district engineer will add these conditions as conditions of the nationwide permit in that state. However, if such conditions do not comply with the provisions of 33 CFR 325.4 or if a state denies a required 401 certification for a particular nationwide permit, authorization for all discharges covered by the nationwide permit within the state is denied without prejudice until the state issues an individual or generic water quality certification or waives its right to do so. A district engineer will not process an individual permit application for an activity for which authorization has been denied without prejudice under the nationwide permit program. However, if the division engineer determines that it would otherwise be appropriate to exercise his discretionary authority, pursuant to § 330.8, to override the nationwide permit or permits in question, he may do so, and the district engineer may proceed with the processing of individual permit applications. In instances where a state has denied the 401 water quality certification for discharges under a particular nationwide permit, applicants must furnish the district engineer with an individual or generic 401 certification or a copy of the application to the state for the certification. If a state fails to act within a reasonable period of time (see § 325.2(b)(1)(ii)), a waiver will be

presumed. Upon receipt of an individual or generic certification or a waiver of certification, the proposed work is authorized under the nationwide permit. If a state issues a conditioned individual certification, the district engineer will include those conditions that comply with 33 CFR 325.4 as special conditions of the nationwide permit (see 33 CFR Part 330.8(a)) and notify the applicant that the work is authorized under the nationwide permit provided all conditions are met.

(b) Certification requirements for nationwide permits fall into the following general categories:

(1) *No certification required.* Nationwide permits numbered 1, 2, 4, 5, 8, 9, 10, 11, and 19 do not involve activities which may result in a discharge and therefore 401 certification is not applicable.

(2) *Certification sometimes required.* Nationwide permits numbered 3, 6, 7, 13, 20, 21, 22, and 23 each involve various activities, some of which may result in a discharge and require certification, and others of which do not. State denial of certification for any specific nationwide permit in this category affects only those activities involving discharges. Those not involving discharges remain in effect.

(3) *Certification required.* Nationwide permits numbered 12, 14, 15, 16, 17, 18, 24, 25, and 26 involve activities which would result in discharges and therefore 401 certification is required.

(c) District engineers will take appropriate measures to inform the public of which waterbodies or regions within the state, and for which nationwide permits, an individual 401 water quality certification is required.

#### § 330.10 Coastal zone management consistency determination.

In instances where a state has not concurred that a particular nationwide permit is consistent with an approved coastal zone management plan, authorization for all activities subject to such nationwide permit within or affecting the state coastal zone agency's area of authority is denied without prejudice until the applicant has furnished to the district engineer a coastal zone management consistency determination pursuant to section 307 of the Coastal Zone Management Act and the state has concurred in it. If a state does not act on an applicant's consistency statement within six months after receipt by the state, consistency shall be presumed. District engineers will take appropriate measures to inform the public of which waterbodies or regions within the state, and for which nationwide permits, such individual

consistency determination is required. District engineers will not process any permit application for an activity which has been denied without prejudice under the nationwide permit program. However, if the division engineer determines that it would otherwise be appropriate to exercise his discretionary authority, pursuant to § 330.8, to override the nationwide permit or permits in question, he may do so, and the district engineer may proceed with the processing of individual permit applications.

#### § 330.11 Nationwide permit verification.

(a) General permittees may, and in some cases must, request from a district engineer confirmation that an activity complies with the terms and conditions of a nationwide permit. District engineers will respond promptly to such requests. The response will state that the verification is valid for a period of no more than two years or a lesser period of time if deemed appropriate. Section 330.12 takes precedence over this section, therefore, it is incumbent upon the permittee to remain informed of changes to nationwide permits.

(b) If the district engineer decides that an activity does not comply with the terms or conditions of a nationwide permit, he will so notify the person desiring to do the work and indicate that an individual permit is required (unless covered by a regional permit).

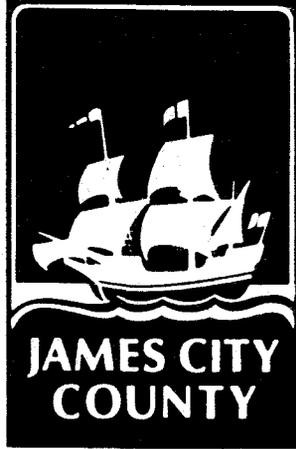
(c) If the district engineer decides that an activity does comply with the terms and conditions of a nationwide permit he will so notify the general permittee. In such cases, as with any activity which qualifies under a nationwide permit, the general permittee's right to proceed with the activities under the nationwide permit may be modified, suspended, or revoked only in accordance with the procedures of 33 CFR 325.7.

#### § 330.12 Expiration of nationwide permits.

The Chief of Engineers will review nationwide permits on a continual basis, and will decide to either modify, reissue (extend) or revoke the permits at least every five years. If a nationwide permit is not modified or reissued within five years of publication in the Federal Register, it automatically expires and becomes null and void. Authorization of activities which have commenced or are under contract to commence in reliance upon a nationwide permit will remain in effect provided the activity is completed within twelve months of the date a nationwide permit has expired or was revoked unless discretionary permit authority has been exercised in

Barnie

Mailing Address:  
P.O. Box JC  
Williamsburg, Va.  
23187-3627



DEVELOPMENT MANAGEMENT DEPARTMENT  
COUNTY GOVERNMENT CENTER, 101 MOUNTS BAY ROAD

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Department of the Army  
Norfolk District, Corps of Engineers  
ATTN: Permit Section  
Fort Norfolk, 803 Front Street  
Norfolk, VA 23510-1096

March 29, 1991

Gentlemen,

We are writing to express our intent to impact approximately 9,000 square feet of non-tidal wetlands area by depositing fill to create a dry basin stormwater management structure. We would like to verify that this activity qualifies for a Nationwide 26 permit and that an individual permit for this project is not required. This project is intended to improve and protect the water quality of the Mill Creek/Lake Powell drainage basin.

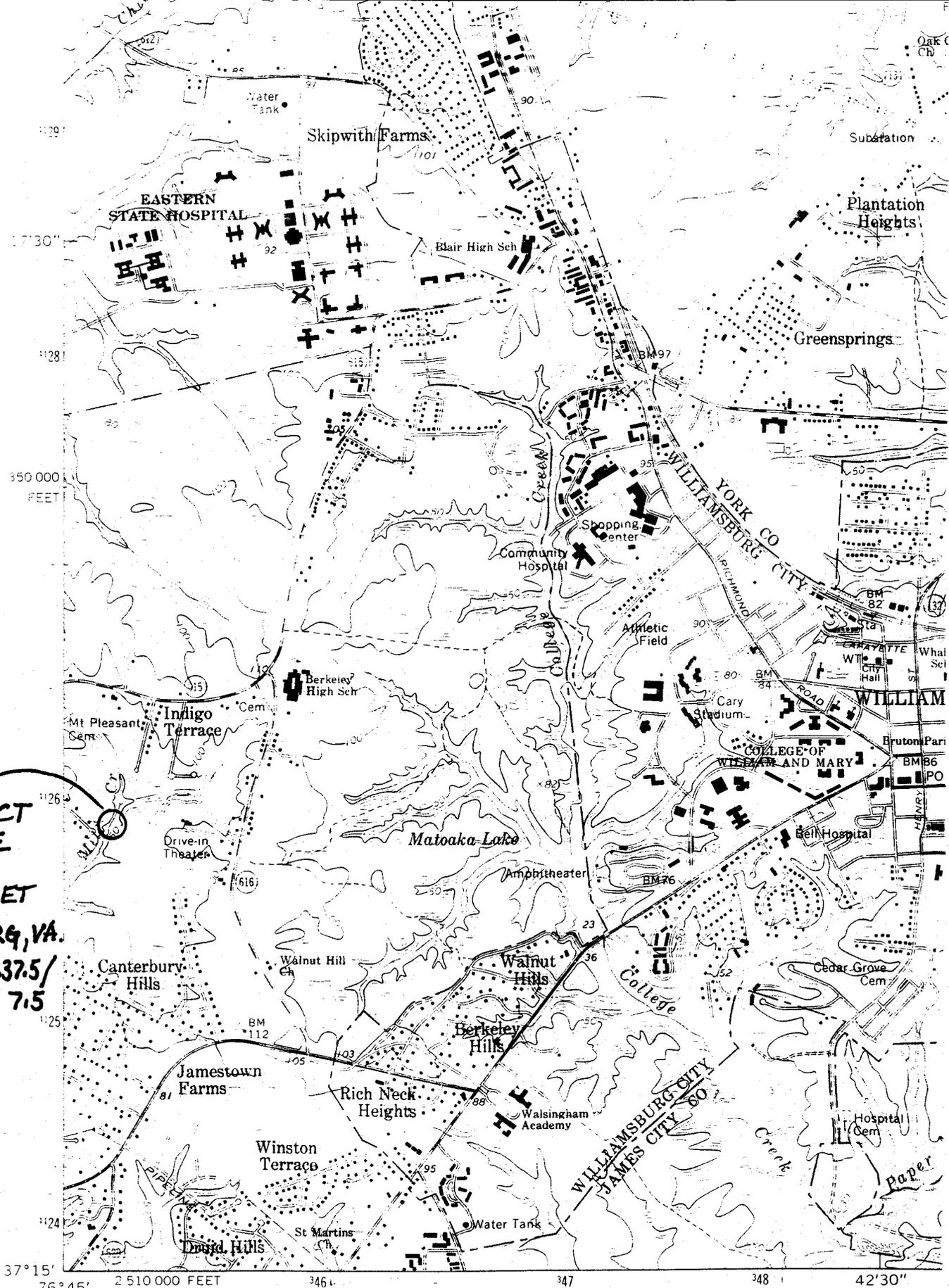
The proposed project is one of four impoundment structures recommended as part of a comprehensive study of the Mill Creek watershed. The basin will serve a drainage area of approximately 250 acres and is designed to be a normally dry impoundment. As a "dry" basin the impact to wetlands should be limited to the area of the dam. It is designed to provide extended detention for water quality benefit. We estimate that 9000 square feet of non-tidal wetlands will be filled during construction of the dam and outlet structures. Provided for your information are a location map, a copy of the SCS soils survey map, and a preliminary plan of the project.

As a result of this project no threatened or endangered species will be impacted. There will be no impact to any archaeological site and no public water supply will be impacted. More detailed design information is available should you desire it. If you have any questions or desire to tour the site please contact us. We look forward to your response.

Very truly yours,

A handwritten signature in cursive script that reads "Bernard M. Farmer, Jr." The signature is written in black ink and is positioned above the typed name and title.

Bernard M. Farmer, Jr., P. E.  
Director of Code Compliance



**PROJECT SITE**

**USGS SHEET  
WILLIAMSBURG, VA.  
N 3715-W7637.5/  
7.5**

(SURRY)  
5558 III NE

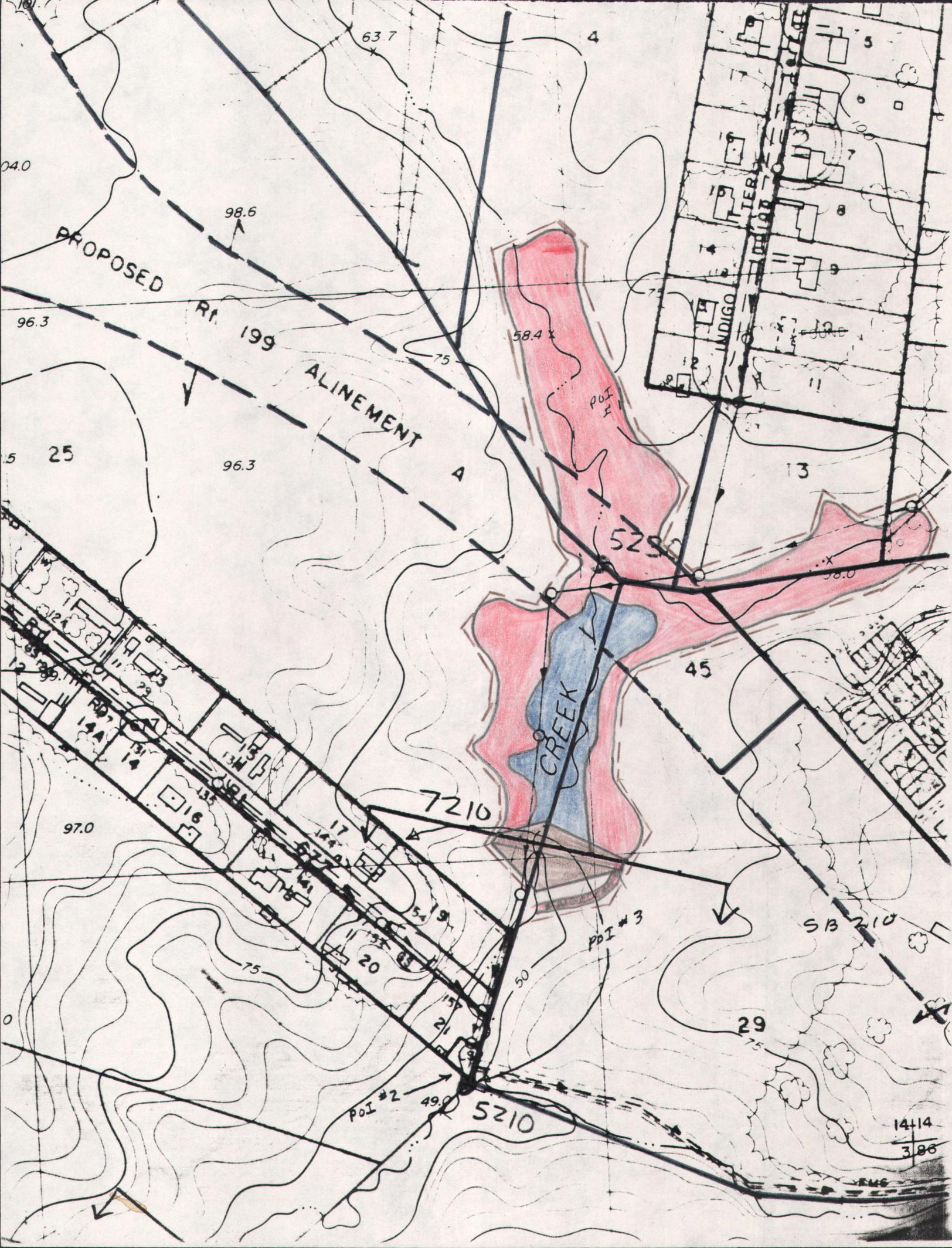
Mapped, edited, and published by the Geological Survey  
Control by USGS and USC&GS

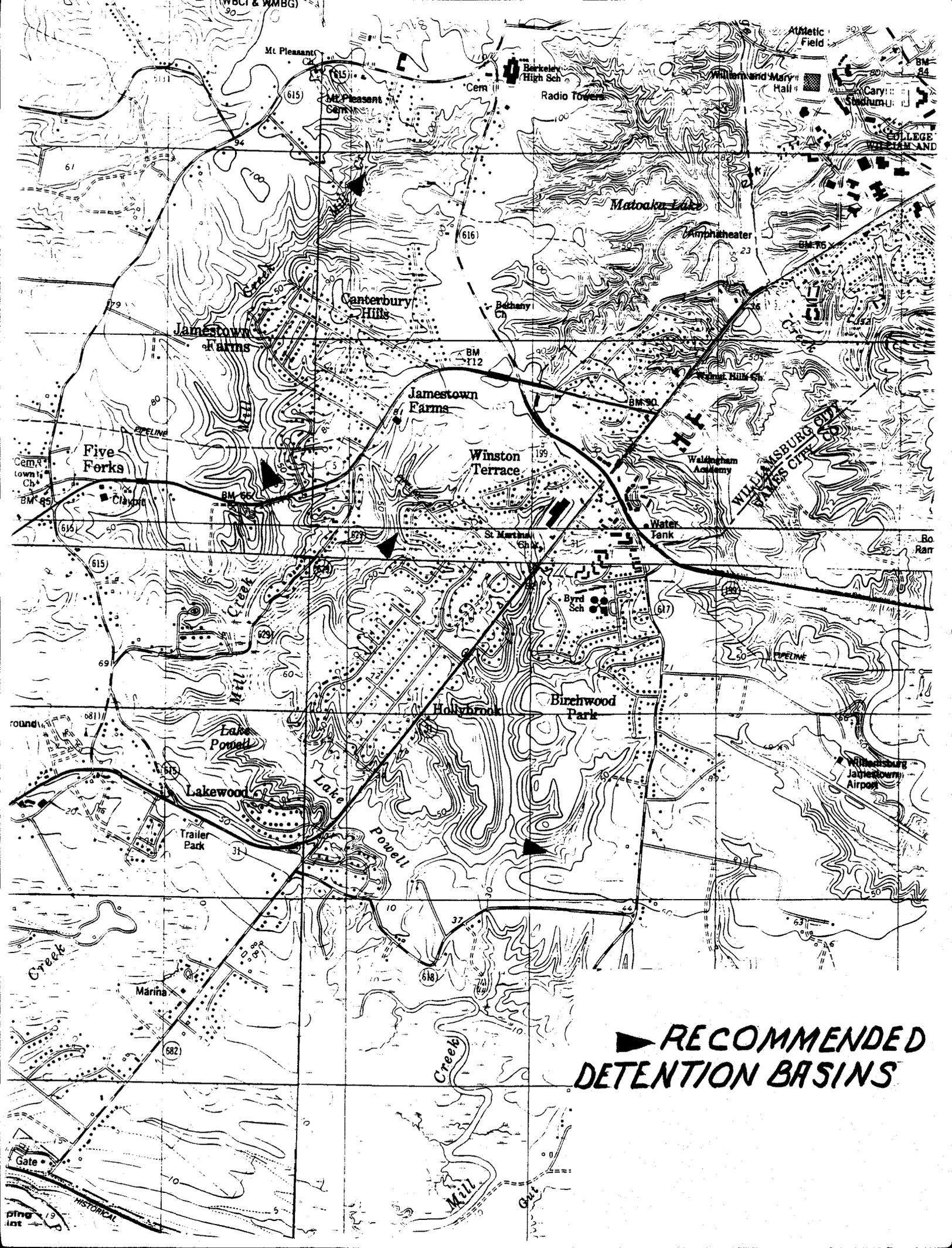
Topography by photogrammetric methods from aerial  
photographs taken 1963. Field checked 1965  
Supersedes Army Map Service map dated 1952

Selected hydrographic data compiled from USC&GS Chart 495 (1961)  
This information is not intended for navigational purposes

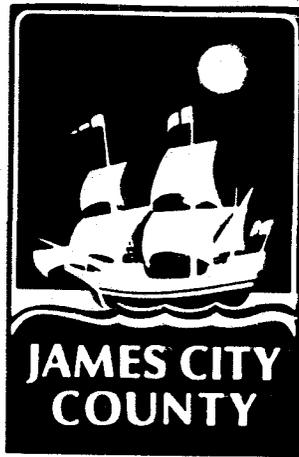
Uses projection 1927 North American datum







▶ RECOMMENDED  
DETENTION BASINS



Mailing Address:  
P.O. Box JC  
Williamsburg, Va.  
23187-3627

DEPARTMENT OF DEVELOPMENT MANAGEMENT  
COUNTY GOVERNMENT CENTER, 101 MOUNTS BAY ROAD

Development Manager  
(804) 253-6671

September 12, 1991

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Mr. Greg Culpeper  
CENAO-CO-R  
803 Front Street  
Norfolk, VA

RE: Mill Creek Detention Basin

Dear Mr. Culpeper:

To assist in your evaluation of wetlands impacts, I have tabulated information on the extent and the duration of inundation of low lying areas affected by our proposed dry detention basin. The areas to be inundated on a periodic basis are presently wooded and include an area of hardwood swamp type wetlands estimated at less than 2 acres.

As we discussed, the dry basin controls a watershed of approximately 200 acres reducing downstream erosion and flooding, and improving the quality of the water released to downstream water bodies and wetlands. There are various levels of control in the basin beginning with the one inch storm, and continuing up to the 100-year storm. The basin is also designed to control runoff from the proposed State Route 199 which when constructed will pass through the center of the area inundated by our basin.

The following table contains the extent of bottom areas inundated by the basin for the various storm events and the duration of inundation. The table presents two cases, one prior to and the other after construction of Route 199. The construction of Route 199 will involve the filling of approximately one-third of the bottom area in our basin which explains the decrease in flooded area after the road construction.

| <u>Storm Event</u> | <u>Area Flooded Prior to 199</u> | <u>Area Flooded After 199</u> | <u>Duration of Inundation</u> |
|--------------------|----------------------------------|-------------------------------|-------------------------------|
| 1 in               | 3.26 acres                       | 2.58 acres                    | 18.3 hrs.                     |
| 2 yr               | 4.23 acres                       | 3.30 acres                    | 20.8 hrs.                     |
| 10 yr              | 5.56 acres                       | 4.44 acres                    | 21.2 hrs.                     |
| 25 yr              | 6.41 acres                       | 5.18 acres                    | 21.4 hrs.                     |
| 100 yr             | 7.35 acres                       | 5.75 acres                    | 21.5 hrs.                     |

Mr. Culpeper  
Page 2  
September 12, 1991

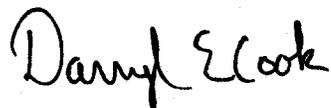
The table presents data that show the times of inundation for all storms at less than 24 hours. The 1-inch storm will cause the most frequent inundation, estimated at 2 to 3 times per year. The other storms represent frequencies ranging from once in two years to once in 100 years. Again, the amount of hardwood swamp wetlands impacted by our basin is less than 2 acres.

The enclosed plan shows the location of the proposed basin and the areas to be flooded periodically by the 1-inch storm, and the 2, 10 and 100-year storms. The plan actually overestimates graphically the amount of area to be filled because the Route 199 corridor will be filled at some point in the future and those areas shown in the corridor will no longer be inundated. Until that area is filled, the full extent of inundation will not be achieved. For example, the extent of flooding during the 1-inch storm will be to elevation 57.1 until after filling when the elevation will be increased to 58.3. At the other extreme, the 100-year storm will be increased from 62.1 to 62.4 after filling of the right-of-way.

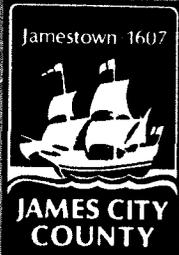
We do not feel that these short times of inundation represent "filling" of wetlands as the vegetation in these areas are currently subject to periodic inundation and are of the type that tolerate wet conditions. The only filling of wetlands associated with the project is the filling of 9000 square feet necessary to create the earthen embankment. Therefore, as we stated in our March 29, 1991 letter, we feel that the project qualifies for a Nationwide 26 permit and that an individual permit is not required.

Please contact me at 253-6673 if you have any other questions or need any additional information.

Sincerely,



Darryl E. Cook  
Development Engineer



**DEPARTMENT OF DEVELOPMENT MANAGEMENT**  
P.O. Box JC  
Williamsburg, Virginia 23187-3627  
COUNTY GOVERNMENT CENTER, 101E MOUNTS BAY ROAD

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Integrated Pest Management  
253-2620

November 7, 1991

Department of the Army  
Norfolk District, Corps of Engineers  
ATTN: Mr. Nicholas Konchuba  
Eastern Virginia Regulatory Section  
Fort Norfolk, 803 Front Street  
Norfolk, VA 23510-1096

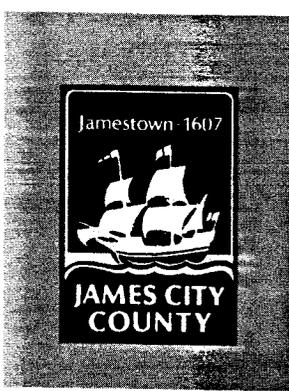
Dear Mr. Konchuba,

I was pleased to speak with you this morning regarding our proposed stormwater detention facility along Mill Creek. Accompanying this letter is a copy of the final report of our Mill Creek/Lake Powell drainage study that recommends the approach we have taken for stormwater management. We would still like to meet with you to explain our future plans, and to assure you we share your desire to safeguard our wetland resources. Please contact us as soon as possible so that we may arrange such a meeting.

Under a separate letter I will be forwarding information pertaining to the archaeological excavation in the vicinity of our proposed facility. This work was performed by archaeological staff from the College of William and Mary, on behalf of Virginia Department of Transportation. Part of the site is proposed to be filled during the Route 199 construction, and the site is referenced in the Route 199 EIS. I still believe that no adverse impacts will occur to this historic site as a result of our project. I look forward to hearing from you soon.

Very truly yours,

Bernard M. Farmer, Jr., P. E.  
Director of Code Compliance



**DEPARTMENT OF DEVELOPMENT MANAGEMENT**

P.O. Box JC

Williamsburg, Virginia 23187-3627

COUNTY GOVERNMENT CENTER, 101E MOUNTS BAY ROAD

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Integrated Pest Management  
253-2620

November 7, 1991

Mr. Donald Linebaugh  
College of William and Mary  
327 Richmond Road  
Williamsburg, VA 23185

Dear Mr. Linebaugh,

As we discussed, James City County is planning to construct a regional stormwater detention facility along Mill Creek in the vicinity of Indigo Dam Road. We are seeking verification that the project does not impact any archaeological site, or that the necessary exploration has been completed and the proposed project will have no adverse effect. Attached is a detail sheet showing the location of the proposed facility and topography. Our basin would only have temporary impoundments of water for a brief period a time after a storm. The design would provide for impoundments ranging from approximately 58 feet (for a one inch rainfall) up to a maximum elevation of 62.4 feet (for a storm event with a probability of occurring once every 100 years). It is our understanding that your office has done the recent archaeological exploration in that area along the Route 199 corridor. Whatever information you can provide us would be most helpful. If you need any further information regarding our proposed facility please contact me.

Very truly yours,

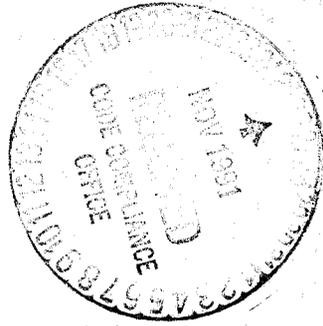
Bernard M. Farmer, Jr., P. E.  
Director of Code Compliance



The College Of  
**WILLIAM & MARY**

Center for Archaeological Research

Department of Anthropology  
Williamsburg, Virginia 23185



November 25, 1991

Mr. Bernard M. Farmer, Jr., P.E.  
Director of Code Compliance  
Department of Development Management  
P.O. Box JC  
Williamsburg, VA 23187-3627

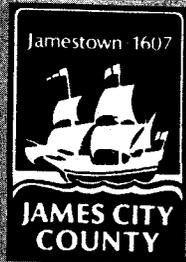
Dear Mr. Farmer:

As requested in your letter of November 7, 1991, we have visited the project area of the regional stormwater detention facility along Mill Creek in the vicinity of Indigo Dam Road. Our field investigation and previous reports indicate that the proposed facility will not impact Site 44JC359, associated with the Route 199 project, or any other known archaeological resource. However, it is our opinion that a small terrace above the creek has the potential to contain prehistoric archaeological resources and should be tested. This portion of the project area was not surveyed during the Route 199 investigation. We can provide you with additional information on the type of investigation necessary upon request. Thank you again for contacting us about this proposed project.

Sincerely,

Donald W. Linebaugh  
Co-Director

cc: Dennis B. Blanton, Co-Director



**DEPARTMENT OF DEVELOPMENT MANAGEMENT**

P.O. Box JC

Williamsburg, Virginia 23187-3627

COUNTY GOVERNMENT CENTER, 101E MOUNTS BAY ROAD

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Integrated Pest Management  
253-2620

December 17, 1991

Department of the Army  
Norfolk District, Corps of Engineers  
ATTN: Mr. Steve Martin  
Eastern Virginia Regulatory Section  
Port Norfolk, 803 Front Street  
Norfolk, VA 23510-1096

Dear Mr. Martin,

I was pleased to speak with you this morning regarding our proposed stormwater detention facility along Mill Creek. As we discussed we are very concerned with the impending reissuance of the nationwide permits, and the uncertainty of actions by the State Water Control Board pertaining to 401 Certification. During our discussion on December 4, we emphasized that continuing delays in providing the requested letter of verification could potentially jeopardize the project. Since the project itself is one designed and intended to safeguard our natural resources, cancellation would not be in the best interests of the citizens of the county. I realize that you personally have only been assigned the project for a short period of time, yet we have been attempting to gain the letter of verification since our first contact on March 29. Whatever assistance you can provide to get a timely decision would be appreciated.

We trust that the issues regarding archeological sites are settled as a result of the letter from William and Mary archeological staff. If an further information is needed please let us know.

Very truly yours,

A handwritten signature in black ink that reads "Bernard M. Farmer, Jr." The signature is written in a cursive style with a large, stylized initial "B".

Bernard M. Farmer, Jr., P. E.  
Director of Code Compliance



# COMMONWEALTH of VIRGINIA

## Department of Historic Resources

221 Governor Street  
Richmond, Virginia 23219

TDD: (804) 786-1934  
Telephone (804) 786-3143  
FAX: (804) 225-4261

Hugh C. Miller, Director

December 26, 1991

Mr. Stephen Martin  
Permits Section  
Norfolk District  
U.S. Army Corps of Engineers  
803 Front Street  
Norfolk, Virginia 23510-1096



Re: Permit CENAO-CO-R Stormwater Detention Facility along Mill Creek  
(James City County)  
James City County, Virginia

Dear Mr. Martin:

Through James City County's Department of Code Compliance, we have received notice of the above-referenced project. We have reviewed the project plans and the letter report dated November 25, 1991 of the field check conducted at the request of the County in the project vicinity by the College of William and Mary's Archaeological Project Center. We concur with the consultant's conclusion that construction of the proposed facility will have no effect on Site 44JC359 or other historic properties. We agree that a small terrace above the creek has the potential to contain prehistoric archeological sites. However, this area will not be affected by the proposed impoundment and for this reason no archeological investigations are warranted in connection with this particular project. We have no objections to Corps issuance of the permit referenced above.

If you have any questions concerning our comments, please call Ethel R. Eaton of our staff.

Thank you for your cooperation and assistance.

Sincerely,

*Ethel R. Eaton for*

Bruce J. Larson  
Project Review Supervisor

cc. Mr. Bernard M. Farmer, Jr., P.E.  
Mr. John Patton  
Virginia Marine Resources Commission  
Virginia State Water Control Board  
Mr. Dennis B. Blanton

# JOHN GRIER CONSTRUCTION COMPANY

GENERAL CONTRACTORS

P.O. Box 191, Williamsburg, Virginia 23187-0191  
(804) 229-1413 • 877-5992 Fax 220-9044

January 7, 1993

Mr. Bernard M. Farmer, Jr.  
Code Compliance Officer  
James City County  
P. O. Box JC  
Williamsburg, VA 23187

RE: Land Swap

Bernie:

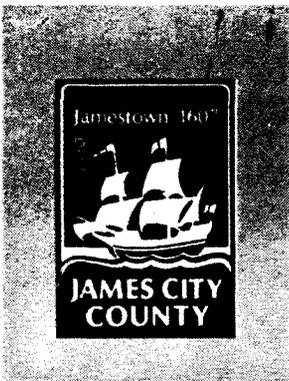
I would like to propose a trade for my land in the rear, where the county is planning to install a retention basin, for land to the rear of my warehouse on Strawberry Plains Road. I would trade my land for a 35 x 150 feet strip butting my property line. It would commence at the boundary line joining the Farmers Market.

If a trade is too complicated I would lease for 50 years at \$ 1.00 per year.

Sincerely



Josep S. Terrell



**BOARD OF SUPERVISORS**  
P.O. Box JC  
Williamsburg, Virginia 23187-3627

**COUNTY GOVERNMENT CENTER, 101 MOUNTS BAY ROAD**  
(804) 253-6609



*Board of Supervisors*

**PERRY M. DEPUE**  
**JACK D. EDWARDS**  
**JUDITH N. KNUDSON**  
**DAVID L. SISK**  
**STEWART U. TAYLOR**

January 15, 1993

**CERTIFIED MAIL - RRR**

Joseph S. and Essie G. Terrell  
318 South Boundary Street  
Williamsburg, VA 23185

**RE: Mill Creek Stormwater Management Easements**  
**Easements to be Condemned:**  
1. 16,023.97 square feet or .37 acres; and  
2. 23,415 square feet or .58 acres

**Total Amount offered: \$1,783.00**

Dear Mr. and Mrs. Terrell:

On October 21, 1992, the Board of Supervisors of James City County determined that construction, operation and maintenance of a stormwater management basin between Strawberry Plains Road (Route 616) and Ironbound Road (Route 615) is a public necessity. The Board determined by Resolution (copy enclosed) that a public necessity existed and authorized the exercise of the power of eminent domain for acquisition of those portions of your property, designated as Parcel 1-29 on James City County Real Estate Tax Map No. (38-4), as shown on the enclosed plats.

Pursuant to the Resolution, the County intends to enter upon and take possession of the easements. You are hereby advised that, pursuant to Virginia Code Section 15.1-238(b), as amended, you have thirty (30) days from the date of mailing of this letter to contest the action of the Board by filing an appropriate application with the Circuit Court for the City of Williamsburg and County of James City, Virginia.

I am aware that representatives of the County have offered to compensate you \$1,783.00 in exchange for the easements in your property. As of this date, however, the County has been unable to reach an agreement with you. In the

Joseph S. and Essie G. Terrell  
January 15, 1993  
Page 2

event an agreement cannot be reached, condemnation proceedings will be instituted with the recordation of a Certificate of Deposit. The recordation of the Certificate of Deposit allows the County or its agents, by statute, to enter upon and take possession of the easements for construction of a dam, basin and other drainage facilities. I anticipate construction will begin soon.

Please be advised that upon recordation of the Certificate, you may withdraw the amount of the Certificate without prejudice to your right to contest the amount of compensation, by application to Leo P. Rogers, Assistant County Attorney, P.O. Box 8784, Williamsburg, VA 23187 or by calling (804) 253-6612. Condemnation proceedings will be conducted pursuant to Virginia Code Article 7, Chapter 1 of Title 33.1, as amended. A final determination of the amount of compensation may be agreed to by the parties or determined by a Commission of landowners appointed by the Circuit Court.

Sincerely,



Leo P. Rogers  
Assistant County Attorney

LPR/bkh  
MillCrk.ltr

Enclosures

cc: ✓ Bernard M. Farmer, Jr.

114,500 - TOTAL

11/4/92 - 18,546.35 (10/31/92)

Nov + Dec - 106.05

18,652.40

12/31/92 - \$95,847.60 - amt available

Warryl -  
Tiquas  
Gawson wire  
Warryl -

0•A

0•\*

18,546•35+

63•63+

42•42+

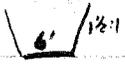
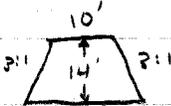
\* 18,652•40\*

Skis carried

Detail -

MILL CREEK DET. BASIN  
Updated Cost Estimate -

9/28/92

1. Clearing + Grubbing -  $1.5 \text{ ac} \times \$3000 =$  \$4500
  2. Stabil. Const Entrance - L.S. 500
  3. Access Road -  $100' \times 12' / 9 \times .75 / \text{ingr.} \times 6'' =$  600
  4. CORE TRENCH -  $250' \times 12' \times 24' \times \frac{1}{27} = 2667 \text{ CY} \times \$17 =$  \$45,339  

  5. EMBANKMENT \$22,720  
  
 Peak - 14' high  
 $52' \times 14' \times 1 = 728 \text{ ft}^3 = 27 \text{ cyds}$   
 Avg 8' high  
 $34 \times 8 \times 1 = 272 \text{ ft}^3 = 10 \text{ cyds}$   
 $27 \times 20' + 230 \times 10 = 2840 \text{ cyds.} \times 8$
  6. 65' of 42" pipe @ \$42/LF
  7. RISER - Lump Sum \$5000
  8. STABILIZATION - 2 ac @ \$2000 \$4000
  9. SILT FENCE, 500 LF x 7 \$3500
  10. EMERGENCY SPILLWAY - \$1560  
 $18' \times \frac{4''}{12''} \times (15 + 5.6 \times 2) \times \$100 / \text{cy} = \$580$   
  
 downslope -  $34.5' \text{ long} \times \frac{4}{12} \times 23' = 9.8 \times 100 = \$980$
  11. Riprap -  $50 \times 1.5 \times 20 / 9 \times 45 =$  \$7500
  12. WATERTIGHT MANHOLE COVERS (3) @ \$100 \$300  
980/19
  13. TEMP STREAM DIVERSION - \$2500
  14. Encasement of Sewer -  $60 \text{ LF} \times \$10 / \text{LF}$  600
- \$98,619
- 25% Cont. 24,655
- 123,274

# SWM Basin

4/13

9380017

Glover Const - \$159,000.00

(4)

1) \$2

2) \$10

WOLF CONTRACTING - \$123,529.00

(2)

1) \$5

2) \$20

EMP General Contractors - \$116,400

(1)

Count

1) \$1

2) \$12

George Nieu + Sons - \$165,895

(6)

1) \$5

2) \$16.85

Coastal Design + Const - \$161,575

(5)

1) \$0

2) \$18

Jack Massie - \$151,264

(3)

1) \$5

2) \$29

**JAMES CITY COUNTY**  
**MILL CREEK DETENTION BASIN MODIFICATIONS**  
**00-B-0061**

**WEDNESDAY, 11:00 A.M. JUNE 7, 2000**

**Pre-Bid Meeting Agenda**

1. **Introductions:** Sign-in on attendance sheet.
2. **Project Requirements:** Discussion of project requirements by staff.
- **Questions and Comments:** Vendors may ask questions relating to the project. *Questions which may alter the intent of the bid document and require a change in specifications must be submitted in writing at the pre-bid conference to the Mr. DARRYL COOK. These questions and answers will be faxed to all holders of the bid documents as an Addendum.*
3. **Submittal:** Vendor shall submit a completed **BID FORM** document as required by specifications. *Vendor must submit two(2) signed copies of the BID FORM and other documents as required in the INVITATION FOR BID.*
4. **Safety and Health Regulations:** Contractor to follow and comply with all U.S. Department of Labor and Health Regulations, OSHA & VOSHA Safety Standards.
5. **Bid Opening:** **2:00 p.m., June 15, 2000.** at the place designated in the Bid Advertisement.
6. **Sign in Log:** Please complete attached attendance log.

**JAMES CITY COUNTY  
INVITATION FOR BID**

**00-B-0061**

**MILL CREEK DETENTION BASIN MODIFICATIONS**

**MAY 2000**

JAMES CITY COUNTY  
INVITATION FOR BID  
00-B-0061  
MILL CREEK DETENTION BASIN MODIFICATIONS

**SEALED bids for Detention Basin Number 1 Pond modifications** in James City County will received in the Purchasing Office, 5248 Olde Towne Road, Suite 7, Williamsburg, Virginia 23188, (757) 564-0194, on **June 15, 2000, until 2:00 p.m.**, local prevailing time, at which time the bids will be publicly opened and read aloud.

The project consists of all work necessary to modify the outlet structure for an existing stormwater management facility, remove trees and other woody vegetation from the facility's embankment, and repair the emergency spillway. The work under this Project includes erosion and sediment control, excavation and removal of an existing underdrain system, debris removal, installation of a new low flow orifice trash protection device, small tree and woody vegetation removal, cleaning and repair of concrete joints and site stabilization as delineated in Scope of Work and Technical Drawings.

Services provided by the Contractor shall include but not be limited to the furnishing all materials, equipment, supervision, labor, tools, excavation, site work, drainage, restoration work, erosion and sediment control, and debris removal necessary to complete the proposed modification and rehabilitation work in accordance with the Scope of Work and Technical Drawings.

A Pre-Bid Conference will be held at 11:00 a.m. on June 7, 2000, in Building E Conference Room, 101-E Mounts Bay Road, Williamsburg, VA.; at which time Prospective Bidders may discuss the project with representatives of the Owner.

All work associated with this Contract shall be completed within 90 days from the date fixed by the Notice to Proceed.

Liquidated damages in the amount \$100.00 per day will be assessed for work not substantially completed within the time limit specified.

Contract Bid Documents shall be obtained at the James City County Purchasing Office at the above address for a Non-Refundable fee of \$10.00. Neither the OWNER nor any of its representatives shall be responsible for full or partial sets of Contract Documents, including addenda, obtained from any other source. Checks shall be made payable to Treasurer, James City County.

Plans and Specifications may be examined also at the Dodge Plan Rooms and/or Bidders Exchange in Newport News, Norfolk, Virginia Beach, and Richmond, Virginia. Plans and Specifications may also be examined at the Environmental Division offices located in the Government Center, 101T Mounts Bay Road, Williamsburg, Virginia.

**BID SECURITY:** All Bids must be accompanied by a certified check or Bid Bond in the amount of five percent (5%) of the total base bid, payable to Treasurer, James City County, and the Contractor's EVIDENCE OF REGISTRATION per Title 54.1-1100 et. seq., Chapter 11 Contractors, Code of Virginia.

**NO BID** shall be withdrawn for a period of 60 days after Bid opening. Withdrawal of bid shall be in accordance with the Virginia Public Procurement Act, Chapter 7, 11-54A(i).

**THE OWNER** reserves the right to waive informalities and to reject any/or all bids and to award any bid in whole or in part considered to be in the best interest of the County. The OWNER also reserves the right to negotiate with the lowest responsive, responsible bidder should bids exceed available funds.

DON BRELAND  
ACTING PURCHASING DIRECTOR

I. INSTRUCTIONS TO BIDDERS

A. PROJECT

Pond modifications consist of the following items in three (3) distinct phases of work: installation of erosion and sediment controls, limited clearing and grubbing, existing utility protection, excavation of an existing underdrain and debris removal, installation of a new low flow orifice, embankment tree removal, emergency spillway repair and site stabilization. Total land disturbance estimate is 2,230 square feet for Phase I and II and 12,350 square feet for Phase III for a total of 14,580 square feet (0.33 acres) disturbed.

B. PRE-BID CONFERENCE

1. A pre-bid conference will be held at 11:00 a.m. on June 7, 2000, at the project site located at the end of Bradshaw Drive in James City County, Virginia; at which time Prospective Bidders may discuss the project with representatives of the Owner. Bradshaw Drive is located off Ironbound Road.

C. DEFINITIONS

1. Terms used in these Instructions to Bidders are defined and have the same meanings assigned to them in the General Conditions.
2. The term "Owner" as used in the Contract Documents refers to James City County (County).
3. The term "Engineer" refers to the staff engineers in the Environmental Division or the OWNER. Refer all inquiries to Darryl Cook, Environmental Director, (757) 253-6673.
4. The term "Contractor" refers to the person or firm to whom an award is made to perform the work under this contract.
5. The term "Successful Bidder" means the lowest, responsive; responsible Bidder to whom the Owner (on the basis of the Owner's evaluation as hereinafter provided) makes an award.

D. FAMILIARITY WITH PROPOSED WORK

1. It is the responsibility of the Bidder, by careful personal examination of the site, to satisfy himself as to the nature and location of the work, the conformation of the grounds, the location of utilities of any nature, the soil, rock and foundation conditions, and the character, quality and quantity of the materials which will be required. The Bidder shall examine carefully the proposed Contract Documents and all other documents and data pertaining to the Project. The Bidder shall not, at any time after the execution of the Agreement, make any claims whatsoever alleging insufficient data or incorrectly assumed conditions, nor shall he claim any misunderstanding with regard to the nature, conditions or character of the Work to be done under the Contract.

**E. BID OPENING PROCEDURE**

1. Sealed bids will be received on the attached Bid Form by the Owner at the location and until the time and date stated in the Advertisement for Bids, and then publicly opened and read aloud.

**F. METHOD FOR SUBMITTING BIDS**

1. No bid will be considered unless it is submitted upon the Bid Form supplied for the Project. The blank spaces in the Bid Form shall be filled in correctly and completely for each and every item for which a description is given. All names must be typed or printed on or below the signature. Where prices are requested, the Bidder must state the price(s) for which he proposes to do each part of the work contemplated, and the total amount for all parts included in any or all of the combinations of the Work.
2. To demonstrate his qualifications for the Project, each Bidder must be prepared to submit further written satisfactory evidence that he has sufficient experience, necessary capital, materials, machinery and skilled workmen to complete the Contract. If financial statements are required, they shall be of such date as the Owner shall determine and shall be prepared on a form acceptable to the Owner. The Owner may make such investigations as he deems necessary to determine the ability of the Bidder to perform the Work. The Owner's decision or judgment on these matters will be final, conclusive and binding.
3. In evaluating Bids, the Owner will consider the qualifications of the Bidders, whether or not Bids comply with the prescribed requirements, and alternates and unit prices if requested in the Bid Forms. The Owner may consider the qualifications and experience of subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work as to which the identity of subcontractors and other persons and organizations must be submitted as specified herein. The Owner may conduct such investigations as deemed necessary to establish the responsibility, qualifications and financial ability of the Bidders, proposed subcontractors and other persons and organizations to perform the work in accordance with the Contract Documents to the Owner's satisfaction and within the prescribed time. The Owner reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to the Owner's satisfaction.

**G. BID SECURITY**

1. No bid for any contract shall be considered unless accompanied by a certified check, bank cashier's check or Bid Bond in the form attached, payable to the Owner in an amount not less than five percent (5%) of the Bid. Except for the Bid Security of the three lowest responsible bidders, all checks will be returned to the bidders on or before the tenth day subsequent to bid opening. Unless otherwise forfeited, the Bid Security of the three lowest responsible bidders will be returned within ten days after 1) the expiration of the period during which the bids may not be withdrawn, as set out in the Advertisement for bids; or 2) upon furnishing of the required Payment and Performance Bonds, the execution and delivery to the Owner of the Agreement, and compliance with the insurance requirements by the lowest responsible bidder, whichever event occurs first.

H. SURETY

1. All bonds submitted as Bid Security, and Performance and Payment Bonds submitted by a bidder to whom notification of Intent to Award a contract has been given, shall be executed by surety companies legally authorized to do business in Virginia. Such surety companies shall also be named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Accounts, U.S. Treasury Department, Washington, D.C.

I. POWER OF ATTORNEY

1. Attorney's-in-Fact who sign Bid, Performance and Payment Bonds must file with each Bond a certified copy of their Power of Attorney to sign said Bonds, bearing the same date as the Bonds.

J. DELIVERY OF BIDS

1. It is the responsibility of the Bidder to deliver their Bid to the Owner prior to the time of bid opening, regardless of what medium the Bidder uses to deliver it, whether by mail or otherwise. No Bid shall be considered if it arrives after the time set for bid opening. Each bid shall be submitted in a sealed envelope. If forwarded by mail, the above mentioned envelope shall be addressed as stated in the Advertisement for Bids and marked "James City County; IFB-00-B-0061."

K. REJECTION OF BIDS

1. The right is reserved by the Owner at its discretion to reject any or all bids or parts thereof. Bids may be rejected if they show any omission, alteration of form, additions or deductions not called for, conditional or uninvited alternate bids, or irregularities of any kind; however, the Owner also reserves the right to waive any informalities on bids.

L. ESTIMATED QUANTITIES

1. Any estimates of quantities herein furnished by the Owner are approximate. They have been used by the Owner as a basis for estimating the cost of work, and will also be used for the purpose of tabulating and comparing bids and awarding the Contract. The information shown in the Bid Documents is for unit price comparison only. Such estimates shall not give rise to any responsibility of the Owner hereinafter precluded in the General Conditions. The Owner does not guarantee the quantities shown in the bid documents, and reserves the right to award a contract for any portion of the total project.

M. BID PRICES

1. In the event there is a discrepancy between the unit prices, and the extended totals, the unit prices shall govern. In the event there is a discrepancy between prices written in words and written in figures, the prices written in words shall govern. In case of error in the Bidder's extended summation, the computed total of the Engineer shall govern. The total amount of the summation of Bid extension shall be the basis of awarding the contract to the lowest responsible bidder.

2. Should the lowest responsible bid exceed the funds budgeted for project construction, the Owner reserves the right to negotiate with the lowest responsive, responsible bidder in the best interest of the Owner.

N. SHAM OR COLLUSIVE BIDS

1. The bids of any bidder or bidders who engage in collusive bidding shall be rejected. Any bidder who submits more than one bid in such a manner as to make it appear that the bids submitted are on a competitive basis from different parties shall be considered a collusive bidder.

O. ADDENDA AND INTERPRETATIONS

1. No interpretations of the meaning of the Drawings, Specifications or other Contract Documents will be made to any bidder orally. Every request for such interpretation shall be in writing to the Owner and to be given consideration must be received at least eight (8) days prior to bid opening. Any and all such interpretation will be in the form of an Addenda to the Contract Documents, and will be mailed to the prospective bidders at the addresses furnished by them not later than five (5) days prior to the bid opening. Failure of any bidder to receive such addendum or interpretation shall not relieve any bidder from his obligation under the Bid as submitted.

P. PERFORMANCE AND PAYMENT BONDS

1. The bidder to whom the Contract is to be awarded shall, within ten (10) days after Notice of Award, provide Performance and Payment Bonds each in an amount equal to one hundred percent (100%) of the amount bid, for faithful performance of the Contract; to cover the payment in full of all materials furnished and labor supplied or performed; and also covering correction of defective workmanship and material during the guaranty period, and each executed by a surety company approved by the Owner and authorized to transact business in the state in which the Project is located.

Q. PAYMENT PROCEDURES

1. Prior to final acceptance, monthly progress payments will be made in an amount equal to 95 percent of the work completed, but in each case, less the aggregate of payments previously made and less such amounts as the Engineer shall determine, or the Owner may withhold, in accordance with Section 01151 - Measurement of Payment.
2. If the Owner and Contractor have executed an Escrow Agreement, the 5 percent retainage will be paid by the Owner to the escrow account as outlined in the agreement. If the Owner and Contractor have not executed an Escrow Agreement, the 5 percent retainage shall be paid to the Contractor upon Final Acceptance of the Work by the Owner.
3. Invoices-see I-9, W.

R. AWARD OF CONTRACT

1. If an award of Contract is made, it will be made to the lowest responsive and responsible bidder within sixty (60) days after bid opening.

2. If moneys due or to become due under the Contract resulting from this Invitation for Bid are to be assigned to any bank or other party, the Contractor shall notify the James City County Purchasing Director in writing. The Contract will then be issued in the name of both the Contractor and the bank or other party. Copy of such Notice of Assignment of Claims shall be forwarded to the James City County Purchasing Office.
3. James City County reserves the right to make an award in whole or in part at its discretion.

S. FAILURE TO EXECUTE CONTRACT

1. If the lowest responsive and responsible bidder to whom the Contract is awarded fails to give Bonds or execute the Contract within the time specified, the amount of the Bid Security shall be paid to the Owner as liquidated damages. In such case the Owner, at his discretion, may award the contract to the next lowest responsible bidder, or reject all Bids.

T. NOTICE TO PROCEED

1. Notice to proceed (both verbal and written) will be given by the Owner after execution of the Agreement, insurance policies, Certificates and bonds. The Contractor shall begin the Work to be performed under this Contract on the date set by future notifications. Failure to begin work within ten (10) days of such notifications may be construed by the Owner as just cause for cancellation of the Contract. All work associated with this Contract shall be completed within 90 consecutive calendar days from the date fixed by the Notice to Proceed.

U. WORK BY OWNER

1. No work by forces of the Owner is presently anticipated. The Contractor shall provide all necessary labor, equipment, supplies and materials. The Land Disturbing Permit, if required, CE-7 Permit and all other Permits necessary to perform the required work are to be acquired by the Contractor.

V. PROGRESS PAYMENTS

1. The Contractor may submit an invoice for any work completed which has been inspected and accepted by the County.

W. TIME OF ESSENCE

1. As the provisions hereof relating to the time for performance and completion of the Work are for the purpose of enabling the Owner to proceed with the construction of public improvements in accordance with pre-planned programs, such provisions are of the essence.

X. TIME FOR COMPLETION

1. All work associated with this Contract shall be completed within 90 consecutive calendar days from the date fixed by the Notice to Proceed.

**Y. LIQUIDATED DAMAGES**

1. It is mutually understood and agreed by and between the parties to the contract that in the execution of the contract, time is an essential element of the contract, and it is important that the work be pressed vigorously to completion.
2. If the Contractor shall neglect, fail or refuse to complete the work within the 90 day contract period, then for each calendar day that any work shall remain uncompleted after the end of the contract period, \$100 will be assessed by the Owner, not as a penalty, but as a predetermined and agreed liquidated damage.
3. The Owner has the right to deduct said liquidated damages from any money in the Owner's hands, otherwise due, or to become due, to said Contractor, and to sue for and recover any additional compensation for damages for nonperformance of the Contract at the time stipulated and provided for in the Contract Documents.
4. The assessment of liquidated damages for failure to complete the work within the 90 day contract period shall not constitute a waiver of the Owner's right to collect any additional damages which the Owner may sustain by failure of the Contractor to carry out the terms of the Contract.

**Z. 'OR EQUAL' MATERIALS AND EQUIPMENT**

1. Wherever in these Contract Documents a particular brand or make or material or equipment is named, such name is specified to establish a standard of quality. Any other brand, make or material, device or equipment which, in the opinion of the Owner or his representative, is the equal of that specified, considering quality, workmanship and economy of operation and which will perform the functions for which it was intended, may be accepted.
2. This acceptance will be given only when the successful Contractor has shown to the satisfaction of the Owner or his representative that the proposed substitute is equal in materials, workmanship, finish and service to that called for in the Specifications.
3. The determination as to whether or not a material, article or item of major equipment is acceptable and in the best interest of the Owner will rest solely with the Owner or his representative.

**AA. SAFETY AND HEALTH REGULATIONS**

1. The Contractor shall comply with the U. S. Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 as amended (PL 91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act as amended (PL 91-54).

BB. IMMIGRATION REFORM AND CONTROL ACT OF 1986

1. By submitting their bids, bidders certify that they do not and will not during the performance of this contract employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986.

CC. PREQUALIFICATION OF MATERIALS

1. The Engineer will not prequalify any substitute materials or equipment submitted by the Bidders. Only substitute items submitted by the successful contractor or contractors after the date of the Contract Award will be considered by the Owner or his representative.

DD. COPIES OF DOCUMENTS FURNISHED CONTRACTOR

1. The Owner or his representative shall furnish to the successful Contractor five sets of Contract Documents, completely free of charge, for his use in executing the Work.

EE. GUARANTY PERIOD

1. The Contractor shall correct defective work performed under this Contract for a period of twelve months following the date of Final Payment.

FF. WITHDRAWAL OF PROPOSALS

1. Except as otherwise permitted by law, bids shall remain irrevocable for the period stated in the Advertisement for Bids.

GG. PROGRESS MEETINGS

1. Progress meetings shall be held weekly on a date to be set by the Owner. The Contractor shall be present at all progress meetings. If progress is not made as scheduled or if the Owner desires to discuss revised progress schedules or the quality of workmanship or other aspects of the work, additional progress meetings can be required.

II. SUPPLEMENTARY GENERAL CONDITIONS

A. DESCRIPTION

1. In the event of a conflict between the General Conditions and the Supplementary General Conditions, the provisions of the latter shall take precedence.
2. Where any article, paragraph or clause of the General Conditions is changed or deleted by these supplements, the unaltered provisions of that section, paragraph or clause shall remain in effect.

B. SCOPE OF WORK

1. The Scope of Work which are attached hereto contain bidding documents and technical provisions for all work. All work shall be in accordance with the contract specifications and documents.

C. WORK OUTSIDE REGULAR HOURS

1. The Contractor shall not work outside the regular hours or on Sundays or holidays without prior approval of the Owner.

D. AVAILABILITY OF CONTRACTOR AFTER WORKING HOURS

1. The Contractor shall designate a representative and furnish a telephone number at which the representative may be contacted at any time after working hours. This representative shall be empowered and authorized to provide such personnel and equipment as may be required to remedy emergency situations which may develop after normal working hours or on weekends and holidays.

E. UNAUTHORIZED AND DEFECTIVE WORK

1. Work done beyond the limits authorized by the Owner, as given, except as herein provided, or any extra work done without authority will be considered as unauthorized, and work not done in conformity with the Specifications will be considered defective. Work considered by the Owner to be defective will not be approved for payment until corrected.
2. All work which has been rejected or condemned shall be remedied, or if necessary, removed and replaced in a manner acceptable to the Owner, by the Contractor, at the Contractor's expense. If the Contractor does not remedy, remove, or replace as instructed by the Engineer after ten (10) days, such remedy, removal, or replacement may be done by the Owner at the Contractor's expense.

F. INSPECTION

1. ~~The Owner may appoint a resident inspector or inspectors as he may deem necessary to inspect all materials and workmanship and to see that the work conforms with the Scope of Work and drawings.~~
2. The failure of the inspectors to reject or condemn improper materials and workmanship shall not prevent the Owner from rejecting materials and workmanship found defective at any time prior to the final acceptance of the completed work, not shall it be considered as a waiver of any defects which may be discovered later or as preventing the Owner at any time subsequently from recovering damages for work actually defective.

G. ELECTRICAL POWER AND LIGHTING

1. Temporary electrical power, if required during construction, shall be provided by each Contractor as required by him. This service shall be installed by a qualified electrical contractor. Lighting shall be provided by each Contractor where necessary for good and proper workmanship, for inspection or for safety. The Contractor shall be completely responsible for the provision of permanent electrical power necessary to provide functional and operable facilities at all sites required by the Specifications and Plans.

## H. OPERATIONS AND STORAGE AREAS

1. Each Contractor shall hold and save the Owner free and harmless from liability of any nature or kind arising from any use, trespass or damage occasioned by his operations on premises of third persons, including damages to adjacent properties due to sandblasting or painting operations (if such operations are included in this contract).
2. All items or equipment subject to the deleterious effects of weather or severity of conditions imposed by job storage shall be suitably packaged by the manufacturer of the equipment involved. Any materials damaged shall be removed from the site immediately.

## I. RESTORATION

1. All private and public property disturbed in the process of construction shall be restored to a condition equal to or better than that existing prior to construction. Proper notice shall be given to James City County and to the homeowners of any expected inconvenience or hazardous condition. Special care must be taken to prevent unnecessary damage to trees and shrubs. Road surfaces adjacent to excavations shall be cleaned of soil with mechanical brooms or other approved methods at the end of the working day. Road shoulders and driveways shall be stabilized so as to allow traffic flow (including mail and paper delivery vehicles) by the end of each working day.

All surplus materials shall be disposed of in a manner acceptable to the County, and the construction area shall be left in a neat condition. No machinery or equipment shall be left or stored on the job site after the project is completed. The Contractor shall obtain landowner approval prior to storage of equipment or material on private property.

## J. PROGRESS SCHEDULE

1. A progress schedule shall be submitted within 14 calendar days of Notice to Proceed.

## K. SILTATION AND EROSION CONTROL

1. Excavation shall be done in such a manner that there are no violations of the State of Virginia "Erosion and Sediment Control Handbook". James City County will have an inspector assigned to this project to insure that the erosion and sediment control measures are properly installed and maintained throughout construction.

## L. PUBLIC SAFEGUARDS

1. The Contractor agrees to conduct the work at all times in such a manner that public travel shall neither be inconvenienced needlessly, nor shall it be wholly obstructed at any point. He further agrees to be responsible for all legal notices and signals to the public of the state of the roads while the work is in progress, providing watchmen, barricades, red lights, danger and warning signs and other such precautions necessary to protect life and property. At least one lane shall be open to vehicular traffic along traveled rights-of-way and shall be maintained at all times except as otherwise approved by the Virginia Department of Transportation.

M. SAFETY

1. In accordance with generally accepted construction practices, and the requirements of OSHA, the Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. The requirement will apply continuously and not be limited to normal working hours.
2. The duty of the Engineer to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures, in, or near the construction site.

O. WATER

1. Water shall be potable and provided at the Contractor's expense. It is anticipated that all of the water will be obtainable from the James City Service Authority's water system.

P. RELEASE OF LIENS

1. The Owner, before making any payment, including the final payment, if it is deemed that such procedure necessary to protect his interests, may require the Contractor to furnish a complete release of all liens arising out of this Contract, or receipts in full in lieu thereof and if required in either case, an affidavit that so far as he has knowledge or information, the releases and receipts include all the labor and material for which a lien could be filed. The Contractor may, if any subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Owner, to indemnify him against any lien. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all money that the latter may be compelled to pay in discharging such a lien. However, the Owner may make payments in part or in full to the Contractor without requiring the releases or receipts, and the payments so made shall not impair the obligations of any Surety or Sureties on any bond or bonds furnished under this Contract.

Q. PERFORMANCE AND PAYMENT BONDS

1. The Contractor will furnish Performance and Payment Bonds as security for the faithful performance and payment of all his obligations under the contract documents. These Bonds shall be in amounts as shown in the Instructions to Bidders and in the form and with such sureties as are acceptable to the Owner. Prior to execution of the Contract Documents, the Owner may require the Contractor to furnish such other Bonds, in such form and with such sureties as he may require. If such Bonds are required by written instructions given prior to opening of Bids, the premiums shall be paid by the Contractor, if subsequent thereto, they shall be paid by the Owner.

R. CONTRACTOR'S INSURANCE

The contractor warrants that it has and will maintain in effect the following insurance coverages to the minimal limits indicated. The contractor further agrees that all limits will be made available which are excess of the amounts below.

1. **Workers' Compensation and Employers Liability**

Coverage A Statutory  
Coverage B \$100,000/\$100,000/\$500,000

2. **Commercial Auto Liability Including Hired and Non Owned Car Liability Coverage**

Limit of Liability \$500,000 Per Occurrence

3. **Commercial General Liability Including Contractual and Completed Operations**

Limit of Liability \$500,000 Per Occurrence

The contractor will advise the underwriter to name James City County as additional insured per form ISO 2010 under the Commercial General Liability policy on a primary basis. James City County's Commercial General Liability shall not contribute in any loss payment uninsured under the contractor's Commercial General Liability policy.

The contractor will provide a certificate of insurance evidencing the before mentioned insurance requirements and providing for at least 30 days notice of cancellation or non renewal.

S. INDEMNIFICATION

The said Contractor hereby binds himself and his successors to indemnify, defend and save harmless the Owner its officers, agents, or employees, from all suits and actions of every name and description brought against it or them, and all costs or damages to which it or they may be put, on account of, or by reason of any injury or alleged injury to the person or property of another, resulting from or on the account of negligent acts, errors or omissions of the Contractor or his agents; and that the whole or so much of the moneys due to the Contractor, under and by virtue of this Contract, as such or may be considered necessary by the Owner shall and may be retained until all such suits and claims for damages as aforesaid shall have settled, and evidence to that effect furnished to the satisfaction of the Owner.

The said Contractor further agrees to indemnify and save harmless the Owner against any and all claims, suits or demands that may accrue to, be suffered by, or adjudicated against it by reason of any injury sustained by any of the Contractor's employees in and about the said work, under and pursuant to the provisions of the Workman's Compensation Law or any amendments thereto, and the Contractor shall produce certificates or other satisfactory evidence of ample protection against such liability.

T. SUBMITTALS

1. Shop Drawings: Shop drawings, cuts, diagrams, catalog data sheets or such other data necessary to fully describe and substantiate compliance with the specifications shall be submitted as required by the Owner. The Contractor shall, prior to receipt of the Notice to proceed, furnish for review and approval by the County any shop drawings, manufacturer's literature, and other information required by the County.

2. The Contractor shall, as a part of the shop drawings, submit to the Owner the Manufacturer's Recommendations for each material, including all paints, or procedure to be utilized which is required to be in accordance with such recommendations. The Contractor shall have a copy of the manufacturer's instructions available at the construction site at all times.

U. EQUAL EMPLOYMENT OPPORTUNITY

1. If the contract amount is \$10,000 or less, the following conditions shall apply:

During the performance of this Contract, the Contractor agrees as follows:

- a. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such actions shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Local Public Agency setting forth the provisions of this discrimination clause.
- b. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
- c. The Contractor will cause the foregoing provisions to be inserted in all subcontracts for any work covered by this contract so that such provisions will be binding upon each subcontractor, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.

2. If a contract amount exceeds \$10,000, the following conditions shall apply:

During the performance of this Contract, the Contractor agrees as follows:

- a. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provision of this nondiscrimination clause.



- b. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- c. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or worker's representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- d. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and by rules, regulations, and relevant orders of the Secretary of Labor.
- e. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations and orders of the Secretary, or pursuant thereto, and will permit access to his books, records, and accounts by the Treasury Department and the Secretary of Labor for purposes of investigations to ascertain compliance with such rules, regulations and orders.
- f. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions as may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulations or order of the Secretary of Labor, or as otherwise provided by law.
- g. The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontract or vendor. The Contractor will take such actions with respect to any subcontract or purchase order as the Treasury Department may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Treasury, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

V. DRAWINGS

- 1. The following drawings accompany this specification and are a part hereof. Drawings are the property of the Engineer and shall not be used for any other

purpose other than that contemplated by the specifications.

Drawing Number

Drawing Title

|   |   |
|---|---|
| 1 | <u>Dam Impoundment Cross-Section, Existing Conditions</u> |
| 2 | <u>Plan View Showing Phases</u>                           |
| 3 | <u>Dam Impoundment Cross-Section, Phase I</u>             |
| 4 | <u>Dam Impoundment Cross-Section, Phase II</u>            |

W. NEGOTIATIONS WITH THE LOWEST BIDDER

1. Unless all bids are canceled or rejected, the Owner reserves the right granted by Section 11-53 of the Code of Virginia to negotiate with the lowest responsive, responsible Bidder to obtain a contract price within the funds budgeted for the construction project. Negotiations with the lowest Bidder may include both modifications of the bid price and the Scope of Work/Specifications to be performed. The Owner shall initiate such negotiations by written notice to the lowest responsive, responsible Bidder that its bid exceeds the available funds and that James City County wishes to negotiate a lower contract price. The times, places, and manner of negotiating shall be agreed to by James City County and the lowest responsive, responsible Bidder.

X. PROJECT CONSTRUCTION SECURITY

1. Construction Site Security

The following applies to construction site security including all contractor equipment and all project facilities. The Contractor, at his expense, shall be responsible for security and safety of all project facilities including, but not limited to, all equipment, materials, and site structures. All security measures deemed necessary by the Contractor to comply with the requirements of this section shall be at the Contractor's expense and at no additional cost to the County. The Contractor shall be responsible for all site security until final acceptance of project facilities by the County.

Y. ON-SITE TOILET FACILITIES

On-site portable toilet facilities shall be provided by the Contractor. All onsite toilet facilities shall be in accordance with all applicable local codes and regulations.

Z. AMENDMENTS TO THE GENERAL CONDITIONS

These Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. 1910-8, 1983 ed.) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

**GENERAL:**

Standard EJCDC documents, which are referenced by the General Conditions for use in the administration of the work, may be replaced by standard forms used by the James City Service Authority, James City County and as may be approved by the Engineer.

**SC-1 DEFINED TERMS:**

The terms used in these Supplementary Conditions which are defined in the General Conditions of the Construction Contract(No. 1910-8, 1996 ed.) have the meanings assigned to them in the General Conditions.

**SC-4.02**

Delete Section 4.02 of the General Conditions in its entirety and insert the following in its place: The Contractor shall visit the site of the proposed work and make such explorations as he may feel necessary regarding existing structures, and existing conditions, in determining or acquiring additional technical data for the performances or doing the work.

**SC-5.04**

The completed operations insurance required by Section 4.04 of the General Conditions shall be maintained by the Contractor until after Final Acceptance of the Work by the Owner.

**SC-5.06**

Delete Section 5.06 of the General Conditions in its entirety.

**SC-5.07**

Delete Section 5.07 of the General Conditions in its entirety.

**SC-5.08**

Delete Section 5.08 of the General Conditions in its entirety.

**SC-5.09**

Delete Section 5.09 of the General Conditions, following the first sentence. The first sentence of Subsection A shall continue to apply.

**SC-8.05**

Delete Section 8.05 of the General Conditions in its entirety.

**END OF SECTION**

BID FORM

TO: Purchasing Director  
James City County  
5248 Olde Towne Road  
Suite 7  
Williamsburg, VA 23188

FROM: \_\_\_\_\_ (Name of Contractor)  
\_\_\_\_\_  
\_\_\_\_\_  
(Address of Contractor)

FOR: INVITATION FOR BID NUMBER 00-B-0061  
Mill Creek Detention Basin Modifications

The undersigned, having visited the site of the above-referenced project, and having familiarized himself with local conditions affecting the cost of the work and with all requirements of the Contract Documents, and all Addenda to said Documents, hereby proposes to furnish all labor, equipment, materials, and supervision necessary to perform and complete the following items of work in accordance with Specifications, Drawings, and Contract Documents. All materials and methods for this project shall conform to the Virginia Department of Transportation Standards, Specifications, Rules and Regulations for installations in State Right-of-Ways.

SECTION 1

Mill Creek Detention Basin No. 1 Pond Modifications

James City County, Virginia

|    | <u>Bid Item</u>   | <u>Quantity</u> | <u>Unit</u> | <u>Cost</u> | <u>Amount</u> |
|----|---|-----------------|-------------|-------------|---------------|
| 1. | Phase I - Existing Underdrain Removal                   | 1               | L.S.        | \$ _____    | \$ _____      |
| 2. | Phase II - Low Flow Orifice Repair and Riprap           | 1               | L.S.        | _____       | _____         |
| 3. | Phase III - Embankment Tree Removal and Spillway Repair | 1               | L.S.        | _____       | _____         |
|    | TOTAL BASE BID SECTION 1 - (Items 1 thru 3)             |                 |             | \$ _____    | \$ _____      |

In Words: \_\_\_\_\_

\_\_\_\_\_

The summation of this Bid for unit price contracts is based on the approximate statement of quantities given and the unit prices bid for the various items. The final installed quantities will be paid at the contract unit price for the appropriate pay item.



The Undersigned Agrees:

- A. To hold bid open until 60 days after opening of bids.
- B. To accept the stipulation of the Specifications regarding disposition of security, time for completion, liquidated damages and other provisions.
- C. To enter into and execute a Contract, if awarded, on the basis of this bid and to furnish Guaranty Bonds and Insurance Documents as required.
- D. To accomplish the work in accordance with the Contract Documents and Specifications.
- E. To complete all work within 90 consecutive calendar days from the date of Notice to Proceed.

The Bidder acknowledges receipt of the following addenda:

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The undersigned certifies that he (they) are the only person (persons) interested in said bid and that it is made without connection with other persons submitting a bid on the same scope of services; that the bid is fair and made without collusion, fraud or reservation; that no official or employee of James City County or the James City Service Authority is directly or indirectly interested in said bid, or any portion thereof.

I/we do or do not (circle one) wish to exercise my/our option for the use of the Escrow Account Utilization Procedure to allow utilization of James City County/Service Authority funds as specified in the bid specifications and 11-56.1 of the Virginia Public Procurement Act.

Security required by the **INVITATION FOR BIDS** is enclosed.

Registered Virginia Contractor Number: \_\_\_\_\_ Federal ID No: \_\_\_\_\_

Legal Name of Person, Persons or Corporation

By: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

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

Telephone No.: \_\_\_\_\_ FAX: \_\_\_\_\_

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

Seal

Bid Bond

KNOW ALL MEN THESE PRESENTS, that we \_\_\_\_\_, hereinafter called the Principal, as Principal, and the \_\_\_\_\_, a corporation duly organized under the laws of the State of \_\_\_\_\_ hereinafter called the Surety, as Surety, and are held and firmly bound unto \_\_\_\_\_ hereinafter called the Obligee, in the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executor, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for \_\_\_\_\_

THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

SIGNED AND SEALED this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

In the presence of:

\_\_\_\_\_  
PRINCIPAL

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
SURETY (SEALED)

IMPORTANT:

Surety Companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

**BIDDER'S EXPERIENCE**

List of Completed projects ("COMPLETED" means accepted and final payment received from the Owner or authorized representative). List ALL projects completed by this bidder in excess of \$50,000.00 during the last five years. This sheet may be copied if necessary.

| Location & Type of Work      | Owner's Name & Address  | Contact Person & Telephone | Date Complete | Contract Price |
|------------------------------|-------------------------|----------------------------|---------------|----------------|
| 1<br>_____<br>_____<br>_____ | _____<br>_____<br>_____ | _____<br>_____             |               |                |
| 2<br>_____<br>_____<br>_____ | _____<br>_____<br>_____ | _____<br>_____             |               |                |
| 3<br>_____<br>_____<br>_____ | _____<br>_____<br>_____ | _____<br>_____             |               |                |
| 4<br>_____<br>_____<br>_____ | _____<br>_____<br>_____ | _____<br>_____             |               |                |
| 5<br>_____<br>_____<br>_____ | _____<br>_____<br>_____ | _____<br>_____             |               |                |

BANK REFERENCE: \_\_\_\_\_

\_\_\_\_\_  
(Authorized Signature)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

CONTRACT FORM  
CONSTRUCTION CONTRACT  
CONTRACT NUMBER: \_\_\_\_\_

This AGREEMENT, dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between JAMES CITY COUNTY (a COUNTY organized and existing under the laws of the State of Virginia); and \_\_\_\_\_

\_\_\_\_\_;  
(a corporation organized and existing under the laws of the State of \_\_\_\_\_;  
or a partnership consisting of \_\_\_\_\_;

or an individual trading under the above name), hereinafter called the CONTRACTOR.

WITNESSETH: The Owner and Contractor, for the consideration stated herein, agree as follows:

Scope of Work:

The Contractor shall perform all required work and shall provide and furnish all labor, materials, necessary tools, expendable equipment and utility and transportation service required to complete the construction of:

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

all in strict accordance with the Plans and Specifications, including any and all Addenda, and in strict compliance with the Contract Documents hereinafter enumerated.

It is understood and agreed that said labor, materials, tools, equipment and service shall be furnished and said work performed and completed under the direction and supervision of the Contractor and subject to the approval of the Owner or its authorized representative.

Guarantee:

All materials and equipment, furnished by this Contractor, and all construction involved in this Contract shall be and the same hereby guaranteed by the Contractor free from defects owing to faulty materials or workmanship for a period of one year after date of substantial completion of the work. All work which proves defective, by reason of faulty material or workmanship within said period of one year, shall be replaced by the Contractor free of cost to the Owner.

Contract Price:

The Owner shall pay the Contractor as just compensation for the performance of this Contract, subject to any addition or deductions as provided in the Contract Documents, the unit and lump sum price as contained in the Bid Schedule attached hereto.

**THE BID SCHEDULE OF THE SUCCESSFUL BIDDER  
SHALL BE CONFORMED AND INSERTED HEREIN  
TO BECOME PART OF THE COMPLETED CONTRACT DOCUMENTS**

The Contract Amount is \_\_\_\_\_  
(\$ \_\_\_\_\_) based upon unit and lump sum prices extended as herein contained.

Payments:

The Owner will pay to the Contractor in the manner and at such times as set forth in the General Conditions such amounts as required by the Contract Documents.

Time:

The undersigned Contractor agrees to commence work within ten (10) calendar days after the date of Notice to Proceed and further agrees to complete the Contract Work within the following specified time limits:

ALL CONTRACT WORK - \_\_\_\_\_ CALENDAR DAYS FROM DATE OF NOTICE TO PROCEED

THIS AGREEMENT SHALL BE BINDING UPON ALL PARTIES HERETO AND THEIR RESPECTIVE HEIRS, EXECUTORS, ADMINISTRATORS, SUCCESSORS, AND ASSIGNS.

Component Parts of the Contract:

This Contract consists of the following component parts, all of which are hereby made a part hereof as if herein set out in full:

1. Advertisement for Bids
2. Request for Bids
3. Information for Bidders
4. Supplemental Information for Bidders
5. Bid Proposal
6. Bid Bond
7. Construction Contract
8. General Conditions
9. Supplemental General Conditions
10. Payment Bond
11. Performance Bond
12. Certificate of Insurance
13. Contractor's License (if required)
14. Notice of Award
15. Notice to Proceed
16. Corporate Resolution (for corporations only)
17. Change Orders (if any)
18. Other Documents as may be required by law or appended hereto
19. Plans and Drawings were prepared by: \_\_\_\_\_; and are  
Numbered: \_\_\_ through \_\_\_ and dated \_\_\_\_\_, 20\_\_\_\_.
20. Specifications prepared or issued by: \_\_\_\_\_, and dated \_\_\_\_\_, 20\_\_\_\_.

ADDENDA:

- No. \_\_\_\_\_, dated \_\_\_\_\_, 20\_\_\_\_

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and year first above written in (\_\_\_\_\_) counterparts each of which shall for all purposes be deemed an original.

ATTEST:

\_\_\_\_\_  
NAME

\_\_\_\_\_  
TITLE

ATTEST:

\_\_\_\_\_  
NAME

\_\_\_\_\_  
TITLE

CONTRACTOR'S ADDRESS:

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

\_\_\_\_\_  
CONTRACTOR'S FEDERAL I.D. NO.

\_\_\_\_\_  
OWNER

\_\_\_\_\_  
BY

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
CONTRACTOR

\_\_\_\_\_  
BY

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
COUNTY ATTORNEY - APPROVAL OF  
CONTRACT AS TO FORM

**RESERVED FOR CERTIFICATE OF INSURANCE  
OR OTHER SATISFACTORY EVIDENCE OF REQUIRED COVERAGE**

**PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS, that we as Principal, and as Surety, are held and firmly bound unto James City County, Virginia, in the Penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents. The condition of this obligation is such, that whereas the principal entered into a certain contract with James City County, Virginia, dated \_\_\_\_\_, 20\_\_\_\_, for \_\_\_\_\_.

NOW, THEREFORE, if the principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void, otherwise to remain in full and virtue.

IN WITNESS WHEREOF, the above abounded parties have executed this instrument under their several seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, in the name and corporate seal of such corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In the Presence of:

\_\_\_\_\_  
(SEAL)  
(Individual Principal)

(Business Address)

\_\_\_\_\_  
(Corporate Principal)

\_\_\_\_\_  
(Business Address)

Affix Corporate Seal

BY \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
(Corporate Surety)

\_\_\_\_\_  
(Business Address)

Affix Corporate Seal

BY \_\_\_\_\_

The rate of premium on this bond is \$ \_\_\_\_\_ per thousand

Total amount of premium charges \$ \_\_\_\_\_  
(The above must be filled in by the corporate surety)

CONTRACT FORM  
PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

\_\_\_\_\_

(Name of Contractor)

\_\_\_\_\_

(Address of Contractor)

a \_\_\_\_\_, hereinafter called the Principal, and  
(Corporation, Partnership, or Individual)

\_\_\_\_\_

(Name of Surety)

\_\_\_\_\_

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_

(Name of Owner)

\_\_\_\_\_

(Address of Owner)

hereinafter called Owner, in the penal sum of \_\_\_\_\_ Dollars, (\$ \_\_\_\_\_), in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by the presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain Contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, a copy of which is hereto attached and made a part hereof for the Construction of:

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said Contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety and during the one year guarantee period, and if he shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no charge, extension of time, alteration or addition to the terms of the Contract or to Work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work or the Specifications.

PROVIDED, FURTHER, that no default settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(PRINCIPAL SECRETARY)

\_\_\_\_\_  
PRINCIPAL

\_\_\_\_\_  
SEAL BY

\_\_\_\_\_

\_\_\_\_\_  
WITNESS TO PRINCIPAL

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
ADDRESS

ATTEST:

\_\_\_\_\_  
(SURETY) SECRETARY

\_\_\_\_\_  
SURETY

\_\_\_\_\_  
SEAL BY (ATTORNEY-IN-FACT)

\_\_\_\_\_

\_\_\_\_\_  
WITNESS AT TO SURETY

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_

NOTE:.. If Contractor is Partnership, all partners should execute Bond.

IMPORTANT: Surety Companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.



payment of principal and interest by the United States;

(3) Bonds or notes of the Commonwealth of Virginia;

(4) Bonds of any political subdivision of the Commonwealth of Virginia, if such bonds carried, at the time of purchase by the Bank or deposit by the Contractor, a Standard and Poor's or Moody's Investors Service rating of at least "A";

(5) Certificates of deposit issued by commercial Banks located within the Commonwealth including, but not limited to, those insured by the Bank and its affiliates; and

(6) Any bonds, notes, or other evidences of indebtedness listed in Sections (1) through (3) above, may be purchased pursuant to a repurchase agreement with a bank, within or without the Commonwealth of Virginia having a combined capital, surplus and undivided profit of not less than \$25,000,000, provided the obligation of the Bank to repurchase is within the time limitations established for investments as set forth herein. The repurchase agreement shall be considered a purchase of such securities even if title, and/or possession of such securities is not transferred to the Escrow Agent, so long as the repurchase obligation of the Bank is collateralized by the securities themselves, and the securities have on the date of the repurchase agreement a fair market value equal to at least 100% of the amount of the repurchase obligation of the Bank, and the securities are held by a third party, and segregated from other securities owned by the Bank.

No security is approved hereunder which matures more than five years after the date of its purchase by the Bank or deposit by the Contractor.

6. The Contractor may from time to time withdraw the whole or any portion of the escrowed funds by depositing with the Bank securities approved by the Authority in an amount equal to, or in excess of, the amount so withdrawn. Any securities so deposited or withdrawn shall be valued at such time of deposit or withdrawal at the lower of par or market value, the latter as determined by the Bank. Any securities so deposited shall thereupon become a part of the escrowed fund.

Upon receipt of a written direction signed by the Secretary to the Board, the Bank shall pay and deliver the principal of the fund, or any specified amount thereof, to the Contractor, in cash or in kind, as may be specified by the Contractor. Such payment and delivery shall be made as soon as practicable after receipt of the direction.

7. For its services hereunder the Bank shall be entitled to a reasonable fee in accordance with its published schedule of fees or as may be agreed upon by the Bank and the Contractor. Such fee and any other costs of administration of this Escrow Agreement shall be paid from the income earned upon the escrowed fund and, if such income is not sufficient to pay the same, by the Contractor.

8. The net income earned and received upon the principal of the escrowed fund shall be paid over to the Contractor in quarterly or more frequent installments. Until so paid or applied to pay the Bank's fee or any other costs of administration such income shall be deemed a part of the principal of the fund.

9. The Surety undertakes no obligation hereby but joins in this Escrow Agreement for the sole purpose of acknowledging that its obligation as Surety for the Contractor's performance of Contract is not affected hereby.

WITNESS the following signatures, all as of the day and year first above written.

\_\_\_\_\_  
(Name of Firm/Contractor)

JAMES CITY COUNTY/JAMES CITY  
SERVICE AUTHORITY

\_\_\_\_\_  
(Address)

BY: \_\_\_\_\_

BY: \_\_\_\_\_

Attest: \_\_\_\_\_

(Official's Signature)

\_\_\_\_\_  
(Type Name and Title)

Attest: \_\_\_\_\_

(SEAL)

\_\_\_\_\_  
(Name of Bank)

\_\_\_\_\_  
(Bank Address)

BY: \_\_\_\_\_

(Official's Signature)

\_\_\_\_\_  
(Typed Name and Title) (SEAL)

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Surety Address)

BY: \_\_\_\_\_  
(Resident Virginia Agent's  
Signature)

\_\_\_\_\_  
(Typed Name and Title)

Attest: \_\_\_\_\_

NOTICE OF AWARD

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PROJECT DESCRIPTION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The Owner has considered the BID submitted by you for the above-described Work in response to its advertisement dated \_\_\_\_\_, 20\_\_\_\_, and Information for Bidders.

You are hereby notified that your BID has been accepted for work in the amount of \_\_\_\_\_ (Dollars (\$\_\_\_\_\_)). You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and Certificates of Insurance within ten (10) calendar days from the date of this Notice to you. If you fail to execute said Agreement and to furnish said Bonds within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

OWNER: \_\_\_\_\_  
BY: \_\_\_\_\_  
TITLE: \_\_\_\_\_

ACCEPTANCE OF NOTICE

RECEIPT OF THE ABOVE NOTICE OF AWARD IS HEREBY ACKNOWLEDGED:

BY: \_\_\_\_\_  
CONTRACTOR

TITLE: \_\_\_\_\_

THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_\_.

NOTICE TO PROCEED

TO: \_\_\_\_\_ DATE: \_\_\_\_\_  
\_\_\_\_\_  
PROJECT: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

You are hereby notified to commence WORK in accordance with the Agreement dated \_\_\_\_\_, 20\_\_\_\_, on or before \_\_\_\_\_, 20\_\_\_\_, and you are to complete the WORK within \_\_\_\_\_ consecutive calendar days thereafter. The date of completion of all WORK is therefore \_\_\_\_\_, 20\_\_\_\_.

Liquidated damages in the amount of \$\_\_\_\_\_ will be assessed by the Owner for failure to substantially complete the work on or before the date of completion stated above or as may be modified by duly executed change orders.

\_\_\_\_\_  
OWNER  
\_\_\_\_\_  
BY  
\_\_\_\_\_  
TITLE

ACCEPTANCE OF NOTICE:

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by:

this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_  
\_\_\_\_\_  
CONTRACTOR  
\_\_\_\_\_  
BY  
\_\_\_\_\_  
TITLE

**NOTE TO CONTRACTOR:**  
Please prepare and submit progress schedule within 14 days following date of Notice to Proceed and prepare and submit your schedule of values for lump sum contracts at least 10 days prior to the date of your first partial payment estimate.

STATUS OF CONTRACT

|                                       |                               |       |      |
|---------------------------------------|-------------------------------|-------|------|
| Original Contract Amount/Time         | \$ _____                      | _____ | days |
| Net Change Orders Increase (Decrease) | \$ _____                      | _____ | days |
| Adjusted Contract Amount/Time         | \$ _____                      | _____ | days |
| Adjusted Contract Completion Date:    | \$ _____                      | _____ | days |
| Work Complete \$ _____ = _____ %      | Time Complete _____ = _____ % |       |      |
| Total Value \$ _____                  | Total Time _____              |       |      |

STATUS OF WORK PERFORMED

|   |          |
|---|----------|
| Total Value of Original Work Performed to Date  | \$ _____ |
| Total Value of Change Order Work Performed Date | \$ _____ |
| Total Value of All Work Performed to Date       | \$ _____ |
| Value of Materials Stored                       | \$ _____ |
| Subtotal  | \$ _____ |
| Less _____ % Retained by Owner                  | \$ _____ |
| Net Amount of Previous Payments Approved        | \$ _____ |
| BALANCE DUE THIS PAYMENT (APPLICATION AMOUNT)   | \$ _____ |

CERTIFICATE OF CONTRACTOR

I certify to the best of my knowledge and belief that all items and amounts on the face of this Periodical Estimate and Application for Payment are correct; that all work has been performed and/or material supplied in full accordance with the terms and conditions of the Contract Documents referred to on the face of this form, including all duly authorized deviations, substitutions, alterations, additional and/or deletions; that the foregoing is a true and correct statement of the Contract account up to and including the last day of the period covered by this periodical estimate and application for payment; that no part of the "BALANCE DUE THIS PAYMENT" has been received; that all previous Progress Payments received on this Contract have been applied by the undersigned to discharge in full all obligations of the undersigned incurred in connection with the Work covered by prior applications for payment under this Contract; and that all materials and equipment incorporated in said payment or otherwise listed in or covered by this application for payment are free and clear of all liens, claims, security interest and encumbrances.

CONTRACTOR: \_\_\_\_\_

BY: \_\_\_\_\_

DATE: \_\_\_\_\_

TITLE: \_\_\_\_\_

APPROVALS

This Periodical Estimate and Application for Payment has been checked, verified and approved for payment by:

|  |          |                |               |
|--|----------|----------------|---------------|
| _____<br>Resident Project Representative | By _____ | _____<br>Title | _____<br>Date |
| _____<br>Engineer                        | By _____ | _____<br>Title | _____<br>Date |
| _____<br>Owner                           | By _____ | _____<br>Title | _____<br>Date |
| _____                                    | By _____ | _____<br>Title | _____<br>Date |

**CONTRACT FORM**

**PERIODICAL ESTIMATE  
APPLICATION FOR PARTIAL PAYMENT**

PROJECT DESCRIPTION: \_\_\_\_\_ PROJECT NO. \_\_\_\_\_  
 \_\_\_\_\_ APPLICATION NO. \_\_\_\_\_  
 LOCATION: \_\_\_\_\_ APPLICATION DATE: \_\_\_\_\_  
 \_\_\_\_\_ CONTRACT DATE: \_\_\_\_\_  
 CONTRACT FOR: \_\_\_\_\_ PERIOD FROM: \_\_\_\_\_  
 \_\_\_\_\_ TO: \_\_\_\_\_  
 OWNER: \_\_\_\_\_ CONTRACTOR: \_\_\_\_\_

|          |                     | Scheduled Amounts<br>Unit Contract |      |       |        | Completed to Date |        |            |
|----------|---------------------|------------------------------------|------|-------|--------|-------------------|--------|------------|
| Item No. | Description of Item | Quantity                           | Unit | Price | Amount | Quantity          | Amount | % Complete |
|          |                     |                                    |      |       |        |                   |        |            |
|          |                     |                                    |      |       |        |                   |        |            |
|          |                     |                                    |      |       |        |                   |        |            |
|          |                     |                                    |      |       |        |                   |        |            |
|          |                     |                                    |      |       |        |                   |        |            |

SUBTOTAL THIS SHEET

SUBTOTAL ORIGINAL CONTRACT AND ITEMIZE CHANGE ORDERS ABOVE. USE  
ADDITIONAL SHEETS IF NECESSARY

SHEET \_\_\_\_\_ OF \_\_\_\_\_  
CONTRACT FORM  
CERTIFICATE OF SUBSTANTIAL COMPLETION

Project Description: \_\_\_\_\_

Location: \_\_\_\_\_

Contract For: \_\_\_\_\_

Project No. \_\_\_\_\_

Other: \_\_\_\_\_

Contract Date: \_\_\_\_\_

Completion Date: \_\_\_\_\_

Contractor: \_\_\_\_\_

This Certificate of Substantial Completion applies to all work under the Contract Documents or to the following specified parts thereof.

TO WIT: The Owner and Contractor are hereby advised that the Work to which this certificate applies has been inspected by authorized representatives of the Owner, Contractor, and Engineer, and that all work is hereby declared to be substantially complete in accordance with the Contract Documents on:

\_\_\_\_\_  
Date of Substantial Completion

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive and the failure to include an item in it does not alter the responsibility of the CONTRACTOR to complete all items of the work in accordance with the Contract Documents. When this certificate applies to a specified part of the Work, the items in this tentative list shall be completed or corrected by the CONTRACTOR within \_\_\_\_\_ days of the above date of substantial completion. The date of substantial completion is the date which all guarantees and warranties begin, except as follows:

The responsibilities between the OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, and insurance are attached hereto. The following documents are attached to and made a part of this certificate:

This certificate is issued, accepted, and acknowledged by:

\_\_\_\_\_  
Engineer

\_\_\_\_\_  
By

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
By

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Owner

\_\_\_\_\_  
By

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Other

\_\_\_\_\_  
By

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

**CONTRACT FORM  
CONTRACT CHANGE ORDER**

PROJECT DESCRIPTION: \_\_\_\_\_  
 CONTRACT FOR: \_\_\_\_\_  
 CONTRACT DATE: \_\_\_\_\_  
 OWNER: \_\_\_\_\_

CONTRACT NO.: \_\_\_\_\_  
 CHANGE ORDER NO.: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 PROJECT NO.: \_\_\_\_\_  
 OTHER: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_  
 The following changes are hereby made to the Contract Documents:

| <u>Item No.</u> | <u>Description</u> | <u>Decrease in Contract Price</u> | <u>Increase in Contract Price</u> |
|-----------------|--------------------|-----------------------------------|-----------------------------------|
|-----------------|--------------------|-----------------------------------|-----------------------------------|

|        |          |          |
|--------|----------|----------|
| TOTALS | \$ _____ | \$ _____ |
|--------|----------|----------|

|                               |          |          |
|-------------------------------|----------|----------|
| NET CHANGE IN CONTRACT PRICE: | \$ _____ | \$ _____ |
|-------------------------------|----------|----------|

JUSTIFICATION: \_\_\_\_\_

ATTACHMENTS: \_\_\_\_\_  
 CONTRACT PRICE PRIOR TO THIS CHANGE ORDER: \_\_\_\_\_ \$ \_\_\_\_\_  
 CONTRACT PRICE BY THIS CHANGE ORDER WILL BE: \_\_\_\_\_ BY \_\_\_\_\_ \$ \_\_\_\_\_  
 NEW CONTRACT PRICE INCLUDING THIS CHANGE ORDER WILL BE: \_\_\_\_\_ \$ \_\_\_\_\_  
 COMPLETION DATE PRIOR TO THIS CHANGE ORDER: \_\_\_\_\_  
 NEW CONTRACT TIME WILL BE \_\_\_\_\_ BY \_\_\_\_\_ CALENDAR DAYS.  
 NEW DATE FOR COMPLETION OF ALL WORK WILL BE: \_\_\_\_\_

To be effective this Order must be approved by the applicable Government agency (if required). This document will become a supplement to the CONTRACT and all provisions will apply hereto.

REQUESTED BY: \_\_\_\_\_  

|      |    |       |      |
|------|----|-------|------|
| Name | By | Title | Date |
|------|----|-------|------|

RECOMMENDED BY: \_\_\_\_\_  

|      |    |       |      |
|------|----|-------|------|
| Name | By | Title | Date |
|------|----|-------|------|

ACCEPTED BY: \_\_\_\_\_  

|      |    |       |      |
|------|----|-------|------|
| Name | By | Title | Date |
|------|----|-------|------|

APPROVED BY: \_\_\_\_\_  

|      |    |       |      |
|------|----|-------|------|
| Name | By | Title | Date |
|------|----|-------|------|

STATEMENT OF SURETY COMPANY

IN ACCORDANCE with the provisions of the CONTRACT dated \_\_\_\_\_, 20\_\_\_\_,  
BETWEEN \_\_\_\_\_  
(OWNER)

AND \_\_\_\_\_  
(CONTRACTOR).

THE \_\_\_\_\_  
(SURETY)

SURETY on the Material and Labor Payment Bond of:  
\_\_\_\_\_  
(CONTRACTOR)

after a careful examination of the book and records of said CONTRACTOR or after receipt of an affidavit from CONTRACTOR, which examination of affidavit satisfies SURETY that all claims for labor and materials have been satisfactorily settled, hereby approved of the final payment of the said \_\_\_\_\_, CONTRACTOR, and by these presents witnesseth that payment to the CONTRACTOR of the final estimates shall not relieve SURETY of any of its obligations to

\_\_\_\_\_  
(OWNER)

as set forth in the said SURETY COMPANY'S BOND.

IN WITNESS WHEREOF, said SURETY has hereunto set its hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

ATTEST:

(SEAL) \_\_\_\_\_

BY \_\_\_\_\_

\_\_\_\_\_  
PRESIDENT

NOTE: This statement, if executed by any person other than the President or Vice President of the Company, must be accompanied by a certificate of even date showing authority conferred upon the person so signing to execute such instruments on behalf of the Company represented.

**CONTRACTOR'S RELEASE**

NOW ALL MEN BY THESE PRESENTS THAT:

\_\_\_\_\_  
(CONTRACTOR)  
of \_\_\_\_\_ County/City and State of \_\_\_\_\_  
does hereby acknowledge that he has received this day of and from the \_\_\_\_\_

\_\_\_\_\_  
(OWNER)  
the sum of One Dollar (\$1.00) and other valuable consideration in full satisfaction and payment of all sums  
of money owing, payable, and belonging to \_\_\_\_\_

Dated \_\_\_\_\_, 20\_\_\_\_\_.  
(CONTRACTOR)

NOW THEREFORE, the said \_\_\_\_\_  
(CONTRACTOR)

(for myself, my heirs, executors, and administrators; for itself, its successors and assigns) do by these presents remise, release, quitclaim, and forever discharge the said \_\_\_\_\_, OWNER, its successors and assigns, of and from all claims and demands arising from or in connection with the said CONTRACT dated \_\_\_\_\_, 20\_\_\_\_, and of and from all, and all manner of action and actions, causes and causes of action and actions, suits, debts, dues, duties, sum and sums of money accounts, reckonings, bonds, bills, specialities, covenants, contracts, agreements, promises, variances, damages, judgements, extends, executions, claims and demand, whatsoever in law or equity, or otherwise which against the said \_\_\_\_\_, OWNER, its successors and assigns ever had, now have, or which (I, my heirs, executors, or administrators; it, its successors and assigns) hereafter can, shall or may have, for upon or by reason of any matter, cause or thing whatsoever, from the beginning of the world to the date of these presents.

IN WITNESS WHEREOF \_\_\_\_\_  
(CONTRACTOR)

has caused these presents to be duly executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

Signed, Sealed, and Delivered  
in the Presence of:

\_\_\_\_\_  
INDIVIDUAL \_\_\_\_\_ (SEAL)

\_\_\_\_\_  
PARTNERSHIP CONTRACTOR (SEAL)

BY: \_\_\_\_\_ (SEAL)  
PARTNER

ATTEST: \_\_\_\_\_ (SEAL)

\_\_\_\_\_  
SECRETARY BY: \_\_\_\_\_  
PRESIDENT OR VICE PRESIDENT

(Affix Corporate Seal)

**LIFE HISTORY:** This perennial flowers from July through September. Little else is known of its life history.

**THREATS:** At its only recently verified location in Virginia, a roadside ditch, *Juncus abortivus* is threatened by ditch maintenance activities, which could damage or eliminate the population. Without some maintenance to keep the ditch open, the population could be shaded out and lost. The threats in this situation are immediate and the chances for long term maintenance of the population appear limited.

**STATUS:** *Juncus abortivus* is extremely rare in Virginia (Ludwig, 1989). The Virginia Natural Heritage Program ranks this species as G4G5/S1, recognizing its common to very common status throughout its range and its extremely rare status in Virginia. Because there is only one recently verified population for this species in Virginia, where it reaches its northern limit of distribution, *Juncus abortivus* should be state listed as endangered.

**RECOMMENDATIONS:** Immediate contact should be made with the Virginia Department of Transportation, notifying them of the location of the Isle of Wight County population and proposing the development of a maintenance scheme which will protect the plants and meet the standards of the Department. Careful monitoring of this population is also recommended. Furthermore, an inventory of pine barren areas along the eastern side of the Blackwater and Nottoway rivers should be conducted to search for additional populations.

**REMARKS:** In Gleason (1952), this species is listed as *Juncus pelocarpus* E. Meyer var. *crasicaudex* Engelmänn.

J. Christopher Ludwig

## New Jersey Rush

*Juncus caesariensis* Coville

Family Juncaceae

Order Juncales

**Endangered**

New Jersey rush is extremely rare in Virginia. It has been reported from five Coastal Plain counties, where it occurs in very acidic, usually sphagnous, hardwood swamps, seeps, swales, or pond margins. Ditching, ponding, or clearcutting of the overstory will result in the elimination of this species.

**DESCRIPTION:** New Jersey rush has culms 1–few, tufted from a short, knotty rhizome, (4.0–) 6.0–10 dm high, dull grayish green and rough to touch (Plate 37); leaves successively reduced in length up stem, stiffish, rough, round in cross-section, partitioned at intervals by septae, reduced apically to a long, narrow tip; inflorescence 3.0–12(–17) cm high, composed of 2–6 (–10)-flowered hemispheric glomerules borne on erect branches that greatly overtop small involucral bracts; flowers 5.0–6.0 mm long when mature; tepals firm, rigid, greenish (sometimes also brown-tinted), narrowly acute; stamens 6; capsules 5.0–5.5 mm long, lance-ovoid, sharp-tipped; seeds 2.0–3.0 mm long, narrowly tapering at each end to a distinct tail, seed body two-fifths total length of seed (Fernald, 1950; Kral, 1980; Ware and Wieboldt, 1981; Reveal and Broome, 1981).

New Jersey rush is distinctive among species of *Juncus* of the southeastern United States in having dull, grayish green, obviously roughened stems and leaves because of the presence of epidermal papillae and tubercles. It is most similar to Canadian rush, *Juncus canadensis* LaHarpe, from which it differs in having less densely congested cymules, larger fruits, longer seeds, and six (instead of three) stamens, in addition to the difference in herbage texture (Fernald, 1950; Kral, 1980). Some specimens of *Juncus canadensis* may have some flowers with six stamens, but the majority have only three (Voss, 1972).

**DISTRIBUTION:** The range of *Juncus caesariensis* is restricted to the Coastal Plain of southern New Jersey, Maryland, and Caroline, Charles City, Henrico, and James City counties in eastern Virginia (Harvill et al., 1986) (Figure 34). Ten years ago, the species was listed as probably extirpated in Virginia (Porter, 1979). Subsequently, stations originally discovered by Grimes in

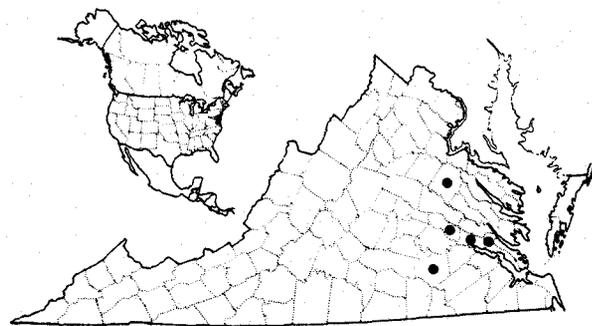


Figure 34. New Jersey rush, *Juncus caesariensis*: Distribution in North America and counties and cities of record in Virginia.

1921 (Erlanson, 1924), Fernald (1939, 1940) and Iltis (3698a in 1947; specimen in the herbarium of the College of William and Mary) were relocated in James City, Henrico, and Caroline counties, respectively (Ware and Wieboldt, 1981). More recently, M. Strong and P. Sheridan (1991) have added Charles City County to the Virginia range, and identified several new sites in Caroline and Henrico counties. The species has not been documented from Dinwiddie County since Fernald's record (Fernald, 1940), although Ware and Sheridan have separately attempted to relocate it there.

The New Jersey rush was formerly known from one site in Maryland (near Glen Burnie on the Eastern Shore, Anne Arundel County), but it has not been seen there in decades (Smith, 1939; Reveal and Broome, 1981). The bog habitat in that locality has been degraded or destroyed by development (G. Cooley, pers. comm.). Very recently *Juncus caesariensis* was discovered in Charles County, Maryland (P. Sheridan, 1991). Its range in New Jersey, the state from which the species was originally described (Coville, 1894), has also apparently been reduced. Once known from six counties in that state, it has been documented from only four counties since 1950. Snyder and Vivian (1981) recently cited it as locally abundant in a few bogs in two counties in the pine barrens region.

**HABITAT:** In Virginia, *Juncus caesariensis* occurs in very acidic, usually sphagnum, hardwood swamps, seeps, swales, or pond margins. These sites typically exhibit perennially reliable flow or seepage of groundwater. Unlike *Juncus canadensis*, it does not tolerate a deeply flooded habitat. It can grow successfully under a forest canopy, but the largest populations are in open habitat. Associated species may include sweetbay magnolia (*Magnolia virginiana*), red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), various lowland oaks (*Quercus* spp.), tag alder (*Alnus serrulata*), sweet pepperbush (*Clethra alnifolia*), small green wood-orchid (*Habenaria clavellata*), Canadian rush (*Juncus canadensis*), umbrella grass (*Fuirena squarrosa*), umbellate aster (*Aster umbellatus*), panic grasses (*Panicum* spp., especially *Panicum verrucosum*), and various sedges (*Carex* spp.), beak rushes (*Rhynchospora* spp.), spikerushes (*Eleocharis* spp.), meadow beauties (*Rhexia* spp.), throughworts (*Eupatorium* spp.), ironweeds (*Vernonia* spp.), etc. (Kral, 1980; Ware and Wieboldt, 1981). Several of the localities are located very near the headwaters of small tributary watersheds. The habitat of the

historical site in Maryland was described as a bog, and those in New Jersey as bogs or white cedar swamps (Reveal and Broome 1981; Snyder and Vivian 1981).

**LIFE HISTORY:** Only phenological data and minimal experimental data are available for this species. After-ripened seeds germinated quickly in the greenhouse at William and Mary when placed on moist *Sphagnum* in a closed plastic bag. Under greenhouse conditions, seedlings grew to more than 2.0 dm high over a period of several weeks. These seedlings did not flower the first year, and they did not survive other experimental treatment into the second year. In nature, *Juncus caesariensis* blooms in July and August, and seeds are disseminated in the fall. The next year, a new stem originates on the parent plant as a lateral offshoot from the rhizome (Kral, 1980).

**THREATS:** Given that this species appears to require continuous seepage of groundwater, local disruption of the hydrologic regime would eliminate the population. Such changes could be caused, for example, by ditching, ponding, or clearcutting. In terms of invasion by competitors, it apparently can survive a thinning of the overstory, but not clearcutting. At the station near Williamsburg discovered by Grimes, which was clearcut in 1979, the *Juncus* colonies are being shaded out by encroaching stands of sweet pepperbush, *Clethra alnifolia*. In those areas where the New Jersey rush occurs adjacent to roadsides, especially at the site along the C and O Railroad tracks, the use of chemical defoliant would certainly endanger its continued occurrence. Fernald's station in Dinwiddie County was apparently eliminated by hog farming.

**STATUS:** The New Jersey rush is federally listed as category 2, a candidate for endangered or threatened status. This rush is very rare in Virginia (Ludwig, 1989). The Virginia Natural Heritage Program ranks this species as G2/S2S3, recognizing its very rare status throughout its range. Because it is known from only four counties in Virginia, where it reaches the southern limit of its distribution, and it has been extirpated from parts of its historical range, *Juncus caesariensis* should be state listed as endangered.

**RECOMMENDATIONS:** Further systematic searches, such as those recently done by Sheridan in areas where utility rights-of-way cut cross headwater ravines, should be made in order to have a better understanding of the distribution of this species. *Juncus caesariensis* is an excellent candidate for a life cycle study. The populations

along the C and O Railroad have apparently persisted by virtue of "benign neglect" in right-of-way management practices by the railroad system (L. App, pers. comm.). Lest future changes in railroad personnel result in loss of awareness of the significance of this "neglect," formal recognition of this right-of-way as a preserve would be highly desirable.

Donna M. E. Ware

## Rush

*Juncus trifidus* Linnaeus var.  
*monanthos* (Jacquin) Bluff and Fingerhuth  
Family Juncaceae  
Order Liliales

### Endangered

This rush is extremely rare in Virginia. It is known only from the summit of Stony Man in Page County, where a few dozen plants are scattered on greenstone cliffs. It is vulnerable to trampling by humans.

**DESCRIPTION:** This rush is a small, tufted, perennial herb (Plate 38); stems few to many from a dense base, 10–30 cm high to inflorescence, bearing 1–several leaves near summit; leaves filiform, flat to involute, upper 1–2 much exceeding inflorescence; ligule membranous, 2.0–3.0 mm long, deeply divided; inflorescence of 1–3 small flowers in a cluster; mostly with solitary flowers or rarely with a second above; flowers composed of 6 segments (tepals), dark brown, rigid, outer 3 slightly longer and more sharply pointed; capsule broadly rounded, 2.0–2.5 mm long, abruptly contracted into a sharp beak slightly less than 1.0 mm long; seeds few in each capsule, about 1.0 mm long, irregularly angled (Gleason, 1952; Massey et al., 1983).

Although *Juncus trifidus* resembles other rushes superficially, closer examination reveals marked differences. Other species of *Juncus* in Virginia have much smaller seeds, which are sand-like and numerous in each capsule. Ligules of other species are entire and often thickened or cartilaginous. Other species are leafier from the base and lack the persistent, hardened leaf and stem bases from previous years' growth characteristic of *Juncus trifidus*.

Specimens of *Juncus trifidus* from the Appalachians have recently been segregated as subspecies *carolinianus* Hamet-Ahti rather than var. *monanthos* which is considered strictly Eurasian

by this worker (Hamet-Ahti, 1980). Virginia plants may not have been examined for their relationship to this newly described subspecies. The correct name for *Juncus trifidus* in the Appalachian Mountains awaits further taxonomic study.

**DISTRIBUTION:** This species of rush ranges from the Arctic south to New York and the mountains of North Carolina and Tennessee; also Eurasia (Fernald, 1950; Massey et al., 1983) (Figure 35). In Virginia, *Juncus trifidus* is known only from the summit of Stony Man in the Blue Ridge of Page County.

**HABITAT:** A few dozen plants are scattered on greenstone cliffs at the summit on the northwest side of Stony Man. They are found in exposed crevices and mossy ledges, often with common hairgrass, *Deschampsia flexuosa*, at an elevation of 1190 to 1220 m asl. They were still present in 1988.

**THREATS:** The site is protected by being in Shenandoah National Park. However, the summit of Stony Man is the highest point in the Park and it receives many visitors. The cliffsite is inaccessible except to climbers. Most of the plants are thus afforded some protection.

**STATUS:** *Juncus trifidus* is extremely rare in Virginia (Ludwig, 1989). The Virginia Natural Heritage Program ranks this species as G5/S1, recognizing its very common status throughout its range and its extremely rare status in Virginia. Because it is known from only a single, small population in Virginia, *Juncus trifidus* should be state listed as endangered.

**RECOMMENDATIONS:** The site should be monitored and, if warranted, access to it should be limited.

Charles E. Stevens and Thomas F. Wieboldt

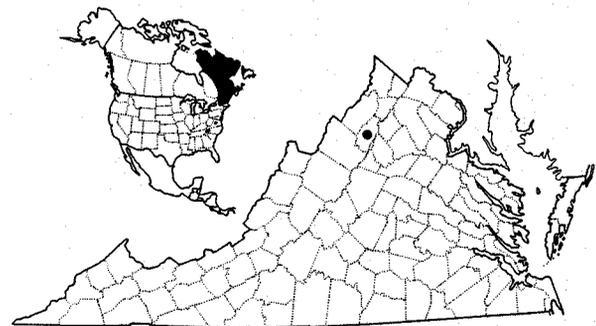


Figure 35. Rush, *Juncus trifidus*: Distribution in North America and county of record in Virginia.

Service -

COST ESTIMATE FOR MILL CREEK REGIONAL BASIN #1

A) Const Cost - \$105,000

B) Engineering, Survey - 3000  
PERMITS ETC

C) PLAT PREP. + SURVEY - 4500

D) R-O-W AGENT TIME - 2000

\$ 114,500

\* = DOES NOT INCLUDE LAND ACQUISITION COST \*

Darryl

MILL CREEK DETENTION BASIN - 013.020.0100

EXPENDITURES AS OF 11-4-92

VENDOR PURPOSE COST

AES DRAFT SURVEY & DESIGN DATA 872.00

ATEC ASSOCIATES, INC. GEOTECHNICAL SERVICES 5,809.00 (2,145/Paid - 3,664/ENCUMBERED)

SPEARMAN & ASSOCIATES TOPOGRAPHIC SURVEY 5,400.00

SPEARMAN & ASSOCIATES EASEMENT PLATS 1,100.00

SPEARMAN & ASSOCIATES STAKE & FLAG EASEMENT 100.00

CLERK OF COURT EASEMENT RECORDING COSTS 130.00

ROGER ESTEP PERSONNEL COSTS 1,816.35

PALMER EASEMENT 240.00

ADKINS EASEMENT 800.00

ALACO CORPORATION EASEMENT 763.41

SPIRYN/TREASURER-JDC TAXES FOR ABOVE 836.59

MIDLANDS H.O. ASSOCIATION EASEMENT 679.00

TOTAL 18,546.35

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# EMP GENERAL CONTRACTORS

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## WedgCor® Steel Building Systems

- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL

P.O. Box 1449  
Grafton, Virginia 23692  
Phone: (804) 868-9596  
FAX: (804) 877-1333

February 17, 1993

Purchasing Director  
James City County  
101-A Mounts Bay Road  
Williamsburg, VA 23185

Reference: Bid No. 93-B-0017, James City County Sotrmwater Detention Basin

Attention: Rose Southerlin

Please be advised that if we are allowed to install a pre-cast Model EW-11 Drop Inlet as discussed with your development engineer, Mr. Daryl Cook, you may deduct \$3,200.00 from our base bid, making our new base bid \$113,200.00.

Trusting the above is helpful and meets with your approval.

Sincerely,

Ronald J. Kubesh

BID FORM

TO: Purchasing Director  
James City County  
101-A Mounts Bay Road  
Williamsburg, VA 23185

FROM: Eastern Metal Products & Fabricators, Inc.  
T/A EMP General Contractors (Name of Contractor)

P O Box 1449 (Address)

Grafton, VA 23692

FOR: James City County Stormwater Detention Basin

James City County

Bid No. 93-B-0017

The undersigned, having visited the sites of the above referenced project, and having familiarized himself with the local conditions affecting the cost of the work and with all requirements of the Contract Documents, and all Addenda to said Documents, hereby proposes to furnish all labor, equipment and materials necessary to perform and complete the following items of work in accordance with the Specifications, Drawings and Contract Documents. All materials and methods for this project shall conform to the Virginia Department of Transportation Road and Bridge Specifications, the Virginia Erosion and Sediment Control Handbook, the James City Service Authority Standards and Specifications for Water and Sewer Systems, and all requirements of the James City County Department of Code Compliance.

BID SCHEDULE

| <u>Item</u> | <u>Description</u>                   | <u>Quantity</u> | <u>Unit Price</u> | <u>Total Price</u>  |
|-------------|--------------------------------------|-----------------|-------------------|---------------------|
| 1           | Stormwater Detention Basin complete. | LS              | _____             | <u>\$116,400.00</u> |

TOTAL BASE BID: \$ 116,400.00  
In Words: ONE HUNDRED SIXTEEN THOUSAND FOUR HUNDRED DOLLARS NO/CENTS

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**CONSENT PRICES:**

The Contractor shall submit prices for addressing earthwork conditions on the site that are found to be different from those anticipated by the plans and specifications. The owner shall approve all such work in advance of the Contractor performing the work.

| <u>Item</u> | <u>Description</u>   | <u>Unit</u> | <u>Unit Price</u> |
|-------------|--|-------------|-------------------|
| 1.          | Credit to James City County for on-site borrow of suitable materials                               | Cubic Yards | <u>1.00</u>       |
| 2.          | Undercutting and backfilling of unsuitable materials in excess of quantities described on the plan | Cubic Yards | <u>12.00</u>      |

**The Undersigned Agrees:**

- A. To hold bid open until 60 days after opening of bids.
- B. To accept the stipulation of the Specifications regarding disposition of security, time for completion and other provisions.
- C. To enter into and execute a Contract if awarded on the basis of this bid and to furnish Guaranty Bonds and Insurance Documents as required.
- D. To accomplish the work in accordance with the Contract Documents and Specifications.
- E. To complete all work within 60 consecutive calendar days from date of Notice to Proceed.

The Bidder acknowledges receipt of the following addenda:

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The undersigned certifies that he (they) are the only person (persons) interested in said bid and that it is made without connection with other persons submitting a bid on the same scope of services; that the bid is fair and made without collusion, fraud or reservation; that no official or employee of James City County or the James City Service Authority is directly or indirectly interested in said bid, or any portion thereof.

State Registration Number:

Class A 013613

Eastern Metal Products & Fabricators, Inc.

T/A EMP General Contractors

Legal Name of Person, Persons or Corporation

By: Ronald J. Kubesh

Title: President

Signature: 

Date: January 13, 1993

Seal:

MILL CREEK DETENTION BASIN - 013.020.0100

EXPENDITURES AS OF 2-18-93

| VENDOR                     | PURPOSE                    | COST                                     |
|----------------------------|----------------------------|--|
| AES                        | DRAFT SURVEY & DESIGN DATA | 872.00                                   |
| ATEC ASSOCIATES, INC       | GEOTECHNICAL SERVICES      | 5,809.00 (2,145/PAID - 3,664/ENCUMBERED) |
| SPEARMAN & ASSOCIATES      | TOPOGRAPHIC SURVEY         | 5,400.00                                 |
| SPEARMAN & ASSOCIATES      | EASEMENT PLATS             | 1,100.00                                 |
| SPEARMAN & ASSOCIATES      | STAKE & FLAG EASEMENT      | 100.00                                   |
| CLERK OF COURT             | EASEMENT RECORDING COSTS   | 130.00                                   |
| ROGER ESTEP                | PERSONNEL COSTS            | 1,816.35                                 |
| PALMER                     | EASEMENT                   | 240.00                                   |
| ADKINS                     | EASEMENT                   | 800.00                                   |
| ALACO CORPORATION          | EASEMENT                   | 763.41                                   |
| SPIRN/TREASURER-JCC        | TAXES FOR ABOVE            | 836.59                                   |
| MIDLANDS H. O. ASSOCIATION | EASEMENT                   | 679.00                                   |
| ROGER ESTEP                | ROW - NOVEMBER             | 63.63                                    |
| ROGER ESTEP                | ROW - DECEMBER             | 42.42                                    |
| ROGER ESTEP                | ROW - JANUARY              | 21.21                                    |
| TERRELL                    | EASEMENT                   | 1,783.00                                 |
| CLERK OF COURT             | EASEMENT RECORDING COST    | 26.00                                    |
| ROGER ESTEP                | ROW - FEBRUARY             | 28.28                                    |
| <b>TOTAL</b>               |                            | <b>20,510.89</b>                         |

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*Drawings  
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INVITATION FOR BID  
93-B-0017  
JAMES CITY COUNTY STORMWATER DETENTION BASIN  
JAMES CITY COUNTY, VIRGINIA

SEALED bids for the construction of a stormwater detention basin to be located on Mill Creek at the end of Bradshaw Drive in the Bradshaw Ordinary Subdivision located off Ironbound Road in James City County, will be received by the Purchasing Office, James City County Government Center, 101A Mounts Bay Road, P.O. Box 8794, Williamsburg, Virginia 23187-8794, until 2:00 p.m., local prevailing time, on January 13, 1992, at which time the bids will be publicly opened and read aloud.

The project consists of clearing, grading, construction of a detention basin, encasing of sanitary sewer pipe, and erosion and sediment control.

Liquidated damages in the amount of \$150.00 per day will be assessed for work not substantially completed within the time limits specified.

Contract documents may be obtained at the above address at no charge. Neither the Owner nor any other of its representatives shall be responsible for full or partial sets of Contract Documents, including addenda, obtained from any other source. Plans and specifications may be examined also at the Dodge Plan Rooms and/or Builders Exchange in Newport News, Norfolk and Richmond, Virginia and in the James City County Code Compliance Office, 101E Mounts Bay Road.

**BID SECURITY:** All bids must be accompanied by a certified check or Bid Bond in the amount of 5% of the total base bid, payable to James City County and the Contractor's CERTIFICATE OF REGISTRATION per Chapter 7, Title 54, Code of Virginia.

NO BID shall be withdrawn for a period of 60 days after BID opening. All bids shall be submitted in duplicate on the forms provided with all items filled in with ink or typewritten. If a bidder desires to withdraw a bid because of error, he must give notice in writing of his claim of right to withdraw in accordance with the Virginia Public Procurement Act, Chapter 7, 11-54 A(i).

The OWNER reserves the right to waive informalities and to reject any/or all bids and to award any bid considered to the best advantage of the County or Authority.

Rose M. Sutherlin, CPPB  
Purchasing Director

LEGAL CLASSIFIED: The Daily Press  
PUBLISH: December 27, 1992

## **I. INSTRUCTIONS TO BIDDERS**

### **A. PROJECT**

1. **James City County Stormwater Detention Basin:** The project consists of all sitework and materials relating to the construction of a stormwater detention basin located at the end of Bradshaw Drive in the Bradshaw Ordinary Subdivision. The project scope will include work outlined in the detailed specifications and indicated on the approved site plan. Specific work shall include clearing, disposal of unsuitable material, grading, hauling and placing compacted fill in conjunction with the construction of the detention basin with appurtenances, encasement in concrete of a 12 inch diameter gravity sewer line, installation of erosion and sediment control measures and final stabilization including topsoiling, seeding and mulching. All work shall be in accordance with the plans prepared by James City County (JCC), the attached specifications, the latest edition of the Virginia Department Of Transportation (VDOT) Road and Bridge Standards, the James City Service Authority (JCSA) Standards and Specifications for Water and Sewer Systems, the latest edition of the Virginia Erosion and Sediment Control Handbook, and requirements of the James City County Department of Code Compliance.

Bids shall be determined assuming that all fill material to be used for the construction of the detention basin embankment and core trench shall be obtained from off-site sources.

### **B. DEFINITIONS**

1. Terms used in these Instructions to Bidders are defined and have the same meanings assigned to them in the General Conditions.
2. The term "Owner" as used in the Contract Documents refers to James City County.
3. The term "Engineer" refers to the James City County. All inquiries during the bidding period should be addressed to the following individuals: Darryl Cook, Engineering, 253-6673; or Bernard Farmer, Jr. Director of Code Compliance, 253-6626.
4. The term "Contractor" refers to the person or firm to whom an award is made to perform the work under this contract.
5. The term "successful Bidder" means the lowest, qualified, responsible Bidder to whom the Owner (on the basis of the Owner's evaluation as hereinafter provided) makes an award.

### **C. FAMILIARITY WITH PROPOSED WORK**

1. It is the responsibility of the Bidder, by careful personal examination of the site, to satisfy himself as to the nature and location of the work, the conformation of the grounds, the location of utilities of any nature, the soil, rock and dam foundation conditions, and the character, quality and quantity of the materials which will be required. The Bidder shall examine carefully the proposed Contract Documents and all other

documents and data pertaining to the Project. The Bidder shall not at any time after the execution of the Agreement, make any claims whatsoever alleging insufficient data or incorrectly assumed conditions, nor shall he claim any misunderstanding with regard to the nature, conditions or character of the Work to be done under the Contract, and he shall assume all risks resulting from any changes in the conditions which may occur during the progress of the work.

**D. BID OPENING PROCEDURE**

1. Sealed bids will be received on the attached Bid Form by the Owner at the location and until the time and date as stated in the Advertisement for Bids, and then at said place publicly opened and read aloud.

**E. METHOD FOR SUBMITTING BIDS**

1. No bid will be considered unless submitted upon the Bid Form supplied for the Project. The blank spaces in the Bid Form shall be filled in correctly, where indicated, for each and every item for which a description is given, and the Bidder must state the price(s) for which he proposes to do each part of the work contemplated, and the total amount for all parts included in any or all of the combinations of the Work. In case of discrepancy, the written words shall be considered as being the Bid Price.
2. To demonstrate his qualification for the Project, each Bidder must be prepared to submit further written satisfactory evidence that he has sufficient experience, necessary capital, materials, machinery and skilled workmen to complete the Contract. If financial statements are required, they shall be of such data as the Owner shall determine and shall be prepared on a form acceptable to the Owner. The Owner may make such investigations as he deems necessary to determine the ability of the Bidder to perform the Work. The Owner's decision or judgement on these matters shall be final, conclusive and binding.
3. In evaluating Bids, the Owner shall consider the qualifications of the Bidders whether or not Bids comply with the prescribed requirements, and alternates and unit prices if requested in the Bid Forms. He may consider the qualifications and experience of subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work as to which the identity of subcontractors and other persons and organizations must be submitted as specified herein. He may conduct such investigations as he deems necessary to establish the responsibility, qualifications and financial ability of the Bidders, proposed subcontractors and other persons and organizations to do the work in accordance with the Contract Documents to the Owner's satisfaction within the prescribed time. The Owner reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to the Owner's satisfaction.

**F. BID SECURITY**

1. No bid for any contract shall be considered unless accompanied by a certified check, bank cashier's check or Bid Bond in the form attached,

payable to the Owner in an amount not less than five percent (5%) of the Bid. Except for the Bid Security of the three lowest responsible bidders, all checks will be returned to the bidders on or before the tenth day subsequent to bid opening. Unless otherwise forfeited, the Bid Security of the three lowest responsible bidders will be returned within ten days after 1) the expiration of the period during which the bids may not be withdrawn, as set out in the Advertisement for bids; or 2) upon furnishing of the required Payment and Performance Bonds, the execution and delivery to the Owner of the Agreement, and compliance with the insurance requirements by the lowest responsible bidder, whichever event occurs first.

**G. SURETY**

1. All bonds submitted as Bid Security, and Performance and Payment Bonds submitted by a bidder to whom notification of Intent to Award a contract has been given, shall be executed by surety companies legally authorized to do business in Virginia. Such surety companies shall also be named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Accounts, U.S. Treasury Department, Washington, D.C.

**H. POWER OF ATTORNEY**

1. Attorney's-in-Fact who sign Bid, Performance and Payment Bonds must file with each Bond a certified copy of their Power of Attorney to sign said Bonds, bearing the same date as the Bonds.

**I. DELIVERY OF BIDS**

1. It is the responsibility of the Bidder to deliver his Bid to the Owner prior to the time of bid opening, regardless of what medium he uses to deliver it, whether by mail or otherwise. No Bid shall be considered if it arrives after the time set for bid opening. Each bid shall be submitted in a sealed envelope. If forwarded by mail, the above mentioned envelope shall be addressed as stated in the Advertisement for Bids and marked "JCC Stormwater Detention Basin."

**J. REJECTION OF BIDS**

1. The right is reserved by the Owner at his discretion to reject any or all bids or parts thereof. Bids may be rejected if they show any omission, alteration of form, additions or deductions not called for, conditional or uninvited alternate bids, or irregularities of any kind; however, the Owner also reserves the right to waive defects or irregularities on bids.

**K. ESTIMATED QUANTITIES**

1. Any estimates of quantities herein furnished by the Engineer are approximate. They have been used by the Engineer as a basis for estimating the cost of work, and will also be used for the purpose of tabulating and comparing bids and awarding the Contract. The County

has estimated these quantities; the information shown in the Bid Documents is for unit price comparison only. Such estimates shall not give rise to any responsibility of the Engineer hereinafter precluded in the General Conditions. The County does not guarantee the quantities shown in the bid documents, and reserves the right to award a contract for any portion of the total project.

**L. UNIT PRICES**

1. In the event there is a discrepancy between the unit prices, and the extended totals, the unit prices shall govern. In the event there is a discrepancy between prices written in words and written in figures, the prices written in words shall govern. In case of error in the Bidder's extended summation, the computed total of the Engineer shall govern. The total amount of the summation of Bid extension shall be the basis of awarding the contract to the lowest responsible bidder.

**M. SHAM OR COLLUSIVE BIDS**

1. The bids of any bidder or bidders who engage in collusive bidding shall be rejected. Any bidder who submits more than one bid in such manner as to make it appear that the bids submitted are on a competitive basis from different parties shall be considered a collusive bidder.

**N. ADDENDA AND INTERPRETATIONS**

1. No interpretations of the meaning of the Drawings, Specifications or other Contract Documents will be made to any bidder orally. Every request for such interpretation shall be in writing to the Engineer, and to be given consideration must be received at least ten (10) days prior to bid opening. Any and all such interpretations will be in the form of an Addenda to the Contract Documents, and will be mailed to the prospective bidders at the addresses furnished by them not later than seven (7) days prior to the bid opening. Failure of any bidder to receive such addendum or interpretation shall not relieve any bidder from his obligation under the Bid as submitted.

**O. PERFORMANCE AND PAYMENT BONDS**

1. The bidder to whom the Contract is to be awarded must, within ten (10) days after Notice of Award, provide Performance and Payment Bonds each in an amount equal to one hundred percent (100%) of the amount bid, for faithful performance of the Contract; to cover the payment in full of all materials furnished and labor supplied or performed; and also covering correction of defective workmanship and material during the guaranty period, and each executed by a surety company approved by the Owner and authorized to transact business in the state in which the Project is located.

**P. AWARD OF CONTRACT**

1. If an award of Contract is made, it will be made to the lowest responsible bidder within sixty (60) days after bid opening.

**Q. FAILURE TO EXECUTE CONTRACT**

1. If the lowest responsible bidder to whom the Contract is awarded fails to give Bonds or execute the Contract within the time specified, the amount of the Bid Security shall be paid to the Owner as liquidated damages. In such case the Owner, at his discretion, may award the contract to the next lowest responsible bidder, or reject all Bids.

**R. NOTICE TO PROCEED**

1. Notice to proceed (both verbal and written) shall be given by the Owner after execution of the Agreement, insurance policies, Certificates and bonds. The Contractor shall begin the Work to be performed under this Contract on the date set by future notifications. Failure to begin work within seven (7) days of such notifications may be construed by the Owner as just cause for cancellation of the Contract. The time for completion for the entire project shall be 60 consecutive calendar days.

**S. WORK BY OWNER**

1. No work is anticipated to be performed by the Owner on this project.

**T. PROGRESS PAYMENTS**

1. The contractor may submit an invoice for any work completed which has been inspected and accepted by the County.

**U. TIME OF ESSENCE**

1. As the provisions hereof relating to the time for performance and completion of the Work are for the purpose of enabling the Owner to proceed with the construction of public improvements in accordance with pre-planned programs, such provisions are of the essence.

**V. TIME FOR COMPLETION**

1. The number of days within which, or the date by which, the Work is to be completed (the Contract Time) is 60 consecutive calendar days.

**W. LIQUIDATED DAMAGES**

1. It is mutually understood and agreed by and between the parties to the contract that in the execution of the same, time is an essential element of the contract, and it is important that the work be pressed vigorously to completion.
2. If the Contractor shall neglect, fail or refuse to complete the work within the specified contract period, then for each calendar day that any work shall remain uncompleted after the end of the contract period, \$150 will be assessed by James City County, not as a penalty, but as a predetermined and agreed liquidated damage.
3. James City County has the right to deduct said liquidated damages from any money in the County's, otherwise due, or to become due, to said

contractor, and to sue for and recover any additional compensation for damages for nonperformance of the Contract at the time stipulated and provided for in the Contract Documents.

4. The assessment of liquidated damages for failure to complete the work within the specified contract period shall not constitute a waiver of the James City County right to collect any additional damages which the County may sustain by failure of the Contractor to carry out the terms of the Contract.

**X. 'OR EQUAL' MATERIALS AND EQUIPMENT**

1. Wherever in these Contract Documents a particular brand or make or material or equipment is named, such name is specified to establish a standard quality. Any other brand, make or material, device or equipment which, in the opinion of the Engineer is the recognized equal of that specified, considering quality, workmanship and economy of operation and which will adequately perform the functions for which it was intended, will be accepted.
2. This acceptance will be given only when the successful contractor has shown to the satisfaction of the Engineer that the proposed substitute is equal in materials, workmanship, finish and service to that called for in the Specifications.
3. The determination as to whether or not a material, article or item of major equipment is acceptable and in the best interest of the Owner will rest solely with the Engineer.

**Y. PREQUALIFICATION OF BIDS**

1. The Engineer will not prequalify any substitute materials or equipment submitted by the Bidders. Only substitute items submitted by the successful contractor or contractors after the date of the Contract Award will be considered by the Engineer.

**Z. SAFETY AND HEALTH REGULATION**

1. The Contractor shall comply with the U.S. Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 as amended (PL 91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act as amended (PL 91-54).

**AA. COPIES OF DOCUMENTS FURNISHED CONTRACTOR**

1. The Owner or his representative shall furnish to the successful Contractor five sets of Contract Documents, completely free of charge, for his use in executing the Work.

**BB. GUARANTY PERIOD**

1. The Contractor shall correct defective work performed under this Contract for a period of twelve months following date of final payment.

**CC. WITHDRAWAL OF PROPOSALS**

1. **Except as otherwise permitted by law, bids shall remain irrevocable for the period stated in the Advertisement for Bids.**

## **II. SUPPLEMENTARY GENERAL CONDITIONS**

### **A. DESCRIPTION**

1. The "Standard General Conditions of the Construction Contract," prepared by the Engineer's Joint Contract Documents Committee, pages GC1 through GC33 inclusive, is a part of this Contract by reference.
2. In the event of conflict between the General Conditions and the Supplementary General Conditions, the provisions of the latter shall take precedence.
3. Where any article, paragraph or clause of the General Conditions is changed or deleted by these supplements, the unaltered provisions of that section, paragraph or clause shall remain in effect.

### **B. SPECIFICATIONS**

1. The Specifications which are attached hereto contain bidding documents and detailed specifications; other technical provisions for all work are included on the plans prepared by JCC. All work shall be in accordance with all requirements of the James City County Department of Code Compliance, the Virginia Erosion and Sediment Control Handbook, the JCSA Standards and Specifications for Water and Sewer Systems, and the Virginia Road and Bridge Standards and Specifications.

### **C. WORK OUTSIDE REGULAR HOURS**

1. The Contractor shall not work outside the regular hours or on weekends or holidays without prior approval of the Engineer.

### **D. AVAILABILITY OF CONTRACTOR AFTER WORKING HOURS**

1. The Contractor shall designate a representative and furnish a telephone number at which the representative may be contacted at any time after working hours. This representative shall be empowered and authorized to provide such personnel and equipment as may be required to remedy emergency situations which may develop after normal working hours or on weekends and holidays.

### **E. UNAUTHORIZED AND DEFECTIVE WORK**

1. Work done without lines and grades being given, work done beyond the limits authorized by the County, as given, except as herein provided, or any extra work done without authority will be considered as unauthorized, and work not done in conformity with the Specifications will be considered defective. Work considered by the Engineer to be defective will not be approved for payment until corrected.
2. All work which has been rejected or condemned shall be remedied, or if necessary, removed and replaced in a manner acceptable to the Engineer, by the Contractor, at the Contractor's expense. If the Contractor does not

remedy, remove or replace as instructed by the Engineer after ten (10) days, such remedy, removal or replacement may be done by the Owner at the Contractor's expense.

**F. INSPECTION**

1. The Owner may appoint a resident inspector or inspectors as he may deem necessary to inspect all materials and workmanship and to see that the work conforms with the Specifications and drawings.
2. The failure of the inspectors to reject or condemn improper materials and workmanship shall not prevent the Owner from rejecting materials and workmanship found defective at any time prior to the final acceptance of the completed work, nor shall it be considered as a waiver of any defects which may be discovered later or as preventing the Owner at any time subsequently from recovering damages for work actually defective.

**G. ELECTRICAL POWER AND LIGHTING**

1. Temporary electrical power, if required during construction, shall be provided by each Contractor as required by him. This service shall be installed by a qualified electrical contractor. Lighting shall be provided by each Contractor where necessary for good and proper workmanship, for inspection or for safety.

**H. OPERATIONS AND STORAGE AREAS**

1. Each Contractor shall hold and save the Owner free and harmless from liability of any nature or kind arising from any use, trespass or damage occasioned by his operations on premises of third persons, including damages to adjacent properties due to sandblasting or painting operations. The contractor shall make all and any modifications needed to his operations to protect all adjacent properties including and not limited to containment structures and dust free blasting.
2. All items or equipment subject to the deleterious effects of weather or severity of conditions imposed by job storage shall be suitably packaged by the manufacturer of the equipment involved. Any materials damaged shall be removed from the site immediately.

**I. RESTORATION**

1. All private and public property disturbed in the process of construction shall be restored to the condition existing prior to construction. Proper notice shall be given to the James City County of any expected inconvenience or hazardous condition. Special care must be taken to prevent damage to existing trees and shrubs not located in the area to be cleared. Road entrances and existing pavement surfaces adjacent to sitework shall be cleaned of soil with mechanical brooms at the end of the working day.
2. All surplus materials shall be disposed of in a manner acceptable to the County, and the construction area shall be left in a neat condition. Unsuitable material shall be removed from the site and shall be disposed

of by the Contractor. No machinery or equipment shall be left or stored on the job site after the project is completed.

**J. SILTATION AND EROSION CONTROL**

1. Clearing, grading and excavations shall be done in such a manner that there are no violations of the State of Virginia "Erosion and Sediment Control Handbook". All erosion and sediment control measures shall be installed in accordance with the requirements of the James City County Department of Code Compliance.

**K. PROGRESS SCHEDULE**

1. To be submitted by the contractor within 14 days following Notice to Proceed.

**L. PUBLIC SAFEGUARDS**

1. The Contractor agrees to conduct the work at all times in such a manner that public travel shall not be inconvenienced needlessly, nor shall it be wholly obstructed at any point. He further agrees to be responsible for all legal notices and signals to the public of the state of the roads while the work is in progress, providing watchmen, barricades, red lights, danger and warning signs and other such precautions necessary to protect life and property. At least one lane shall be open to vehicular traffic along traveled rights-of-way and shall be maintained at all times except as otherwise approved by the Engineer.

**M. SAFETY**

1. In accordance with generally accepted construction practices, and the requirements of OSHA, the Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. The requirement will apply continuously and not be limited to normal working hours.
2. The duty of the Engineer to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the contractor's safety measures, in, or near the construction site.

**N. WATER**

1. Water used for flushing and cleaning, shall be fresh and may be obtained from the JCSA (temporary connections are the Contractor's responsibility at the Contractor's expense). The use of JCSA water shall be coordinated by the Contractor, with proper notice given to the JCSA staff prior to use.

**O. RELEASE OF LIENS**

1. The Owner, before making any payment, including the final payment, if he deems such procedure necessary to protect his interests, may require the Contractor to furnish a complete release of all liens arising out of this Contract, or receipts in full in lieu thereof and if required in either case,

an affidavit that so far as he has knowledge or information, the releases and receipts include all the labor and material for which a lien could be filed. The Contractor may, if any subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Owner, to indemnify him against any lien. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all money that the latter may be compelled to pay in discharging such a lien. However, the Owner may make payments in part or in full to the Contractor without requiring the releases or receipts, and the payments so made shall not impair the obligations of any Surety or Sureties on any bond or bonds furnished under this Contract.

**P. PERFORMANCE AND PAYMENT BONDS**

1. The Contractor will furnish Performance and Payment Bonds as security for the faithful performance and payment of all his obligations under the contract documents. These Bonds shall be in amounts as shown in the Instructions to Bidders and in the form and with such sureties as are acceptable to the Owner. Prior to execution of the Contract Documents, the Owner may require the Contractor to furnish such other Bonds, in such form and with such sureties as he may require. If such Bonds are required by written instructions given prior to opening of Bids, the premiums shall be paid by the Contractor, if subsequent thereto, they shall be paid by the Owner.

**Q. CONTRACTOR'S INSURANCE**

1. The Contractor shall purchase and maintain during the life of this contract such Comprehensive General Liability Insurance including product and completed operations liability insurance as will provide protection from Contractor's performance of the Work and Contractor's other obligations under the contract documents, whether such performance is by Contractor, or by subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. This coverage is to include:

Personal Injury Liability  
Broad Form Property Damage Liability, including Completed Operations  
Blanket Contractual Liability on all Written Contracts  
Full XCU (Explosion, Collapse, and Underground Damage) Liability

2. Minimum coverages for construction contracts between \$0 and \$25,000 shall be as follows:

- a. Workers' Compensation and Employers' Liability:

Coverage A - Statutory requirement  
Coverage B - \$100,000/\$100,000/\$500,000  
Coverage C - \$100,000/\$100,000 Accident and/or disease

- b. Comprehensive Automobile Liability - Including Owned, Non-owned and Hired Car Coverage:

**Limits of Liability - \$500,000 per Occurrence Bodily Injury and Property Damage Combined**

**c. Comprehensive General Liability:**

**Limits of Liability - \$500,000 per Occurrence Bodily Injury and Property Damage Combined**

**Contractual Liability Includes the Contractual Liability Assumed Hereunder:**

- Completed Operations Insurance to remain in Full Effect Until the Date of Acceptance of the Project by the Owner**
- Broad Form Property Damage, Including Completed Operations**
- Personal Injury Coverage**
- Blanket Explosion, Collapse and Underground Coverage Where construction Contract Involves These Exposures**

**3. Minimum coverages for construction contracts between \$25,001 and \$250,000 shall be as follows:**

**a. Workers' Compensation and Employers' Liability:**

**Coverage A - Statutory Requirement**

**Coverage B - \$100,000/\$100,000/\$500,000**

**Coverage C - \$100,000/\$100,000/Accident and/or Disease**

**b. Comprehensive Automobile Liability - Excluding Owned, Non-Owned and Hired Car Coverage**

**Limits of Liability - \$500,000 per Occurrence Bodily Injury and Property Damage Combined**

**c. Comprehensive General Liability:**

**Limits of Liability - \$500,000 per Occurrence, Bodily Injury and Property Damage Combined**

**Contractual Liability Includes the Contractual Liability Assumed Hereunder:**

- Completed Operations Insurance to Remain in Full Effect Until the Date of Acceptance of the Project by the Owner**
- Broad Form Property Damage, Including Completed Operations**
- Personal Injury Coverage**
- Blanket Explosion, Collapse and Underground Coverage Where construction Contract Involves These Exposures**

**d. Umbrella Excess Third Party Liability, Including Personal Injury, Property Damage, Advertising Liability with Umbrella Coverage, to be at Least Equal to that Provided by the Underlying Liability Insurance Listed in a,b, and c above**

Limits of Liability - \$1,000,000 Each Occurrence  
\$1,000,000 Aggregate  
\$ 10,000 Self-Insured  
Retention

4. Certificates of insurance on the insurance carrier's standard form indicating all policies required by law and the Contract documents. Certificates of insurance shall be furnished in a number of copies equal to the number of counterparts of the Contract documents executed. Each certificate shall carry the provision that the policy may not be canceled or materially changed except upon thirty (30) days notice to the Owner and Engineer.

**R. SUBMITTALS**

1. Shop Drawings: Shop drawings, cuts, diagrams, catalog data sheets or such other data necessary to fully describe and substantiate compliance with the specifications shall be submitted as required by the Owner. The Contractor shall, prior to receipt of the Notice to proceed, furnish for review and approval by the County any shop drawings, manufacturer's literature, and other information required by the County. Shop drawings will be required for the drainage structures, fill material and concrete.
2. The Contractor shall, as a part of the shop drawings, submit to the Owner the Manufacturer's recommendations for each material, including all drainage structures, or procedure to be utilized which is required to be in accordance with such recommendations. The Contractor shall have a copy of the manufacturer's instructions available at the construction site at all times.

**S. EQUAL EMPLOYMENT OPPORTUNITY**

1. If the contract amount is \$10,000 or less, the following conditions shall apply:

During the performance of this Contract, the Contractor agrees as follows:

- a. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such actions shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Local Public Agency setting forth the provisions of this discrimination clause.

- b. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
- c. The Contractor will cause the foregoing provisions to be inserted in all subcontracts for any work covered by this contract so that such provisions will be binding upon each subcontractor, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.

2. If a contract amount exceeds \$10,000, the following conditions shall apply:

During the performance of this Contract, the Contractor agrees as follows:

- a. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provision of this nondiscrimination clause.
- b. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- c. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or worker's representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- d. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and by rules, regulations, and relevant orders of the Secretary of Labor.
- e. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations and orders of the Secretary, or pursuant thereto, and will permit access to his books, records, and accounts by the Treasury Department and the Secretary of Labor for purposes of investigations to ascertain compliance with such rules, regulations and orders.

- f. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions as may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulations or order of the Secretary of Labor, or as otherwise provided by law.
  
- g. The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontract or vendor. The Contractor will take such actions with respect to any subcontract or purchase order as the Treasury Department may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Treasury, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

#### **T. CONTROL OF THE CONTRACT**

- 1. The Contractor shall supervise all workmanship, including that of subcontractors, to insure that it is of the highest grade and according to the best standard practice. The Contractor shall designate a qualified supervisor or superintendent who shall have full authority to act on behalf of the Contractor.
  
- 2. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be inspected, tested, or approved by someone other than the Engineer, the Contractor will schedule the inspection and give the Engineer timely notice of the schedule inspection. The Contractor shall provide copies of certificates of inspection, testing or approval.
  
- 3. The Contractor is solely responsible for all sample collection and testing required by the Contract Documents.
  
- 4. The Engineer will provide control staking which includes setting iron pins at property and easement corners and providing one elevation bench mark at the site. All construction surveying and stakeout is the responsibility of the Contractor.
  
- 5. The contractor shall protect and preserve the established control points, bench marks and monuments and shall make no changes in locations without the written approval of the Engineer. Any of these which may

be lost or destroyed through fault of the Contractor shall be replaced and accurately located by the Engineer at the Contractor's expense.

**U. PERMITS**

1. Unless expressly stated otherwise herein, all permits and licenses of both a temporary and permanent nature necessary for the prosecution and satisfactory completion of all work shall be secured and paid for by the Contractor. Permits required by the James City Department of Code Compliance shall be acquired by the Contractor (i.e., no cost to JCC).

**V. SUBSURFACE CONDITIONS**

1. The Contractor shall perform whatever subsurface investigations deemed by him to be necessary prior to submitting bids for this project. Subsurface investigations have been performed by the JCC. This geotechnical report is available for review at the JCC Code Compliance Office. These data shall be used for information purposes only and at the Contractor's risk. No claims will be permitted whatsoever alleging insufficient data or incorrectly assumed conditions, nor shall he claim any misunderstanding with regard to the nature, conditions or character of the Work to be performed under the Contract.

**W. INDEMNITY**

1. The said Contractor hereby binds himself and his successors to indemnify, defend, and save harmless James City County and the James City Service Authority, its officers, agents or employees, from all suits and actions of every name and description brought against it or them, and all costs or damages to which it or they may be put, on account of, or by reason of any injury or alleged injury to the person or property of another, resulting from negligence or carelessness in the performance of the work, or in guarding the same, or by, or on account of any act or omission of the contractor or his agents; and that the whole or so much of the moneys due to the contractor, under and by virtue of this Contract, as such or may be considered necessary by the County or Authority, shall and may be retained until all such suits and claims for damages as aforesaid shall have been settled, and evidence to that effect furnished to the satisfaction of the County or Authority. The said contractor further agrees to indemnify and save harmless James City County and the James City Service Authority against any and all claims, suits or demands that may accrue to, be suffered by, or adjudicated against it by reason of any injury sustained by any employee in and about the said work, under and pursuant to the provisions of the Workman's Compensation Law or any amendments thereto, and the contractor shall produce certificates or other satisfactory evidence of ample protection against such liability.

**X. MEASUREMENT FOR PAYMENT**

1. There shall be a lump sum bid for all work to be performed in accordance with the plans and contract documents for the James City County Stormwater Detention Basin.

**Y. SUMMARY OF WORK**

1. The work to be performed under this contract shall be as specified in the Contract Documents and approved Plans. The work shall include, but not be limited to the contractor furnishing labor, equipment and materials to construct and install the following:
  - a. Site clearing and grading; disposal of unsuitable material.
  - b. Detention basin.
  - c. Erosion and sediment control measures.
  - d. Sanitary sewer line bedding and encasement.
  - e. Topsoiling, seeding and stabilization.

### **III. DETAILED SPECIFICATIONS**

#### **A. MATERIALS**

1. All materials for this project shall be new and shall be in accordance with the latest editions of the Virginia Road and Bridge Standards and Specifications, the Virginia Erosion and Sediment Control Handbook and the JCSA Standards and Specifications for Water and Sewer Systems.
2. The work covered by these specifications consists of the Contractor furnishing all materials, labor and equipment and performing all work in accordance with the approved Plans and Contract Documents.

#### **B. EROSION AND SEDIMENT CONTROL**

1. The Contractor shall observe, perform, install and/or maintain at his expense all applicable measures, to prevent and control erosion and sediment transport within the limits of the Work in accordance with the plans and specifications provided. All erosion and sediment control measures and materials shall be in accordance with the standards and specifications contained within the latest edition of the Virginia Erosion and Sediment Control Handbook.
2. The Contractor shall install the following measures as soon as possible after clearing and grubbing activities commence:
  - a. Silt Fence consisting of a filter fabric stretched across and attached to supporting posts and entrenched.
  - b. Temporary Construction Entrance constructed of VDOT No. 1 (2-3 inch) stone. The stone layer shall be a minimum of six inches in depth, 50 feet in length and must extend the full width of vehicle ingress and egress. The temporary stone entrance shall be maintained by the Contractor until sitework covered by this contract is complete.
  - c. Riprap for outfall protection shall be Type A, Class 1 in accordance with Section 418 of the VDOT Road and Bridge

Specifications. Minimum material depth shall be 18 inches. Extent of riprap is shown on the drawings.

- d. Permanent seeding shall be applied to all disturbed areas, not designated for stone or structures, within 7 days of the completion of each land disturbing activity.

**C. SEEDING**

1. Seeding shall include complete tillage, liming, fertilizing, and seeding of all disturbed areas within the limits of work not occupied by structures or pavement.
2. Fertilizer, lime and seed shall be delivered to the site in the original, unopened containers bearing the manufacturer's guaranteed analysis, name, trade name, trademark, and conformance to state and federal laws.
3. During delivery, seed, fertilizer and lime shall be kept in a dry storage area away from contaminants. Precautions shall be taken to protect containers from rupture prior to use.
4. Topsoil shall be distributed over the dam embankment and other areas to be stabilized. The top 2 inches of soil shall be cleared of all stones over 2 inches in diameter, roots, cables, wires, grade stakes, and any other material which might hinder proper grading, or be harmful to plant growth or a hinderance to mowing operations. All areas shall be left in a drainable condition, free of pockets or depressions and abrupt changes in slope.
5. Seed shall be state-certified seed of the latest season's crop and shall be delivered in original sealed packages bearing the producer's guaranteed analysis for percentages of mixtures, purity, germination, weed-seed content, and inert material. Seed shall be labeled in conformance with U.S. Department of Agriculture rules and regulations under the Federal Seed Act and applicable state seed laws. Seed that has become wet, moldy, or otherwise damaged will not be acceptable. Seed mixtures shall be proportioned by weight as follows:

| <u>Percentage</u> | <u>Description</u> | <u>Purity not less than %</u> | <u>Weed Seed not more than %</u> | <u>Minimum Germination %</u> |
|-------------------|--------------------|-------------------------------|----------------------------------|------------------------------|
| 50                | Tall Fescue        | 97                            | 0.50                             | 90                           |
| 30                | Serica Lespedeza   | 98                            | 0.25                             | 95                           |
| 20                | Annual Rye Grass   | 98                            | 0.25                             | 95                           |

Seed shall be applied at the rate of 2 pounds per 1000 square feet. The seed shall be covered to an average depth of 1/4 inch. Immediately after seeding, the entire area shall be firmed with a roller not exceeding 90 pounds for each foot of roller width. If seed is applied in combination with hydro-mulching, rolling may be eliminated.

6. Fertilizer shall be in granular or pelleted form, commercial grade, dry and free flowing, uniform in composition, and suitable for application by approved equipment. The fertilizer shall contain a minimum percentage

by weight of 10 percent nitrogen (of which 50 percent shall be organic), 10 percent available phosphoric acid, and 10 percent potash.

Fertilizer shall be distributed uniformly at the rate of 25 pounds per 1000 square feet. The entire area over which fertilizer has been distributed shall be harrowed or raked smooth in such a manner that the fertilizer will be worked in and may be incorporated as part of the tillage operations.

7. Lime shall be ground limestone containing not less than 85 percent of total carbonates and shall be ground to such fineness that at least 50 percent will pass a 200-mesh sieve and at least 90 percent will pass a 20-mesh sieve. Lime shall be distributed uniformly at the rate of 65 pounds per 1000 square feet.
8. Mulch shall be straw or wood cellulose fiber. Straw mulch shall be evenly spread to a uniform depth of 1-1/2 inches loose measurement. The mulch shall be anchored by either a mulch tiller, twine, or netting.
9. Watering shall be started immediately after placement of the seed. Water shall be initially applied to the seeded areas at a rate sufficient to ensure thorough wetting of the soil to a depth of at least 4 inches.
10. Reseeding shall be performed by the Contractor in areas where suitable grass is not established. The Contractor shall be responsible for the establishment of a stand of turf over the entire seeded area.

#### **D. SITE CLEARING**

1. The work included erosion control, protection of existing trees to remain, removal of trees and other vegetation, clearing and grubbing, removal of miscellaneous debris, top soil stripping and stockpiling, and all other items required to complete the work.
2. Job Conditions:
  - a. Conduct site clearing operations to insure minimum interference with roads and other adjacent occupied or used facilities.
  - b. Protect improvements on adjoining properties. Restore damaged improvements to their original condition.
  - c. Protect existing trees to remain in place; against unnecessary cutting, breaking or skinning of roots or bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within the drip line. Provide protection for roots over 1-1/2" diameter cut during construction operations. Coat cut faces with an emulsified asphalt, or other acceptable coating, formulated for use on damaged plant tissues. Temporarily cover exposed roots with wet burlap to prevent roots from drying out; cover with earth as soon as possible.
  - d. The Contractor shall provide a complete erosion and sediment

control system as specified in the specifications and as required by the approved plans. Such measures shall be in complete accordance with the Virginia Erosion and Sediment Control Handbook.

**3. Site Clearing:**

- a. Remove trees, shrubs, grass and other vegetation, improvements, or obstructions interfering with installation of the detention basin. Removal includes digging out stumps and roots.
- b. Debris, roots, rocks or anything designated as unwanted by the Owner, 2-inches or more in diameter, shall be removed from the site.

**4. Topsoil:**

- a. Topsoil is defined as friable loam surface soil. Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones, and other objects, and without weeds, roots, and other objectionable material. No rocks, stones, sticks or other non-organic materials larger than 1/2-inch in diameter will be allowed in the topsoil. Soil lumps greater than 2-inches in diameter will not be allowed.
- b. Strip topsoil in a manner to prevent intermingling with underlying subsoil or other objectionable material.
- c. In areas to serve as subgrade for the detention basin embankment, strip all topsoil prior to rough grading or filling.
- d. All stripped topsoil shall be used at the site for final grading or shall be temporarily stockpiled and seeded in the area designated on the approved plan or as directed by the Engineer. Storage piles shall be graded to freely drain surface water. All stockpiles of unused topsoil or unsuitable materials will be removed from the site prior to completion of the project.
- e. Burning is not permitted on the Owner's property.
- f. The Contractor shall remove waste materials and unsuitable soil from the site and dispose of in a legal manner.

**E. EARTHWORK**

- 1. The work includes all excavation, backfilling, and grading required for the installation and construction of the detention basin, and general sitework including pipe and utility trenches, and other items shown on the drawings and specified which require earthwork.
- 2. Submittals and Testing:
  - a. The Contractor's testing laboratory shall submit the following reports to the Owner in duplicate:

-Test reports on granular fill materials for the detention basin embankment and the sanitary sewer encasement.

-Minimum test results for each material provided by the Contractor shall include optimum moisture-maximum density curve, gradation, and soils classification. Soils classification shall be based on Atterberg limits, gradation, specific gravity, and hydrometer analysis as appropriate.

- b. Testing shall conform to the latest editions of the following specifications as appropriate for the material being tested:

ASTM D 423: Liquid Limit of Soils

ASTM D 424: Plastic Limit and Plasticity Index of Soils

ASTM C 136: Sieve Analysis on Fine and Coarse Aggregates

ASTM D 698: Moisture-Density Relations of Soils and Soil-Aggregate Mixtures using 5.5 lb. (2.49kg) Rammer and 12-inch (305mm) Drop.

" " D 1140: Amount of Material in Soils Finer Than the No. 200 (75mm) Sieve.

" " D 1556: Density of Soil in Place by the Sand-Cone Method.

" " D 1557: Moisture Density Relations of Soils and Soil-Aggregate mixtures Using 10 lb. (4.54 kg) rammer and 18 in. (457 mm) Drop.

" " D 2487: Classification of Soils for Engineering Purposes.

" " D 2922: Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

" " D 3017: Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

VDT VTM-1: Laboratory Determination of Theoretical Maximum Density and Optimum Moisture Content of Soils, Granular Subbase, and Base Materials.

3. Satisfactory soil materials for the detention basin impervious core are defined as those complying with ASTM D 2487 soil classification groups CH, or CL and have a permeability (k-value) less than  $10^{-5}$  cm/sec. Satisfactory soil material for the basin's general embankment fill are defined as those complying with ASTM D 2487 soil classification groups SM or SC and contain at least 15% but no more than 49% passing the No. 200 Sieve (silt or clay).
4. Unsatisfactory soil materials are defined as those complying with ASTM

D 2487 soil classification groups GC, GW, GP, GM, SW, SP, ML, MH, OL, OH and PT.

5. Pipe bedding, backfill and compaction shall be in accordance with the JCSA Standards and Specifications for Water and Sewer Systems, the VDOT Road and Bridge Standards and Specifications and the manufacturer's recommendations.
6. The Contractor shall provide fences, bracing, sheeting, shoring, lights, barricades, and warning signs as necessary to protect the property, employees, and the general public, and shall comply with all applicable federal, state, and local regulations.
7. Before the work is started, the contractor shall contact "Miss Utility" and all corporations, companies, individuals, and local authorities owning, maintaining, or regulating conduits, wires, and pipes running to or on the property to make suitable arrangements for verifying the location of such lines

The Contractor shall excavate to determine the exact location of existing utilities. This work shall precede pipe laying and other construction as far as practicable to permit adjustments where required.

8. Should excavations be carried below the groundwater table, an approved dewatering system shall be installed by the Contractor to ensure that no fill, backfill, or concrete is placed in standing water. the contractor may use any feasible dewatering method, so long as it provides working conditions in dry, stable soil. Erosion control standards shall be maintained.
9. During construction, excavation and filling measures shall be arranged to provide proper drainage at all times.
10. Excavation:
  - a. The work shall include excavation of every description and of whatever substances encountered, to the lines and grades indicated or as otherwise specified or directed. Material suitable for backfilling shall be stored in an orderly manner and at a sufficient distance from the banks of the trenches to avoid overloading and to prevent slides or cave-ins. Grading shall be used to prevent surface water from flowing into trenches or other excavations. Water accumulating therein shall be removed by pumping, well pointing, or other approved methods.
  - b. Excavations for the embankment and core trench structures shall be made to the depths indicated and specified. Bottoms of excavations shall be level, clean, and free of loose and unsuitable material, the lower sections true to size. Where concrete slabs are placed on granular fill, all loam, organic material, and other material unsuitable for subgrade shall be removed.
  - c. Trenches shall be excavated in accordance with referenced standards and specifications. Whenever the bottom of the trench

or structures contains soil that, in the opinion of the Engineer, is incapable of properly supporting the pipe or structure, such soil shall be removed to a depth determined by the Engineer and the excavation shall be backfilled to the proper grade with bedding material or drainage fill. For the sanitary sewer encasement, this shall be accomplished according to JCSA Standards and Specifications for Water and Sewer Systems, Standard Detail S-8.0, Sewer Trench Installation, or S-8.1, Unstable Trench Sewer Pipe Foundation as directed by the Engineer.

**11. Filling and Backfilling:**

- a. Embankment and core trench fill shall be placed only on firm subgrades approved by the Engineer. Subgrades shall be scarified a depth of 4 inches prior to fill placement to assure bonding between the two soils. Fill material shall be placed in maximum 6 inch horizontal, loose lifts and mechanically compacted to required density.
- b. Trenches shall be backfilled with suitable materials. The materials shall be deposited in 6-inch horizontal layers and shall be thoroughly and carefully tamped until the pipe has a cover of not less than one foot. Each layer shall be moistened or dried as necessary and compacted as specified hereinafter. Any trenches improperly backfilled or where settlement occurs shall be reopened to the depth required for proper compaction, and shall be filled and compacted, with the surface restored to the required grade.
- c. Surplus excavated suitable material not required for fill and excavated unsuitable fill material shall be disposed of by the Contractor off the site, at no additional expense to the Owner.

**12. Compaction:**

- a. Compaction shall be performed by rolling or tamping with approved compaction equipment. The degree of compaction required is expressed as a percentage of the maximum density obtained by the test procedure in ASTM D 698. Backfill material shall be moistened or aerated to provide a moisture content that falls within + 3 percent to -2 percent of optimum. The minimum compaction effort shall be as follows unless otherwise indicated:

|  | <u>Percent of<br/>Maximum Density</u> |
|--|---------------------------------------|
| Backfill for pipe and utility trenches<br>in grassed areas         | 85                                    |
| Backfill for pipe and utility trenches<br>under the dam embankment | 95                                    |
| General embankment and impervious core<br>fill for detention basin | 95                                    |

**13. Final Control:**

- a. The Contractor's testing laboratory shall perform field testing of all compacted fill and backfill materials and shall provide test reports to the Owner. The extent of testing shall be as required to provide adequate documentation that the materials have been properly installed.
- b. The Owner may make laboratory soil classification, moisture-density tests and field density tests in addition to those required to be performed by the Contractor, to determine compliance with the compaction and material requirements specified. If the tests indicate that fill materials are in non-compliance or the required density has not been obtained, the Contractor shall remove, replace, and recompact the material to the specified density at no additional expense to the Owner, and all further retesting by the Owner shall be at the expense of the Contractor.

14. In addition to requirements previously specified, the Contractor shall at all times keep the site cleaned up as the work progresses. Earth that is spilled or washed onto paved streets shall be broomed from the surfaces daily. Earth that is spilled or washed into drains, pipes, gutters and ditches, or onto adjacent property, shall be removed promptly, and the area shall be restored to its original condition.

**F. CONCRETE WORK**

1. The Contractor shall furnish all labor, materials, tools, equipment and services for all concrete indicated on the approved plan.
2. Concrete shall be in accordance with the applicable Standards and Specifications of the ASTM, American Concrete Institute, the VDOT Road and Bridge Standards and Specifications, The American Welding Society, Inc., the Concrete Plant Manufacturers Bureau, the Concrete Reinforcing Steel Institute, the National Ready Mixed Concrete Associations, and Federal Specification TT-S-227b.
3. Provide shop drawings and/or submittals for reinforcing steel, joint filler, curing agents, admixtures, paved ditches, drainage structures and concrete mix designs. Concrete mix design submittal shall include the following information:
  - a. Sieve analysis and source of fine and coarse aggregates.
  - b. Test for aggregate organic impurities.
  - c. Proportioning of all materials.
  - d. Type of cement with mill certificate for cement.
  - e. Slump.
  - f. Air entrainment and any other proposed admixtures.



12. Expansion and contraction joints shall be provided at locations as required by the referenced specifications.
13. Concrete shall be placed in accordance with ACI 304. Place concrete by methods which prevent aggregate segregation; do not allow concrete to free fall more than 4 feet. Concrete vibration equipment shall be used as needed to insure proper placement and to minimize voids.
14. Curing:
  - a. In cold weather comply with ACI 306R. Do not place concrete on frozen ground or in contact with forms or reinforcing bars coated with frost, ice or snow.
  - b. In hot weather comply with ACI 305R.
  - c. Curing compound to conform to requirements of ASTM C309.
15. Finishes:
  - a. All concrete shall be finished in accordance with Standards referenced in the specifications.

#### **G. CONCRETE PIPE**

1. All materials used for this project shall be new and be in accordance with the latest edition of the Virginia Department of Transportation Road and Bridge Specifications, and ASTM C-76 for Reinforced Concrete Culvert Storm Drain, and Sewer Pipe. All pipe shall conform to Class II requirements of ASTM C-76.
2. All pipe shall be installed in accordance with manufacturer's recommendations.
3. Pipe may be of bell and spigot or tongue-and-groove design. The method of joining pipe sections shall be such that the ends are fully entered and properly aligned, and the inner surfaces are reasonably flush and even. Joints shall be sealed with rubber gaskets or preformed plastic or mastic gaskets in combination with nonshrink hydraulic cement to form a leak resistant joint.

#### **H. POLYETHYLENE PIPE**

1. Both perforated and nonperforated pipe shall be Hancor Black Corrugated Polyethylene Pipe or equal meeting AASHTO M252 or ASTM F667 specifications. Perforated pipe shall be supplied with manufacturer's standard filter fabric wrap.
2. All pipe shall be installed in accordance with manufacturer's recommendations.

#### **I. FILTER FABRIC**

1. Filter fabric for installation around the perimeter of the stone trench shall

be nonwoven, Amoco ProPex 4545 or equal.

2. **Installation shall be in accordance with manufacturer's recommendations.**

**BID FORM**

**TO:** Purchasing Director  
James City County  
101-A Mounts Bay Road  
Williamsburg, VA 23185

**FROM:** \_\_\_\_\_ (Name of Contractor)

\_\_\_\_\_ (Address)

\_\_\_\_\_

**FOR:** James City County Stormwater Detention Basin

James City County

Bid No. 93-B-0017

The undersigned, having visited the sites of the above referenced project, and having familiarized himself with the local conditions affecting the cost of the work and with all requirements of the Contract Documents, and all Addenda to said Documents, hereby proposes to furnish all labor, equipment and materials necessary to perform and complete the following items of work in accordance with the Specifications, Drawings and Contract Documents. All materials and methods for this project shall conform to the Virginia Department of Transportation Road and Bridge Specifications, the Virginia Erosion and Sediment Control Handbook, the James City Service Authority Standards and Specifications for Water and Sewer Systems, and all requirements of the James City County Department of Code Compliance.

**BID SCHEDULE**

| <u>Item</u> | <u>Description</u>                   | <u>Quantity</u> | <u>Unit Price</u> | <u>Total Price</u> |
|-------------|--------------------------------------|-----------------|-------------------|--------------------|
| 1           | Stormwater Detention Basin complete. | LS              | _____             | _____              |

**TOTAL BASE BID:** \$ \_\_\_\_\_

**In Words:** \_\_\_\_\_

\_\_\_\_\_

**CONSENT PRICES:**

The Contractor shall submit prices for addressing earthwork conditions on the site that are found to be different from those anticipated by the plans and specifications. The owner shall approve all such work in advance of the Contractor performing the work.

| <u>Item</u> | <u>Description</u>   | <u>Unit</u> | <u>Unit Price</u> |
|-------------|--|-------------|-------------------|
| 1.          | Credit to James City County for on-site borrow of suitable materials                               | Cubic Yards | _____             |
| 2.          | Undercutting and backfilling of unsuitable materials in excess of quantities described on the plan | Cubic Yards | _____             |

**The Undersigned Agrees:**

- A. To hold bid open until 60 days after opening of bids.
- B. To accept the stipulation of the Specifications regarding disposition of security, time for completion and other provisions.
- C. To enter into and execute a Contract if awarded on the basis of this bid and to furnish Guaranty Bonds and Insurance Documents as required.
- D. To accomplish the work in accordance with the Contract Documents and Specifications.
- E. To complete all work within 60 consecutive calendar days from date of Notice to Proceed.

**The Bidder acknowledges receipt of the following addenda:**

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The undersigned certifies that he (they) are the only person (persons) interested in said bid and that it is made without connection with other persons submitting a bid on the same scope of services; that the bid is fair and made without collusion, fraud or reservation; that no official or employee of James City County or the James City Service Authority is directly or indirectly interested in said bid, or any portion thereof.

State Registration Number:

\_\_\_\_\_

\_\_\_\_\_  
Legal Name of Person, Persons or Corporation

By: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

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

Seal:

**BIDDER IS TO INSERT A LEGIBLE COPY  
OF HIS CONTRACTOR'S LICENSE HERE**

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we \_\_\_\_\_  
\_\_\_\_\_, hereinafter called the Principal, as Principal, and

the \_\_\_\_\_  
of \_\_\_\_\_  
a corporation duly organized under the laws of the State of \_\_\_\_\_ hereinafter called  
the Surety, as Surety, and are held and firmly bound unto \_\_\_\_\_  
\_\_\_\_\_ hereinafter  
called the Oblige, in the sum of \_\_\_\_\_  
\_\_\_\_\_ Dollars (\$ \_\_\_\_\_), for the payment of which sum well and truly to be made, the said  
Principal and the said Surety, bind ourselves, our heirs, executor, administrators, successors and assigns,  
jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for \_\_\_\_\_

THEREFORE, if the Oblige shall accept the bid of the Principal and the Principal shall enter into a  
Contract with Oblige in accordance with the terms of such bid, and give such bond or bonds as may be  
specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance  
of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof  
or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the  
principal shall pay to the Oblige the difference not to exceed the penalty hereof between the amount  
specified in said bid and such larger amount for which the Oblige may in good faith contract with another  
party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to  
remain in full force and effect.

SIGNED AND SEALED this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

In the presence of:

\_\_\_\_\_  
PRINCIPAL

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
TITLE

**IMPORTANT:** Surety Companies executing BONDS must appear on the Treasury Department's most  
current list (Circular 570 as amended) and be authorized to transact business in the State  
where the project is located.

**CONTRACT FORM**  
**CONSTRUCTION CONTRACT**

This AGREEMENT dated this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, by and between JAMES CITY COUNTY;

and \_\_\_\_\_

(a corporation organized and existing under the laws of the State of \_\_\_\_\_;

or a partnership consisting of \_\_\_\_\_;

or an individual trading under the above name), hereinafter called the CONTRACTOR.

WITNESSETH: The Owner and Contractor, for the consideration stated herein, agree as follows:

**Scope of Work:**

The Contractor shall perform all required work and shall provide and furnish all labor, materials, necessary tools, expendable equipment and utility and transportation service required to complete the construction of:

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

\_\_\_\_\_ all in strict accordance with the Plans and Specifications, including any and all Addenda, and in strict compliance with the Contract Documents hereinafter enumerated.

It is understood and agreed that said labor, materials, tools, equipment and service shall be furnished and said work performed and completed under the direction and supervision of the Contractor and subject to the approval of the Owner or its authorized representative.

**Guarantee:**

All materials and equipment, furnished by this Contractor, and all construction involved in this Contract shall be and the same hereby guaranteed by the Contractor free from defects owing to faulty materials or workmanship for a period of one year after date of final payment. All work which proves defective, by reason of faulty material or workmanship within said period of one year, shall be replaced by the Contractor free of cost to the Owner.

**Contract Price:**

The Owner shall pay the Contractor as just compensation for the performance of this Contract, subject to any addition or deductions as provided in the Contract Documents, the unit and lump sum price as contained in the Bid Schedule attached hereto.

**THE BID SCHEDULE OF THE SUCCESSFUL BIDDER  
SHALL BE CONFORMED AND INSERTED HEREIN  
TO BECOME PART OF THE COMPLETED CONTRACT DOCUMENTS**

The Contract Amount is \_\_\_\_\_  
(\$ \_\_\_\_\_) based upon the unit and lump sum prices extended as herein contained.

Payments:

The Owner will pay to the Contractor in the manner and at such times as set forth in the General Conditions such amounts as required by the Contract Documents.

Time:

The undersigned Contractor agrees to commence work within ten (10) calendar days after the date of Notice to Proceed and further agrees to complete the Contract Work within the following specified time limits:

**ALL CONTRACT WORK - 60 CALENDAR DAYS FROM DATE OF NOTICE TO PROCEED**

**THIS AGREEMENT SHALL BE BINDING UPON ALL PARTIES HERETO AND THEIR RESPECTIVE HEIRS, EXECUTORS, ADMINISTRATORS, SUCCESSORS, AND ASSIGNS.**

Component Parts of the Contract:

This Contract consists of the following component parts, all of which are hereby made a part hereof as if herein set out in full:

1. Advertisement for bids
2. Request for Bids
3. Information for Bidders
4. Supplemental Information for Bidders
5. Bid Proposal
6. Bid Bond
7. Construction Contract
8. General Conditions
9. Supplemental General Conditions
10. Payment Bond
11. Performance Bond
12. Certificate of Insurance
13. Contractor's License (if required)
14. Notice of Award
15. Notice to Proceed
16. Corporate Resolution (for corporations only)
17. Change Orders (if any)
18. Other Documents as may be required by law or appended hereto
19. Plans and Drawings were prepared by: \_\_\_\_\_;  
and are Numbered: \_\_\_\_\_ thru \_\_\_\_\_ and dated \_\_\_\_\_, 19\_\_\_\_.
20. Specifications prepared or issued by: \_\_\_\_\_,  
and dated \_\_\_\_\_, 19\_\_\_\_.

**ADDENDA:**

No. \_\_\_\_\_, dated \_\_\_\_\_, 19\_\_\_\_\_

**IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and year first above written in (\_\_\_\_\_) counterparts each of which shall for all purposes be deemed an original.**

**ATTEST:**

\_\_\_\_\_  
NAME

\_\_\_\_\_  
OWNER

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
BY

\_\_\_\_\_  
TITLE

**ATTEST:**

\_\_\_\_\_  
NAME

\_\_\_\_\_  
CONTRACTOR

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
BY

\_\_\_\_\_  
TITLE

**CONTRACTOR'S ADDRESS:**

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

\_\_\_\_\_  
CONTRACTOR'S FEDERAL I.D. NO.

\_\_\_\_\_  
COUNTY ATTORNEY - APPROVAL OF  
CONTRACT AS TO FORM

**RESERVED FOR CERTIFICATE OF INSURANCE  
OR OTHER SATISFACTORY EVIDENCE OF REQUIRED COVERAGE**

**CONTRACT FORM**  
**PERFORMANCE BOND**

**KNOW ALL MEN BY THESE PRESENTS, that**

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

a \_\_\_\_\_, hereinafter called the Principal, and  
(Corporation, Partnership, or Individual)

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called Owner, in the penal sum of \_\_\_\_\_  
\_\_\_\_\_ Dollars, (\$ \_\_\_\_\_), in lawful money of the United States, for the payment  
of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally,  
firmly by the presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a  
certain Contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, a  
copy of which is hereto attached and made a part hereof for the Construction of:

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

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the  
undertakings, covenants, terms, conditions, and agreements of said Contract during the original term  
thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the  
Surety and during the one year guarantee period, and if he shall satisfy all claims and demands incurred  
under such Contract, and shall fully indemnify and save harmless the Owner from all costs and damages  
which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and  
expense which the Owner may incur in making good any default, then this obligation shall be void;  
otherwise to remain in full force and effect.



**CONTRACT FORM**  
**PAYMENT BOND**

**KNOW ALL MEN BY THESE PRESENTS, that**

\_\_\_\_\_ (Name of Contractor)

\_\_\_\_\_ (Address of Contractor)

a \_\_\_\_\_, hereinafter called the Principal, and  
(Corporation, Partnership, or Individual)

\_\_\_\_\_ (Name of Surety)

\_\_\_\_\_ (Address of Surety)

hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_ (Name of Owner)

\_\_\_\_\_ (Address of Owner)

hereinafter called Owner, in the penal sum of \_\_\_\_\_ Dollars, (\$ \_\_\_\_\_), in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by the presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain Contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, a copy of which is hereto attached and made a part hereof for the Construction of:

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

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said Contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety and during the one year guarantee period, and if he shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no charge, extension of time, alteration or addition to the terms of the Contract or to Work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work or the Specifications.

PROVIDED, FURTHER, that no default settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_.

\_\_\_\_\_  
(PRINCIPAL SECRETARY)

\_\_\_\_\_  
PRINCIPAL

\_\_\_\_\_  
SEAL

\_\_\_\_\_  
BY

\_\_\_\_\_  
WITNESS TO PRINCIPAL

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_

ATTEST:

\_\_\_\_\_  
(SURETY) SECRETARY

\_\_\_\_\_  
SECRETARY

\_\_\_\_\_  
SEAL

\_\_\_\_\_  
BY (ATTORNEY-IN-FACT)

\_\_\_\_\_  
WITNESS AS TO SURETY

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_

NOTE: Date of Bond must be prior to date of Contract. If Contractor is Partnership, all partners should execute Bond.

IMPORTANT: Surety Companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

**STATEMENT OF SURETY COMPANY**

IN ACCORDANCE with the provisions of the CONTRACT dated \_\_\_\_\_,

19\_\_ BETWEEN \_\_\_\_\_  
(OWNER)

AND \_\_\_\_\_  
(CONTRACTOR)

THE \_\_\_\_\_  
(SURETY)

SURETY on the Material and Labor Payment Bond of:

\_\_\_\_\_  
(CONTRACTOR)

after a careful examination of the books and records of said CONTRACTOR or after receipt of an affidavit from CONTRACTOR, which examination of affidavit satisfies SURETY that all claims for labor and materials have been satisfactorily settled, hereby approved of the final payment of the said \_\_\_\_\_, CONTRACTOR, and by these presents witnesseth that payment to the CONTRACTOR of the final estimates shall not relieve SURETY of any of its obligations to

\_\_\_\_\_  
(OWNER)

as set forth in the said SURETY COMPANY'S BOND.

IN WITNESS WHEREOF, said SURETY has hereunto set its hand and seal this

\_\_\_\_\_ day of \_\_\_\_\_, 19\_\_.

ATTEST:

(SEAL) \_\_\_\_\_ BY \_\_\_\_\_  
PRESIDENT

NOTE: This statement, if executed by any person other than the President or Vice-President of the Company, must be accompanied by a certificate of even date showing authority conferred upon the person so signing to execute such instruments on behalf of the Company represented.

**NOTICE OF AWARD**

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PROJECT DESCRIPTION: \_\_\_\_\_  
\_\_\_\_\_

The OWNER has considered the BID submitted by you for the above described Work in response to its Advertisement dated \_\_\_\_\_, 19\_\_\_\_, and Information for Bidders.

You are hereby notified that your BID has been accepted for work in the amount of \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and Certificates of Insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_.

\_\_\_\_\_  
OWNER

BY: \_\_\_\_\_  
TITLE: \_\_\_\_\_

**ACCEPTANCE OF NOTICE**

RECEIPT OF THE ABOVE NOTICE OF AWARD IS HEREBY ACKNOWLEDGED:

BY: \_\_\_\_\_  
CONTRACTOR

TITLE: \_\_\_\_\_

THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 19\_\_\_\_\_.

**NOTICE TO PROCEED**

TO: \_\_\_\_\_ DATE: \_\_\_\_\_  
\_\_\_\_\_  
PROJECT: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

You are hereby notified to commence WORK in accordance with the Agreement dated \_\_\_\_\_, 19\_\_\_\_, on or before \_\_\_\_\_, 19\_\_\_\_ and you are to complete the WORK within \_\_\_\_\_ consecutive calendar days thereafter. The date of completion of all WORK is therefore \_\_\_\_\_, 19\_\_.

Liquidated damages in the amount of \$ 150.00 will be assessed by the Owner for failure to substantially complete the work on or before the date of completion stated above or as may be modified by duly executed change orders.

\_\_\_\_\_  
OWNER

\_\_\_\_\_  
BY

\_\_\_\_\_  
TITLE

**ACCEPTANCE OF NOTICE:**

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by:

\_\_\_\_\_  
this the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_

\_\_\_\_\_  
CONTRACTOR

\_\_\_\_\_  
BY

\_\_\_\_\_  
TITLE

**NOTE TO CONTRACTOR:**

Please prepare and submit your progress schedule within 14 days following date of Notice to Proceed and prepare and submit your schedule of values for lump sum contracts at least ten days prior to the date of your first partial payment estimate.

# CONCRETE PIPE & PRODUCTS CO., INC.

*Manufacturers of*

CONCRETE PIPE  
PRE-CAST CONCRETE PRODUCTS  
CORRUGATED METAL PIPE  
PARACRETE MASONRY UNITS



February 18, 1993

Eastern Metal Products & Fabricators, Inc.  
P.O. Box 1449  
Grafton, VA 23692

RE: Mill Creek Detention Basin #1  
James City County, Virginia

Gentlemen:

We are pleased to certify that our reinforced concrete pipe for the above referenced project will meet or exceed the applicable specifications for reinforced concrete pipe, ASTM C507, C76.

In addition our reinforced concrete flared end sections will be produced in accordance with the design requirements of Virginia Department of Transportation Standard ES-1.

Attached is the Specification Sheet from Concrete Sealants, stating that the Con Seal, CS-102 meets Federal Specification SS-S-00210 (210-A) and AASHTO M-198.

Approximate quantities are:

65 LF 42" Reinforced Concrete Pipe, ASTM C-76, Class II,  
Tongue & Groove  
1 EA 42" Reinforced Concrete Flared End Section

Sincerely,  
CONCRETE PIPE AND PRODUCTS CO., INC.

*R. A. Brugh*  
R. A. Brugh  
Sales Manager-Tidewater Region

Subscribed and sworn to before me, Cheryl K. Hartert, Notary Public for the Commonwealth of Virginia this 18th day of February, 1993

*Cheryl K. Hartert*  
Notary Public

My commission expires July 31, 1996.

# CONCRETE SEALANTS



Any Size, Shape, Length, or Material  
to meet specified requirements.

## Butyl Resin **CONSEAL** CS-102 & CS-202

### APPLICATION AND SEALING PROPERTIES

- Provides permanently flexible watertight joints.
- Low to high temperature workability:
  - CS-102 . . . 30°F to 130°F
  - CS-202 . . . 10°F to 130°F
- Rugged service temperature resistance of -30°F to +200°F.
- Excellent chemical and mechanical adhesion to clean and dry surfaces.
- Greater cohesive and adhesive strengths.
- Sealed joints will not shrink, harden or oxidize upon aging.
- Available in numerous standard sizes:
  - Specific area cross sections designed for specific joint requirements.
  - Lengths from 36-inch strips to 21-foot rolls.
  - Custom cut lengths at minimum costs.
  - Lower sealing costs resulting from use of proper sizes.
- Controlled flow resistance for application ease.
- Primer is not usually required, however, if temperature is below 40°F, or installation is in a wet hole, or a dust condition exists, apply Concrete Sealants Primer CS-100 to joint.
- Meets Federal Specification SS-S-00210 (210-A) and AASHTO M-198B.

### For self-sealing joints in:

CONCRETE MANHOLES • CONCRETE PIPES • VAULTS  
UTILITY BOXES • SEWER CONSTRUCTION • SEPTIC TANKS  
BOX CULVERTS • VERTICAL PANEL STRUCTURES

PROVEN SEALANTS FOR THE PRECAST CONCRETE INDUSTRY

# Technical Data

## Flexible Butyl Resin Sealant

### CONCRETE SEALANTS

#### CS-102 & CS-202

#### CHEMICAL COMPOSITION

|   | Spec           | Required | CS-102 | CS-202 |
|---|----------------|----------|--------|--------|
| Hydrocarbon plastic content % by weight | ASTM D4 (mod.) | 50-70    | 50.8   | 51.2   |
| Inert mineral filler % by weight        | SS-S-210A      | 30-50    | 49.2   | 48.8   |
| Volatile Matter % by weight             | ASTM D6        | 3.0 max. | 1.2    | 1.2    |

#### PHYSICAL PROPERTIES

|  |           |           |        |        |
|--|-----------|-----------|--------|--------|
| Specific Gravity, 77°F                 | ASTM D71  | 1.20-1.35 | 1.35   | 1.34   |
| Ductility, 77°F                        | ASTM D113 | 5.0 min.  | 10     | 12     |
| Softening point, ring and ball °F      | ASTM D36  | 320 min.  | 390+   | 335+   |
| Penetration, cone 77°F, 150 gm. 5 sec. | ASTM D217 | 50-120 mm | 105 mm | 114 mm |
| Flash point, C.O.C., °F                | ASTM D92  | 600 min.  | 630°   | 630°   |
| Fire point, C.O.C., °F                 | ASTM D92  | 625 min.  | 630°   | 630°   |

**30-Day Immersion:** No visible deterioration when tested for 30 days in 5% caustic potash, 5% Hydrochloric Acid, 5% Sulphuric Acid, or 5% saturated Hydrogen Sulfide.

*Laboratory-certified test data available upon request*

#### HOW TO SPECIFY

Review the CHEMICAL COMPOSITION and PHYSICAL PROPERTIES listed above and on the front side of this sheet to determine which sealant, CS-102 or CS-202, is more desirable for the project. Note that the installation ambient temperature will be the major deciding factor. Then specify as follows:

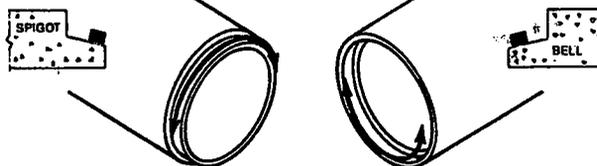
The flexible plastic gasket shall be equal to the flexible butyl resin sealant CONSEAL CS-102 or CS-202 as manufactured by Concrete Sealants, Inc. of New Carlisle, Ohio, and shall conform to Federal Specification SS-S-210A and AASHTO M-198B.

#### INSTALLATION INSTRUCTIONS

Clean surface.



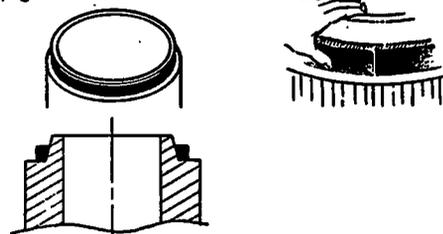
**VERTICAL JOINTS ON ROUND, ELLIPTICAL, OR ARCHED PIPE, OR BOX CULVERTS.**



Apply CONSEAL on upper 180° of spigot and lower 180° of bell. Allow sufficient overlap of CONSEAL to form a joined seal.

**HORIZONTAL JOINTS**

Apply CONSEAL all around spigot. Butt at joint.



#### LIMITED WARRANTY

The following limited warranty applies to our products and is in lieu of all warranties of merchantability, fitness for purpose, or other warranties, express or implied: namely, that the product will be free of defects in workmanship or material, shall expire one year from the date of shipment and our limit of liability shall consist of making available a replacement product. As we have no control of conditions under which this product may be used, or the methods of application thereof, users should test the product for their requirements.

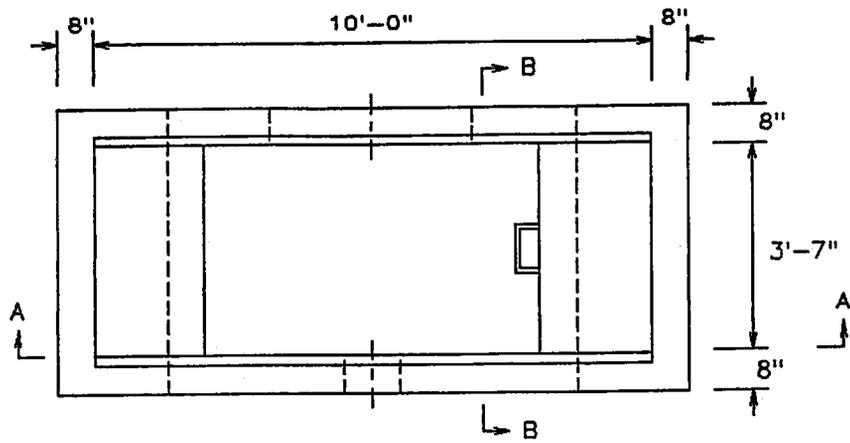


**CONCRETE  
SEALANTS** INC.

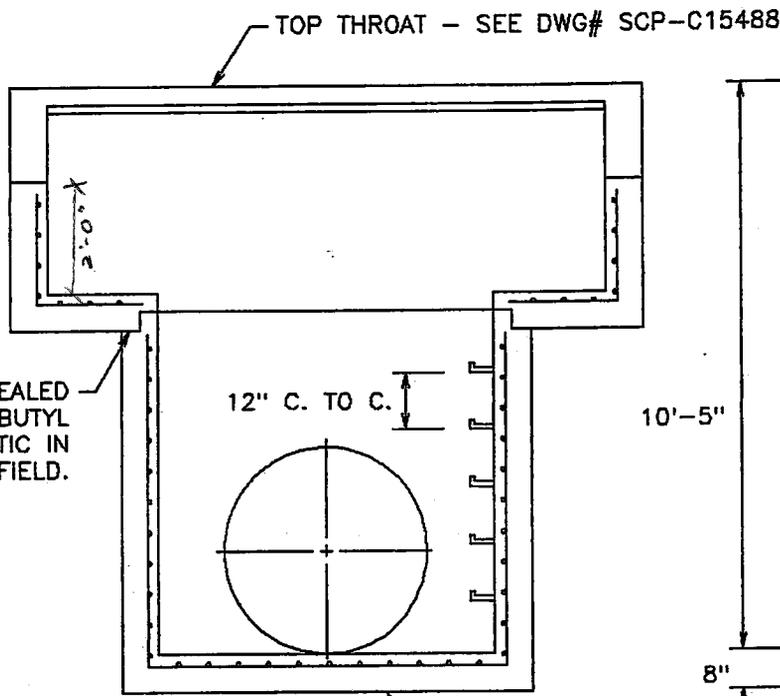
8917 S. Palmer Road  
P.O. Box 176  
New Carlisle, Ohio 45344  
Telephone: (513) 845-8776  
FAX: (513) 845-3587



Printed in USA

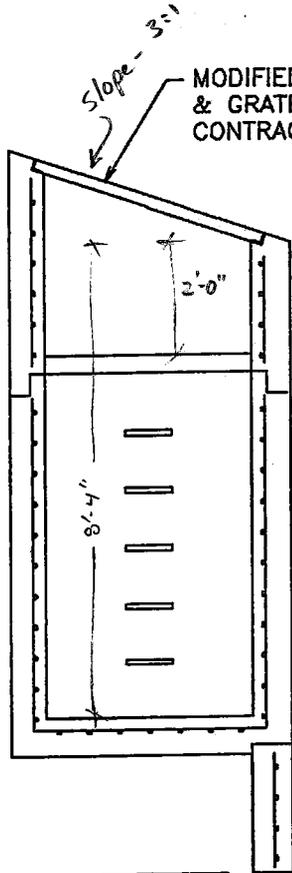


PLAN



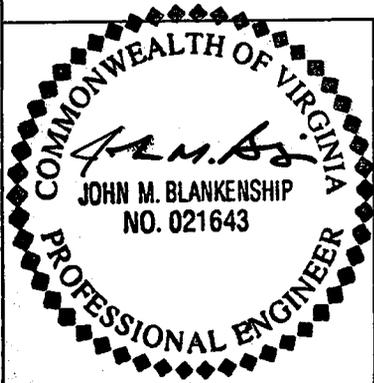
SECTION A-A

BOTTOM BOX  
SEE DWG#  
SCP-C15489



SECTION B-B

- NOTES:  
 1) 4000 PSI CONCRETE.  
 2) GRADE 60 STEEL.

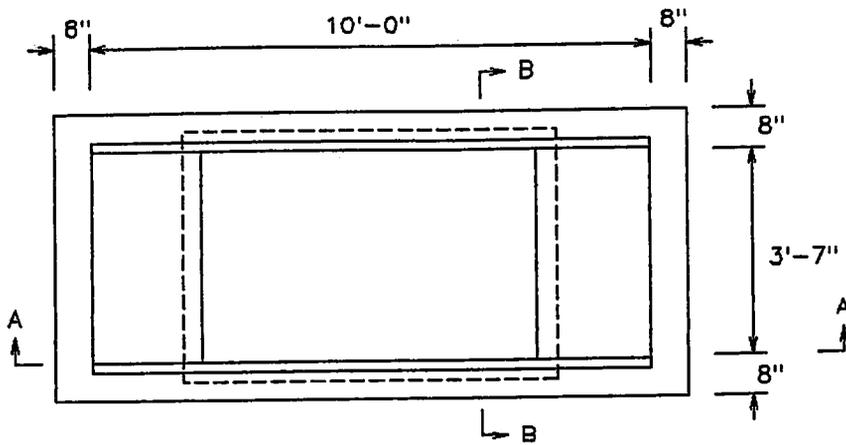


SALEM CONCRETE PRODUCTS CO.

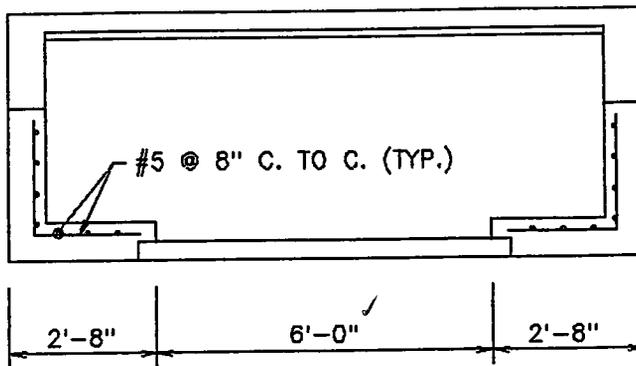
DIVISION OF  
 CONCRETE PIPE & PRODUCTS CO. INC.  
 PHONE: (703) 387-0271  
 FAX: (703) 387-0954  
 2000 INDUSTRIAL DRIVE  
 SALEM, VA. 24153

MODIFIED EW-11  
 SPECIAL DESIGN MONO BOX  
 MILL CREEK  
 DETENTION BASIN #1  
 JAMES CITY CO., VA

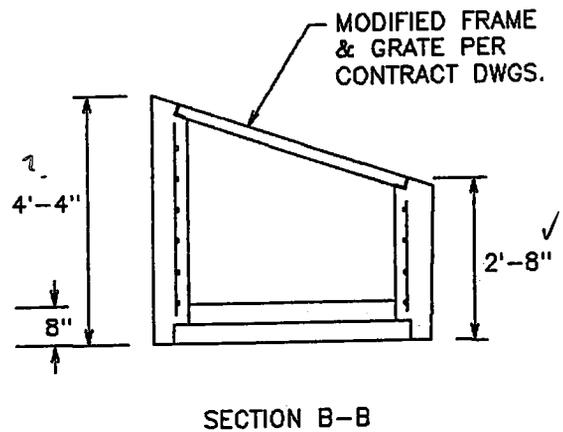
| DATE                | SCALE | BY      |
|---------------------|-------|---------|
| 2/16/93             | NONE  | HJG III |
| DWG. NO: SCP-C15487 |       |         |



PLAN



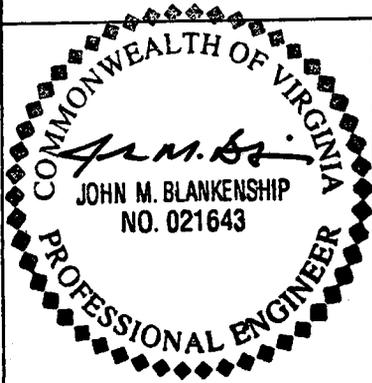
SECTION A-A



SECTION B-B

NOTES:

- 1) 4000 PSI CONCRETE.
- 2) GRADE 60 STEEL.



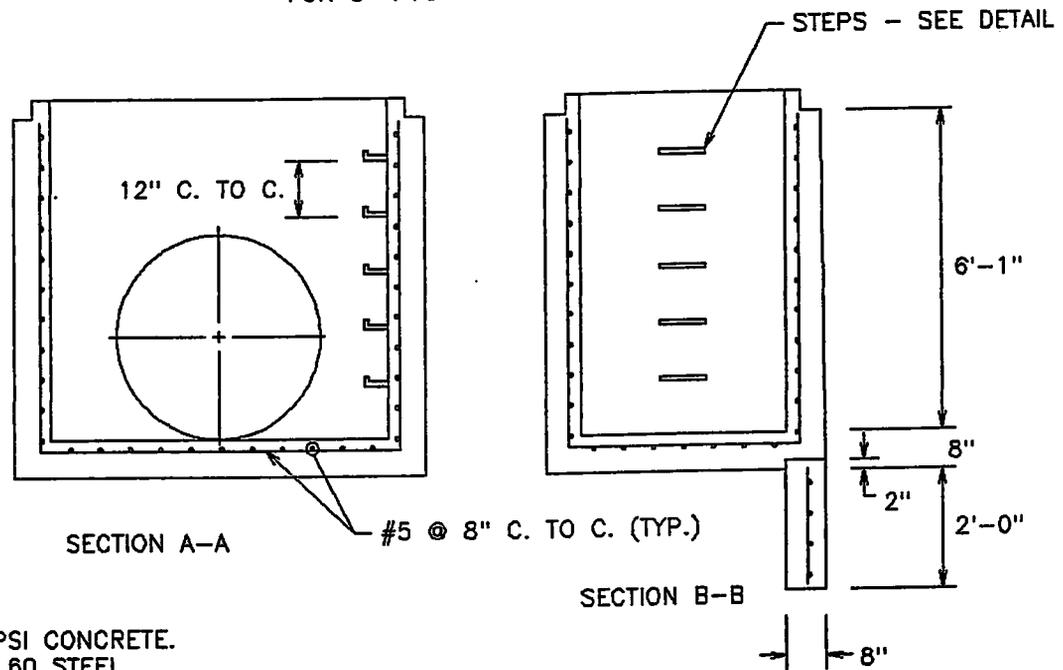
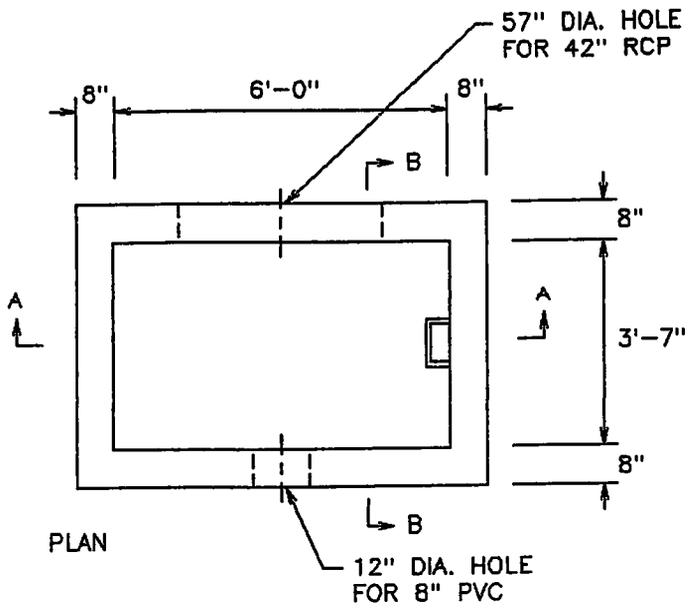
SALEM CONCRETE PRODUCTS CO.



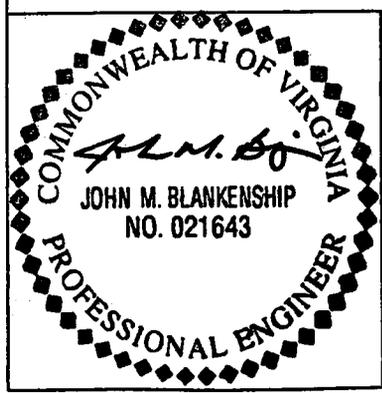
DIVISION OF  
 CONCRETE PIPE & PRODUCTS CO. INC.  
 PHONE: (703) 387-0271  
 FAX: (703) 387-0954  
 2000 INDUSTRIAL DRIVE  
 SALEM, VA. 24153

TOP THROAT DETAIL  
 MODIFIED EW-11  
 SPECIAL DESIGN MONO BOX  
 MILL CREEK  
 DETENTION BASIN #1  
 JAMES CITY CO., VA

| DATE                | SCALE | BY      |
|---------------------|-------|---------|
| 2/16/93             | NONE  | HJG III |
| DWG. NO: SCP-C15488 |       |         |



- NOTES:
- 1) 4000 PSI CONCRETE.
  - 2) GRADE 60 STEEL.
  - 3) CONTRACTOR TO GROUT PIPES INTO OPENINGS IN FIELD.



**SCP** **CRP**

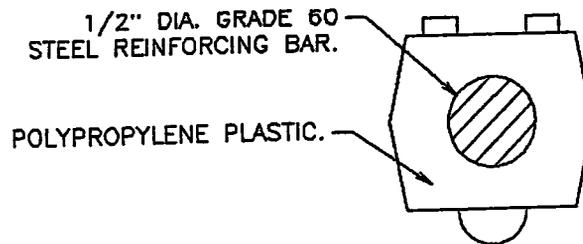
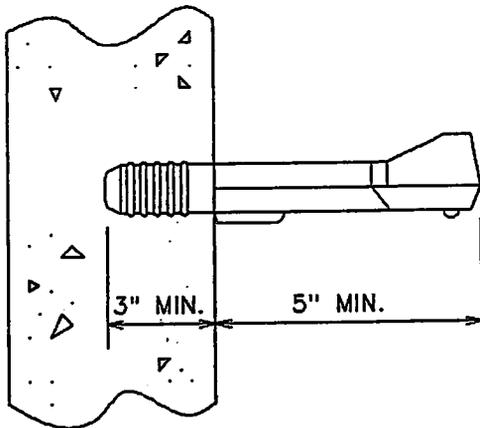
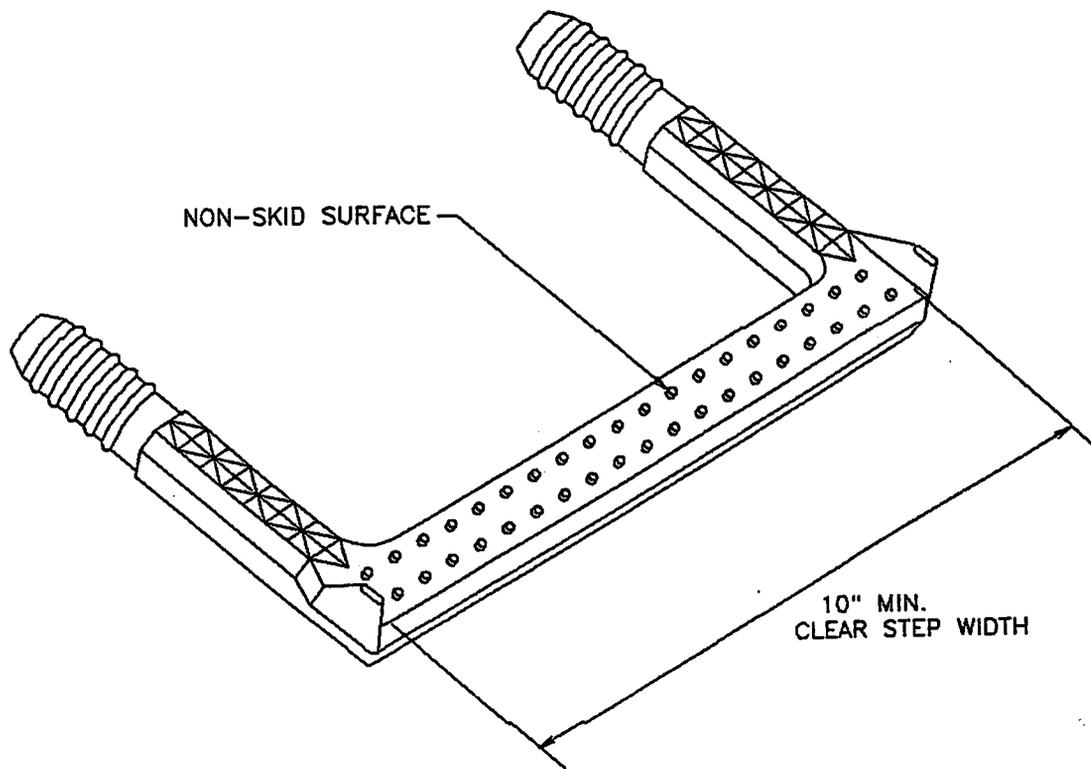
**SALEM CONCRETE PRODUCTS CO.**

DIVISION OF  
CONCRETE PIPE & PRODUCTS CO. INC.  
PHONE: (703) 387-0271  
FAX: (703) 387-0954  
2000 INDUSTRIAL DRIVE  
SALEM, VA. 24153

**BOTTOM BOX  
MODIFIED EW-11  
SPECIAL DESIGN MONO BOX  
MILL CREEK  
DETENTION BASIN #1  
JAMES CITY CO., VA**

| DATE    | SCALE | BY      |
|---------|-------|---------|
| 2/16/93 | NONE  | HJG III |

DWG. NO: SCP-C15489



SECTION

STEP MEETS OR EXCEEDS:

ASTM C478  
 AASHTO M-199  
 OSHA INSTRUCTION STD 1-1.9

This drawing is the property of Salem Concrete Products, Co. and is not to be used for any purpose by the contractor (subcontractor) other than in conjunction with the accompanying submission (proposal) submitted by Salem Concrete Products, Co; a division of Concrete Pipe and Products, Co., Inc.



**SALEM CONCRETE PRODUCTS CO.**



DIVISION OF  
 CONCRETE PIPE & PRODUCTS CO. INC.  
 PHONE: (703) 387-0271  
 FAX: (703) 387-0954  
 2000 INDUSTRIAL DRIVE  
 SALEM, VA. 24153

STANDARD STEP DETAIL

| DATE                | SCALE | BY      |
|---------------------|-------|---------|
| 2/05/93             | NONE  | HJG III |
| DWG. NO: SCP-C14020 |       |         |

# LETTER OF TRANSMITTAL

EASTERN METAL PRODUCTS & FABRICATORS, INC.  
 P.O. Box 1449  
 Grafton, Virginia 23692  
 (804 868-9596)

|  |       |
|--|-------|
| DATE<br>March 3, 1993  | Job # |
| ATTENTION<br>Rose Suterlin   |       |
| RE<br>James City County Sewerwater Detention Basin<br>James City County<br>Bid No. 93-8-0017 |       |

TO Purchasing Director  
 James City County  
 101 A Mounts Bay Road  
 Williamsburg, VA 23185

WE ARE SENDING  ATTACHED  UNDER SEPARATE COVER VIA \_\_\_\_\_:

|                                     |   |   |
|-------------------------------------|---|---|
| <input type="checkbox"/> SAMPLES    | <input type="checkbox"/> SHOP DRAWINGS        | <input type="checkbox"/> CONTRACTS                    |
| <input type="checkbox"/> LITERATURE | <input type="checkbox"/> ENGINEERING DRAWINGS | <input type="checkbox"/> OTHER <u>Submittal No. 1</u> |
| <input type="checkbox"/> PLANS      | <input type="checkbox"/> CHANGE ORDERS        |   |
| <input type="checkbox"/> PRINTS     | <input type="checkbox"/> LETTERS              |   |

| COPIES | DATE   | NO    | DESCRIPTION                                |
|--------|--------|-------|--|
| 2      | 3-3-93 | III G | 42" Reinforced Concrete Pipe               |
|        |        |       | 42" Reinforced Concrete Flared End Section |
|        |        |       |  |
|        |        |       |  |
|        |        |       |  |
|        |        |       |  |

**THESE ARE BEING SENT:**

- |   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> FOR YOUR APPROVAL | <input type="checkbox"/> APPROVED AS NOTED        | <input type="checkbox"/> RESUBMIT _____ COPIES FOR APPROVAL   |
| <input type="checkbox"/> FOR YOUR USE                 | <input type="checkbox"/> APPROVED AS SUBMITTED    | <input type="checkbox"/> SUBMIT _____ COPIES FOR DISTRIBUTION |
| <input type="checkbox"/> FOR YOUR REVIEW              | <input type="checkbox"/> APPROVED AS CHANGED      | <input type="checkbox"/> RENEW _____ COPIES FOR               |
| <input type="checkbox"/> FOR YOUR COMMENTS            | <input type="checkbox"/> REJECTED AS NOTED        | <input type="checkbox"/> _____                                |
| <input type="checkbox"/> FOR YOUR SIGNATURE           | <input type="checkbox"/> REJECTED AS CHANGED      | <input type="checkbox"/> _____                                |
| <input type="checkbox"/> FOR YOUR _____               | <input type="checkbox"/> RETURNED FOR CORRECTIONS | <input type="checkbox"/> _____                                |

NOTES Submittals for pipe and pre-cast riser unit are approved.  
Darryl E Cook 3/22/93

COPY TO

|  |
|--|
|  |
|  |
|  |
|  |

|                                      |                |
|--------------------------------------|----------------|
| SIGNATURE<br><u>Ronald J. Kubesh</u> |                |
| TITLE<br>President                   | DATE<br>3-3-93 |



**DAILY REPORT**

*[Handwritten Signature]*  
 CONSULTANT Kenneth D. Jobe, P.E.

PROJECT NAME: Mill Creek Detention Basin

ATEC JOB NO: 26-02-93-00134

CLIENT'S NAME: James City County D/Dev. Mgmt.

CONTRACTOR: E.M.P. General Contractor Inc.

DATE: 6/10/93

WEATHER: hot/few clouds TEMPERATURE: 95 °F

TIME: 10:15 AM PM

SEQUENTIAL REPORT NO: \_\_\_\_\_

|   |   |
|---|---|
| <p><b>A. DESCRIPTION OF WORK:</b></p> <p>Observe excavation of east shore. Observe key, cut to a green silty fine sand strata. Observed the 12 inch sanitary line. Appeared that clear water was entering the excavation along this sanitary line.</p>  | <p><b>B. LOCATION SKETCH:</b></p> <p>None</p> |
| <p><b>C. TEST/OBSERVATIONS PERFORMED:</b></p> <p>visual</p>   |   |
| <p><b>D. PROBLEMS/NON-COMPLIANCES:</b></p> <p>East shore abutment was site of a former stump dump landfill</p>  |   |
| <p><b>E. WHO INFORMED OF "D" ABOVE:</b></p> <p>Contractor &amp; Darrell Cook /James City County</p>   |   |
| <p><b>F. REMARKS/COMMENTS/RECOMMENDATIONS:</b></p> <p>Contractor was clearing dam site; was beginning to excavate for key and east shore abatement. Noted that the east shore was weak and presented stability problems during initial excavation work. East shore is a stump dump landfill. Organic muck observed in bottom of excavation. Decided to cut east shore per plans and specs and then reevaluate. Discussed copaction of core with sheepsfoot roller, possible need for bridge lift, proper drainage, compaction testing, and possibility of seepage through the east shore. The extent (dimensions) of the stump dump are unknown. Reviewed on site materials to be used in construction of dam. Expect to revisit next week.</p> |   |





**DAILY REPORT**

*K. D. Jobe*  
 TECHNICIAN Kenneth D. Jobe, P.E.

PROJECT NAME: Mill Creek Detention Basin

CLIENT'S NAME: James City County D/Dev. Mgmt.

CONTRACTOR: E.M.P. General Contractor Inc.

WEATHER: hot/few clouds TEMPERATURE: 95 °F

TIME: 10:15 AM PM

ATEC JOB NO: 26-02-93-00134

DATE: 6/10/93

SEQUENTIAL REPORT NO: \_\_\_\_\_

|  |   |
|--|---|
| <p><b>A. DESCRIPTION OF WORK:</b></p> <p>Observe excavation of east shore. Observe key, cut to a green silty fine sand strata. Observed the 12 inch sanitary line. Appeared that clear water was entering the excavation along this sanitary line.</p>   | <p><b>B. LOCATION SKETCH:</b></p> <p style="text-align: center;">None</p> |
| <p><b>C. TEST/OBSERVATIONS PERFORMED:</b></p> <p>visual</p>  |   |
| <p><b>D. PROBLEMS/NON-COMPLIANCES:</b></p> <p>East shore abutment was site of a former stump dump landfill</p>   |   |
| <p><b>E. WHO INFORMED OF "D" ABOVE:</b></p> <p>Contractor &amp; Darrell Cook /James City County</p>  |   |
| <p><b>F. REMARKS/COMMENTS/RECOMMENDATIONS:</b></p> <p>Contractor was clearing dam site; was beginning to excavate for key and east shore abatement. Noted that the east shore was weak and presented stability problems during initial excavation work. East shore is a stump dump landfill. Organic muck observed in bottom of excavation. Decided to cut east shore per plans and specs and then reevaluate. Discussed compaction of core with sheepsfoot roller, possible need for bridge lift, proper drainage, compaction testing, and possibility of seepage through the east shore. The extent (dimensions) of the stump dump are unknown. Reviewed on site materials to be used in construction of dam. Expect to revisit next week.</p> |   |



# A TEC Associates, Inc.



2551 Eltham Avenue, Suite Z  
Norfolk, Virginia 23513-2511  
[804] 857-6765, FAX # [804] 857-6283

## DAILY REPORT

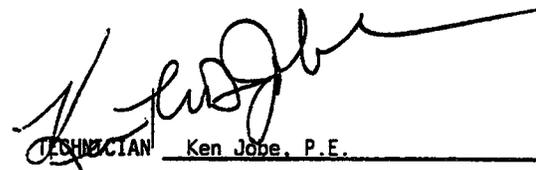
PROJECT NAME: Mill Creek Detention Basin

CLIENT'S NAME: James City County

CONTRACTOR: EMP

WEATHER: Sunny TEMPERATURE: 82 °F

TIME: 1435 AM PM

  
TECHNICIAN Ken Jobe, P.E.

ATEC JOB NO: 26-02-93-00134

DATE: 6/29/93

SEQUENTIAL REPORT NO: \_\_\_\_\_

|   |                            |
|---|----------------------------|
| <p>A. DESCRIPTION OF WORK:</p> <p>Site observations of excavation at approximate center of existing stream bed; observe surface of placed key and core material.</p>  | <p>B. LOCATION SKETCH:</p> |
| <p>C. TEST/OBSERVATIONS PERFORMED:</p> <p>Probes w/rebar visual observations.</p>   |                            |
| <p>D. PROBLEMS/NON-COMPLIANCES:</p>   |                            |
| <p>E. WHO INFORMED OF "D" ABOVE:</p> <p>Darrell Cook</p>  |                            |
| <p>F. REMARKS/COMMENTS/RECOMMENDATIONS:</p> <p>Observed sidehill cut along profile of existing stream bed. Section observed was topsoil with leaf litter; 18-24 inches of dark brown organically stained silty sand, 24-30 inches of a grey-green clay, a 6-8 inch transition zone, and a light gray clayey fine sand. This was in general accordance with the ATEC Sept. 20, 1991 26-13122 report. Observed 1 to 2 feet of water in the stream bed in excavated area. A small temporary dam had been constructed downstream to prevent stream from back flowing into excavation. Some seep water was noted in this area. Contractor had excavated embankment area in this area and had removed trees and stumps from area. In this area surficial soils were very soft, wet and mucky. Water in excavation was causing a deterioration in the grey-clayey fine sand. Recommend steps be taken to maintain positive drainage and remove water from excavation. Probed excavation bottom. Firm strata was located approximately 12 to 18 inches below water level. Surface of grey green clay was soft and wet. Recommend embankment section be placed on firm material previously identified. A small self propelled 2 steel wheeled pad compactor was being used to compact the core. Recommend use a larger sheepsfoot compactor be used to impart a greater compactive effort to the soil. There was an indication that a passing compaction test has yet to occur. This problem may be caused by low compactive being applied to the core. Observed concrete "chunks" in the east shore abutment.</p> <p>ATEC technician scheduled to be on site June 30, 1993 at 1430 to run compaction tests.</p> |                            |

# ATEC Associates, Inc.



2551 Eltham Avenue, Suite Z  
Norfolk, Virginia 23513-2511  
[804] 857-6765, FAX # [804] 857-6283

## DAILY REPORT

*K. Jobe*  
TECHNICIAN Kenneth D. Jobe, P.E.

PROJECT NAME: Mill Creek Detention Basin

CLIENT'S NAME: James City County D/Dev. Mgmt.

CONTRACTOR: E.M.P. General Contractor Inc.

WEATHER: hot/few clouds TEMPERATURE: 95 °F

TIME: 10:15 AM PM

ATEC JOB NO: 26-02-93-00134

DATE: 6/10/93

SEQUENTIAL REPORT NO: \_\_\_\_\_

|  |   |
|--|---|
| <p><b>A. DESCRIPTION OF WORK:</b></p> <p>Observe excavation of east shore. Observe key, cut to a green silty fine sand strata. Observed the 12 inch sanitary line. Appeared that clear water was entering the excavation along this sanitary line.</p>   | <p><b>B. LOCATION SKETCH:</b></p> <p>None</p> |
| <p><b>C. TEST/OBSERVATIONS PERFORMED:</b></p> <p>visual</p>  |   |
| <p><b>D. PROBLEMS/NON-COMPLIANCES:</b></p> <p>East shore abutment was site of a former stump dump landfill</p>   |   |
| <p><b>E. WHO INFORMED OF "D" ABOVE:</b></p> <p>Contractor &amp; Darrell Cook /James City County</p>  |   |
| <p><b>F. REMARKS/COMMENTS/RECOMMENDATIONS:</b></p> <p>Contractor was clearing dam site; was beginning to excavate for key and east shore abatement. Noted that the east shore was weak and presented stability problems during initial excavation work. East shore is a stump dump landfill. Organic muck observed in bottom of excavation. Decided to cut east shore per plans and specs and then reevaluate. Discussed compaction of core with sheepsfoot roller, possible need for bridge lift, proper drainage, compaction testing, and possibility of seepage through the east shore. The extent (dimensions) of the stump dump are unknown. Reviewed on site materials to be used in construction of dam. Expect to revisit next week.</p> |   |





# EMP GENERAL CONTRACTORS

**WedgCor®**  
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RECEIVED  
6-14-93  
RECEIVED

P.O. Box 1449  
Grafton, Virginia 23692  
Phone: (804) 868-9596  
FAX: (804) 877-1333

June 9, 1993

|  |                               |                |
|--|-------------------------------|----------------|
| Post-It™ brand fax transmittal memo 7671 |                               | # of pages ▶ 1 |
| To<br>Darryl E. Cook                     | From<br>Ronald J. Kubesh      |                |
| Co.<br>Development Eng.                  | Co.<br>EMP General Contractor |                |
| Dept.                                    | Phone #<br>804-868-9596       |                |
| Fax #<br>804-253-6663                    | Fax #<br>804-877-1333         |                |

James City County  
Department of Development Management  
P. O. Box JC  
Williamsburg, VA 23187-3627

Reference: Mill Creek Detention Basin

Attention: Darryl E. Cook, Development Engineer

Darryl,

The soil which appears to be waste fill on Terrell property, where key is shown, is very suspect.

Please check into so we do not have failure.

Please advise.

Sincerely,

Ronald J. Kubesh  
President

6/14/93

SOILS ENGINEER FROM ATEC evaluated site on 6/10/93. He will be sending report to follow up but essentially he recommended building core + embankment per plan. If problems developed in future ~~to~~ because of excess seepage, remedial action could be taken at that time.

Darryl E Cook

**NOTICE TO PROCEED**

TO: EMP General Contractors  
P.O. Box 1449  
Grafton, VA 23692

DATE: 05-10-93  
PROJECT: James City County Stormwater  
Detention Basin

You are hereby notified to commence WORK in accordance with the Agreement dated March 2, 1993, 1993, on or before May 17, 1993 and you are to complete the WORK within 60 consecutive calendar days thereafter. The date of completion of all WORK is therefore June 26, 1993.  
*July 16*

Liquidated damages in the amount of \$ 150 will be assessed by the Owner for failure to substantially complete the work on or before the date of completion stated above or as may be modified by duly executed change orders.

James City County  
OWNER  
Danney E Cook BY  
Development Engineer  
TITLE

**ACCEPTANCE OF NOTICE:**

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by:

\_\_\_\_\_  
this the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_  
\_\_\_\_\_  
CONTRACTOR  
\_\_\_\_\_  
BY  
\_\_\_\_\_  
TITLE

**NOTE TO CONTRACTOR:**

Please prepare and submit your progress schedule within 14 days following date of Notice to Proceed and prepare and submit your schedule of values for lump sum contracts at least ten days prior to the date of your first partial payment estimate.

CONTRACT FORM  
CONSTRUCTION CONTRACT  
CONTRACT NUMBER: K93-050

FILE -  
Mill Creek  
DETENTION BASIN

This AGREEMENT, dated this 2nd day of March, 19 93, by and between JAMES CITY COUNTY (a COUNTY organized and existing under the laws of the State of Virginia); and EMP GENERAL CONTRACTORS

(a corporation organized and existing under the laws of the State of Virginia;

or a partnership consisting of \_\_\_\_\_;

or an individual trading under the above name), hereinafter called the CONTRACTOR.

WITNESSETH: The Owner and Contractor, for the consideration stated herein, agree as follows:

Scope of Work:

The Contractor shall perform all required work and shall provide and furnish all labor, materials, necessary tools, expendable equipment and utility and transportation service required to complete the construction of:

STORMWATER DETENTION BASIN

all in strict accordance with the Plans and Specifications, including any and all Addenda, and in strict compliance with the Contract Documents hereinafter enumerated.

It is understood and agreed that said labor, materials, tools, equipment and service shall be furnished and said work performed and completed under the direction and supervision of the Contractor and subject to the approval of the Owner or its authorized representative.

Guarantee:

All materials and equipment, furnished by this Contractor, and all construction involved in this Contract shall be and the same hereby guaranteed by the Contractor free from defects owing to faulty materials or workmanship for a period of one year after date of substantial completion of the work. All work which proves defective, by reason of faulty material or workmanship within said period of one year, shall be replaced by the Contractor free of cost to the Owner.

Contract Price:

The Owner shall pay the Contractor as just compensation for the performance of this Contract, subject to any addition or deductions as provided in the Contract Documents, the unit and lump sum price as contained in the Bid Schedule attached hereto.

BID FORM

TO: Purchasing Director  
James City County  
101-A Mounts Bay Road  
Williamsburg, VA 23185

FROM: Eastern Metal Products & Fabricators, Inc.  
T/A EMP General Contractors (Name of Contractor)  
P O Box 1449 (Address)  
Grafton, VA 23692

FOR: James City County Stormwater Detention Basin  
James City County  
Bid No. 93-B-0017

The undersigned, having visited the sites of the above referenced project, and having familiarized himself with the local conditions affecting the cost of the work and with all requirements of the Contract Documents, and all Addenda to said Documents, hereby proposes to furnish all labor, equipment and materials necessary to perform and complete the following items of work in accordance with the Specifications, Drawings and Contract Documents. All materials and methods for this project shall conform to the Virginia Department of Transportation Road and Bridge Specifications, the Virginia Erosion and Sediment Control Handbook, the James City Service Authority Standards and Specifications for Water and Sewer Systems, and all requirements of the James City County Department of Code Compliance.

BID SCHEDULE

| <u>Item</u> | <u>Description</u>                   | <u>Quantity</u> | <u>Unit Price</u> | <u>Total Price</u>  |
|-------------|--------------------------------------|-----------------|-------------------|---------------------|
| 1           | Stormwater Detention Basin complete. | LS              | _____             | <u>\$116,400.00</u> |

TOTAL BASE BID: \$ 116,400.00  
In Words: ONE HUNDRED SIXTEEN THOUSAND FOUR HUNDRED DOLLARS NO/CENTS

---

CONSENT PRICES:

The Contractor shall submit prices for addressing earthwork conditions on the site that are found to be different from those anticipated by the plans and specifications. The owner shall approve all such work in advance of the Contractor performing the work.

| <u>Item</u> | <u>Description</u>   | <u>Unit</u> | <u>Unit Price</u> |
|-------------|--|-------------|-------------------|
| 1.          | Credit to James City County for on-site borrow of suitable materials                               | Cubic Yards | <u>1.00</u>       |
| 2.          | Undercutting and backfilling of unsuitable materials in excess of quantities described on the plan | Cubic Yards | <u>12.00</u>      |

The Undersigned Agrees:

- A. To hold bid open until 60 days after opening of bids.
- B. To accept the stipulation of the Specifications regarding disposition of security, time for completion and other provisions.
- C. To enter into and execute a Contract if awarded on the basis of this bid and to furnish Guaranty Bonds and Insurance Documents as required.
- D. To accomplish the work in accordance with the Contract Documents and Specifications.
- E. To complete all work within 60 consecutive calendar days from date of Notice to Proceed.

The Bidder acknowledges receipt of the following addenda:

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The undersigned certifies that he (they) are the only person (persons) interested in said bid and that it is made without connection with other persons submitting a bid on the same scope of services; that the bid is fair and made without collusion, fraud or reservation; that no official or employee of James City County or the James City Service Authority is directly or indirectly interested in said bid, or any portion thereof.

State Registration Number:

Class A 013613

Eastern Metal Products & Fabricators, Inc.

T/A EMP General Contractors

Legal Name of Person, Persons or Corporation

By: Ronald J. Kubesh

Title: President

Signature: *Ronald J. Kubesh*

Date: January 13, 1993

Seal:

The Contract Amount is ONE HUNDRED THIRTEEN THOUSAND, TWO HUNDRED DOLLARS\*  
(\$ 113,200.00 ) based upon unit and lump sum prices extended as herein contained.

\*Negotiated Price - Reference Attachment A

Payments:

The Owner will pay to the Contractor in the manner and at such times as set forth in the General Conditions such amounts as required by the Contract Documents.

Time:

The undersigned Contractor agrees to commence work within ten (10) calendar days after the date of Notice to Proceed and further agrees to complete the Contract Work within the following specified time limits:

ALL CONTRACT WORK - 60 CALENDAR DAYS FROM DATE OF NOTICE TO PROCEED

THIS AGREEMENT SHALL BE BINDING UPON ALL PARTIES HERETO AND THEIR RESPECTIVE HEIRS, EXECUTORS, ADMINISTRATORS, SUCCESSORS, AND ASSIGNS.

Component Parts of the Contract:

This Contract consists of the following component parts, all of which are hereby made a part hereof as if herein set out in full:

1. Advertisement for Bids
2. Request for Bids
3. Information for Bidders
4. Supplemental Information for Bidders
5. Bid Proposal
6. Bid Bond
7. Construction Contract
8. General Conditions
9. Supplemental General Conditions
10. Payment Bond
11. Performance Bond
12. Certificate of Insurance
13. Contractor's License (if required)
14. Notice of Award
15. Notice to Proceed
16. Corporate Resolution (for corporations only)
17. Change Orders (if any)
18. Other Documents as may be required by law or appended hereto
19. Plans and Drawings were prepared by: James City County;  
and are Numbered: 1 through 2 and dated May 1, 1991.
20. Specifications prepared or issued by: James City County, and dated December, 1992.

**EMP GENERAL CONTRACTORS****WedgCor®  
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P.O. Box 1449  
Grafton, Virginia 23692  
Phone: (804) 868-9596  
FAX: (804) 877-1333

February 17, 1993

Purchasing Director  
James City County  
101-A Mounts Bay Road  
Williamsburg, VA 23185

Reference: Bid No. 93-B-0017, James City County Sotrmwater Detention Basin

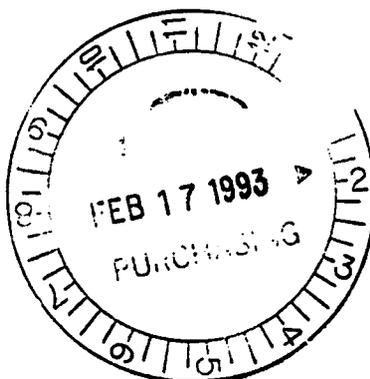
Attention: Rose Southerlin

Please be advised that if we are allowed to install a pre-cast Model EW-11 Drop Inlet as discussed with your development engineer, Mr. Daryl Cook, you may deduct \$3,200.00 from our base bid, making our new base bid \$113,200.00.

Trusting the above is helpful and meets with your approval.

Sincerely,

Ronald J. Kubesh



**ADDENDA:**

No. NONE, dated \_\_\_\_\_, 19\_\_\_\_  
- No. \_\_\_\_\_, dated \_\_\_\_\_, 19\_\_\_\_  
No. \_\_\_\_\_, dated \_\_\_\_\_, 19\_\_\_\_  
No. \_\_\_\_\_, dated \_\_\_\_\_, 19\_\_\_\_  
No. \_\_\_\_\_, dated \_\_\_\_\_, 19\_\_\_\_

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and year first above written in ( 2 ) counterparts each of which shall for all purposes be deemed an original.

**ATTEST:**

Wicki Ann Sprigg  
NAME  
Notary Public  
TITLE

JAMES CITY COUNTY  
OWNER  
[Signature]  
BY  
County Administrator  
TITLE

**ATTEST:**

Elizabeth H. Bennett  
NAME Elizabeth H. Bennett  
Secretary  
TITLE

EMP GENERAL CONTRACTORS  
CONTRACTOR  
Ronald J. Kubesh  
BY  
Ronald J. Kubesh, President  
TITLE

**CONTRACTOR'S ADDRESS:**

P O Box 1449  
Grafton, VA 23692  
804-868-9596 FAX 877-1333  
54 0957818  
CONTRACTOR'S FEDERAL I.D. NO.

[Signature]  
COUNTY ATTORNEY - APPROVAL OF  
CONTRACT AS TO FORM

FILE -  
MILL CR. Det. 13a



DEPARTMENT OF THE ARMY  
NORFOLK DISTRICT, CORPS OF ENGINEERS  
FORT NORFOLK, 803 FRONT STREET  
NORFOLK, VIRGINIA 23510-1096

REPLY TO  
ATTENTION OF:

October 31, 1991

Eastern Virginia Regulatory Section  
91-5260-07 (Mill Creek)

James City County  
Department of Development Management  
c/o Mr. Darryl W. Cook, Development Engineer  
P.O. Box JC  
Williamsburg, Virginia 23187-3627

Dear Mr. Cook:

This letter is in reference to your application for a Department of the Army permit. It has come to our attention that you have a number of applications for stormwater management projects in various watersheds throughout James City County and that at least two of these proposals are on Mill Creek or its tributaries. In order to accomplish a comprehensive review of your intentions, we request that you provide us your complete stormwater management plan for the entire county. In addition, please address the archaeological excavation presently occurring on the site related to application number 91-5260-07.

Please note that you cannot begin work until you have received a permit from this office signed by the District Engineer or his designated representative. Should you have any questions, please call Mr. Greg Culpepper at (804) 441-7655.

Thank you for your cooperation in this matter.

Sincerely,

FOR Nicholas L. Konchuba  
Chief, Eastern Virginia  
Regulatory Section



# EMP GENERAL CONTRACTORS

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P.O. Box 1449  
 Grafton, Virginia 23692  
 Phone: (804) 868-9596  
 FAX: (804) 877-1333

7-1-93

June 30, 1993

|  |                  |                            |
|--|------------------|----------------------------|
| Post-It™ brand fax transmittal memo 7671 |                  | # of pages > 2             |
| To                                       | Darryl E. Cook   |                            |
| From                                     | Ronald J. Kubesh |                            |
| Co.                                      | Development Eng. | Co. EMP General Contractor |
| Dept.                                    | J. C. County     | Phone # 804-868-9596       |
| Fax #                                    | 804-253-6663     | Fax # 804-877-1333         |

James City County  
 Department of Development Management  
 P. O. Box JC  
 Williamsburg, VA 23187-3627

Reference: Mill Creek Detention Basin, Field Meeting

Attention: Darryl E. Cook, Development Engineer

Enclosed is a letter from M. G. Sproston, our sub-contractor, which is self explanatory. EMP concurs with his findings. Bids had to be on given depth and size. To be fair, as you can see, this far exceeds contract requirements. EMP has to be assured they will be paid an equitable adjustment for additional dewatering, excavation, select fill, and removal of additional waste material. Mr. Terrell wants additional monies for additional clay enriched select fill.

Please review, call me and advise.

Sincerely yours,

Ronald J. Kubesh  
 President

Encl.

**Field Meeting Attendees:**

- Darryl Cook, James City County
- Atec Representative
- Thomas J. Kubesh, EMP General Contractors
- Pat Merchino
- Mike Sproston, M.G. Sproston Co., Sub-Contractor
- Fred Butry, M. G. Sproston Co.

6-29-93

To: EMP Contractors  
From: M.G. SPROSTON CONTRACTORS  
Re: Meeting with Atec x Darby Cook  
concerning Depth of excavation for  
shell material.

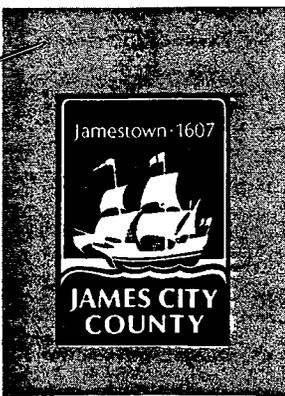
At the request of the Atec Representative, he suggested that the shell be excavated to an elevation of 45.00. At this spots he felt that the ground was firm enough.

IF we follow his advise and continue to excavate at that depth, we will excavate 3-4 time the amount of dirt that was required on the plans.

To date we have excavated an area 40' x 80' x 5' to get to suitable ground. This is 3 Times more than what we should ~~have~~ have excavated. It will cost us more for select fill, it will cost more to dispose of the excavated material and it will take more time to perform this excavation. We have taking nothing on our own accord, except follow the request of the Atec Rep.







**DEPARTMENT OF DEVELOPMENT MANAGEMENT**

P. O. Box 8784

Williamsburg, Virginia 23187-8784

County Government Center, 101-E Mounts Bay Road

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Integrated Pest Management  
253-2620

July 1, 1993

Mr. Ron Kubesh  
EMP General Contractors  
P.O. Box 1449  
Grafton, VA 23692

RE: Mill Creek Detention Basin

Dear Mr. Kubesh:

I am concerned about the quality of work and progress on the above project. The Notice to Proceed was issued to you with a start date of May 17, 1993, and the project has a 60 day completion time. There is only about two weeks remaining on the contract and given the progress to date, it does not appear that the project will be completed on time.

What work has been accomplished gives me concern. I am concerned about:

- a. the variability of the material being used in the dam core,
- b. the failure of compaction tests that have been performed by both our geotechnical consultant as well as yours,
- c. the lack of adequate field supervision,
- d. the lack of any submittals as required to document the compaction level achieved, and
- e. the sequence and method of construction which is leading to increased excavation due to contamination of soils by the heavy machinery and lack of adequate water control.

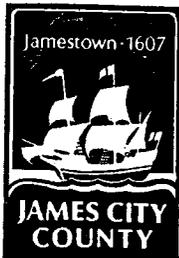
To date, we have not approved any of the dam core or embankment fills. In fact, the fill that has been installed may have to be removed as the soil testing we have done indicates that the fill has not been adequately compacted. I am requesting that a meeting be held onsite as soon as possible to discuss these problems and to decide how to proceed to complete this project.

Mr. Ron Kubesh  
July 1, 1993  
Page 2

Sincerely,

*Darryl E Cook*

Darryl E. Cook  
Development Engineer



**DEPARTMENT OF DEVELOPMENT MANAGEMENT**  
P. O. Box 8784  
Williamsburg, Virginia 23187-8784

County Government Center, 101-E Mounts Bay Road

July 9, 1993

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Integrated Pest Management  
253-2620

Mr. Ron Kubesh  
EMP General Contractors  
P.O. Box 1449  
Grafton, VA 23692

RE: Mill Creek Detention Basin

Dear Mr. Kubesh:

A meeting was held onsite on July 2, 1993, to discuss progress and problems on the above referenced project. You, Mr. Ken Kyle, and Mr. Mike Sproston were in attendance representing EMP, and representing James City County were Mr. Pat Menichino and myself.

The main purpose of the meeting was to discuss the concerns raised in letters sent from both parties during the week. The outcome of the meeting was as follows:

- a. ~~No charges were to made by EMP for extra excavation as discussed in your June 30, 1993, letter.~~
- b. McCallum, a geotechnical testing firm, would test and submit compaction test results to the county on a daily basis.
- c. Bridge lifts would not be accepted in the core trench. Of special concern was an area in the core trench that was flooded by breakage of the stream diversion pipe. In this area, a 3 to 4 foot lift was placed.
- d. Bridge lifts may be accepted in the embankment shell area only if adequate compaction could not be obtained in a six-inch lift.
- e. Areas to the south of the sewer line that had failed compaction tests might have to be removed and replaced.

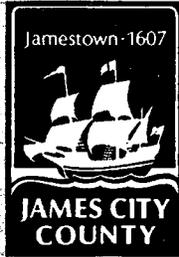
It was also established that weekly meetings with either Ken Kyle or yourself would be held with Pat Menichino for the duration of the project. Finally, you were advised that any fill areas that failed compaction tests would be subject to removal. If you do not agree with this summary, please contact me as soon as possible.

Mr. Kubesh  
July 9, 1993  
Page 2

Sincerely,

*Darryl E Cook*

Darryl E. Cook, P.E.  
Development Engineer



**DEPARTMENT OF DEVELOPMENT MANAGEMENT**

P. O. Box 8784

Williamsburg, Virginia 23187-8784

County Government Center, 101-E Mounts Bay Road

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Integrated Pest Management  
253-2620

July 12, 1993

**Mr. Ron Kubesh**  
**EMP General Contractors**  
P.O. Box 1449  
Grafton, VA 23692

RE: Mill Creek Detention Basin

Dear Mr. Kubesh:

A meeting was held onsite on July 9, 1993, to discuss several items related to the above project. In attendance at the meeting were Ron Kubesh, Tom Kubesh, and Mike Sproston with EMP Contractors, Mark Curry with McCallum Testing Laboratories, Ken Jobe with ATEC Associates, and Pat Menichino and Darryl Cook with James City County.

One of the items discussed was what to do with the area of the core located between the sewer line and the temporary stream diversion that was flooded by a break in the stream diversion pipe and then filled with a 3 to 4 foot lift. Although some compaction tests showed the top three feet of this fill met compaction requirements, the surface was observed to pump when a tandem dump truck was driven over it. This indicates that the material is unstable and must be removed and replaced. You agreed to do this.

The next issue was what to do with the area at the end of the dam nearest Bradshaw Ordinary. This area had been excavated several feet below the existing ground and it needed to be determined how to tie this excavation into the existing cut and fill slopes. It was decided to begin immediately to bench the fill material into the cut area and subsequently, the fill slope in one foot vertical increments so that a staircase would be formed to tie the new fill material into the existing material. This was also agreed to by you. Our geotechnical consultant feels that this additional excavation has essentially changed the design of the dam structure. However, in his opinion, adhering to the steps stated above would minimize any adverse impacts on the performance of the dam. It needs

Fax: (804) 253-6663

Mr. Kubesh  
July 12, 1993  
Page 2

to be pointed out that this additional excavation was not done at the direction of any representative of James City County, and therefore, this work was unauthorized.

Another concern dealt with the fact that the core trench was not being constructed in a continuous lift but rather in sections. It was determined that the areas that were not constructed in a continuous lift would be tied together by benching them together in a similar manner as discussed earlier for the Bradshaw Ordinary end of the embankment so that a stairstep would be formed to lock the two areas together. This would prevent the formation of a slip plane which could be a source of weakness and leakage for the dam. You agreed to do this and took a sketch with you that showed how this was to be accomplished.

Compaction test results were discussed. Several areas of the core in addition to the area discussed previously in this letter have failed the compaction tests. Those areas that have not been adequately compacted must be reworked or replaced until they pass the 95% standard. Both geotechnical engineers stated that the sheepsfoot roller presently in use does not have the proper pads needed to compact the material in the dam. This was discussed and you agreed to bring in the proper roller immediately.

These are the items discussed and the decisions reached as I noted them. If you have any disagreement with what I have stated, please contact me as soon as possible.

Sincerely,



Darryl E. Cook  
Development Engineer

**DAILY REPORT**

*[Handwritten Signature]*

PROJECT NAME: Mill Creek Detention Basin  
 CLIENT'S NAME: James City County  
 CONTRACTOR: EMP  
 WEATHER: hot/sunny/humid TEMPERATURE: 100°F  
 TIME: 1015 AM PN

TECHNICIAN: Ken Jobs, P.E.  
 ATEC JOB NO: 20-02-93-00194  
 DATE: 7/9/93  
 SEQUENTIAL REPORT NO: \_\_\_\_\_

**A. DESCRIPTION OF WORK:**

1. Site observations
2. Review compactive effort on core
3. Evaluate upstream founding conditions
4. Review and evaluate unstable block in key

**C. TEST/OBSERVATIONS PERFORMED:**

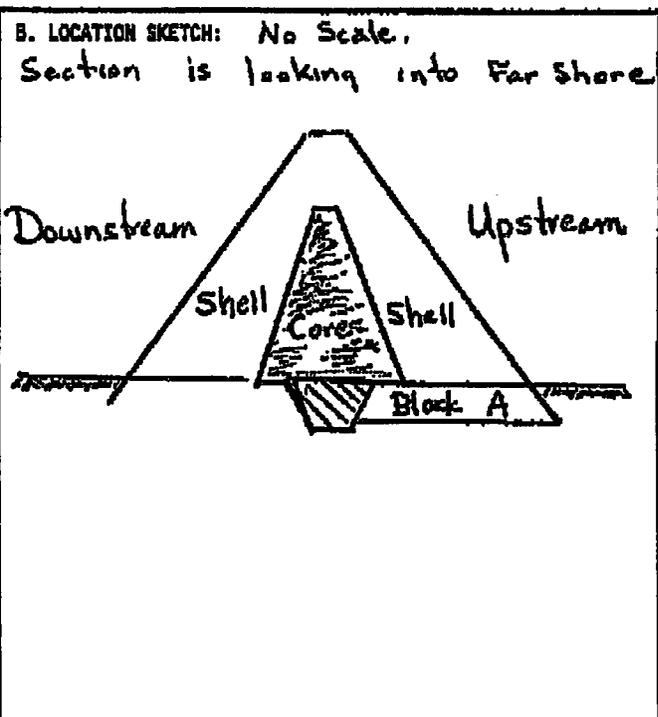
Visual observations.  
 Proofroll the existing surface

**D. PROBLEMS/NON-COMPLIANCES:**

20 ton dump truck, tracked excavator/backhoe, towed dual drum roller, bulldozer

**E. WHO INFORMED OF "D" ABOVE:**

Darrell Cook



**F. REMARKS/COMMENTS/RECOMMENDATIONS:**

At time of visit site had been cleared from key trench area upstream to end of shell area. Key had been placed across the approximate centerline of the dam to within approximately 20 feet of the far shore abutment. Far shore defined as the Bradshaw Drive area. The far shore face revealed uncontrolled fill and tree roots to an approximate depth of 10 feet below Bradshaw Drive elevation. The depth of the key varied with the thickest amount of core material on the near shore side and the thinnest amount on the far shore. Review of compaction tests by McCallum indicated some passing tests and some failing tests at various levels and locations in the key. Recommend reworking the key to obtain specified compaction (95% ASTM D698). A dual drum compactor was being used to compact the key. This compactor had pins rather than feet. Recommend a sheepsfoot roller with feet be obtained and used on site to compact the key. One area of the key, a block of approximately 20 LF x 20 LF x 4 feet in depth, was unstable. In this area water had been allowed to enter and stand. Fill material was placed directly into the standing water. Recommend this block be removed and replaced with properly compacted fill material. The to-be-placed fill material must meet compaction specifications and be stepped into the existing key material. The far shore had been excavated to within approximately 20 feet of the far shore abutment. The excavating face was nearly vertical. The dam section needs to be stepped into the abutment with the riser of each step to be a minimum of 1 foot in height. The surface of the steps needs to be scarified prior to fill being placed on it. Approximately 25 feet east of the far shore abutment a 20 to 30 foot section of the shell foundation had been overexcavated to the approximate level of the key trench bottom. This area noted on the sketch as Block A is to be filled with key material and placed and compacted in accordance with key trench specifications.



# EMP GENERAL CONTRACTORS

## WedgCor® Steel Building Systems

- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL

P.O. Box 1449  
Grafton, Virginia 23692  
Phone: (804) 868-9596  
FAX: (804) 877-1333

JULY 16, 1993

JAMES CITY COUNTY  
DEPARTMENT OF DEVELOPMENT MANAGEMENT  
P.O. BOX J.C.  
WILLIAMSBURG, VA. 23187-3627

REFERENCE: MILL CREEK DETENTION BASIN  
ATTENTION: DARRLY E. COOK, DEVELOPMENT ENGINEER

Per your request we are submitting back-up information for an extension of time for the above referenced contract.

- 1) Sever wet weather for the first twenty (20) plus or minus days of the contract. We were promised durning verbal phone conversations with your office that you work with us uf time became an issue. We were also told that J.C.C. had to award this contract, even though it was durning the wet season. - *8 vein days whole project time*
- 2) Excessive excavation of unsuitable materials at the core and sides of the basin; approx. 1200 c.y. to date. Because of this excessive excavation we have depleted our source of clay enriched material that were present on site. We are now in the process of having materials shiped in and new proctors have been taken. Test results are forth coming. - *Not authorized - some due to improper excavation technique & too much water*
- 3) Because of such unsuitable materials at the bottom of the core especially at the "Yorktown" where water seepage was at it's maximum. We were forced to install a "bridge lift" after numerous attempts to get compaction at six inch and twelve inch lifts. This practice was approved by Mr. Darrly Cook, ATEC and McCallum Testing Lab. - *for embankment mat'l.*

1200  
-1060 (7/14)  
-----  
140

REF: MILL CREEK DETENTION BASIN

- 4) E.M.P. has brought in a sheeps foot roller which more compatible for this type of enriched clay material. We were able to get proper compaction but due to the seepage of water down the concrete sewer encasement and the existing marrow line, water would infeltrate causing the moister percentage to increase therefore decreasing our compaction percentage. We would remove this area and replace it again with new material and compaction would be at 95% or higher, which meets your required specifications. *using wrong type of compactor*
- 5) We are still concerred about tying into the existing materials, which is fill or waste materials, on Mr. Torells property. We have brought this up un prior meetings, but we have still not recieved any written documentation concerning this issue. *- sent on 6/14/93*
- 6) We also request additional time for the sewer encasement change order. With the introduction of rebar to the project, ~~this prolonged the work from a three day project to a ten day project.~~ Also Pat directed one of Mike Spostens field workers to dig out <sup>Foreman sick during this period</sup> the sewer encasement again. This <sup>WZ</sup> ~~have~~ have not charged you any monies for, but we felt this should not have taken place. Proper procedure would have been to direct Mike or Tom Kubesh our field superintendents to accomplish this work not a laborer. *not done in accordance w/ specs*

As of this date we feel an additional forty five (45) day extension of time is warranted and the above provides the documation necessary for you to grant this extension.

We feel the project is moving at a steady pace and with the cooperation between our two offices this job can and will be expedited and completed satisfactorily.

Thank you for your cooperation concering the above.

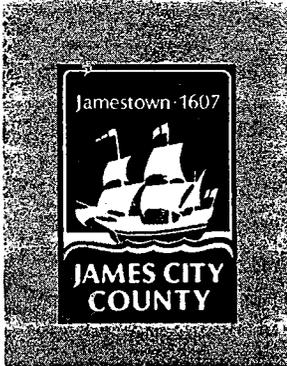
Sincerely your,



Ronald J. Kubesh  
President

*enclosed: compaction TEST RESULTS*

File -



**FINANCIAL AND MANAGEMENT SERVICES**

P.O. Box JC  
Williamsburg, Virginia 23187-3627

COUNTY GOVERNMENT CENTER, 101A MOUNTS BAY ROAD

Financial and Management Services  
(804) 253-6630

Information Resources Management  
253-6667

Publications Management  
253-6661

Records Management  
253-6725

Fleet Maintenance  
229-4988

Graphic Design  
253-6657

Purchasing  
253-6646

Accounting  
253-6636

July 16, 1993

Mr. Ronald J. Kubesh  
EMP General Contractors  
P.O. Box 1449  
Grafton, Virginia 23692

RE: Mill Creek Detention Basin

Dear Mr. Kubesh:

This letter serves as documentation for the meeting held on today, July 16, 1993 at 10:30 a.m. between you, Mr. Ken Kyle with EMP Contractors, Mr. Darryl Cooke, James City County Engineer and myself regarding the above referenced project. The purpose of this meeting was to determine a course of action to complete the project that would be satisfactory to James City County. Mr. Cooke estimates that approximately 70% of the project remains to be done and that the 30% completed to date is either unknown or unacceptable.

You have requested an additional 45 days to complete the Contract due to 20 days plus or minus, of severe wet weather. Our documentation shows only 8 days of rain in measurable quantities since May 17, 1993, the date of the Notice to Proceed. Six of those days were in the first 23 days of the contract period before work had even begun on the dam excavation.

To date, work on the Detention Basin has consisted almost entirely of earthwork; excavation of unsuitable soils and replacement with proper materials. Although the contract specifications, section III.13.b called for compaction test results, they were not presented to the County until the meeting this morning. Results of tests taken by the County's geotechnical consultant showed three out of four tests failing. James City County representatives onsite at the same time as your geotechnical consultant said that his test results also indicated areas of failure to achieve proper compaction.

Corrected  
July 21

EMP Contractors  
7/16/93  
Page Two

Additional excavation performed during the construction of the dam core and embankment has been given as further basis for an extension on the project. We vigorously dispute that EMP or its subcontractor was ever given direction by the County to remove a majority of the material claimed by EMP as unsuitable. According to the specifications, the Engineer with James City County, shall be the person who directs the excavation and filling operation. Mr. Cooke stated that under no circumstances, given tight budget constraints, would he have authorized a major additional excavation without adequate written documentation.

Please refer to SECTION I. INSTRUCTIONS TO BIDDERS C. FAMILIARITY WITH PROPOSED WORK and SECTION II. V. SUBSURFACE CONDITIONS as to allegations of insufficient data or incorrectly assumed conditions, etc.

It is our understanding that test results shall be forthcoming from your geotechnical consultant on Monday, July 19, 1993. In order to resolve or find a workable solution to our concerns we are prepared to extend the Contract by 10 days only at this time. The extension shall be with the stipulation that work to be done during this period would be that work needed to bring the project, especially the dam core, in compliance with the specifications. This would include the identification of those areas that failed compaction tests and were laid on unstable materials. It shall also be understood that the extension in no way relates to the validity of claims submitted for the additional excavation or the concrete sewer encasement.

Once these problems are resolved consideration will be given to finishing the balance of the project.

Sincerely,



Rose M. Sutherlin, CPPB  
Purchasing Director

cc: Darryl Cooke, Project Engineer



# EMP GENERAL CONTRACTORS

## WedgCor® Steel Building Systems

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- AGRICULTURAL

P.O. Box 1449  
Grafton, Virginia 23692  
Phone: (804) 868-9596  
FAX: (804) 877-1333

JULY 14, 1993

JAMES CITY COUNTY  
DEPARTMENT OF DEVELOPMENT MANAGEMENT  
P.O. J.C.  
WILLIAMSBURG, VA. 23187-3627

REFERENCE: MILL CREEK DETENTION BASIN  
ATTENTION: DARRLY E. COOK, DEVELOPMENT ENGINEER

Per your request we are enclosing a quotation for the additional rebar and labor to install the concrete encasement around the existing sewer pipe. We are also enclosing a price for additional material cost for the 10" perforated pipe.

|  |                  |
|--|------------------|
| MATERIALS (REBAR & PERFORATED PIPE)                    | \$ 395.00        |
| LABOR (3 MEN @ \$10.00 PER HOUR FOR 40 HOURS EACH MAN) | <u>\$1200.00</u> |
| SUB TOTAL OF MATERIALS AND LABOR                       | \$1595.00        |
| 15% OVERHEAD (SUB-CONTRACTOR)                          | <u>\$ 239.25</u> |
| SUB-TOTAL  | \$1834.25        |
| 10% PROFIT (SUB-CONTRACTOR)                            | <u>\$ 183.42</u> |
| SUB-CONTRACTORS TOTAL                                  | \$2017.67        |
| 16% OVERHEAD (E.M.P.)                                  | <u>\$ 322.83</u> |
| SUB-TOTAL  | \$2340.50        |
| 10% PROFIT (E.M.P)                                     | <u>\$ 234.05</u> |
| TOTAL  | \$2574.56        |

We request a change order in the amount of \$2,574.56 for cost incurred for the above additional work.

Respectfully yours,

Kenneth M. Kyle  
Vice President



# EMP GENERAL CONTRACTORS

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JULY 14, 1993

JAMES CITY COUNTY  
DEPARTMENT OF DEVELOPMENT MANAGEMENT  
P.O. BOX J.C.  
WILLIAMSBURG, VA. 23187-3627

REFERENCE: MILL CREEK DETENTION BASIN  
ATTENTION: DARRYL E. COOK, DEVELOPMENT ENGINEER

Per field directives by your office, we have removed per our calculations 1060 cubic yards of additional materials. This was removed due to unsuitable base at the location of the core. Below you will find a breakdown showing our cost per cubic yard.

|                                |                  |
|--------------------------------|------------------|
| ADDITIONAL MATERIAL            | \$ 3.50 PER C.Y. |
| LABOR & EQUIPMENT TO REMOVE    | \$ 2.50 PER C.Y. |
| LABOR & EQUIPMENT TO INSTALL   | \$ 3.00 PER C.Y. |
| TESTING                        | \$ 1.50 PER C.Y. |
| SUB-TOTAL                      | \$10.50 PER C.Y. |
| 15% OVER HEAD (SUB-CONTRACTOR) | \$ 1.58 PER C.Y. |
| SUB-TOTAL                      | \$12.08 PER C.Y. |
| 10% PROFIT (SUB-CONTRACTOR)    | \$ 1.20 PER C.Y. |
| TOTAL (SUB-CONTRACTOR)         | \$13.28 PER C.Y. |
| 10% FIELD OVER HEAD (E.M.P.)   | \$ 1.33 PER C.Y. |
| SUBTOTAL (E.M.P.)              | \$14.61 PER C.Y. |
| 6% OFFICE OVERHEAD (E.M.P.)    | \$ 0.87 PER C.Y. |
| SUBTOTAL (E.M.P.)              | \$15.48 PER C.Y. |
| 10% PROFIT (E.M.P.)            | \$ 1.55 PER C.Y. |
| TOTAL PER C.Y.                 | \$17.04 PER C.Y. |

This cost of \$17.04 per c.y. for a total of 1060 c.y. TOTALS \$ 18,062.40 We also request a 45 day extension of time.

If there is anything in the above statements that are unclear or you do not understand please feel free to contact my office.

Respectfully yours,

  
Kenneth M. Kyle, Vice President

# McCALLUM

TESTING LABORATORIES INC.

Subsurface Exploration • Geotechnical Engineering

July 13, 1993

Rec'd 7/16/93

Eastern Metal Products & Fabricators, Inc.  
P. O. Box 1449  
Grafton, VA 23692

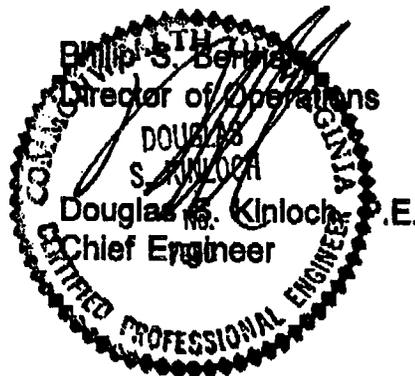
Subject:      Compaction Testing at Dam Core - 7/2/93  
                  James City County Stormwater Detention Basin  
                  James City County, Virginia  
                  MTL Project 93-1142

Gentlemen:

As requested, our field technician, Mark Woyer, was present at the mentioned project site. Due to construction delays, adequate clay fill at dam core was not placed. While on site the contractor rescheduled compaction testing for 7/2/93 a.m.

Very truly yours,

McCALLUM TESTING LABORATORIES, INC.





# McCALLUM

TESTING LABORATORIES INC.

Subsurface Exploration • Geotechnical Engineering

July 13, 1993

Eastern Metal Products & Fabricators, Inc.  
P.O. Box 1449  
Grifton, VA 23692

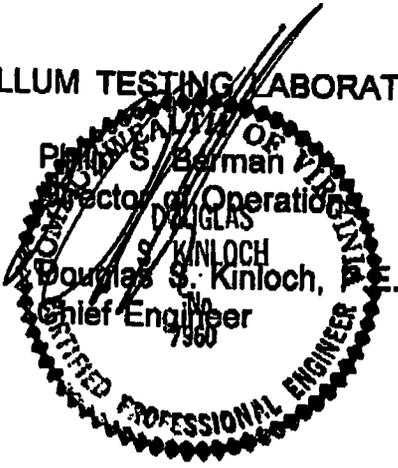
Compaction Testing - 6/29/93  
James City County Stormwater  
Detention Basin  
MTL Project 93-1142

On this date, our technician, Mark Woyer, was on site to perform compaction testing of the clay fill at dam key and test strip area for the above referenced project. All tests were performed according to the procedures outlined by ASTM D 2922.

| TEST NO.  | 1     | 2     | 3     | 4     | 5     | 6     |
|---|-------|-------|-------|-------|-------|-------|
| PROBE DEPTH (IN.)   | 6     | 6     | 6     | 6     | 6     | 6     |
| MEASURED MOISTURE (%)   | 17.8  | 17.2  | 17.1  | 18.0  | 15.9  | 15.5  |
| OPTIMUM MOISTURE (%)  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |
| MEASURED DRY DENSITY (PCF)  | 109.9 | 109.9 | 108.7 | 105.2 | 108.3 | 106.0 |
| MAXIMUM DRY DENSITY (PCF)   | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 |
| MEASURED COMPACTION (%)   | 94.7  | 94.7  | 93.7  | 90.8  | 91.6  | 91.3  |
| MIN. REQUIRED COMPACTION (%)  | 95.0  | 95.0  | 95.0  | 96.0  | 95.0  | 95.0  |
| TEST LOCATIONS  |       |       |       |       |       |       |
| 1 Clay Fill at Dam Key - Third Lift   |       |       |       |       |       |       |
| 2 Clay Fill at Dam Key - Third Lift; after additional 8 sheep foot roller passes  |       |       |       |       |       |       |
| 3 Clay Fill at Dam Key - Third Lift; after additional 16 sheep foot roller passes |       |       |       |       |       |       |
| 4 Clay Fill Test Strip Area - Initial 8 passes                                    |       |       |       |       |       |       |
| 5 Clay Fill Test Strip Area - after additional 16 passes                          |       |       |       |       |       |       |
| 6 Clay Fill Test Strip Area - after additional 24 passes                          |       |       |       |       |       |       |
| * STM D 698   |       |       |       |       |       |       |

| TEST NO.  | 7     | 8     | 9     |  |  |  |
|---|-------|-------|-------|--|--|--|
| PIPE DEPTH (IN.)  | 6     | 6     | 6     |  |  |  |
| MEASURED MOISTURE (%)                                     | 17.8  | 18.2  | 19.8  |  |  |  |
| OPTIMUM MOISTURE (%)                                      | 15.0  | 15.0  | 15.0  |  |  |  |
| MEASURED DRY DENSITY (PCF)                                | 108.5 | 108.3 | 103.6 |  |  |  |
| MAXIMUM DRY DENSITY (PCF)                                 | 116.0 | 116.0 | 116.0 |  |  |  |
| MEASURED COMPACTION (%)                                   | 91.8  | 93.3  | 89.3  |  |  |  |
| MIN. REQUIRED COMPACTION (%)                              | 95.0  | 95.0  | 95.0  |  |  |  |
| <b>TEST LOCATIONS</b>                                     |       |       |       |  |  |  |
| 7. Clay Fill Test Strip Area - after additional 32 passes |       |       |       |  |  |  |
| 8. Clay Fill Test Strip Area - Initial 8 passes           |       |       |       |  |  |  |
| 9. Clay Fill Test Strip Area - after additional 16 passes |       |       |       |  |  |  |
| * ASTM D 698  |       |       |       |  |  |  |

McCALLUM TESTING LABORATORIES, INC.



# McCALLUM

**TESTING LABORATORIES INC.***Subsurface Exploration • Geotechnical Engineering*

Jul / 15, 1993

Eastern Metal Products & Fabricators, Inc.  
 P.O. Box 1449  
 Grifton, VA 23692

Compaction Testing - 7/3/93  
 James City County  
 Stormwater Detention Basin  
 James City Co., VA  
 MTL Project 93-1142

On this date, our technician, Brett Yoho, was on site to perform compaction testing of the 2nd & 3rd lifts of material in the core of the dam for the above referenced project. All tests were performed according to the procedures outlined by ASTM D 2922.

| TEST NO.   | 1     | 2     | 3     | 4     | 5     | 6     |
|--|-------|-------|-------|-------|-------|-------|
| PROBE DEPTH (IN.)  | 10    | 10    | 10    | 10    | 10    | 10    |
| MEASURED MOISTURE (%)  | 14.8  | 16.3  | 16.5  | 15.1  | 16.4  | 14.2  |
| OPTIMUM MOISTURE (%) <sup>a</sup>                                      | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |
| MEASURED DRY DENSITY (PCF)   | 102.7 | 107.9 | 105.9 | 108.4 | 103.3 | 110.8 |
| MAXIMUM DRY DENSITY (PCF) <sup>a</sup>                                 | 118.0 | 118.0 | 118.0 | 118.0 | 118.0 | 118.0 |
| MEASURED COMPACTION (%)  | 86.5  | 93.0  | 91.2  | 93.4  | 89.0  | 95.5  |
| MIN. REQUIRED COMPACTION (%)   | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  |
| <b>TEST LOCATIONS</b>  |       |       |       |       |       |       |
| 1. Core 120' northwest of sewer line elevation 48, 2nd lift            |       |       |       |       |       |       |
| 2. Core 105' northwest of sewer line elevation 48, 2nd lift            |       |       |       |       |       |       |
| 3. Core 95' northwest of sewer line elevation 48, 2nd lift             |       |       |       |       |       |       |
| 4. Core 80' northwest of sewer line elevation 48, 2nd lift             |       |       |       |       |       |       |
| 5. Core 80' northwest of sewer line elevation 48, 2nd lift             |       |       |       |       |       |       |
| 6. Core 80' northwest of sewer line elevation 48, 2nd lift - #4 Retest |       |       |       |       |       |       |
| <sup>a</sup> ASTM D 698  |       |       |       |       |       |       |

| TEST NO.   | 7     | 8     | 9     | 10    | 11    | 12 |
|--|-------|-------|-------|-------|-------|----|
| ROBE DEPTH (IN.)   | 10    | 10    | 10    | 10    | 10    |    |
| MEASURED MOISTURE (%)  | 14.9  | 14.3  | 14.8  | 14.4  | 14.1  |    |
| OPTIMUM MOISTURE (%)*  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |    |
| MEASURED DRY DENSITY (PCF)   | 113.3 | 112.1 | 110.8 | 111.8 | 110.7 |    |
| MAXIMUM DRY DENSITY (PCF)*   | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 |    |
| MEASURED COMPACTION (%)  | 97.8  | 96.6  | 95.3  | 96.3  | 95.4  |    |
| MIN. REQUIRED COMPACTION (%)   | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  |    |
| <b>TEST LOCATIONS</b><br><ul style="list-style-type: none"> <li>. Core 120' northwest of sewer line elevation 49, 3rd lift</li> <li>. Core 105' northwest of sewer line elevation 49, 3rd lift</li> <li>. Core 95' northwest of sewer line elevation 47, 1st lift</li> <li>1. Core 135' northwest of sewer line elevation 47, 1st lift</li> <li>1. Core 105' northwest of sewer line elevation 47, 1st lift</li> <li>1.</li> </ul> |       |       |       |       |       |    |
| * STM D 698  |       |       |       |       |       |    |



# McCALLUM

TESTING LABORATORIES INC.

Subsurface Exploration • Geotechnical Engineering

July 15, 1993

Eastern Metal Products & Fabricators, Inc.  
P.O. Box 1449  
Grafton, VA 23692

Compaction Testing - 7/6/93  
James City County  
Stormwater Detention Basin  
James City Co., VA  
MTL Project 93-1142

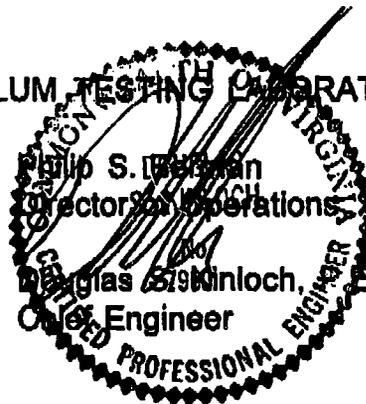
On this date, our technician, Mark Curry, was on site to perform compaction testing of the material used to construct the dam key and embankment for the above referenced project. All tests were performed according to the procedures outlined by ASTM D 1557.

| EST NO.   | 1     | 2     | 3     | 4     | 5     | 6     |
|---|-------|-------|-------|-------|-------|-------|
| ROBE DEPTH (IN.)  | 12    | 12    | 12    | 12    | 12    | 12    |
| MEASURED MOISTURE (%)                                     | 20.3  | 18.3  | 18.1  | 19.7  | 18.0  | 18.9  |
| OPTIMUM MOISTURE (%)                                      | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |
| MEASURED DRY DENSITY (PCF)                                | 101.7 | 108.2 | 108.9 | 108.2 | 112.1 | 113.5 |
| MAXIMUM DRY DENSITY (PCF)                                 | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 |
| MEASURED COMPACTION (%)                                   | 87.7  | 91.5  | 91.9  | 91.6  | 96.6  | 97.8  |
| MIN. REQUIRED COMPACTION (%)                              | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  |
| <b>EST LOCATIONS</b>                                      |       |       |       |       |       |       |
| . Dam key elevation 51' - 150' northwest of sewer         |       |       |       |       |       |       |
| . Dam key elevation 51' - 135' northwest of sewer         |       |       |       |       |       |       |
| . Dam key elevation 51' - 120' northwest of sewer         |       |       |       |       |       |       |
| . Dam key elevation 50' - 85' northwest of sewer          |       |       |       |       |       |       |
| . Embankment 20' northwest of sewer manhole elevation 50' |       |       |       |       |       |       |
| . Dam Key elevation 50' -25' northwest of sewer           |       |       |       |       |       |       |
| ASTM D 698  |       |       |       |       |       |       |

It was decided that the elevation 51' material would be scarified and reworked and would be retested on 7/7/93.

| TEST NO.  | 7     | 8     | 9     | 10    | 11    | 12 |
|---|-------|-------|-------|-------|-------|----|
| ROBE DEPTH (IN)                                   | 12    | 12    | 12    | 12    | 12    |    |
| MEASURED MOISTURE (%)                             | 17.1  | 16.7  | 16.3  | 15.4  | 14.1  |    |
| OPTIMUM MOISTURE (%)                              | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |    |
| MEASURED DRY DENSITY (PCF)                        | 112.5 | 110.6 | 112.0 | 112.5 | 110.8 |    |
| MAXIMUM DRY DENSITY (PCF)                         | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 |    |
| MEASURED COMPACTION (%)                           | 97.0  | 95.3  | 96.5  | 96.9  | 95.5  |    |
| MIN. REQUIRED COMPACTION (%)                      | 95.0  | 96.0  | 95.0  | 95.0  | 95.0  |    |
| <b>TEST LOCATIONS</b>                             |       |       |       |       |       |    |
| 1. Dam key elevation 50' - 10' southeast of sewer |       |       |       |       |       |    |
| 1. Dam key elevation 48' - 25' northwest of sewer |       |       |       |       |       |    |
| 1. Dam key elevation 49' - 25' northwest of sewer |       |       |       |       |       |    |
| 2. Dam key elevation 49' - 10' southeast of sewer |       |       |       |       |       |    |
| 1. Dam key elevation 48' - 10' southeast of sewer |       |       |       |       |       |    |
| 2.  |       |       |       |       |       |    |
| ASTM D 698  |       |       |       |       |       |    |

McCALLUM TESTING LABORATORIES, INC.



# McCALLUM

TESTING LABORATORIES INC.

Subsurface Exploration • Geotechnical Engineering

July 15, 1993

Eastern Metal Products & Fabricators, Inc.  
P.O. Box 1449  
Grafton, VA 23692

Compaction Testing - 7/7/93  
James City County  
Stormwater Detention Basin  
James City Co., VA  
MTL Project 93-1142

On this date, our technician, Brett Yoho, was on site to perform compaction testing of the 3rd and 4th lifts of material in the core of the dam for the above referenced project. All tests were performed according to the procedures outlined by ASTM D 2922.

| TEST NO.                     | 1   | 2     | 3     | 4     | 5     | 6     |
|------------------------------|---|-------|-------|-------|-------|-------|
| PROBE DEPTH (IN.)            | 12  | 12    | 12    | 12    | 12    | 12    |
| MEASURED MOISTURE (%)        | 14.4  | 16.4  | 18.2  | 16.7  | 18.0  | 21.5  |
| OPTIMUM MOISTURE (%)         | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |
| MEASURED DRY DENSITY (PCF)   | 110.6   | 110.2 | 101.3 | 113.3 | 110.2 | 107.4 |
| MAXIMUM DRY DENSITY (PCF)    | 116.0   | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 |
| MEASURED COMPACTION (%)      | 95.3  | 95.0  | 87.3  | 97.7  | 95.0  | 92.6  |
| MIN. REQUIRED COMPACTION (%) | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  |
| TEST LOCATIONS               |   |       |       |       |       |       |
| 1                            | Core 150' northwest of sewer line, elevation 50, 4th lift |       |       |       |       |       |
| 2                            | Core 135' northwest of sewer line, elevation 50, 4th lift |       |       |       |       |       |
| 3                            | Core 120' northwest of sewer line, elevation 50, 4th lift |       |       |       |       |       |
| 4                            | Core 118' northwest of sewer line, elevation 50, 4th lift |       |       |       |       |       |
| 5                            | Core 150' northwest of sewer line, elevation 49, 3rd lift |       |       |       |       |       |
| 6                            | Core 135' northwest of sewer line, elevation 49, 3rd lift |       |       |       |       |       |
| * ASTM D 698                 |   |       |       |       |       |       |

308 HAWARD AVENUE

P.O. BOX 13337

CHESAPEAKE, VIRGINIA 23325-0337

TELEPHONE (804) 420-2520 • FAX (804) 424-2874

|  |       |  |  |  |  |  |
|--|-------|--|--|--|--|--|
| TEST NO  | 7     |  |  |  |  |  |
| PI OBE DEPTH (IN.)   | 12    |  |  |  |  |  |
| M ASURED MOISTURE (%)  | 17.6  |  |  |  |  |  |
| O TIMUM MOISTURE (%)   | 15.0  |  |  |  |  |  |
| M ASURED DRY DENSITY (PCF)                                   | 108.4 |  |  |  |  |  |
| M XIMUM DRY DENSITY (PCF)                                    | 116.0 |  |  |  |  |  |
| M ASURED COMPACTION (%)                                      | 93.4  |  |  |  |  |  |
| M I. REQUIRED COMPACTION (%)                                 | 95.0  |  |  |  |  |  |
| TEST LOCATIONS   |       |  |  |  |  |  |
| 7. Core 120' northwest of sewer line, Elevation 49, 3rd Lift |       |  |  |  |  |  |
| * STM D 698  |       |  |  |  |  |  |

McCALLUM TESTING LABORATORIES, INC.



# McCALLUM

TESTING LABORATORIES INC.

Subsurface Exploration • Geotechnical Engineering

July 15, 1993

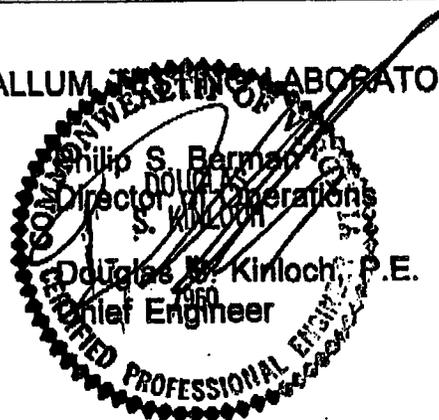
L. R. Kern Metal Products & Fabricators, Inc.  
 P.O. Box 1449  
 Gloucester, VA 23092

Compaction Testing - 7/7/93  
 James City County  
 Stormwater Detention Basin  
 James City Co., VA  
 MTL Project 93-1142

On this date, our technician, Mark Curry, was on site to perform compaction testing of the material used to construct the dam key for the above referenced project. All tests were performed according to the procedures outlined by ASTM D 2922.

| TEST NO.                     | 1  | 2     | 3     | 4 | 5 | 6 |
|------------------------------|--|-------|-------|---|---|---|
| PROBE DEPTH (IN)             | 12   | 12    | 12    |   |   |   |
| MEASURED MOISTURE (%)        | 18.8   | 20.7  | 20.8  |   |   |   |
| OPTIMUM MOISTURE (%)         | 15.0   | 15.0  | 15.0  |   |   |   |
| MEASURED DRY DENSITY (PCF)   | 106.0  | 101.5 | 102.7 |   |   |   |
| MAXIMUM DRY DENSITY (PCF)    | 116.0  | 116.0 | 116.0 |   |   |   |
| MEASURED COMPACTION (%)      | 90.6   | 87.5  | 88.5  |   |   |   |
| MIN. REQUIRED COMPACTION (%) | 95.0   | 95.0  | 95.0  |   |   |   |
| TEST LOCATIONS               |  |       |       |   |   |   |
| 1                            | Dam key elevation 51' - 150' northwest of sewer retest of 7-8-93 |       |       |   |   |   |
| 2                            | Dam key elevation 51' - 135' northwest of sewer retest of 7-8-93 |       |       |   |   |   |
| 3                            | Dam key elevation 51' - 120' northwest of sewer retest of 7-8-93 |       |       |   |   |   |
| 4                            |  |       |       |   |   |   |
| 5                            |  |       |       |   |   |   |
| 6                            |  |       |       |   |   |   |
| BY ASTM D 698                |  |       |       |   |   |   |

McCALLUM TESTING LABORATORIES, INC.



1808 HAY VARD AVENUE

P.O. BOX 13337

CHESAPEAKE, VIRGINIA 23325-0337

TELEPHONE (804) 420-2520 • FAX (804) 424-2874

# McCALLUM

TESTING LABORATORIES INC.

Subsurface Exploration • Geotechnical Engineering

July 15, 1993

Eastern Metal Products & Fabricators, Inc.  
P.O. Box 1449  
Grifton, VA 23692

Compaction Testing - 7/8/93  
James City County  
Stormwater Detention Basin  
James City Co., VA  
MTL Project 93-1142

On this date, our technician, Mark Curry, was on site to perform compaction testing of the material used to construct the dam embankment for the above referenced project. All tests were performed according to the procedures outlined by ASTM D 2922.

| TEST NO.                     | 1   | 2 | 3 | 4 | 5 | 6 |
|------------------------------|---|---|---|---|---|---|
| PROBE DEPTH (IN.)            | 12  |   |   |   |   |   |
| MEASURED MOISTURE (%)        | 11.3  |   |   |   |   |   |
| OPTIMUM MOISTURE (%)         | 15.0  |   |   |   |   |   |
| MEASURED DRY DENSITY (PCF)   | 107.6   |   |   |   |   |   |
| MAXIMUM DRY DENSITY (PCF)    | 116.0   |   |   |   |   |   |
| MEASURED COMPACTION (%)      | 92.8  |   |   |   |   |   |
| MIN. REQUIRED COMPACTION (%) | 95.0  |   |   |   |   |   |
| TEST LOCATIONS               |   |   |   |   |   |   |
| 1                            | Dam embankment elevation 49' - 90' northwest of sewer manhole |   |   |   |   |   |
| 2                            |   |   |   |   |   |   |
| 3                            |   |   |   |   |   |   |
| 4                            |   |   |   |   |   |   |
| 5                            |   |   |   |   |   |   |
| 6                            |   |   |   |   |   |   |
| * ASTM D 698                 |   |   |   |   |   |   |

McCALLUM TESTING LABORATORIES, INC.

Philip S. Berman  
Director of Operations  
S. KINLOCH  
Douglas S. Kinloch, P.E.  
Chief Engineer



1808 HAYWARD AVENUE

P.O. BOX 13337

CHESAPEAKE, VIRGINIA 23325-0337

TELEPHONE (804) 420-2520 • FAX (804) 424-2874

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Subsurface Exploration • Geotechnical Engineering

July 15, 1993

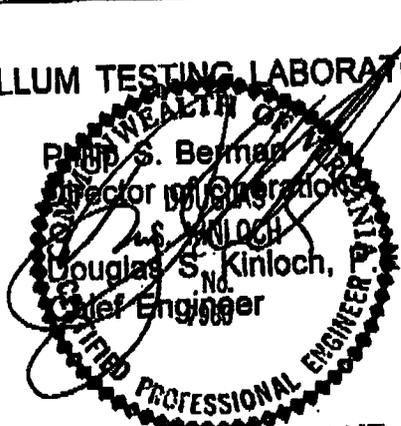
Eastern Metal Products & Fabricators, Inc.  
P.O. Box 1449  
Grafton, VA 23692

Compaction Testing - 7/9/93  
James City County  
Stormwater Detention Basin  
James City Co., VA  
MTL Project 93-1142

On this date, our technician, Mark Curry, was on site to perform compaction testing of the material used to construct the dam embankment for the above referenced project. All tests were performed according to the procedures outlined by ASTM D 2922.

| TEST NO.   | 1     | 2     | 3     | 4     | 5     | 6 |
|--|-------|-------|-------|-------|-------|---|
| PROBE DEPTH (IN.)  | 12    | 12    | 12    | 12    | 12    |   |
| MEASURED MOISTURE (%)  | 15.9  | 15.2  | 16.5  | 14.0  | 13.7  |   |
| OPTIMUM MOISTURE (%)   | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |   |
| MEASURED DRY DENSITY (PCF)   | 111.8 | 112.8 | 112.1 | 110.5 | 113.1 |   |
| MAXIMUM DRY DENSITY (PCF)  | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 |   |
| MEASURED COMPACTION (%)  | 96.2  | 97.2  | 96.6  | 95.3  | 97.4  |   |
| MIN. REQUIRED COMPACTION (%)   | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  |   |
| TEST LOCATIONS   |       |       |       |       |       |   |
| 1 Dam embankment elevation 49' - 90' northwest of sewer manhole - Retest of Test #1 - 7/8/93 |       |       |       |       |       |   |
| 2 Dam embankment elevation 49' - 100' northwest of sewer manhole                             |       |       |       |       |       |   |
| 3 Dam embankment elevation 49' - 80' northwest of sewer manhole                              |       |       |       |       |       |   |
| 4 Dam embankment elevation 50' - 120' northwest of sewer manhole                             |       |       |       |       |       |   |
| 5 Dam embankment elevation 50' - 100' northwest of sewer manhole                             |       |       |       |       |       |   |
| 6  |       |       |       |       |       |   |
| 7  |       |       |       |       |       |   |
| ASTM D 698   |       |       |       |       |       |   |

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P.O. BOX 13337

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**TESTING LABORATORIES INC.**  
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Eastern Metal Products & Fabricators, Inc.  
 P. O. Box 1449  
 Grafton, VA 23692

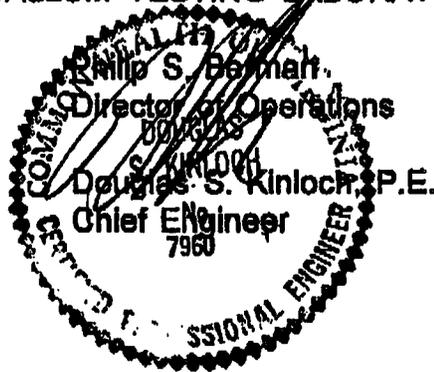
Compaction Testing - 7/10/93  
 James City County  
 Stormwater Detention Basin  
 James City Co., VA  
 MTL Project 93-1142

On this date, our technician, Brett Yoho, was on site to perform compaction testing of the embankment on the right side of the dam for the above referenced project. All tests were performed according to the procedures outlined by ASTM D 2922.

| EST NO.  | 1     | 2     | 3     | 4     | 5     | 6     |
|--|-------|-------|-------|-------|-------|-------|
| ROBE DEPTH (IN.)   | 12    | 12    | 12    | 12    | 12    | 12    |
| MEASURED MOISTURE (%)  | 16.1  | 14.6  | 15.4  | 14.1  | 13.8  | 13.8  |
| OPTIMUM MOISTURE (%)   | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |
| MEASURED DRY DENSITY (PCF)   | 108.8 | 111.7 | 110.7 | 116.2 | 112.7 | 111.7 |
| MAXIMUM DRY DENSITY (PCF)  | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 |
| MEASURED COMPACTION (%)  | 93.8  | 96.2  | 95.4  | 100.1 | 97.1  | 96.2  |
| MIN. REQUIRED COMPACTION (%)   | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  |
| <b>EST LOCATIONS</b>   |       |       |       |       |       |       |
| . Embankment right side 120' northwest of sewer line elevation 52            |       |       |       |       |       |       |
| . Embankment right side 120' northwest of sewer line elevation 52, Retest #1 |       |       |       |       |       |       |
| . Embankment right side 120' northwest of sewer line elevation 52, Retest #1 |       |       |       |       |       |       |
| . Embankment right side 90' northwest of sewer line elevation 52             |       |       |       |       |       |       |
| . Embankment right side 35' northwest of sewer line elevation 52             |       |       |       |       |       |       |
| . Embankment right side 15' northwest of sewer line elevation 52             |       |       |       |       |       |       |
| ASTM D 698   |       |       |       |       |       |       |

| EST. NO.   | 7     | 8     | 9     | 10 | 11 | 12 |
|--|-------|-------|-------|----|----|----|
| ROBE DEPTH (IN.)   | 12    | 12    | 12    |    |    |    |
| MEASURED MOISTURE (%)  | 15.8  | 15.7  | 14.8  |    |    |    |
| OPTIMUM MOISTURE (%)   | 15.0  | 15.0  | 15.0  |    |    |    |
| MEASURED DRY DENSITY (PCF)   | 111.3 | 112.1 | 114.8 |    |    |    |
| MAXIMUM DRY DENSITY (PCF)  | 116.0 | 116.0 | 116.0 |    |    |    |
| MEASURED COMPACTION (%)  | 95.9  | 96.6  | 98.8  |    |    |    |
| MIN. REQUIRED COMPACTION (%)   | 95.0  | 95.0  | 95.0  |    |    |    |
| <b>EST LOCATIONS</b>   |       |       |       |    |    |    |
| 7. Embankment right side 140' northwest of the sewer line elevation 53 |       |       |       |    |    |    |
| 3. Embankment right side 55' northwest of the sewer line elevation 53  |       |       |       |    |    |    |
| 2. Embankment right side 30' northwest of the sewer line elevation 53  |       |       |       |    |    |    |
| 0.   |       |       |       |    |    |    |
| 1.   |       |       |       |    |    |    |
| 2.   |       |       |       |    |    |    |
| ASTM D 698   |       |       |       |    |    |    |

McCALLUM TESTING LABORATORIES, INC.



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TESTING LABORATORIES INC.

Subsurface Exploration • Geotechnical Engineering

Jul 15, 1993

Eastern Metal Products & Fabricators, Inc.  
 P.O. Box 1449  
 Griffon, VA 23692

Compaction Testing - 7/12/93  
 James City County  
 Stormwater Detention Basin  
 James City Co., VA  
 MTL Project 93-1142

On this date, our technician, Brett Yoho, was on site to perform compaction testing of the materials placed in several areas of the dam embankment for the above referenced project. All tests were performed according to the procedures outlined by ASTM D 2922.

| TEST NO.   | 1     | 2     | 3     | 4     | 5     | 6     |
|--|-------|-------|-------|-------|-------|-------|
| PROBE DEPTH (IN.)  | 12    | 12    | 12    | 12    | 12    | 12    |
| MEASURED MOISTURE (%)  | 9.8   | 12.1  | 13.9  | 11.8  | 12.2  | 15.1  |
| OPTIMUM MOISTURE (%)   | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |
| MEASURED DRY DENSITY (PCF)   | 105.8 | 116.4 | 114.8 | 116.0 | 110.3 | 110.7 |
| MAXIMUM DRY DENSITY (PCF)  | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 |
| MEASURED COMPACTION (%)  | 91.2  | 100.3 | 98.9  | 100.0 | 95.1  | 95.4  |
| MIN. REQUIRED COMPACTION (%)   | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  |
| TEST LOCATIONS   |       |       |       |       |       |       |
| • Embankment right side 120' northwest of sewer line elevation 54            |       |       |       |       |       |       |
| • Embankment right side 30' northwest of sewer line elevation 54             |       |       |       |       |       |       |
| • Embankment right side 125' northwest of sewer line elevation 54            |       |       |       |       |       |       |
| • Embankment right side 120' northwest of sewer line elevation 54, Retest #1 |       |       |       |       |       |       |
| • Core right side 55' northwest of sewer line elevation 55                   |       |       |       |       |       |       |
| • Core right side 120' northwest of sewer line elevation 55                  |       |       |       |       |       |       |
| ASTM D 698   |       |       |       |       |       |       |

| TEST NO.                     | 7     | 8     | 9     | 10 | 11 | 12 |
|------------------------------|-------|-------|-------|----|----|----|
| PI OBE DEPTH (IN.)           | 12    | 12    | 12    |    |    |    |
| M ASURED MOISTURE (%)        | 15.3  | 11.5  | 15.0  |    |    |    |
| O TIMUM MOISTURE (%)*        | 15.0  | 15.0  | 15.0  |    |    |    |
| M ASURED DRY DENSITY (PCF)   | 105.8 | 115.2 | 112.3 |    |    |    |
| M XIMUM DRY DENSITY (PCF)*   | 118.0 | 118.0 | 118.0 |    |    |    |
| M ASURED COMPACTION (%)      | 91.2  | 99.3  | 98.6  |    |    |    |
| M V. REQUIRED COMPACTION (%) | 95.0  | 95.0  | 95.0  |    |    |    |

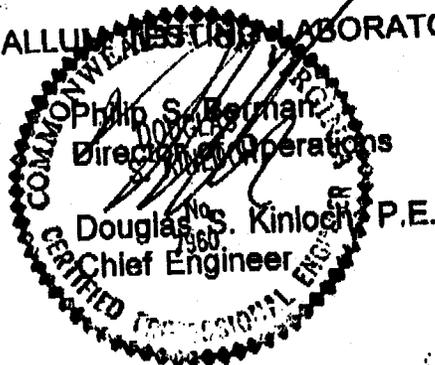
TEST LOCATIONS

- 7 Core 75' northwest of sewer line elevation 55
- 8 Core 80' northwest of sewer line elevation 55
- 9 Embankment 135' northwest of sewer line elevation 55

1.  
1.  
1.

\* STM D 698

McCALLUM TESTING LABORATORIES, INC.



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TESTING LABORATORIES INC.

Subsurface Exploration • Geotechnical Engineering

Ju / 15, 1993

Eastern Metal Products & Fabricators, Inc.  
P.O. Box 1449  
Grafton, VA 23692

Compaction Testing - 7/13/93  
James City County  
Stormwater Detention Basin  
James City Co., VA  
MTL Project 93-1142

On this date, our technician, Brett Yoho, was on site to perform compaction testing of the various lifts of core material placed in the core of the dam for the above referenced project. All tests were performed according to the procedures outlined by ASTM D 2922.

| TEST NO.   | 1     | 2     | 3     |  |  |  |
|--|-------|-------|-------|--|--|--|
| ROBE DEPTH (IN.)   | 12    | 12    | 12    |  |  |  |
| MEASURED MOISTURE (%)                                    | 14.5  | 17.8  | 15.4  |  |  |  |
| OPTIMUM MOISTURE (%)                                     | 15.0  | 15.0  | 15.0  |  |  |  |
| MEASURED DRY DENSITY (PCF)                               | 114.2 | 98.1  | 112.3 |  |  |  |
| MAXIMUM DRY DENSITY (PCF)                                | 116.0 | 116.0 | 116.0 |  |  |  |
| MEASURED COMPACTION (%)                                  | 98.4  | 84.5  | 96.7  |  |  |  |
| MIN. REQUIRED COMPACTION (%)                             | 95.0  | 95.0  | 95.0  |  |  |  |
| TEST LOCATIONS   |       |       |       |  |  |  |
| Core 30' northwest of sewer line, elevation 47, 2nd lift |       |       |       |  |  |  |
| Core 30' northwest of sewer line, elevation 46, 1st lift |       |       |       |  |  |  |
| Core 30' northwest of sewer line, elevation 40, 3rd lift |       |       |       |  |  |  |
| ASTM D 698   |       |       |       |  |  |  |

| TEST NO.  | 4     | 5     | 6     | 7     | 8     | 9     |
|---|-------|-------|-------|-------|-------|-------|
| PROBE DEPTH (IN.)   | 12    | 12    | 12    | 12    | 12    | 12    |
| MEASURED MOISTURE (%)                                       | 14.9  | 15.9  | 16.5  | 14.3  | 15.8  | 16.3  |
| OPTIMUM MOISTURE (%)*                                       | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |
| MEASURED DRY DENSITY (PCF)                                  | 115.5 | 115.7 | 112.0 | 115.6 | 116.0 | 110.6 |
| MAXIMUM DRY DENSITY (PCF)*                                  | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 |
| MEASURED COMPACTION (%)                                     | 99.5  | 99.7  | 96.5  | 99.6  | 100.0 | 95.3  |
| MIN. REQUIRED COMPACTION (%)                                | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  |
| <b>TEST LOCATIONS</b>                                       |       |       |       |       |       |       |
| 4. Core 30' northwest of sewer line, elevation 46, 1st lift |       |       |       |       |       |       |
| 5. Core 30' northwest of sewer line, elevation 47, 2nd lift |       |       |       |       |       |       |
| 6. Core 30' northwest of sewer line, elevation 48, 3rd lift |       |       |       |       |       |       |
| 7. Core 30' northwest of sewer line, elevation 49, 4th lift |       |       |       |       |       |       |
| 8. Core 30' northwest of sewer line, elevation 50, 5th lift |       |       |       |       |       |       |
| 9. Core 30' northwest of sewer line, elevation 51, 6th lift |       |       |       |       |       |       |
| *) STM D 698  |       |       |       |       |       |       |

McCALLUM TESTING LABORATORIES, INC.



# McCALLUM

TESTING LABORATORIES INC.

Subsurface Exploration • Geotechnical Engineering

Jul 15, 1993

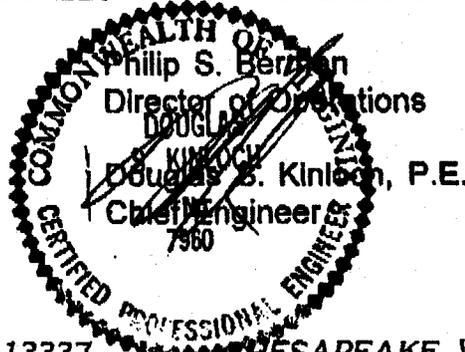
Sa: tern Metal Products & Fabricators, Inc.  
P.O. Box 1449  
Grifton, VA 23692

Compaction Testing - 7/14/93  
James City County  
Stormwater Detention Basin  
James City Co., VA  
MTL Project 93-1142

On this date, our technician, Brett Yoho, was on site to perform compaction testing of the various lifts of the embankment for the above referenced project. All tests were performed according to the procedures outlined by ASTM D 2922.

| TEST NO.  | 1     | 2     | 3     | 4     | 5     | 6 |
|---|-------|-------|-------|-------|-------|---|
| PROBE DEPTH (IN.)   | 12    | 12    | 12    | 12    | 12    |   |
| MEASURED MOISTURE (%)   | 12.5  | 10.4  | 14.8  | 13.4  | 15.5  |   |
| OPTIMUM MOISTURE (%)*   | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |   |
| MEASURED DRY DENSITY (PCF)  | 109.5 | 113.7 | 115.0 | 112.5 | 111.7 |   |
| MAXIMUM DRY DENSITY (PCF)*  | 116.0 | 116.0 | 116.0 | 116.0 | 116.0 |   |
| MEASURED COMPACTION (%)   | 94.4  | 98.0  | 99.1  | 96.9  | 95.2  |   |
| MIN. REQUIRED COMPACTION (%)  | 95.0  | 95.0  | 95.0  | 95.0  | 95.0  |   |
| TEST LOCATIONS  |       |       |       |       |       |   |
| 1 Embankment left side 90' northwest of sewer line, Elevation 50, 1st lift            |       |       |       |       |       |   |
| 2 Embankment left side 90' northwest of sewer line, Elevation 50, 1st lift, #1 retest |       |       |       |       |       |   |
| 3 Embankment left side 80' northwest of sewer line, Elevation 51, 2nd lift            |       |       |       |       |       |   |
| 4 Embankment left side 30' northwest of sewer line, Elevation 49, 1st lift            |       |       |       |       |       |   |
| 5 Embankment left side 30' northwest of sewer line, Elevation 50, 2nd lift            |       |       |       |       |       |   |
| 6   |       |       |       |       |       |   |
| * STM D 698   |       |       |       |       |       |   |

McCALLUM TESTING LABORATORIES, INC.



1808 HA' WARD AVENUE

P.O. BOX 13337

CHESAPEAKE, VIRGINIA 23325-0337

TELEPHONE (804) 420-2520 • FAX (804) 424-2874



# EMP GENERAL CONTRACTORS

FILE -

## WedgCor® Steel Building Systems

- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL

November 3, 1993

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11-5-93

P.O. Box 1449  
 Grafton, Virginia 23692  
 Phone: (804) 868-9596  
 FAX: (804) 877-1333

James City County  
 Department of Development Management  
 P O Box 8784  
 Williamsburg, VA 23187-8784

Reference: Mill Creek Detention Basin

Attention: Darryl E. Cook, Development Engineer

In regard to your letter of October 26, 1993, please be advised that the subject Punch List items were warrantee items and our subcontractor M. G. Sproston has indicated that they have been completed. Mr Joseph Terrell claims James City County did not have a Right of Way Easement for use of property for dam construction.

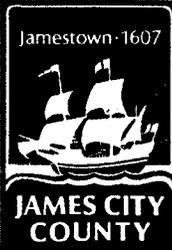
Mr Terrell now wants \$3,000 as EMP has informed you and which sum you rejected. EMP accepted your partial modification for work accomplished with conditions of payment. This James City County did not comply with. It, now, appears that James City County will have to enjoin EMP in defending a trespassing suit against James City County personnel, EMP and M. G. Sproston.

Trusting that we may have your cooperation in the above.

Sincerely yours,

Ronald J. Kubesh  
 President

JCC did not have R-o-W easement -  
 Did provide for access from Bridgewater bridge  
 Private contractual arrangement w/ Sproston + Terrell  
 JCC does have permit to access property



**DEPARTMENT OF DEVELOPMENT MANAGEMENT**

P. O. Box 8784

Williamsburg, Virginia 23187-8784

County Government Center, 101-E Mounts Bay Road

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Integrated Pest Management  
253-2620

November 23, 1993

Mr. Ron Kubesh  
EMP General Contractors  
P.O. Box 1449  
Grafton, VA 23692

RE: Mill Creek Detention Basin

Dear Mr. Kubesh:

In response to your letter of November 3, 1993, I do not consider the use of the wrong type of concrete on sealing of manholes nor the lack of adequate stabilization as warranty items but items to be completed before final payment.

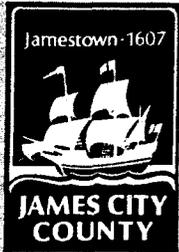
The only changes that have occurred since my October 26, 1993, letter are that one manhole has been regouted and the grass has become better established on the embankment. There are still three manholes that must be properly grouted and the Terrell property still has less than 50% stabilization.

Again, final acceptance and payment will be withheld until the stabilization and manhole concrete items have been successfully addressed. When the items are finally acceptable, another invoice must be submitted that shows the correct change order amount of \$5781 and final contract amount of \$118,981.

Regarding access to Mr. Terrell's property, James City County in fact has two easements that allow not only for construction of the dam embankment but for the temporary inundation of a portion of his property. Again, any issues you have regarding use of Mr. Terrell's property outside of these easements are a private matter subject to the terms of agreements made between yourself and Mr. Terrell. These agreements should have included all the necessary financial arrangements needed to obtain whatever borrow material was required to construct the dam.

Sincerely,

Darryl E. Cook  
Development Engineer



**DEPARTMENT OF DEVELOPMENT MANAGEMENT**

P. O. Box 8784

Williamsburg, Virginia 23187-8784

County Government Center, 101-E Mounts Bay Road

October 26, 1993

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Integrated Pest Management  
253-2620

Mr. Ron Kubesh  
EMP General Contractors  
P.O. Box 1449  
Grafton, VA 23692

RE: Mill Creek Detention Basin

Dear Mr. Kubesh:

I conducted a final inspection of the above project on August 19, 1993, with Ken Kyle, and Mike Sproston. There were four items that were noted as deficiencies during that inspection. Since that time, two of the items have been corrected but two items still remain unacceptable. Those two items are as follows:

- 1) An adequate stand of grass still needs to be established on all disturbed areas. Also, positive drainage needs to be established on Mr. Terrell's property that was used as a borrow/waste area.
- 2) The wrong type of concrete was used to seal the watertight manholes. The correct concrete must be a masonry cement. The type used was a sacrete concrete with gravel in it which more easily develop leaks. On a follow-up inspection, only one manhole was regouted, the one located in the dam. The other three still needed to be corrected.

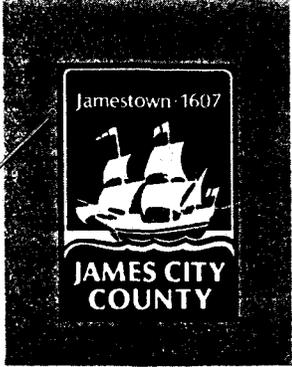
Final acceptance and payment will be withheld until these items have been successfully addressed. When the items are finally acceptable, another invoice must be submitted that shows the correct change order amount of \$5781 and final contract amount of \$118,981.

Sincerely,

A handwritten signature in cursive script that reads "Darryl E. Cook".

Darryl E. Cook  
Development Engineer

File -  
Mill Creek Det. Bas



**FINANCIAL AND MANAGEMENT SERVICES**

P.O. Box JC  
Williamsburg, Virginia 23187-3627

COUNTY GOVERNMENT CENTER, 101A MOUNTS BAY ROAD

September 28, 1993

9/29/93  
[Handwritten notes and stamps]

- Financial and Management Services  
(804) 253-6630
- Information Resources Management  
253-6667
- Publications Management  
253-6661
- Records Management  
253-6725
- Fleet Maintenance  
229-4988
- Graphic Design  
253-6657
- Purchasing  
253-6646
- Accounting  
253-6636

Mr. Ronald Kubesh  
EMP General Contractors  
P. O. Box 1449  
Grafton, VA 23692

RE: Contract Number K93-050; CHANGE ORDER NUMBER 1  
Stormwater Detention Basin

Dear Mr. Kubesh:

Enclosed for your files is an executed copy of the above referenced change order in the amount of \$5,781.00 which increases the Contract total to \$118,981.00.

Sincerely,

*Deborah A. Merritt*  
Deborah A. Merritt, CPPB  
Buyer

/dm

Enclosure

*Fyi  
Karye Cook*

**CONTRACT CHANGE ORDER**

PROJECT DESCRIPTION: Mill Creek Detention Basin DATE: 8-26-93  
 CONTRACT FOR: Dam Construction CHANGE ORDER NO. 1  
 CONTRACT DATE: March 2, 1993 PROJECT NO. K93-050  
 OWNER: James City County OTHER: \_\_\_\_\_

CONTRACTOR: EMP General Contractors

The following changes are hereby made to the Contract Documents:

| No.                           | Description   | Decrease in Contract Price | Increase in Contract Price | Item |
|-------------------------------|---|----------------------------|----------------------------|------|
| 1.                            | Adding reinforcing steel to Sewer Encasement, incr. diameter of PVC pipe to 10" |                            | \$ 573                     |      |
| 2.                            | Additional Excavation of unsuitable soils - 434 CY                              |                            | \$5,208                    |      |
| TOTALS:                       |   | \$ _____                   | \$ 5,781                   |      |
| NET CHANGE IN CONTRACT PRICE: |   | \$ _____                   | \$ 5,781                   |      |

JUSTIFICATION: Reinforcing steel added to sewer encasement at JCSA request. Additional excavation of soil required because of increased amount of unsuitable material encountered beyond that estimated by geotechnical investigation.

CONTRACT PRICE PRIOR TO CHANGE ORDER: \$ 113,200  
 CONTRACT PRICE BY THIS CHANGE ORDER WILL BE INCREASE BY: \$ 5,781  
 NEW CONTRACT PRICE INCLUDING THIS CHANGE ORDER WILL BE: \$ 118,981  
 COMPLETION DATE PRIOR TO THIS CHANGE ORDER: July 16, 1993 NEW  
 CONTRACT TIME WILL BE increased BY 45 CALENDAR DAYS.  
 NEW DATE FOR COMPLETION OF ALL WORK WILL BE: August 30, 1993

To be effective this Order must be approved by the applicable Government agency (if required). The document will become a supplement to the Contract and all provisions will apply hereto.

REQUESTED BY: James City County *Barryl E. Cook*  
 NAME BY TITLE DATE  
 Barryl E. Cook, Development Engineer 8-26-93

RECOMMENDED BY: \_\_\_\_\_  
 NAME BY TITLE DATE

ACCEPTED BY: EMP General Contractors *Ronald Kubesh*  
 NAME BY TITLE DATE  
 Ron Kubesh, President 9-1-93

APPROVED BY: James City County *David B. Norman*  
 NAME BY TITLE DATE  
 David B. Norman, Administrator 8/21/93



# EMP GENERAL CONTRACTORS

## WedgCor® Steel Building Systems

- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL

September 27, 1993

P.O. Box 1449  
Grafton, Virginia 23692  
Phone: (804) 868-9596  
FAX: (804) 877-1333



John Grier Construction Co.  
P O Box 191  
Williamsburg, VA 23187-0191

Reference: James City County Stormwater Detention Basin/Letter of 24 Sep 93

Attention: Joseph S. Terrell, V.P.

We received a copy of your, again, letter of harassment. Please be advised of the following:

1. EMP has no contract with J. S. Terrell Co. or with a John Grier Construction Company, which ever you are.
2. It appears that you are attempting to intimidate or extort monies from EMP under false pretenses.

I am turning this situation over to EMP's attorney, John C. Stephens, Jr. for appropriate action.

Sincerely,

Ronald J. Kubesh  
President

CC John C. Stephens, JR.

Bernard Farmer, JCC ✓

# JOHN GRIER CONSTRUCTION COMPANY

GENERAL CONTRACTORS

P.O. Box 191, Williamsburg, Virginia 23187-0191  
(804) 229-1413 • 877-5992 Fax 220-9044

September 20. 1993

Mr. Ron Kubesh  
EMP General Contractors  
P. O. Box 1449  
Grafton, VA 23692  
Fax 877-1333

RE: JCC Stormwater Retention Basin

Mr. Kubesh:

I have your fax of 9-17-93. First of all we will get one thing straight, I am not dealing with Mr. Sprosten, I am dealing with you. As far as I am concerned, EMP Contractors or R.J. Kubesh owes me.

You had a contract to do work to the rear of my property. Before you started this work, you talked to Joe Terrell, Jr. He gave you a price per load on dirt. Your job took so may loads of my dirt. You owe me for that dirt. Next, through your contract all spoil removed from the excavated area is piled on my land. You can either pay me to leave the dirt there or you can remove the material.

I made both, you and James City County aware this dirt was being stacked on my property.

You know the bond laws as well as I. The person bonded is responsible for the bill first, then the bonding company. Since I understand you have been paid, if you do not have me a certified check of \$ 11,645.00 in my office by closing time, 5:00 PM, Wednesday September 22nd. 93, I will make claim against your bonding company. By copy of this fax to Mr. Martin, I am requesting by return fax the name and address of your bonding company.

I am also advising Mr. Martin there is no ground cover on the spoil in this area, and that is not my responsibility.

I am sorry this has come to such a situation, but I am not going to be put off and I am not dealing with Sprosten.

Sincerely

*Joseph S. Terrell*

Joseph S. Terrell, V.P.  
John Grier Construction Co.

cc: Frank Martin, Esq.  
Steve Roberts, Esq.

File -  
Mill Creek



# EMP GENERAL CONTRACTORS

**WedgCor,**  
**Steel Building Systems**

- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL

September 17, 1993

**P.O. Box 1440**  
 Grafton, Virginia 23062  
 Phone: (804) 868-8506  
 FAX: (804) 877-1333

|  |                     |              |                  |
|--|---------------------|--------------|------------------|
| Post-It™ brand fax transmittal memo 7671 |                     | # of pages > | 2                |
| To                                       | Darryl E. Cook Eng. | From         | Ronald J. Kubesh |
| Co.                                      | Dept. Develop. Mgmt | Co.          | EMP General KTR  |
| Genl.                                    | James City Co.      | Phone #      | 898-5379         |
| Fax #                                    | 253-6663            | Fax #        | 877-1333         |

James City County  
 Department of Development Management  
 P O Box 8784  
 Williamsburg, VA 23187-8784

Reference: Mill Creek Detention Basin Invoice No. 2 forwarded to you 25 Aug 93  
 Attention: Darryl E. Cook, Development Engineer

Since the above referenced Invoice has not been paid in 10 days as agreed upon, we, therefore, must add the sum of \$6,200 to the invoice to accomplish disposal of spoil material on Mr Terrell's site from additiona excavation of unsuitable soil as requested. Mr Mike Sprosten is, also, demanding \$3,200.00 for handling the disturbed area and to vegetate same on Mr Terrell's site.

Trusting you will give the above your prompt attention. If you have any questions please call me at 804-868-9596.

Sincerely yours,

*Ronald J. Kubesh*  
 Ronald J. Kubesh  
 President

Enclosure

**EASTERN METAL PRODUCTS & FABRICATORS, INC**  
**P.O. BOX 1449**  
**GRAFTON, VIRGINIA, 23692**  
**PHONE: 899-9596**

|   |                               |
|---|-------------------------------|
| Order Date _____                                | Invoice Date <u>20 Aug 93</u> |
| Quot. Order No. <u>K-93-050</u>                 |                               |
| Name <u>James City County Purchasing</u>        | Promised _____                |
| Address <u>Accounting Department</u>            | Picked Up _____               |
| City <u>101-A Mounts Bay Road</u>               | Delivered _____               |
| <del>PO Box</del> <u>Williamsburg, VA 23185</u> | Terms _____                   |

Equipment: \_\_\_\_\_

Instructions: Storm Water Detention Basin Mill Creek  
James City County, VA

| Qty | Description             | Price            | Amount           |
|-----|-------------------------|------------------|------------------|
|     | Contract                | \$ 113,200       |                  |
|     | Change Order Claim      | + 11,981         |                  |
|     | Total Contract          | 125,181          |                  |
|     |                         | 100 %            |                  |
|     |                         | 125,181          |                  |
|     | Less Payment            | 103,012          |                  |
|     | <b>TOTAL AMOUNT DUE</b> | <b>\$ 22,169</b> | <b>\$ 22,169</b> |
|     |                         |                  |                  |
|     | Material                |                  |                  |
|     | Tax                     |                  |                  |
|     | Labor                   |                  |                  |
|     | <b>TOTAL</b>            |                  | <b>\$ 22,169</b> |

Invoice No. 3816 Received in good and satisfactory condition.  
 Signed \_\_\_\_\_

# JOHN GRIER CONSTRUCTION COMPANY

GENERAL CONTRACTORS

P.O. Box 191, Williamsburg, Virginia 23187-0191  
(804) 229-1413 • 877-5992 Fax 220-9044

September 17, 1993

Mr. Ron Kubesh  
EMP General Contractors  
P. O. Box 1449  
Grafton, VA 23692  
Fax 877-1333

RE: JCC Stormwater Retention Basin

Dear Mr. Kubesh:

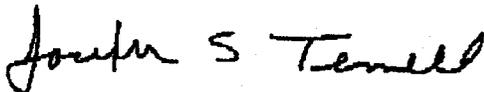
Please be advised that on this date we were notified by our bank that a check to us from your sub contractor, Mike Sprosten, was returned for insufficient funds. This check was for the provision of fill material on subject project.

As you are the general contractor on the project, John Grier Construction Company, Inc., is demanding you pay the amount due as follows:

|                                    |                     |
|------------------------------------|---------------------|
| Fill material provided             |                     |
| 247 loads @ \$ 35.00/load          | \$ 8,645.00         |
| Disposal of spoil material on site | \$ 3,000.00         |
| Total amount due                   | <u>\$ 11,645.00</u> |

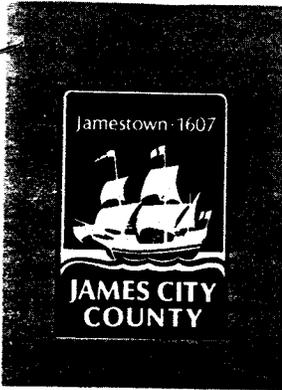
In addition, all disturbed areas must be vegetated to the satisfaction of James City County Code Compliance as previously discussed.

We must have payment by September 22, 1993. By copy of this letter to Mr. Bernard Farmer, Chief at Codes Compliance, James City County, I am requesting the name of the bonding company for this project and bond #.



Joseph S. Terrell, V.P.  
John Grier Construction Co., Inc.

cc: Mr. Bernard Farmer, JCC  
Stephen Roberts, Esq.



**DEPARTMENT OF DEVELOPMENT MANAGEMENT**

P. O. Box 8784

Williamsburg, Virginia 23187-8784

County Government Center, 101-E Mounts Bay Road

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Integrated Pest Management  
253-2620

August 23, 1993

Mr. Ron Kubesh  
EMP General Contractors  
P.O. Box 1449  
Grafton, VA 23692

RE: Mill Creek Detention Basin

Dear Mr. Kubesh:

I conducted a final inspection of the above project on August 19, 1993, with Ken Kyle, and Mike Sproston. The following deficiencies were noted during that inspection:

- 1) The inside of the joints for the 42-inch pipe through the dam needed additional grouting. A reinspection on August 23, revealed that the grouting was still not acceptable.
- 2) The guardrail at the end of Bradshaw Ordinary Drive was damaged during the construction of the dam. An attempt was made to repair the damage and we will have VDOT inspect the repairs to see if they are acceptable. In the event that the repairs are not acceptable to VDOT, then EMP will be responsible to make the repairs in a manner acceptable to VDOT.
- 3) As the site was hydroseeded the day before the inspection, EMP will need to ensure that an adequate stand of grass is established on all disturbed areas.
- 4) The watertight manhole covers were not inspected during the final but were subsequently inspected by JCSA personnel on August 23. Based on their inspection, the wrong type of concrete was used to seal the manholes. The concrete used must be a masonry cement. The type used was a sacrete concrete with gravel in it which more easily develop leaks. Also, the castings removed from the manholes should be brought to the end of Bradshaw Ordinary for collection by the JCSA.

Fax: (804) 253-6663

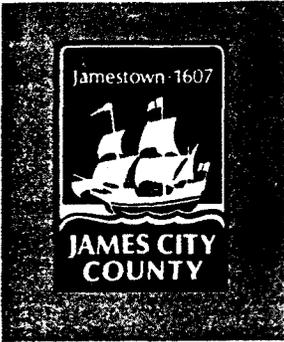
Mr. Ron Kubesh  
August 23, 1993  
Page 2

Final acceptance will be withheld until these items have  
been successfully addressed.

Sincerely,

*Darryl E Cook*

Darryl E. Cook  
Development Engineer



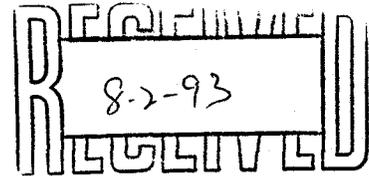
**OFFICE OF COUNTY ATTORNEY**

P. O. Box 8784

Williamsburg, Virginia 23187-8784

County Government Center, 101-C Mounts Bay Road  
(804)253-6612

File -



Frank M. Morton, III  
County Attorney

Leo P. Rogers  
Assistant County Attorney

July 30, 1993

Mr. Ron Kubesh  
EMP General Contractors  
P.O. Box 1449  
Grafton, VA 23692

Re: Mill Creek Detention Basin

Dear Mr. Kubesh:

Your letter of July 28, 1993 directed to Darryl E. Cook, Development Engineer, has been referred to me for purposes of response.

The County's position remains the same expressed to you previously by County representatives; \$5,781.00 for additional soil removal with an extension of 30 days. This offer is made in the spirit of settlement and shall not be binding on the County should you choose not to accept the offer.

In that event, any alleged damages and justification for an extension of time will have to be proved and the County will seek liquidated damages beginning July 22, 1993.

Please notify me of your position on or before 5:00 p.m., August 2, 1993.

Very truly yours,

  
Frank M. Morton, III  
County Attorney

FMM: jmt

✓cc: Darryl E. Cook

Fax: (804) 253-6833

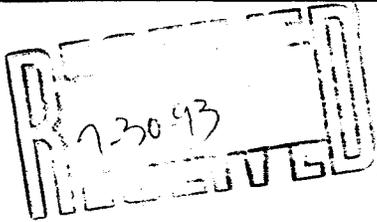


# EMP GENERAL CONTRACTORS

**WedgCor®**  
**Steel Building Systems**

- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL

July 28, 1993



P.O. Box 1449  
Grafton, Virginia 23692  
Phone: (804) 868-9596  
FAX: (804) 877-1333

July 28, 1993

|  |                  |                |                  |
|--|------------------|----------------|------------------|
| Post-It™ brand fax transmittal memo 7671 |                  | # of pages ▶ 1 |                  |
| To                                       | Darryl E. Cook   | From           | Ronald J. Kubesh |
| Co.                                      | James City Co.   | Co.            | EMP General KTR  |
| Dept.                                    | Development Mgmt | Phone #        | 898-5379         |
| Fax #                                    | 253-6663         | Fax #          | 877-1333         |

James City County  
Department of Development Management  
P O Box 8784  
Williamsburg, VA 23187-8784

Reference: Mill Creek Detention Basin

Attention: Darryl E. Cook, Development Engineer

Please be advised that we have called a special meeting of the Board of Directors which also, included our subcontractor, Mike Sproston, in order to resolve issues of claims and change orders for above referenced contract. As you know, we had left with what we thought was a fair, negotiated sum to resolve the issue. We appreciate your counter offer, which our subcontractor does not agree with.

However, we have persuaded him to agree to split the difference between EMP's proposal of **\$9967.00** and your offer of **\$5781.00**, for a total of \$7874.00 in addition to the thirty (30) days extension of time to the contract. We will be happy to sign off on the above terms.

However, if we cannot reach an agreement the monies will revert back to our original offer plus interest and all legal fees.

Trusting that this may be an equitable agreement for both parties.

Sincerely yours,

Ronald J. Kubesh  
President



# EMP GENERAL CONTRACTORS

FILE -  
MILL CREEK Det.

## WedgCor® Steel Building Systems

- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL

July 28, 1993

RECEIVED  
7-30-93  
MILL CREEK Det.

P.O. Box 1449  
 Grafton, Virginia 23692  
 Phone: (804) 868-9596  
 FAX: (804) 877-1333

July 28, 1993 2:00 PM

|  |                   |                |                  |
|--|-------------------|----------------|------------------|
| Post-It™ brand fax transmittal memo 7671 |                   | # of pages ▶ 2 |                  |
| To                                       | Darryl Cook, Eng. | From           | Ronald J. Kubesh |
| Co.                                      | James City County | Co.            | EMP General KTR  |
| Dept                                     | Development Mgmt. | Phone #        | 898-5379         |
| Fax #                                    | 253-6663          | Fax #          | 877-1333         |

James City County  
 Department of Development Management  
 P O Box 8784  
 Williamsburg, VA 23187-8784

Reference: Mill Creek Detention Basin

Attention: Darryl E. Cook, Development Engineer

Enclosed please find a letter from Joseph S. Terrell of John Grier Construction Co. **which is self-explanatory.** As discussed, we have not taken above into consideration for our costs if we are to be charged for same.

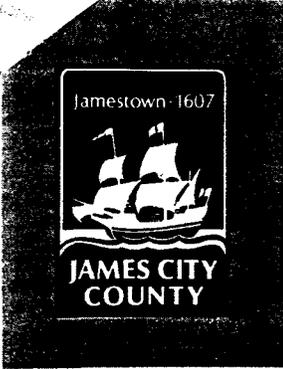
Compensation will have to be allowed for the additional waste material.

Please advised.

Sincerely yours,

*Ronald J. Kubesh amk*  
 Ronald J. Kubesh  
 President

Enclosure



**DEPARTMENT OF DEVELOPMENT MANAGEMENT**  
P. O. Box 8784  
Williamsburg, Virginia 23187-8784  
County Government Center, 101-E Mounts Bay Road

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Integrated Pest Management  
253-2620

July 27, 1993

Mr. Ron Kubesh  
EMP General Contractors  
P.O. Box 1449  
Grafton, VA 23692

RE: Mill Creek Detention Basin

Dear Mr. Kubesh:

A meeting was held today to discuss the change orders and claims submitted to date by your firm, and the extension of the contract. The claims are for additional excavation of unsuitable soil materials, changing the size of a 45-foot long PVC pipe from 8" to 10" in diameter, and the modification of the sewer encasement by including reinforcing steel. No resolution was reached in the meeting regarding the claims.

Based on input from the meeting and our field observations made throughout the construction process, our position is that the following amounts are justified for the claims:

|                                |                    |        |
|--------------------------------|--------------------|--------|
| Sewer Encasement & Pipe Change | -                  | \$573  |
| Additional Excavation          | - 434 CY @ \$12/CY | \$5208 |
| Total                          | -                  | \$5781 |

If these amounts are acceptable to you, please notify us in writing no later than 5 PM tomorrow, July 28, 1993. Upon resolution of this matter, a 30-day contract extension will be granted as of July 28. If resolution cannot be reached, then the date for assessment of liquidated damages remains July 22, 1993, as stated in my previous correspondence.

Sincerely,

Darryl E. Cook  
Development Engineer

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. (Extra charge)  
 2.  Restricted Delivery (Extra charge)

|   |  |
|---|--|
| <b>3. Article Addressed to:</b><br>MR RON KUBESH<br>EMP GENERAL CONTRACTORS<br>P O BOX 1449<br>GRAFTON VA 23692 | <b>4. Article Number</b><br>P408017337<br><b>Type of Service:</b><br><input type="checkbox"/> Registered <input type="checkbox"/> Insured<br><input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD<br><input type="checkbox"/> Express Mail <input checked="" type="checkbox"/> Return Receipt for Merchandise<br>Always obtain signature of addressee or agent and <u>DATE DELIVERED</u> . |
| <b>5. Signature - Address</b><br>X  | <b>8. Addressee's Address (ONLY if requested and fee paid).</b>  |
| <b>6. Signature - Agent</b><br>X <i>amk</i>   |  |
| <b>7. Date of Delivery</b><br><i>8-3-93</i>   |  |

AGEMENT

July 27, 1993

PS Form 3811, Mar. 1988 \* U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

PS Form 3800, Ji

Postmark or Date

VA 23692  
 1 Creek Detention Basin  
 Kubesh:

A meeting was held today to discuss the change orders and claims submitted to date by your firm, and the extension of the contract. The claims are for additional excavation of unsuitable soil materials, changing the size of a 45-foot long PVC pipe from 8" to 10" in diameter, and the modification of the sewer encasement by including reinforcing steel. No resolution was reached in the meeting regarding the claims.

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|                                |                    |        |
|--------------------------------|--------------------|--------|
| Sewer Encasement & Pipe Change | -                  | \$573  |
| Additional Excavation          | - 434 CY @ \$12/CY | \$5208 |
| Total                          | -                  | \$5781 |

If these amounts are acceptable to you, please notify us in writing no later than 5 PM tomorrow, July 28, 1993. Upon resolution of this matter, a 30-day contract extension will be granted as of July 28. If resolution cannot be reached, then the date for assessment of liquidated damages remains July 22, 1993, as stated in my previous correspondence.

Sincerely,  
*Darryl E Cook*  
 Darryl E. Cook  
 Development Engineer

# JOHN GRIER CONSTRUCTION COMPANY

GENERAL CONTRACTORS

P.O. Box 191, Williamsburg, Virginia 23187-0191  
(804) 229-1413 • 877-5992 Fax 220-9044

July 23, 1993

James City County  
Code Compliance  
P. O. Box 8784  
Williamsburg, VA 23187-8784  
Attn: Mr. Darryl E. Cook  
Development Engineer

RE: Storm Retention Basin - Off Strawberry Plains Road

Dear Mr. Cook:

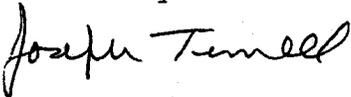
This letter will inform you that Mr. Kubesh is getting dirt from the rear of my property for the above job. That is in agreement.

I want to make you aware that when I have been paid for the dirt I will notify you. You may want to keep this in mind before final payment to the contractor.

There is an amount of excavated dirt piled on the property. That was not in any agreement and should that remain, I would need to be paid for receiving the dirt or mud. It in term would need to pass any county requirement as far as dressing up and seeding.

Should the contractor care to burn the logs and stumps he has stored, I do not object as long as the powers that control such agree. At burning completion, I would expect the remainder to be hauled away.

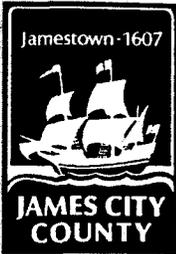
Sincerely



Joseph S. Terrell, V.P.  
John Grier Construction Co.

cc: Mr. Kubesh

Mr. Bernie Farmer, Code Compliance



**DEPARTMENT OF DEVELOPMENT MANAGEMENT**

P. O. Box 8784  
Williamsburg, Virginia 23187-8784

County Government Center, 101-E Mounts Bay Road

Development Manager  
(804) 253-6671

Code Compliance  
253-6626

County Engineer  
253-6678

Planning  
253-6685

Integrated Pest Management  
253-2620

July 22, 1993

Mr. Ron Kubesh  
EMP General Contractors  
P.O. Box 1449  
Grafton, VA 23692

RE: Mill Creek Detention Basin

Dear Mr. Kubesh:

As discussed in our meeting on July 16, 1993, the contract period was extended to correct the deficiencies noted in our earlier correspondence and meetings. As of this date, those items that were noted as deficiencies have been corrected.

At this point, we have no objection to the work proceeding on the rest of the dam construction. However, until we can meet to resolve any remaining issues related to the contract extension, this date will be used as the start of liquidated damages.

Sincerely,

Darryl E. Cook  
Development Engineer



# EMP GENERAL CONTRACTORS

**WedgCor®**  
**Steel Building Systems**

- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL

July 21, 1993

RECEIVED  
7-23-93  
EMP

P.O. Box 1449  
Grafton, Virginia 23692  
Phone: (804) 868-9596  
FAX: (804) 877-1333

**JULY 21, 1993**  
Post-It™ brand fax transmittal memo 7671 # of pages ▶ 2

|                           |                              |
|---------------------------|------------------------------|
| To <b>DARRYL COOK</b>     | From <b>RONALD J. KUBESH</b> |
| Co. <b>James City Co.</b> | Co. <b>EMP General KTR</b>   |
| Dept. <b>Development</b>  | Phone # <b>898-5379</b>      |
| Fax # <b>253-6663</b>     | Fax # <b>877-1333</b>        |

James City County  
Financial and Management Services  
P O Box JC  
Williamsburg, VA 23187-3627

Reference: Mill Creek Detention Basin

Attention: Rose M. Sutherlin, CPPB, Purchasing Director

In reference to your letter of 16 July 93, the following is our position:

1. We disagree with the percentage of project completion as indicated by Mr Cook. We feel that by 27 July 93 we will be in excess of 90% completion if allowed to work as scheduled.
2. EMP disagrees with your statement, "three out of four tests failing". Please see compaction test results. Also, since our meeting all tests for core are approved, all embankment fill, new fill proctor, and permeability for new enriched clay have passed.
3. Regarding test results, you have same. We have reviewed same with you, Darryl Cook, Mr Kyle and myself. Where test may have failed previously, same are corrected and all tests passed.
4. Regarding additional excavation because of unsuitable base material, this was your call. Our Subcontractor, Mike Sproston, showed Mr Cook, your geotechnical engineer, Mr Kyle, Mr Kubesh, and Tom Kubesh, along with several others, the problems and he requested a decision from the engineer. The decision was made to go to the Yorktown Formation and remove unsuitable material so that the dam would not fail. In addition, you do have provisions in the contract documents for same. See Item No. 2, page 2 of the bid form included in the Contract Documents. If ther is still confusion, EMP may have to have every one familiar with this situation raise their right hands before a judge and resolve same in court or arbitration.
5. In regard to extension of time:
  - a. any modification for additional work warrants additional time. You have two such modifications.
  - b. because of the unsuitable material encountered costing EMP's subcontractor and EMP time and monies, EMP certainly is due consideration for both.

In conclusion, EMP and its subcontractor have exerted maximum effort to bring this contract up to date inspite of the unknown underground site condition and have been

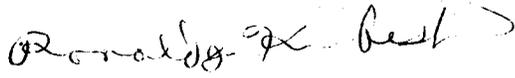
21 July 93

successful. EMP is a Registered Class A Virginia Contractor and under the terms of the contract is due consideration.

If you have any questions, please feel free to call 804-898-5379 and I will be more than willing to help resolve same regarding the above. However, Friday, 23 July 93 I will be unavailable as I will be in surgery for my hand.

Thank you.

Sincerely yours,



Ronald J. Kubesh  
President

CC John C. Stephens, Jr.

Darryl E. Cook  
Development Engineer



# EMP GENERAL CONTRACTORS

**WedgCor®**  
**Steel Building Systems**

- COMMERCIAL
- INDUSTRIAL
- AGRICULTURAL

July 21, 1993

RECEIVED  
7-23-93  
RECEIVED

P.O. Box 1449  
Grafton, Virginia 23692  
Phone: (804) 868-9596  
FAX: (804) 877-1333

July 21, 1993

Post-It™ brand fax transmittal memo 7671 # of pages ▶ 1

James City County  
Department of Development Management  
P O Box 8784  
Williamsburg, Virginia 23187-8784

|       |                |         |                 |
|-------|----------------|---------|-----------------|
| To    | Darryl Cook    | From    | Ronald Kubesh   |
| Co.   | James City Co. | Co.     | EMP General KTR |
| Dept. | Development    | Phone # | 898-5379        |
| Fax # | 253-6663       | Fax #   | 877-1333        |

Reference: Mill Creek Detention Basin

Attention: Darryl E. Cook, Development Engineer

Reference your letter of 12 July 93, please be advised of the following:

1. Concern of core location and temporary stream diversion pipe and existing sewer line. Mr Kubesh informed you that this area was a bridge lift for access and would be removed and replaced later. You agreed. This now has been accomplished along with additional core areas for total length of dam. Replacement was accomplished with new, approved fill and with all compaction tests passing.
2. In area nearest Bradshaw Ordinary: overexcavation as directed because of the unstable material at the elevation shown on contract drawings. Our subcontractor was directed to excavate to suitable soil or to the Yorktown Formation. (You have a provision in contract for same, Item No. 2).
3. In regard to tie-in of new fill into existing material, due to lack of detail your geotechnical engineer recommended one (1) foot vertical lifts fill material. This we did.
4. In regard to additional excavation, we disagree with you. All concerned may have to raise their right hands and testify under oath to clarify this point. It was requested.
5. Regarding a slip plane, we agree with your recommendation and have complied.

Please be advised that all areas in concern have been reworked as agreed. Trusting the above clarifies our position. If you have any questions, please contact me as soon as possible.

Sincerely yours,

Ronald J. Kubesh  
President

CC Rose M. Sutherlin, CPPB  
Purchasing Director

MEMORANDUM

Date: July 16, 1993  
To: Rose Sutherlin, Purchasing Director  
From: Darryl E. Cook, Development Engineer *DEC*  
Subject: Stormwater Detention Basin, Contract No. K93-050

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This is to document our meeting held this morning with Mr. Ron Kubesh and Mr. Ken Kyle with EMP General Contractors regarding the above contract. The purpose of the meeting was to determine what course of action to take regarding completion of the contract as the contract period ends today July 16, 1993, and the project is incomplete. My rough estimate is that only about 30% of the project has been completed to date and what work has been done is either of unknown or unacceptable condition.

To date, the work has consisted almost entirely of earthwork; excavation of unsuitable soils and replacement with proper material. Until the meeting this morning, we had received no compaction test results as required by the contract specifications, section III.13.b. We did have our geotechnical consultant take tests and the results showed three out of four tests failing. We have been present at times when their geotechnical consultant was onsite and have written down results of their tests which also indicate many areas of failure to achieve proper compaction. That is why I say the work has been either of unknown or unacceptable condition.

EMP has requested a 45-day extension to allow him to complete the contract. In his letter dated July 16, 1993, he presents his reasons to justify the extension. He states in item #1 that 20 days were due to severe wet weather at the beginning of the contract. I do not agree that the weather has been much of a factor as it has only rained in measurable quantities 8 days since May 17, the date of the Notice to Proceed. Six of those days were in the first 23 days of the contract period before work had even begun on the dam excavation. Also, no mention has ever been made that the contract period of 60 days was too short and Mr. Sproston, EMP's subcontractor, at the pre-construction meeting stated that he felt he would be done in about 30 days.

Mr. Kubesh has also presented a large claim for additional excavation performed during the construction of the dam core and embankment. He is also using this additional excavation as a further basis for the extension. We vigorously dispute that EMP was directed by the county to remove a majority of the material they claim was unsuitable. They have not been able to state who directed the excavation. According to the specification, sections III.E.10 and 11., the Engineer, Mr. Darryl Cook with James City

County, shall be the person who directs the excavation and filling operation. Again, I did not direct the excavation of the material in the large area of the embankment where they are making the majority of the claim. Also, I pointed out to them at the meetings that I had with EMP that the project had a tight budget and I would not have authorized a major additional excavation in such an undocumented and offhand manner as they are suggesting.

It is my opinion that there is little basis for a claim for unknown conditions related to subsurface soils. Section II.V. of the specifications states that "the contractor shall perform whatever subsurface investigations deemed by him to be necessary prior to submitting bids for this project." It further states that no claims will be permitted alleging insufficient data or incorrectly assumed conditions concerning the soils. Also, I furnished EMP with the geotechnical report the county had prepared for the site after they were determined to be the low bidder. While I would not go so far as to say that none of his claim is justified, I feel that the majority of the claim is excessive and based on unauthorized work.

He raised other issues in the meeting that need to be addressed but not necessarily in this memo. Concerning the contract extension, I would only recommend a 10 day extension of the contract with the stipulation that the work to be done during this period would be that work needed to bring the project, especially the dam core, in compliance with the specifications. This would include the identification of those areas that failed compaction tests and were laid on unstable materials. Also, it needs to be understood that the extension in no way relates to the claims submitted for the additional excavation or the concrete sewer encasement. Once the problems have been resolved, then an extension will be considered to finish the project.

# MILL Creek Detention Basin

7/16/93

## Weather

MAY 17 - Prec Lon

MAY 18 - RAIN 1.7" (Tues)

MAY 19 - RAIN 1.25" (Wed)

MAY 24<sup>th</sup> - delivery of materials

MAY 25<sup>th</sup> - Start Const. (date we were told)

MAY 26<sup>th</sup> - Rain 1.8" (Wed)

JUNE 4<sup>th</sup> - RAIN 0.6" (Fri)

JUNE 5<sup>th</sup> - RAIN 1.3" (SAT)

JUNE 8<sup>th</sup> - Rain 0.2" (TUES)

JUNE 30<sup>th</sup> RAIN (1.2") (Wed)

JULY 10<sup>th</sup> RAIN 1.0" (SAT Even)

# ACTUAL CONST. PROGRESS

- 7 days MAY 24 + - MATL DELIVERY (PIPES ETC.)
- 15 JUNE 1 - MATERIAL (SOILS) TESTED BY COUNTY
- 24 JUNE 9 - 1<sup>ST</sup> EXCAVATION FOR CORE
- 25 JUNE 10 - VISIT BY ATEC / COUNTY TO EVALUATE EXCAVATION & SOILS - STARTED EXCAVATION FOR SEWER ENCASEMENT
- 32 JUNE 17 ± TREES CUT
- 38 JUNE 23 - FIRST COMPACTION TESTS - FAILURE
- 42/39 JUNE ~~23~~<sup>24</sup> - ~~TEST BY ATEC~~ <sup>SECOND</sup> TEST - FAILURE
- 40 JUNE 25 - THIRD COMPACTION TESTS - FAILURE
- 44 JUNE 29 - VISIT BY ATEC - RECOMMENDED DIFF COMPACT
- 45 JUNE 30 - COMPACTION TESTS BY ATEC - 3 of 4 FAILED
- 46 JULY 1 - McCallum TESTING - 3 of 5 FAILED
- 47 JULY 2 - ON SITE MEETING (1<sup>ST</sup> MTG) DISCUSSED PROBLEMS - COMPACTION

## MILL CREEK DRAINAGE STUDY ← SITE 1

## 1. Dry Ponds

a) Drainage Area Consists of

BASIN 220 + 230 + Part of 210 + 200 (part of)

$$64.3 + 62.7 + \frac{1}{3}(53.7) + \frac{1}{3}(77.8) = \underline{\underline{171}} \text{ acres}$$

b) % Imp - @ ultimate

|                 |   |         |   |             |       |              |
|-----------------|---|---------|---|-------------|-------|--------------|
| 220 - 78% - MDR | x | 30% imp | x | 64.3        | } 34% |              |
| 21% - HDR       | x | 50%     | x | 64.3        |       | 21.9         |
| 230 - 61% - COM | x | 60% imp | x | 62.7        | } 52% |              |
| 20% - MDR       | x | 30%     | x | 62.7        |       | 32.9         |
| 210 + 200 - MDR | x | 30%     | x | <u>43.8</u> |       | <u>13.14</u> |
|                 |   |         |   | 171         |       | 67.9         |

≈ 40% IMP.

c) Vol for Water Quality  $(R_m)(R_v)/12 \times A = 5.84 \text{ ac ft } 254,500 \text{ ft}^3$ d) Need area = 5.84 ac for 6" depth in wetlands  
or 2.9 ac ft = 127,250 cu ft.

e) @ elev 55 area = 1.6 ac

$$\text{Vol} = .4 \times 5 \times 1.6 = \underline{\underline{3.2}} \text{ ac ft}$$

@ elev 60 ≈ 8.3 ac.

$$\text{Vol} = \underline{\underline{25}} = .4 \times 10 \times \underline{\underline{6.25}} \text{ ac}$$

f)  $T_c = 1.25 \text{ hr.}$ 

Release rate for Water Qual Volume = 3 cfs.

$$Q = CA\sqrt{2gh} = .7 \times A \sqrt{2 \times 32.2 \times 6} \quad A = .218 = \pi r^2$$

# MILL CREEK

## MCBASINI.DAT

| <u>STORM</u> | <u>Q<sub>peak</sub> in</u> | <u>Q<sub>out</sub></u> | <u>ELEV</u> | <u>V<sub>s</sub></u> |
|--------------|----------------------------|------------------------|-------------|----------------------|
| 2            | 117                        | 23                     | 57.8        | 12.4                 |
| 16           | 222                        | 78                     | 60.3        | 23.5                 |
| 25           | 295                        | 128                    | 60.9        | 28.7                 |
| 100          | 382                        | 207                    | 61.5        | 33.8                 |

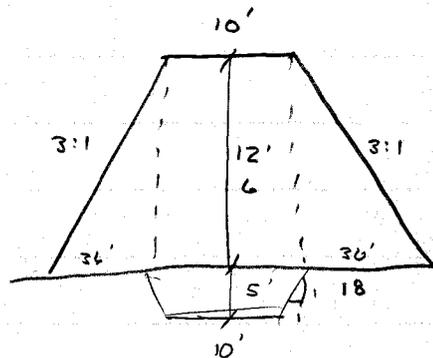
### 2. Basin -

elev - 62.0

length - 300'

slopes - 3:1

bottom - 50.0



a) sect 1 - 552 sf. or cf/ft

sect 2 - 168 sf

$$\text{Vol} = 200 \times 168 + 50 \times 552 = 61,200 \text{ ft}^3 \text{ or } 2267 \text{ cyd.}$$

$$\text{Cost} - \$15/\text{cyd} \times 2267 = \underline{\$15,869} + 18,136$$

$$\text{Core} - \$14/\text{cyd} \times 800 \text{ cyds} = \underline{\$11,200}$$

### b) outlet structure -

$$80' \ 30'' \ \text{RCP} @ 45.00 \ \text{LF} = \underline{\$3600}$$

$$\text{Riser} - \text{Lump Sum} - \underline{\$5000}$$

$$\text{c) Access ROAD} - \text{GRAVEL} \quad \$0.75/\text{in} \times 6'' \times 100' \times 12' / 9 = \underline{\$600}$$

$$\text{d) Stabil. Const Entr.} - \underline{\$500}$$

$$\text{e) Clean + Grub} - 1.5 \text{ ac} \times 3000 = \underline{\$4500}$$

$$\text{f) Stabilization inc. topsoil} - 5000/\text{ac} \times 2 \text{ ac} = \underline{\$10,000}$$

$$\text{g) Silt fence,} \quad 500 \ \text{LF} \times 7 = \underline{\$3500}$$

- h) Riprap -  $50' \times 1.5' \times 20' / 9 \times 45/sy = \underline{\$7500}$
- i) watertight manhole covers -  $100 \times 3 = \underline{\$300}$
- j) Temp Stream Div. - L.S. -  $2500 = \underline{\$2500}$
- k) Emergency Spillway - cut - L.S.  $\$100/hr \times 10 = \underline{\$1000}$

Subtotal -  $\$84,205$   
 Cont. (25%)  $\underline{21,051}$   
 105,256

- |    |  |        |
|----|--|--------|
| 3) | Engineering inc. survey, soils invest. = | 3000   |
|    | wetlands permit<br>Plots =               | 1000   |
| 4) | Plot Prep. + survey =                    | 3500   |
| 5) | Land Acquisition =                       | 0      |
|    |  | <hr/>  |
|    |  | \$7500 |
| 6) | R.O-W Agent time                         | \$2000 |
|    |  | <hr/>  |
|    |  | \$9500 |

TOTAL -  $\$114,756$

# MILL CREEK DETENTION BASIN

## A. Area inundated

| STORM       | ELEV | Area |      |      | Within  | TOTAL |
|-------------|------|------|------|------|---------|-------|
|             |      | 1    | 2    | 3    | 199 ROW |       |
| W.Q. Volume | 58.3 | 0.85 | 1.26 | 1.15 |         | 3.26  |
| 2           | 59.7 | 1.15 | 2.14 | 1.44 |         | 4.73  |
| 10          | 61.0 | 1.37 | 3.05 | 1.61 |         | 6.03  |
| 100         | 62.4 | 1.61 | 4.13 | 1.84 |         | 7.13  |

## B. Run w/out 199 in Place

| ELEV | Area 1+2 | Area 3 | Area total | INC VOL | VOLUME |
|------|----------|--------|------------|---------|--------|
| 50   | 0        | 0      | 0          | 0       | 0      |
| 52   | 0.04     | 0      | 0.04       | 0.04    | 0.04   |
| 54   | 0.40     | .15    | 0.55       | 0.59    | 0.63   |
| 56   | 1.24     | .67    | 1.91       | 2.46    | 3.09   |
| 58   | 2.11     | 1.15   | 3.26       | 5.17    | 8.26   |
| 60   | 3.51     | 1.52   | 5.03       | 8.29    | 16.55  |
| 62   | 5.37     | 1.78   | 7.15       | 12.18   | 28.73  |
| 64   | 7.24     | 2.0    | 9.24       | 16.39   | 45.12  |

| C. STORM | PEAK INFLOW | RELEASE RATE | ELEV | VOL STORAGE |
|----------|-------------|--------------|------|-------------|
| 2-24     | 132         | 35.1         | 59.1 | 13.1        |
| 10-24    | 256         | 118.2        | 60.5 | 19.7        |
| 25-24    | 348         | 188.6        | 61.3 | 24.6        |
| 100-24   | 460         | 286.8        | 62.1 | 29.7        |
| 1 inch   |             |              | 57.1 | 5.9         |

Vol.  
w/199  
.04  
.48  
2.12  
5.0  
10.2  
19.5  
32.1

# MILL CREEK DET BASIN

## DRAWDOWN TIME

|              |                                       |
|--------------|---------------------------------------|
| WQ Volume -  | 18.3 hrs                              |
| 2 yr storm   | $18.3 + 2.5 = 20.8$                   |
| 10 yr storm  | $18.3 + 2.5 + 0.4 = 21.2$             |
| 25 yr storm  | $18.3 + 2.5 + 0.4 + 0.2 = 21.4$       |
| 100 yr storm | $18.3 + 2.5 + 0.4 + 0.2 + 0.1 = 21.5$ |

# MILL CREEK DETENTION BASIN #1

## 1. VOLUME OF STORAGE IN BASIN

| <u>ELEV</u> | <u>AREA 1</u> | <u>AREA 2</u> | <u>TOTAL AREA</u> | <u>INC. (ACFE) VOLUME</u> | <u>TOTAL VOLUME (ACFT)</u> |
|-------------|---------------|---------------|-------------------|---------------------------|----------------------------|
| 50          | 0             | 0             | 0                 | 0                         | 0                          |
| 52          | 0.04          | 0             | 0.04              | .04                       | 0.04                       |
| 54          | 0.40          | 0             | 0.40              | 0.44                      | 0.48                       |
| 56          | 0.68          | 0.56          | 1.24              | 1.64                      | 2.12                       |
| 58          | 0.85          | 1.26          | 2.11              | 3.34                      | 4.98                       |
| 60          | 1.21          | 2.30          | 3.51              | 5.62                      | 10.6                       |
| 62          | 1.54          | 3.83          | 5.37              | 8.89                      | 19.49                      |
| 64          | 1.89          | 5.35          | 7.24              | 12.6                      | 32.10                      |

5.9 ac ft - 58.3 ft.

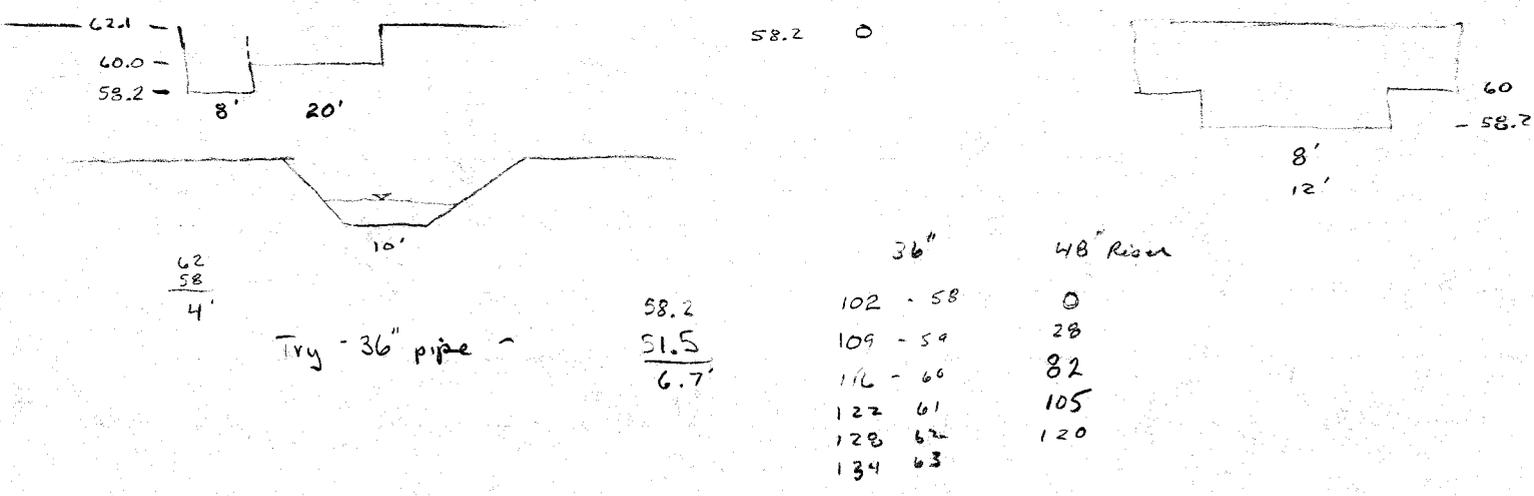
56 - 0.68

58 - 1.2

0.67

# MILL CREEK BASIN # 1

| ORIFICE | PRINCIPAL                | EMERGENCY  | STORM  | PEAK FLOW | RELEASE RATE | ELEV | VOL STORAGE |
|---------|--------------------------|------------|--------|-----------|--------------|------|-------------|
| 6"      | 30" @ 58.3               | 30' @ 60.0 | 2-6    | 129       | 29.7         | 60.0 | 10.8        |
| 6"      | 36" @ 58.3               | 30' @ 60.0 | 2-6    | 129       | 31.3         | 59.9 | 10.4        |
| 6"      | 30" @ 58.2               | 30' @ 60.0 | 2-6    | "         | 47.5         | 59.5 | 7.2         |
| "       | "                        | "          | 2-24   | 132       | 62.0         | 59.8 | 10.1        |
| "       | "                        | "          | 10-6   | 249       | 152.5        | 60.6 | 13.2        |
| 5"      | 30" @ 56.4               | "          | 2-6    | 129       | 80.3         | 58.4 | 6.1         |
| 6"      | 30 @ 58.2                | "          | 100-24 | 460       | 405          | 61.9 | 18.9        |
| "       | "                        | "          | 10-24  | 256       | 183          | 60.8 | 14.1        |
| 6"      | 10' Weir @ 58.2          | 20' @ 60.0 | 2-24   | 132       | 62.0 ✓       | 59.8 | 10.1        |
| 6"      | "                        | "          | 10-24  | 256       | 174 ✓        | 60.9 | 14.6        |
| "       | "                        | "          | 100-24 | 460       | 384          | 62.1 | 20.3        |
| "       | 8' Weir 58.2             | 20' @ 60.0 | 2-24   | 132       | 56.6 ✓       | 60.0 | 10.6        |
| "       | "                        | "          | 10-24  | 256       | 168 ✓        | 61.0 | 15.3        |
| "       | "                        | "          | 100-24 | 460       | 372 ✓        | 62.3 | 21.2        |
|         | 8' Weir 58.2, 4' weir 60 | 20' @ 61.4 | 100-24 | 460       | 340          | 62.7 | 23.7        |
|         | "                        | 25' @ 61.4 | 100-24 | 460       | 350          | 62.6 | 23.4        |
|         |                          |            | 25-24  | 348       | 240          | 62.1 | 19.9        |



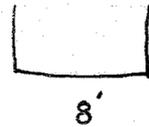
# MILL CREEK BASIN #1

220

|       | <u>LDR</u> | <u>MDR</u> | <u>HDR</u> | <u>FOR</u> | <u>OPEN</u> | <u>INST</u> | <u>COMM</u> | <u>HWY</u> | <u>A</u> | <u>B</u> | <u>C</u> | <u>D</u> |
|-------|------------|------------|------------|------------|-------------|-------------|-------------|------------|----------|----------|----------|----------|
| 220   | 0          | 46.2       | 5.2        | 23.5       | 20.0        | 0           | 3.1         | 2.0        | 0        | 31.4     | 58.6     | 10       |
| 230   | 2.7        | 35.6       |            | 55.6       | 0           | 5.2         | 0           | 0.9        | 0        | 40.1     | 48.5     | 11.4     |
| → RCN |            | 79         | 89         | 66         | 70          | -           | 89          | 84         | =        | 75       |          |          |
| RCN   | 75         | 78         | -          | 65         | -           | 78          | -           | 83         | =        | 71       |          |          |

# MILL CREEK DETENTION BASIN

1.  $Q = A \sqrt{2g(H_c - d)}$



$$d_c = \sqrt[3]{\frac{Q^2}{b^2 g}} = \sqrt[3]{\frac{57^2}{8^2 g}} = 1.16'$$

$$\frac{d_c}{2} = \frac{V_c^2}{2g} \quad \frac{1.16}{2} = \frac{(6.14)^2}{2g} \quad \checkmark$$

$$Q = AV =$$

$$V = \frac{Q}{A} = \frac{57}{8 \times 1.16} = 6.14 \text{ fps}$$

2. For rect. channel @ 3:1 slope,  $Q = 57 \text{ cfs}$ ,  $F = 8.9$

Length of hydraulic jump from Fis 21-51, <sup>pg 21-56</sup> 2<sup>nd</sup> Ed. Civil Engr. Handbook

for  $F_1 = 9$   $L/d_2 = 6.2$

$$d_2 = \frac{1.486}{n} R^{2/3} S^{1/2}$$

$$S = .005 \quad n = .025 \quad b = 8' \quad SS = 2:1$$

$$d_2 = 1.3'$$

$$L = 6.2 \times 1.3 = \underline{8'}$$

for  $Q = 370 \text{ cfs}$   $d_2 = 3.5'$   $F_1 = 9.9'$   $d_1 = 0.88'$

$$L/d_2 = 6.2$$

$$L = 6.2 \times 3.5 = \underline{21.7'}$$

3. Flow @ entrance to step channel

$$Q = 3.087 b H_c^{3/2} \quad \text{rect. channel}$$

$$d_c = \frac{2}{3} H_c$$

$$1.16' = \frac{2}{3} H_c \quad H_c = 1.74' \quad b = 8$$

$$Q = 57 \text{ cfs} \quad V_1 = 26 \text{ fps} \quad d_1 = 0.27 \quad s = .33 \quad b = 8'$$

$$\text{entrance loss} = K \frac{V_1^2}{2g} = \left(\frac{26^2}{2g}\right) .3 = 3.15'$$

$$.27 + 3.15' = 3.42'$$

$$Q = A \sqrt{2gH} = 8x$$

$$d_c + .3 \frac{V_c^2}{2g} = 1.16 + .3 \left(\frac{6.14^2}{2g}\right) = 1.33'$$

$$H_c = 1.8'$$

$$\text{Try } Q = 70 \quad d_c = 1.33 \quad \text{entr loss} = \left(\frac{6.6^2}{2g}\right) .3 = .2 \quad H_c = 1.53 \neq 1.9$$



Table 3.3  
SUBBASIN CHARACTERISTICS FOR  
ULTIMATE BUILDOUT SCENARIO

| Subbasin Id. | Area (acres) | Percent Land Use Category |       |       |       |        |        |        |        |       |        |          | % Hyd. Soil Group |      |      |      | Tc (HRS) | AVG RCN           |
|--------------|--------------|---------------------------|-------|-------|-------|--------|--------|--------|--------|-------|--------|----------|-------------------|------|------|------|----------|-------------------|
|              |              | LDR 1                     | MDR 2 | HDR 3 | FOR 4 | CROP 5 | OPEN 6 | INST 7 | COMM 8 | I/O 9 | HWY 10 | WATER 11 | A                 | B    | C    | D    |          |                   |
| 220          | 106          | 30                        | 24    | 25    | 5     | -      | -      | 6      | -      | 6     | 4      | -        | 0                 | 31.4 | 58.6 | 10.0 | 0.58     | Comp 79<br>ULT 81 |
|              | RCN          | 76                        | 79    | 89    | 66    |        |        | 79     |        | 91    | 84     |          |                   |      |      |      |          | 81                |
| 230          | 67           | 15                        | 48    | 10    | 2     | -      | -      | 5      | -      | 16    | 10     | -        | 0                 | 40.1 | 48.5 | 11.4 | 1.2      | Comp 75<br>ULT 85 |
|              | RCN          | 75                        | 78    | 88    | 65    |        |        | 78     |        | 90    | 83     |          |                   |      |      |      |          | 80                |
| 200/210      | 32           | -                         | 23    | 15    | 5     | -      | 7      | -      | -      | -     | 50     | -        | 0                 | 35   | 60   | 5    | 0.47     |                   |
|              | RCN          |                           | 79    | 89    | 66    |        | 70     |        |        |       | 83     |          |                   |      |      |      |          | 81                |

TOTAL 205 21 37 19 4 - 1 5 - 7 6 - 81

FOR COMPUTER RUN

220 121.7 ac  
230 84.3 ac

IMPERVIOUSNESS -  $(.10)(21) + (.25)(37) + (.6)(19) + (.3)(5) + (.6)(7) + (.45)(6) = 31.2\%$   
LDR MDR HDR INST I/O HWY

T<sub>c 200/210</sub> Overland Flow - 100' @ 5 min  
 Channel Flow - 1400 LF - 1'/sec = 23 min  
 28 min

T<sub>c 220</sub> = Overland flow = 300' @ 1.7% - 19 min  
 or 1'/sec @ 1.7% - 5 min  
 kinematic 13 min  
 Channel Flow = 107-55 = 50 2800' long - 17 min  
 Swale = 400' - 1.3'/sec = 5 min  
 TOTAL = 13 + 5 + 17 = 0.58 hr.

# MILL CREEK BASIN

9/28/92

- RUN SMALL POND - PAINAL METHOD

- COMPARE TO INFO SENT BY VDOT - 11/12/91

A. Current design - Their numbers - ORIGINAL D.A.

D.A. = 210 ac

$T_c = 44 \text{ min}$

$C = 0.54$

| <u>STORM</u> | <u>ALLOW. RELEASE</u> | <u>CRITICAL STORM DUR</u> | <u>PEAK INFLOW FOR CRIT STORM</u> | <u>STORAGE VOLUME</u> |
|--------------|-----------------------|---------------------------|-----------------------------------|-----------------------|
| 2            | 84                    | 39                        | 276                               | 12.9 acft             |
| 10           | 205                   | 33.5                      | 415                               | 12.1 acft             |

B. PROPOSED ADDITIONAL D.A. -

DA = 260 acres

$C = 0.58$

$T_c = 44$

| <u>STORM</u> | <u>ALLOW RELEASE</u> | <u>CRITICAL STORM DUR</u> | <u>PEAK INFLOW FOR CRIT. STORM</u> | <u>STORAGE VOLUME</u> |
|--------------|----------------------|---------------------------|------------------------------------|-----------------------|
| 2            | 84                   | 40.75                     | 332                                | 17.5                  |
| 10           | 205                  | 33.5                      | 513                                | 17.4                  |
| ↕            |                      |                           |                                    |                       |
| 2            | 84                   | 42                        | 323                                | 17.4                  |
| 10           | 205                  | 37                        | 477                                | 17.7                  |

check because crit storm  $T_c < t_c$ ; use  $t_c$

$$V_{10} = \left[ Q_0 T_c + \frac{Q_0 t_c}{4} - \frac{9_0 T_c}{2} - \frac{3_9_0 t_c}{4} \right] 60$$

$Q_0 = CIA = 0.58 \times 2.86 \times 260 = 431$

$$V_{10} = \left[ 431 \times 44 + \frac{431 \times 44}{4} - \frac{205 \times 44}{2} - \frac{3 \times 205 \times 44}{4} \right] 60 = 745,800 = 17.1 \text{ acft. } \leftarrow \underline{OK}$$

# MILL CREEK BASIN

1/27/92

- RUN IN RESPONSE TO REQUEST FROM Henry Sayers - VDOT
- They want to divert 50 additional acres drainage into basin
  - current design - 205 acres
  - proposed design - 255 acres
  - Subbasin 220 from 121.7 to 146.7 ac
  - " 230 " 84.3 to 109.3 ac.

| <u>STORM</u> | <u>PEAK INFLOW</u> | <u>RELEASE RATE</u> | <u>ELEV IN BASIN</u> | <u>VOL STORAGE</u> | <u>Pre Devcl</u> | <u>% Red. Pre Dev</u> |
|--------------|--------------------|---------------------|----------------------|--------------------|------------------|-----------------------|
| 2-24         | 163                | 84                  | 60.1                 | 11.2               |                  |                       |
| 10-24        | 315                | 205                 | 61.6                 | 17.7               |                  |                       |
| 25-24        | 429                | 310                 | 62.4                 | 21.8               |                  |                       |
| 100-24       | 568                | 436                 | 63.1                 | 26.3               |                  |                       |

2. Run w/ Tc for 220 = 1.0 w/E-5 @ 61.6  
 230 = 1.18

| <u>STORM</u> | <u>PEAK INFLOW</u> | <u>RELEASE RATE</u> | <u>ELEV IN BASIN</u> | <u>VOL STORAGE</u> | <u>Pre Devcl</u> |
|--------------|--------------------|---------------------|----------------------|--------------------|------------------|
| 2-24         | 152                | 83                  | 60.1                 | 11.1               |                  |
| 10-24        | 296                | 199                 | 61.6                 | 17.7               |                  |
| 25-24        | 404                | 361                 | 62.4                 | 22.0               |                  |
| 100-24       | 535                | 419                 | 63.1                 | 26.4               |                  |
| 100-6        | 475                | 344                 | 62.6                 | 23.1               |                  |

∴ Design modified slightly to take these changes - 1/28/92

MILL CREEK DETENTION BASIN #1 -  
DRAINAGE AREA DETERMINATION

6/18/92

- CALC. AFTER REVISED DRAINAGE AREA MAP RECD. FROM VDOT

I. Area 220            102.5  
                              103.0  
                              102.75

Area 210            45.7  
(reduced)            46.1  
                              45.9

Area 230            105.5  
                              104.8  
                              105.2

253.8

II. Time of Conc.

210 - Shallow conc. flow  $S = 0.003$   $V = .9 \text{ sec}$   $L = 900'$   $T = 16.6 \text{ min}$   
 $\frac{0.007(nL)^8}{(P.T)^{.55}}$   
 Overland flow - 206' - .5% -  $T_c = \frac{0.007(nL)^8}{(P.T)^{.55}}$   $n = .8$   $T_2 = 3.5$   
 $T_c = 1.0 \text{ hr}$

Use  $T_c = 1.0 \text{ hr}$

5/16/91

## MILL CREEK BASIN

### 1. DESIGN ELEVATIONS AND DIMENSIONS

- a) 8"  $\phi$  orifice @ ELEV 50.0
- b) 10' concrete weir @ ELEV 58.3
- c) 17' trapezoidal weir @ ELEV 61.4

### 2. STORM EVENT PERFORMANCE

| <u>STORM</u> | <u>PEAK INFLOW</u> | <u>RELEASE RATE</u> | <u>ELEV</u> | <u>VOL STORAGE</u> | <u>PRE DEVEL</u> | <u>% RED PRE DEV</u> |
|--------------|--------------------|---------------------|-------------|--------------------|------------------|----------------------|
| 2-24         | 132                | 64                  | 59.7        | 9.7                | 89               | 39                   |
| 10-24        | 256                | 153                 | 61.0        | 15.1               | 198              | 23                   |
| 25-24        | 348                | 242                 | 61.8        | 18.6               | 284              | 15                   |
| 100-24       | 460                | 346                 | 62.4        | 22.3               | 392              | 12                   |

### 3. WATER QUALITY VOLUME

IMPERVIOUSNESS = 31%

$$R_v = 0.05 + 0.009(31.0) = 0.33$$

$$VOL = \frac{1}{2} \times .33 \times 205 = 5.6 \text{ acft}$$

INC Vol To  $\frac{1}{2}$ " for 199

$$22 \text{ ac} \times (.5 - .33) / 12 = 0.3 \text{ acft}$$

$$\text{TOTAL STORAGE} = 5.6 \text{ acft} + 0.3 \text{ acft} = 5.9 \text{ acft}$$

Subbasins

220      121.7      146.7

230      84.3      109.3

4. ELEV 58.3  $\Rightarrow$  Storage Volume = 5.9 acft

$$\text{RELEASE RATE} = \frac{5.9 \text{ acft} \times 43560}{24 \times 3600} = 2.98 \text{ cfs} = \text{Avg } Q$$

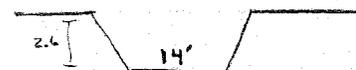
$$Q_{\text{MAX}} = 2 \times \text{Avg } Q = 2 \times 2.98 = 5.96 \text{ cfs}$$

use 8" orifice -

$$\text{Actual Max } Q = 5.7 \text{ cfs.}$$

5. Weir -  61.4      150 cfs

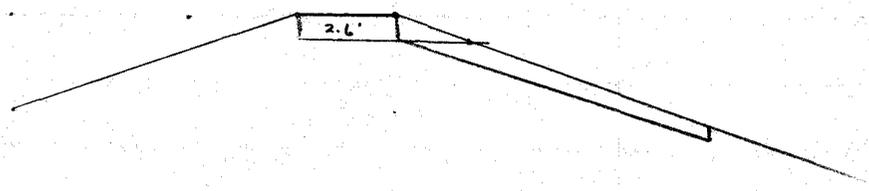
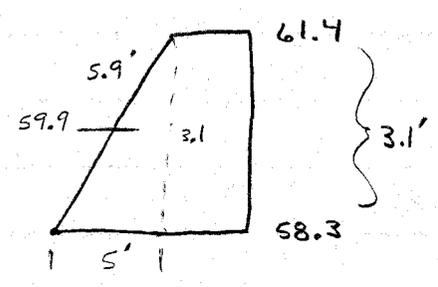
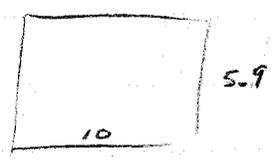
20.4  
61.4  
2.6



| <u>ELEVATION</u> | <u>HEAD</u> | <u>42" RCP</u> | <u>54" RISER</u>                        | <u>60" RISER</u>     | <u>10' WEIR</u> |
|------------------|-------------|----------------|---|----------------------|-----------------|
| 58.3             | 0           | 0              | 0                                       | 0                    | 0               |
| 59               | 7.8         | 150            | 26                                      | 29                   | 16              |
| 60               | 8.8         | 159            | 100 - <sup>weir</sup> / <sub>orif</sub> | 110<br>135 weir/orif | 60              |
| 61               | 9.8         | 168            | 125 - orif                              | 155                  | 120             |
| 62               | 10.8        | 177            | 145                                     | 185                  | 192             |
| 63               | 11.8        | 185            |   | 205                  | 275             |

$Q = CA\sqrt{2gh}$  - orifice  
 $Q = .7(59)\sqrt{2gh}$   
 $= 331(\sqrt{h}) = 479 \text{ cfs}$  -  
 weir eqn. controls

$CLH^{\frac{3}{2}} = 2.7 \times 10 \times 2.7^{\frac{3}{2}} = 120'$



REVISED VOID

MILL CREEK BASIN #1

4/19/91

# I. FINAL DESIGN

Water Quality - 6" orifice @ 50.0

2 yr release - 8' weir @ 58.3

10 yr release - 4' weir @ 60.0

Emergency Spillway - 20' @ 61.4

Top of Dam = 63.5

} revised

| STORM             | PEAK INFLOW | RELEASE RATE | ELEV | VOL STORAGE | PRE DEV |
|-------------------|-------------|--------------|------|-------------|---------|
| 2-6               | 129         | 41.5         | 59.7 | 9.7 ac ft   | 81      |
| 2-24              | 132         | 55.2         | 60.0 | 10.8        | 89      |
| 10-24             | 256         | 149.0        | 61.4 | 16.7        | 198     |
| 25-24             | 348         | 237          | 62.1 | 20.3        | 284     |
| 100-24            | 460         | 339          | 62.7 | 23.9        | 392     |
| 10' Prin. 2-24    | 132         | 60.3         | 59.9 | 10.3        |         |
| 10-24             | 256         | 150.1        | 61.3 | 16.2        |         |
| 25-24             | 348         | 235          | 62.1 | 20.0        |         |
| 100-24            | 460         | 336          | 62.7 | 23.8        |         |
| w/8" orifice 2-24 | 132         | 64           | 59.7 | 9.7         |         |
| + 10' Prin. 10-24 | 256         | 153          | 61.0 | 15.1        |         |
| 25-24             | 348         | 242          | 61.8 | 18.6        |         |
| 100-24            | 460         | 346          | 62.4 | 22.3        |         |

3/95

# MILL Creek DETENTION Basin #1

#1. 10" orifice

| <u>ELEV</u> | <u>Q</u> | <u>ELEV</u> | <u>Q</u> |
|-------------|----------|-------------|----------|
| 50          | 0        | 58          | 8.6      |
| 52          | 4.3      | 60          | 9.6      |
| 54          | 6.1      | 62          | 10.6     |
| 56          | 7.5      | 64          | 11.5     |

2. Weir - crest @ 58.3

L = 10'

|    | <u>Q<sub>out</sub></u> |
|----|------------------------|
| 60 | 76.5                   |
| 62 | 166.5                  |
| 64 | 256.5                  |

3. 42" RCP

|           | <u>Q</u> | <u>STORAGE</u> |
|-----------|----------|----------------|
| H = 51.25 | 0        |                |
| 60        | 160      |                |
| 62        | 178      |                |
| 64        | 194      |                |
|           | 56       | 7.5            |
|           | 58       | 8.6            |

4. Emer. Spillway

| <u>ELEV</u> | <u>Q</u> | <u>ELEV</u> | <u>Q</u> |
|-------------|----------|-------------|----------|
| 62          | 16       | 62          | 204      |
| 64          | 82       | 64          | 293      |

## MILL CREEK DET. BASIN

3/29/95

## RESULTS

| <u>STORM</u> | <u>Q<sub>in</sub></u> | <u>Q<sub>out</sub></u> | <u>ELEV</u> | <u>V<sub>s</sub></u> |
|--------------|-----------------------|------------------------|-------------|----------------------|
| 2-24         | 185                   | 108                    | 60.         |                      |
| 10-24        | 342                   | <del>198</del><br>211  | 61.7        |                      |
| 100-24       | 597                   | <del>523</del>         |             |                      |
| 25-24        | 457                   | 266                    |             |                      |



# MILL CREEK DETENTION BASIN #1

| <u>ELEV</u> | <u>STORAGE</u> | <u>DISCHARGE</u> |
|-------------|----------------|------------------|
| 50          | 0              | 0                |
| 52          | 0.04           | 1.7              |
| 54          | 0.48           | 2.9              |
| 56          | 2.12           | 3.8              |
| 58          | 4.98           | 4.5              |
| 60          | 10.60          | 93               |
| 62          | 19.49          | 182              |
| 64          | 32.10          | 270              |

10/93

## MILL CREEK DETENTION BASIN #1

1. 8" orifice

| <u>ELEV</u> | <u>Q</u> | <u>ELEV</u> | <u>Q</u> |
|-------------|----------|-------------|----------|
| 50          | 0        | 58          | 4.5      |
| 52          | 1.7      | 60          | 5.0      |
| 54          | 2.9      | 62          | 5.6      |
| 56          | 3.8      | 64          | 6.1      |

2. WEIR - Crest @ 58.3'

$L = 10'$       Q<sub>OUT</sub>

|    |       |
|----|-------|
| 60 | 76.5  |
| 62 | 166.5 |
| 64 | 256.5 |

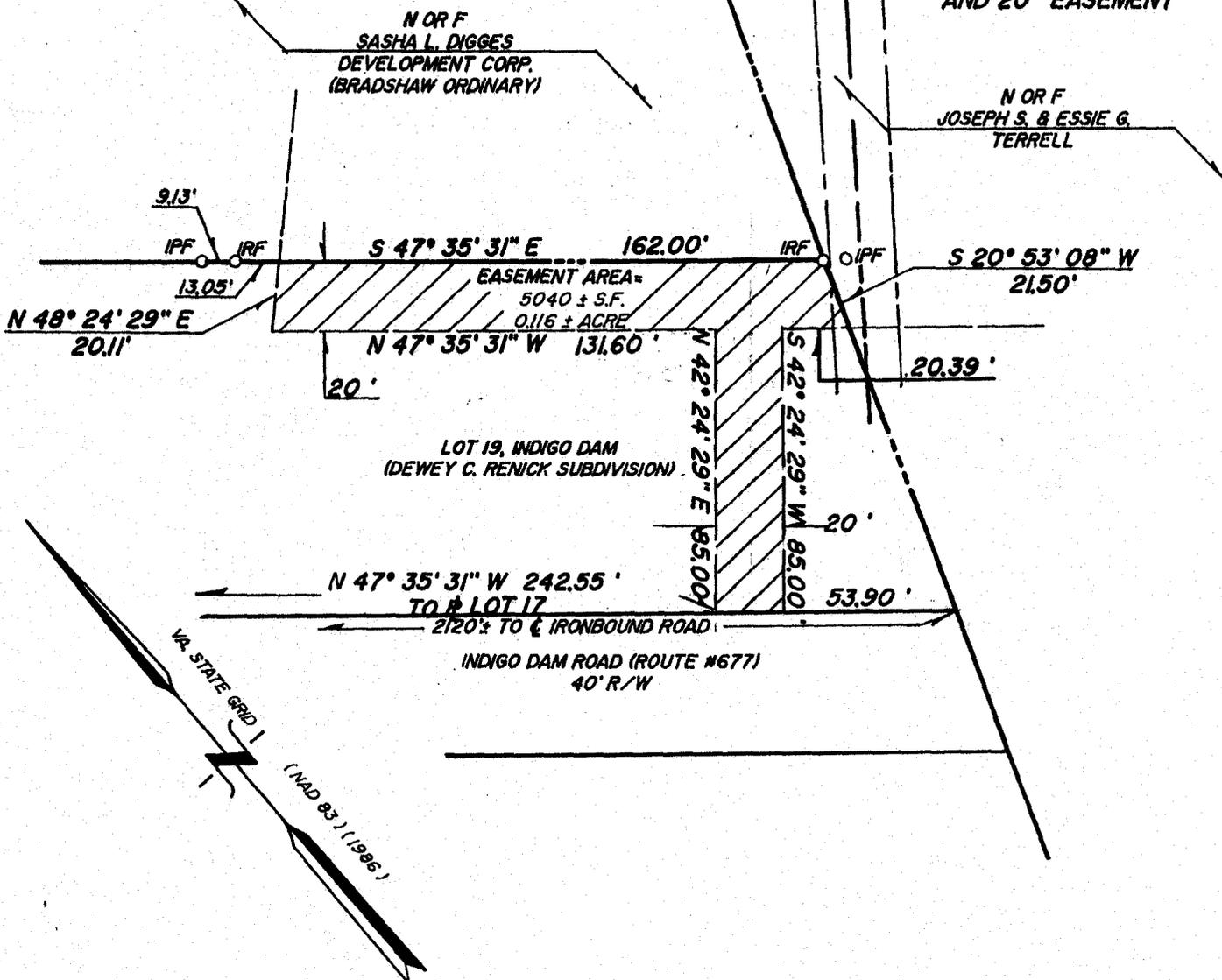
3. 42" RCP

$H = \text{ELEV} - 51.25$

|    |     |
|----|-----|
| 60 | 160 |
| 62 | 178 |
| 64 | 194 |

4. Emergency Spillway - 15' wide

| <u>ELEV</u> | <u>Q</u> |
|-------------|----------|
| 62          | 11       |
| 64          | 70       |



**SOURCE OF TITLE:**

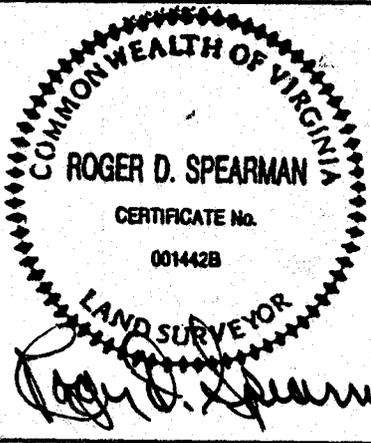
TITLE TO DAVID WAYNE ADKINS WAS CONVEYED BY JACK W. FORD & FRANCES P. FORD BY DEED DATED OCTOBER 2, 1985 AND RECORDED IN THE OFFICE OF THE CLERK OF THE CIRCUIT COURT OF THE COUNTY OF JAMES CITY IN DEED BOOK 283, PAGE 831.

NOTE: HATCHED AREA IS FOR CONVEYANCE.

ADDRESS: #154 INDIGO DAM ROAD

TAX MAP (38-4)(10-19)

DRAWING # 1



|                          |
|--------------------------|
| REFERENCES :             |
| DB. 283 P. 831           |
| IPF - IRON PIPE FOUND    |
| IPS - IRON PIPE SET      |
| IRS - IRON ROD SET       |
| IRF - IRON ROD FOUND     |
| BBL - BLDG. SETBACK LINE |
| DATE: JULY 12, 1991      |
| SCALE: 1" = 50'          |
| J.O.# 5548 F.B.# F       |

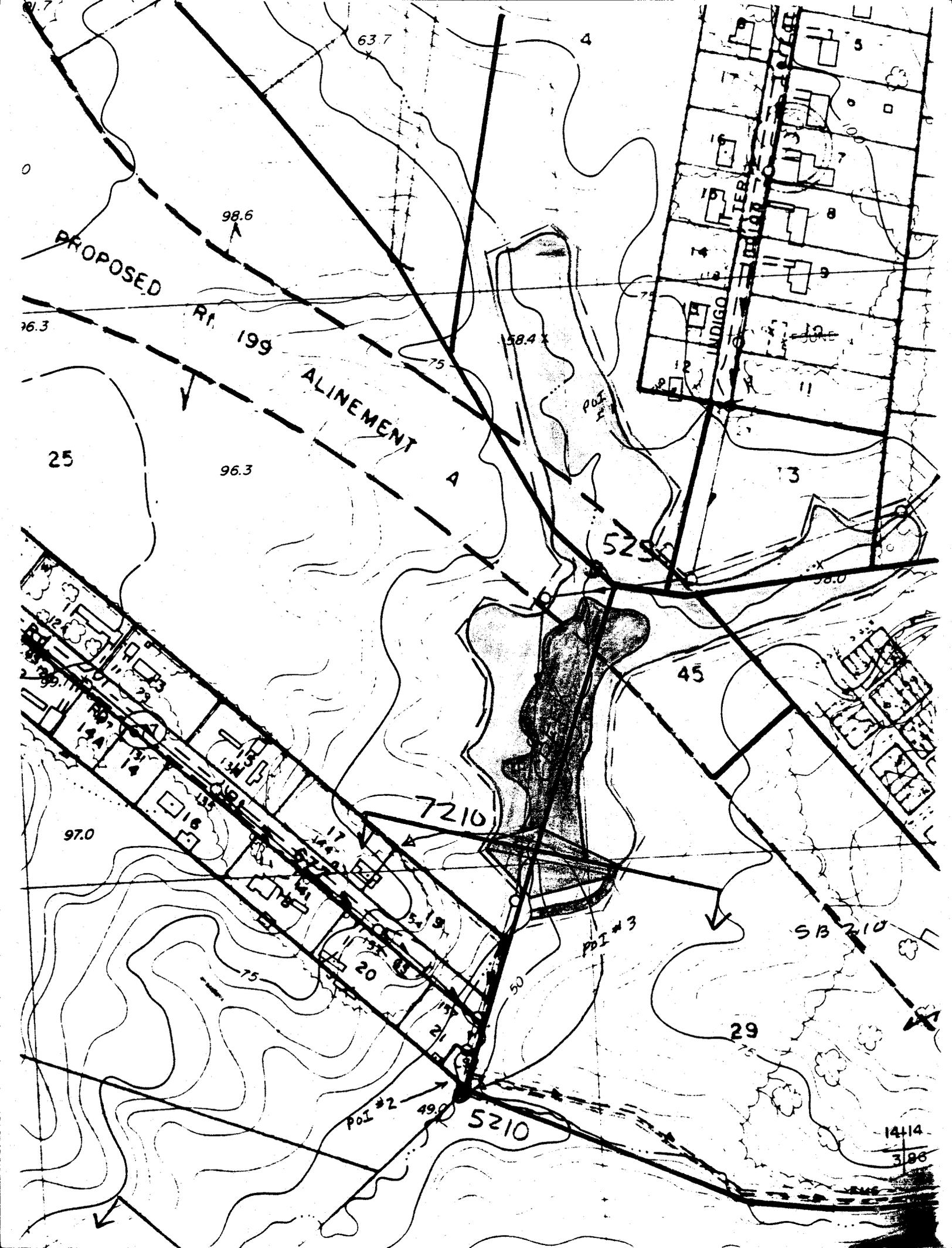
**PLAT TO ACCOMPANY CONVEYANCE OF EASEMENT FOR A STORMWATER MANAGEMENT DAM**

FROM  
**DAVID WAYNE ADKINS**

TO  
**JAMES CITY COUNTY**

**JAMES CITY COUNTY, VIRGINIA**  
**SPEARMAN & ASSOCIATES, P.C.**  
SURVEYING AND PLANNING  
489 McLAWS CIRCLE ---- WILLIAMSBURG, VA.  
(804) 253-8720





PROPOSED

Rt. 199

ALINEMENT A

INDIGO

SB 210

97.0

96.3

98.6

7210

5210

5290

POI #2

POI #3

1414  
3/86

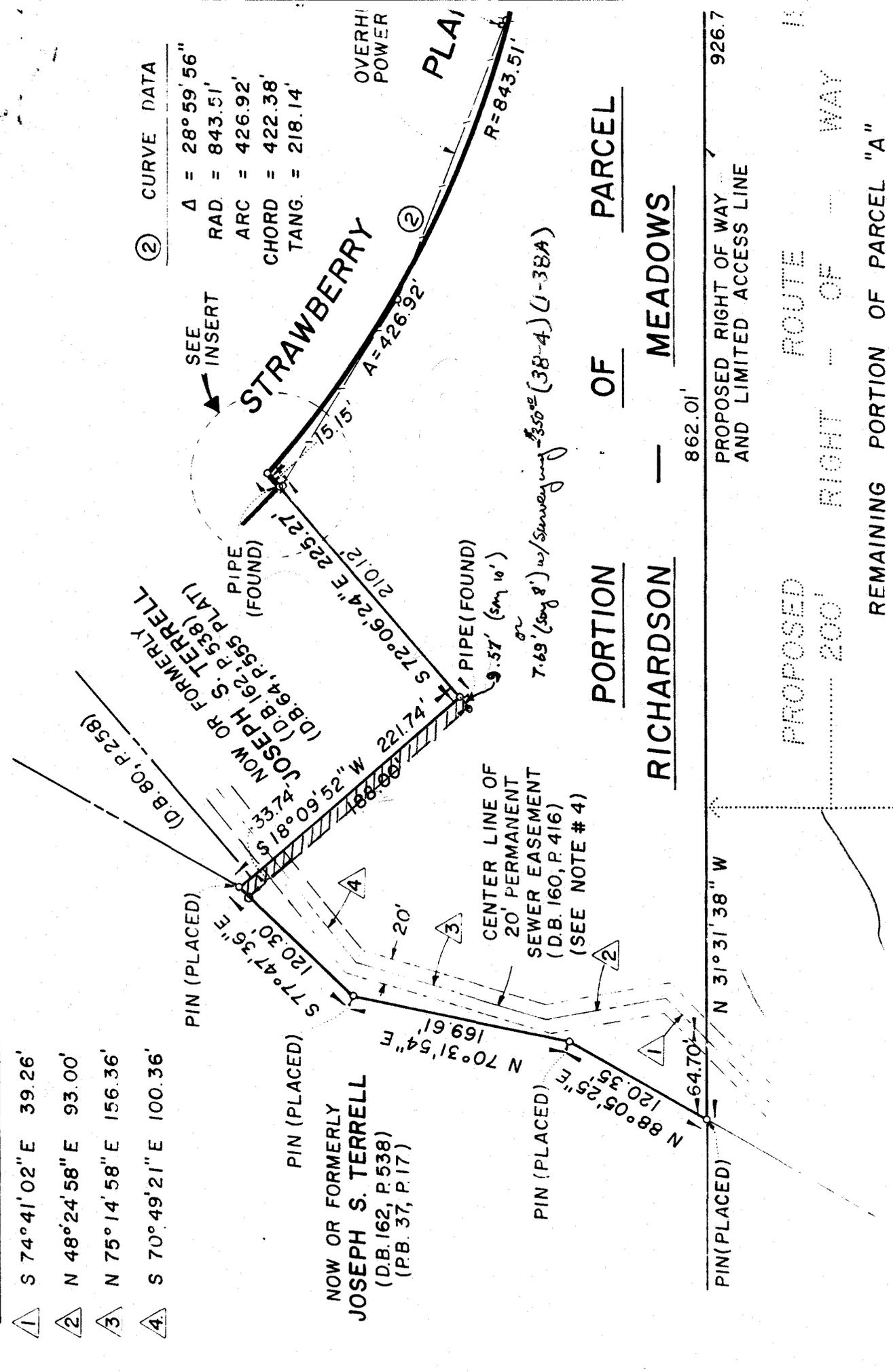
SCALE: 1" = 100'

20' PERMANENT SEWER EASEMENT FOR  
JAMES CITY COUNTY SANITARY DISTRICT # 3  
(D.B. 160, P. 416)

CENTER LINE DATA

- ① S 74°41'02" E 39.26'
- ② N 48°24'58" E 93.00'
- ③ N 75°14'58" E 156.36'
- ④ S 70°49'21" E 100.36'

TRADE 35 x 150' PIECE



② CURVE DATA

|       |             |
|-------|-------------|
| Δ     | = 28°59'56" |
| RAD   | = 843.51'   |
| ARC   | = 426.92'   |
| CHORD | = 422.38'   |
| TANG. | = 218.14'   |

PORTION OF PARCEL

RICHARDSON — MEADOWS

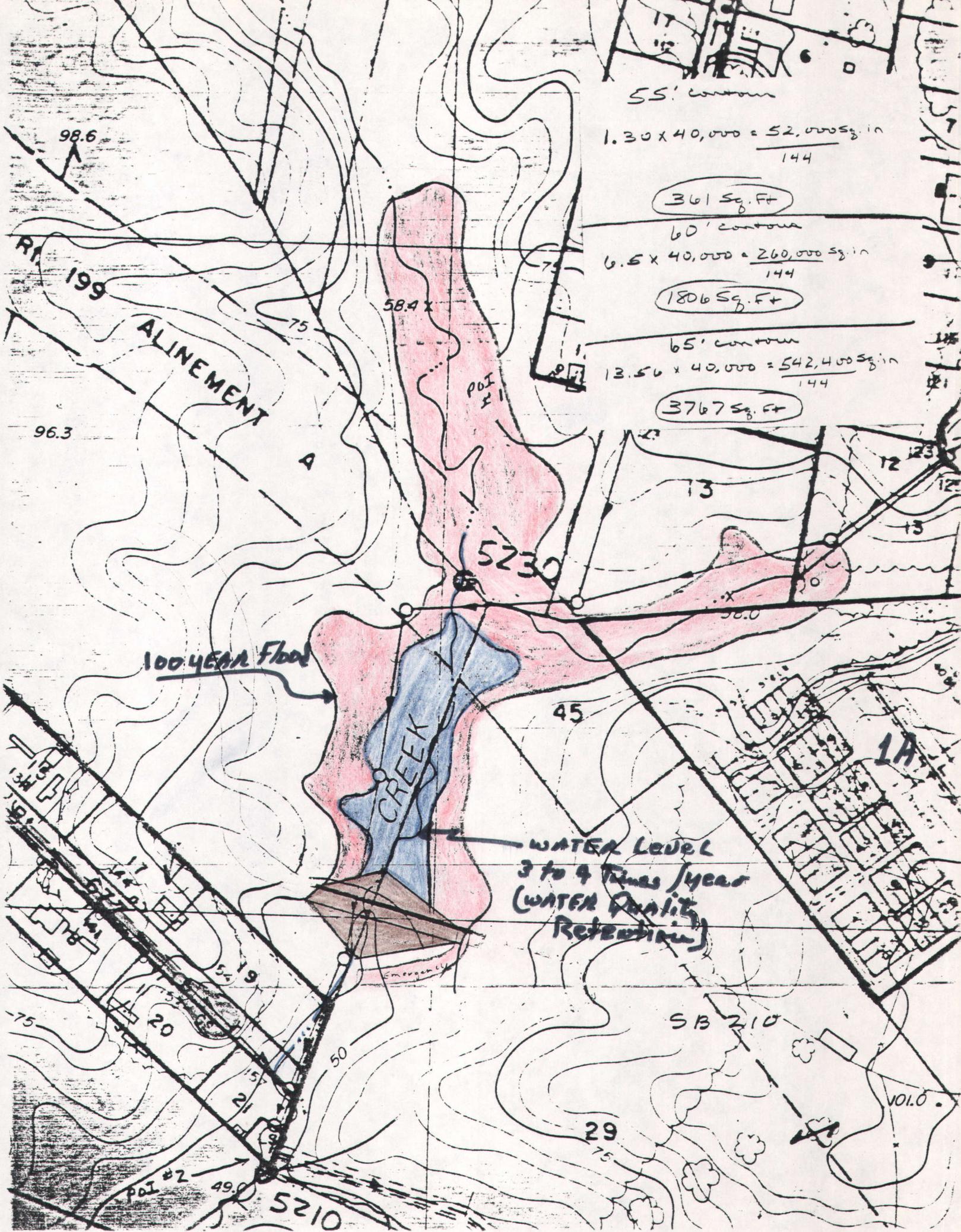
862.01' PROPOSED RIGHT OF WAY AND LIMITED ACCESS LINE 926.7

PROPOSED ROUTE OF

200' RIGHT OF WAY

REMAINING PORTION OF PARCEL "A"





55' contour  
 $1.30 \times 40,000 = \frac{52,000 \text{ Sq. ft}}{144}$

361 Sq. Ft

60' contour  
 $6.5 \times 40,000 = \frac{260,000 \text{ Sq. ft}}{144}$

1806 Sq. Ft

65' contour  
 $13.56 \times 40,000 = \frac{542,400 \text{ Sq. ft}}{144}$

3767 Sq. Ft

100 Year Flood

CREEK

WATER LEVEL  
 3 to 4 Times / Year  
 (Water Quality  
 Retention)

1A

SB 210

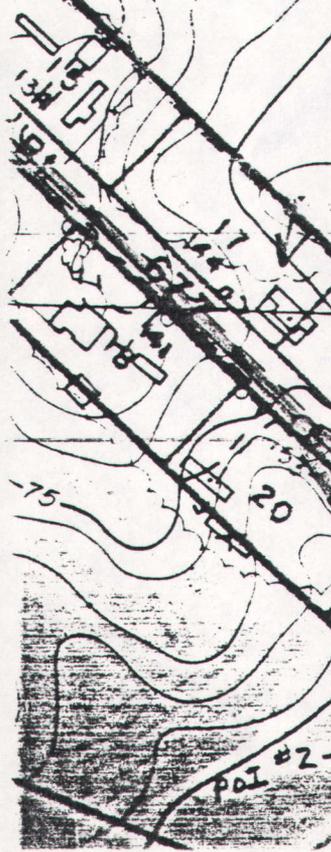
VOL. 0

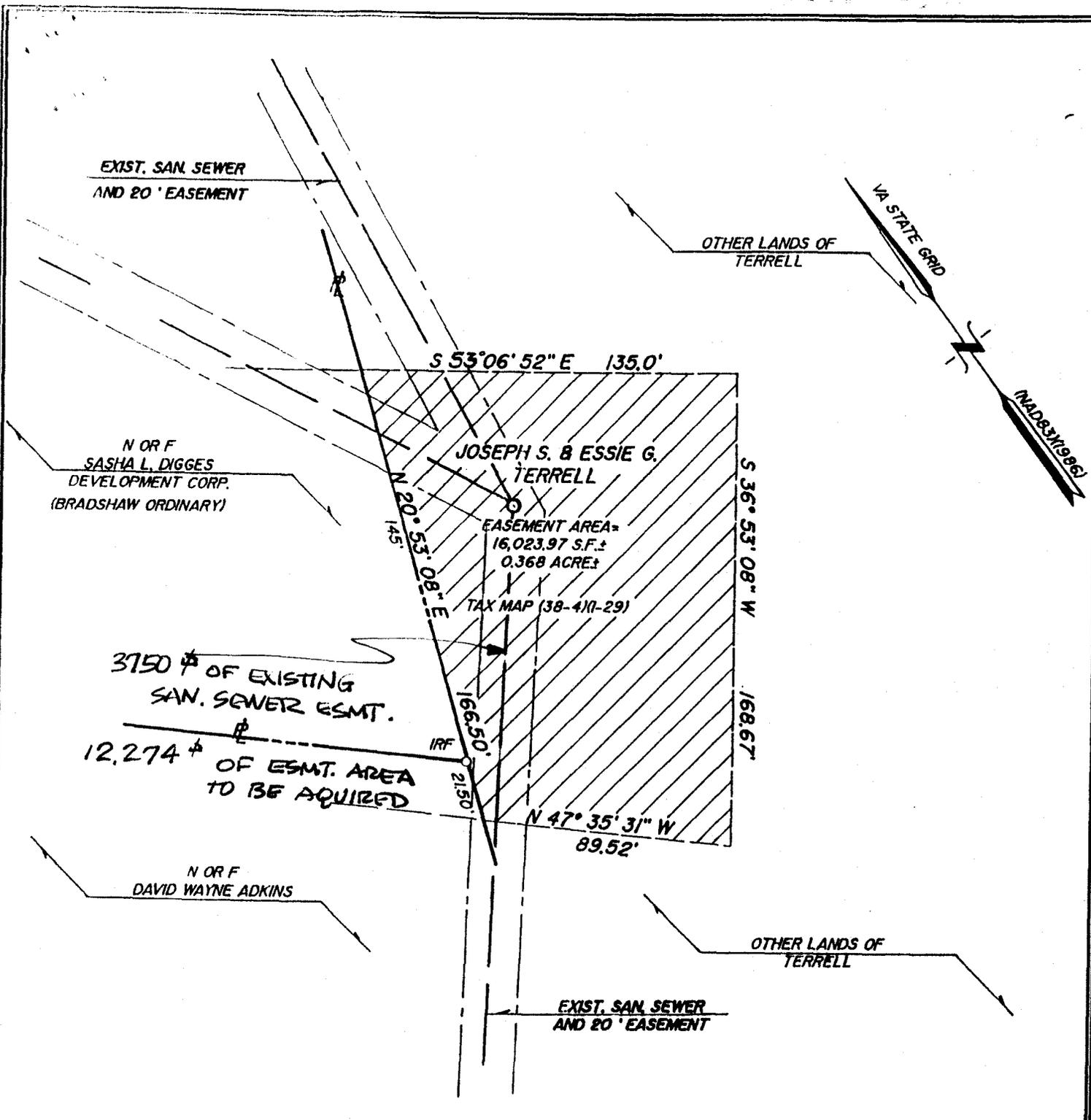
5210

29

POI #2

49.9





SOURCE OF TITLE:

TITLE TO JOSEPH S. & ESSIE G. TERRELL WAS CONVEYED BY C. C. & OLIVE D. CASEY BY DEED DATED APRIL 30, 1975 AND RECORDED IN THE OFFICE OF THE CLERK OF THE CIRCUIT COURT OF THE COUNTY OF JAMES CITY IN DEED BOOK 162, PAGE 538.

NOTE: HATCHED AREA IS FOR CONVEYANCE

TAX MAP # IS (38-4)(1-29)

DRAWING # 3

REFERENCES :  
DB. 162 P. 538

IPF - IRON PIPE FOUND  
IPB - IRON PIPE SET  
IRB - IRON ROD SET  
IRF - IRON ROD FOUND  
BSL - BLDG. SETBACK LINE

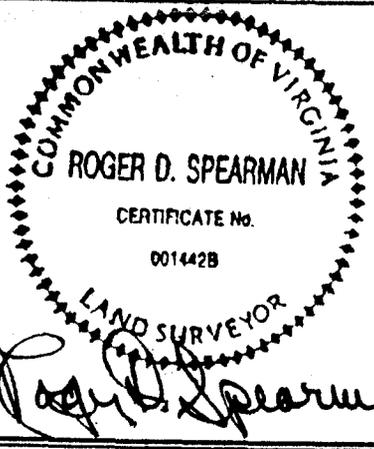
DATE: JULY 12, 1981  
SCALE: 1" = 50'  
J.D.# 5578 F.B.# F\*

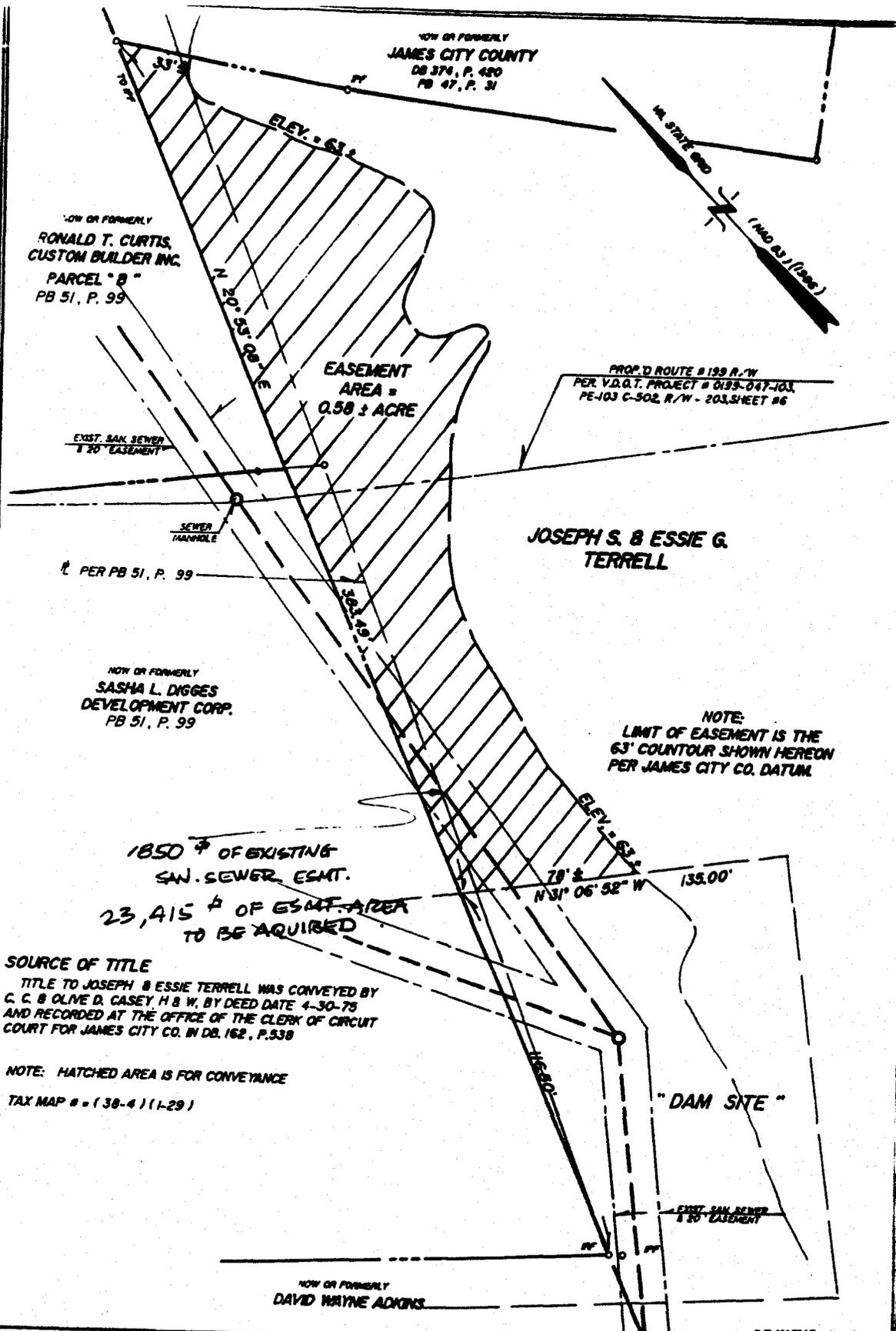
PLAT TO ACCOMPANY CONVEYANCE OF EASEMENT  
FOR A STORMWATER MANAGEMENT DAM

FROM  
JOSEPH S. & ESSIE G. TERRELL

TO  
JAMES CITY COUNTY

JAMES CITY COUNTY, VIRGINIA  
SPEARMAN & ASSOCIATES, P.C.  
SURVEYING AND PLANNING  
489 McLAWS CIRCLE WILLIAMSBURG, VA.  
(804) 253-8720





NOW OR FORMERLY  
**JAMES CITY COUNTY**  
 DB 374, P. 480  
 PB 47, P. 31

NOW OR FORMERLY  
**RONALD T. CURTIS,  
 CUSTOM BUILDER INC.**  
 PARCEL "B"  
 PB 51, P. 99

**EASEMENT  
 AREA =  
 0.583 ACRE**

PROP'D ROUTE # 199 R./W.  
 PER V.D.O.T. PROJECT # 0193-047-103  
 PE-103 C-502, R/W - 203, SHEET #6

**JOSEPH S. & ESSIE G.  
 TERRELL**

EXIST. SAN. SEWER  
 120" EASEMENT

SEWER  
 HANDLE

PER PB 51, P. 99

NOW OR FORMERLY  
**SASHA L. DIGGES  
 DEVELOPMENT CORP.**  
 PB 51, P. 99

**NOTE:**  
 LIMIT OF EASEMENT IS THE  
 63' CONTOUR SHOWN HEREON  
 PER JAMES CITY CO. DATUM

1850' # OF EXISTING  
 SAN. SEWER ESMT.  
 23,415' # OF ESMT. AREA  
 TO BE ACQUIRED

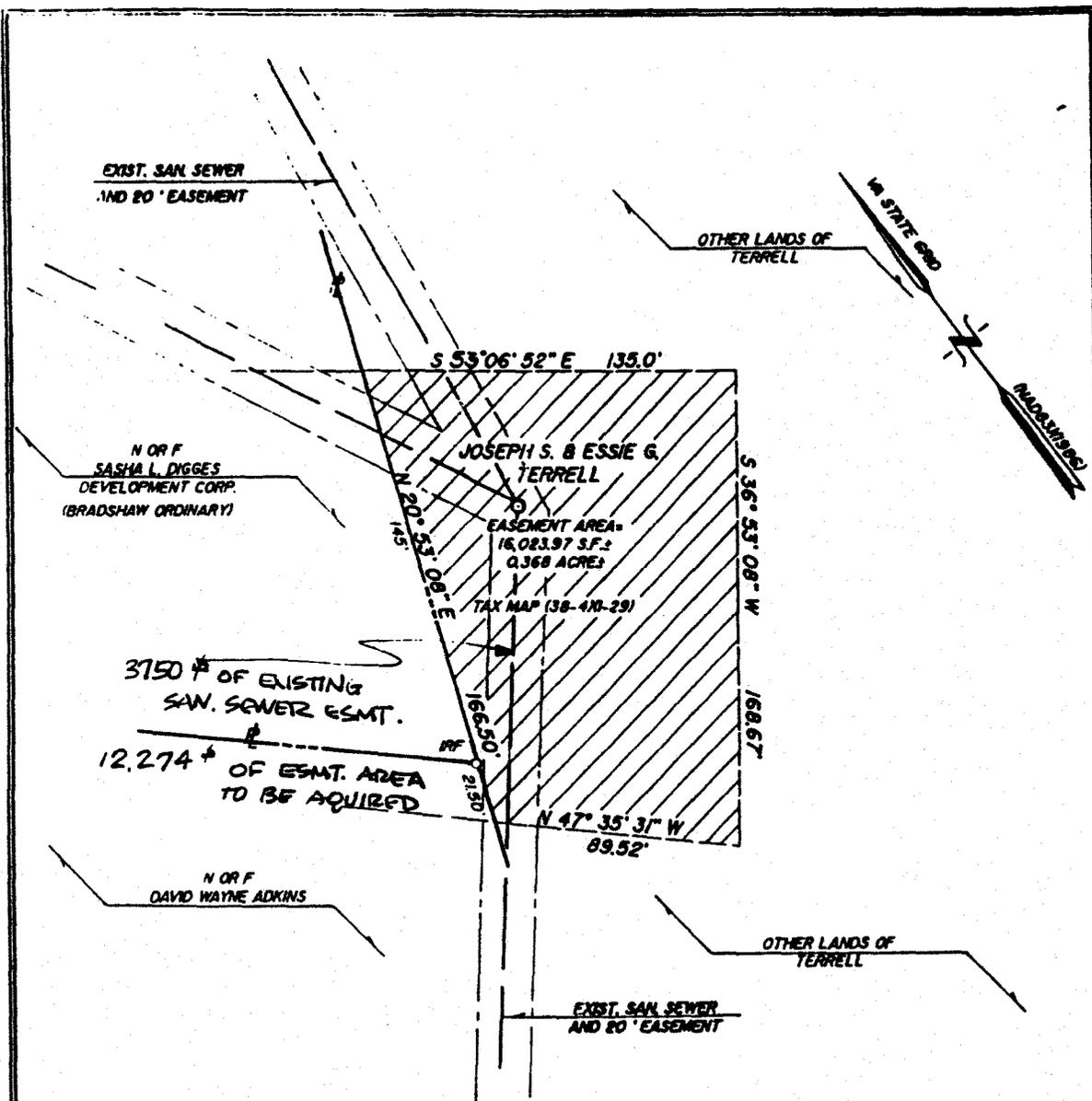
**SOURCE OF TITLE**  
 TITLE TO JOSEPH & ESSIE TERRELL WAS CONVEYED BY  
 C. C. & OLIVE D. CASEY, H & W, BY DEED DATE 4-30-75  
 AND RECORDED AT THE OFFICE OF THE CLERK OF CIRCUIT  
 COURT FOR JAMES CITY CO. IN DB. 162, P. 538

**NOTE:** HATCHED AREA IS FOR CONVEYANCE  
 TAX MAP # = (38-4) (1-29)

NOW OR FORMERLY  
**DAVID WAYNE ADKINS**

DRAWING # 4

|  |  |  |
|--|--|--|
|  | <b>REFERENCES :</b><br>NOTED   | <b>PLAT TO ACCOMPANY CONVEYANCE OF EASEMENT<br/>         FOR A STORMWATER MANAGEMENT BASIN</b><br><br>FROM<br><b>JOSEPH S. &amp; ESSIE G. TERRELL</b><br>TO<br><b>COUNTY OF JAMES CITY</b> |
|  | 20" = 2000 PIPES FOUND<br>24" = 2400 PIPES SET<br>30" = 3000 PIPES SET<br>36" = 3600 PIPES FOUND<br>48" = 4800 PIPES FOUND<br>60" = 6000 PIPES FOUND |  |
| DATE: JULY 22, 1991<br>SCALE: 1" = 80'<br>J.G. OF 8548 P.B. 77 |  | <b>23</b>  |



**SOURCE OF TITLE:**

TITLE TO JOSEPH S. & ESSIE G. TERRELL WAS CONVEYED BY C. C. & OLIVE D. CASEY BY DEED DATED APRIL 30, 1975 AND RECORDED IN THE OFFICE OF THE CLERK OF THE CIRCUIT COURT OF THE COUNTY OF JAMES CITY IN DEED BOOK 162, PAGE 538.

NOTE: HATCHED AREA IS FOR CONVEYANCE

TAX MAP # IS (38-4)(1-29)

DRAWING # 3

COMMONWEALTH OF VIRGINIA  
**ROGER D. SPEARMAN**  
 CERTIFICATE No.  
 0014428  
 LAND SURVEYOR

*Roger D. Spearman*

REFERENCES :  
 DB. 162 P. 538

SPV - SPIN PIPE FOUND  
 SPB - SPIN PIPE NOT FOUND  
 SPH - SPIN HOLE NOT FOUND  
 SPF - SPIN HOLE FOUND  
 SBL - BLVD. SETBACK LINE

DATE: JULY 18, 1991  
 SCALE: 1" = 50'  
 J.O.B. 5570 P.B. 77

**PLAT TO ACCOMPANY CONVEYANCE OF EASEMENT FOR A STORMWATER MANAGEMENT DAM**

FROM  
**JOSEPH S. & ESSIE G. TERRELL**

TO  
**JAMES CITY COUNTY**

**JAMES CITY COUNTY, VIRGINIA**

**SPEARMAN & ASSOCIATES, P.C.**  
 SURVEYING AND PLANNING  
 489 McLaws Circle — WILLIAMSBURG, VA.  
 (804) 253-0720

**24**



CD = N 37° 30' 00" W  
 PROP. RT.  
 PER V.D.O.T. PROJECT #  
 C-502, R/W-2

N OR F  
 JOSEPH S. & ESSIE G. TERRELL  
 D.B. 162, P. 538

EXISTING  
 SAN. SEWER  
 MANHOLE  
 RIM# 54.17  
 INV. IN# 48.86  
 INV. OUT# 48.59  
 PROVIDE WATERTIGHT  
 FRAME & COVER

PER P.B. 42, P. 59  
 THE MIDLANDS  
 S 20° 53' 08" W  
 666.09'

45' OF 8" PVC @ 0.50%  
 (SEE DETAIL)

S 23° 12' 18" W 356.24'  
 PRINCIPAL SPILLWAY  
 WEIR ELEV. = 58.3

60 L.F. OF SANITARY SEWER ENCASEMENT  
 ENCASE 12" SANITARY SEWER AT BEGINNING  
 OF MANHOLE AND EXTENDING UNDER DAM  
 FOR A LENGTH OF 60' (SEE DETAIL, SHEET 2)  
 (AT THE DISCRETION OF JCSA ENGINEER,  
 60 L.F. OF 12" D.I.P., CLASS 50, MAY BE  
 SUBSTITUTED FOR SANITARY SEWER ENCASEMENT.  
 SANITARY SEWER SERVICE SHALL REMAIN  
 UNINTERRUPTED REGARDLESS OF CONSTRUCTION  
 ACTIVITY)

EARTH BERM WITH 5:1 SIDE SLOPES  
 AND 10' TOP WIDTH. TOP ELEV. = 64.0

EXTEND KEY TRENCH AT FULL  
 HORIZONTAL DISTANCE OF AT LEAST  
 THE TOP OF THE EXISTING SIDE SLOPE  
 NATURAL GROUND (STARTING AT AN  
 ELEV. 64.0)

SAN SEWER - RAISE RIM TO 59.0 AND  
 PROVIDE WATERTIGHT FRAME  
 & COVER  
 RIM# 52.68  
 INV. IN# 47.83  
 INV. IN# 47.48  
 INV. OUT# 46.98

EMERGENCY SPILLWAY  
 15' WIDE TRAPEZOIDAL CONCRETE SPILLWAY  
 WITH 2:1 SIDE SLOPES. CONTROL  
 SECTION - 18' LONG, 15' WIDE SECTION  
 AT ELEV. 61.5, TRANSITION DOWN TO 1' DEPTH  
 AT ELEV. 61.5, TRANSITION DOWN TO 1' DEPTH  
 TO 38" SYCAMORE

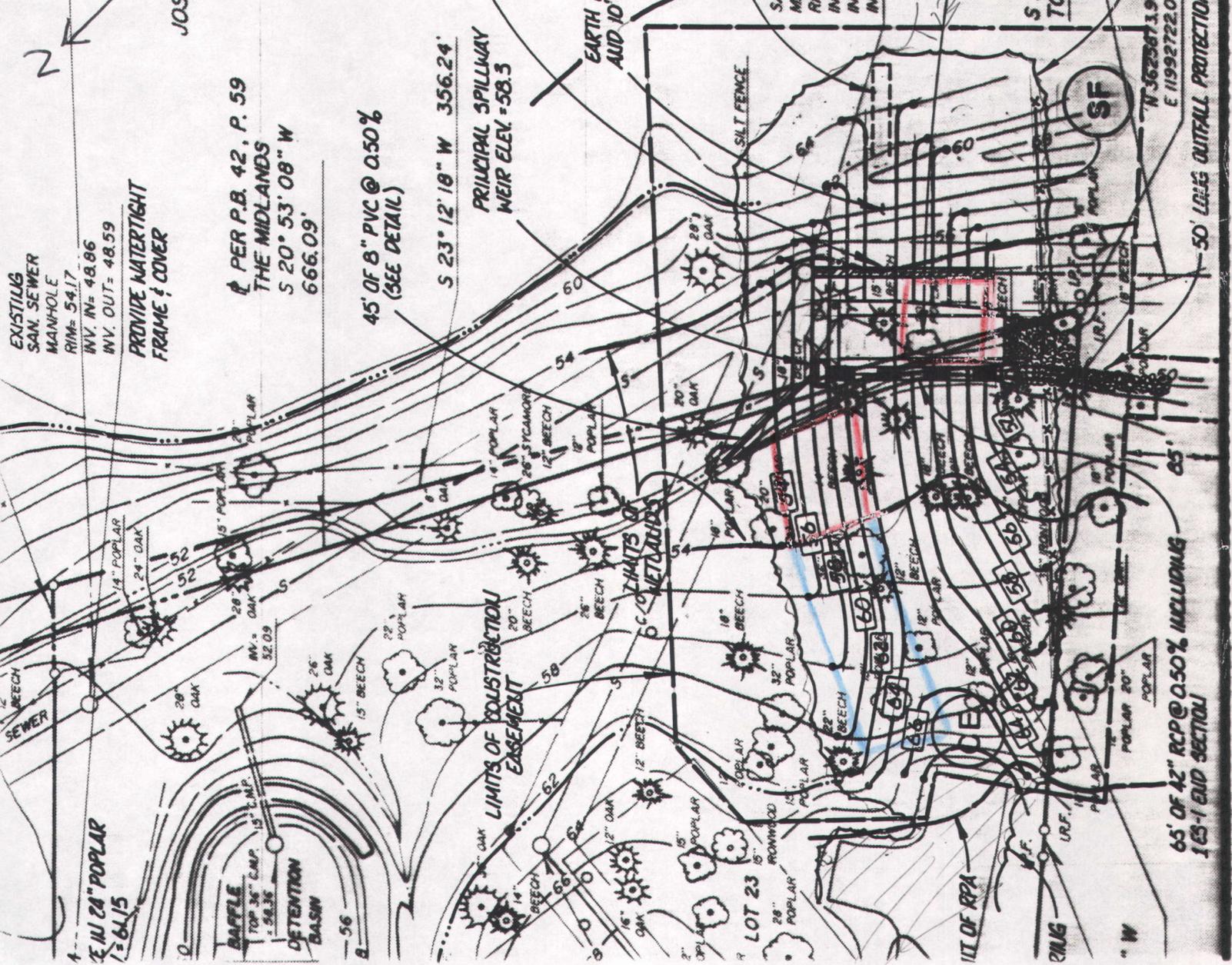
FILTER FABRIC

LIMITS OF CLEARING

N 56° 58' 1.9667  
 E 119° 27' 22.0701

50' LONG OUTFALL PROTECTION (SEE DETAIL AT RIGHT)

65' OF 42" RCP @ 0.50% INCLUDING  
 1 ES-1 END SECTION



INCREASE WIDTH  
 SPILLWAY, THE

PROP. RT. 199 R/W  
PER V.D.O.T. PROJECT #0199-047-103, PE-103  
C-502, R/W-203, SHEET #6

N OR F  
JOSEPH S. & ESSIE G. TERRELL  
D.B. 162, P. 538

SAN SEWER  
MANHOLE  
RIM= 54.17  
INV. IN= 48.86  
INV. OUT= 48.59

PER P.B. 42, P. 59  
THE MIDLANDS  
S 20° 53' 08" W  
666.09'

NOTE - HIGHLIGHT 62.4 as MAX ELEVATION  
OF WATER IN POND

45' OF 8" PVC @ 0.5% - See Detail  
S 23° 12' 18" W 356.24'

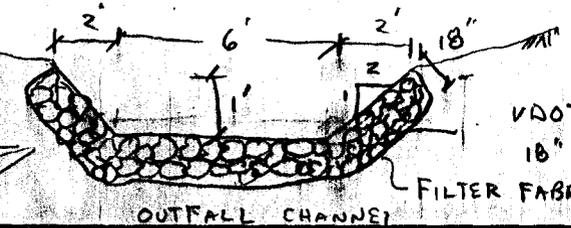
PRINCIPAL SPILLWAY  
TOP ELEV 58.3

LIMITS OF  
CLEARING

EARTH BERM WITH  
3:1 SIDE SLOPES  
AND 10' TOP WIDTH  
TOP ELEV 64.0

SAN SEWER  
MANHOLE  
RIM= 52.68  
INV. IN= 47.83  
INV. IN= 47.48  
INV. OUT= 46.98

EMERGENCY SPILLWAY  
17' WIDE TRAPEZOIDAL GRASS  
DITCH WITH 2:1 SIDE SLOPES  
CONTROL SECTION - 20' LONG, 17' WIDE SECTION AT ELEV 61.4  
S 20° 45' 07" W 283.22'  
TO 38" SYCAMORE



65' OF 42" R/C @ 0.5%  
INC 1-ES-1 END SECTION

50' LONG OUTFALL PROTECTION - SEE DETAIL

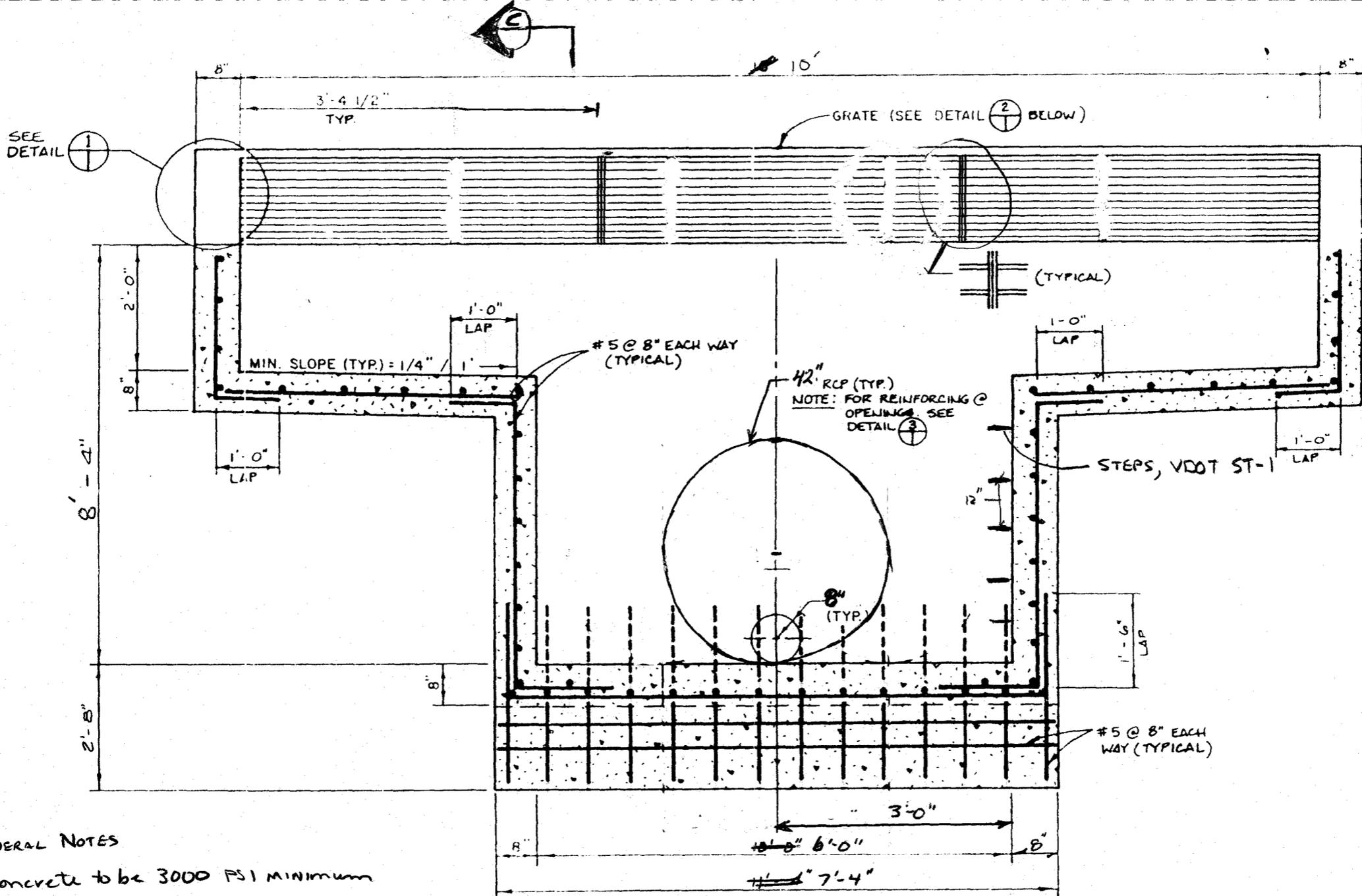
N 3625873.9667  
E 11992722.0701

SITE  
FOR A  
STORM WATER M

JAMES CITY CO

SCALE: 1" = 50'

PRE  
JAMES C  
J.O. #540



**GENERAL NOTES**

1. Concrete to be 3000 PSI minimum compressive strength @ 28 Days.
2. If Pipe is to be skewed, the opening will be adjusted to accommodate skew.
3. Reinforcing steel in accordance with ASTM A-615, Grade 60.

**SECTION-MODIFIED EW-11**



**Mill Creek Detention Basin # 1  
Pond Modifications  
Specifications and Technical Drawings**

Generally, pond modifications are to consist of the following items in three (3) distinct phases of work: installation of erosion and sediment controls, limited clearing and grubbing, existing utility protection, excavation and existing under drain/debris removal, installation of a new low flow orifice, embankment tree removal, emergency spillway repair and site stabilization. Total land disturbance estimate is 2,230 square feet for Phase I and II and 12,350 square feet for Phase III for a total of 14,580 square feet (0.33 acres) disturbed.

**Sequence of Construction**

1. Provide temporary benchmarks as necessary and verify all plan elevations and dimensions prior to start of work. Contact the County if any discrepancies exist.
2. Remove guardrail at end of Bradshaw Drive if necessary to allow for access.
3. Clear and grub only as required to access the Phase I and II work area at the upstream embankment toe and under drain area. Access to consist of 10 ft. wide or less by 135 ft. long corridor located along the west portion of the upstream embankment toe. Erosion and sediment control for this operation to consist of a rock construction entrance and construction road stabilization (optional) based on encountered field soil conditions.
4. Clear and grub upstream work area as required. Minimize clearing and grubbing only to areas necessary for removal of the existing under drain (Phase I) and subsequent installation of the new low flow orifice and riprap (Phase II). Approximate size of the work area at the embankment toe to be confined to a rectangular sized area approximately 40 feet long by 22 feet wide or 800 square feet out from the embankment toe.
5. Install a single row straw bale barrier across the existing 15 ft. wide concrete emergency spillway. This measure shall be utilized as a filter device for dewatering/pumping operations if required for Phase I and II work activities.
6. In order to limit site exposure, work under Phase III is not to commence until completion and adequate stabilization of Phase I and II work areas.

**Phase I ( Existing Underdrain Removal )**

7. Keep heavy equipment away from and provide for adequate protection of the existing 12 inch sanitary sewer line which crosses directly upstream (north) of the existing under drain near reference point "A".
8. Install a perimeter cofferdam or equivalent measures upstream of work area to prevent the entry of existing base stream flow into the work area to the greatest extent possible. Work under Phase I and II should be scheduled and performed during a dry weather period to the greatest extent possible. If required, discharge from pumping or dewatering operations shall be directed to and filtered through the straw bale barrier installed within the emergency spillway.

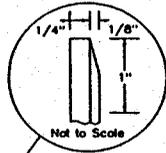
9. Expose and cut the existing 10 inch solid wall drain section at or near reference point "B". Maintain and protect the existing solid wall drain from reference point "B" south toward the pond embankment. Completely remove existing VDOT # 1 stone, VDOT # 8 stone, perforated PVC under drain, the perforated PVC riser and concrete base anchor from reference point "B" in an upstream direction to or beyond reference point "A" (end of the under drain). Approximate removal quantity is 135 cubic feet of material.
10. Dispose of all excavated soil and under drain debris to an acceptable onsite or offsite location. VDOT #1 stone removed from the work area may be stockpiled and utilized for Phase II work if the stone is in a clean and generally acceptable condition for use as filter rock or for erosion control purposes. In addition, larger size rock material removed from the work area may be hand-placed to fill void areas at the pond barrel outlet protection pad located at the downstream embankment toe. Approval and coordination required with the onsite County representative for either alternative.

#### **Phase II ( Low Flow Orifice and Riprap )**

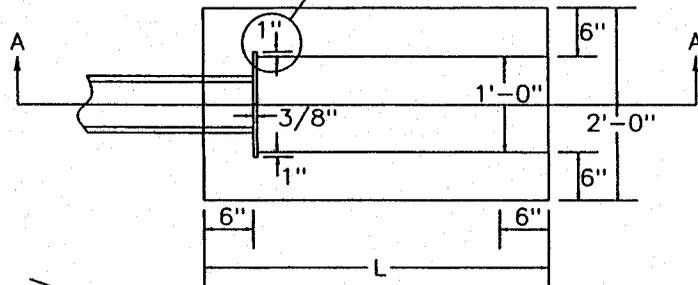
11. Following Phase I excavation and removal, grade excavated area sidewalls back at 3H:1V typical to match existing ground on all sides. Install a modified VDOT standard EW-12 endwall at reference point "B". The expanded steel mesh screen associated with the EW-12 is not to be installed to prevent clogging. An alternate EW-11A endwall is acceptable to match the existing solid wall drain if required. Connect endwall to existing solid wall drain as required. Install separation geotextile lining and Class I riprap in under drain excavation area. Geotextile and riprap to meet requirements of VESCH, Minimum Standard 3.19. Estimated quantities for geotextile and riprap are 60 square yards and 80 cubic yards, respectively.
12. Any surplus Class I riprap remaining from the Phase II upstream work area shall be hand placed at the downstream riprap outlet protection pad.
13. Install a fixed permanent marker at the new endwall location that is clearly visible from the upstream embankment for future locating purposes. Marker shall consist of adequately anchored colored PVC pipe or painted rebar.

#### **Phase III ( Embankment Tree Removal and Spillway Repair )**

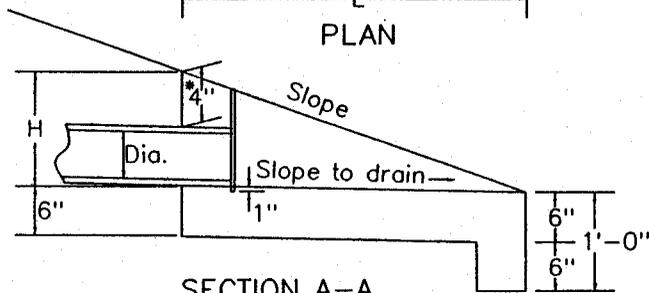
14. Remove existing trees, saplings and underbrush from the upstream and downstream faces of the embankment and re-establish a good grass cover.
15. Incidental emergency spillway repair. Clean and repair separated or displaced joints along the existing concrete lined emergency spillway with non-expansion type filler such as epoxy, non-expansive grout, etc.



Bevel Slot Detail  
(permitted for easy  
form removal)



PLAN



SECTION A-A  
Scale : 1" = 1'

NOTES:

Typical endwall to be placed at the ends of all underdrain outlets. Endwall to be installed perpendicular to roadway and flush with the slope.

Concrete quantities shown are based on 6" Class III concrete pipe. The \* 4" dimension and concrete quantities will vary if 4" pipe, 8" pipe or other types of pipe are used.

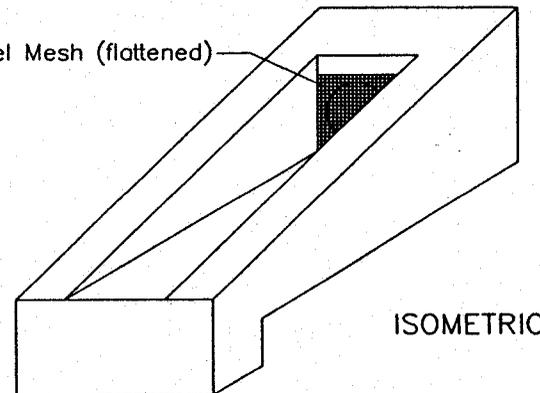
Outlet pipes shall be rigid nonperforated, smooth-bore pipe, meeting the requirements of AASHTO M-252. If vitrified clay pipe is used, all joints shall be in accordance with ASTM C-443.

Expanded steel mesh (flattened) shall have openings of approx. 1/2"x1" and weigh approx. 0.82 per sq. ft. Mesh shall be galvanized in accordance with ASTM A-123. The mesh shall extend a minimum of 1" above the O.D. of the pipe, and is a barrier for rodents, etc. The slot for the steel mesh is to be constructed so that the mesh can be removed for cleanout purposes.

This item may be precast or cast in place.

| PIPE DIA. | SLOPE | DIMENSIONS |           | CLASS A3 CONCRETE |
|-----------|-------|------------|-----------|-------------------|
|           |       | L          | H         | CU. YD.           |
| 4" or 6"  | 2:1   | 2'-5 1/2"  | 1'-2 3/4" | 0.17              |
|           | 4:1   | 4'-5"      | 1'-1 1/4" | 0.28              |
| 8"        | 2:1   | 2'-10 1/2" | 1'-5 1/4" | 0.21              |
|           | 4:1   | 5'-3"      | 1'-3 3/4" | 0.35              |

Expanded Steel Mesh (flattened)



ISOMETRIC

EW-12

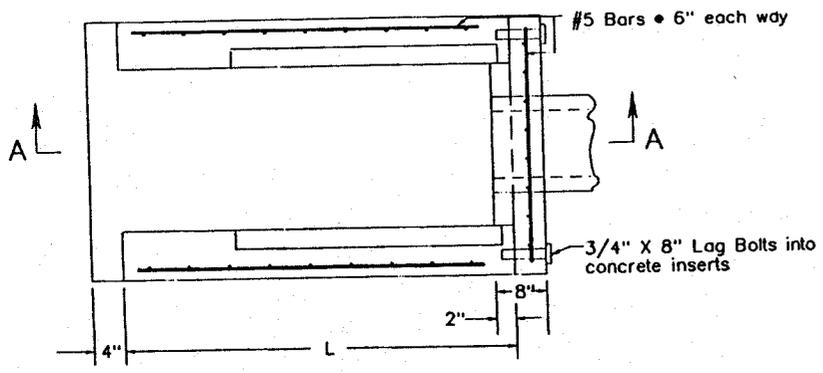
Rev. 2-92

STANDARD ENDWALL FOR PIPE UNDERDRAIN

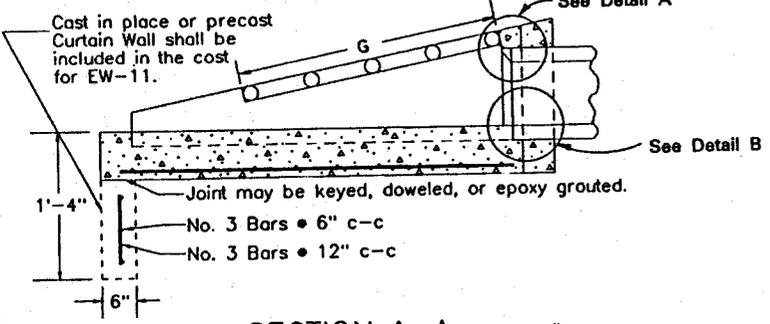
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

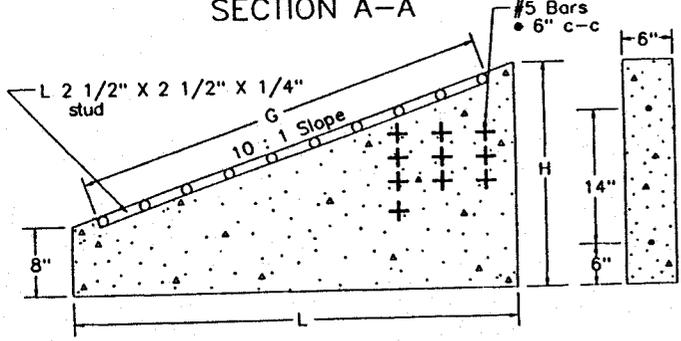
105  
233  
302



PLAN

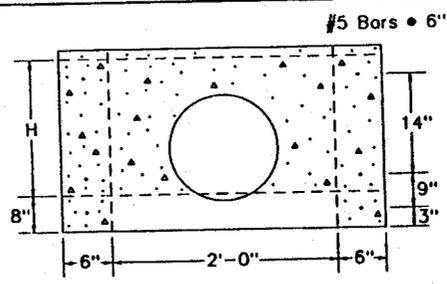


SECTION A-A

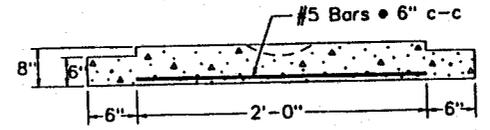
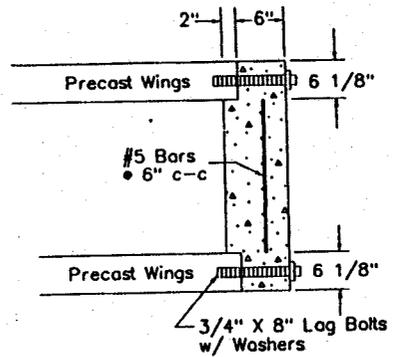


WING WALL DETAIL

| DIMENSIONS |         |        |            |           |           |
|------------|---------|--------|------------|-----------|-----------|
| PIPE SIZE  | L       | H      | G          | a         | b         |
| 12"        | 11'-0"  | 1'-9"  | 10'-7 1/2" | 0'-2"     | 0'-1 1/4" |
| 15"        | 14'-4"  | 2'-1"  | 14'-0"     | 0'-2"     | 0'-1 1/4" |
| 18"        | 16'-10" | 2'-4"  | 16'-6"     | 0'-2 1/2" | 0'-1 1/2" |
| 21" or 24" | 21'-10" | 2'-10" | 21'-6 1/2" | 0'-3"     | 0'-2"     |



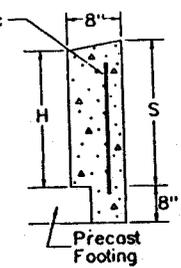
END WALL DETAIL



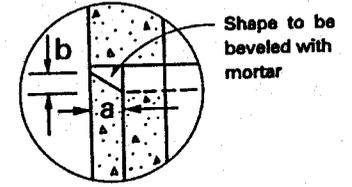
FOOTING DETAIL

Concrete to be 4000 PSI minimum compressive strength.  
 If pipe is to be skewed the opening will be adjusted to accommodate.  
 Reinforcing steel in accordance with ASTM A-615 (reinforcing bars).  
 Pipe opening as required, 4" min., 8" max. larger than O. D. pipe.  
 Dimensions shown are minimum. Actual dimensions may vary with manufacturer.  
 Bottom of Structure to be on the same grade as drainage ditch.  
 For details of grate and number of grates required see EW-11A.

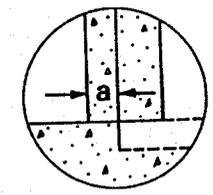
3/4" Chamfer shall be provided on all exposed edges.



| DIMENSIONS |        |            |
|------------|--------|------------|
| Pipe Size  | H      | S          |
| 12"        | 1'-7"  | 1'-7 3/4"  |
| 15"        | 1'-11" | 1'-11 3/4" |
| 18"        | 2'-2"  | 2'-2 3/4"  |
| 21" or 24" | 2'-8"  | 2'-8 3/4"  |



Detail A



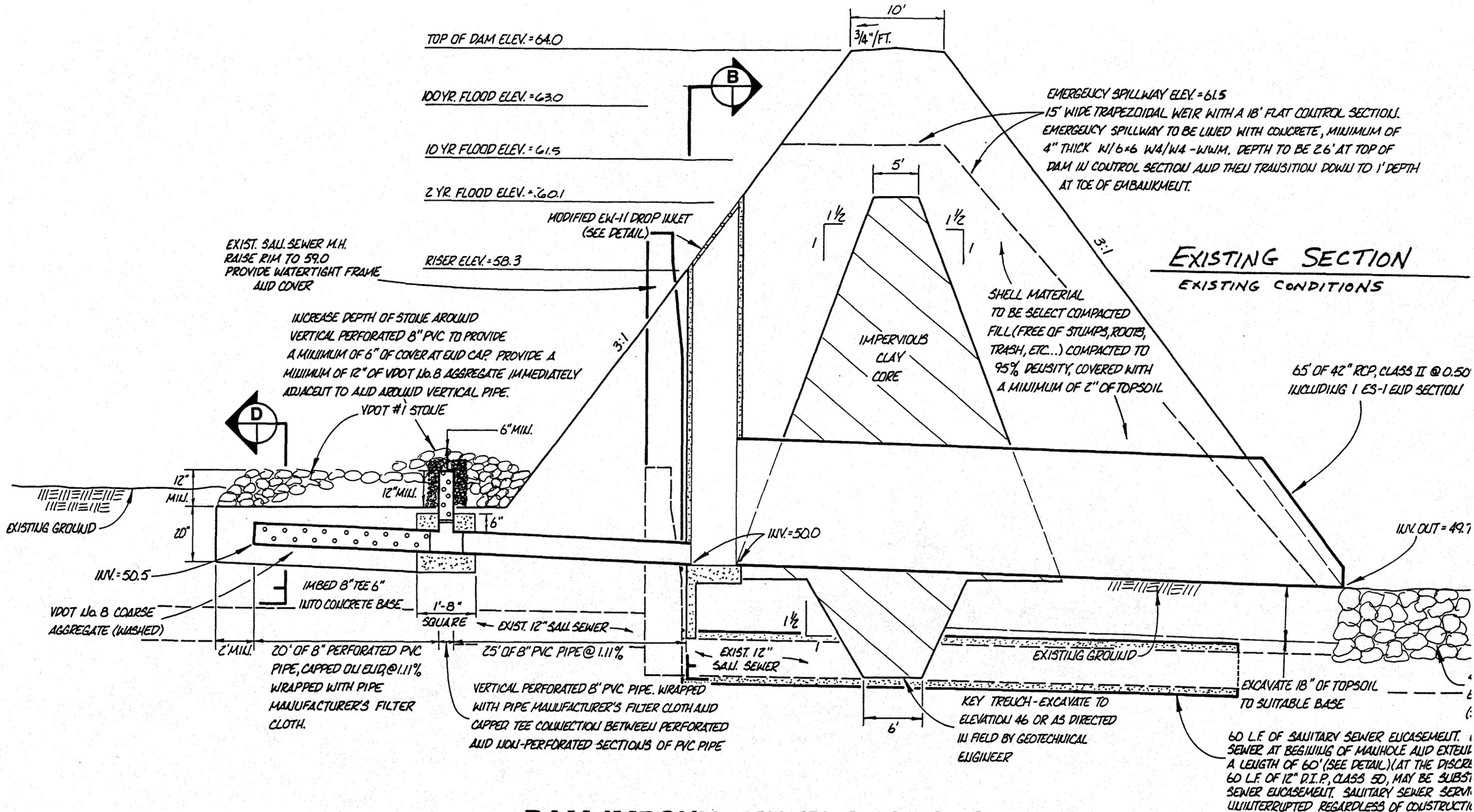
Detail B

Headwall to be beveled in all areas except where a conflict with invert or wingwalls occur.  
 Bevel edge is required on the headwall at the inlet end of the culvert (where the flow enters the culvert).  
 Headwall at the outlet end of the culvert may be either square edge or bevel edge.

*Alternate EW-11  
 MODIFY AS REQUIRED*

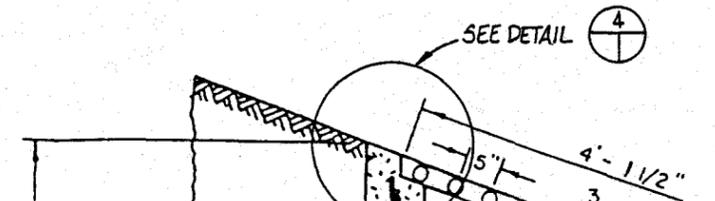
PIPE ENDWALL WITH LOAD-CARRYING GRATE  
 FOR 12" - 24" PIPES  
 VIRGINIA DEPARTMENT OF TRANSPORTATION

|                         |
|-------------------------|
| SPECIFICATION REFERENCE |
| 105<br>233<br>302       |



# DAM IMPOUNDMENT CROSS-SECTION

SCALE: 1" = 2.5' VERTICAL  
1" = 10' HORIZONTAL



NOTE: CONTRACTOR IS RESPONSIBLE FOR "MISSING UTILITIES", JCSEA UNDERGROUND UTILITIES COMMENCEMENT OF CONSTRUCTION

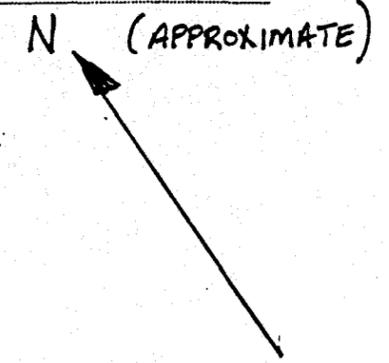
CURVE DATA

| (A)                            | (B)                            |
|--------------------------------|--------------------------------|
| $\Delta = 01^{\circ} 55' 35''$ | $\Delta = 01^{\circ} 03' 51''$ |
| $R = 2996.79'$                 | $R = 2796.79'$                 |
| $L = 100.76'$                  | $L = 51.94'$                   |
| $T = 50.38'$                   | $T = 25.97'$                   |
| $C = 100.75'$                  | $C = 51.94'$                   |
| $CB = N 37^{\circ} 35' 02'' W$ | $CB = S 38^{\circ} 00' 54'' E$ |

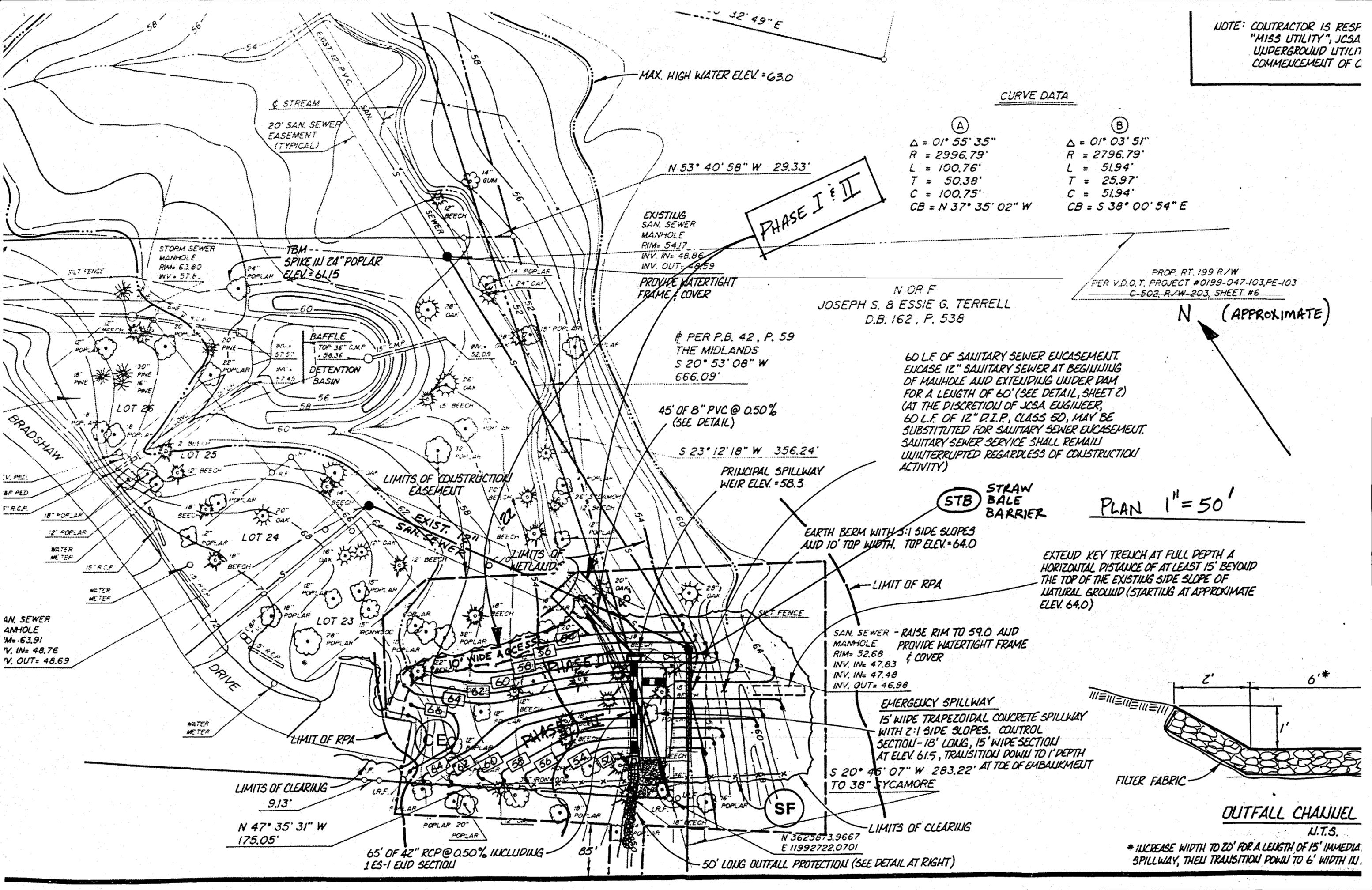
**PHASE I & II**

PROP. RT. 199 R/W  
PER V.D.O.T. PROJECT #0199-047-103, PE-103  
C-502, R/W-203, SHEET #6

N OR F  
JOSEPH S. & ESSIE G. TERRELL  
D.B. 162, P. 538



PLAN 1" = 50'



MAX. HIGH WATER ELEV. = 63.0

$N 53^{\circ} 40' 58'' W 29.33'$

EXISTING SAN. SEWER MANHOLE  
RIM = 54.17  
INV. IN = 48.86  
INV. OUT = 48.59  
PROVIDE WATERTIGHT FRAME & COVER

PER P.B. 42, P. 59  
THE MIDLANDS  
 $S 20^{\circ} 53' 08'' W 666.09'$

45' OF 8" PVC @ 0.50%  
(SEE DETAIL)

$S 23^{\circ} 12' 18'' W 356.24'$

PRINCIPAL SPILLWAY WEIR ELEV. = 58.3

60 L.F. OF SANITARY SEWER EUCASEMENT. EUCASE 12" SANITARY SEWER AT BEGINNING OF MANHOLE AND EXTENDING UNDER DAM FOR A LENGTH OF 60' (SEE DETAIL, SHEET 2) (AT THE DISCRETION OF JCSEA ENGINEER, 60 L.F. OF 12" D.I.P., CLASS 50, MAY BE SUBSTITUTED FOR SANITARY SEWER EUCASEMENT. SANITARY SEWER SERVICE SHALL REMAIN UNINTERRUPTED REGARDLESS OF CONSTRUCTION ACTIVITY)

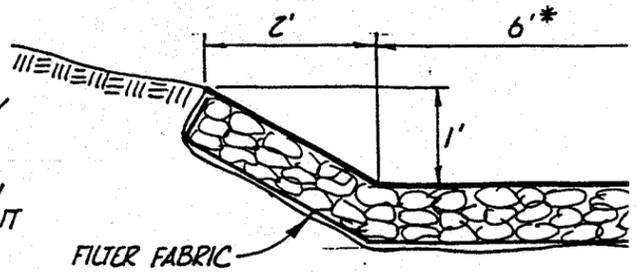
STB STRAW BALE BARRIER

EARTH BERM WITH 3:1 SIDE SLOPES AND 10' TOP WIDTH. TOP ELEV. = 64.0

EXTEND KEY TRENCH AT FULL DEPTH A HORIZONTAL DISTANCE OF AT LEAST 15' BEYOND THE TOP OF THE EXISTING SIDE SLOPE OF NATURAL GROUND (STARTING AT APPROXIMATE ELEV. 64.0)

SAN. SEWER - RAISE RIM TO 59.0 AND MANHOLE PROVIDE WATERTIGHT FRAME & COVER  
RIM = 52.68  
INV. IN = 47.83  
INV. IN = 47.48  
INV. OUT = 46.98

EMERGENCY SPILLWAY  
15' WIDE TRAPEZOIDAL CONCRETE SPILLWAY WITH 2:1 SIDE SLOPES. CONTROL SECTION - 18' LONG, 15' WIDE SECTION AT ELEV. 61.5, TRANSITION DOWN TO 1' DEPTH TO 38" SYCAMORE  
 $S 20^{\circ} 45' 07'' W 283.22'$  AT TDE OF EMBANKMENT



OUTFALL CHANNEL  
U.T.S.

\* INCREASE WIDTH TO 20' FOR A LENGTH OF 15' IMMEDIATELY UPSTREAM OF SPILLWAY, THEN TRANSITION DOWN TO 6' WIDTH IN CHANNEL

LIMITS OF CLEARING 9.13'  
 $N 47^{\circ} 35' 31'' W 175.05'$

65' OF 42" RCP @ 0.50% INCLUDING 1 E5-1 END SECTION

50' LONG OUTFALL PROTECTION (SEE DETAIL AT RIGHT)

N 3625673.9667  
E 11992722.0701

# PHASE I

TOP OF DAM ELEV. = 64.0

100 YR. FLOOD ELEV. = 63.0

10 YR. FLOOD ELEV. = 61.5

2 YR. FLOOD ELEV. = 60.1

SS RIM 59.0 MODIFIED EW-11 DROP INLET

RISER ELEV. = 58.3

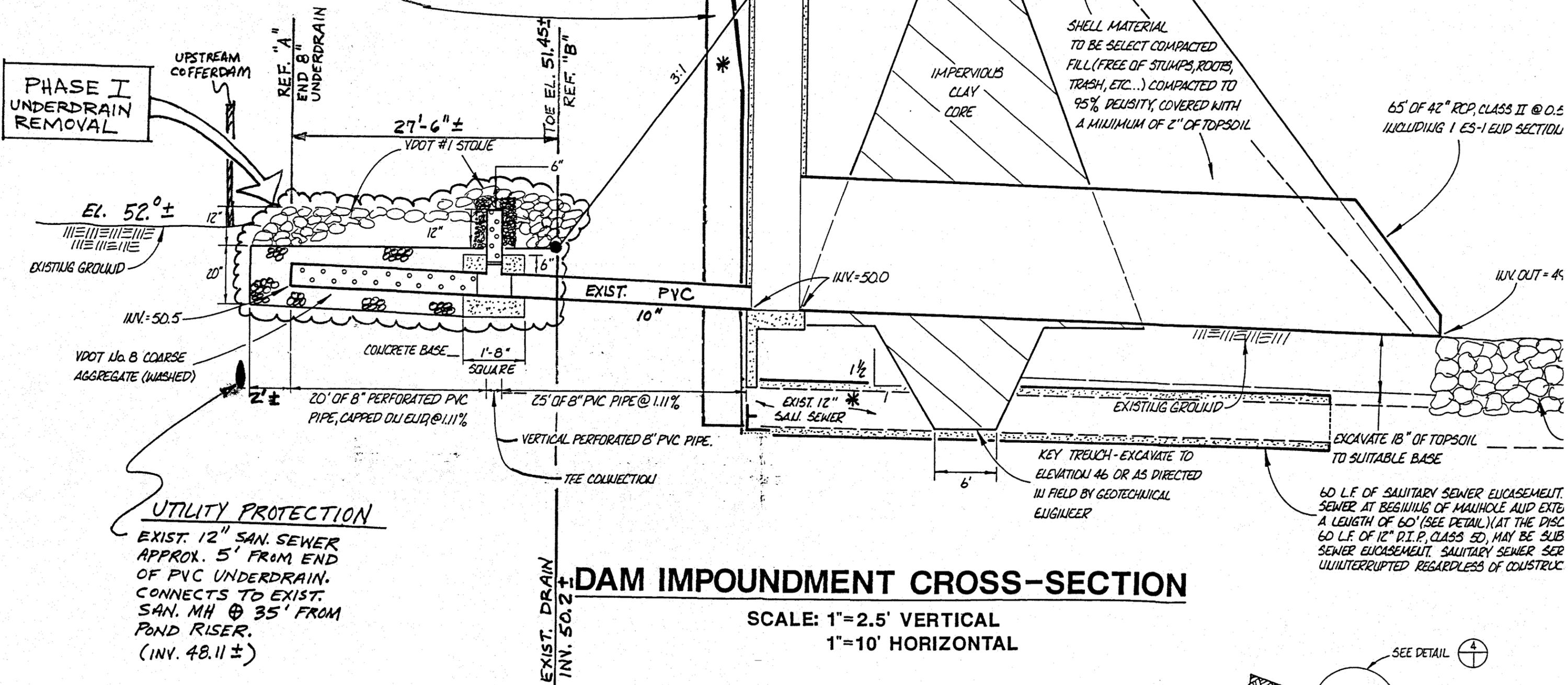
EMERGENCY SPILLWAY ELEV. = 61.5  
 15' WIDE TRAPEZOIDAL WEIR WITH A 16' FLAT CONTROL SECTION.  
 EMERGENCY SPILLWAY TO BE LINED WITH CONCRETE, MINIMUM OF  
 4" THICK W/6x6 W4/W4-WWM. DEPTH TO BE 2.6' AT TOP OF  
 DAM IN CONTROL SECTION AND THEN TRANSITION DOWN TO 1' DEPTH  
 AT TOE OF EMBANKMENT.

SHELL MATERIAL  
 TO BE SELECT COMPACTED  
 FILL (FREE OF STUMPS, ROOTS,  
 TRASH, ETC...) COMPACTED TO  
 95% DENSITY, COVERED WITH  
 A MINIMUM OF 2" OF TOPSOIL

65' OF 42" RCP, CLASS II @ 0.5  
 INCLUDING 1 ES-1 END SECTION

\* NOTE: EXIST. SAN. SEWER MH &  
 DOWNGRADIENT 12" SAN.  
 SEWER @ 35' EAST OF  
 POND RISER & BARREL.  
 EXIST. SAN. SEWER M.H.

PHASE I  
 UNDERDRAIN  
 REMOVAL



## UTILITY PROTECTION

EXIST. 12" SAN. SEWER  
 APPROX. 5' FROM END  
 OF PVC UNDERDRAIN.  
 CONNECTS TO EXIST.  
 SAN. MH @ 35' FROM  
 POND RISER.  
 (INV. 48.11 ±)

## DAM IMPOUNDMENT CROSS-SECTION

SCALE: 1" = 2.5' VERTICAL  
 1" = 10' HORIZONTAL

60 LF OF SANITARY SEWER ENCASEMENT  
 SEWER AT BEGINNING OF MANHOLE AND EXT  
 A LENGTH OF 60' (SEE DETAIL). (AT THE DISC  
 60 LF OF 12" D.I.P., CLASS 50, MAY BE SUB  
 SEWER ENCASEMENT. SANITARY SEWER SER  
 UNINTERRUPTED REGARDLESS OF CONSTRUCT

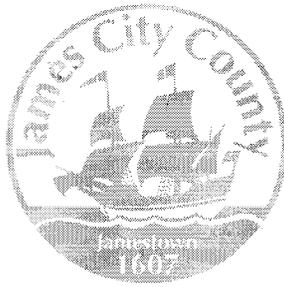
SEE DETAIL



ENG  
ESTIMATE

---

\$5800  
w/o PH 3



**James City County, Virginia  
Environmental Division**

**Mill Creek Detention Basin # 1  
Pond Modifications**

*Scope of Work & Technical Drawings*

MC 021

## **Mill Creek Detention Basin # 1 Pond Modifications**

Generally, pond modifications are to consist of the following items in three (3) distinct phases of work: installation of erosion and sediment controls, limited clearing and grubbing, existing utility protection, excavation and existing under drain/debris removal, installation of a new low flow orifice, embankment tree removal, emergency spillway repair and site stabilization. Total land disturbance estimate is 2,230 square feet for Phase I and II and 12,350 square feet for Phase III for a total of 14,580 square feet (0.33 acres) disturbed.

### Sequence of Construction

1. Provide temporary benchmarks as necessary and verify all plan elevations and dimensions prior to start of work. Contact the County if any discrepancies exist.
2. Clear and grub only as required to access the Phase I and II work area at the upstream embankment toe and under drain area. Access to consist of 10 ft. wide or less by 135 ft. long corridor located along the west portion of the upstream embankment toe. Erosion and sediment control for this operation to consist of a rock construction entrance and construction road stabilization (optional) based on encountered field soil conditions.
3. Clear and grub upstream work area as required. Minimize clearing and grubbing only to areas necessary for removal of the existing under drain (Phase I) and subsequent installation of the new low flow orifice and riprap (Phase II). Approximate size of the work area at the embankment toe to be confined to a rectangular sized area approximately 40 feet long by 22 feet wide or 800 square feet out from the embankment toe.
4. Install a single row straw bale barrier across the existing 15 ft. wide concrete emergency spillway. This measure shall be utilized as a filter device for dewatering/pumping operations if required for Phase I and II work activities.
5. In order to limit site exposure, work under Phase III is not to commence until completion and adequate stabilization of Phase I and II work areas.

### **Phase I ( Existing Underdrain Removal )**

6. Keep heavy equipment away from and provide for adequate protection of the existing 12 inch sanitary sewer line which crosses directly upstream (north) of the existing under drain near reference point "A".
7. Install a perimeter cofferdam or equivalent measures upstream of work area to prevent the entry of existing base stream flow into the work area to the greatest extent possible. Work under Phase I and II should be scheduled and performed during a dry weather period to the greatest extent possible. If required, discharge from pumping or dewatering operations shall be directed to and filtered through the straw bale barrier installed within the emergency spillway.

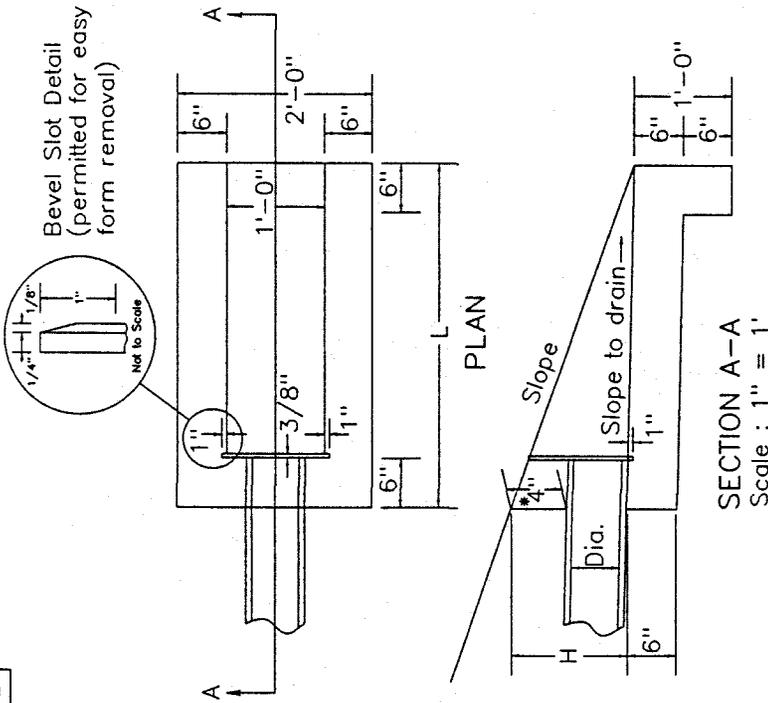
8. Expose and cut the existing 10 inch solid wall drain section at or near reference point "B". Maintain and protect the existing solid wall drain from reference point "B" south toward the pond embankment. Completely remove existing VDOT # 1 stone, VDOT # 8 stone, perforated PVC under drain, the perforated PVC riser and concrete base anchor from reference point "B" in an upstream direction to or beyond reference point "A" (end of the under drain). Approximate removal quantity is 135 cubic feet of material.
9. Dispose of all excavated soil and under drain debris to an acceptable onsite or offsite location. VDOT #1 stone removed from the work area may be stockpiled and utilized for Phase II work if the stone is in a clean and generally acceptable condition for use as filter rock or for erosion control purposes. In addition, larger size rock material removed from the work area may be hand-placed to fill void areas at the pond barrel outlet protection pad located at the downstream embankment toe. Approval and coordination required with the onsite County representative for either alternative.

### **Phase II ( Low Flow Orifice and Riprap )**

10. Following Phase I excavation and removal, grade excavated area sidewalls back at 3H:1V typical to match existing ground on all sides. Install a modified VDOT standard EW-12 endwall at reference point "B". The expanded steel mesh screen associated with the EW-12 is not to be installed to prevent clogging. An alternate EW-11A endwall is acceptable to match the existing solid wall drain if required. Connect endwall to existing solid wall drain as required. Install separation geotextile lining and Class I riprap in under drain excavation area. Geotextile and riprap to meet requirements of VESCH, Minimum Standard 3.19. Estimated quantities for geotextile and riprap are 60 square yards and 80 cubic yards, respectively.
11. Any surplus Class I riprap remaining from the Phase II upstream work area shall be hand placed at the downstream riprap outlet protection pad.
12. Install a fixed permanent marker at the new endwall location that is clearly visible from the upstream embankment for future locating purposes. Marker shall consist of adequately anchored colored PVC pipe or painted rebar.

### **Phase III ( Embankment Tree Removal and Spillway Repair )**

13. Remove existing trees, saplings and underbrush from the upstream and downstream faces of the embankment and re-establish a good grass cover.
14. Incidental emergency spillway repair. Clean and repair separated or displaced joints along the existing concrete lined emergency spillway with non-expansion type filler such as epoxy, non-expansive grout, etc.



SECTION A-A  
Scale : 1" = 1'

NOTES:

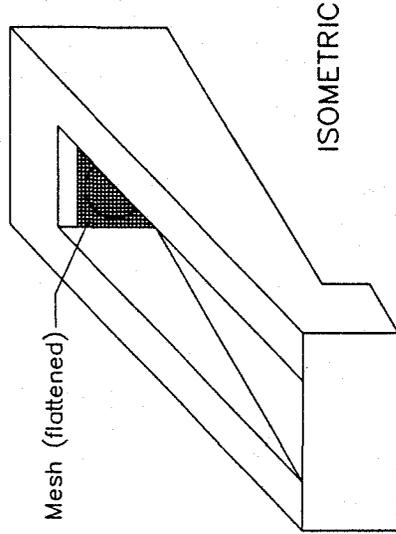
Typical endwall to be placed at the ends of all underdrain outlets. Endwall to be installed perpendicular to roadway and flush with the slope.

Concrete quantities shown are based on 6" Class III concrete pipe. The \* 4" dimension and concrete quantities will vary if 4" pipe, 8" pipe or other types of pipe are used.

Outlet pipes shall be rigid nonperforated, smooth-bore pipe, meeting the requirements of AASHTO M-252. If vitrified clay pipe is used, all joints shall be in accordance with ASTM C-443.

Expanded steel mesh (flattened) shall have openings of approx. 1/2"x1" and weigh approx. 0.82 per sq. ft. Mesh shall be galvanized in accordance with ASTM A-123. The mesh shall extend a minimum of 1" above the O.D. of the pipe, and is a barrier for rodents, etc. The slot for the steel mesh is to be constructed so that the mesh can be removed for cleanout purposes.

This item may be precast or cast in place.



EW-12

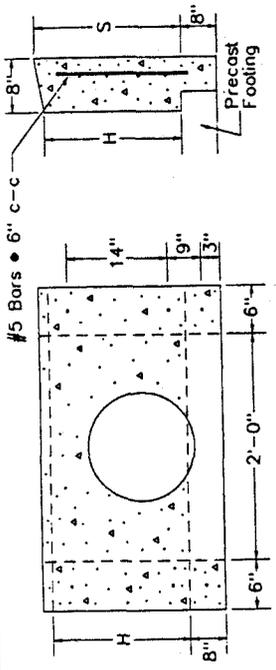
Rev. 2-92

SPECIFICATION  
REFERENCE

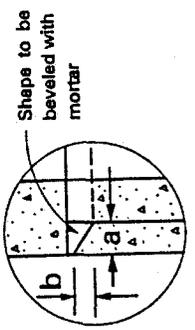
105  
233  
302

STANDARD ENDWALL FOR PIPE UNDERDRAIN

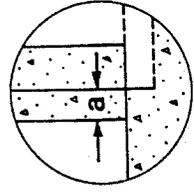
VIRGINIA DEPARTMENT OF TRANSPORTATION



| DIMENSIONS |        |
|------------|--------|
| Pipe Size  | H      |
| 12"        | 1'-7"  |
| 15"        | 1'-11" |
| 18"        | 2'-2"  |
| 21" or 24" | 2'-8"  |

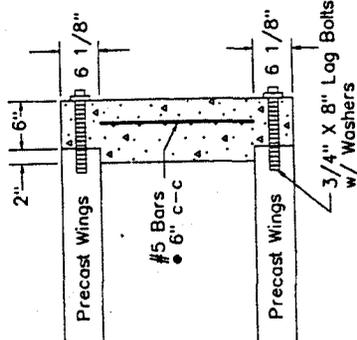


Detail A

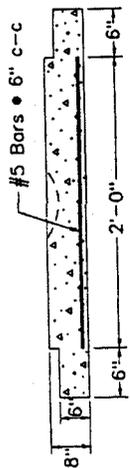


Detail B

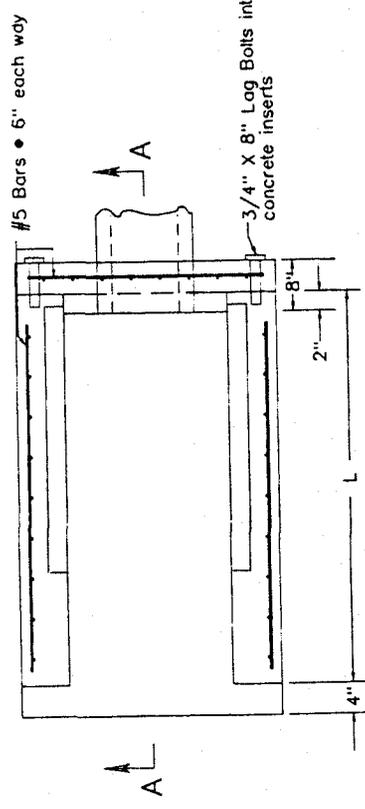
Headwall to be beveled in all areas except where a conflict with invert or wingwalls occur.  
 Bevel edge is required on the headwall at the inlet end of the culvert (where the flow enters the culvert).  
 Headwall at the outlet end of the culvert may be either square edge or bevel edge.



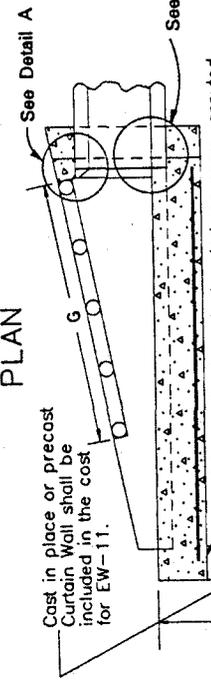
END WALL DETAIL



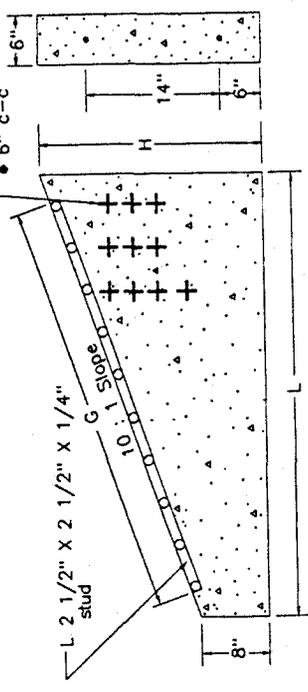
FOOTING DETAIL



PLAN



SECTION A-A



WING WALL DETAIL

| PIPE SIZE  | DIMENSIONS |        |           |           |
|------------|------------|--------|-----------|-----------|
|            | L          | H      | a         | b         |
| 12"        | 11'-0"     | 1'-9"  | 0'-2"     | 0'-1 1/4" |
| 15"        | 14'-4"     | 2'-1"  | 0'-2"     | 0'-1 1/4" |
| 18"        | 16'-10"    | 2'-4"  | 0'-2 1/2" | 0'-1 1/2" |
| 21" or 24" | 21'-10"    | 2'-10" | 0'-3"     | 0'-2"     |

Concrete to be 4000 PSI minimum compressive strength.  
 If pipe is to be skewed the opening will be adjusted to accommodate.  
 Reinforcing steel in accordance with ASTM A-615 (reinforcing bars).  
 Pipe opening as required, 4" min., 8" max. larger than O. D. pipe.  
 Dimensions shown are minimum. Actual dimensions may vary with manufacturer.  
 Bottom of Structure to be on the same grade as drainage ditch.  
 For details of grate and number of grates required see EW-11A.

3/4" Chamfer shall be provided on all exposed edges.

*Alternate EW-11  
 MODIFY AS REQUIRED*

PIPE ENDWALL WITH LOAD-CARRYING GRATE  
 FOR 12" - 24" PIPES

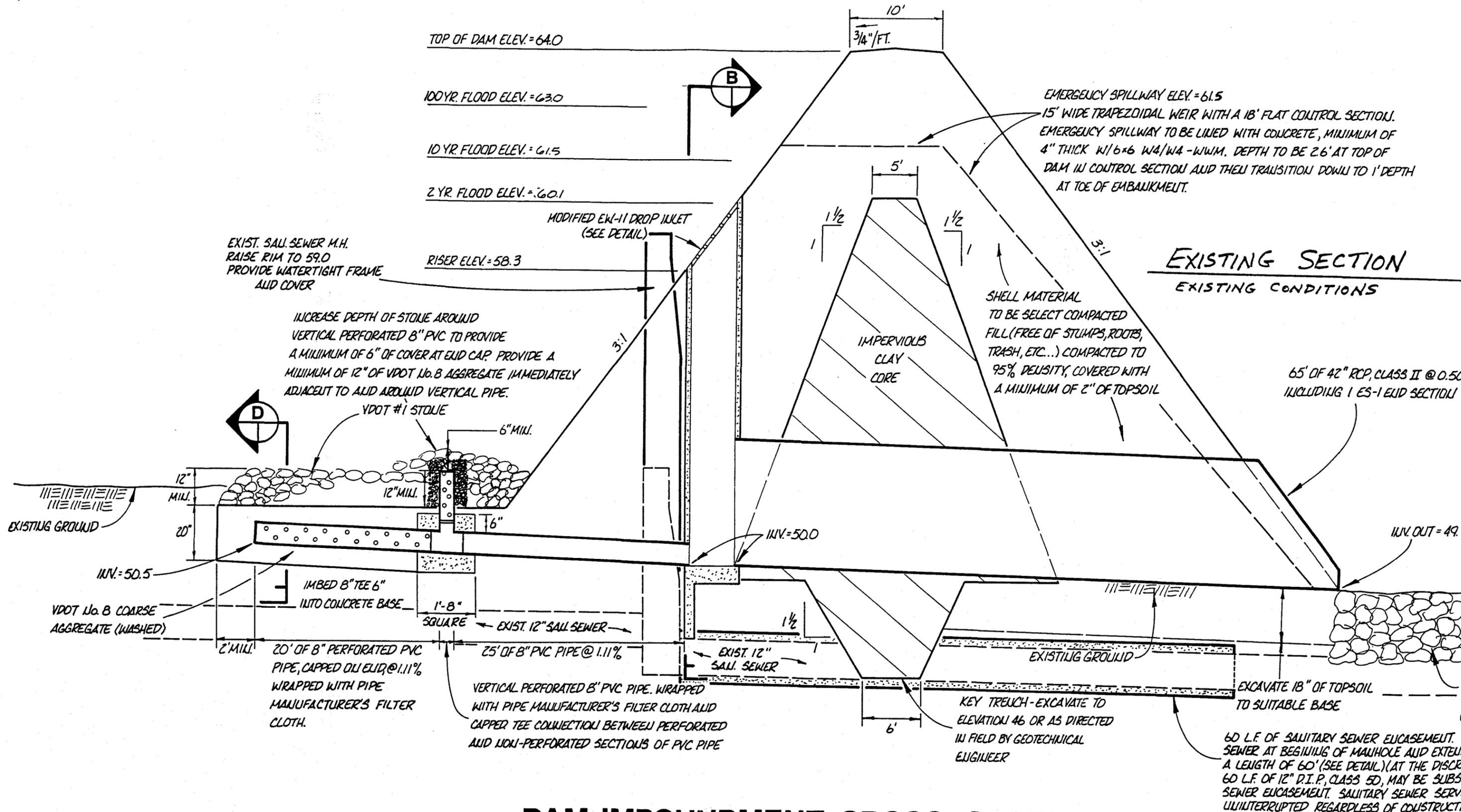
VIRGINIA DEPARTMENT OF TRANSPORTATION

|                         |
|-------------------------|
| SPECIFICATION REFERENCE |
| 105                     |
| 233                     |
| 302                     |

60

55

50



# DAM IMPOUNDMENT CROSS-SECTION

SCALE: 1"=2.5' VERTICAL  
1"=10' HORIZONTAL

60 L.F. OF SANITARY SEWER ENCASEMENT. SEWER AT BEGINNING OF MANHOLE AND EXTEND A LENGTH OF 60' (SEE DETAIL). (AT THE DISCRETION OF THE ENGINEER, 60 L.F. OF 12" R.I.P., CLASS 50, MAY BE SUBSTITUTED FOR THE 60 L.F. OF 8" PERFORATED PVC PIPE ENCASEMENT. SANITARY SEWER SERVICE SHALL BE UNINTERRUPTED REGARDLESS OF CONSTRUCTION METHOD.)

EXISTING SECTION  
EXISTING CONDITIONS

EXIST. SAN. SEWER M.H. RAISE RIM TO 59.0 PROVIDE WATERTIGHT FRAME AND COVER

INCREASE DEPTH OF STONE AROUND VERTICAL PERFORATED 8" PVC TO PROVIDE A MINIMUM OF 6" OF COVER AT END CAP. PROVIDE A MINIMUM OF 12" OF VDOT No. 8 AGGREGATE IMMEDIATELY ADJACENT TO AND AROUND VERTICAL PIPE.

SHELL MATERIAL TO BE SELECT COMPACTED FILL (FREE OF STUMPS, ROOTS, TRASH, ETC...) COMPACTED TO 95% DENSITY, COVERED WITH A MINIMUM OF 2" OF TOPSOIL

65' OF 42" RCP, CLASS II @ 0.50% INCLUDING 1 ES-1 END SECTION

KEY TRENCH - EXCAVATE TO ELEVATION 46 OR AS DIRECTED IN FIELD BY GEOTECHNICAL ENGINEER

EXCAVATE 18" OF TOPSOIL TO SUITABLE BASE

VERTICAL PERFORATED 8" PVC PIPE, WRAPPED WITH PIPE MANUFACTURER'S FILTER CLOTH AND CAPPED TEE CONNECTION BETWEEN PERFORATED AND NON-PERFORATED SECTIONS OF PVC PIPE

20' OF 8" PERFORATED PVC PIPE, CAPPED ON END, @ 1.11% WRAPPED WITH PIPE MANUFACTURER'S FILTER CLOTH.

VDOT No. 8 COARSE AGGREGATE (WASHED)

IMBED 8" TEE 6" INTO CONCRETE BASE

1'-8" SQUARE

EXIST. 12" SAN. SEWER

EXIST. 12" SAN. SEWER

EXISTING GROUND

EXISTING GROUND

SEE DETAIL 4

NOTE: CONTRACTOR IS RESPONSIBLE FOR "MISS UTILITY", JCSEA AND UNDERGROUND UTILITIES. COMMENCEMENT OF CONSTRUCTION SHALL BE AT THE COMMENCEMENT OF CONSTRUCTION.

CURVE DATA

| (A)                            | (B)                            |
|--------------------------------|--------------------------------|
| $\Delta = 01^{\circ} 55' 35''$ | $\Delta = 01^{\circ} 03' 51''$ |
| $R = 2996.79'$                 | $R = 2796.79'$                 |
| $L = 100.76'$                  | $L = 51.94'$                   |
| $T = 50.38'$                   | $T = 25.97'$                   |
| $C = 100.75'$                  | $C = 51.94'$                   |
| $CB = N 37^{\circ} 35' 02'' W$ | $CB = S 38^{\circ} 00' 54'' E$ |

**PHASE I & II**

PROP. RT. 199 R/W  
PER V.D.O.T. PROJECT #0199-047-103, PE-103  
C-502, R/W-203, SHEET #6

N OR F  
JOSEPH S. & ESSIE G. TERRELL  
D.B. 162, P. 538

N (APPROXIMATE)

60 L.F. OF SANITARY SEWER ENCASUREMENT. ENCASE 12" SANITARY SEWER AT BEGINNING OF MANHOLE AND EXTENDING UNDER DAM FOR A LENGTH OF 60' (SEE DETAIL, SHEET 2) (AT THE DISCRETION OF JCSEA ENGINEER, 60 L.F. OF 12" D.I.P., CLASS 50, MAY BE SUBSTITUTED FOR SANITARY SEWER ENCASUREMENT. SANITARY SEWER SERVICE SHALL REMAIN UNINTERRUPTED REGARDLESS OF CONSTRUCTION ACTIVITY)

45' OF 8" PVC @ 0.50% (SEE DETAIL)

S 23° 12' 18" W 356.24'

PRINCIPAL SPILLWAY WEIR ELEV. = 58.3

(STB) STRAW BALE BARRIER

PLAN 1" = 50'

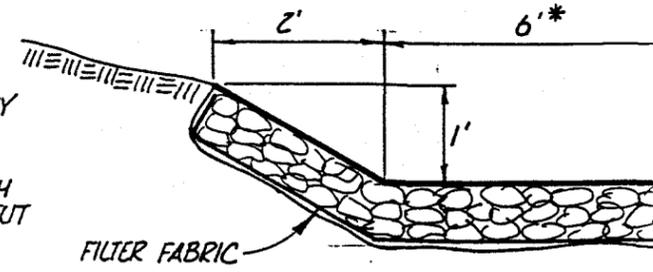
EARTH BERM WITH 3:1 SIDE SLOPES AND 10' TOP WIDTH. TOP ELEV. = 64.0

EXTEND KEY TRENCH AT FULL DEPTH A HORIZONTAL DISTANCE OF AT LEAST 15' BEYOND THE TOP OF THE EXISTING SIDE SLOPE OF NATURAL GROUND (STARTING AT APPROXIMATE ELEV. 64.0)

SAN. SEWER - RAISE RIM TO 59.0 AND MANHOLE PROVIDE WATERTIGHT FRAME & COVER  
RIM = 52.68  
INV. IN = 47.83  
INV. OUT = 46.98

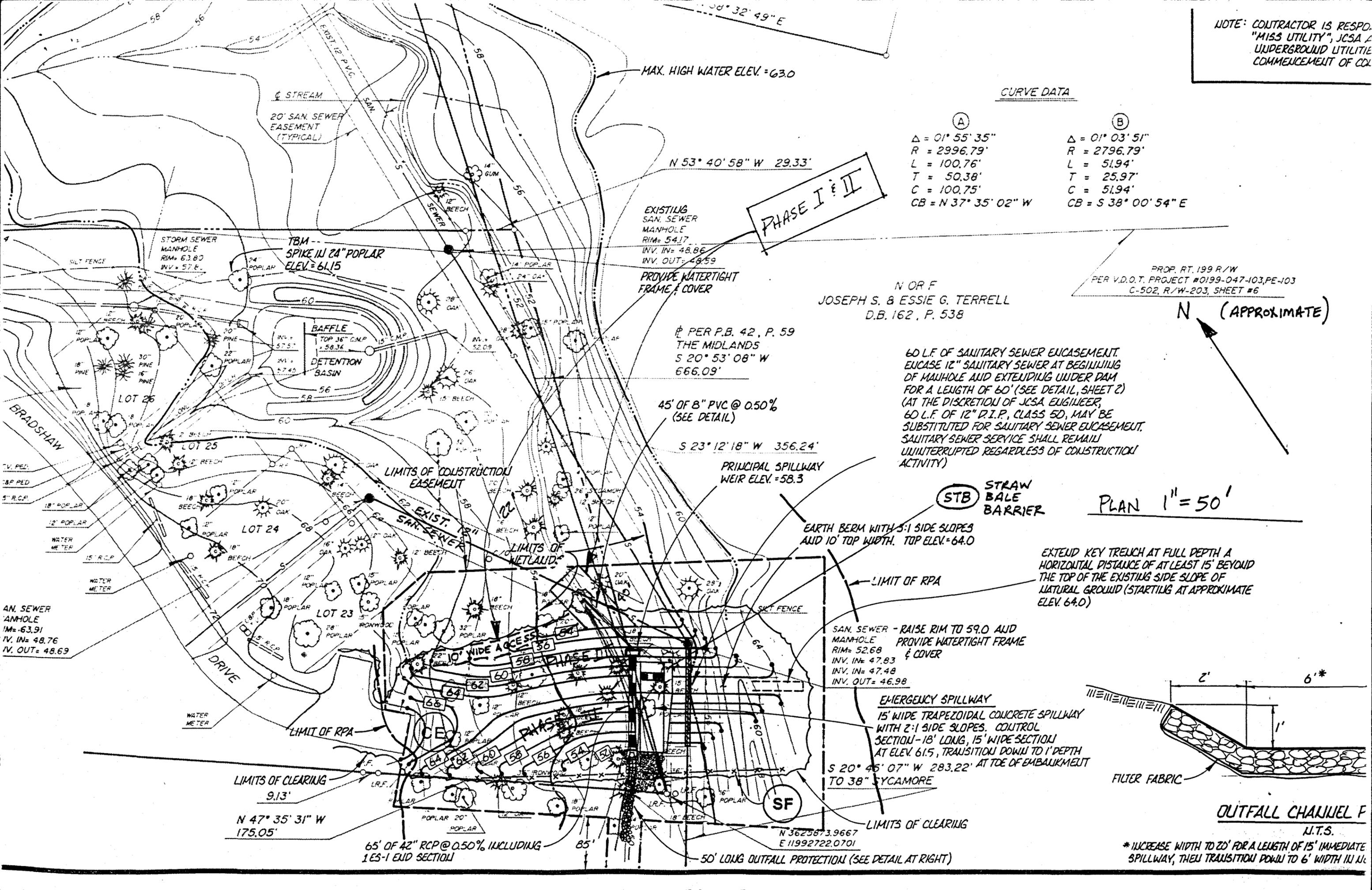
EMERGENCY SPILLWAY

15' WIDE TRAPEZOIDAL CONCRETE SPILLWAY WITH 2:1 SIDE SLOPES. CONTROL SECTION - 18' LONG, 15' WIDE SECTION AT ELEV. 61.5, TRANSITION DOWN TO 1' DEPTH TO 38" SYCAMORE  
S 20° 45' 07" W 283.22' AT TOE OF EMBANKMENT



**OUTFALL CHANNEL F**  
N.T.S.

\* INCREASE WIDTH TO 20' FOR A LENGTH OF 15' IMMEDIATE SPILLWAY, THEN TRANSITION DOWN TO 6' WIDTH IN U.L.



MAX. HIGH WATER ELEV. = 63.0

N 53° 40' 58" W 29.33'

EXISTING SAN. SEWER MANHOLE  
RIM = 54.17  
INV. IN = 48.86  
INV. OUT = 46.59  
PROVIDE WATERTIGHT FRAME & COVER

PER P.B. 42, P. 59  
THE MIDLANDS  
S 20° 53' 08" W  
666.09'

TBM SPIKE IN 24" POPLAR  
ELEV. = 61.15

BAFFLE  
TOP 36" C.M.P.  
1.58.36  
DETENTION BASIN

LIMITS OF CONSTRUCTION EASEMENT

LIMITS OF WETLAND

LIMIT OF RPA

LIMITS OF CLEARING  
9.13'

N 47° 35' 31" W  
175.05'

65' OF 42" RCP @ 0.50% INCLUDING 15'-1' END SECTION

50' LONG OUTFALL PROTECTION (SEE DETAIL AT RIGHT)

SF

N 36° 58' 3.9667  
E 119° 27' 22.0701

AN. SEWER MANHOLE  
RIM = 63.91  
INV. IN = 48.76  
INV. OUT = 48.69

BRADSHAW  
TV. PED.  
SB. PED.  
5" R.C.P.

WATER METER



# PHASE II

TOP OF DAM ELEV. = 64.0

100 YR. FLOOD ELEV. = 63.0

10 YR. FLOOD ELEV. = 61.5

2 YR. FLOOD ELEV. = 60.1

SS Rim 59° MODIFIED EW-11 DROP INLET (SEE DETAIL)

RISER ELEV. = 58.3

REF. "B" TOE EL. 51.45±

FIXED PERMANENT MARKER TOE EL. 51.45±

EW-12 OR EW-11A (MODIFIED)

EXIST. PVC

EXIST. 12" SANI. SEWER

EXIST. DRAIN INV. 50.2±

10' 3/4" / FT.

EMERGENCY SPILLWAY ELEV. = 61.5  
15' WIDE TRAPEZOIDAL WEIR WITH A 18' FLAT CONTROL SECTION. EMERGENCY SPILLWAY TO BE LINED WITH CONCRETE, MINIMUM OF 4" THICK W/6x6 W4/W4-WWM. DEPTH TO BE 2.6' AT TOP OF DAM IN CONTROL SECTION AND THEN TRANSITION DOWN TO 1' DEPTH AT TOE OF EMBANKMENT.

SHELL MATERIAL TO BE SELECT COMPACTED FILL (FREE OF STUMPS, ROOTS, TRASH, ETC...) COMPACTED TO 95% DENSITY, COVERED WITH A MINIMUM OF 2" OF TOPSOIL

65' OF 42" RCP, CLASS II @ 0.5C INCLUDING 1 ES-1 END SECTION

PHASE II LOW FLOW ORIFICE & RIPRAP

EL. 52.0±

EXISTING GROUND

SEPARATION GEOTEXTILE MEETING VESCH, MINIMUM STANDARD 3.19. (KEY MIN. 6")

INV. = 50.0

MIN. 1%

49.7

27'-6" ±

EXIST. DRAIN INV. 50.2±

## DAM IMPOUNDMENT CROSS-SECTION

SCALE: 1" = 2.5' VERTICAL  
1" = 10' HORIZONTAL

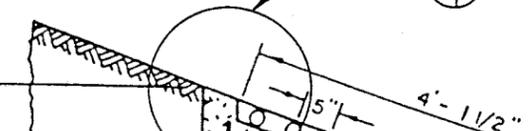
\* NOTE:  
FULL CLASS I RIPRAP PLACEMENT IN EXCAVATED UNDERDRAIN REMOVAL AREA. ALL SIDES OF EXCAVATION AREA 3H:1V.

KEY TRENCH - EXCAVATE TO ELEVATION 46 OR AS DIRECTED IN FIELD BY GEOTECHNICAL ENGINEER

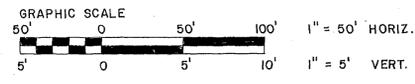
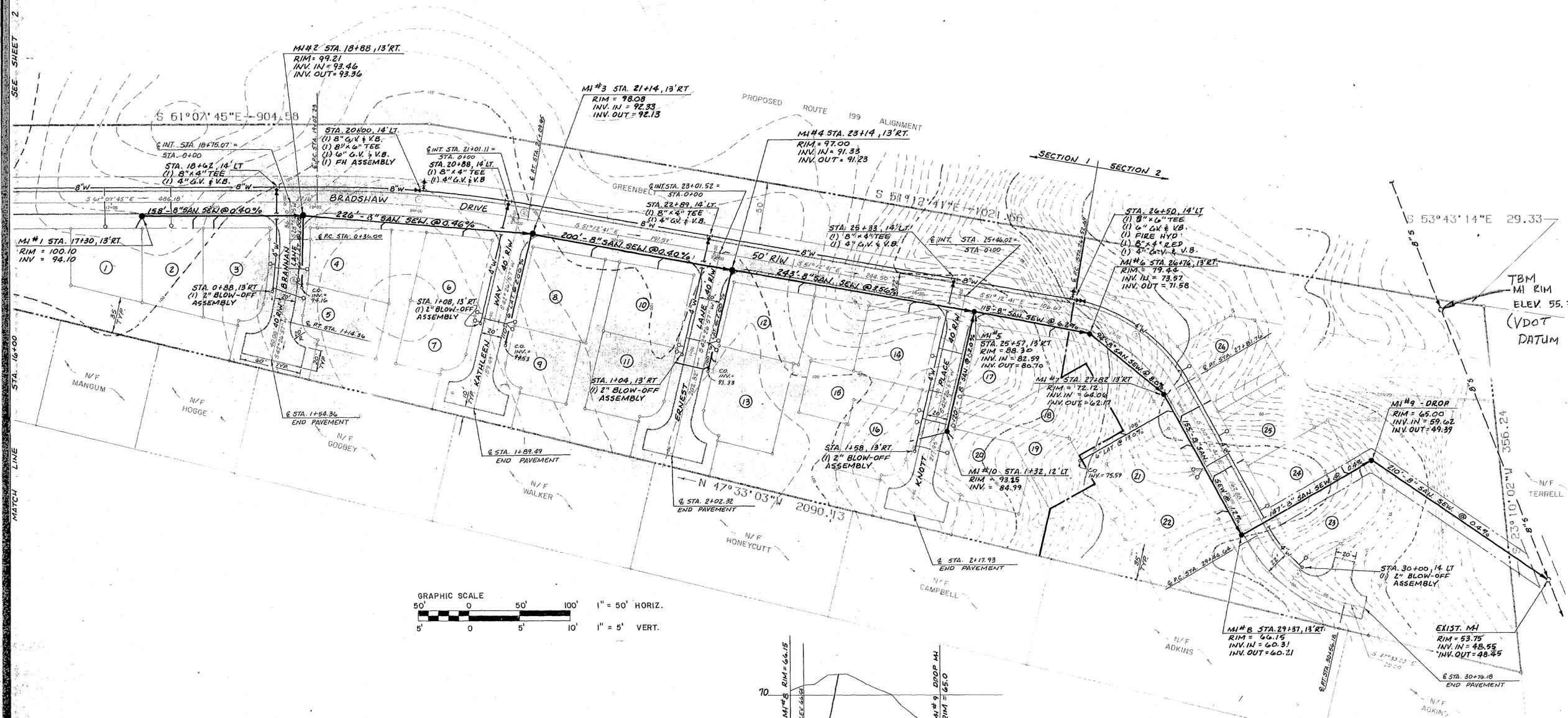
EXCAVATE 18" OF TOPSOIL TO SUITABLE BASE

60 L.F. OF SANITARY SEWER ENCASEMENT. SEWER AT BEGINNING OF MANHOLE AND EXTEND A LENGTH OF 60' (SEE DETAIL) (AT THE DISCHARGE 60 L.F. OF 12" D.I.P., CLASS 50, MAY BE SUBSIDIARY SEWER ENCASEMENT. SANITARY SEWER SERVICE UNINTERRUPTED REGARDLESS OF CONSTRUCTION.)

SEE DETAIL

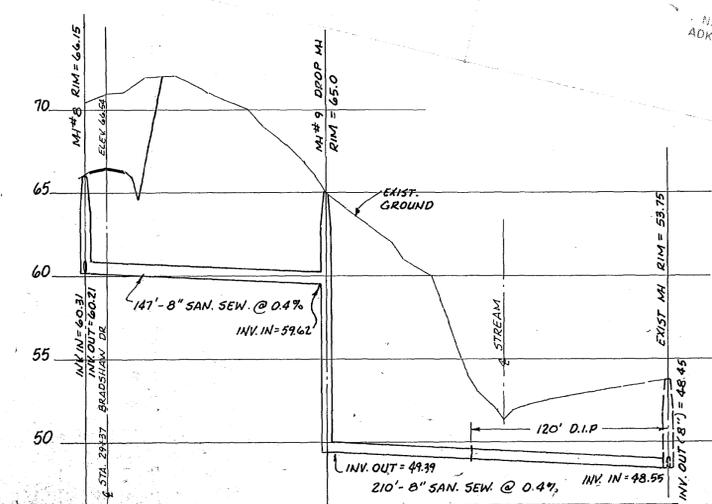


BENCHMARK (VDOT DATUM)  
 Two NAILS IN A 14" OAK  
 100' ± RT. OF R/OAD @ STA. 159+57 ± (PROP. RTE. 199)  
 ELEV. 105.80



CURVE DATA

| NO. | BELTA      | RADIUS  | LENGTH | TANGENT | CHORD BEARING | CHORD DIST. |
|-----|------------|---------|--------|---------|---------------|-------------|
| 1   | 69°29'45"  | 1200.00 | 198.39 | 99.67   | S 55°12'53"E  | 198.65      |
| 2   | 0°25'19"   | 1200.00 | 8.84   | 4.42    | S 61°25'21"E  | 8.84        |
| 3   | 51°00'00"  | 145.00  | 129.07 | 63.16   | S 25°42'41"E  | 124.85      |
| 4   | 47°20'22"  | 135.00  | 111.54 | 53.18   | S 23°52'62"E  | 108.40      |
| 5   | 134°34'42" | 330.65  | 78.36  | 39.36   | S 36°39'36"W  | 78.18       |



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

BENCHMARK INFO.

| NO. | DATE    | DESCRIPTION                |
|-----|---------|----------------------------|
| 1   | 4-15-90 | REV. PER COMMENTS J.C.C.D. |
| 2   | 7/13/90 | REV. AS PER OWNER          |

ENGINEERS · ARCHITECTS · SURVEYORS  
 INTERIOR DESIGNERS · PLANNERS

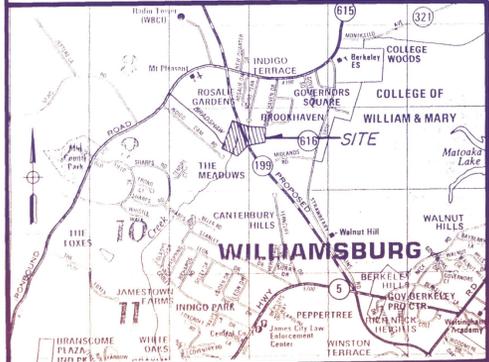
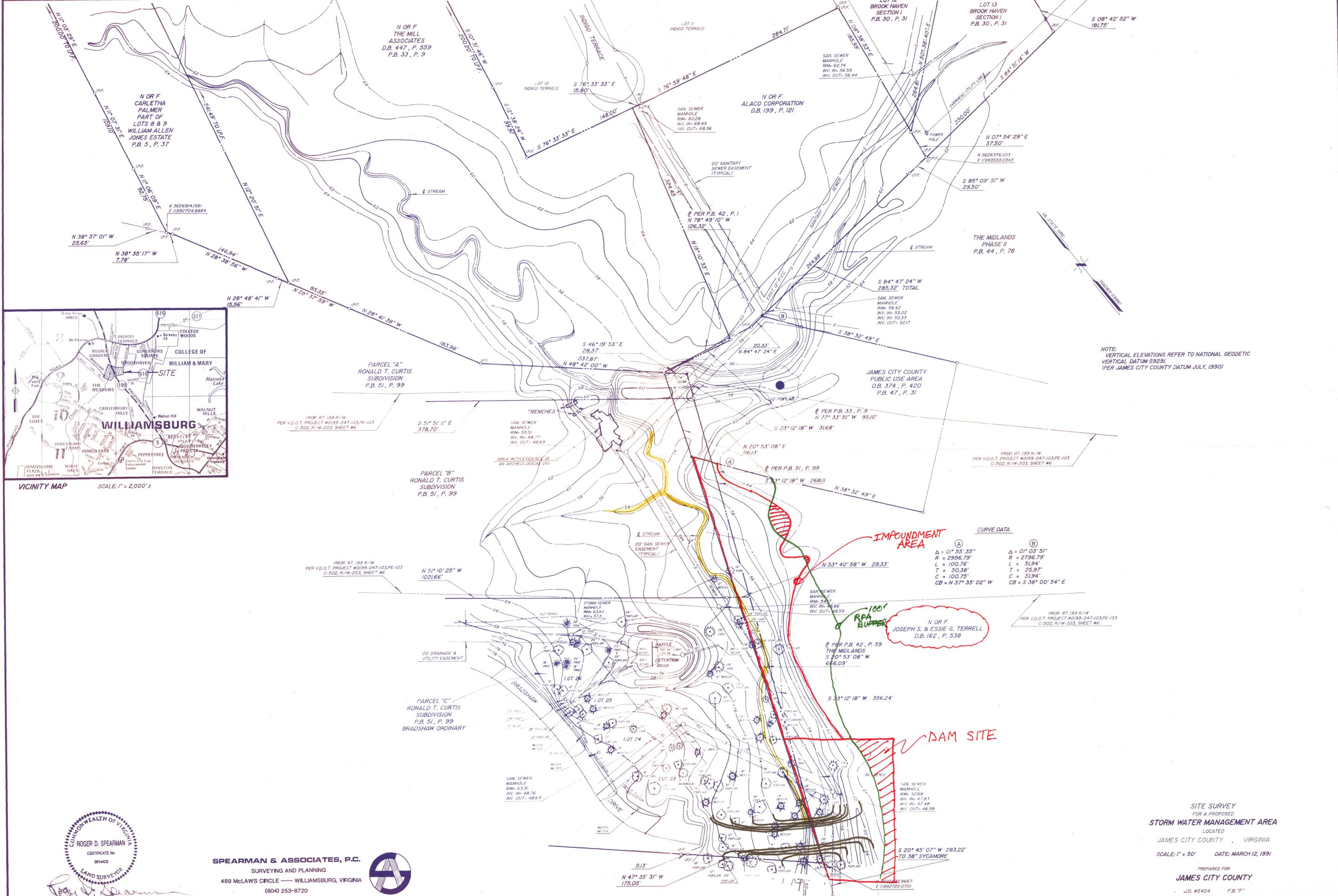
WATER AND SEWER PLAN  
 BRADSHAW ORDINARY  
 THE DIGGES BROS., INC.

SCALE AS SHOWN  
 DESIGNED L.M.P.  
 DRAWN T.C.S.  
 CHECKED L.M.P.  
 DATE 2/8/90

1880910  
 COMMISSION NO.  
 SHEET

4 OF 9

VIRGINIA  
 JAMES CITY COUNTY



NOTE:  
VERTICAL ELEVATIONS REFER TO NATIONAL GEODETIC  
VERTICAL DATUM (1929).  
(PER JAMES CITY COUNTY DATUM JULY, 1990)

**CURVE DATA**

| Curve | Delta       | Radius   | Length  | Tangent | Chord   | Chord Bearing   |
|-------|-------------|----------|---------|---------|---------|-----------------|
| A     | 01° 55' 35" | 2996.79' | 100.76' | 50.38'  | 100.75' | N 37° 35' 02" W |
| B     | 01° 03' 51" | 2796.79' | 51.94'  | 25.97'  | 51.94'  | S 38° 00' 54" E |

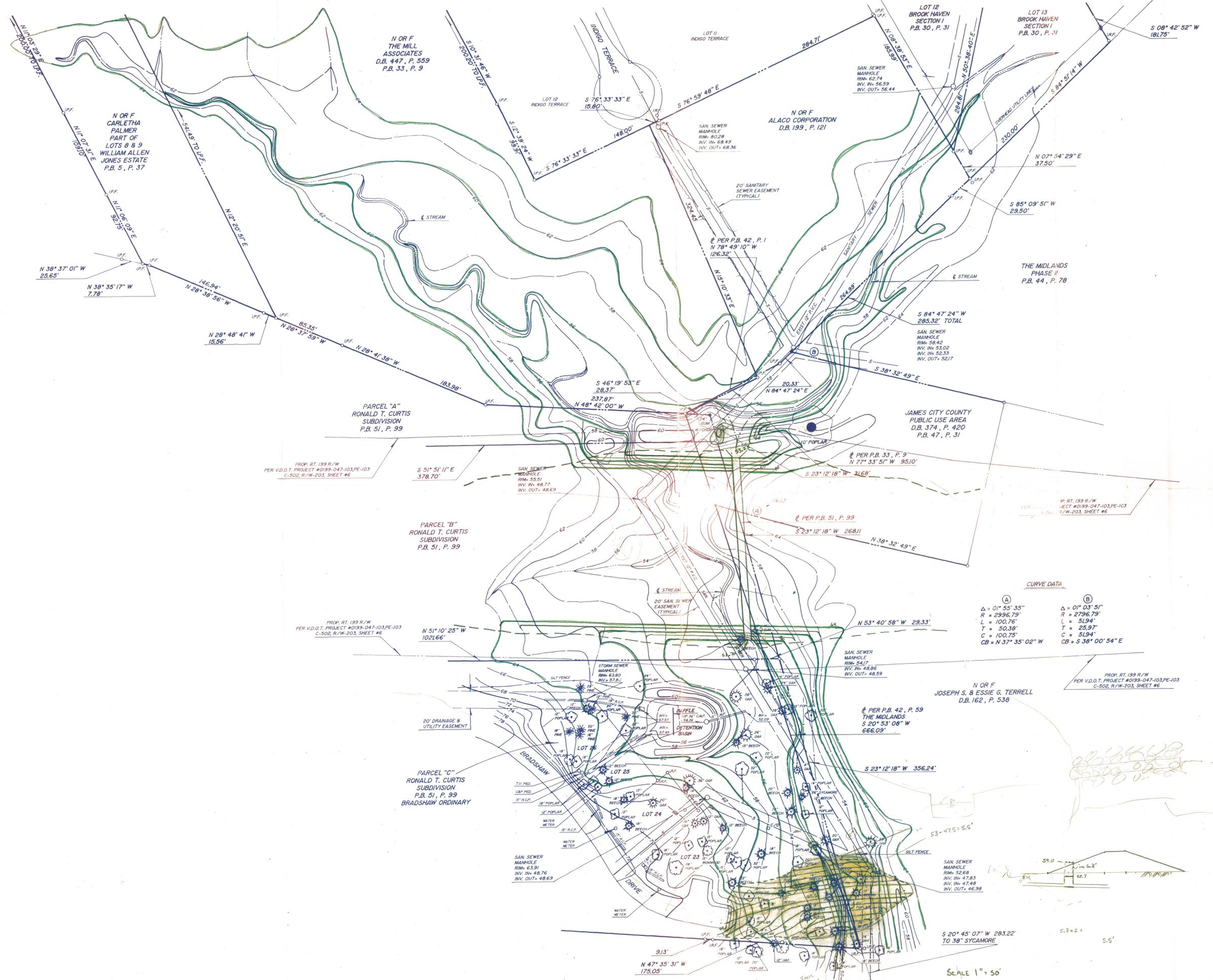


**SPEARMAN & ASSOCIATES, P.C.**  
SURVEYING AND PLANNING  
489 McLAWS CIRCLE — WILLIAMSBURG, VIRGINIA  
(804) 253-8720



**SITE SURVEY**  
FOR A PROPOSED  
**STORM WATER MANAGEMENT AREA**  
LOCATED  
JAMES CITY COUNTY, VIRGINIA  
SCALE: 1" = 50' DATE: MARCH 12, 1991

PREPARED FOR  
**JAMES CITY COUNTY**  
J.O. #5404 F.B. "F"



N OR F  
THE MILL  
ASSOCIATES  
D.B. 447, P. 559  
P.B. 33, P. 9

N OR F  
CARLETHA  
PALMER  
PART OF  
LOTS 8 & 9  
WILLIAM ALLEN  
JONES ESTATE  
P.B. 5, P. 37

N OR F  
ALACO CORPORATION  
D.B. 199, P. 121

THE MIDLANDS  
PHASE II  
P.B. 44, P. 78

JAMES CITY COUNTY  
PUBLIC USE AREA  
D.B. 374, P. 420  
P.B. 47, P. 31

PARCEL "A"  
RONALD T. CURTIS  
SUBDIVISION  
P.B. 51, P. 99

PARCEL "B"  
RONALD T. CURTIS  
SUBDIVISION  
P.B. 51, P. 99

PARCEL "C"  
RONALD T. CURTIS  
SUBDIVISION  
P.B. 51, P. 99  
BRADSHAW ORDINARY

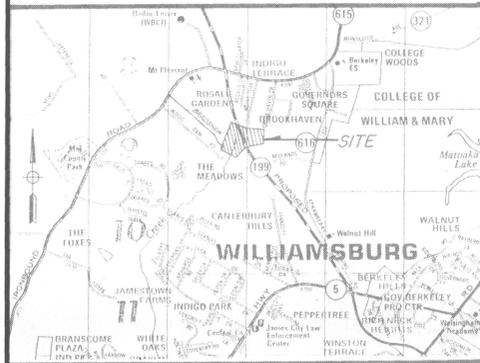
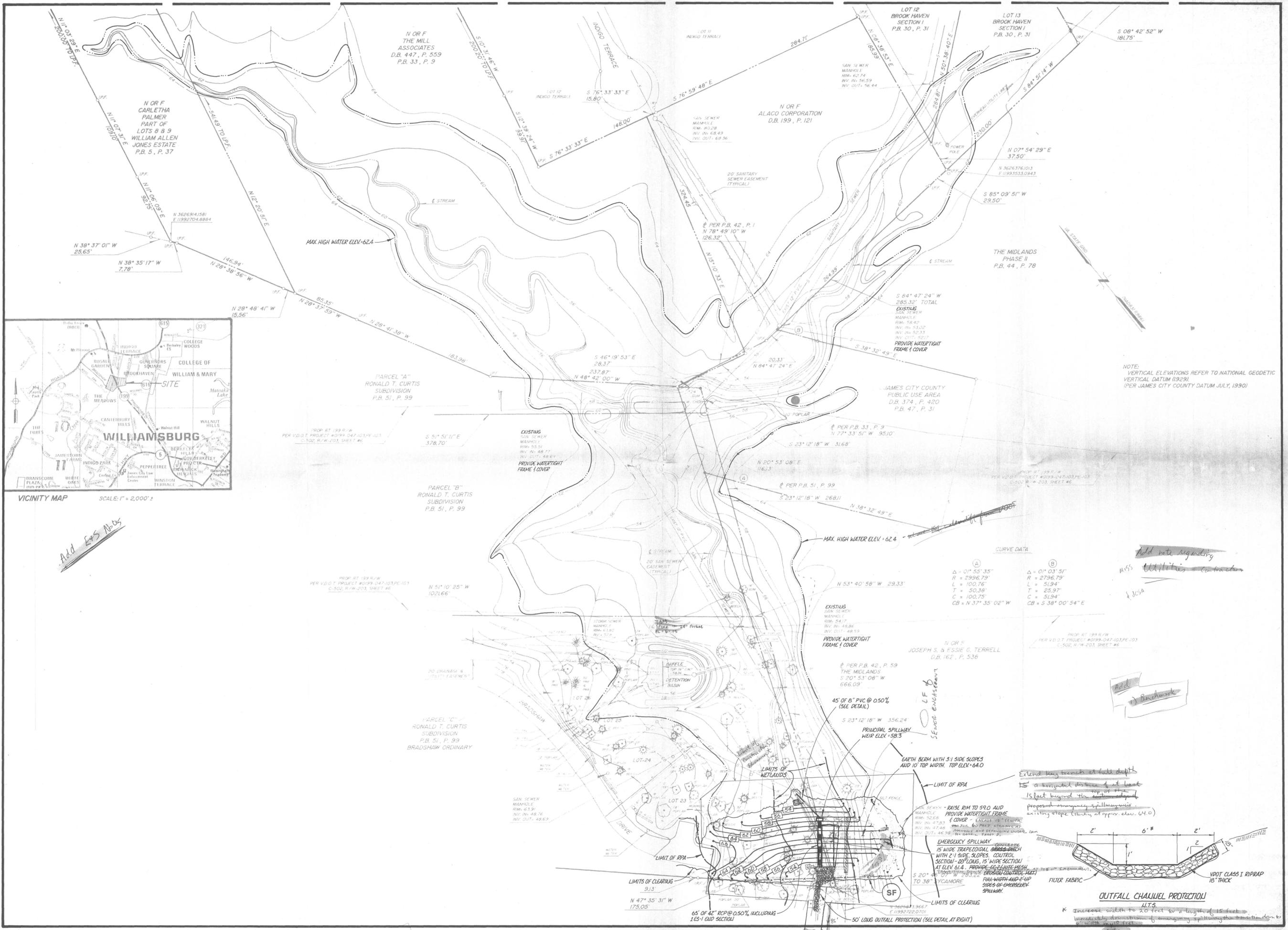
N OR F  
JOSEPH S. & ESSIE G. TERRELL  
D.B. 162, P. 538

CURVE DATA

| Curve | Delta       | Radius   | Length  | Tangent | Chord   | Chord Bearing   |
|-------|-------------|----------|---------|---------|---------|-----------------|
| (A)   | 01° 55' 35" | 2996.79' | 100.76' | 50.38'  | 100.75' | N 37° 35' 02" W |
| (B)   | 01° 03' 51" | 2796.79' | 51.94'  | 25.97'  | 51.94'  | S 38° 00' 54" E |

SCALE 1" = 50'

|     |      |                           |    |
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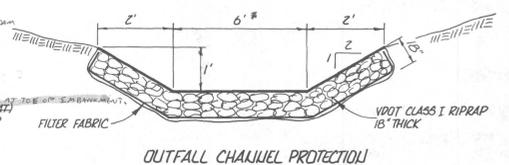
VICINITY MAP SCALE: 1" = 2,000'

*Add Exp Notes*

*Add note regarding N55 Utilities - Contractor*

*Add Benchmarks*

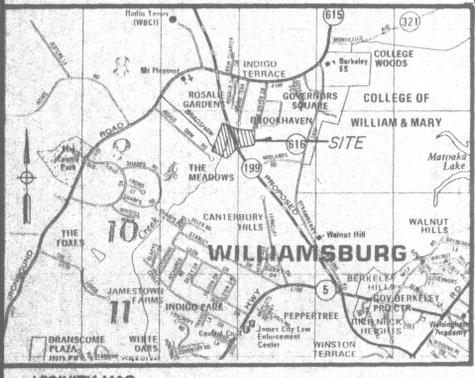
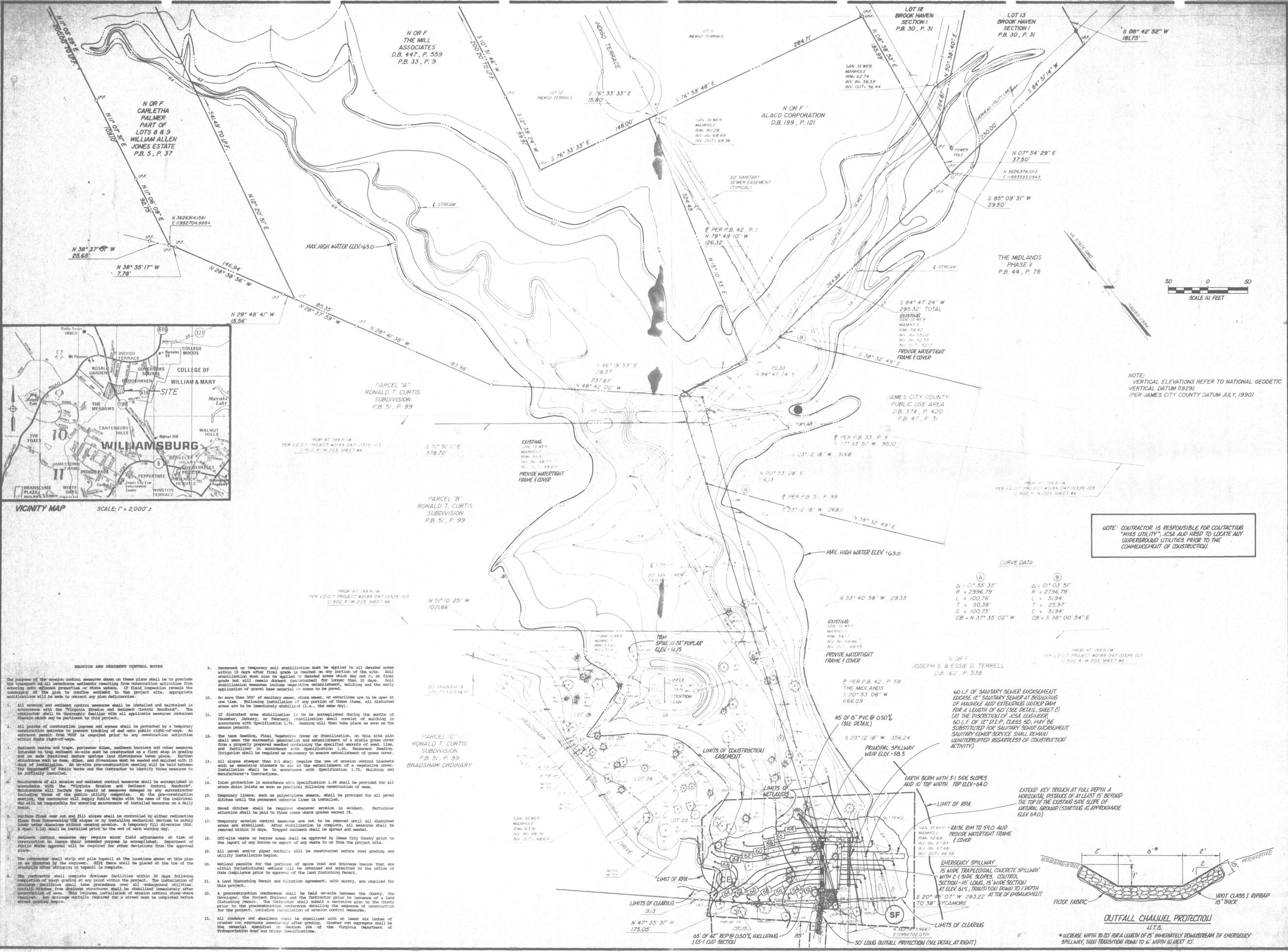
*Extend key frames at full depth to a horizontal distance of at least 15 feet beyond the center of the proposed emergency spillway weir. existing slope (shown at approx. elev. 64.0)*



**SITE PLAN**  
**MILL CREEK DETENTION BASIN #1**  
JAMES CITY COUNTY VIRGINIA

|             |         |       |          |
|-------------|---------|-------|----------|
| Designed    | DEC     | Drawn | AES      |
| Scale       | NOTED   | Date  | MAY 1991 |
| Project No. | 5430-53 |       |          |
| Drawing No. | 1 of 2  |       |          |





NOTE: VERTICAL ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM 1929 (PER JAMES CITY COUNTY DATUM JULY, 1990)

NOTE: CONTRACTOR IS RESPONSIBLE FOR CONTACTING "MIS UTILITY", JCSA AND HEAD TO LOCATE ANY UNDERGROUND UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

CURVE DATA

| Curve | Δ           | R        | L       | T      | C       | CB              |
|-------|-------------|----------|---------|--------|---------|-----------------|
| (A)   | 01° 55' 35" | 2996.79' | 100.76' | 50.38' | 100.75' | N 37° 35' 02" W |
| (B)   | 01° 03' 51" | 2796.79' | 51.94'  | 25.97' | 51.94'  | S 38° 00' 54" E |

- EROSION AND SEDIMENT CONTROL NOTES**
- The purpose of the erosion control measures shown on these plans shall be to preclude the transport of all sediment resulting from construction activities from eroding onto adjacent properties or into streams. If field inspection reveals the inadequacy of the plan to control sediment to the project site, appropriate modifications will be made to correct any plan deficiencies.
  - 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.
  - 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.
  - Sediment basins and traps, perimeter ditches, sediment barriers and other measures intended to trap sediment on-site shall be constructed as a first step in grading and be made functional before topsoil land disturbance takes place. Barbed structures such as ditches, 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 installed.
  - 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 assign public works with the name of the individual who will be responsible for ensuring maintenance of installed measures on a daily basis.
  - Surface flows over cut and fill slopes shall be controlled by either redirecting flows from traversing the slopes or by installing mechanical devices to safely lower water down slope without causing erosion. A temporary fill diversion (Std. 4 Spec. 1.10) shall be installed prior to the end of each working day.
  - 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.
  - 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 erodible strip of topsoil as complete.
  - The contractor shall complete drainage facilities within 30 days following completion of most grading at any point within the project. The installation of drainage facilities shall be completed over all erodible utilities. Outfall ditches from drainage structures shall be stabilized immediately after construction of same. This includes installation of erosion control stone where required by design details retained for a stream use to be completed before stream grading begins.
  - Placement 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 denuded (unlanded) for longer than 30 days. Soil stabilization measures include vegetative establishment, mulching and the early application of gravel base material to areas to be paved.
  - 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).
  - 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.
  - The team 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.
  - All slopes steeper than 3:1 shall require the use of erosion control blankets such as erodible blankets to aid in the establishment of a vegetative cover. Installation shall be in accordance with Specification 1.75. Mulching and Manufacturer's Instructions.
  - Inlet protection in accordance with Specification 1.09 shall be provided for all storm drain inlets as soon as practical following construction of base.
  - Temporary liners, such as polyethylene sheeting, shall be provided for all paved ditches until the permanent concrete liner is installed.
  - Paved ditches shall be required whenever erosion is evident. Particular attention shall be paid to those areas where grades exceed 3%.
  - 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 stored and soaked.
  - 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.
  - All paved and/or piped outfalls will be constructed before road grading and utility installation begins.
  - Wetland permits for the portions of spine road and drainage basins that are within jurisdictional wetlands will be obtained and submitted to the office of Code Compliance prior to approval of the Land Disturbance Permit.
  - A Land Disturbance Permit and Siltation Agreement, with surety, are required for this project.
  - A pre-construction conference shall be held on-site between the County, the Developer, the Project Engineer and the Contractor prior to issuance of a Land Disturbance Permit. The Contractor shall submit a narrative plan to the County prior to the preconstruction conference detailing the sequence of construction for the project, including installation of erosion control measures.
  - All roadways and shoulders shall be stabilized with at least six inches of crusher run aggregate immediately after grading. Crusher run aggregate shall be the material specified in Section 506 of the Virginia Department of Transportation Road and Bridge Specifications.

| NO. | DATE | REVISION / COMMENT / NOTE |
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**SITE PLAN**  
**MILL CREEK DETENTION BASIN #1**  
 JAMES CITY COUNTY, VIRGINIA

|             |          |
|-------------|----------|
| Designed    | Drawn    |
| DEG         | ABS      |
| Scale       | Date     |
| NOTED       | MAY 1991 |
| Project No. |          |
| 5430-53     |          |
| Drawing No. |          |
| 1 of 2      |          |

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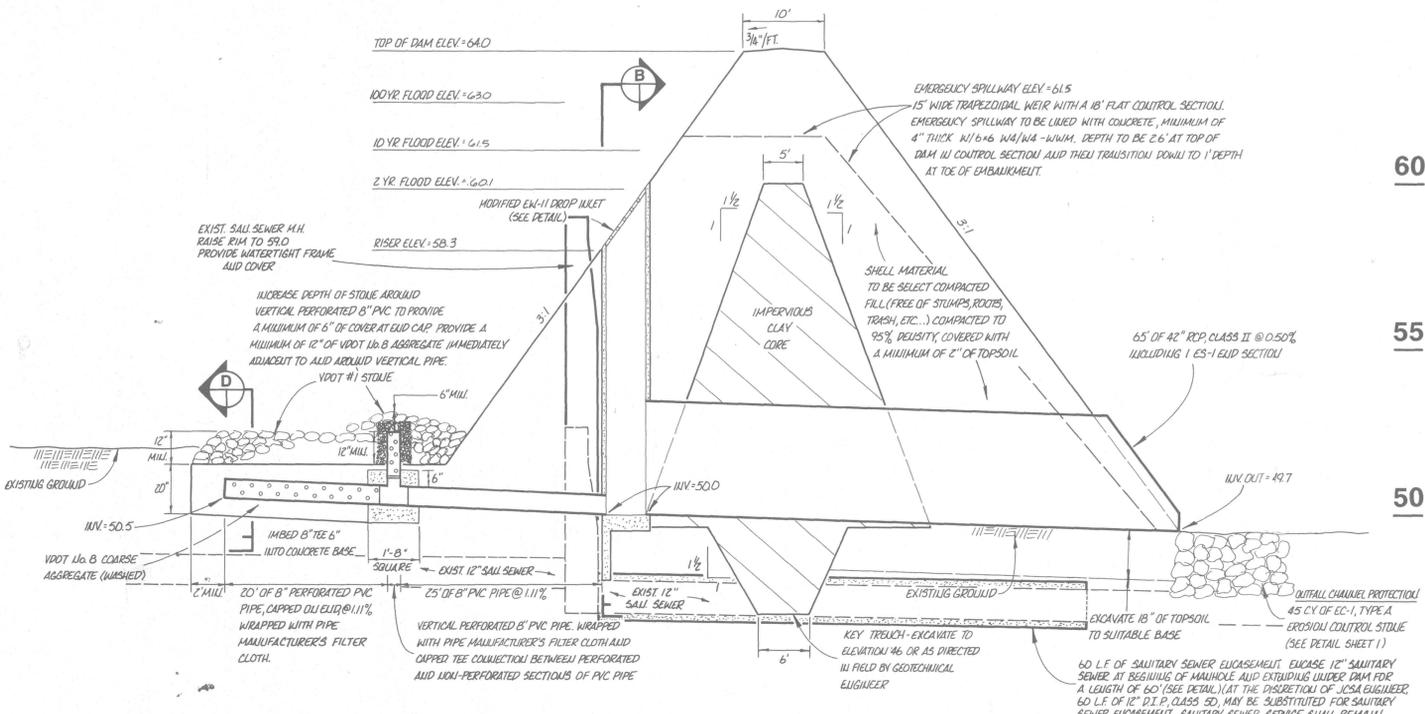
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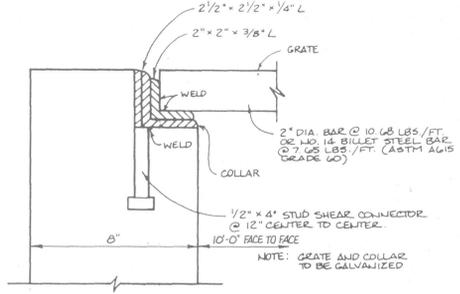
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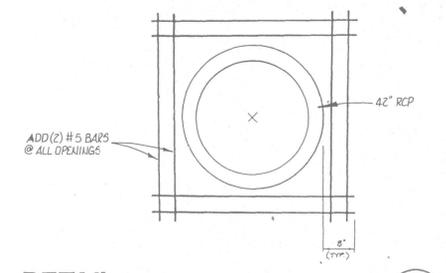
**DAM IMPOUNDMENT CROSS-SECTION**

SCALE: 1"=2.5' VERTICAL  
1"=10' HORIZONTAL



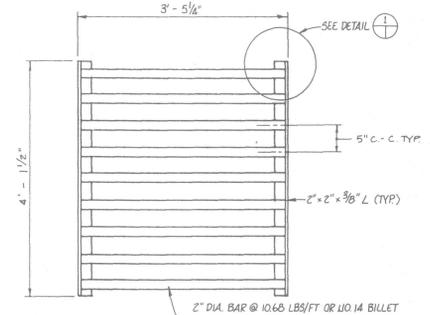
**DETAIL 1**

SCALE: 3" = 1'-0"



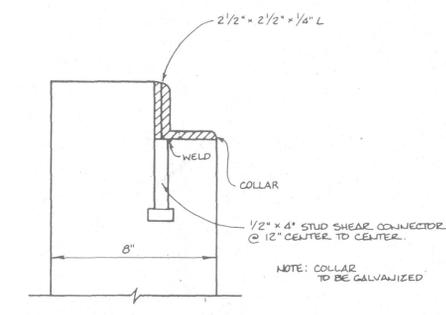
**DETAIL 3**

N.T.S.



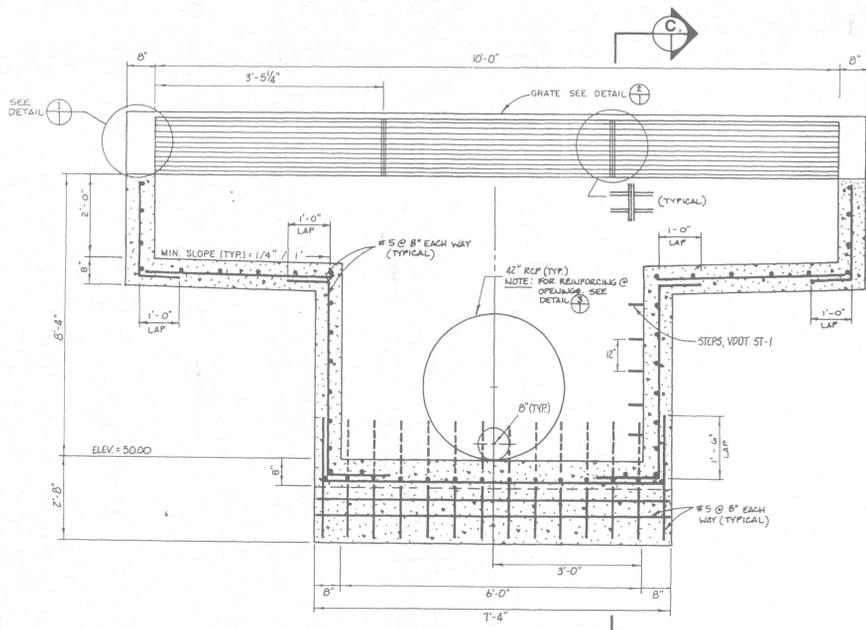
**DETAIL 2**

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



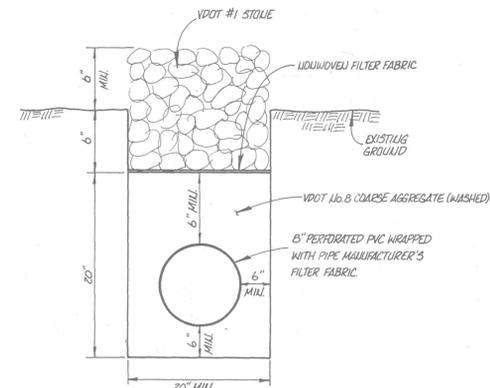
**DETAIL 4**

SCALE: 3" = 1'-0"



**SECTION-MODIFIED EW-11**

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**SECTION**

N.T.S.

**NOTES**

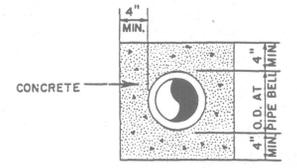
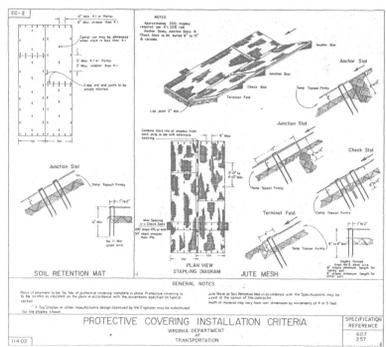
- SITE PREPARATION:** THE CONTRACTOR SHALL STRIP ALL AREAS OF THE PERMANENT CONSTRUCTION TO REMOVE ALL UNSUITABLE MATERIALS. THE UNSUITABLE MATERIALS TO BE REMOVED BY STRIPPING SHALL INCLUDE ALL TOPSOIL, DEBRIS AND VEGETABLE MATTER, INCLUDING STUMPS AND ROOTS, AND ALL OTHER MATERIALS WHICH MAY BE UNSUITABLE FOR USE IN THE PERMANENT CONSTRUCTION.
- BORROW PITS:** BORROW PIT AREAS ARE TO BE APPROVED BY THE ENGINEER OR HIS REPRESENTATIVE. BORROW PITS SHALL BE SO EXCAVATED THAT WATER WILL NOT COLLECT AND STAND THEREIN. BEFORE BEING ABANDONED, THE SIDES OF BORROW PITS SHALL BE BROUGHT TO STABLE SLOPES WITH SLOPE INTERSECTIONS SHAPED TO CARRY THE NATURAL CONTOUR OF ADJACENT UNDISTURBED TERRAIN INTO THE PIT OR BORROW AREA GIVING A NATURAL APPEARANCE. TOPSOIL STOCKPILES SHALL BE SHAPED TO PROVIDE A NATURAL APPEARANCE.
- DAM EMBANKMENT:** THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED BORROW AREAS. IT SHALL BE CLEAN MINERAL SOIL, FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, OR OTHER OBJECTIONABLE MATERIAL. SOILS WHICH ARE APPROVABLE FOR THE CONSTRUCTION OF THE IMPERVIOUS CLAY CORE, AS DEFINED BY THE UNIFIED SOIL CLASSIFICATION SYSTEM, ARE CL, INORGANIC CLAYS OF HIGH PLASTICITY; CL, INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY. IMPERVIOUS CORE MATERIALS SHALL HAVE A COEFFICIENT OF PERMEABILITY (K-VALUE) LESS THAN 1.0 CM/SEC. MATERIALS TO BE USED FOR THE CONSTRUCTION OF THE SHELL SHALL BE SELECT BACKFILL FREE OF STUMPS, ROOTS, ROCKS, TRASH, ETC., AND SHALL CONTAIN A MINIMUM OF 15%, BUT NO MORE THAN 49%, PASSING THE NO. 200 SIEVE (SILT AND CLAY). AS DEFINED BY THE UNIFIED SOIL CLASSIFICATION SYSTEM, THE SOILS SHALL BE SM OR SC, SILTY SANDS, SILTY GRAVELLY SANDS, CLAYEY SANDS, OR CLAYEY GRAVELLY SANDS. AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCRAPPED PRIOR TO PLACEMENT OF FILL. THE FILL MATERIAL'S MOISTURE CONTENT SHALL BE +3 TO -2 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698 (I.E. IN GENERAL THE FILL MATERIAL SHOULD CONTAIN SUFFICIENT MOISTURE SO THAT IT CAN BE FORMED INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL, IT IS TOO WET FOR PROPER COMPACTION). FILL MATERIAL WILL BE PLACED IN 6 TO 8-INCH CONTINUOUS LAYERS OVER THE ENTIRE LENGTH OF THE FILL. COMPACTION, AS NOTED ON PLAN, SHALL BE OBTAINED GENERALLY BY USING A SHEEPSFOOT COMPACTOR.
- CUTOFF TRENCH/KEY TRENCH:** THE TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF THE DAM. THE MINIMUM DEPTH SHALL BE AS SHOWN ON THE PLANS AND SHALL EXTEND UP BOTH ABUTMENTS TO THE INDICATED ELEVATION. THE MINIMUM BOTTOM WIDTH SHALL BE 6 FEET, BUT WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1-1/2:1. COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE FOR THE EMBANKMENT. THE TRENCH SHALL BE KEPT DRAINED DURING THE BACKFILLING-COMPACTION OPERATIONS. THE TRENCH SHALL BE EXTENDED INTO THE EAST SHOULDER OF THE DAM AT FILL DEPTH, A HORIZONTAL DISTANCE OF 15 FEET BEYOND TOP OF EXISTING SLOPE (STARTING AT APPROXIMATE ELEV. 64.0).
- PRINCIPAL SPILLWAY:** ALL JOINTS IN THE PRINCIPAL SPILLWAY RISER STRUCTURE AND BARREL SHALL BE OF WATER-TIGHT CONSTRUCTION. THE RISER OF THE PRINCIPAL SPILLWAY SHALL BE SECURELY ATTACHED TO THE BARREL BY A WATER-TIGHT CONNECTION. THE BARREL AND RISER SHALL BE PLACED ON A FIRM COMPACTED SOIL FOUNDATION. THE BASE OF THE RISER SHALL BE FIRMLY ANCHORED ACCORDING TO THE DESIGN CRITERIA TO PREVENT ITS FLOATING. PERVIOUS MATERIALS SUCH AS SAND, GRAVEL OR CRUSHED STONES SHALL NOT BE USED AS BACKFILL AROUND THE BARREL OR ANTI-SLEEP COLLARS. FILL MATERIAL SHALL BE PLACED AROUND THE PIPE IN 4-INCH LAYERS AND COMPACTED BY HAND AT LEAST TO THE SAME DENSITY AS THE EMBANKMENT. A MINIMUM OF TWO FEET OF FILL SHALL BE HAND-COMPACTED OVER THE BARREL BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.
- EMERGENCY SPILLWAY:** DESIGN ELEVATIONS, WIDTHS, ENTRANCE AND EXIT CHANNEL SLOPES ARE CRITICAL TO THE SUCCESSFUL OPERATION OF THE SPILLWAY AND SHOULD BE ADHERED TO CLOSELY DURING CONSTRUCTION.
- VEGETATIVE STABILIZATION:** FINAL VEGETATIVE COVER (STABILIZATION) SHALL CONSIST OF TOPSOILING, LIMING, FERTILIZING, SEEDING, AND MULCHING TO ASSURE A FIRM STAND OF GRASS AS SOON AS PRACTICAL. SEDIMENT BASINS AND OTHER TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED ONLY WHEN STABILIZATION IS COMPLETE. FINAL VEGETAL COVER SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING:  
TOPSOIL: AT LEAST 2" THICKNESS OBTAINED FROM STOCKPILES ON SITE. FREE OF LARGE DEBRIS.  
LIME: 4,000#/ACRE (90#/1,000 S.F.)  
SEED: SEE SPECIFICATIONS  
FERTILIZER: 15/20/10 MIX, 1,000#/ACRE (25#/1,000 S.F.)  
MULCH: STRAW OR HAY (LOCALLY OBTAINED) 4,000#/ACRE (90#/1,000 S.F.)

**GENERAL NOTES**

- CONCRETE TO BE 3000 PSI MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS.
- IF PIPE IS TO BE SKEWED, THE OPENING WILL BE ADJUSTED TO ACCOMMODATE SKEW.
- REINFORCING STEEL IN ACCORDANCE WITH ASTM A-615, GRADE 60.

**SECTION-MODIFIED EW-11**

N.T.S.



**TYPICAL SEWER PIPE ENCASEMENT**

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**NOTES AND DETAILS**

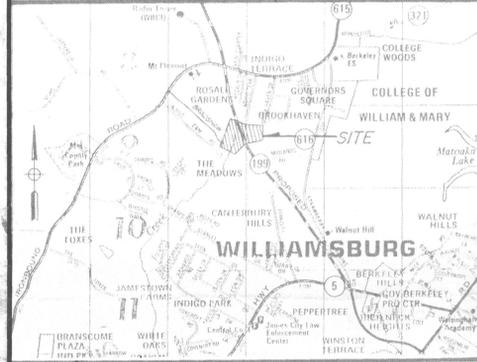
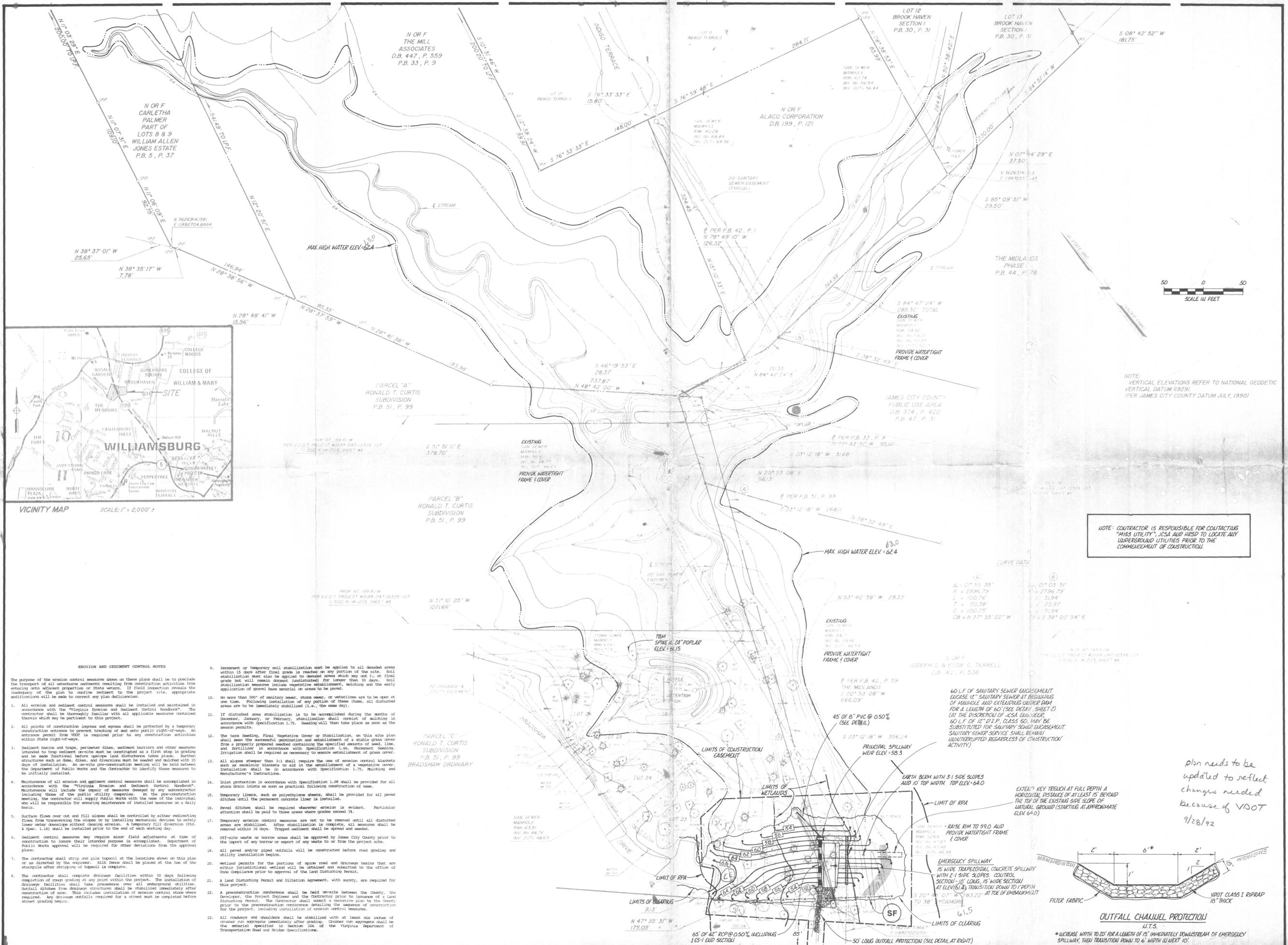
**MILL CREEK DETENTION BASIN #1**

JAMES CITY COUNTY VIRGINIA

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| Designed<br>DEC               | Drawn<br>AES     |
| Scale<br>NOTED                | Date<br>MAY 1991 |
| Project No.<br><b>5430-53</b> |                  |
| Drawing No.<br><b>2 of 2</b>  |                  |

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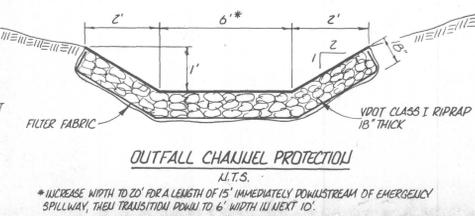


VICINITY MAP SCALE: 1" = 2,000'

- EROSION AND SEDIMENT CONTROL NOTES**
- The purpose of the erosion and sediment control measures shown on these plans shall be to preclude the transport of all sediment 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.
- 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.
  - All points of construction ingress and egress shall be protected by a temporary construction entrance to prevent tracking of soil onto public right-of-ways. An entrance permit from VDOT is required prior to any construction activities within state right-of-ways.
  - 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 ground level disturbance takes place. Erosion structures such as dams, dikes, and diversions must be needed and maintained 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.
  - 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.
  - Surface flows over cut and fill slopes shall be controlled by either redirecting flows from traversing the slopes or by installing mechanical devices to safely lower water down-slope without causing erosion. A temporary fill diversion (Std. 4 Spec. 1.16) shall be installed prior to the end of each working day.
  - 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.
  - The contractor shall strip and pile topsoil at the locations shown on this plan or as directed by the engineer. Silt fences shall be placed at the top of the stockpile after stripping of topsoil is complete.
  - 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. Detail 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.
  - 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 denuded (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.
  - 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 lines, all disturbed areas are to be immediately stabilized (i.e., the same day).
  - 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.
  - 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.
  - All slopes steeper than 3:1 shall require the use of erosion control blankets such as acculiner blankets to aid in the establishment of a vegetative cover. Installation shall be in accordance with Specification 1.75, Mulching and Manufacturer's Instructions.
  - Inlet protection in accordance with Specification 1.08 shall be provided for all storm drain inlets as soon as practical following construction of same.
  - Temporary liners, such as polyethylene sheeting, shall be provided for all paved ditches until the permanent concrete liner is installed.
  - Paved ditches shall be required whenever erosion is evident. Particular attention shall be paid to those areas where grades exceed 3:1.
  - 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.
  - 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.
  - All paved on-site piped outfalls will be constructed before road grading and utility installation begins.
  - Wetland permits for the portions of spine road and drainage basins that are within jurisdictional wetlands will be obtained and submitted to the office of Code Compliance prior to approval of the Land Disturbance Permit.
  - A Land Disturbance Permit and Siltation Agreement, with survey, are required for this project.
  - A preconstruction conference shall be held on-site between the county, the Developer, the Project Engineer and the Contractor prior to issuance of a Land Disturbance Permit. The Contractor shall submit a narrative plan to the County prior to the preconstruction conference detailing the sequence of construction for the project, including installation of erosion control measures.
  - All roadways and shoulders shall be stabilized with at least six inches of crusher run aggregate immediately after grading. Crusher run aggregate shall be the material specified in Section 206 of the Virginia Department of Transportation Road and Bridge Specifications.

NOTE: CONTRACTOR IS RESPONSIBLE FOR CONTACTING "MISS UTILITY" JCSA AND HSD TO LOCATE ANY UNDERGROUND UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

plan needs to be updated to reflect changes needed because of VDOT 9/28/92



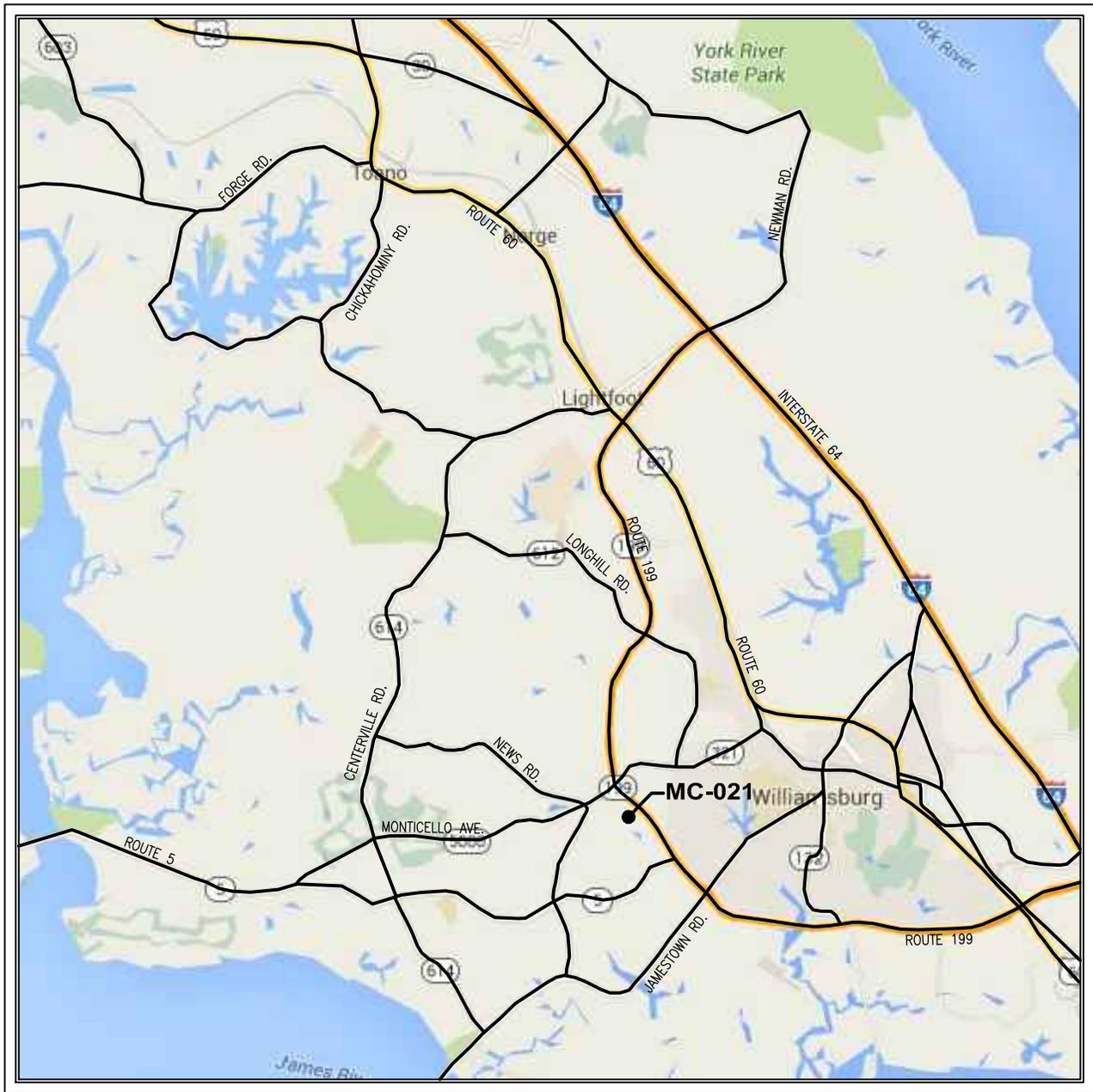
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**SITE PLAN**  
**MILL CREEK DETENTION BASIN #1**  
JAMES CITY COUNTY VIRGINIA

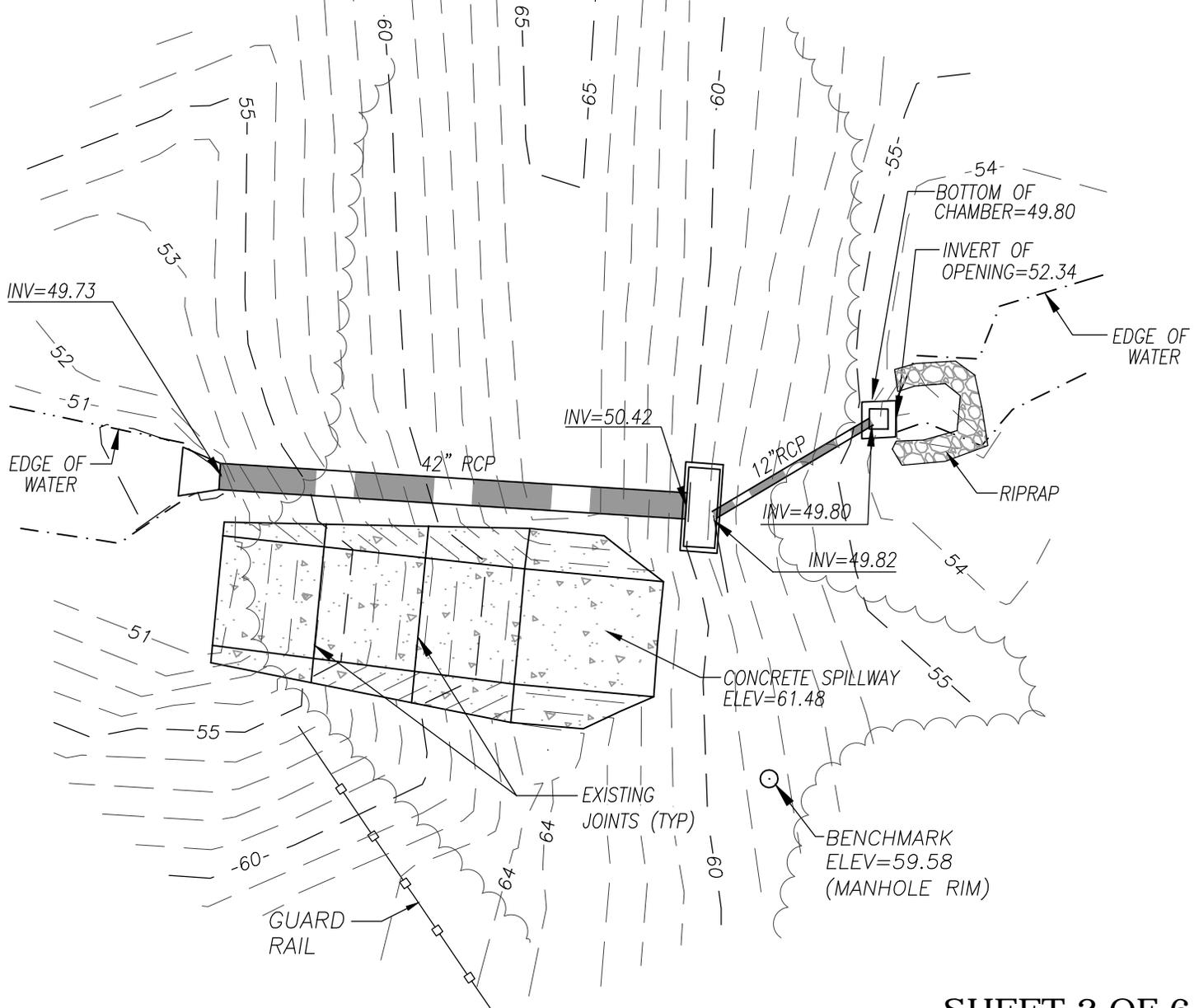
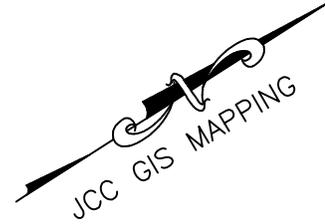
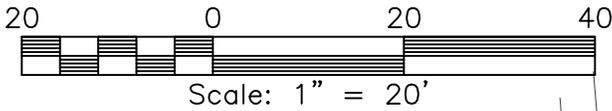
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| Designed<br>DEC        | Drawn<br>AEG     |
| Scale<br>NOTED         | Date<br>MAY 1991 |
| Project No.<br>5430-53 |                  |
| Drawing No.<br>1 of 2  |                  |



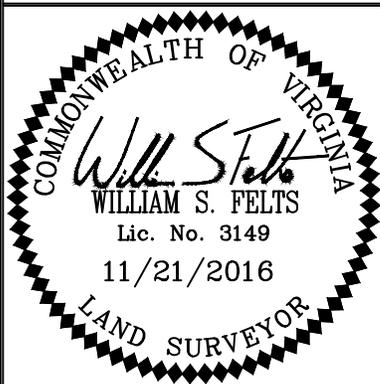
**POND MAINTENANCE RECORD DRAWING**  
OF  
**MC-021**  
LOCATED AT  
**BRADSHAW DRIVE**  
FOR  
**JCC STORMWATER DIVISION**



**VICINITY MAP**  
SCALE: 1" = 1 MILE



SHEET 2 OF 6



**POND MAINTENANCE RECORD DRAWING OF  
MC-021 LOCATED AT BRADSHAW DRIVE  
FOR  
JCC STORMWATER DIVISION**

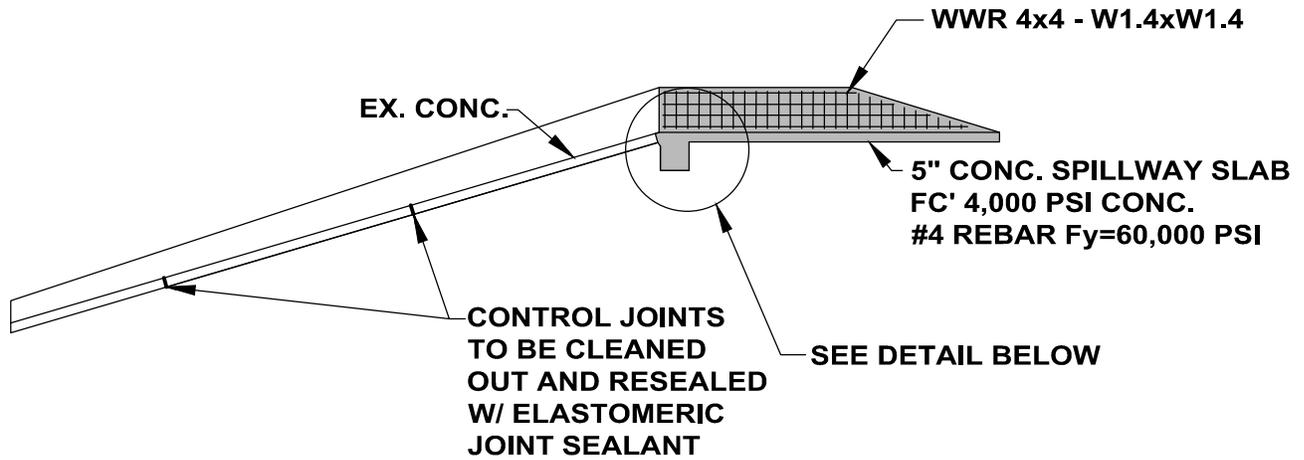
JAMES CITY COUNTY

**EXISTING CONDITIONS**

VIRGINIA

DATE: 11/21/16  
SCALE: 1"=20'  
JOB# 16-151  
CAD File  
MC-021 Brawshaw Drive Asbuill.dwg

**LandTech Resources, Inc.**  
ENGINEERING & SURVEYING CONSULTANTS  
3925 Midlands Road, Williamsburg, Virginia 23188  
Telephone: 757-565-1677 Fax: 757-565-0782  
Web: landtechresources.com



**SECTION 'A-A'**

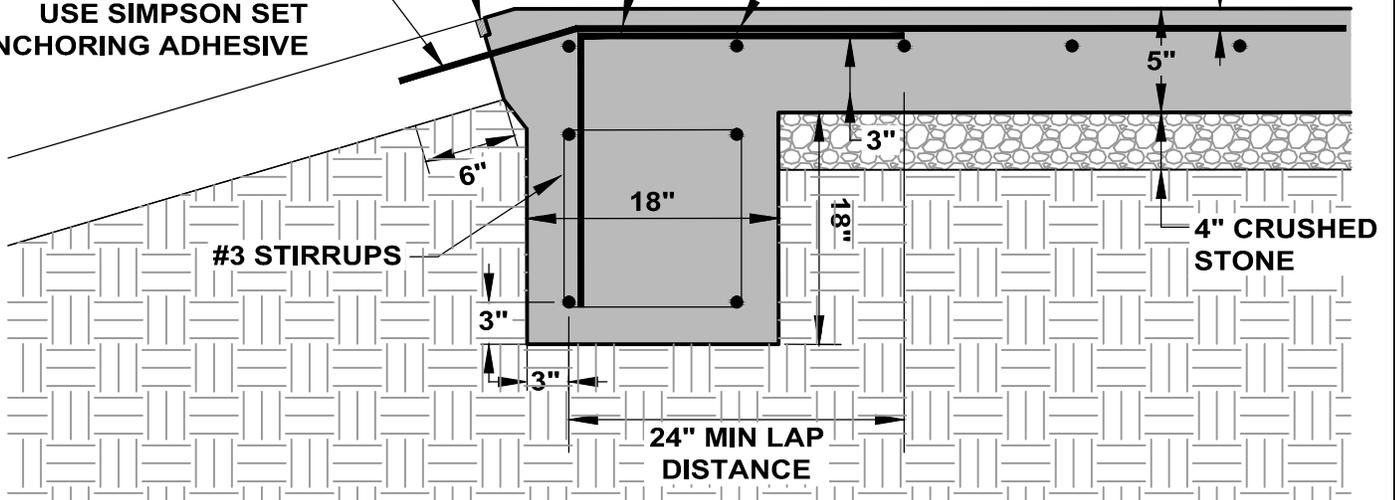
SCALE: 1"=10'

1" CONSTRUCTION JOINT TO BE TO BE FILLED WITH POLYETHYLENE FOAM FILLER/BACKER ROD AND SEALED W/ VULCANOX II, TWO PART ELASTOMERIC URETHANE JOINT SEALANT

DOWELL #4 BARS 6" EMBEDMENT 12" O.C. USE SIMPSON SET ANCHORING ADHESIVE

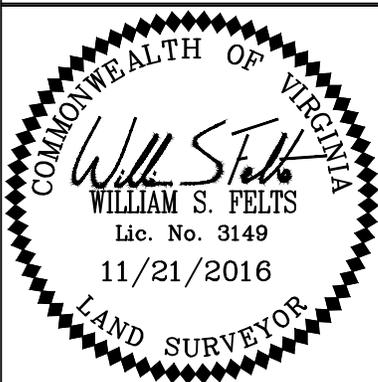
BEND REBAR BEFORE DOWELLING INTO EXISTING CONC.

REBAR 12" O.C. EACH WAY



NOT TO SCALE

SHEET 3 OF 6



POND MAINTENANCE RECORD DRAWING OF  
**MC-021 LOCATED AT BRADSHAW DRIVE**  
 FOR  
**JCC STORMWATER DIVISION**

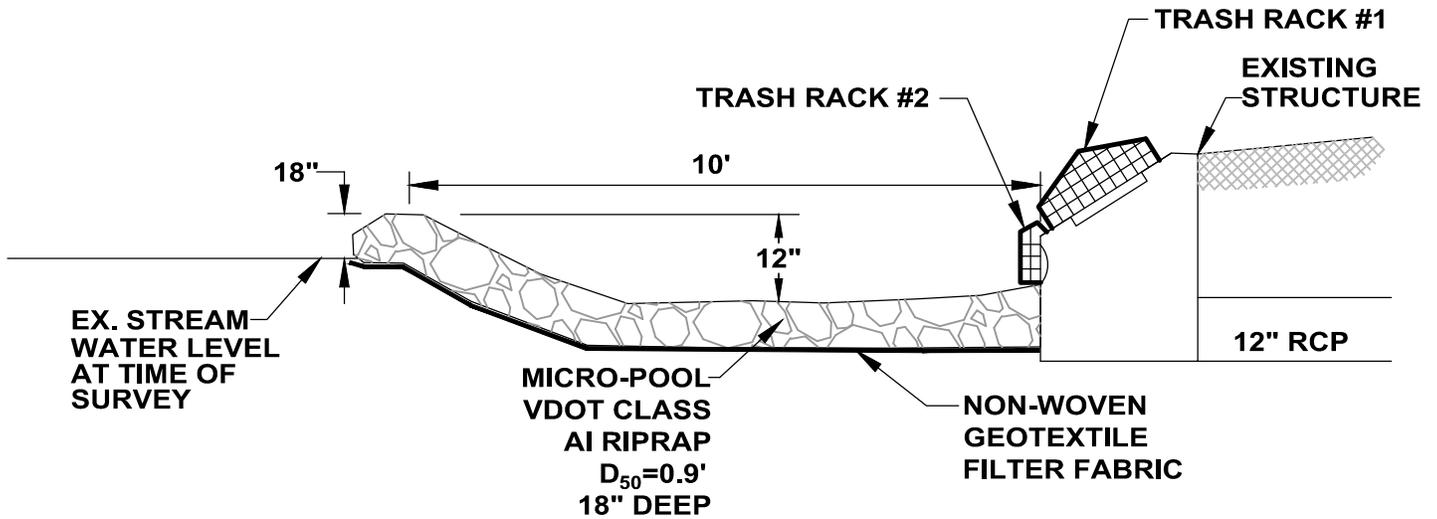
JAMES CITY COUNTY

DETAILS

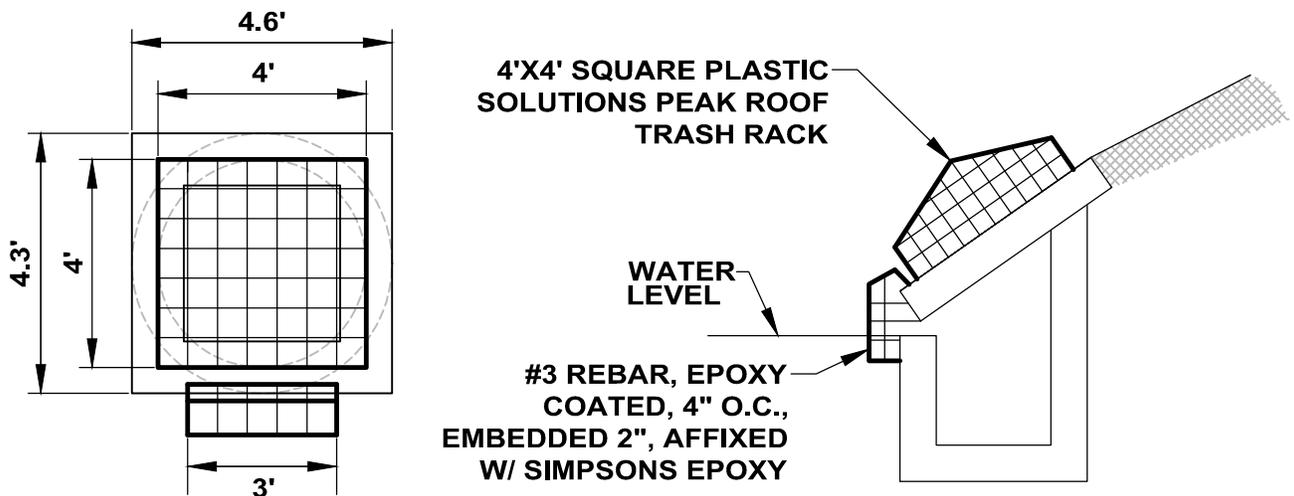
VIRGINIA

DATE: 11/21/16  
 SCALE: N/A  
 JOB# 16-151  
 CAD File  
 MC-021 Bradshaw Drive Asbuilt.dwg

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**SECTION 'B-B'**  
N.T.S.



**TRASH RACK DETAILS**  
N.T.S.

SHEET 4 OF 6



POND MAINTENANCE RECORD DRAWING OF  
**MC-021 LOCATED AT BRADSHAW DRIVE**  
FOR  
**JCC STORMWATER DIVISION**

JAMES CITY COUNTY

DETAILS

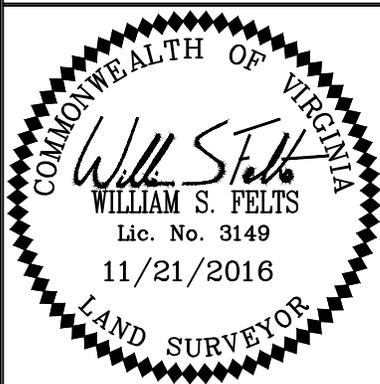
VIRGINIA

DATE: 11/21/16  
SCALE: N/A  
JOB# 16-151  
CAD File  
MC-021 Bradshaw Drive Asbuilt.dwg

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SHEET 5 OF 6



**POND MAINTENANCE RECORD DRAWING OF  
MC-021 LOCATED AT BRADSHAW DRIVE  
FOR  
JCC STORMWATER DIVISION  
CONSTRUCTION PICTURES**

JAMES CITY COUNTY

VIRGINIA

DATE: 11/21/16  
SCALE: N/A  
JOB# 16-151  
CAD File  
MC-021 Bradshaw Drive Asbuilt.dwg

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STORMWATER FACILITY CERTIFICATION:

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE STORMWATER FACILITIES SHOWN ON THESE DRAWINGS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.

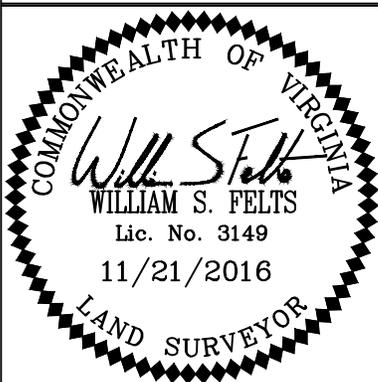
WILLIAM S FELTS \_\_\_\_\_  
NAME

*William S Felts* \_\_\_\_\_  
NAME

LIC. NO. 3149 \_\_\_\_\_  
VIRGINIA LICENSE

11/21/2016 \_\_\_\_\_  
DATE

SHEET 6 OF 6



**POND MAINTENANCE RECORD DRAWING OF  
MC-021 LOCATED AT BRADSHAW DRIVE  
FOR  
JCC STORMWATER DIVISION**

JAMES CITY COUNTY

**ASBUILT PICTURES**

VIRGINIA

DATE: 11/21/16  
SCALE: N/A  
JOB# 16-151  
CAD File  
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