CERTIFICATE OF AUTHENTICITY

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

BMP NUMBER: **YC057**

DATE VERIFIED: **July 13, 2012**

QUALITY ASSURANCE TECHNICIAN: **Leah Hardenbergh**

Leah Hardenbergh

LOCATION: WILLIAMSBURG, VIRGINIA

Stormwater Division

MEMORANDUM

DATE: March 12, 2010

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

FROM: Jo Anna Ripley, Stormwater

PO: 270712

RE: Files Approved for Scanning

General File ID or BMP ID: YC057

PIN: 2410100005B

Subdivision, Tract, Business or Owner Name (if known): Colonial Car Wash

Property Description: Car Wash

Site Address: 6950 Richmond Road

(For internal use only) **Box** 20 **Drawer:** N/A

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

Comments
New Parcel 1 Pleasant Hill Station

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

Daryl Cook

Call Wayne Reed @ 592-3287 if you have any questions

BMP/Stormcost $22,000

James City County, Virginia
Stormwater Division

Stormwater Facilities - BMP and Conveyance Systems
Record Drawing and Construction Certification Forms

Note: In accordance with the requirements of the Chesapeake Bay Preservation Ordinance, Chapter 23, Section 23-10(4), BMPs shall be designed and constructed in accordance with the manual entitled* James City County Guidelines for Design and Construction of Stormwater Management BMPs. *The Subdivision Ordinance, Chapter 19-62, the Zoning Ordinance, Chapter 24-159, and approved construction plans generally require that at the completion of the project and prior to release of surety, an "as-built" plan prepared by a registered Professional Engineer or Certified Land Surveyor must be provided for the drainage system for the project including any Best Management Practice (BMP) facilities. In addition, for BMP facilities, written construction certification is required by a Professional Engineer who inspected the structure during its construction. Currently there are over 20 water quality type BMPs accepted by the County.

Section 1 - Site Information:

Project Name: PLEASANT HILL STATION CAR WASH

Structure/BMP Name: " " " " " BMP

Project Location: #6950 RICHMOND ROAD

BMP Location: NORTH END OF PROPERTY: ADJ. TO ROUTE 60

County Plan No.: SP - 0060 - 2007

Project Type: ☐ Residential ☐ Business Tax Map/Parcel No.: #(24-1)(1-5A)

☒ Commercial ☐ Office BMP ID Code (if known): NOT KNOWN

☐ Institutional ☐ Industrial Zoning District: B1 W/PROFFERS

☐ Public ☐ Roadway Land Use: CAR WASH

☒ Other CAR WASH Site Area (sf or acres): 5.325 AC.

Brief Description of Stormwater Management/BMP Facility: 10 POINT, WET-TYPE DETENTION FACILITY COUNTY TYPE A-3 BMP

Nearest Visible Landmark to SWM/BMP Facility: WILLIAMSBURG POTTERY

Nearest Vertical Ground Control (if known):

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

Station Number or Name: # 307

Datum or Reference Elevation: NGVD 29 (ELEV. 118.35)

Control Description: 3 1/4" DISK IN CONCRETE

Control Location from Subject Facility: +/- 1,900' SOUTH OF SITE

Section 2 - Stormwater Management / BMP Facility Construction Information:

Preconstruction Meeting Held for Construction of SWM/BMP Facility: ☐ Yes ☐ No ☒ Unknown

Approx. Construction Start Date for SWM/BMP Facility: MAY 1ST, 2009

Facility Monitored by County Representative during Construction: ☐ Yes ☐ No ☒ Unknown

Name of Site Work Contractor Who Constructed Facility: REED ENTERPRISE

Name of Professional Firm Who Routinely Monitored Construction: " "

Date of Completion for SWM/BMP Facility: 07-14-2009

Date of Record Drawing/Construction Certification Submittal: 10-08-2009

(Note: Record Drawing and Construction Certifications are required within thirty (30) days of the completion of construction of a Stormwater Facility – BMP or Conveyance system. Record Drawings and Construction Certifications must be reviewed and approved by the James City County Stormwater Division prior to final inspection, acceptance and surety release.)

Section 3 - Owner / Designer / Contractor Information:

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

Name: WAYNE HARBIN BUILDERS, INC.

Mailing Address: 3705 STRAWBERRY PLAINS RD, SUITE D. WILLIAMSBURG, VA 23188

Business Phone: 220-8860 Fax: 220-8853

Contact Person: DOUG HARBIN Title:

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

Firm Name: AES CONSULTING ENGINEERS

Mailing Address: 5248 OLDE TOWN RD, SUITE 1, WMBG, VA 23188

Business Phone: 253-0040 Fax: 220-8994

Responsible Plan Preparer: VICTORIA A. BAINS

Title: P.E.

Plan Name: SITE PLAN FOR PLEASANT HILL STA. CAR WASH

Firm's Project No. 9668-02 Plan Date: 1-15-2009

Sheet No. Applicable to SWM/BMP Facility: 4 / 5 / 9 / / /

Stormwater Facility Contractor: *(Note: Site Work Contractor directly responsible for construction of the Stormwater facilities.)*

Name: WAYNE REED

Mailing Address: N/A

Business Phone: 592-3287 Fax: N/A

Contact Person: WAYNE REED

Site Foreman/Supervisor: " "

Specialty Subcontractors & Purpose (for BMP Construction Only):

Section 4 - Professional Certifications:

Certifying Professionals: *A Registered Professional Engineer or Certified Land Surveyor is responsible for preparation of a Record Drawing, sometimes referred to as an As-Built plan, for the stormwater facilities for the project including all BMP and conveyance systems. A Registered Professional Engineer is responsible for the inspection, monitoring and certification of all stormwater facilities – BMP and conveyance systems during their construction.*

Record Drawing and Construction Certifications for Stormwater Facilities - BMP and Conveyance Systems

Record Drawing Certification

Firm Name: LANDTECH RESOURCES
Mailing Address: 205-E BULLFANTS BLVD, WMBG, VA 23188
Business Phone: 565-1677
Fax: 565-0782

Name: MATTHEW H. CONNOLLY
Title: LAND SURVEYOR
Signature:
Date: 7-14-2009

I hereby certify to the best of my knowledge and belief that this record drawing represents the actual condition of the Stormwater Facilities. The facilities appear to conform to the provisions of the approved construction plans and specifications except as specifically noted.

COMMONWEALTH OF VIRGINIA
MATTHEW H. CONNOLLY
Lic. No. 2053
7/14/2009
LAND SURVEYOR

(Seal)
Virginia Registered Professional Engineer or Certified Land Surveyor

Construction Certification

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

Name: _____
Title: _____

Signature: _____
Date: _____

I hereby certify to the best of my knowledge and belief that these Stormwater Facilities were monitored and constructed in accordance with the provisions of the approved construction plans and specifications except as specifically noted.

(Seal)
Virginia Registered Professional Engineer

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

N/A ☐ Preconstruction Meeting - Provides an opportunity to review stormwater facilities construction, maintenance and operation plans, and address any questions regarding construction and/or monitoring of the structure. The certifying professionals, geotechnical engineer, Owner/Applicant, Contractor and County representative(s) are required to attend the preconstruction meeting. Advance notice to the Stormwater Division is required. Usually, this requirement can be met simultaneously with Erosion and Sediment Control preconstruction meeting held for the project.

X A fully completed ***Stormwater Facilities – BMP and Conveyance Systems, RECORD DRAWING and CONSTRUCTION CERTIFICATION FORM*** and ***RECORD DRAWING CHECKLIST***. All applicable sections shall be completed in their entirety and certification statements signed and sealed by the registered professional responsible for individual record drawing and/or construction certification.

X The Record Drawing shall be prepared by a Registered Professional Engineer or Certified Land Surveyor for the stormwater facilities including all BMPs and conveyance systems.

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

X Record Drawing and Construction Certifications are required within **thirty (30) days** of the completion of any Stormwater Facility - BMP or conveyance system. Submittals must be reviewed and accepted by James City County Stormwater Division prior to final inspection, acceptance, surety release or issuance of a Certificate of Occupancy.

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

Interim Construction Certification is required for those dual purpose embankment-type facilities that are generally ten (10) feet or greater in dam height (*) and may not be converted, modified or

begin function as a permanent SWM / BMP structure for a period generally ranging from six (6) to eighteen (18) months or more from issuance of a Land Disturbance permit for construction. Interim or final record drawing and construction certifications are not required for temporary sediment basins which are designed and constructed in accordance with current minimum standards and specifications for temporary sediment basins per the Virginia Erosion and Sediment Control Handbook (VESCH); have a temporary service life of less than eighteen (18) months; and will be removed completely once associated disturbed areas are stabilized, unless a distinct hazard to the public's health, safety and welfare is determined by the Stormwater Division due to the size or presence of the structure or due to evidence of improper construction.

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

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

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

X Submission Requirements. Initial and subsequent submissions for review shall consist of a minimum of one (1) blue/black line set for record drawings and one copy of the construction certification documents with appropriate transmittal. Under certain circumstances, it is understood that the record drawing and construction certification submissions may be performed by different professional firms. Therefore, record drawing submission may be in advance of construction certification or vice versa. Upon approval and prior to release of surety or a Certificate of Occupancy, final submission shall include one (1) reproducible set of the record drawings, one (1) blue/black line set of the record drawings and one (1) copy of the construction certification. Also for current and/or future incorporation into the County BMP database and GIS system, it is requested that the record drawings also be submitted to the Stormwater Division on a diskette or CD-ROM in an acceptable electronic file format such as *.dxf, *.dwg, etc. or in a standard scanned and readable format. The electronic file requirement can be discussed and coordinated with Stormwater Division staff at the time of final submission.

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM
RECORD DRAWING CHECKLIST

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

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

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

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

XX 3. All plan sheets labeled with "RECORD DRAWING" in large text in lower right hand corner. Include approved County Plan Number and BMP ID Code if known.

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

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

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

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

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

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

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

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

XX 6. Cross-section of the embankment through the principal spillway or outlet barrel. Must extend at least 100 ft. downstream of the pipe outlet or to recorded site property line, whichever is closer. Proper correlation is required between principal spillway (control structure) crest, emergency spillway crest, orifice and weirs and the top of the dam or

facility. All elevations and dimensions must reasonably match the design plan or be sequentially relative to each other and the facility must reflect the required design storage volume(s) and/or design depth.

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

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

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

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

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

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

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

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

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

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

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

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

N/A 19. Fencing location and type, if applicable to facility.

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

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

XX 22. Any other information formally requested by the Stormwater Division specific to the constructed Stormwater BMP facility.

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM
RECORD DRAWING CHECKLIST

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

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

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

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

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

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

NOT OBSERVED A5. Adequate fixed vertical sediment depth markers installed in the forebay(s) for future sediment monitoring purposes.

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

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

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

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

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

NOT OBSERVED A11. A pond drain pipe with valve was provided.

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

NONE OBSERVED A13. End walls above barrels (outlet pipe) greater than 48 inch in diameter are fenced to prevent a fall hazard.

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM
RECORD DRAWING CHECKLIST

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

X. Storm Drainage Systems, closed and open

(Includes all stormwater drainage conveyance systems such as onsite or offsite storm drains, open channels, inlets, manholes, junctions, outlet protections, deflectors, etc. The intent of this portion of the certification is toensure the drainage conveyance facilities are constructed in accordance with the construction plans and specifications so that they convey the desing flow levels and don not require excessive maintenance.)

XX SD1. All requirements of Section II, Minimum Standards, apply to Storm Conveyance systems.

XX SD2. Horizontal location of all pipes, structures and channels relative to the approved plan.

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

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

_____SD5. Channel cross-section and invert elevations at 100 foot intervals. Channel liners as specified on the construction plans.

_____SD6. Class, length, width and depth of riprap and outlet protections or dimensions of special energy dissipation structures.

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

_____O1. All requirements of Section II, Minimum Standards, apply to this section.

_____O2. Certification criteria to be determined on a case-by-case basis by the Stormwater Division specific to the proposed SWM/BMP facility.

RECEIVED ON
NOV 0 5 '09
Stormwater Division

James City County, Virginia
Stormwater Division

Stormwater Facilities - BMP and Conveyance Systems
Record Drawing and Construction Certification Forms

Note: In accordance with the requirements of the Chesapeake Bay Preservation Ordinance, Chapter 23, Section 23-10(4), BMPs shall be designed and constructed in accordance with the manual entitled* James City County Guidelines for Design and Construction of Stormwater Management BMPs. *The Subdivision Ordinance, Chapter 19-62, the Zoning Ordinance, Chapter 24-159, and approved construction plans generally require that at the completion of the project and prior to release of surety, an "as-built" plan prepared by a registered Professional Engineer or Certified Land Surveyor must be provided for the drainage system for the project including any Best Management Practice (BMP) facilities. In addition, for BMP facilities, written construction certification is required by a Professional Engineer who inspected the structure during its construction. Currently there are over 20 water quality type BMPs accepted by the County.

Section 1 - Site Information:

Project Name: Pleasant Hill Station

Structure/BMP Name: _____

Project Location: Richmond Road

BMP Location: _____

County Plan No.: _____ - _____ - _____

Project Type: ☐ Residential ☒ Business Tax Map/Parcel No.: _____

☒ Commercial ☐ Office BMP ID Code (if known): _____

☐ Institutional ☐ Industrial Zoning District: _____

☐ Public ☐ Roadway Land Use: _____

☐ Other _____ Site Area (sf or acres): _____

Brief Description of Stormwater Management/BMP Facility: _____

_____

_____

_____

Nearest Visible Landmark to SWM/BMP Facility: _____

Nearest Vertical Ground Control (if known):

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

Station Number or Name: _____

Datum or Reference Elevation: _____

Control Description: _____

Control Location from Subject Facility: _____

Section 2 - Stormwater Management / BMP Facility Construction Information:

Preconstruction Meeting Held for Construction of SWM/BMP Facility: ☐ Yes ☐ No ☐ Unknown

Approx. Construction Start Date for SWM/BMP Facility: _____

Facility Monitored by County Representative during Construction: ☐ Yes ☐ No ☐ Unknown

Name of Site Work Contractor Who Constructed Facility: _____

Name of Professional Firm Who Routinely Monitored Construction: _____

Date of Completion for SWM/BMP Facility: _____

Date of Record Drawing/Construction Certification Submittal: _____

(Note: Record Drawing and Construction Certifications are required within thirty (30) days of the completion of construction of a Stormwater Facility – BMP or Conveyance system. Record Drawings and Construction Certifications must be reviewed and approved by the James City County Stormwater Division prior to final inspection, acceptance and surety release.)

Section 3 - Owner / Designer / Contractor Information:

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

Name: Wayne Harbin Builder - Doug Harbin

Mailing Address: 3630 George Washington Highway Suite D Yorktown Va 23

Business Phone: 757-867-8307 Fax: 757-867-8635

Contact Person: Doug Harbin Title: _____

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

Firm Name: _____

Mailing Address: _____

Business Phone: _____ Fax: _____

Responsible Plan Preparer: _____

Title: _____

Plan Name: _____

Firm's Project No. _____ Plan Date: _____

Sheet No. Applicable to SWM/BMP Facility: _____ / _____ / _____ / _____ / _____

Stormwater Facility Contractor: *(Note: Site Work Contractor directly responsible for construction of the Stormwater facilities.)*

Name: _____

Mailing Address: _____

Business Phone: _____ Fax: _____

Contact Person: _____

Site Foreman/Supervisor: _____

Specialty Subcontractors & Purpose (for BMP Construction Only): _____

_____

_____

_____

_____

Section 4 - Professional Certifications:

Certifying Professionals: *A Registered Professional Engineer or Certified Land Surveyor is responsible for preparation of a Record Drawing, sometimes referred to as an As-Built plan, for the stormwater facilities for the project including all BMP and conveyance systems. A Registered Professional Engineer is responsible for the inspection, monitoring and certification of all stormwater facilities – BMP and conveyance systems during their construction.*

Record Drawing and Construction Certifications for Stormwater Facilities - BMP and Conveyance Systems

Record Drawing Certification

Firm Name: _____

Mailing Address: _____

_____

Business Phone: _____

Fax: _____

Name: _____

Title: _____

Signature: _____

Date: _____

I hereby certify to the best of my knowledge and belief that this record drawing represents the actual condition of the Stormwater Facilities. The facilities appear to conform to the provisions of the approved construction plans and specifications except as specifically noted.

_____ (Seal)

Virginia Registered Professional Engineer or Certified Land Surveyor

Construction Certification

Firm Name: ECS Mid-Atlantic LLC

Mailing Address: 108 Ingram Rd Suite 1

Williamsburg Va 23188

Business Phone: 757-229-6677

Fax: 757-229-9978

Name: B. Scott Gresham P.E.

Title: Construction Services Manager

Signature: B. Scott Gresham

Date: 11/4/09

I hereby certify to the best of my knowledge and belief that these Stormwater Facilities were monitored and constructed in accordance with the provisions of the approved construction plans and specifications except as specifically noted.

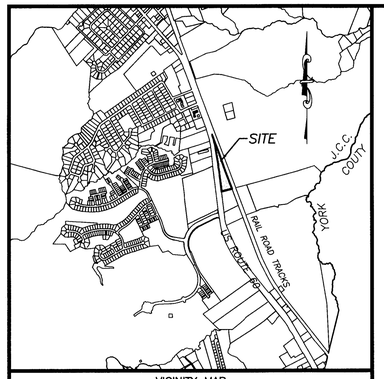
COMMONWEALTH OF VIRGINIA
11/4/09
B. SCOTT GRESHAM
Lic. No. 037785
PROFESSIONAL ENGINEER

B. Scott Gresham (Seal)

Virginia Registered Professional Engineer

BMP ASBUILT
PLEASANT HILL STATION CAR WASH

JAMES CITY COUNTY, VIRGINIA



VICINITY MAP
SCALE: 1"=2000'

OCT 1 2 2009

BMP MAINTENANCE AND INSPECTION REQUIREMENTS

(SHOWN PER APPROVED SITE PLAN)

A MAINTENANCE PROGRAM IS REQUIRED TO ENSURE THE STORMWATER MANAGEMENT (SWM) / BEST MANAGEMENT PRACTICE (BMP) FACILITY FUNCTIONS AS DESIGNED AND TO PROVIDE FOR REASONABLE AESTHETIC CONDITIONS. PROPER MAINTENANCE IS ENCOURAGED TO PREVENT THE INTRODUCTION OF DEBRIS AND SEDIMENT AT INFLOW LOCATIONS, PRETREATMENT AREAS, THE BMP ITSELF, ITS PRINCIPAL CONTROL STRUCTURES, AND DOWNSTREAM WATERWAYS. FOLLOWING INSTALLATION AND ESTABLISHMENT OF VEGETATION IN DISTURBED SITE AREAS, INSPECTIONS FOR SEDIMENT BUILDUPS WILL BE PERFORMED AT LEAST QUARTERLY. IT IS ANTICIPATED THAT UNDER NORMAL CONDITIONS, SEDIMENT REMOVAL WILL BE REQUIRED ONCE EVERY 5 TO 10 YEARS. IF OTHER CONSTRUCTION OR RELATED LAND-DISTURBING ACTIVITIES ARE PERFORMED UPSLOPE OF THE BMP, ADEQUATE PROTECTION MEASURES SHOULD BE IMPLEMENTED WITH INSPECTIONS PERFORMED AT LEAST ONCE WEEKLY.

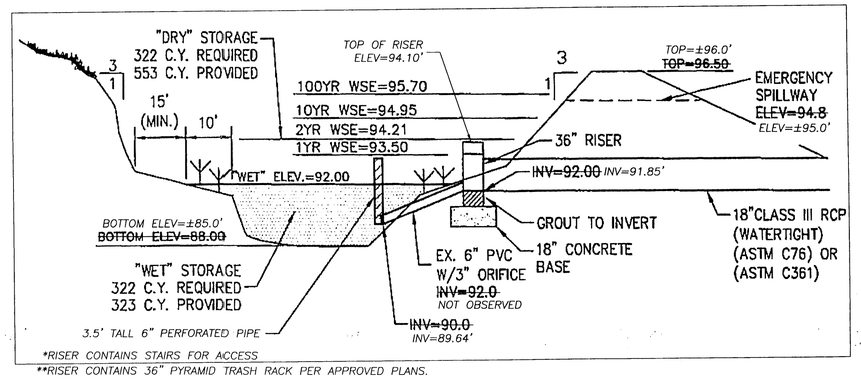
THE OWNER OR ITS DESIGNATED REPRESENTATIVE WILL INSPECT THE SWM/BMP STRUCTURE AFTER EACH SIGNIFICANT RAINFALL EVENT OR THE FOLLOWING WORKING DAY IF A WEEKEND OR HOLIDAY OCCURS. A SIGNIFICANT RAINFALL FOR THIS STRUCTURE IS DEFINED AS ONE (1) INCH OR MORE OF GAUGED RAINFALL WITHIN A 24-HOUR PERIOD. ONCE PER YEAR (MORE OR LESS) A REPRESENTATIVE OF THE COUNTY MAY JOINTLY INSPECT THE STRUCTURE. APPROPRIATE ACTION, PERFORMED AT THE COST OF THE OWNER WILL BE TAKEN TO ENSURE APPROPRIATE MAINTENANCE. KEYS TO LOCKED ACCESS POINTS OR STRUCTURES SHALL BE MADE AVAILABLE TO THE COUNTY UPON REQUEST.

BMP DESCRIPTION: THE BMP SERVES A DRAINAGE AREA OF 8.53 ACRES ASSOCIATED WITH 4.62 ACRES FROM GO CARTS PLUS AND 3.91 ACRES OF THE CAR WASH SITE. THE FACILITY IS A 10 POINT, WET-TYPE DETENTION FACILITY, COUNTY TYPE A-3 BMP. A WET-TYPE DETENTION POND PERMANENTLY STORES RUNOFF AND IS NORMALLY DRY DURING NON-RAINFALL PERIODS. TYPICALLY DRAW DOWN TIMES RANGE FROM 24 TO 72 HOURS FOLLOWING A STORM EVENT. PRINCIPAL STRUCTURES ASSOCIATED WITH THE BMP CONSIST OF A 36-INCH INFLOW STORM DRAIN, A 36-INCH VERTICAL RCP RISER, AND 18-INCH RCP OUTLET BARREL AND 10 FT. WIDE, RIPRAP-LINED TRAPEZOIDAL SHAPED EMERGENCY OVERFLOW CHANNEL. THERE IS 1 OPENING IN THE RISER TO PROVIDE FOR WATER QUALITY DRAWDOWN AND TO OFFER CONTROL FOR THE 2- AND 10- YEAR DESIGN STORM EVENTS. DURING THE 100-YEAR STORM, THE MAXIMUM WATER LEVEL SHOULD RISE TO ABOUT 1.5 FEET ABOVE THE TOP OF THE RISER AND WITHIN 1 FOOT BELOW THE TOP OF DAM. DURING THIS TYPE OF LARGER STORM EVENT, THE EMERGENCY SPILLWAY, WHICH IS LOCATED THROUGH THE EMBANKMENT DIRECTLY NORTH OF THE RISER STRUCTURE, WILL DISCHARGE FLOW. IF FUNCTIONING PROPERLY, NORMAL STORM EVENTS SHOULD REACH AN ELEVATION JUST BELOW THE EMERGENCY SPILLWAY AND THE POND SHOULD DRAW DOWN IN ABOUT 24 TO 36 HOURS.

ACCORDING TO PROFFER CONDITION #8 (Z-03-06/SUP-20-06/MP-04-06), OWNER SHALL BE RESPONSIBLE FOR KEEPING CULVERTS UNDER ROUTE 60 DRAINING THE PROPERTY FREE OF DEBRIS THAT WOULD BLOCK OR IMPEDE DRAINAGE FROM THE PROPERTY.

SEPARATION IS TO BE MAINTAINED AT ALL TIMES BETWEEN PROCESS FLUIDS, CARWASH WATER OR, OTHERWISE, AND PROPOSED ONSITE BMP'S.

1. INSPECT FOR SEDIMENT BUILDUP BY VISUAL OBSERVATION AND A PHYSICAL DETERMINATION OF SEDIMENT DEPTH WITHIN SEDIMENT FOREBAY AREA. SEDIMENT REMOVAL IN THE FOREBAY SHALL OCCUR EVERY 5 TO 7 YEARS OR AFTER 50% OF TOTAL FOREBAY CAPACITY HAS BEEN LOST. IF THE DEPTH OF SEDIMENT REACHES THE DEPTH OF 2 ' _ 0 " ABOVE THE BOTTOM OF THE SEDIMENT FOREBAY (OR CLEANOUT ELEVATION OF 90.0), REMOVAL IS REQUIRED. AT THE SAME TIME, OR AT LEAST ONCE PER YEAR, CLEAN PRETREATMENT DEVICES, THE RISER BOTTOM, AND OUTLET PIPES OF ACCUMULATED SEDIMENTS. DISPOSE OF SEDIMENTS REMOVED FROM THE FACILITY AT AN ACCEPTABLE DISPOSAL AREA. (NOTE: CLEANOUT ELEVATION CORRESPONDS TO 10 PERCENT OF THE WATER QUALITY VOLUME).
2. PERFORM MAINTENANCE MOWING OF POND GRASSES AT LEAST TWICE EACH YEAR. GRASSES SUCH AS TALL FESCUE SHOULD BE MOWED IN EARLY SUMMER AFTER EMERGENCE OF THE HEADS ON COOL SEASON GRASSES AND IN LATE FALL TO PREVENT SEEDS OF ANNUAL WEEDS FROM MATURING. MOWING OF LEGUMES CAN BE LESS FREQUENT. TREES, SHRUBS, AND WOODY VEGETATION ARE NOT BE PERMITTED TO GROW ALONG OR ON ANY PART OF THE EMBANKMENT, THAT WAS CONSTRUCTED USING ENGINEERED (COMPACTED) FILLS.
3. PERFORM SOIL SAMPLING ON STABILIZED POND SOIL AREAS AT LEAST ONCE EVERY 4 YEARS. SOIL SAMPLING AND TESTING SHOULD BE PERFORMED BY QUALIFIED INDEPENDENT SOIL TESTING LABORATORY SUCH AS VPI&SU. APPLY ADDITIONAL LIME AND FERTILIZER IN ACCORDANCE WITH TEST RECOMMENDATIONS.
4. IN STABILIZED POND AREAS, IF VEGETATION COVERS LESS THAN 40 % OF SOIL SURFACES, LIME, FERTILIZE AND SEED IN ACCORDANCE WITH RECOMMENDATIONS FOR NEW SEEDLINGS. IF VEGETATION COVERS MORE THAN 40 % BUT LESS THAN 70 % OF SOIL SURFACES, LIME, FERTILIZE AND OVER SEED IN ACCORDANCE WITH CURRENT SEEDING RECOMMENDATIONS OR REQUIREMENTS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).
5. PERFORM QUARTERLY INSPECTIONS OF THE RISER SECTION AND CREST SPILLWAY FOR THE OBSERVANCE OF COLLECTED TRASH AND DEBRIS. IMMEDIATELY REMOVE ANY TRASH OR DEBRIS THAT PREVENTS THE MOVEMENT OF WATER. REMOVE ANY TRASH AND LITTER DOWNSTREAM AND AT STORM DRAIN OR CHANNEL INFLOW LOCATIONS TO MAINTAIN THE INTEGRITY OF THE STRUCTURE AND PROVIDE AN ATTRACTIVE APPEARANCE.
6. PERFORM YEARLY STRUCTURAL INSPECTIONS OF THE FACILITY FOR DAMAGE. STRUCTURAL INSPECTION SHALL BE PERFORMED ON THE CONCRETE RISER, ANTI-VORTEX DEVICE, TRASH RACK, ORIFICES/WEIRS, OUTLET BARREL AND POND EMBANKMENT. EXPOSED METAL SURFACES SHALL BE RE-PAINTED OR RE-GALVANIZED TO MINIMIZE RUST DAMAGE OR REPLACED IF RUST DAMAGE IS IRREVERSIBLE. IF DAMAGE IS EVIDENT, FURTHER INVESTIGATION BY A PROFESSIONAL ENGINEER MAY BE REQUIRED TO ASSESS THE INTEGRITY OF THE STRUCTURE.ANY REPAIRS MADE TO THE PRINCIPAL SPILLWAY (RISER OR BARREL) SHALL BE REVIEWED BY A PROFESSIONAL ENGINEER. VERTICAL TRENCHING TO EXPOSE THE BARREL SHALL NOT BE ALLOWED UNDER ANY CIRCUMSTANCES. THE TRENCH SIDE SLOPES SHOULD BE STEPPED BACK AT A 2:1 SLOPE, MINIMUM.
7. PERFORM QUARTERLY INSPECTIONS OF THE GRADED SIDE SLOPES OF THE FACILITY FOR SIGNS OF ANIMAL/RODENT BORROWS OR SLOPE EROSION. IMMEDIATELY PERFORM NECESSARY REPAIRS, REFILLING OR RESEEDING.
8. PERFORM YEARLY OBSERVATIONS OF PERIMETER AREAS SURROUNDING THE FACILITY TO ENSURE CHANGES IN LAND USE, TOPOGRAPHY, OR ACCESS HAVE NOT OCCURRED AND DO NOT AFFECT THE OPERATION, MAINTENANCE, ACCESS, OR SAFETY FEATURES AS PROVIDED. APPROPRIATE ACTION IS REQUIRED TO ENSURE ADEQUACY AND TO PROVIDE A CLEAR, SAFE PASSAGE FOR MAINTENANCE VEHICLES TO THE ENGINEERED EMBANKMENT AND PRINCIPAL FLOW CONTROL STRUCTURES.
9. RECORD KEEPING. THE OWNER OR DESIGNATED REPRESENTATIVE SHALL KEEP REASONABLE, ACCURATE WRITTEN RECORDS OF INSPECTIONS PERFORMED FOR THE STRUCTURE. RECORDS SHALL DOCUMENT ROUTINE MAINTENANCE AND/OR REPAIRS PERFORMED. COPIES SHALL BE PROVIDED TO THE COUNTY UPON REQUEST.
10. THE FACILITY SHALL NOT ACCEPT ADDITIONAL DRAINAGE OR BE MODIFIED IN ANY WAY WITHOUT PRIOR CONSENT OR APPROVAL BY THE ENVIRONMENTAL DIVISION OF JAMES CITY COUNTY.
11. ACCORDING TO PROFFER CONDITION #8 (Z-03-06/SUP-20-06/MP-04-06), OWNER SHALL BE RESPONSIBLE FOR KEEPING THE CULVERT UNDER ROUTE 60 DRAINING THE PROPERTY FREE OF DEBRIS THAT WOULD BLOCK OR IMPEDE DRAINAGE FROM THE PROPERTY.

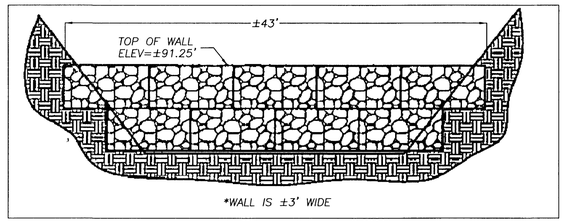


**RISER CONTAINS 36" PYRAMID TRASH RACK PER APPROVED PLANS.

BMP DETAIL

N.T.S.

(SHOWN PER APPROVED SITE PLAN)



GABION BASKET WALL DETAIL

N.T.S.

(SHOWN PER APPROVED SITE PLAN)

NOTES:

1) THE INFORMATION SHOWN ON THIS AS-BUILT WAS TAKEN FROM FIELD SURVEY COMPLETED 07-14-2009.
2) PROPERTY LINES ARE SHOWN PER INST. #08002600
3) ELEVATIONS SHOWN ARE RELATIVE TO SITE PLAN.

COMMONWEALTH OF VIRGINIA
MATTHEW H. CONNOLLY
Lic. No. 2053
10/08/09
LAND SURVEYOR

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS RECORD DRAWING REPRESENTS THE ACTUAL CONDITION OF THE STORM WATER MANAGEMENT/BMP FACILITY. THE FACILITY APPEARS TO CONFORM WITH THE PROVISIONS OF THE APPROVED DESIGN PLAN, SPECIFICATIONS AND STORM WATER MANAGEMENT PLAN, EXCEPT AS SPECIFICALLY NOTED.

RECORD DRAWING
COUNTY PLAN # JCC SP-0060-2007

BMP ASBUILT
PLEASANT HILL STATION CAR WASH
JAMES CITY COUNTY VIRGINIA

NO.	DATE	REVISION / COMMENT / NOTE

COMMONWEALTH OF VIRGINIA
MATTHEW H. CONNOLLY
Lic. No. 2053
10/08/09
LAND SURVEYOR

LandTech Resources, Inc.
Surveying • GPS • Engineering
205 Bulifants Blvd., Ste. E, Williamsburg, VA 23188
Phone: (757) 565-1677 Fax: (757) 565-0782
web: landtechresources.com

SCALE: AS SHOWN
DATE: 07-14-2009
JOB: 09-073
DRAWN BY: WSF
SHEET: 1 OF 2

COMMONWEALTH OF VIRGINIA
MATTHEW H. CONNOLLY
Lic. No. 2053
10/08/09
LAND SURVEYOR

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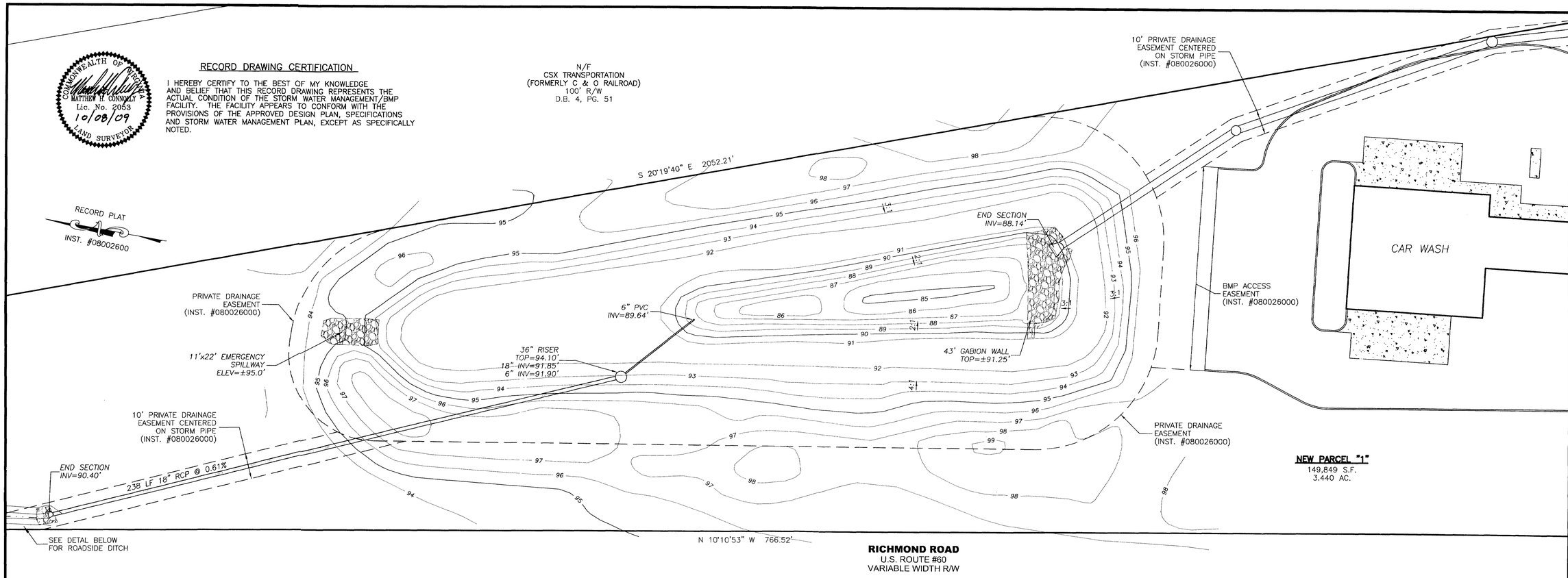
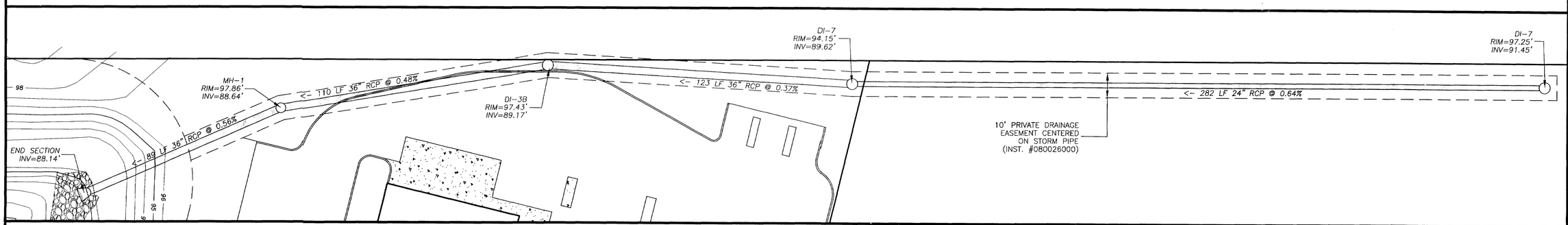


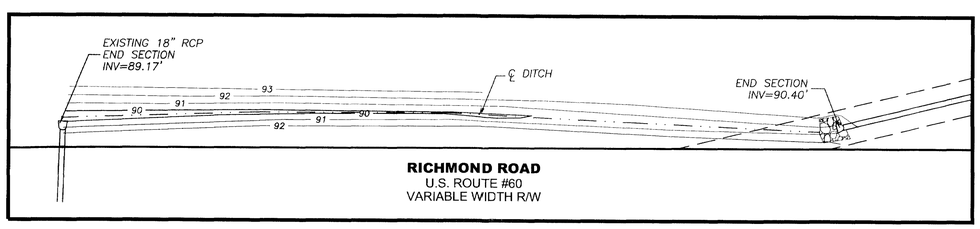
BMP ASBUILT

SCALE 1"=20'



STORM PIPE ASBUILT

SCALE 1"=20'



OUTFALL DITCH DETAIL

SCALE 1"=20'

RECORD DRAWING
COUNTY PLAN # JCC SP-0060-2007

BMP ASBUILT
PLEASANT HILL STATION CAR WASH

JAMES CITY COUNTY VIRGINIA

NO.	DATE	REVISION / COMMENT / NOTE

COMMONWEALTH OF VIRGINIA
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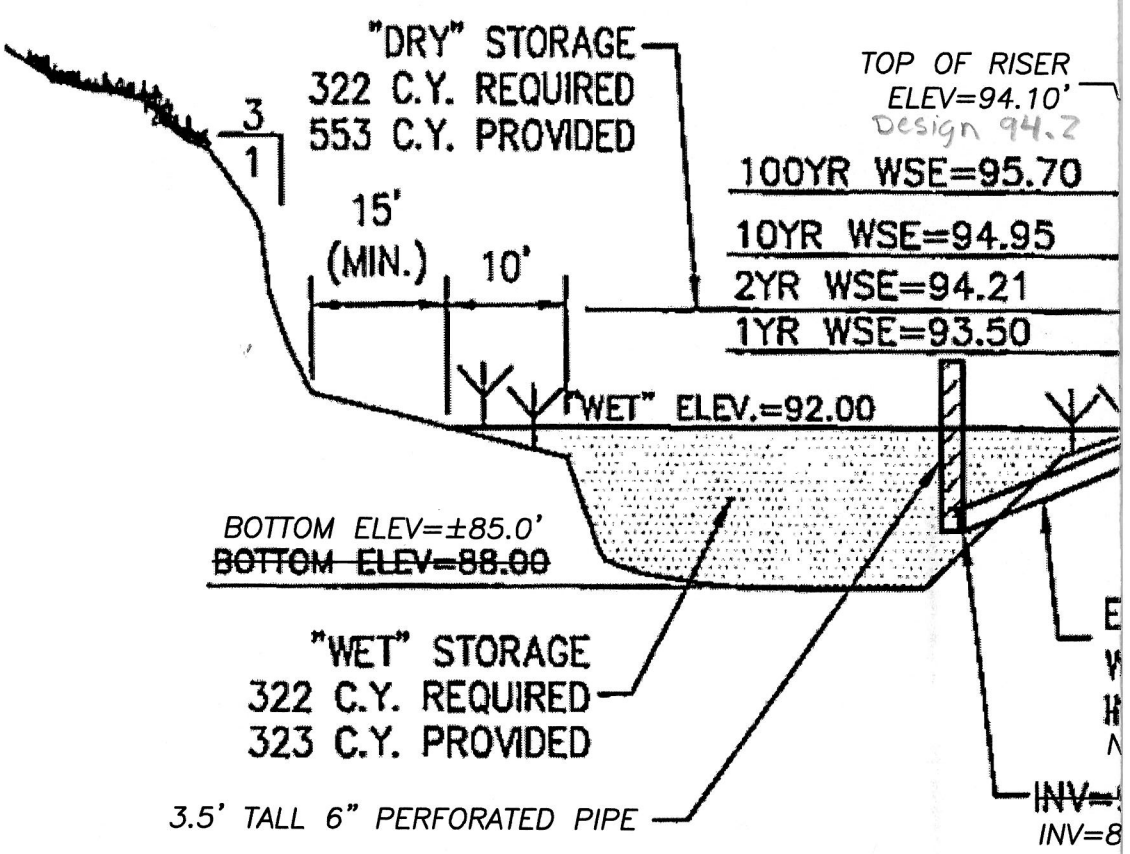
SCALE: AS SHOWN
DATE: 07-14-2009
JOB: 09-073
DRAWN BY: WSF
SHEET: 2 OF 2

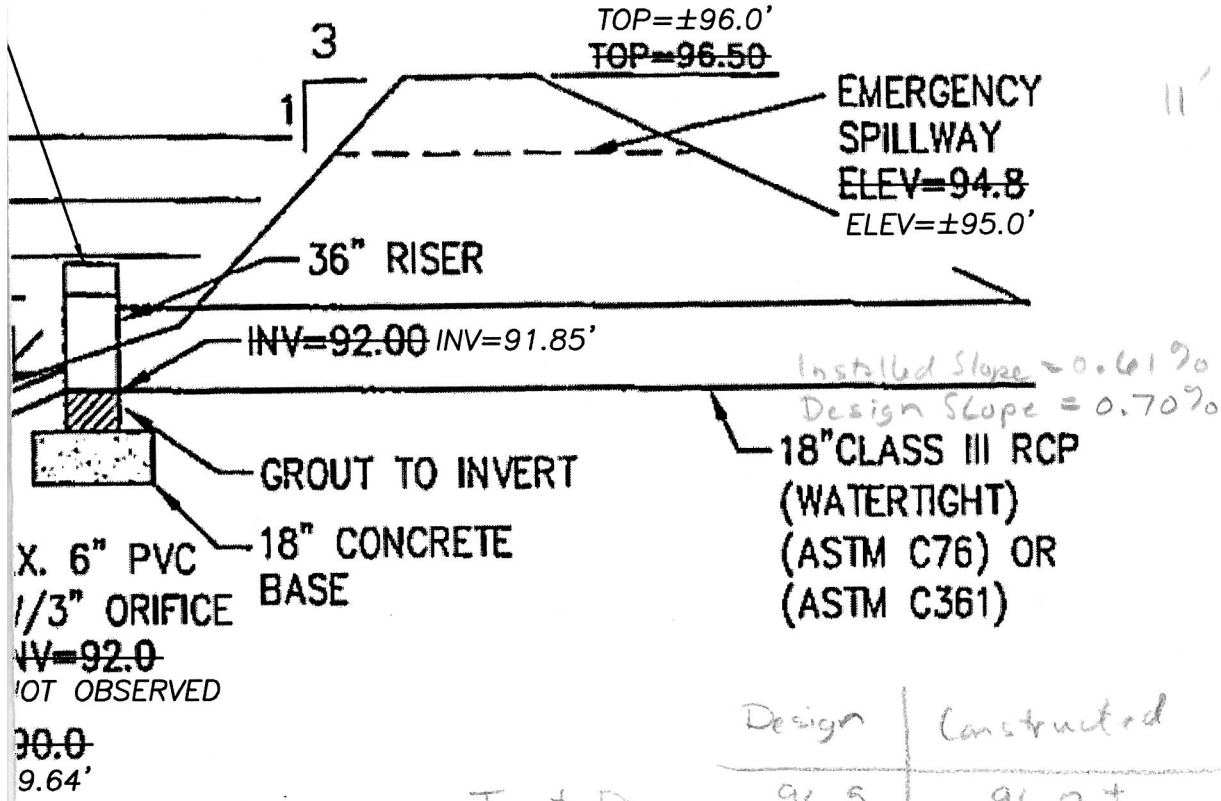


*RISER CONTAINS STAIRS FOR ACCESS
**RISER CONTAINS 36" PYRAMID TRASH RACK PER APPROVED PLANS.

BMP DET

N.T.S.

(SHOWN PER APPRO



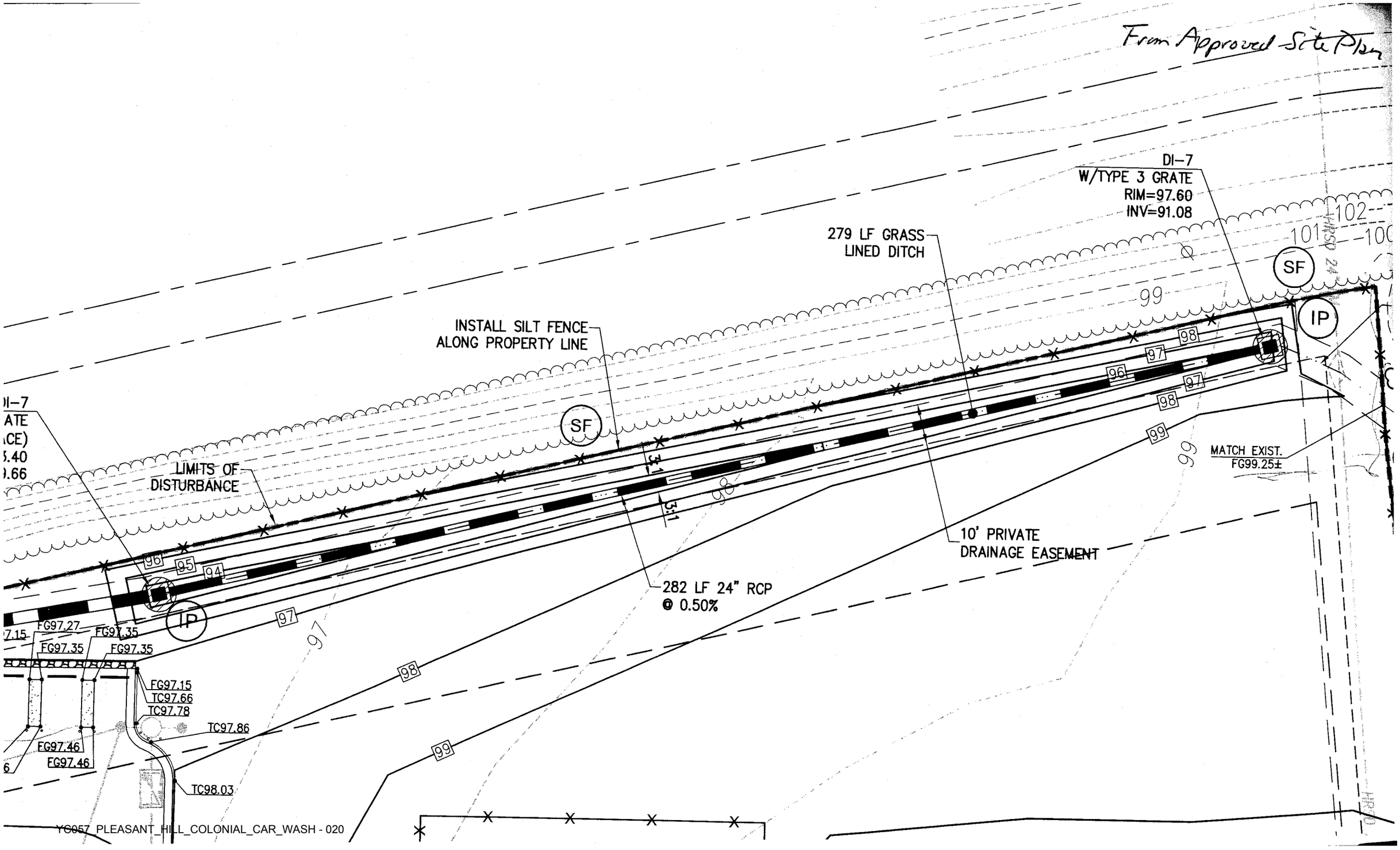
11' wide vs 10' design

	Design	Constructed
Top of Dam	96.5	96.0 ±
Emer. Spwy	94.8	95.0 ±
Prin Spwy	94.2	94.1
Barrel -ups	92.00	91.85
-dwns	90.26	90.40
slope	0.7%	0.61%

AIL

VED SITE PLAN)

From Approved Site Plan



QUIRE SUBMISSION,
RD DRAWING (AS-BUILT)
PRIOR TO RELEASE OF

From Approved Site Plan

Rip Rap size
Stone size

INSTALL SILT FENCE ALONG PROPERTY LINE

MH-1
RIM=98.44
INV=88.45

36" RCP
110 LF @ 0.50%

10' PRIVATE DRAINAGE EASEMENT

DI-3B, L=4'
RIM=97.30
INV=89.06

36" RCP
124 LF @ 0.50%

DI-7
W/TYPE 3 GRATE
(CAST IN PLACE)
RIM=93.40
INV=89.66

S20°19'40"E 2052.21'

PRIVATE DRAINAGE EASEMENT AND POND BUFFER

36" RCP
90 LF
@ 0.50%
(INCLUDING ES-1)

BMP MAINTENANCE ACCESS EASEMENT

ES-1

SEDIMENT FOREBAY

F.F. 98.5

F.F. = 98.86

F.F. 99.10

TC98.18 HP
TC97.90
TC97.74
TC96.87
FG96.87
TC97.60
TC97.91
TC97.30
TC97.56
TC98.73
TC97.52
TC98.68
TC98.59
TC98.94
TC98.82
FG98.09
FG98.31
FG98.06
FG98.41
FG98.50
FG98.33
FG98.32
FG98.78
FG98.86
FG98.35
FG98.36
FG98.08
FG98.5
FG98.39
TC98.96
TC98.03
TC98.61
TC98.69
FG97.15
FG97.27
FG97.35
FG97.41
FG97.46
TC97.66
TC97.85
TC98.02 HP
TC97.78

ALONG PROPERTY LINE

100YR STORM

36" RISER
TOP=94.20
INV=92.00
3" INV=92.00

111'

STORMWATER
MANAGEMENT
FACILITY

MATCH LINE SHEET 4

PRIVATE DRAINAGE
EASEMENT AND
POND BUFFER

10'X20'
EMERGENCY SPILLWAY
W/CLASS 1 RIPRAP
ELEV=94.80

10' PRIVATE
DRAINAGE EASEMENT

LIMITS OF
DISTURBANCE

SF

100YR STORM

OUTLET PROTECTION
±3CY CLASS 1 RIP-RAP
UPSTREAM W=5.0
DOWNSTREAM W=12
L=10.0'
18" DEEP

250 LF 18"RCP
@ 0.70%
(INCLUDING ES-1)

ES-1

INV.=90.26

FG91.44 FG91.46 FG91.81 505'R FG92.01 FG93.53 505'R FG93.77 100'R INV.=94.00

FG93.43 FG94.43 FG94.55

FG91.34 CD FG91.36 FG91.71 500'R FG91.91 CD OP CD 500'R FG93.67 FG94.33 105'R FG94.45 CD

207 LF PROPOSED
DITCH @ 0.5%

248 LF PROPOSED
DITCH @ 1.5%

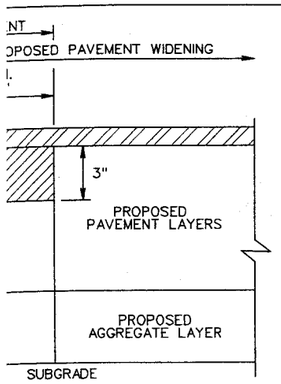
100' (TYP.)

EXIST. 18" RCP

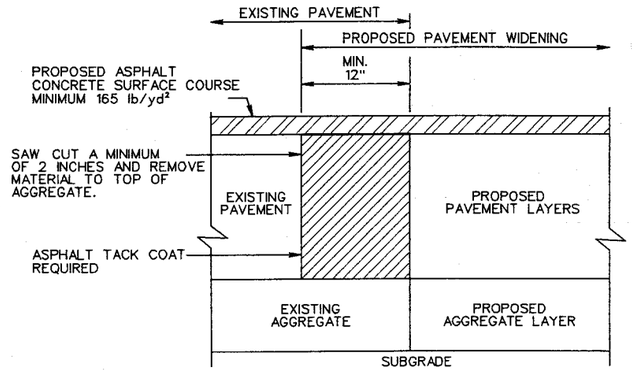
EXIST. 18" RCP

GRAPHIC SCALE
25' 0' 25'
SCALE: 1" = 25'

INSERTABLE SHEET A187



STRUCTION JOINT DETAIL
MENT OVER 6" IN DEPTH)
ING NOT TO SCALE)



PAVEMENT CONSTRUCTION JOINT DETAIL
(EXISTING PAVEMENT LESS THAN 6" IN DEPTH)
(DRAWING NOT TO SCALE)

VERLAY

D END MUST
ROVED BY
R

NSTRUCTION
DETAIL

NSTRUCTION
DETAIL

D END MUST
ROVED BY
R

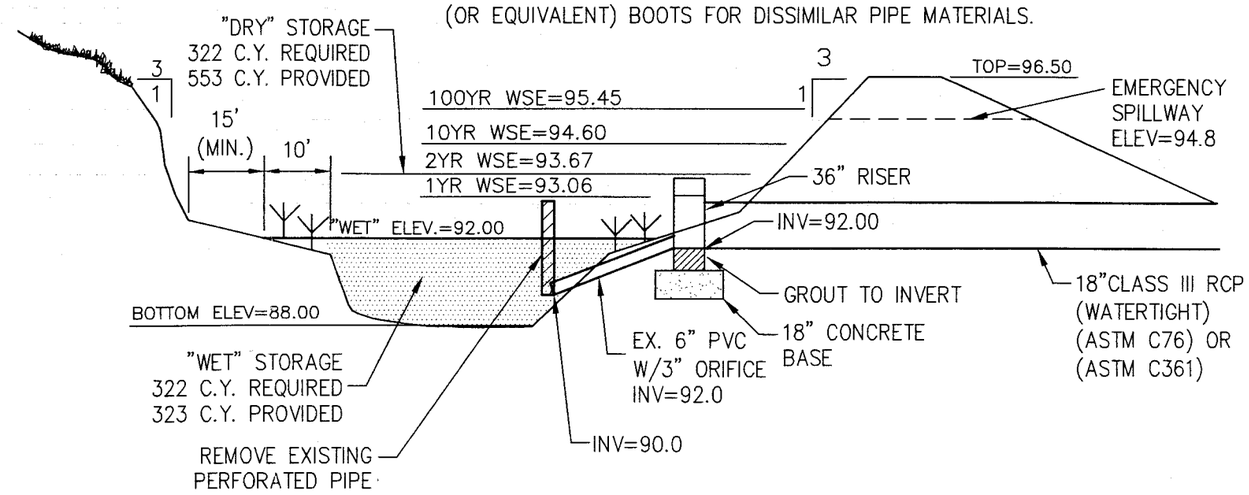
OVERLAY

NOTES:

1. WHEN THE PAVEMENT DESIGN IS GREATER IN DEPTH THAN THE DEPTH OF THE EXISTING PAVEMENT, SUBSURFACE DRAINAGE MAY BE REQUIRED BY THE ENGINEER.
2. OVERLAP THE EXISTING PAVEMENT AS SHOWN IN THE CONSTRUCTION JOINT DETAILS.
3. A PERPENDICULAR CONSTRUCTION JOINT SHALL BE PROVIDED AT ALL LOCATIONS WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT.
4. THE AREA OF PAVEMENT WIDENING SHALL BE TRENCHED TO THE SUBGRADE AND COMPACTED PER VDOT SPECIFICATIONS.
5. SURFACE OF WIDENING AREA SHALL BE FLUSH WITH THE SURFACE OF EXISTING PAVEMENT PRIOR TO OVERLAY.
6. MILLING OF NEW AND EXISTING PAVEMENT MAY BE REQUIRED TO ACHIEVE ACCEPTABLE PAVEMENT CROSS-SLOPE AND PAVEMENT DRAINAGE.
7. OVERLAY THE ENTIRE SURFACE AREA OF THE NEW AND EXISTING PAVEMENT WITH A MINIMUM OF 165 LBS/SQ YD OF ASPHALT CONCRETE TO A POINT AT LEAST 100 FEET BEFORE AND AFTER THE LIMITS OF WIDENING.
8. ERADICATE EXISTING PAVEMENT MARKINGS AND RESTRIPE THE WORK ZONE AS REQUIRED TO ACHIEVE A UNIFORM APPEARANCE AS DIRECTED BY THE ENGINEER.
9. FINAL TRANSVERSE PAVEMENT TIE-IN SHALL CONFORM TO THE REQUIREMENTS OF SECTION 315.05(c) OF THE SPECIFICATIONS EXCEPT THAT ALL JOINTS AT TIE-IN LOCATIONS SHALL BE TESTED USING A 10 FEET STRAIGHTEDGE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 315.07(a) OF THE SPECIFICATIONS. THE VARIATION FROM THE TESTING EDGE OF THE STRAIGHTEDGE BETWEEN ANY TWO CONTACT POINTS WITH THE PAVEMENT SURFACE SHALL NOT EXCEED 1/4".
10. PAVEMENT WIDENING PERFORMED UNDER A VDOT LAND USE PERMIT SHALL HAVE A PAVEMENT DESIGN PROVIDED BY THE PERMITTEE AND APPROVED BY THE MATERIALS ENGINEER.

PAVEMENT WIDENING VIRGINIA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE 315

NOTE:
THE RISER STRUCTURE IS TO BE PROVIDED WITH KOR-N-SEAL (OR EQUIVALENT) BOOTS FOR DISSIMILAR PIPE MATERIALS.



CONVERSION TO BMP

N.T.S.

NOTE:
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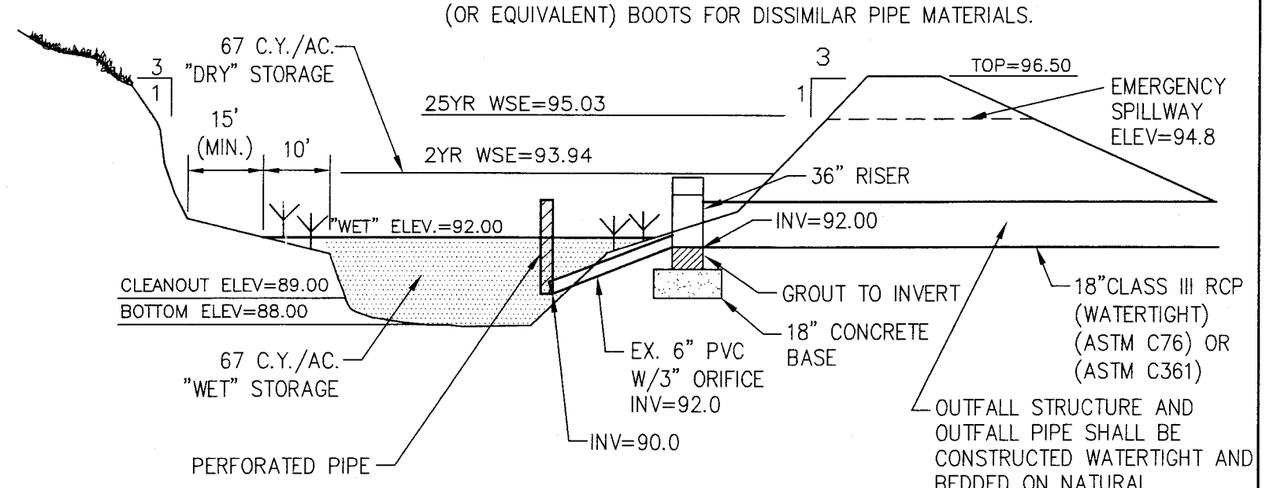


TEMPORARY SEDIMENT BASIN

N.T.S.

JCSA GENERAL NO

A. ALL COMPONENTS OF
TESTED IN ACCORDAN
WATER DISTRIBUTION
(THIRD EDITION WITH
DEPARTMENT OF HEAL
USE ONLY NEW MATE
SO AS TO ASSURE TH
JCSA DESIGN AND AC
ON-SITE BY THE CON

B. THE CONTRACTOR/DEV
PRIOR TO COMMENCEM

C. THE DEVELOPER'S REF
JCSA PRIOR TO COMM
JCSA'S REVIEW AND A

D. PIPE LINES AND SERV
PRIOR TO PLACEMENT

E. ALL WATER MAINS SH
BACTERIOLOGICAL SAM

F. ROUTINE PERIODIC INS
DO NOT RELIEVE THE
CONSTRUCTING A WAT
JCSA DESIGN AND AC

G. ANY FIELD MODIFICATI
THE ENGINEER OF REC
APPROVED CHANGE A
DRAWINGS.

H. ALL LOTS SHALL BE F
CONNECTIONS SHALL
SHALL TERMINATE WIT
METERS FOR ALL LOT
JCSA.

I. ANY REQUIRED EASEM
COMMENCEMENT OF W

J. THE CONTRACTOR SH
ORDERS OF ANY PUBL
REQUIRED BY THE CO
AND PROTECTION. THE
UNDERGROUND EXCAV

K. WATER METER BOX IN
CLEARANCE FROM DRI

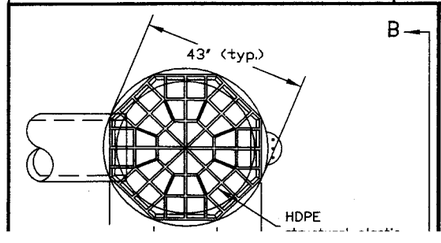
L. ONLY JCSA PERSONNE
SANITARY FORCE MAI

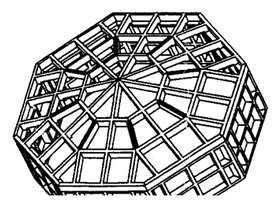
M. ANY EXISTING UNUSED
REGULATIONS AND JA

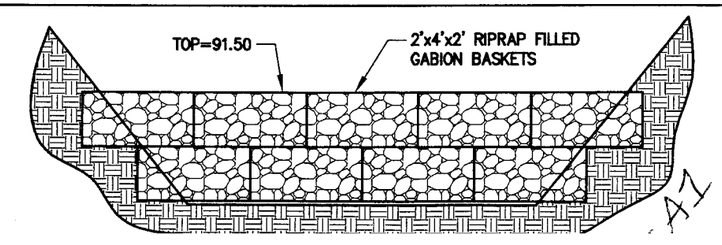
ONSTRUCTION NOTES

BE ON SITE DURING CONSTRUCTION OF THE DAM TO
DAM CONSTRUCTION METHODS ARE UTILIZED. THE
LE FOR COORDINATING THE DAM CONSTRUCTION SCHEDULE
ANT IN ORDER TO ENSURE ON-SITE MONITORING.

AREAS OF THE PERMANENT COVER IN CONSTRUCTION
MATERIALS. THE UNSUITABLE MATERIALS TO BE REMOVED
TOPSOIL, DEBRIS AND VEGETABLE MATTER, INCLUDING
IER MATERIALS WHICH MAY BE UNSUITABLE FOR USE IN







ECS Mid-Atlantic, LLC
108 Ingram Road
Suite I
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

May 4, 2009

Wayne Harbin Builders, Inc
3630 George Washington Hwy
Suite D
Yorktown, VA 23693

ATTN: Mr. Doug Harbin

RE: **Pleasant Hill Station CMT**

ECS Job # **07:10252**

Permits:

Location: **Richmond Road**
Williamsburg, VA

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 1	04/29/2009	site visit
Field Report # 2	04/29/2009	subgrades
Field Report # 3	04/30/2009	compaction testing
Field Report # 4	05/01/2009	subgrades
Field Report # 5	05/01/2009	compaction testing

COMMONWEALTH OF VIRGINIA
C. B. SCOTT GRESHAM
PROFESSIONAL ENGINEER

Scott Gresham, P.E. No. 037
Principal Engineer

MAY 2 2009

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	1
Day & Date	Wednesday 04/29/2009
Weather	70°/ Sunny
On-Site Time	1.50
Lab Time	0.50
Travel Time*	0.75
Total	2.75
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **site visit**

Trip Charges* Tolls/Parking* Mileage* **20**

Chargeable Items

Times of	Arrival	Departure
	10:00A	11:00A
	03:15P	03:45P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the storm pipe from the ditch inlet (ES-1) 200 ft toward the sediment basin. Due to the pipe elevation, nuclear density test were not taken, visual inspections indicated compaction on top and sides of pipe. Stone bedding was not required.

By **Clovis R. Sullivan** 1700

132470

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	2
Day & Date	Wednesday 04/29/2009
Weather	50°/ Sunny
On-Site Time	0.50
Lab Time	0.25
Travel Time*	0.75
Total	1.50
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks subgrades

Trip Charges* Tolls/Parking* Mileage* 20

Chargeable Items

Time of	Arrival	Departure
	10:00A	10:30A

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned Field Services Engineer arrived on site, as requested, to inspect the soils at are visibly pumping under the loader. The areas will be undercut two to three feet and replaced with the sandy material from the sediment pond. Reed Enterprises and Wayne Harbin Builders were also on site and agree with the recommendations. The areas will be undercut in a few days.

By **James D. Eakes** 1300

132540

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	3
Day & Date	Thursday 04/30/2009
Weather	65°/ Cloudy
On-Site Time	1.25
Lab Time	0.50
Travel Time*	0.75
Total	2.50
Re Obs. Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **compaction testing**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Time of	Arrival	Departure
	10:00A	11:15A

* Travel time and mileage will be billed in accordance with the contract.

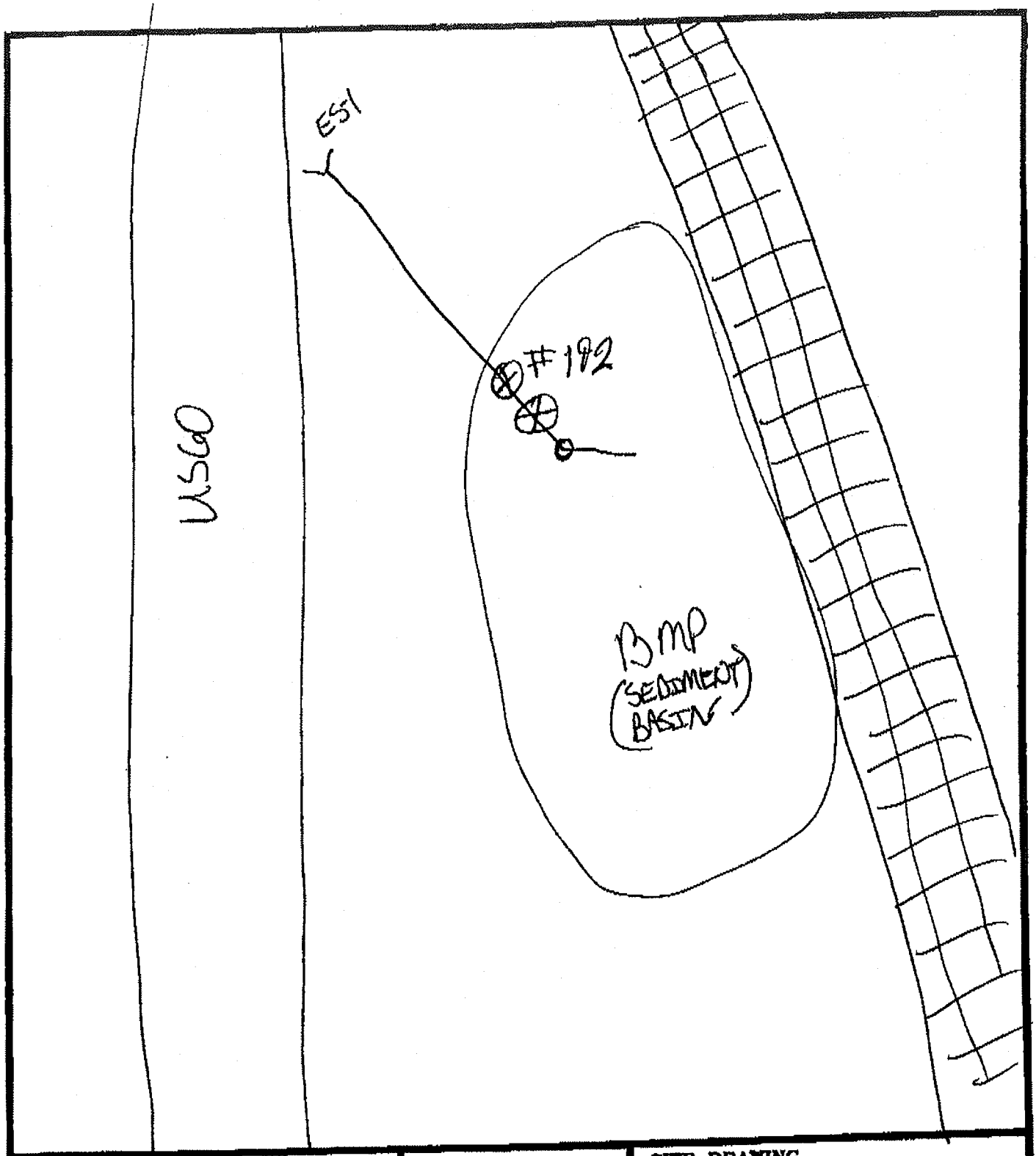
Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the backfilling of the storm drain trench from ES-1 and sediment basin. Please see the attached sketch.

The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698).

By **Clovis R. Sullivan** 1700

132531



LOCATION: RICHMOND RD

TECHNICIAN: CRS

DATE: 4/30/09 THURSDAY

ECS LLC MID-ATLANTIC

SITE DRAWING

ECS PROJECT NAME: PLEASANT HILL STATION

ECS PROJECT NO.: 10252

WORK ORDER ID #: 45046

ECS MID-ATLANTIC, LLC

Field Compaction Summary, ASTM D-2922

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 04/30/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D-2922			
Nuclear Gauge No. 7081			
Make	Troxler	Density Std	39794
Model	3430	Moisture Std	9966
Ser. No.	MD30707081		

Sample: B-15 Description: brown silty sand Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 114.30 Uncorrected Opt. MC: 12.00

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	8	storm pipe from ES-1 to sediment basin	subgrade	0.00	114.30	12.00	127.3	110.0	15.7	96.2	P	pipe elevation near subgrade
2	DT	8	storm pipe from ES-1 to sediment basin	subgrade	0.00	114.30	12.00	125.8	109.4	15.0	95.7	P	pipe elevation near subgrade

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:45046

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	4
Day & Date	Friday 05/01/2009
Weather	55°/ Sunny
On-Site Time	0.50
Lab Time	0.25
Travel Time*	0.75
Total	1.50
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **subgrades**

Trip Charges* Tolls/Parking* Mileage* 20

Chargeable Items

Time of	Arrival	Departure
	09:00A	09:30A

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned Field Services Engineer arrived on site, as requested, to inspect the undercut area near the rear of the site. The Contractor has excavated to firm and stable soils at varying depths as deep as 3 ft. The area will be backfilled with the sandy material from the cutting of the sediment pond.

By **James D. Eakes** 1300

132566

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	5
Day & Date	Friday 05/01/2009
Weather	75°/ Cloudy
On-Site Time	1.00
Lab Time	0.50
Travel Time*	0.75
Total	2.25
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **compaction testing**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Times of	Arrival	Departure
	10:00A	10:30A
	02:45P	03:15P

* Travel time and mileage will be billed in accordance with the contract.

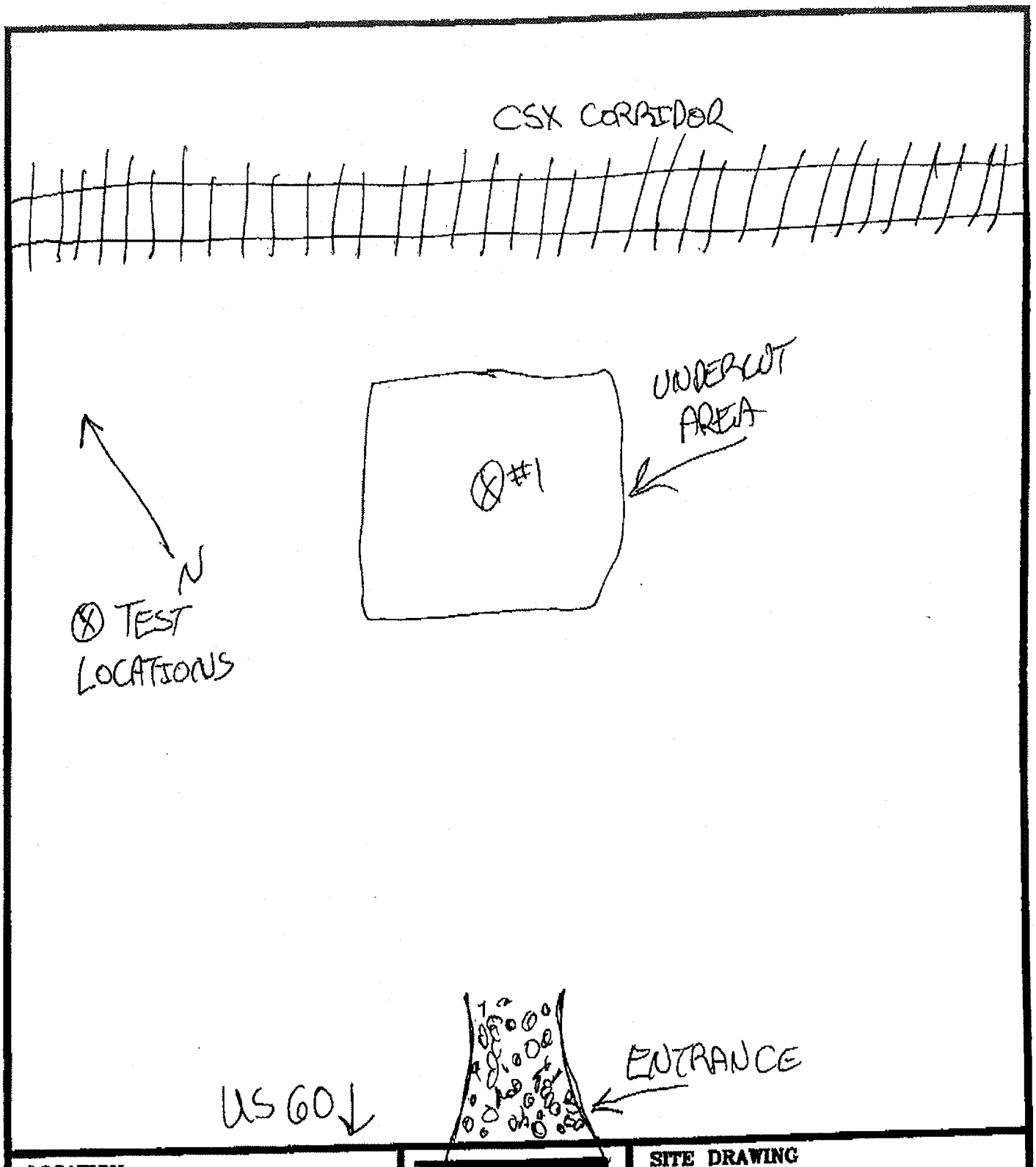
Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the major undercut at the rear of the site. Please see the attached sketch.

The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698).

By **Clovis R. Sullivan** 1700

132581



LOCATION: RICHMOND RD

TECHNICIAN: CRS

DATE: 5/1/09 FRIDAY

ECS LLC MID-ATLANTIC

SITE DRAWING

ECS PROJECT NAME: PLEASANT HILL STATION

ECS PROJECT NO.: 10252

WORK ORDER ID #: 45104

ECS MID-ATLANTIC, LLC

Field Compaction Summary, ASTM D-2922

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 05/01/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D-2922			
Nuclear Gauge No.7081			
Make	CPN	Density Std	41688
Model	MC-1	Moisture Std	9788
Ser. No.	MD30707081		

Sample:1 Description: sand Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 112.20 Uncorrected Opt. MC: 15.80

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	8	major undercut at the rear of the lot (3ft bridge	subgrade	0.00	112.20	15.80	126.3	108.2	16.7	96.4	P	

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:45104

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

May 6, 2009

Wayne Harbin Builders, Inc
3630 George Washington Hwy
Suite D
Yorktown, VA 23693

ATTN: Mr. Doug Harbin

RE: **Pleasant Hill Station CMT**

ECS Job # **07:10252**

Permits:

Location: **Richmond Road**
Williamsburg, VA

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 6	05/04/2009	canceled compaction

COMMONWEALTH OF VIRGINIA
B. SCOTT GRESHAM
Lic. No. 03770
PROFESSIONAL ENGINEER

MAY 5 2009

Scott Gresham, P.E.
Principal Engineer

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	6
Day & Date	Monday 05/04/2009
Weather	70°/ Cloudy
On-Site Time	0.50
Lab Time	0.50
Travel Time*	0.75
Total	1.75
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **canceled compaction**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Time of	Arrival	Departure
	10:00A	10:30A

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils. After surveying the site conditions, the undersigned recommended compaction work not be performed due to wet soils.

By **Clovis R. Sullivan** 1700

132628

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

May 14, 2009

Wayne Harbin Builders, Inc
3630 George Washington Hwy
Suite D
Yorktown, VA 23693

ATTN: Mr. Doug Harbin

RE: **Pleasant Hill Station CMT**

ECS Job # **07:10252**

Permits:

Location: **Richmond Road**
Williamsburg, VA

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 7	05/11/2009	compaction testing
Field Report # 8	05/12/2009	compaction testing

COMMONWEALTH OF VIRGINIA
B. SCOTT GRESHAM
No. 0377
PROFESSIONAL ENGINEER
MAY 13 2009

Scott Gresham, P.E.
Principal Engineer

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	7
Day & Date	Monday 05/11/2009
Weather	70°/ Cloudy
On-Site Time	2.25
Lab Time	0.50
Travel Time*	0.75
Total	3.50
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **compaction testing**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Times of	Arrival	Departure
	09:45A	10:45A
	01:00P	01:30P
	02:45P	03:30P

* Travel time and mileage will be billed in accordance with the contract.

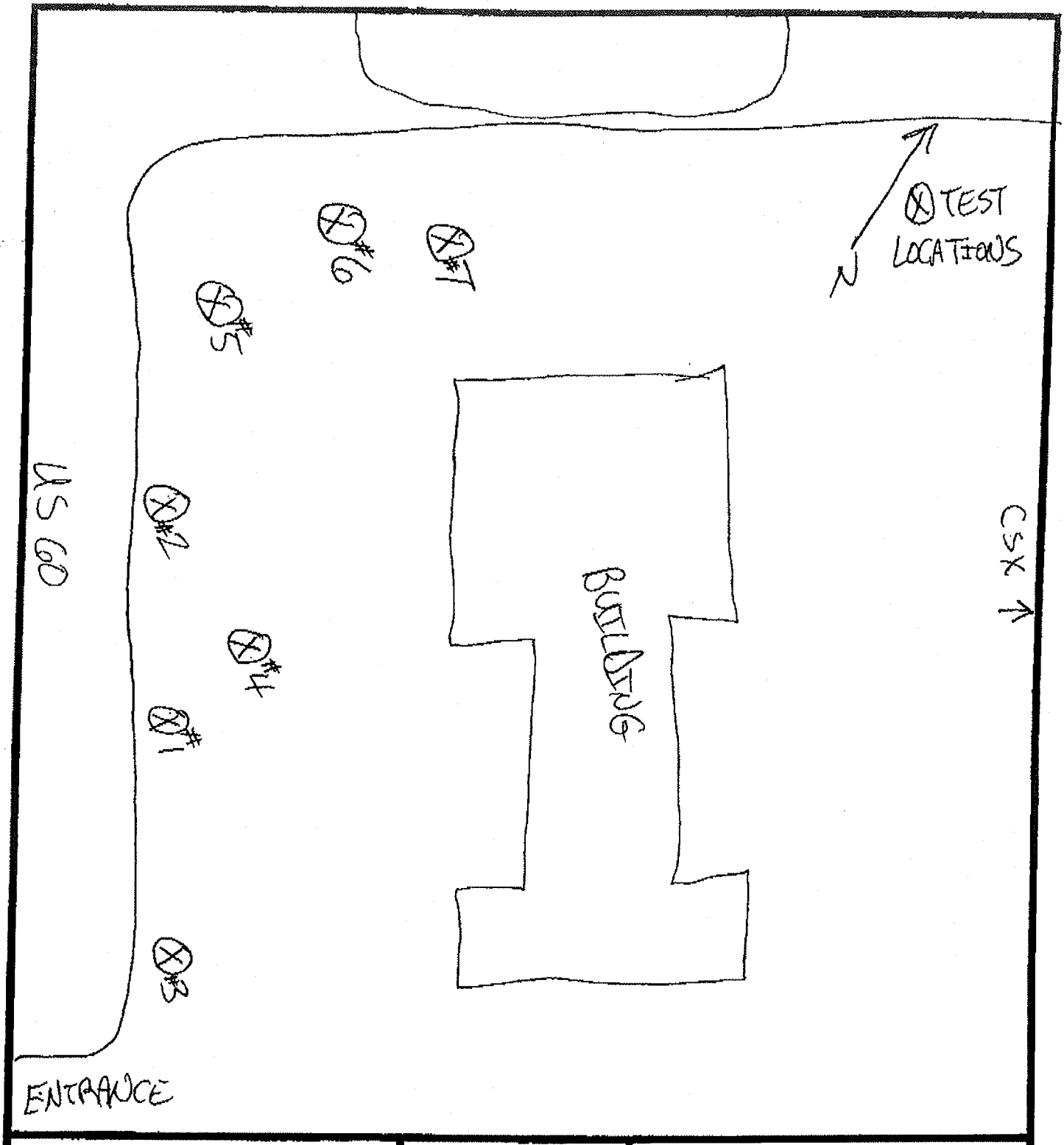
Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the parking lot and drive areas. Please see the attached sketch.

The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698).

By **Clovis R. Sullivan** 1700

132888



LOCATION: US 60

TECHNICIAN: CRS

DATE: 5/11/09 MONDAY

ECS LLC MID-ATLANTIC

SITE DRAWING

ECS PROJECT NAME: PLEASANT HILL STATION

ECS PROJECT NO.: 10252

WORK ORDER ID #: 45215

ECS MID-ATLANTIC, LLC

Field Compaction Summary, ASTM D-2922

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 05/11/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D-2922			
Nuclear Gauge No.7081			
Make	CPN	Density Std	39597
Model	MC-1	Moisture Std	9920
Ser. No.	MD30707081		

Sample:B-13 Description: clayey sand Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 115.40 Uncorrected Opt. MC: 14.70

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	8	parking lot	1ft additi	0.00	115.40	14.70	130.1	112.2	15.9	97.2	P	
2	DT	8	parking lot	1ft additi	0.00	115.40	14.70	131.2	113.2	16.0	98.1	P	
3	DT	8	parking lot	2ft additi	0.00	115.40	14.70	128.9	109.6	17.6	95.0	P	
4	DT	8	parking lot	2ft additi	0.00	115.40	14.70	132.9	114.8	15.8	99.5	P	
5	DT	8	parking lot	subgra de	0.00	115.40	14.70	128.9	112.2	14.9	97.2	P	
6	DT	8	parking lot	2ft addtio	0.00	115.40	14.70	129.0	110.0	17.3	95.3	P	
7	DT	8	parking lot	2ft addtio	0.00	115.40	14.70	126.4	111.0	13.9	96.2	P	

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:45215

ECS MID-ATLANTIC, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	8
Day & Date	Tuesday 05/12/2009
Weather	70°/ Sunny
On-Site Time	3.50
Lab Time	0.50
Travel Time*	0.75
Total	4.75
Reinsp.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc

Remarks **compaction testing**

Trip Charges* Tolls/Parking* Mileage* **25**

Chargeable Items

Times of	Arrival	Departure
	10:00A	11:45A
	01:00P	02:45P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the parking lot and building pad and dam area of the sediment pond. Please see the attached sketch.

The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698).

NOTE:

Due to wet unstable soils, the contractor undercut 2 ft in an area measuring 50 ft by 45 ft and replaced the soils with on site fill. A second area was scarified and allowed to dry.

By **Clovis R. Sullivan** 1700

MEDFR REPORT 8
Field Compaction Summary, ASTM D6938

Project No:	10252	**Project Name:**	Pleasant Hill Station CMT	**Date:**	05/12/09
Client:	Wayne Harbin Builders, Inc	**Test Method** ASTM D-2922			
		Nuclear Gauge No:	7081		
		Make:	CPN	**Density Std:**	39593
Contractor:	None Listed	**Model:**	MC-1	**Moisture Std:**	9963
Technician:	Clovis R. Sullivan	**Serial No:**	MD30707081		

PU Samples, PU Tests, and Specific Gravity will NOT print

Sample No	Description	Proctor Method	Uncorrected Max. Density	Uncorrected Opt. MC	Spec. Grav.	Source
B-13	clayey sand	Standard Proctor Method (ASTM D-698)	115.40	14.70	2.70	

Test No	Lot No	Test Mode / Probe Depth	Station / Location / Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data: Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)	Comments P / F
1		DT	parking lot and building pad	0.00	115.40	14.70	130.7	111.1	17.7	96.3	
		8	1ft additi	Sample No B-13							P
2		DT	parking lot and building pad	0.00	115.40	14.70	130.4	114.9	13.4	99.6	
		8	2ft additi	Sample No B-13							P
3		DT	sediment pond dam	0.00	115.40	14.70	125.3	113.2	10.7	98.1	
		8	subgrade	Sample No B-13							P
4		DT	sediment pond dam	0.00	115.40	14.70	126.1	112.6	12.0	97.6	
		8	subgrade	Sample No B-13							P
5		DT	sediment pond dam	0.00	115.40	14.70	125.9	110.3	14.1	95.6	
		8	existing g	Sample No B-13							P

Test Mode: DT = Direct Transmission BS = Back Scatter

***Latitude and longitude data will NOT print out in the final report.**

Print | Go Back To Form | Close Window

Field Compaction Summary, ASTM D-2922

ECS MID-ATLANTIC, LLC

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 05/12/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

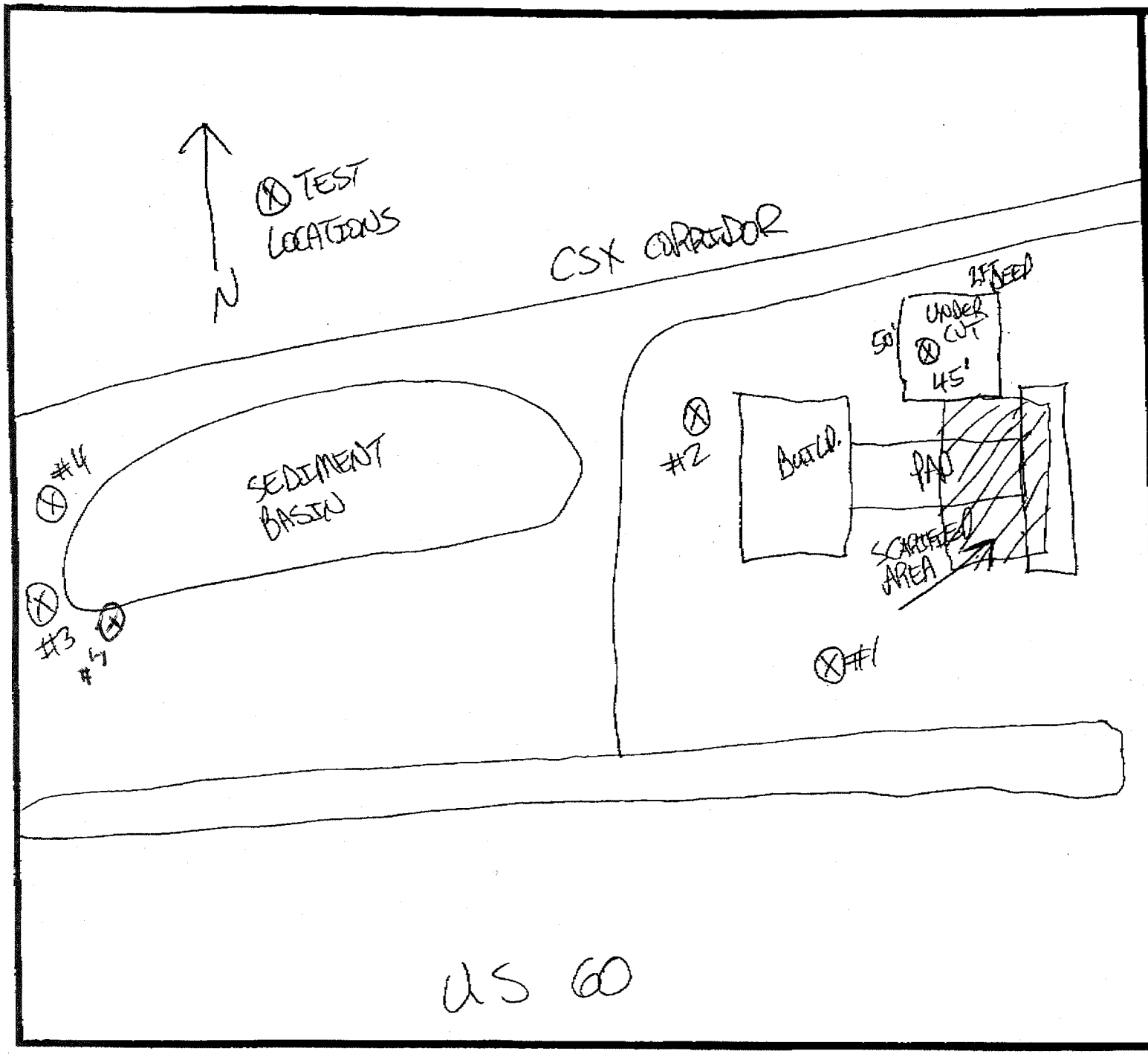
Test Method ASTM D-2922			
Nuclear Gauge No. 7081			
Make	CPN	Density Std	39593
Model	MC-1	Moisture Std	9963
Ser. No.	MD30707081		

Sample: B-13 Description: clayey sand Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 115.40 Uncorrected Opt. MC: 14.70

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	8	parking lot and building pad	1ft additi	0.00	115.40	14.70	130.7	111.1	17.7	96.3	P	
2	DT	8	parking lot and building pad	2ft additi	0.00	115.40	14.70	130.4	114.9	13.4	99.6	P	
3	DT	8	parking lot and building pad	subgra de	0.00	115.40	14.70	125.3	113.2	10.7	98.1	P	
4	DT	8	parking lot and building pad	subgra de	0.00	115.40	14.70	126.1	112.6	12.0	97.6	P	
5	DT	8	parking lot and building pad	existin g g	0.00	115.40	14.70	125.9	110.3	14.1	95.6	P	

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:45229



SITE DRAWING

ECS PROJECT NAME: PLEASANT HILL STATION

ECS PROJECT NO.: 10252

WORK ORDER ID #: 45219

ECS LLC MID-ATLANTIC

LOCATION: US 60

TECHNICIAN: CRS

DATE: 5/12/09 TUESDAY

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

May 18, 2009	RE: **Pleasant Hill Station CMT**
Wayne Harbin Builders, Inc 3630 George Washington Hwy Suite D Yorktown, VA 23693	ECS Job # **07:10252** Permits: Location: **Richmond Road** **Williamsburg, VA**
ATTN: Mr. Doug Harbin	

We are enclosing:

_X_ Materials Engineering Division Reports
_X_ For your use
_X_ As requested

ENCL:

Field Report # 9	05/13/2009	compaction testing	Non Compliance Noted

COMMONWEALTH OF VIRGINIA
B. SCOTT GRESHAM
No. 037705
MAY 18 2009
PROFESSIONAL ENGINEER

Scott Gresham, P.E.
Principal Engineer

J. David Eakes

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	9
Day & Date	Wednesday 05/13/2009
Weather	70°/ Cloudy
On-Site Time	0.75
Lab Time	0.50
Travel Time*	0.75
Total	2.00
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

***** Non Compliance Noted *****

Remarks **compaction testing**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Time of Arrival 10:30A Departure 11:15A

* Travel time and mileage will be billed in accordance with the contract.

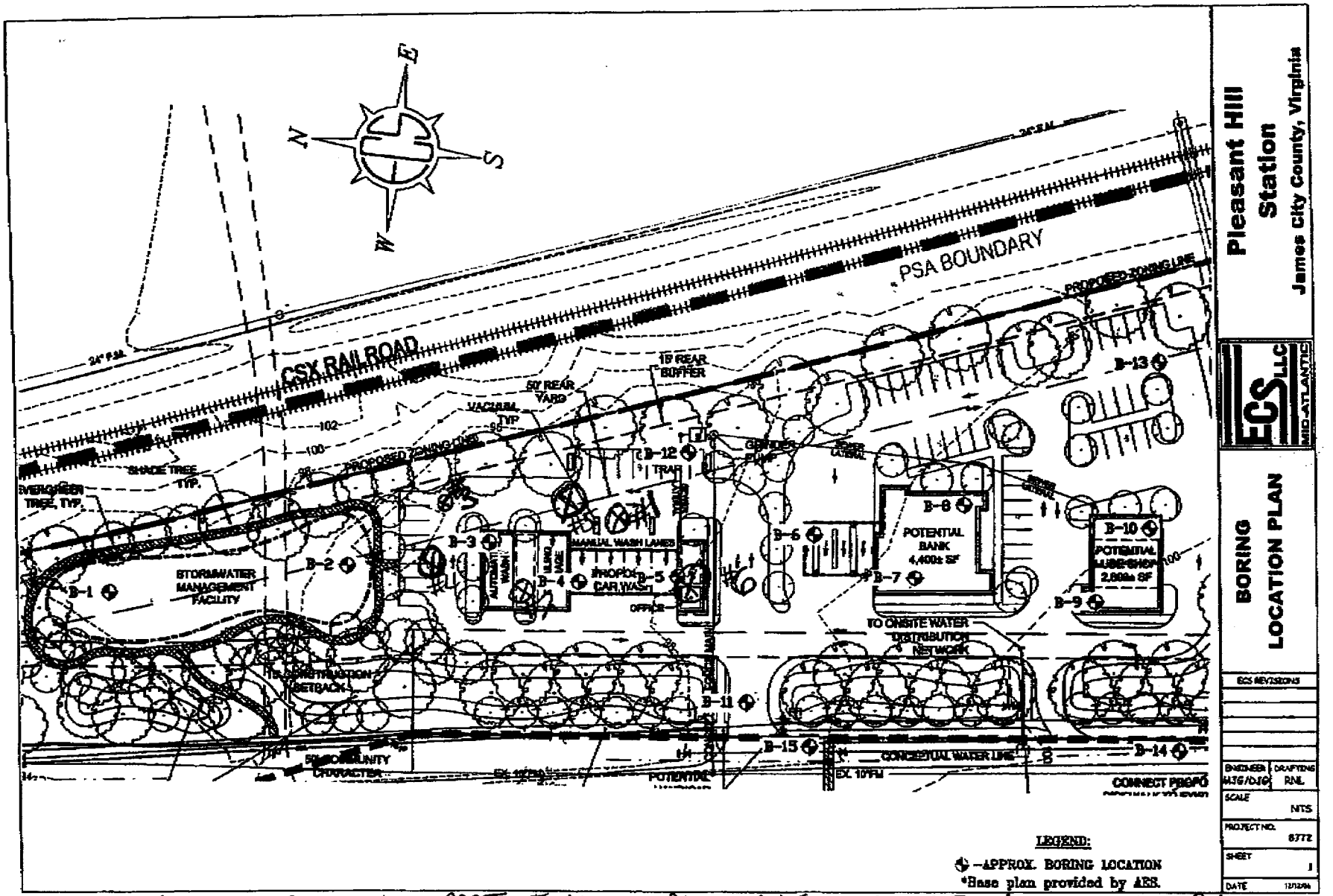
Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the parking lot and building pad. Please see the attached sketch.

The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698) with the exception of test #6 which failed due to excessive high moisture content. The Contractor was notified and will allow the area to dry and retest at a later date.

By **Clovis R. Sullivan** 1700

132925



ECS PROJECT NO: 10252 ECS PROJECT NAME: PLEASANT HILL STATION TECH: CRS
ECS WORK ORDER #: 45260 LOCATION: RICHMOND RD DATE: 5/13/09 WEDNESDAY

Field Compaction Summary, ASTM D-2922

ECS MID-ATLANTIC, LLC

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 05/13/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D-2922			
Nuclear Gauge No.7081			
Make	CPN	Density Std	39711
Model	MC-1	Moisture Std	9834
Ser. No.	MD30707081		

Sample:B-11 Description: clayey sand Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 117.90 Uncorrected Opt. MC: 11.50

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data: Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)	P / F	Comments
2	DT	8	parking lot and building pad	2ft addtio	0.00	117.90	11.50	132.4	117.5	12.7	99.7	P	

Sample:B-13 Description: Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 115.40 Uncorrected Opt. MC: 14.70

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data: Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)	P / F	Comments
1	DT	8	parking lot and building pad	2ft addtio	0.00	115.40	14.70	129.2	110.4	17.0	95.7	P	
3	DT	8	parking lot and building pad	2ft addtio	0.00	115.40	14.70	128.5	109.7	17.2	95.1	P	
4	DT	8	parking lot and building pad	2ft addtio	0.00	115.40	14.70	124.8	110.0	13.5	95.3	P	
5	DT	8	parking lot and building pad	2ft addtio	0.00	115.40	14.70	130.0	111.2	16.9	96.4	P	
6	DT	8	parking lot and building pad	2ft addtio	0.00	115.40	14.70	126.0	106.4	18.4	92.2	F	moisture high, compaction low, allow drying time.

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:4526(

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

May 18, 2009	RE: **Pleasant Hill Station CMT**
Wayne Harbin Builders, Inc 3630 George Washington Hwy Suite D Yorktown, VA 23693	ECS Job # **07:10252** Permits: Location: **Richmond Road** **Williamsburg, VA**
ATTN: Mr. Doug Harbin	

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 10 05/14/2009

Michael J. Galli, Vice President
Principal Engineer

MAY 15 2009

David J. Gordinier, P.E.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	10
Day & Date	Thursday 05/14/2009
Weather	70°/ Cloudy
On-Site Time	2.25
Lab Time	0.50
Travel Time*	0.75
Total	3.50
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks

Trip Charges* Tolls/Parking* Mileage* 43

Chargeable Items

Times of	Arrival	Departure
	10:00A	10:45A
	01:00P	02:30P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to observe:

The placement and compaction of soils for parking lot and building pad. Please see the attached sketch.

Utilizing the nuclear test method (ASTM D-2922) to check the compaction of soils; test results indicated (for test one only) that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of (95%) of the maximum dry density as obtained in our laboratory using the Standard Proctor Method (ASTM D-698). Locations and elevations of all tests are based on stakeout provided by others. We cannot be responsible for structures located off of the observed engineered pad, misaligned utilities or stakeout errors causing uncontrolled fill to be placed in structural areas. The soils observed on this date appeared to be placed in accordance with project drawings and specifications with regard to lift thickness and moisture content.

Test results for test #2 and 3 had a moisture content 3% above the optimum moisture content. The contractor should allow these areas to dry before installing additional lifts.

A soil sample was collected at a different site chosen by the contractor. The sample was delivared to the ECS LABORATORY for a one point proctor testing.

By **Clovis R. Sullivan** 1700

132976

Field Compaction Summary, ASTM D6938

ECS MID-ATLANTIC, LLC

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 05/14/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D6938			
Nuclear Gauge No.7081			
Make		Density Std	39830
Model		Moisture Std	9746
Ser. No.	MD30707081		

Sample:B-1 Description: Fine-Medium Clayey SAND Brown-Red (SC) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 112.20 Uncorrected Opt. MC: 15.80

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data: Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)	P / F	Comments
1	DT	8	parking lot and building pad	3ft additi	0.00	112.20	15.80	125.8	110.3	14.0	98.3	P	
2	DT	8	parking lot and building pad	3ft additi	0.00	112.20	15.80	128.1	107.5	19.1	95.8	P	
3	DT	8	parking lot and building pad	2ft additi	0.00	112.20	15.80	127.1	106.3	19.6	94.7	P	

Sample:B-2/1pt Description: Fine-Medium Clayey SAND Brown-Orange (SC) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 114.60 Uncorrected Opt. MC: 14.10

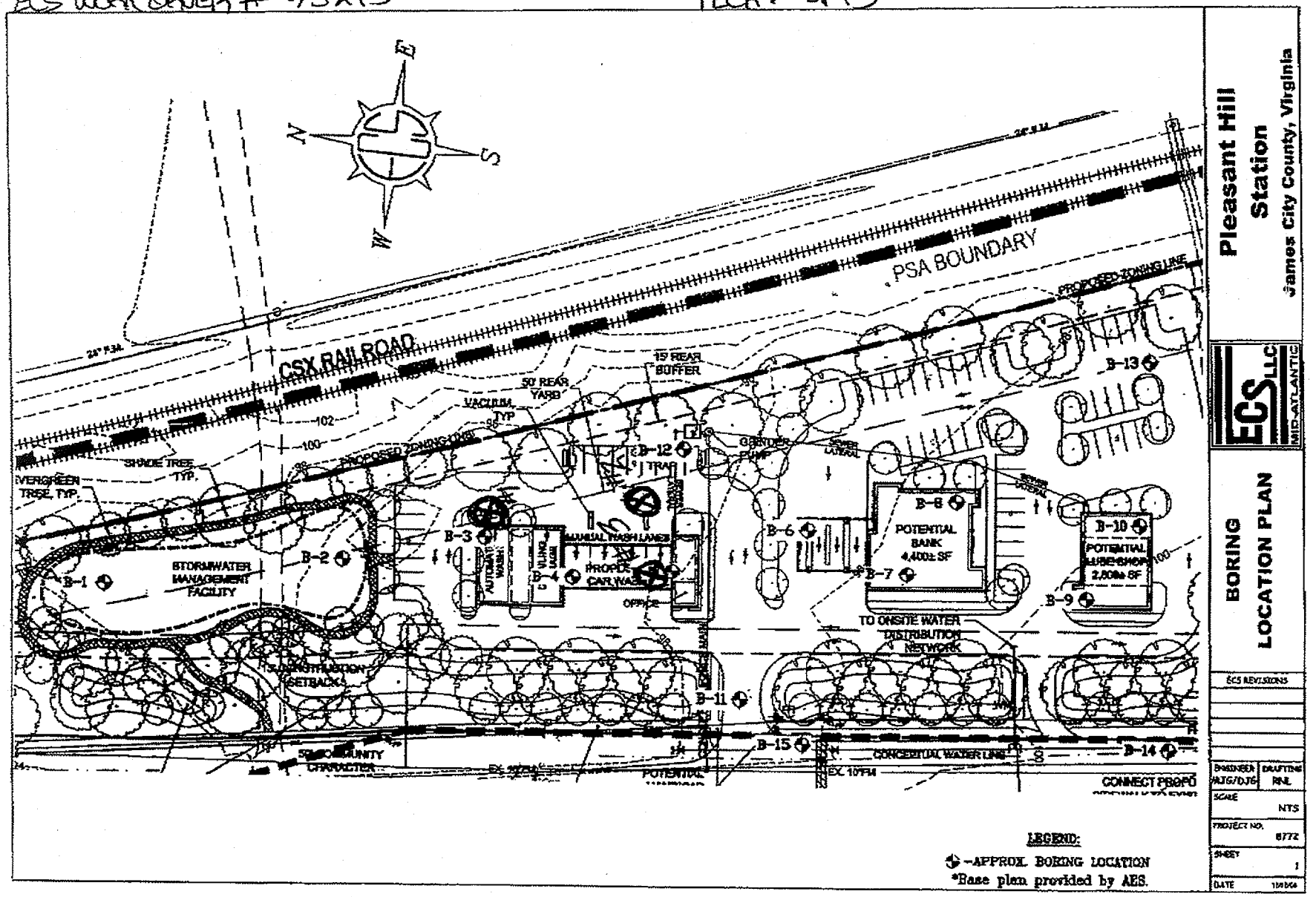
Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data: Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)	P / F	Comments

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:45293

ECS PROJECT NAME: PLEASANT HILL STATION
ECS PROJECT NO.: 10252
ECS WORK ORDER # 45293

LOCATION: RICHMOND R
DATE: 5/14/09 THURSDAY
TECH: CRS



05/14/2009 15:05 FAX 757 229 7622 ECS MID ATLANTIC 001

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

May 26, 2009	RE: **Pleasant Hill Station CMT**
Wayne Harbin Builders, Inc 3630 George Washington Hwy Suite D Yorktown, VA 23693	ECS Job # **07:10252** Permits: Location: **Richmond Road** **Williamsburg, VA**
ATTN: Mr. Doug Harbin	

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 11	05/19/2009	pipe placement
Field Report # 12	05/20/2009	compaction testing
Field Report # 13	05/21/2009	compaction testing
Field Report # 14	05/22/2009	compaction testing

COMMONWEALTH OF VIRGINIA
B. SCOTT GRESHAM
LIC. No. 037795
PROFESSIONAL ENGINEER
MAY 24 2009

Scott Gresham, P.E.
Principal Engineer

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	11
Day & Date	Tuesday 05/19/2009
Weather	70°/ Sunny
On-Site Time	1.50
Lab Time	0.50
Travel Time*	0.75
Total	2.75
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **pipe placement**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Times of	Arrival	Departure
	10:45A	11:30A
	02:00P	02:45P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the installation of 90 linear feet of 36 inch RCP between ES-1 and MH#1. The pipe was installed with stone bedding from the flare to the structure and seals at each joint. Backfill is scheduled for 5/20/2009.

By **Clovis R. Sullivan** 1700

133148

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	12
Day & Date	Wednesday 05/20/2009
Weather	70°/ Sunny
On-Site Time	1.75
Lab Time	0.50
Travel Time*	0.75
Total	3.00
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **compaction testing**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Times of	Arrival	Departure
	11:00A	11:45A
	01:15P	02:15P

* Travel time and mileage will be billed in accordance with the contract.

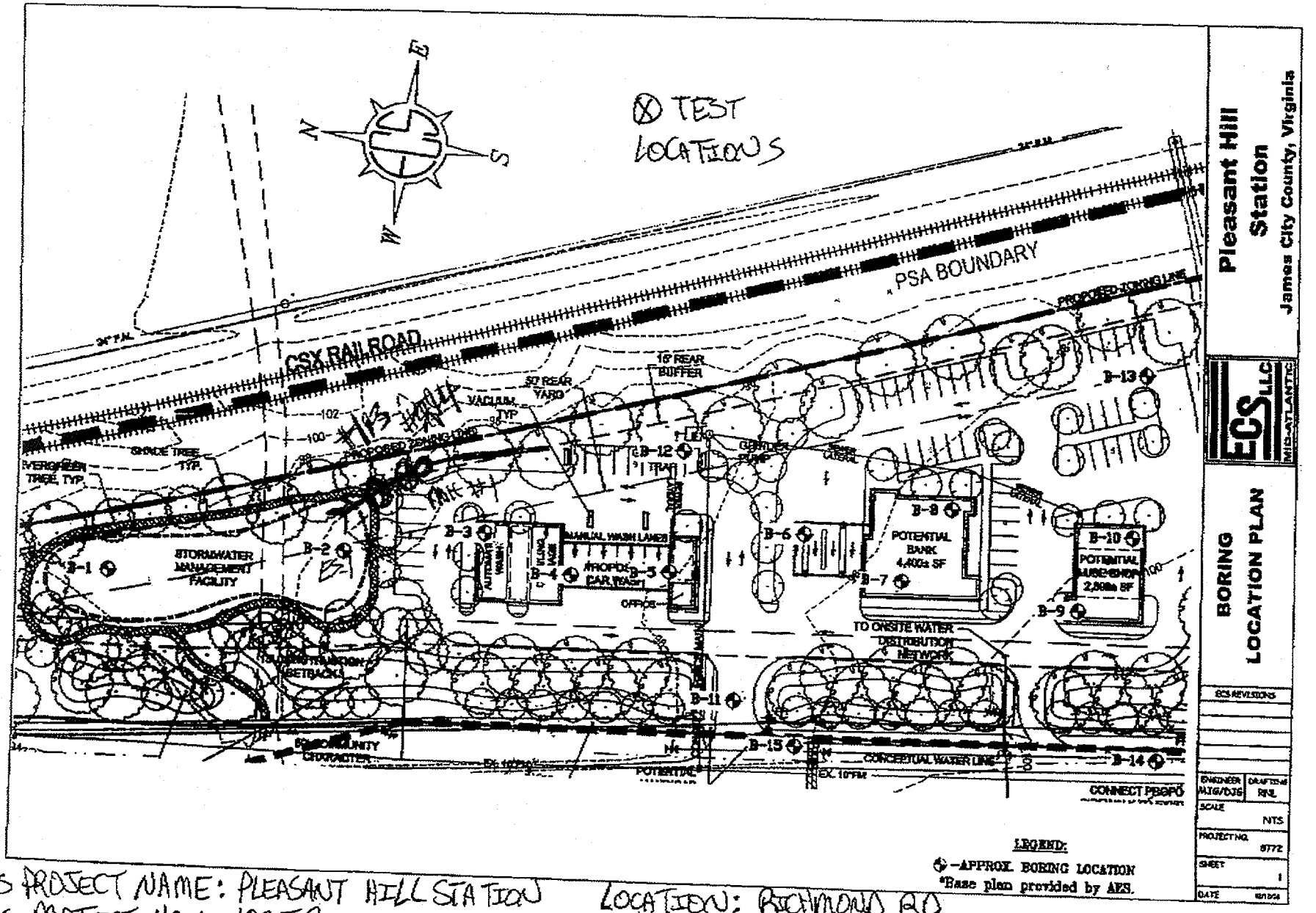
Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the backfilling of the storm drain trench between ES-1 and MH#1. Please see the attached sketch.

The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698).

By **Clovis R. Sullivan** 1700

133213



LEGEND:
⊗ -APPROX. BORING LOCATION
*Base plan provided by AES.

ECS PROJECT NAME: PLEASANT HILL STATION
ECS PROJECT NO.: 10252
ECS WORK ORDER # 45419

LOCATION: RICHMOND RD
DATE: 5/20/09
TECH: CRS

ECS MID-ATLANTIC, LLC

Field Compaction Summary, ASTM D-2922

Project No: 10252 Project Name: Pleasant Hill Station CMT

Date: 05/20/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D-2922			
Nuclear Gauge No.7081			
Make	CPN	Density Std	39690
Model	MC-1	Moisture Std	9981
Ser. No.	MD30707081		

Sample: B-1 Description: Fine-Medium Clayey SAND Brown-Red (SC) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 112.20 Uncorrected Opt. MC: 15.80

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	8	storm pipe from ES-1 to MH#1	2ft below	0.00	112.20	15.80	125.7	106.6	17.9	95.0	P	
2	DT	8	storm pipe from ES-1 to MH#1	2ft below	0.00	112.20	15.80	128.4	108.6	18.2	96.8	P	
3	DT	8	storm pipe from ES-1 to MH#1	subgrade	0.00	112.20	15.80	126.9	107.3	18.3	95.6	P	
4	DT	8	storm pipe from ES-1 to MH#1	subgrade	0.00	112.20	15.80	129.1	110.8	16.5	98.8	P	

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:45419

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	13
Day & Date	Thursday 05/21/2009
Weather	78°/ Sunny
On-Site Time	1.25
Lab Time	0.50
Travel Time*	0.75
Total	2.50
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **compaction testing**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Time of	Arrival	Departure
	01:00P	02:15P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the backfilling of the storm drain trench between MH#1 and MH#2. Please see the attached sketch.

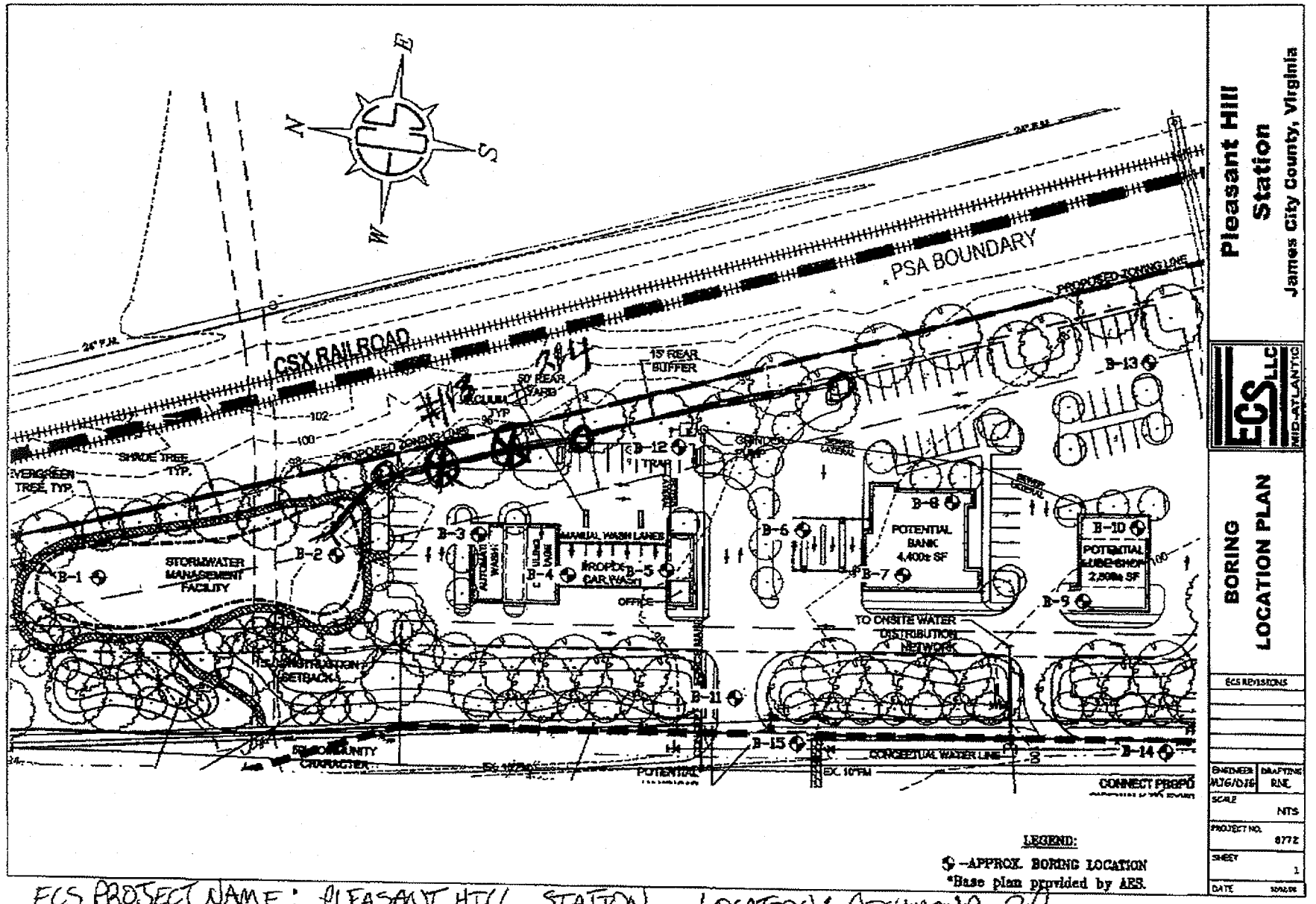
The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698).

Note:

The contractor is continuing to use stone bedding, seals at the joints, and pipe condition is satisfactory.

By **Clovis R. Sullivan** 1700

133260



ECS PROJECT NAME: PLEASANT HILL STATION
ECS PROJECT NO.: 10252
ECS WORK ORDER #: 45460

LOCATION: RICHMOND RD
DATE: 5/21/09 THURSDAY
TECH: CRS

Field Compaction Summary, ASTM D-2922

ECS MID-ATLANTIC, LLC

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 05/21/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D-2922			
Nuclear Gauge No.7081			
Make	CPN	Density Std	39634
Model	MC-1	Moisture Std	9933
Ser. No.	MD30707081		

Sample: B-1 Description: Fine-Medium Clayey SAND Brown-Red (SC) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 112.20 Uncorrected Opt. MC: 15.80

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	8	storm pipe from MH#1 to DI-3B (MH#2)	1ft below	0.00	112.20	15.80	126.1	106.9	18.0	95.3	P	
2	DT	8	storm pipe from MH#1 to DI-3B (MH#2)	1ft below	0.00	112.20	15.80	128.1	109.2	17.3	97.3	P	
3	DT	8	storm pipe from MH#1 to DI-3B (MH#2)	subgrade	0.00	112.20	15.80	125.2	106.5	17.6	94.9	P	
4	DT	8	storm pipe from MH#1 to DI-3B (MH#2)	subgrade	0.00	112.20	15.80	126.5	107.6	17.5	95.9	P	

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:45460

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	14
Day & Date	Friday 05/22/2009
Weather	80°/ Sunny
On-Site Time	1.00
Lab Time	0.50
Travel Time*	0.75
Total	2.25
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **compaction testing**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Time of Arrival 01:00P Departure 02:00P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the backfilling of the storm drain trench between D.I.#3B and D.I.#7 and the curb area. Please see the attached sketch.

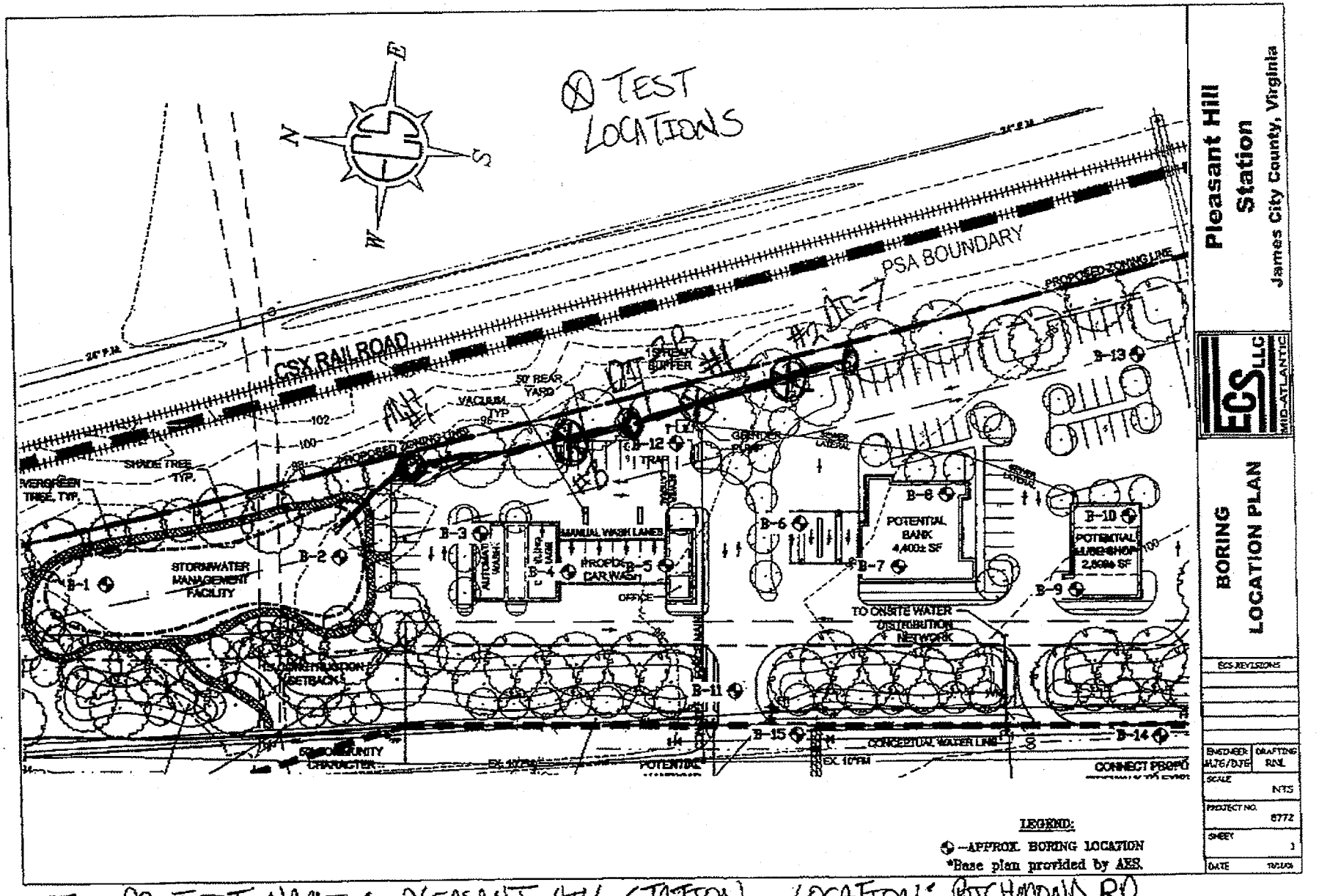
The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698).

Note:

The contractor is continuing to use stone bedding, seals at the joints, and pipe condition is satisfactory.

By **Clovis R. Sullivan** 1700

133287



ECS PROJECT NAME: PLEASANT HILL STATION
ECS PROJECT #: 10252
ECS WORK ORDER #: 45471

LOCATION: RICHMOND RD
DATE: 5/22/09 FRIDAY
TECH: CRS

ECS MID-ATLANTIC, LLC

Field Compaction Summary, ASTM D-2922

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 05/22/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D-2922			
Nuclear Gauge No.7081			
Make	CPN	Density Std	39733
Model	MC-1	Moisture Std	9621
Ser. No.	MD30707081		

Sample: B-1 Description: Fine-Medium Clayey SAND Brown-Red (SC) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 112.20 Uncorrected Opt. MC: 15.80

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	8	storm pipe from DI-3B to DI-7 and curb area	subgrade	0.00	112.20	15.80	128.4	110.3	16.4	98.3	P	
2	DT	8	storm pipe from DI-3B to DI-7 and curb area	subgrade	0.00	112.20	15.80	127.0	109.1	16.4	97.2	P	
3	DT	8	storm pipe from DI-3B to DI-7 and curb area	subgrade	0.00	112.20	15.80	126.9	108.7	16.7	96.9	P	

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:4547

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

May 29, 2009	RE: **Pleasant Hill Station CMT**
Wayne Harbin Builders, Inc 3630 George Washington Hwy Suite D Yorktown, VA 23693	ECS Job # **07:10252** Permits: Location: **Richmond Road** **Williamsburg, VA**
ATTN: Mr. Doug Harbin	

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 15 05/27/2009 compaction testing

COMMONWEALTH OF VIRGINIA
B. SCOTT GRESHAM
No. 037705
PROFESSIONAL ENGINEER
MAY 29 2009

Scott Gresham, P.E.
Principal Engineer

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	15
Day & Date	Wednesday 05/27/2009
Weather	65°/ Cloudy
On-Site Time	2.00
Lab Time	0.50
Travel Time*	1.50
Total	4.00
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks: compaction testing

Trip Charges* Tolls/Parking* Mileage* 40

Chargeable Items

Times of	Arrival	Departure
	08:00A	09:00A
	03:30P	04:30P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

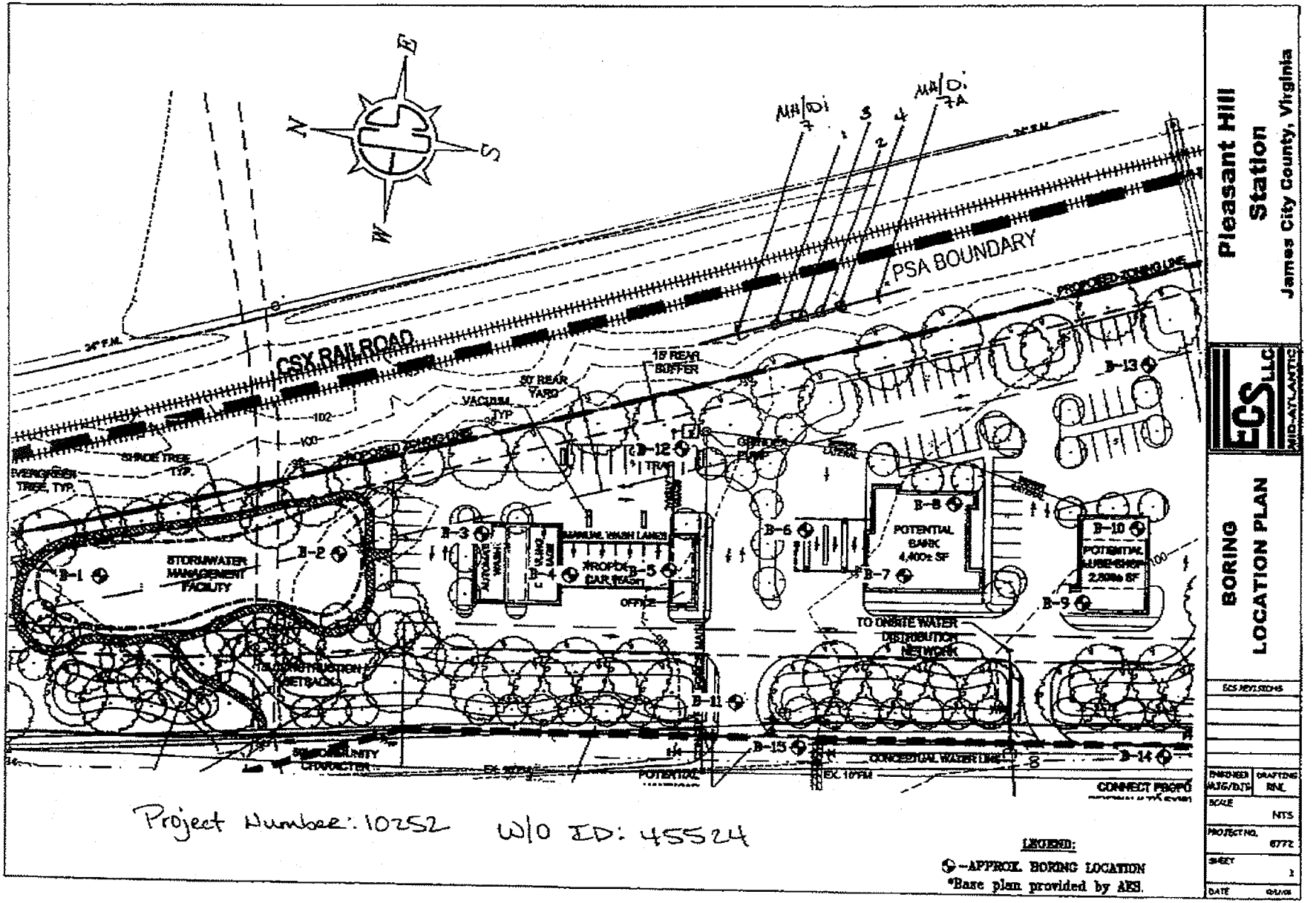
The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the backfilling of the storm drain trench between D.I.#7A and D.I.#7 and the curb area.

The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 85% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698).

Note: The contractor is continuing to use stone bedding, seals at the joints, and pipe condition is satisfactory.

By **John M. Foster** 1700

133475



Project Number: 10252 W/O ID: 45524

LEGEND:

⊕ – APPROX. BORING LOCATION

*Base plan provided by AES.

ECS MID-ATLANTIC, LLC

Field Compaction Summary, ASTM D-2922

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 05/27/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: John M. Foster

Test Method ASTM D-2922			
Nuclear Gauge No.2842			
Make	CPN	Density Std	4156
Model	MC-3	Moisture Std	1398
Ser. No.	2842		

Sample: B-1 Description: Fine-Medium Clayey SAND Brown-Red (SC) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 112.20 Uncorrected Opt. MC: 15.80

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	6	green area adjacent to the railway tracks, 24" pipe	-4'	0.00	112.20	15.80	118.8	96.7	22.8	86.2	P	
2	DT	6	green area adjacent to the railway tracks, 24" pipe	-3'	0.00	112.20	15.80	115.3	96.8	19.0	86.3	P	
3	DT	6	green area adjacent to the railway tracks, 24" pipe	-2'	0.00	112.20	15.80	118.8	100.4	18.3	89.5	P	
4	DT	6	green area adjacent to the railway tracks, 24" pipe	-1'	0.00	112.20	15.80	118.4	99.2	19.4	88.4	P	

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:45524

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

June 1, 2009

Wayne Harbin Builders, Inc
3630 George Washington Hwy
Suite D
Yorktown, VA 23693

ATTN: Mr. Doug Harbin

RE: **Pleasant Hill Station CMT**

ECS Job # **07:10252**

Permits:

Location: **Richmond Road**
Williamsburg, VA

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 16	05/29/2009	compaction testing

COMMONWEALTH OF VIRGINIA
C. B. SCOTT GRESHAM
PROFESSIONAL ENGINEER

JUN 12 2009

Scott Gresham, P.E. No. 03/7[illegible]
Principal Engineer

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	16
Day & Date	Friday 05/29/2009
Weather	78°/ Cloudy
On-Site Time	1.50
Lab Time	0.50
Travel Time*	1.50
Total	3.50
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **compaction testing**

Trip Charges* Tolls/Parking* Mileage* 50

Chargeable Items

Times of	Arrival	Departure
	09:30A	10:00A
	02:00P	03:00P

* Travel time and mileage will be billed in accordance with the contract.

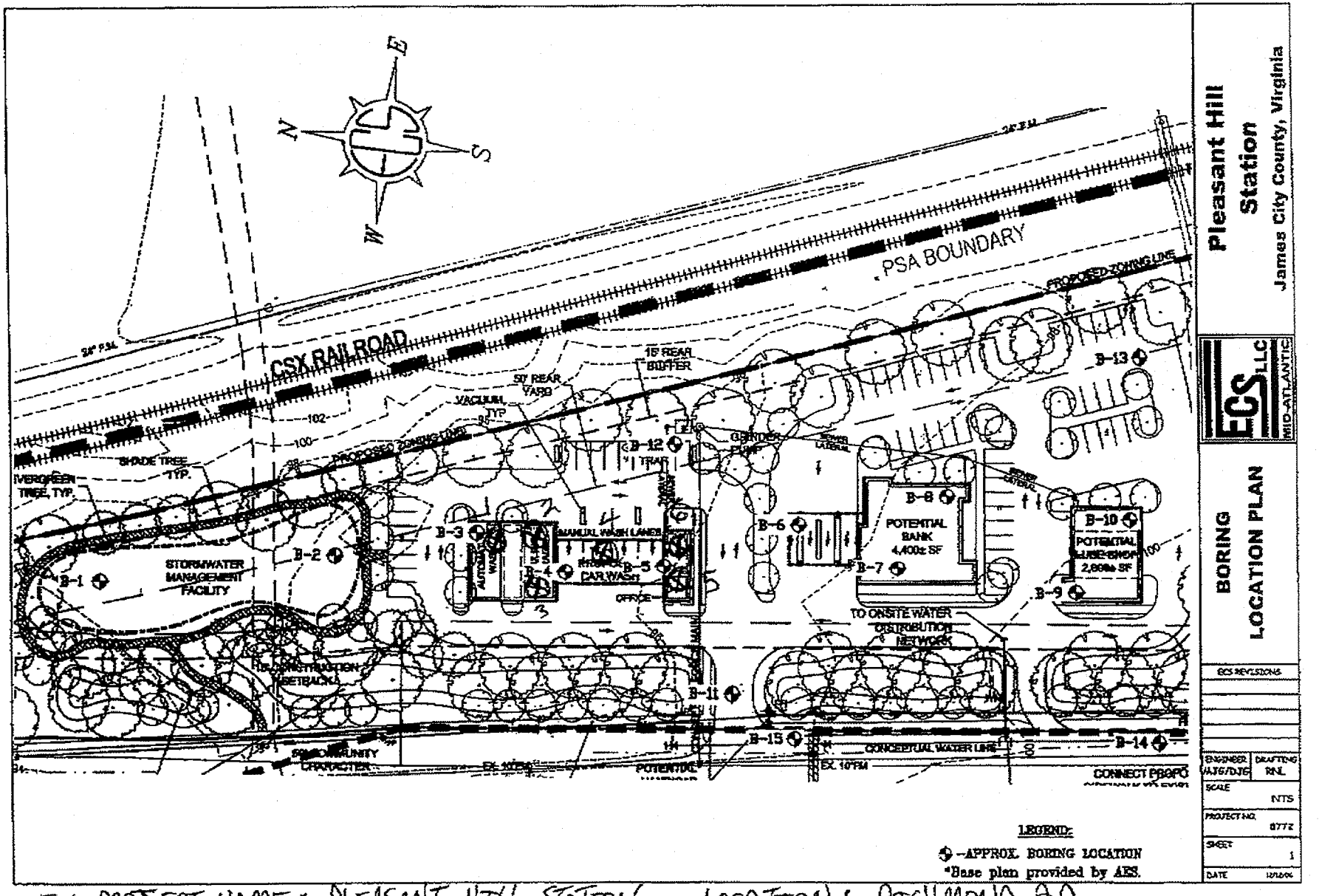
Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the building pad. Please see the attached sketch.

The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698).

By **Clovis R. Sullivan** 1700

133566



ECS PROJECT NAME: PLEASANT HILL STATION
ECS PROJECT NO: 10252
ECS WORK ORDER #: 45563

LOCATION: RICHMOND RD
DATE: 5/29/09
TECH: CRS

ECS MID-ATLANTIC, LLC

Field Compaction Summary, ASTM D-2922

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 05/29/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D-2922			
Nuclear Gauge No.7081			
Make	CPN	Density Std	39877
Model	MC-1	Moisture Std	9918
Ser. No.	MD30707081		

Sample:B-1 Description: Fine-Medium Clayey SAND Brown-Red (SC) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 112.20 Uncorrected Opt. MC: 15.80

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	8	building pad	subgrade	0.00	112.20	15.80	130.7	111.2	17.5	99.1	P	
2	DT	8	building pad	subgrade	0.00	112.20	15.80	130.2	110.5	17.8	98.5	P	
3	DT	8	building pad	subgrade	0.00	112.20	15.80	131.5	113.2	16.1	101	P	
4	DT	8	building pad	subgrade	0.00	112.20	15.80	128.6	108.6	18.4	96.8	P	
5	DT	8	building pad	subgrade	0.00	112.20	15.80	127.4	110.5	15.3	98.5	P	

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:45563

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

June 26, 2009	RE: **Pleasant Hill Station CMT**
Wayne Harbin Builders, Inc 3630 George Washington Hwy Suite D Yorktown, VA 23693	ECS Job # **07:10252** Permits: Location: **Richmond Road** **Williamsburg, VA**
ATTN: Mr. Doug Harbin	

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 17	06/23/2009	proofroll

Michael J. Galli, Vice President
Principal Engineer

JUN 26 2009

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	17
Day & Date	Tuesday 06/23/2009
Weather	82°/ Cloudy
On-Site Time	2.75
Lab Time	0.50
Travel Time*	0.75
Total	4.00
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **proofroll**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Time of Arrival 09:00A Departure 11:45A

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe a proofroll of the building pad and parking lot for the carwash. Please see the attached sketch.

Using a loaded, tandem-axle dump truck with a GVWR in excess of 20,000 pounds, the identified area was proofrolled and visible signs of pumping and rutting was observed. The undersigned has the following recommendations 1) allow building pad to dry and proofroll again. 2) check structural designers for slab tolerance. 3) undercut clay material and replace with select fill. The parking lot recommendations is to install stone and proofroll before asphalt (may require undercuts in select areas). 4) place an additional 8 inches of 57 stone underneath the floor slab area.

We understand the contractor has selected to place the additional stone under the slab bringing the total stone depth beneath the slab to be 12 inches.

By **Clovis R. Sullivan** 1700

134362

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

July 2, 2009	RE: **Pleasant Hill Station CMT**
Wayne Harbin Builders, Inc 3630 George Washington Hwy Suite D Yorktown, VA 23693	ECS Job # **07:10252** Permits: Location: **Richmond Road** **Williamsburg, VA**
ATTN: Mr. Doug Harbin	

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 18	06/30/2009	subgrades

COMMONWEALTH OF VIRGINIA
B. SCOTT GRESHAM
PROFESSIONAL ENGINEER

Scott Gresham, P.E. No. 03778
Principal Engineer

JUL 2 2009

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	18
Day & Date	Tuesday 06/30/2009
Weather	70°/ Sunny
On-Site Time	1.00
Lab Time	0.25
Travel Time*	1.50
Total	2.75
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks subgrades

Trip Charges* Tolls/Parking* Mileage* 40

Chargeable Items

Times of	Arrival	Departure
	09:00A	09:30A
	02:00P	02:30P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned Field Services Engineer arrived on site, as requested, to inspect the footing subgrade soils for all of the footings of the car wash. The footing subgrade soils appeared to be firm and stable when probed with a geostick with penetrations of less than an inch. The County will inspect the reinforcing steel.

By James D. Eakes 1300

134583

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

July 2, 2009	RE: **Pleasant Hill Station CMT**
Wayne Harbin Builders, Inc 3630 George Washington Hwy Suite D Yorktown, VA 23693	ECS Job # **07:10252** Permits: Location: **Richmond Road** **Williamsburg, VA**
ATTN: Mr. Doug Harbin	

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 19	07/02/2009	compaction testing

COMMONWEALTH OF VIRGINIA
B. SCOTT GRESHAM
Lic. No. 037785
PROFESSIONAL ENGINEER

JUL 2 2009

Scott Gresham, P.E.
Principal Engineer

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	19
Day & Date	Thursday 07/02/2009
Weather	88°/ Sunny
On-Site Time	1.50
Lab Time	0.50
Travel Time*	0.75
Total	2.75
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **compaction testing**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Time of	Arrival	Departure
	10:00A	11:30A

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the turning lane on Richmond Road. Please see the attached sketch.

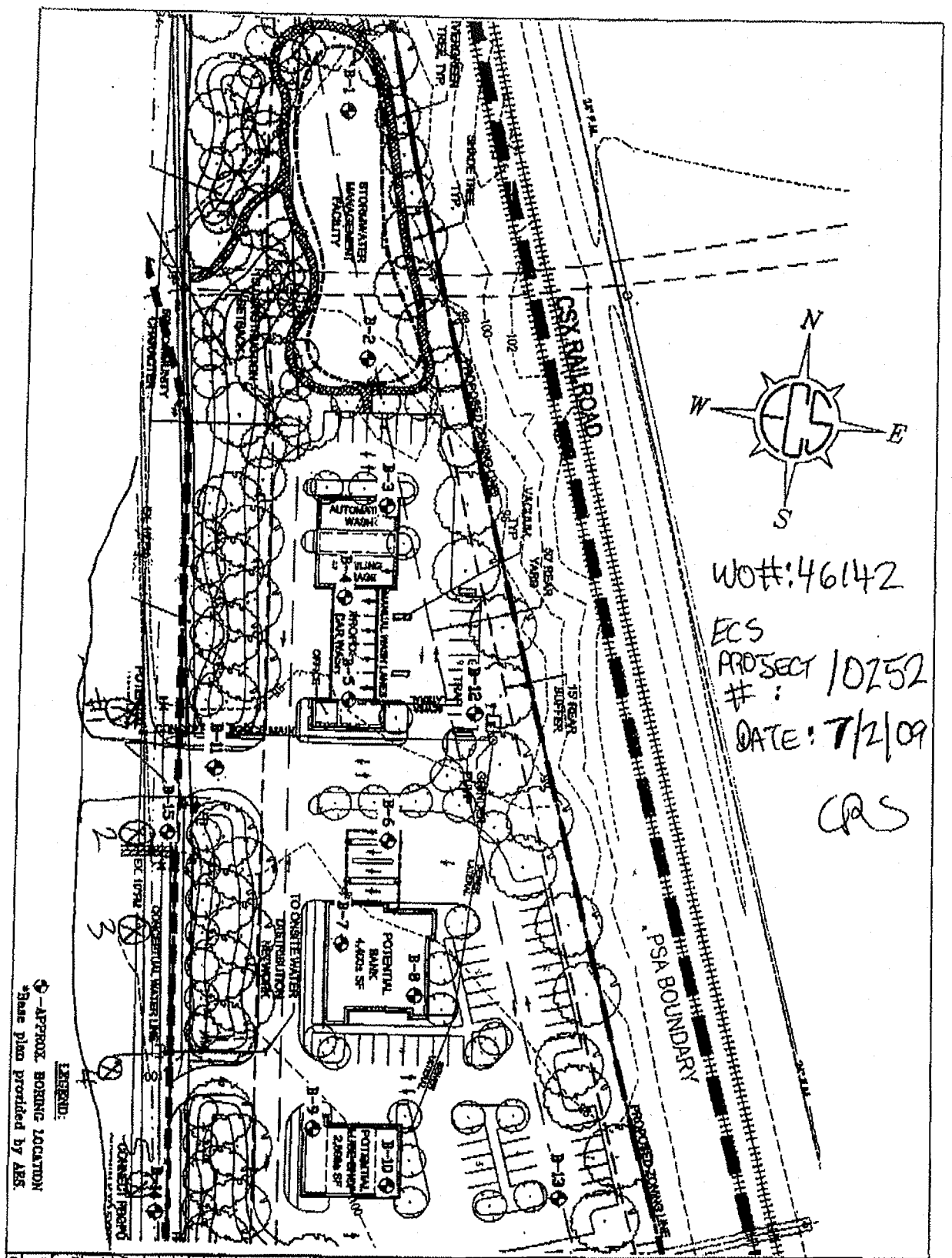
The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698).

Note:

Due to low (DRY) moisture content, the undersigned recommends adding water and re-compacting or removing loose dry material and adding extra stone.

By **Clovis R. Sullivan** 1700

134609


CSX RAILROAD
PSA BOUNDARY
STORMWATER MANAGEMENT FACILITY
AUTOMATIC WASH
VACUUM
POTENTIAL BANK 4,400± SF
POTENTIAL BANK 2,000± SF
TO ONSITE WATER DISTRIBUTION RESERVOIR
CONCEPTUAL WATER LINE
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
B-9
B-10
B-11
B-12
B-13
B-15
N
S
E
W
WO#:46142
ECS PROJECT #: 10252
DATE: 7/2/09
CRS
LEGEND:
—APPROX. BORING LOCATION
*Base plan provided by AES.
BORING LOCATION PLAN
ECS LLC MID-ATLANTIC
Pleasant Hill Station
James City County, Virginia

ECS MID-ATLANTIC, LLC

Field Compaction Summary, ASTM D-2922

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 07/02/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D-2922			
Nuclear Gauge No.7081			
Make	CPN	Density Std	40992
Model	MC-1	Moisture Std	9744
Ser. No.	MD30707081		

Sample:B-1 Description: Fine-Medium Clayey SAND Brown-Red (SC) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 112.20 Uncorrected Opt. MC: 15.80

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	8	turn lane on RICHMOND RD	subgrade	0.00	112.20	15.80	125.6	111.2	12.9	99.1	P	
2	DT	8	turn lane on RICHMOND RD	subgrade	0.00	112.20	15.80	119.9	110.7	8.3	98.7	P	
3	DT	8	turn lane on RICHMOND RD	subgrade	0.00	112.20	15.80	118.3	111.3	6.3	99.2	P	

Sample:B-2/1pt Description: Fine-Medium Clayey SAND Brown-Orange (SC) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 114.60 Uncorrected Opt. MC: 14.10

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
4	DT	8	turn lane on RICHMOND RD	subgrade	0.00	114.60	14.10	123.9	113.1	9.6	98.7	P	

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:46142

ECS MID-ATLANTIC, LLC

Field Compaction Summary, ASTM D-2922

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 07/02/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D-2922			
Nuclear Gauge No.7081			
Make	CPN	Density Std	40992
Model	MC-1	Moisture Std	9744
Ser. No.	MD30707081		

Sample:B-3/1pt Description: Fine-Medium SAND with Clay Pockets Brown (SM) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 119.30 Uncorrected Opt. MC: 12.20

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
5	DT	8	turn lane on RICHMOND RD	subgrade	0.00	119.30	12.20	123.8	115.6	7.0	96.9	P	

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:46142

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

July 10, 2009	RE: **Pleasant Hill Station CMT**
Wayne Harbin Builders, Inc 3630 George Washington Hwy Suite D Yorktown, VA 23693	ECS Job # **07:10252** Permits: Location: **Richmond Road** **Williamsburg, VA**
ATTN: Mr. Doug Harbin	

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 20	07/06/2009	compaction testing

Scott Gresham, P.E.
Principal Engineer

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	20
Day & Date	Monday 07/06/2009
Weather	80°/ Cloudy
On-Site Time	1.00
Lab Time	0.50
Travel Time*	0.75
Total	2.25
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **compaction testing**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Time of	Arrival	Departure
	09:00A	10:00A

* Travel time and mileage will be billed in accordance with the contract.

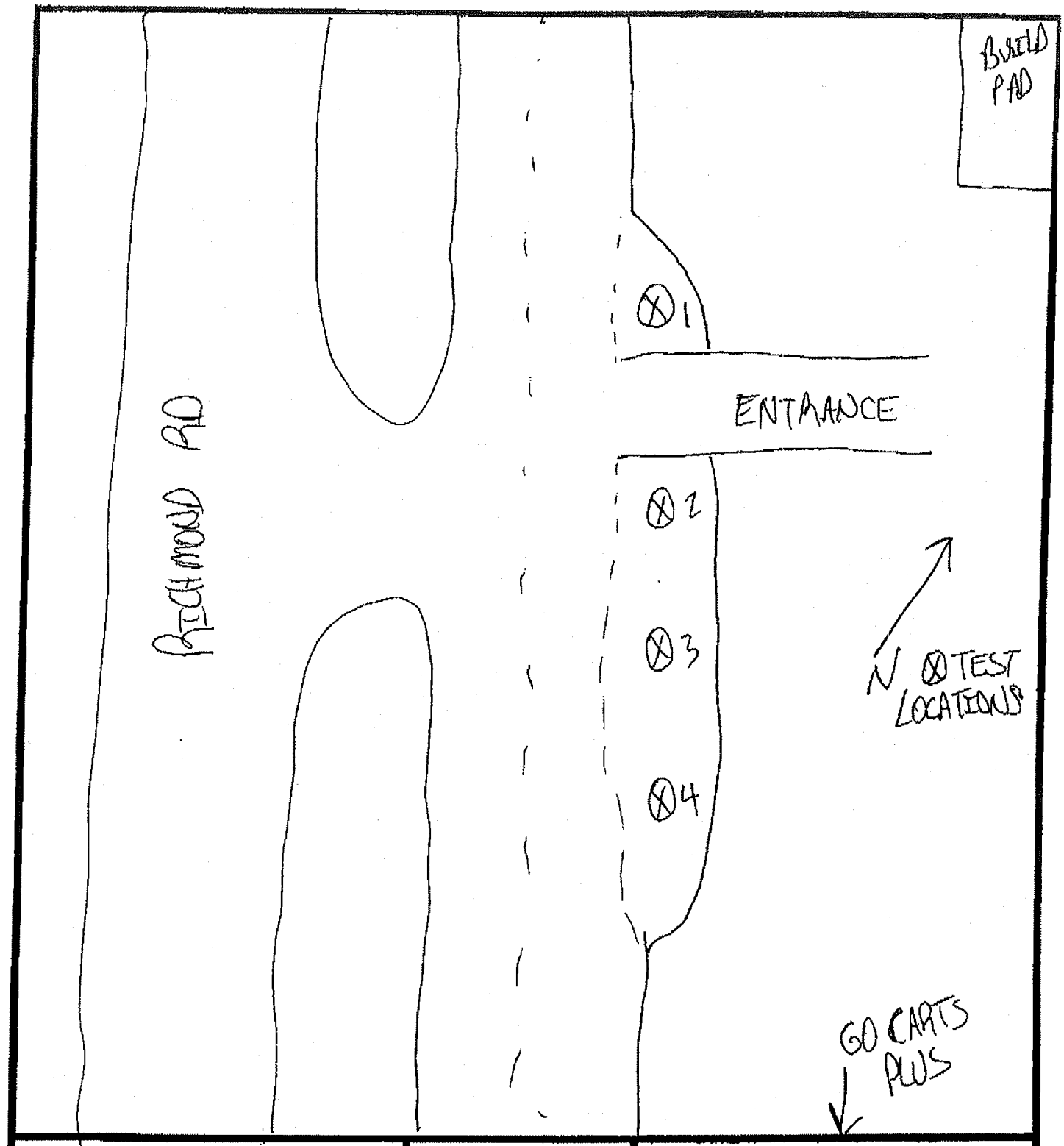
Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe the placement and compaction of soils for the turning lane on Richmond Road. Please see the attached sketch.

The Nuclear Method (ASTM D-2922) was used to check the compaction of soils. Test results indicated that the compacted material, at the areas and elevations tested, met or exceeded the project requirements of 95% of the maximum dry density as obtained in our laboratory by using the Standard Proctor Method (ASTM D-698).

By **Clovis R. Sullivan** 1700

134760



LOCATION: RICHMOND RD

TECHNICIAN: CRS

DATE: 7/6/09 MONDAY

ECS LLC MID-ATLANTIC

SITE DRAWING

ECS PROJECT NAME: PLEASANT HILL STATION

ECS PROJECT NO.: 10252

WORK ORDER ID #: 46196

Field Compaction Summary, ASTM D-2922

ECS MID-ATLANTIC, LLC

Project No: 10252 Project Name: Pleasant Hill Station CMT Date: 07/06/09

Client: Wayne Harbin Builders, Inc

Contractor: None Listed

Technician: Clovis R. Sullivan

Test Method ASTM D-2922			
Nuclear Gauge No.7081			
Make	CPN	Density Std	39570
Model	MC-1	Moisture Std	9870
Ser. No.	MD30707081		

Sample:B-2/1pt Description: Fine-Medium Clayey SAND Brown-Orange (SC) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 114.60 Uncorrected Opt. MC: 14.10

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
4	DT	8	turn lane from RICHMOND RD	subgrade	0.00	114.60	14.10	125.4	112.1	11.9	97.8	P	
2	DT	8	turn lane from RICHMOND RD	subgrade	0.00	114.60	14.10	123.9	110.8	11.9	96.7	P	

Sample:B-3/1pt Description: Fine-Medium SAND with Clay Pockets Brown (SM) Proctor Method: Standard Proctor Method (ASTM D-698) Uncorrected Max. Density: 119.30 Uncorrected Opt. MC: 12.20

Test No.	Test Mode	Probe Depth	Station / Location	Lift / Elev	% Oversize	Corrected Maximum Dry Density (pcf)	Corrected Optimum Moisture Content (%)	Test Data				P / F	Comments
								Wet Density (pcf)	Dry Density (pcf)	Moisture Content (%)	Percent Comp. (%)		
1	DT	8	turn lane from RICHMOND RD	subgrade	0.00	119.30	12.20	133.7	116.6	14.7	97.7	P	
3	DT	8	turn lane from RICHMOND RD	subgrade	0.00	119.30	12.20	126.0	114.1	10.5	95.6	P	

Test Mode: DT = Direct Transmission BS = Back Scatter

WO:46196

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

LETTER OF TRANSMITTAL

July 20, 2009	RE: **Pleasant Hill Station CMT**
Wayne Harbin Builders, Inc 3630 George Washington Hwy Suite D Yorktown, VA 23693	ECS Job # **07:10252** Permits: Location: **Richmond Road** **Williamsburg, VA**
ATTN: Mr. Doug Harbin	

We are enclosing:

X Materials Engineering Division Reports
X For your use
X As requested

ENCL:

Field Report # 21 07/15/2009 proofroll

COMMONWEALTH OF VIRGINIA
B. SCOTT GRESHAM
Lic. No. 037705
PROFESSIONAL ENGINEER

JUL 18 2009

Scott Gresham, P.E.
Principal Engineer

James D. Eakes, E.I.T.
Project Engineer

ECS Mid-Atlantic, LLC
108 Ingram Road
Suite 1
Williamsburg, VA 23188
(757) 229-6677

FIELD REPORT

Project No.	07:10252
Report No.	21
Day & Date	Wednesday 07/15/2009
Weather	85°/ Sunny
On-Site Time	1.00
Lab Time	0.50
Travel Time*	0.75
Total	2.25
Re Obs.Time	0.00

Project	Pleasant Hill Station CMT
Location	Williamsburg, VA
Client	Wayne Harbin Builders, Inc - Doug Harbin

Remarks **proofroll**

Trip Charges* Tolls/Parking* Mileage* 25

Chargeable Items

Time of	Arrival	Departure
	02:00P	03:00P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned senior engineering technician arrived on site, as requested, to observe a proofroll of the middle part of the building pad. Using a loaded rubber tire front end loader, the identified area was proofrolled and minimal visible signs of pumping, but no rutting was observed. The area is approved for further construction without undercuts.

By **Clovis R. Sullivan** 1700

135091

Date Record Created:	
Created By:	
Effective Year_Declaration of Covenants:	
WS_BMPNO:	YC057
WATERSHED	YC
BMP ID NO	057
PLAN NO	SP-60-07
TAX PARCEL	
PIN NO	2410100005A 2410100005B
CONSTRUCTION DATE	10/21/2009
PROJECT NAME	Colonial (Pleasant Hill) Car Wash
FACILITY LOCATION	6950 Richmond Road
CITY-STATE	Williamsburg, VA 23188
CURRENT OWNER	Wayne Harbin Builders, Inc.
OWNER ADDRESS	3705 Strawberry Plains Rd
OWNER ADDRESS 2	Suite D
CITY-STATE-ZIP CODE	Williamsburg, VA 23188
OWNER PHONE	7576-220-8860
MAINT AGREEMENT	No
EMERG ACTION PLAN	No

Get Last BMP No | Return to Menu

Other affected parcels:

PIN_NO2:		PIN_NO8:	
PIN_NO3:		PIN_NO9:	
PIN_NO4:			
PIN_NO5:			
PIN_NO6:			
PIN_NO7:			

MAINTENANCE PLAN	No	CTRL STRUC DESC	RCP Riser	
SITE AREA acre		CTRL STRUC SIZE inches	36	
LAND USE		OTLT BARRL DESC	RCP	
old BMP TYP		OTLT BARRL SIZE inch	18	
JCC BMP CODE	A3 Wet ED Pond			
POINT VALUE	10	EMERG SPILLWAY	Yes	
		DESIGN HW ELEV	95.7	
		PERM POOL ELE	92.0	
SVC DRAIN AREA acres	8.53	2-YR OUTFLOW cfs	0.00	.37
		10-YR OUTFLOW cfs	0.00	11.63
		REC DRAWING	No	
SERVICE AREA DESCRI	Car Wash - Commercial			
IMPERV AREA acres	0.00	CONSTR CERTI	Yes	
RECV STREAM				
EXT DET-WQ-CTRL	No	LAST INSP DATE		Inspected by:
WTR QUAL VOL acre-ft		INTERNAL RATING		
CHAN PROT CTRL	No	MISC/COMMENTS		
CHAN PROT VOL acre-ft				
SW/FLOOD CONTROL	No	Storm drain system includes provision for offsite drainage from Go-Karts Plus		
GEOTECH REPORT	Yes			

Additional Comments:

Need to input data
from Site Plan on
site characteristics
- Input into PARS as well