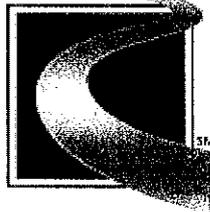


MARYLAND TRANSPORTATION AUTHORITY
Baltimore, Maryland

Invitation for Bids

**INTERCOUNTY CONNECTOR,
WEST OPERATIONS FACILITY**



Maryland
Transportation
Authority

CONTRACT NO. IC 2210-000-006/7R

SPECIAL PROVISIONS

VOL. I OF III

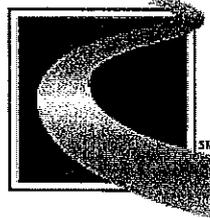
MONTGOMERY COUNTY

MARCH 2009

MARYLAND TRANSPORTATION AUTHORITY
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MONTGOMERY COUNTY

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NOTICE TO BIDDERS

Please review the checklist prior to submitting your bid on this Contract.

- When submitting your completed bid, do not separate the book. Submit the whole book including all addenda acknowledgment pages.
- Make sure that all addenda letters are attached outside of the front cover of the bid book.
- If the addendum has revised the Schedule of Prices, make sure that you have included the revised pages in your bid. Your price should reflect any and all changes.
- Prices must be written numerically and in words, unless approved substitute forms are used (Refer to GP-2.06). Don't leave any items blank.
- When tabulating your final price, make sure all your calculations are correct.
- Minority Business Enterprise Attachments A and B must be completed and submitted with your bid. If either of these attachments is missing your bid is non-responsive. Attachments C and D **should not** be submitted at time of bid.
For additional information on how to complete the MBE Attachments, please see the insert named "Important Information regarding MBE Utilization and Bidding Requirements" located in the IFB.
- The Bid/Proposal Affidavit must be completely filled out and signed by all the parties as indicated.
- If Escrow is being offered in a contract, the contractor must indicate whether or not they wish to utilize an Escrow Account for Retained Funds on the provided form.
- A bid bond must accompany all bids of One Hundred Thousand Dollars (\$100,000.00) or more. The bid bond document must be completely filled out and have an original Power of Attorney form attached.
- If the document is too large for the envelope that we have provided, you can place the document in another form of packaging that can be sealed and submitted. If the document is too large for the bid box, you should alert the receptionist.
- Make sure that your company's name, address, the contract number and the bid date appears on the front of the packaging.
- When submitting bid packages via US Mail, Federal Express, DHL, UPS or any other delivery service it is your responsibility to make sure that the bid reaches the bid box before the time deadline. It may be in your best interest to send the package 24 hours in advance of the deadline. Also, when sending packages this way, make sure that the labeling specifies that it is a bid submission.

Notice to Bidders/Offerors

eMaryland Marketplace

In order to take advantage of Maryland State and Local government contracting opportunities, vendors/contractors are encouraged to register with eMaryland Marketplace. The free registration provides a means for businesses to receive e-mail notification of upcoming contracting opportunities in their specified areas of interest and expertise.

For registration requirements, visit:
www.eMarylandMarketplace.com

IMPORTANT INFORMATION REGARDING MBE UTILIZATION AND BIDDING REQUIREMENTS

The Maryland Transportation Authority (the "Authority") has been forced to reject many recent bids/proposals due to bid submissions that were not in strict compliance with the stipulated MBE rules and regulations. The following checklist has been developed to highlight certain critical components of the MBE program requirements. This listing is not all-inclusive and the bidder **must** comply with all MBE rules and regulations listed throughout this entire proposal book.

Please read all of the instruction provided on Attachment A, B, C & D in its entirety before completing the forms.

Attachment A (Certified MBE Utilization and Fair Solicitation Affidavit) & Attachment B (MBE Participation Schedule) must be included with the submittal of the bid or offer. If the bidder or offeror fails to submit these forms with the bid/offer as required, the Procurement Officer **shall deem the bid non-responsive** or shall determine that the **offer is not reasonably susceptible** of being selected for award. MBE Prime Contractors must achieve the established MBE goal with other certified MBE contractors. A Prime MBE Contractor **can not** count itself as an MBE to obtain the goal.

ATTACHMENT A

When filling out Attachment A, make sure you complete the following:

- If the Prime Contractor can achieve the established overall goal and sub goals, you must check the appropriate box.
- If after making good faith efforts, you determine you can not achieve the established overall goal or subgoals, you must request a waiver by checking the appropriate box.
- If you do not request the waiver at time of bid and you **are not** meeting the established goal(s), your bid/offer will be considered **non-responsive or not reasonably susceptible of being selected for award.**
- Attachment A must be signed and dated.

Updated
2/23/2009

ATTACHMENT B Part 2

When filling out Attachment B, make sure you have included the following:

- Prime Contractor's name, address and phone number.
- Project description.
- Project number/Solicitation Number.
- List the minority firm name(Column 1), certification number and MBE Classification (Column 2), Total sub contract dollar amount (Column 3) and NAICS Codes of the services to be performed or products to be supplied (Column 4)
- Clarify for each sub-contractor if it will provide services, is a supplier or will supply and install (Column 5)
- It is the Contractor's responsibility to ensure that the proposed subcontractors are certified to perform the proposed work. All Contractors are to submit an approvable MBE plan at time of bid. Approvable means, the subcontractors are certified in the applicable NAICS Codes through MDOT and can perform the proposed services for the required participation goal. Contractors pending MBE certification at time of bid are **not** eligible for participation. If you submit a firm that is not certified to perform the proposed services and your contract falls short of the established MBE goal, your firm will be considered **non-responsive or not reasonably susceptible of being selected for award.**
- Prime Contractors are strongly encouraged to check the MDOT database at www.mbe.mdot.state.md.us to see if the subcontractor is certified to perform the services and to make sure the subcontractor has not graduated from the listed NAICS codes. If you have questions after checking the data base, you may contact the Authority MBE Office at 410-537-1048 for further assistance.

If you are using a supplier, the 60% rule applies. Please refer to the MBE Manual for the description of the 60% rule.

Please provide details on how you arrived at the 60% on Attachment B (Column 5) (i.e. - \$150,000.00 X 60% = \$90,000.00).

- If you are requesting a third tier relationship, you must state that request on the Attachment B form (Column 1). Please note: Third Tier MBE/DBE subcontracting will be approved by the Authority only when the Authority is satisfied that there is no way except by Third Tier contracting that an MBE/DBE goal can be achieved. Specifics as to why a Third Tier contracting agreement must be included.

Updated
2/23/2009

- Attachment B must be signed and dated.
- If you are the apparent low bidder, you will receive a letter from the Authority requesting your MBE Attachment C (Outreach Efforts Compliance Statement) and Attachment D (Subcontractor Project Participation Affidavit). You will have ten (10) working days to submit the attachments to the Authority. If you requested a waiver at time of bid, all of the back up documentation that complies with COMAR 21.11.03.11, must be submitted within the ten working days with Attachments C & D.
- If the apparent low bidder fails to return the required documentation within the allotted ten (10) days, the Procurement Officer may determine that the apparent low bidder is not responsible and therefore not eligible for contract award.

Updated
2/23/2009

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Instructions to Bidders

MULTI-STEP SEALED BIDS CONTRACT NO. IC-2210-000-006/7/R

INTERCOUNTY CONNECTOR, WEST OPERATIONS FACILITY

General

- A. There will be a two (2) step process for awarding this project, IC-2210-000-006/7/R – Intercounty Connector, West Operations Facility located in Montgomery County for the Maryland Transportation Authority (“Authority”).

The first step will be evaluation of the technical qualifications of the firms bidding. The second step will be based on cost.

- B. This request for bids does not commit the Authority to award a contract. The Authority reserves the right to reject any and all bids or to request additional information from any source or sources considered qualified. In addition, notice is given hereby of the possibility that award may be made without discussion of the bid; therefore, bids must be submitted initially on the most favorable terms from both technical and price standpoints.
- C. To be responsive, bids must state full, accurate, and complete information as required by this Request for Multi-Step Bids.
- D. The terms of this contract shall be in accordance with a **300 Calendar Day Base Contract Duration**, after receipt of Notice to Proceed.

Submission of Bid

- A. The Authority assumes no monetary obligations for preparation of bids or for bid expenses hereunder. All bid documents will become the property of the Authority and will not be returned to Bidders.
- B. Bids will be submitted in two (2) separate envelopes. Both envelopes shall be clearly marked with Contractor’s name and address. Each envelope contents and labeling shall be as follows:
1. Envelope A:
 - a. Label: “Envelope A – Technical for Contract IC-2210-000-006/7/R – Intercounty Connector, West Operations Facility for the Authority”

- b. Contents: Completed Technical Submittal, and MBE Utilization Affidavit, Bid/ Proposal Affidavit, plus documentation responding to the "List of Minimum Requirements" for IC-2210-000-006/7/R – Intercounty Connector, West Operations Facility
- c. No pricing information shall be included in envelope A. Inclusion of pricing in Envelope A shall be considered a non responsive bid and the Bidder shall be disqualified.
- d. Furnish four (4) copies of signed Technical Submittal and required documentation.

2. Envelope B:

- a. Label: "Envelope B –Cost Proposal for Contract IC-2210-000-006/7/R – Intercounty Connector, West Operations Facility for the Authority."
- b. Contents: Submit the entire Volume III of the specifications completely filled out. This includes the Bid Bond, MBE Participation Schedule and Completed Pay Items for all construction items as contained in the pay item tabulations.

C. Technical Bids must contain the above information and should be submitted in four (4) complete copies. This technical portion of the bid shall become a binding part of the successful Bidder's contract.

D. Addressing Bids

- 1. It is the responsibility of each Bidder to assure that the Bids are received by the Authority by the time specified in Notice to Contractors. Any Bid received after the time specified will be considered late and returned to the Bidder unopened.
- 2. Envelopes if mailed overnight, US Postal Services, or hand delivered, should be addressed to the following address:

Maryland Transportation Authority
Office of Procurement & Statutory Program Compliance
300 Authority Drive
1st Floor
Baltimore, Maryland 21222

E. Bid Evaluation

All bid packages received by the closing deadline will be reviewed, accepted or rejected as indicated here. In the review process, the Authority may request additional technical assistance from any source.

The bid packages will be reviewed in two sequential steps. In the first step only “Envelope A” of all bid packages will be reviewed, resulting in a bid evaluation classification of either “acceptable” or “non-acceptable”. Subsequently and at the announced time and date, “Envelope B” of those bidders determined as “acceptable” will be publicly opened and read aloud. The Authority review of Envelopes A and B will be as follows:

1. Opening and Review by the Authority will determine compliance or lack of Compliance with the bid package technical requirements indicated in sub-subparagraph B.1b. above. The results of Envelope A contents review will be the classification of each bidder as “acceptable” or “non-acceptable”. To be qualified as “acceptable”, the bidder shall:
 - a. Provide a response to all items included in the “Technical Submittal”. Bidder shall provide all of the requested technical qualifications in sufficient detail to enable the Authority to confirm bidder’s technical qualifications and bid acceptableness for each one of the items of the “List of Minimum Requirements”.
 - b. Review of Envelope A – Technical Information Package:
 - (1) The Authority will evaluate the Technical Offer Information submitted to determine if it is acceptable or unacceptable. In making such a determination, the Authority shall consider whether a bidder has met the “Minimum Requirements” set forth in Technical Offer Submittal. The Authority may meet with or otherwise contact any or all bidders to identify deficiencies, which must be corrected in order to meet the Technical Offer Submittal. After evaluation of the initial and supplemental information, the Authority shall determine whether the bidder is acceptable or non-acceptable. Envelope A **will not** be publicly opened.
2. Opening of Envelope B

The Envelope B package of the “acceptable” bidders will be publicly opened on **April 10, 2009, 10:00 a.m., 300 Authority Drive, Office of Procurement & Statutory Program Compliance, 1st Floor, Baltimore,**

Maryland 21222. The Authority will determine which bidder has the lowest overall cost of the project considering all parts, including miscellaneous allowances. The Authority will not open the Envelope B packages belonging to those bidders deemed “non-acceptable” by the Authority; these packages will be returned unopened to their originators.

F. Confidentiality

Bidders must specifically identify those portions of their proposals, if any, which they deem to contain confidential, proprietary, commercial, or financial information or trade secrets and must provide justification why such materials, upon request, should not be disclosed by the State under the Maryland Public Information Act, Section 10-611, et seq., of the State Government Article of the Annotated Code of Maryland. Portions of proposals identified as confidential or proprietary shall be readily separable from the proposal in order to facilitate any public inspection of the non-confidential portion of the proposal after award of the contract.

Basis of Selection

The contract will be awarded to responsible bidder with the lowest responsive bid meeting the minimum technical requirements. The Administration will pre-qualify the bids based on technical submittal. Only those bids meeting the Administration's requirements, as set forth in the specifications will be acceptable for further price consideration.

The Authority will award this Contract to the responsible Bidder with the lowest responsive bid based on the TOTAL BASE BID. The contract will be awarded to the responsible bidder with the lowest responsive bid meeting the specifications. The Administration will pre-qualify the bids based on the technical submittal. Only those bids meeting the Administrations requirements, as set forth in the specifications will be acceptable for further price consideration.

The Authority will award this Contract to the responsible Bidder with the lowest responsive bid based on the TOTAL BASE BID including the miscellaneous allowance included in the Contract Documents.

LIST OF MINIMUM REQUIREMENTS

Name of Firm

Federal Tax ID or Social Security Number

Address of Firm

Contract Number: IC-2210-000-006/7/R

Contract Title: Intercounty Connector, West Operations Facility

General: To be eligible for award of this Contract, the Bidder must indicate that he/she will provide an acceptable level of construction service including Craft Labor as described in the minimum requirements.

Include response to the following as part of the Technical Offer:

Instructions

1. This *Contractor Qualification Statement* (CQS) is required for proposals submitted to the Maryland Transportation Authority (Authority) for ICC Western Maintenance Facility.
2. This document shall be labeled "*Contractor Qualification Statement*" and indicate the name of the Bidder (hereinafter "*Contractor*") and the name of the project and contract reference number for this project.
3. This CQS shall be completed by an officer of the Contractor who has sufficient knowledge to address all referenced subject matters and respond to all inquiries herein.
4. The Contractor submitting this CQS shall be fully responsible for and bound by all information, data, certifications and disclosures included in this statement and any attachments hereto.
5. The Contractor understands that the information and data provided in connection with this CQS shall be reviewed to determine whether it qualifies as a "responsible contractor" for purposes of performing a State contract and whether its proposal is the most advantageous to the State.

6. It is the Contractor's responsibility to carefully review and complete this document. The failure to submit information or documents required by this CQS or the submission of any false or misleading statements or any misrepresentations or omissions regarding material facts concerning this CQS, may render the Contractor ineligible for the contract.
7. Attachments to this CQS shall be numbered and labeled according to subject and clearly reference the project name and contract number.
8. If additional space is needed to answer a question, provide the required information in a *separate numbered attachment to this CQS*.
9. Contractor Qualification Statement shall include the following statement, *"I have read the MBE requirements for this contract and understand that failure to submit MDOT certified minority subcontractors and achieving the established goals/subgoals or requesting a waiver will result in rejection of this contractors qualification statement (CSQ) and bid."*

Part I: General Information

1. **Name of Contractor:** _____

**Indicate whether the Contractor is a corporation, joint venture, limited liability company, partnership, sole proprietorship or other type of business entity.*

2. **Address/Contact Information:** _____

**Provide mailing address of Contractor, website, e-mail, telephone number and fax number. If address is a branch office, also provide principal home office address.*

Years in Business: _____

Related Firms/Changes in Company Name: _____

**Identify any parent companies, subsidiaries, sister companies or holding companies to which the Contractor is related. If the Contractor has previously operated under another name within the past five years, identify other names used.*

3. **Applicable Licenses/Registrations:** Identify all states in which the Contractor is licensed or registered to do business; provide applicable license/registration numbers:

4. **Recent Construction Volume:** Provide approximate annual construction volume in dollars performed by Contractor in the past three years:

Year _____
Year _____
Year _____

Percentage of Work Self-Performed: Identify approximate percentage of the Contract Work the Contractor will perform on this Project with its own work force: _____

Note: According to the contract specifications, the Bidder is required to self-perform at least 15 percent of the Contract with its own employees

Classifications of Work Self-Performed: Identify the types of work the Contractor will perform with own work force:

5. **Experience Modification Rating:** Provide the Contractor's Workers Compensation Experience Modification Rating for the past three most recent years, beginning with the most recent year available:

Year 1: [e.g. 2007: .1.1]
Year 2: [e.g. 2006: 1.1]
Year 3: _____

Part II: Project Review

Section 1: Past/Current Project List

1. Provide in a *separate numbered attachment* to this CQS a list of all projects, public and private, the Contractor has performed in the last five years and all current projects; label this attachment as "*Past/Current Projects.*"

2. List projects in reverse chronological order, beginning with most recent. If the Contractor has more than ten (10) past and current projects, it may limit this list to the most recent ten (10) projects. ***Designate any projects similar in size, scope, type and complexity to the Contract Work by highlighting the name of the project in bold and italics print.***
3. For each project listed on the *Past/Current Project List*, the Contractor shall provide the following information.
 - a. The name and location of the project; the name of the project owner; and a brief description of the project.
 - b. The names, addresses and current phone numbers of at least one owner representative familiar with the Contractor's performance on the project (may include owners, construction managers, architects, engineers).
 - c. Provide copies of any performance final evaluation reports of any kind prepared regarding the Contractor work.
4. For the three (3) most recent projects identified in this section, provide the following information:
 - a. The original bid or proposal price and final contract price or the estimated final price, if project is on-going.
 - b. The duration of the project, the original schedule completion date and the actual completion date or the estimated completion date, if project is on-going.
 - c. A narrative may be submitted regarding these projects to the extent needed to explain budget growth and/or schedule growth on the affected projects (e.g., change of scope, unforeseen conditions, etc.).

Section 3: Required Disclosures

The following questions apply to the past five (5) years. If any of these questions is answered in the affirmative, the Contractor shall submit a statement regarding the matter, providing relevant details, including applicable dates, locations, names of projects and project owners and relevant circumstances. Provide this information in a ***separate numbered attachment to this CQS***, labeled "***CQS Disclosure Statement.***"

1. Has the Contractor been debarred, suspended or otherwise prohibited from doing business with any government agency or private enterprise?
Yes ___ No ___

2. Has the Contractor been denied prequalification, declared non-responsible, or otherwise declared ineligible to submit bids or proposals for work by any federal, state or local government agency or private enterprise?
Yes ___ No ___
3. Has the Contractor defaulted, been terminated for cause, or otherwise failed to complete any project that it was awarded?
Yes ___ No ___
4. Has the Contractor been assessed or required to pay liquidated damages in connection with work performed on any project?
Yes ___ No ___
5. Has the Contractor had any business or professional license, registration, certificate or certification suspended or revoked?
Yes ___ No ___
6. Have any liens been filed against the Contractor as a result of its failure to pay subcontractors, suppliers or workers?
Yes ___ No ___
7. Has the Contractor ever been denied insurance coverage or had insurance terminated by an insurance carrier?
Yes ___ No ___
8. Has the Contractor ever been denied bonding or been discontinued by a surety company?
Yes ___ No ___
9. Has the Contractor been found in violation of any laws relating to its contracting business by a final court or government agency decision? Such violations include, but are not limited to, those relating to contracting or antitrust laws, tax or licensing laws, wage or employment laws, environmental, health or safety laws.
Yes ___ No ___

**With respect to workplace safety laws, this statement is limited willful federal or state safety law violations.*
10. Has the Contractor, its owners, officers, directors or managers been the subject of any criminal conviction, indictment or investigation concerning its contracting business?
Yes ___ No ___

11. Has the Contractor been the subject to any bankruptcy proceeding?

Yes ___ No ___

12. Has the Contractor been required to pay any legal claim, judgment, unpaid tax liability or damages for \$50,000 or more by any court or government agency

Yes ___ No ___

The undersigned hereby represents that all statements, representations, information and documents provided in or with this Contractor Qualification Statement and attachments hereto are complete, accurate and truthful.

Signature of Authorized Representative

Date

Print Name

Position/Title

Notary Public

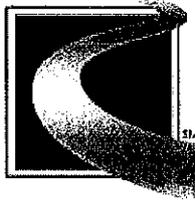
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MARYLAND TRANSPORTATION AUTHORITY
Baltimore, Maryland

Invitation for Bids

**INTERCOUNTY CONNECTOR,
WEST OPERATIONS FACILITY**



Maryland
Transportation
Authority

Contract No. IC 2210-000-006/7R

Montgomery County

March 2009

NOTICE TO BIDDERS

A "Pre-Bid Session" for the purpose of answering or obtaining answers to questions of parties interested in constructing the work relative to Right-of-Way, Utilities, Design, and Construction Details will be conducted at 10:00 a.m. on March 24, 2009, in the Conference Room, at the Maryland Transportation Authority, 300 Authority Drive, 1st Floor, Baltimore, Maryland 21222. While attendance at the Pre-Bid conference is not mandatory, this is the offeror's opportunity to raise questions and/or issues of concern regarding the project.



MBE/DBE COMPLIANCE FIELD MEETING

A MBE/DBE compliance Field Meeting will be conducted to review the responsibilities of the Administration and the Contractor's personnel relative to MBE/DBE Compliance and documentation. The meeting will be held within two weeks after starting work on the project.

The Construction Project Engineer, who will notify the following of the date, time and location, will arrange the meeting. At least one week advanced notice will be required.

(a) Administrative Representatives.

- (1) Director, Office of Equal Opportunity or Designee
- (2) District Equal Opportunity Officer
- (3) Regional Constructional Engineer
- (4) Construction Project Engineer
- (5) Construction Inspection Division Inspector

(b) Contract Representatives.

- (1) Superintendent - Prime Contractor
- (2) Equal Opportunity Officer - Prime Contractor
- (3) Owner/Superintendent/Foreman MBE/ DBE - Subcontractor

The Construction Project Engineer and Equal Opportunity Representative will jointly conduct the meeting. The Contractor shall notify the appropriate subcontractors and ensure their attendance.



CONTRACT PROVISIONS
OCCUPYING WETLANDS

CONTRACT NO. IC 2210-000-006/7R
1 of 1

OCCUPYING WETLANDS

The Contractor is hereby alerted to the importance of preserving wetland areas. The Administration, in conjunction with the various environmental agencies, has developed these Contract Documents so as to minimize or eliminate disturbance and damage to existing wetland areas. In order to accomplish this, the following must be rigidly adhered to:

- (a) Prior to performing any work on the project, the areas of wetland will be identified and marked as directed by the Administration. All personnel of the Contractor or sub-contractors shall be alerted to these designated areas.
- (b) The Contractor or sub-contractors shall not impact any wetland or waterway, whether it be permanently or temporarily unless otherwise stipulated in the permit application and approved as an authorized action by the appropriate regulatory agency. No fill shall be placed in these areas without a permit.
- (c) If a Contractor or sub-contractor has to impact a wetland or waterway that is not covered by an existing wetland permit, they shall immediately notify the Engineer. The Engineer will notify the Environmental Programs Division to determine the extent of any permit modification. At that time the Environmental Programs Division will request a permit modification or submit a permit application.
- (d) If the Contractor impacts any wetland or waterway for which they do not have a wetland permit, they shall be responsible for restoring the wetland areas and possibly mitigating the wetland impacts to the full satisfaction of the environmental agencies, which could include monetary compensation.
- (e) The cost of restoration and mitigation of the impacted areas shall be at no additional cost to the Administration.

The importance of not abusing the wetland areas cannot be overemphasized. Abuse of wetland areas could jeopardize the operation of the total Contract and could be cause for a shut-down. If a shut-down occurs because of the Contractor's failure to secure the required permits (i.e. the Contractor's method of work includes impacts not approved by previously acquired permits), the Contractor's negligence or operations, all costs and damages to the Contractor and to the State will be at no additional cost to the Administration. Noncompliance with these requirements will not be considered for an extension of Contract time.



NOTICE TO ALL HOLDERS OF THIS CONTRACT DOCUMENT

HIGH VISIBILITY SAFETY APPAREL POLICY

BACKGROUND. Research indicates that high visibility garments have a significant impact on the safety of employees who work on highways and rights-of-way. In addition, high visibility garments may help to prevent injuries and accidents and to make highway workers more visible to the motoring public, which ultimately improves traffic safety.

STATEMENT OF POLICY.

- (a) The High Visibility Safety Apparel Policy provides a standardized apparel program.
- (b) The program seeks to improve the visibility of all persons who work on Administration highways and rights-of-way.
- (c) All apparel shall contain the appropriate class identification label.
- (d) Compliance with this policy is retroactive and becomes effective immediately. All affected employees shall receive high visibility apparel awareness training.

APPLICABILITY. This policy applies to all Administration employees and all other persons who work on Administration highways and rights-of-way. All workers shall wear, at a minimum, Class 2 ANSI/ISEA 107/2004 apparel.

- (a) For Administration employees, this apparel shall have a fluorescent yellow-green background material color and be the outermost garment worn.
- (b) Retro-reflective material color for Administration employee apparel shall be silver or white and be visible at a minimum distance of 1,000 feet. The retro-reflective safety apparel shall be designed to clearly recognize and differentiate the wearer from the surrounding work environment. The retro-reflective material may be contrasted by fluorescent orange background material not exceeding one and one half inches on either side of the retro-reflective material.
- (c) For non-Administration employees, this apparel shall be either fluorescent orange-red or fluorescent yellow-green background material color and be the outermost garment worn.
- (d) Retro-reflective material color for non-Administration employee apparel shall either be orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and be visible at a minimum distance of 1,000 feet. The retro-reflective safety apparel shall be designed to clearly recognize and differentiate the wearer from the surrounding work environment.



CONTRACT PROVISIONS
HIGH VISIBILITY SAFETY APPAREL POLICY

REFERENCES.

- (a) ANSI/ISEA 107/2004 standard – American National Safety Institute/International Safety Equipment Association
- (b) MUTCD 2003 – Manual for Uniform Traffic Control Devices - Sections 6D.03B and 6E.02
- (c) Visibility Research – The VCTR 1989 report concludes that fluorescent colors, when compared with non-fluorescent colors, enhance the daytime conspicuity of worker clothing.

DEFINITIONS.

- (a) Apparel – The outermost high-visibility garment worn by employees who work on Administration highways and rights-of-way.
- (b) Highways – All roads owned by the Maryland Department of Transportation and maintained by the Administration.
- (c) High Visibility – The ability for workers to be distinguishable as human forms to be seen, day and night, at distances that allow equipment operators and motorists to see, recognize, and respond.



SP 1-1 PROJECT DESCRIPTION

CONTRACT NO.: **IC 2210-000-006/7R**

TITLE: Installation of a New Single Bay Maintenance Facility

FACILITY: Intercounty Connector, West Operations Facility

LOCATION: Montgomery County

ADVERTISED: March 17, 2009

TYPE OF BID: This is a 2-step Invitation for Bid ("IFB")

PRE-BID MEETING: **10:00 a.m., March 24, 2009** in the Conference Room at the Maryland Transportation Authority, 300 Authority Drive, 1st Floor, Engineering Building, Baltimore, MD 21222

PROJECT CONTACT: Project Manager: Mr. William Kirk (410) 537-7813
Contract Administration: Ms. Maggie Johnson (410) 537-7807

BIDS DUE: **11:00 a.m., April 9, 2009** in the Bid Box on the 1st floor of the Maryland Transportation Authority, Engineering Building, 300 Authority Drive, Baltimore, MD 21222

PUBLIC BID OPENING: **10:00 a.m., April 10, 2009** in the first floor conference room of the Maryland Transportation Authority, Engineering Building, 300 Authority Drive, MD 21222

CLASSIFICATION: Class – E (\$2,500,001 – \$5,000,000)

CONTRACT TIME: Three Hundred (300) Calendar Days

LIQUIDATED DAMAGES: **\$750.00 per Calendar Day**

MINIMUM MBE GOALS: Overall 30%
Women owned businesses 6%
African-American owned businesses 15%

BID DOCUMENTS: **\$50.00** - Bid documents can be purchased between 7:30am and 3:30pm, Mondays, Wednesdays, Thursdays and Fridays and between 10:00am and 4:00pm on Tuesdays at the Ticket Office located at the Francis Scott Key Bridge, Maryland Transportation Authority, Administration Building, 303 Authority Drive, Baltimore, MD 21222.



Location and Scope of Work

The work to be performed under this contract is located on Crabbs Branch Way adjacent to I-370 in Montgomery County.

The scope of work includes the following items:

1. Provide one single bay Maintenance Facility including, but not limited to mechanical, electrical and plumbing systems, new asphalt shingle roof, masonry walls, and concrete slab and footings.
2. Install State-wide Fueling System.
3. Install a salt dome.
4. Install a modular building for the Police Detachment.
5. Install a storm-water management pond.
6. Pave and install driveway, parking lot, and utilities.
7. Incentive Clause for early finish will be included in the adenda.
8. Green Building concepts have been included in the following sections:
 - Section 06 10 00
 - Section 06 16 00
 - Section 06 17 53
 - Section 07 31 13
 - Section 32 21 00

SP 1-2 SPECIFICATIONS

All work on this project shall conform to the Maryland Department of Transportation, State Highway Administration's Specifications entitled, "Standard Specifications for Construction and Materials" dated July 2008, revisions thereof, or additions thereto, and the Special Provisions included in this Invitation for Bids.

SP 1-3 ORIGINAL FACILITY PLANS AND SITE VISITS

Original facility plans are not available for this contract. Parties interested in visiting the site should contact Mr. Bob Michael at (410) 365-3551.



SP 1-4 - PROMPT PAYMENT TO SUBCONTRACTORS

The prime Contractor is responsible for making timely payments to all Subcontractors and Suppliers as required in the 1988 edition of the State Finance and Procurement Article of the Annotated Code of Maryland, Section 17-106.

This contract requires the Contractor to make payment to all Subcontractors within 10 days of receiving payment from the Authority.

Each month, the construction Project Engineer will review the current pay items with the prime Contractor and all involved Subcontractors to ensure that all work satisfactorily completed within specifications is included in the monthly progress payment. For payment purposes, the same quantity totals used to compute the payment to the prime Contractor will be the basis for payment to the Subcontractor.

If the Subcontractor does not receive payment within the required 10 days, the Subcontractor shall notify the Project Engineer in writing of the amount in dispute including the item numbers and payment quantity for each. The Project Engineer will then notify the Chief of Construction of the dispute. The Chief of Construction or his representative will verbally contact the prime Contractor within 48 hours to ascertain whether or not a performance dispute exists which necessitates non-payment to the Subcontractor. If a performance dispute exists, the prime Contractor must demonstrate that there is a valid basis to withhold payment from the Subcontractor. If the prime Contractor withholds payment from a Subcontractor, the prime Contractor shall provide to the Subcontractor written notice of the withholding of payment. The notice shall detail the reasons for withholding payment as well as the amount. A copy of the notice shall be provided to the Surety and the Authority. If no valid dispute exists, the prime Contractor will be directed to make immediate payment to the Subcontractor. The Subcontractor will be responsible for notifying the Chief of Construction if this payment is not made. Upon receipt of notification, the Chief of Construction will schedule a meeting with the Contractor and Subcontractor to verify and discuss the non-payment issue. This meeting will be held at the Authority's offices within 2 working days of the MdTA's contact with the subcontractor. If it is determined that the prime Contractor has withheld payment to the Subcontractor without cause, further progress payments to the prime Contractor will be withheld until the Subcontractor is paid. In addition, the MdTA may order a suspension of work or other administrative actions as it sees fit.

If an action is taken as stated above the Contractor shall notify the MdTA's Project Engineer when payment is made. After the MdTA's Project Engineer verifies that payment has been made to the Subcontractor the MdTA shall release withheld progress payments.

Nothing in this Special Provision shall be construed to prevent the Subcontractor from pursuing a claim with the surety under the prime Contractor's payment bond at any time.



SP 1-5 WORK HOURS

Except as noted in Section 104, Maintenance of Traffic, work hours shall be Monday through Friday, 8:00 a.m. to 4:30 p.m. except State holiday. Work requiring lane closures, shoulder closures or other traffic impacts, may be performed any time except as restricted in Section 104.

SP 1-6 INSURANCE

TC-5.01 INSURANCE

Section TC 5.01 of the Standard Specifications is supplemented as follows:

1. The Contractor shall not commence work under this contract until he has obtained all of the minimum amounts of insurance required by these Special Provisions and the insurance has been approved by the Engineer. The Contractor shall furnish to the Maryland Transportation Authority ("Authority") duly executed certification of all required insurance on forms satisfactory to the Authority. The certificates of insurance shall state that it is in force and cannot be cancelled, release or non-renewed except upon thirty (30) days prior written notice, registered mail to the Authority. All Contractors' insurance policies, with the exception of the Worker's Compensation and Employer's Liability, shall be endorsed to provide as additional insureds the Maryland Transportation Authority and the State of Maryland.
2. The Contractor shall purchase and maintain such insurance as is specified herein which will provide the Authority, its members, employees and agents, as well as the Contractor from claims which may arise out of or as a result of the Contractor's operations under this contract, whether such operations be by the Contractor, by any subcontractor, by anyone directly or indirectly employed by any of them or by anyone whose acts any of them may be liable. This insurance shall be maintained in full force until the Contract has been accepted by the Authority and final payment is made.
3. The Authority requires the following minimum levels of insurance coverage for this contract:

a) Worker's Compensation and Employer's Liability

The Contractor shall, at all times, maintain and keep in force such insurance as will protect him from claims under the Worker's Compensation Act of the State of Maryland and maintain and keep Employer's Liability Insurance at a limit of \$100,000. The Contractor shall also maintain United States Long Shore and Harbors Act coverage, if such exposure exists.

b) Comprehensive General Liability Insurance



The Contractor shall maintain Comprehensive General Liability Insurance in the amount of at least One Million Dollars (\$1,000,000) Combined Single Limit for Bodily Injury Liability and Property Damage Liability Insurance per occurrence and in the aggregate. Such insurance shall specifically include the Comprehensive General

Liability Broad Form Endorsement and indicate explosion, collapse, and underground damage coverage.

c) Comprehensive Automobile Liability Insurance

The Contractor shall maintain Comprehensive Automobile Liability Insurance (including all automotive equipment owned, operated, rented, or leased), in the amount of at least Five Hundred Thousand (\$500,000) Combined Single Limit for bodily injury and property damage.

d) Additional Insurance

The Contractor shall also procure and keep in effect:

Excess liability (umbrella coverage) in excess of and applicable to the coverage in the Comprehensive General Public Liability and Property Damage Insurance, "X, C, U" and Comprehensive Automobile Insurance in the amount of at least Two Million Dollars (\$2,000,000) for each occurrence.

4. Accident Notification - The Contractor shall send a written report to the Engineer and to the Maryland transportation Authority within twenty-four (24) hours of any accident or other event arising in any manner from the performance of the contract which results in or might result in personal injury or property damage.
5. Failure to comply with these Special Provisions may lead to termination from default/convenience.
6. There will be no special payment for the insurance as required by this contract and all costs incidental thereto shall be included in the (Lump Sum for "Mobilization", (refer to Section 108), or if the Contract does not include such an item, the insurance costs are to be included in pay items for the Proposal.

**SP 1-7 MINORITY BUSINESS ENTERPRISE REGULATIONS GOVERNING
CONSTRUCTION CONTRACTS IN EXCESS OF \$50,000
EFFECTIVE JULY 1, 2001**

GP – 7.29 of the General Provisions is supplemented as follows:

MBE participation goal for this contract is as indicated in these Special Provisions.



The Contractor shall:

1. Identify specific work categories appropriate for subcontracting;
2. At least 10 days before bid opening, solicit Minority Business Enterprises, through written notice that:
 - a) Describe the categories of work: and,
 - b) Provide information regarding the type of work being solicited and specific instructions on how to submit a bid.
3. Attempt to make personal contact with Minority Business firms:
4. Assist Minority Business Enterprises to fulfill bonding requirements or to obtain a waiver of these requirements:
5. Upon acceptance of a bid, provide the Maryland Transportation Authority (MdTA) with a list of Minority Businesses with whom the Contractor negotiated, including price quotes from Minority and Non-minority firms.

Third Tier Subcontracting:

Third Tier MBE/DBE Subcontracting will be approved by MdTA only when MdTA is satisfied that there is no way except by Third Tier contracting that an MBE/DBE goal can be achieved. The Contractor's written request must be submitted prior to contract award and contain specifics as to why a Third Tier contracting agreement is being requested.

Waivers:

If for any reason the bidder/offerer is unable to achieve the specified overall contract goal or subgoals for each certified MBE classification, the bidder/offerer must request, in writing, on Attachment A, (Certified MBE Utilization and Fair Solicitation Affidavit), a waiver a time of bid.

Strict adherence regarding documentation of the rationale for the waiver request and documentation of "Good Faith Efforts" of the Contractor are required for consideration of any waiver. For additional information on waivers, please see *COMAR 21.11.03.11*

Criminal Fraud Provisions:

All Contractors are reminded that Criminal Fraud Provision and Administrative Sanctions may be imposed for failure to achieve and maintain established MBE/DBE goals.



SP 1-8 PROGRESS SCHEDULE REQUIREMENTS

Refer to Section 112 of the Standard Specifications.

SP 1-9 CORPORATE REGISTRATION

A foreign corporation is any corporation not incorporated under the Laws of the State of Maryland. All foreign corporations, prior to performing any services for the Authority, must register with the Maryland State Department of Assessment and Taxation in compliance with Article 23, Section 90, Annotated Code of Maryland. Compliance is required of the successful vendor as well as the proposed subcontractors.

To accomplish the required registration, a foreign corporation must request and complete "Qualification Application Forms" which can be obtained from the Department of Assessment and Taxation, State Office Building, Room 803, 301 West Preston Street, Baltimore, Maryland 21201. Forms can be obtained via web site at e-mail address: www.dat.state.md.us.

The Contractor will be responsible for documenting compliance with the aforesaid. This documentation will be required prior to the execution of a contract with the successful bidder.

SP 1-10 CONTRACTOR'S EMPLOYEE IDENTIFICATION

The Contractor shall provide to the Authority, a list containing the following for Contractor and all sub-contractors that would be working at the site. This shall include trucking companies who would come to the site on a repetitive basis for supply or remove materials:

- Name of Company
- Name and title of contact person
- Address of the Company
- Phone Number
- Facsimile number
- E-Mail address of contact person (if any)

All Contractor's employees, including employees of subcontractors, on this project, present at the site, shall be in possession of a valid employee identification card provided by the Employer, which shall contain a photograph and identify the employee by name and job title. The employee must produce the said identification if required by the Engineer or the Authority Police.

When working in or around the Authority's buildings, said employees identification shall be displayed at all times.

While working on the transportation facility projects of the Authority, Contractor's personnel shall have an ID decal displayed on their hardhat. These decals will be provided by the Authority. All Contractor's vehicles shall have a parking decal, attached to the rear view mirror.



Maryland
Transportation
Authority

These parking decals will also be provided by the Authority and a distribution list will be maintained. AT the time of project completion these decals shall be returned to the Authority. Request for hardhat and rearview mirror decals shall be made to the Construction Section before the beginning of construction and should include the number required of each type.

All costs associated with ID's will not be paid for separately and shall be incorporated under other items of payment in the contract.

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**GENERAL PROVISIONS
GP-SECTION 1
DEFINITIONS AND TERMS**

GP 1.03 – ORGANIZATIONAL DEFINITIONS

Revise the definitions of Administration to read as follows:

Administration – The word “Administration” shall mean “Maryland Transportation Authority”.

Except for Office of Materials and Research, all references to the Maryland State Highway Administration’s offices and positions shall mean the Authority’s corresponding offices and positions.



**GENERAL PROVISIONS
GP-SECTION 1
DEFINITIONS AND TERMS**

GP-1.04 ABBREVIATIONS

GP3 **ADD:** The following after SAWP

SSPC Steel Structures Painting Council

GP-1.05 DEFINITIONS

GP7 **ADD:** The following after State.

Subcontract—Any agreement entered into by the Contractor or a subcontractor for a portion of the construction or any other part of the work in connection with, and under the terms of, the Contract.

DELETE: The Subcontractor definition in its entirety.

INSERT: The following.

Subcontractor—Any person undertaking a portion of the construction or any other part of the work under the terms of the Contract, by virtue of an agreement with the Contractor or a subcontractor, who prior to such undertaking has received the approval of the Administration. Subcontractor does not include an employee with an employment contract, or an employee organization with a collective bargaining agreement.

ADD: The following after Surety.

Third Tier Contracting—The process in which the Contractor subcontracts a portion of the Contract to a subcontractor who in turn subcontracts a portion of a subcontract to a third party. This latter action is termed entering into a third tier Contract.



GENERAL PROVISIONS
GP- SECTION 1
DEFINITIONS AND TERMS

GP 1.05 - DEFINITIONS

Add the following definitions:

Highway Standards - The official Book of Standards for Highway and Incidental Structures, edited by the State Highway Administration, with the latest incorporated revisions issued on or before the date of advertisement on the contract.

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**GENERAL PROVISIONS
GP-SECTION 2
BIDDING REQUIREMENTS AND CONDITIONS**

GP 2.04 SITE INVESTIGATION

Revise the paragraph to read as follows:

The Contractor acknowledges that he has investigated and satisfied himself as to the conditions affecting the work, including but not restricted to those bearing upon transportation, disposal, handling, and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, river stages, tides, or similar physical conditions at the site, and confirmation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the work. The Contractor further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as the information is reasonably ascertainable from an inspection of the site, including all exploratory INFORMATION IN POSSESSION OF THE STATE, as well as from information presented by the drawings and Specifications made part of this contract. Any failure by the Contractor to acquaint himself with the available information may not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the work. The State assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the State.



**GENERAL PROVISIONS
GP-SECTION 2
BIDDING REQUIREMENTS AND CONDITIONS**

GP-2.06 PREPARATION OF THE BID

GP9 **ADD:** After paragraph (a), the following.

The Contractor may elect to submit his bid on forms he has generated in the development of his bid. These may be submitted in lieu of the schedule of prices bid forms furnished by the Administration in the Invitation for Bids. These forms shall emulate the forms currently furnished by the Administrations and, as a minimum, contain the following information.

- (1) State Contract No.
- (2) State Item Nos.
- (3) State's Proposed Quantities
- (4) Description of Items
- (5) Unit Price
- (6) Total Cost of Each Item
- (7) Total Bid Amount

The document shall be 8-1/2 x 11 inches, and oriented in a landscape format. The font size shall be no less than 10 points with horizontal lines dividing each item. Any addendum which revised items or quantities shall be noted on all affected schedule of prices sheets. Any special bid requirements that are noted in the schedule of prices shall also be listed on the form.

Should the Contractor elect to submit bids on the Contractor's own forms, the Contractor shall submit a sample of the form to the Administration at least two weeks prior to the scheduled opening of bids. The use of Contractor generated forms shall be approved, in writing, prior to their use. If the Contractor's forms were previously approved in writing on another Administration project and have not changed, they need not be resubmitted for this project.

Sample forms shall be submitted to:

Ms. Linda McGill
Chief Procurement Officer
Maryland Transportation Authority
300 Authority Drive
Baltimore, MD 21222



**GENERAL PROVISIONS
GP-SECTION 2
BIDDING REQUIREMENTS AND CONDITIONS**

GP 2.23 - BID PROTESTS

Section GP 2.23 of the General Provisions is supplemented as follows:

The Board of Public Works does not have the jurisdiction to consider protests relating to this solicitation or an award of this contract under this solicitation.

All protests relating to this solicitation, the selection, and/or award must be filed in writing with the Authority's Procurement Officer, within the time limitations set forth in COMAR 21.10.07 and 21.10.02. Bid protests shall be filed not later than 7 days after the basis for protest is known, or should have been known, whichever is earlier. Oral protests will not be considered.

The specific details of the protest procedures shall be followed by aggrieved actual or prospective bidders or offerors are contained in COMAR 21.10.



**GENERAL PROVISIONS
GP SECTION 4
SCOPE OF WORK**

GP 4.10 - WARRANTY OF CONSTRUCTION

GP 4.10 of the Standard Specifications is revised to read as follows:

Delete: The first paragraph in its entirety.

Insert: The following:

The Warranty as defined under paragraphs A through G in GP 4.10 (Warranty of Construction) shall apply to this Maryland Transportation Authority contract unless specified elsewhere in this Invitation for Bids.



**GENERAL PROVISIONS
GP SECTION 5
CONTROL OF WORK**

GP 5.12 - FAILURE TO MAINTAIN ENTIRE PROJECT

Delete: Section GP 5.12 in its entirety

Insert: Revise the paragraph to read as follows:

Failure on the part of the Contractor, at any time, to RESPOND TO the provisions of GP 5.11 above, will result in the procurement officer's immediately notifying the Contractor to comply with the required maintenance provisions. In the event that the Contractor fails to PROCEED WITH CORRECTIONS TO UNSATISFACTORY MAINTENANCE SO AS TO CONFORM TO THE PROVISIONS OF GP 5.11 within 4 hours of receipt of such notice, the procurement officer MAY NOTIFY THE CONTRACTOR TO SUSPEND ALL OTHER WORK ON THE CONTRACT UNTIL SUCH TIME AS THE UNSATISFACTORY MAINTENANCE IS CORRECTED. In the event that the Contractor fails to RESPOND TO unsatisfactory maintenance within 4 hours after receipt of such notice, the procurement officer will immediately proceed with adequate forces and equipment to maintain the project, and the entire cost of this maintenance will be deducted from monies due the Contractor ON THE NEXT MONTHLY ESTIMATE.

**GENERAL PROVISIONS
GP SECTION 8
PROSECUTION AND PROGRESS**

GP 8.09 - LIQUIDATED DAMAGES

Delete: Section GP 8.09 in its entirety

Insert: Time is an essential element of the Contract and it is important that the work be vigorously prosecuted until completion.

For every calendar day that the contract remains uncompleted after the expiration of the contract time specified herein, or amended by extra work authorization, change orders or supplemental agreements, the Contractor will be liable for Liquidated Damages. The amount of Liquidated Damages shall be as specified in Contract Time and Bonding. This amount shall be deducted from any money due the Contractor, not as a penalty, but as Liquidated Damages. Damages in excess of any retained percentage shall be paid to the Authority by the Contractor.

Refer to Contract time and Bonding sheet contained elsewhere herein. See Table of Contents.

**GENERAL PROVISIONS
GP-SECTION 9
PAYMENT**

GP70 **DELETE:** GP-9.01 SCOPE OF PAYMENT in its entirety.

INSERT: The following.

GP-9.01 SCOPE OF PAYMENT

Payment to the Contractor will be made for the actual quantities of Contract items performed in accordance with the Plans and Specifications and if, upon completion of the construction, these actual quantities show either an increase or decrease from the quantities given in the bid schedule, the Contract unit prices will still prevail, except as provided in GP-4.04 Variations in Estimated Quantities.

The payment of any partial estimate or of any retained percentage except by and under the approved final estimate and voucher, in no way shall affect the obligation of the Contractor to repair or renew any defective parts of the construction or to be responsible for all damages due to such defects.

When requested in writing by the Contractor and approved by the procurement officer, payment allowance will be made for nonperishable material to be incorporated in the work delivered and stockpiled at the work site or other approved site. Material for which payment has been made, wholly or partially, shall not be removed from the worksite or other approved site.

Payment to the Contractor under this section for materials on hand in no way will be construed as acceptance by the Administration of title to the material. Title shall remain with the Contractor until the project has been completed and accepted in accordance with GP-5.13.

The Contractor shall indicate its Federal Tax Identification or Social Security Number on the face of each invoice billed to the State.

On Contracts in excess of \$25,000, the Contractor and any subcontractor with a lower tier subcontract, prior to receiving a progress or final payment under this Contract, shall first certify in writing that it has made payment from proceeds of prior payments, and that it will make timely payments, from the proceeds of the progress or final payment then due to it, to its subcontractors and suppliers in accordance with its contractual arrangements with them.

The Contractor shall also obtain from each subcontractor a certification that it has made payment from proceeds of prior payments to any of its lower tier subcontractors, and will make timely payments to its lower tier subcontractors and suppliers in accordance with its contractual arrangements with them. This certification is not required from subcontractors who have no lower tier subcontracts. These certifications may be required by the procurement officer for contracts of \$25,000 or less.



In addition to any other remedies provided by law or this Contract, any Contractor or subcontractor of any tier who fails to make payments as required by the certifications set forth in the above paragraphs within thirty (30) days from the date such payment is due shall be obligated to include with such payment interest at the rate of 10 percent per annum from the date the payment was due to the date the payment was actually made to the subcontractor or lower tier subcontractor.



**GENERAL PROVISIONS
GP SECTION 9
PAYMENT**

GP 9.05 LATE PAYMENTS

ADD the following:

- (e) Payments will be made within thirty (30) days of the date when the contract amount becomes due and payable or the date of receipt of a proper invoice, whichever is later. The State's failure to remit payment within forty-five (45) days from that date may entitle the Contractor to interest at the rate of 10% per annum beginning on the 31st day.

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**TERMS AND CONDITIONS
TC SECTION 4
CONTROL OF WORK**

TC 4.01 - SHOP PLANS AND WORKING DRAWINGS

Section TC 4.01 of the Specifications is amended to add:

All shop plans and working drawings for this project shall be submitted to:

Maryland Transportation Authority
WMF – Project Field Office

ATTN: Resident Engineer

The Contractor shall allow a minimum of four (4) weeks turn around time on all drawings from the date they are received by the Authority. All shop plans and working drawings shall be reviewed and approved by the Contractor prior to submitting for approval to the Maryland Transportation Authority and shall be submitted by the general Contractor only. No drawings sent to the Authority directly by subcontractors, fabricators, etc. will be accepted. Ten (10) sets of drawings shall be submitted for approval.

Acceptance of a material source by the Engineer does not constitute approval of the material as a substitute as an "equal". Submission of a material as an "or equal" must be done in accordance with the following paragraphs:

All shop drawings, regardless if "Submitted as Specified" or "Submitted as Equal to Specified", shall be furnished with complete, specific, detailed information from the manufacturer or supplier or the material or equipment the Contractor proposes to furnish, in which the requirements of the Specifications are clearly shown to be met. This shall include a point by point comparison with the detail requirements of the Specifications.

When any article is specified by trade name of manufacturer with or without the clause "or equal", it is intended to establish the quality of the article. If the Contractor proposes to use material or equipment of another manufacturer as an "or equal" to material or equipment specified, all shop drawings shall conform to the following requirements, conditions, and procedure:

1. Substitution of equipment or materials other than those specified will be considered, providing, in the opinion of the Engineer, such equipment or material

is equal to, or better than specified. The decision of the Engineer with respect to approval or disapproval of any material or equipment proposed to be substituted as an "or equal" is final. The Contractor shall have no claim of any sort by reason of such decision.

2. If the Contractor proposes to substitute materials or equipment as "or equal" to those specified, it shall be his responsibility to furnish, in addition to the information discussed above, a point by point comparison of the material or equipment specified under the Contract and that proposed to be substituted. The burden of responsibility in furnishing this information is with the Contractor.

If incomplete or irrelevant data is submitted as evidence of compliance with this section of the Specifications, the data will be returned and the request for approval will be denied.

**TERMS AND CONDITIONS
TC SECTION 4
CONTROL OF WORK**

TC-4.02 FAILURE TO ADEQUATELY MAINTAIN PROJECT.

16 **ADD:** To the existing paragraph.

Additionally, an appropriate deduction will be made from the Contractor's next progress estimate for each day or portion thereof that Maintenance of Traffic deficiencies exist, and will continue until the deficiencies are satisfactorily corrected and accepted by the Engineer. Any portion of a day will be assessed a full day deduction. The deduction will be equal to a prorata share of the lump sum price bid for Maintenance of Traffic or an amount prorated from the Engineer's estimate, whichever is more. The amount prorated will be the per diem amount established by using the working days (based upon calendar dates when required) divided into the total value of the bid item or the Engineer's estimate of that item, whichever is more.

The above noted deduction will be assessed on the next progress estimate if:

The Contractor does not take action to correct the deficiencies and properly assume the responsibilities of maintaining the project (as determined by the Engineer) within four hours of receiving a notice to comply with the required maintenance provisions.

The deduction will be equal to the daily prorated share of the lump sum price bid for Maintenance of Traffic or \$ 75.00 per day, whichever is more for each day or portion thereof that the deficiencies exist, and will continue until the deficiencies and proper assumption of the required maintenance provisions are satisfactorily corrected and accepted by the Engineer. The amount of monies deducted will be a permanent deduction and are not recoverable. Upon satisfactory correction of the deficiencies, payment of the Maintenance of Traffic lump sum item will resume.



**TERMS AND CONDITIONS
TC SECTION 5
LEGAL RELATIONS AND PROGRESS**

TC-5.01 INSURANCE.

17 **DELETE:** The first three paragraphs under TC-5.01 in their entireties.

INSERT: The following.

The requirement of GP-7.14 (Liability Insurance) to submit Certificate of Insurance prior to starting work is modified for Administration Contracts to require the certificate of insurance to be submitted prior to the execution of the Contract.

The Contractor shall maintain in full force and effect third party legal liability insurance necessary to cover claims arising from the Contractor's operations under this agreement which cause damage to the person or property of third parties. The insurance shall be under a standard commercial general liability (CGL) form endorsed as necessary to comply with the above requirements; or other liability insurance form deemed acceptable by the State. The State of Maryland shall be listed as an additional named insured on the policy. The limit of liability shall be no less than \$1,000,000 per occurrence/\$2,000,000 general aggregate. The insurance shall be kept in full force and effect until all work has been satisfactorily completed and accepted. The policies shall be endorsed to provide 30 days notice of cancellation or non-renewal to:

Director of Construction
Maryland Transportation Authority
304 Authority Drive
Baltimore, Maryland 21222



**TERMS AND CONDITIONS
TC SECTION 6
RESTRICTIONS AND PERMITS**

TC-6.03 COMPLIANCE WITH MARYLAND VEHICLE LAWS.

The Maryland Vehicle Law requires each motor vehicle, trailer, semitrailer and pole trailer driven on a highway to be registered.

There are some exceptions to this general requirement concerning nonresidents. If a nonresident is operating a vehicle(s) in Maryland as described below, the nonresident exemption is not applicable and the vehicle(s) being operated shall be titled and registered in conformance with the applicable Motor Vehicle Laws.

The vehicle is:

- (a) Used for transporting persons for hire, compensation, or profit;
- (b) Regularly operated in carrying on business in this State;
- (c) Designed, used, or maintained primarily for the transportation of property; or
- (d) In the custody of any resident for more than 30 days during any registration year.

In addition to the titling and registration requirements for vehicles being operated in Maryland, all equipment being used shall be properly identified. Maryland classifies this equipment as "Special Mobile Equipment" which is defined as a vehicle that:

- (a) Is not used primarily for highway transportation or property; and
- (b) Is operated or moved on highway only as an incident to its nonhighway use.

Special mobile equipment includes a road construction or maintenance machine, mobile crane, ditch digger, well driller, concrete mixer, jobsite office vehicle or portable power generator.

An interchangeable license plate is issued to special mobile equipment. However, titling is not required.

For additional information concerning the requirements for titling and registering your vehicles in Maryland, please contact the Motor Vehicle Administration, Chief, Division of Vehicle Registration.

The Contractor shall adhere to all State Motor Vehicle laws and safety regulations.



**TERMS AND CONDITIONS
TC SECTION 6
RESTRICTIONS AND PERMITS**

25 **DELETE:** TC-6.09 HAZARDOUS MATERIAL in its entirety.

INSERT: The following.

TC-6.09 HAZARDOUS MATERIAL.

- (a) If the Contractor encounters or exposes during construction any abnormal conditions, which indicate the presence of a hazardous material or toxic waste, work in the area shall immediately be suspended and the Engineer notified. The Contractor's operations in this area shall not resume until permitted by the Engineer; however, the Contractor may continue working in other areas of the project, unless directed otherwise.

Abnormal conditions shall include, but not be limited to the presence of barrels, obnoxious or unusual odors, excessively hot earth, smoke, or any other condition which could be a possible indicator of hazardous material or toxic waste.

Where the Contractor performs necessary work required to dispose of these materials and no items have been identified in the Contract Documents, the work shall be performed under an extra work order.

- (b) For any material furnished on the project by the Contractor suspected to be hazardous or toxic the Engineer may require the Contractor to have it tested and certified to be in conformance with all applicable requirements and regulations. Material found to be hazardous or toxic shall not be incorporated into the work. The required testing will be determined by the Engineer and may include, but not be limited to, the EPA Toxicity Characteristic Leaching Procedure (TCLP) or its successor. The evaluation and interpretation of the test data will be made by the Engineer. Testing and certification shall be at no additional cost to the Administration.
- (c) Disposition of the hazardous material or toxic waste shall be made in conformance with all applicable requirements and regulations.

**TERMS AND CONDITIONS
TC SECTION 6
RESTRICTIONS AND PERMITS**

26 **DELETE:** TC-6.10 RECYCLED OR REHANDLED MATERIALS in its entirety.

INSERT: The following.

TC-6.10 RECYCLED OR REHANDLED MATERIALS.

The Contractor shall submit to the Engineer, using MD SHA Form TC-6.09, the specific type and quantity of recycled materials (a) through (h) anticipated for use on the project prior to receipt of the Notice to Proceed. This submission does not preclude the normal materials process. Recycled materials shall conform to all applicable Specifications.

Typical recycled materials are:

- (a) **Crumb Rubber.** Any rubber derived from processing whole scrap tires or shredded tire materials from automobiles, vehicles or other equipment owned and operated in the United States, provided the processing does not produce waste casings or other round tire material that can hold water when stored or disposed above ground. Rubber tire buffings produced by the retreading process qualify as a source of crumb rubber.
- (b) **Recycled Asphalt Pavement.** Existing asphalt pavement milled or otherwise removed. Recycled in-place material is excluded.
- (c) **Glass.** Waste glass crushed to be used as aggregate.
- (d) **Blast Furnace Slag.** The nonmetallic by-product of iron production.
- (e) **Recycled Concrete Pavement.** Existing concrete pavement crushed to be used as aggregate.
- (f) **Mining Waste Rock.** The coarse material removed during the ore mining process.
- (g) **Coal Fly Ash.** Fine material collected from the stack gases after coal combustion.
- (h) **Other.** Any materials not listed above which are recycled as the original product or incorporated into other products.

For recycled or rehandled material furnished on the project by the Contractor for use in embankment, base, subbase or drainage media, the Engineer may require the Contractor to have the material tested and certified to be in conformance with all applicable environmental requirements. The required testing will be determined by the Engineer and may include, but not be limited to, the EPA Toxicity Characteristic Leaching Procedure (TCLP) or its successor. The evaluation and interpretation of the test data will be made by the Engineer and be based on the project environment. Testing and certification shall be at the Contractor's expense.

TC-6.11 CONSTRUCTION AND WASTE MATERIAL.

All wood, trash debris and other foreign matter shall be removed from the right-of-way and disposed of by the Contractor. The Contractor shall make all necessary arrangements to obtain suitable disposal locations and shall furnish the Engineer with a copy of resulting agreements. Disposal shall be in conformance with all Federal, State and local ordinances.

TC-6.12 STRUCTURE UNDERCLEARANCES AND OVERHEAD CLEARANCES

General. The requirements for underclearances at structures shall apply to the entire usable roadway areas including shoulders. Unless otherwise specified in the Contract Documents or directed by the Engineer, the Contractor shall ensure that the following underclearances are maintained.

- (a) All bridges (except pedestrian bridges) over Interstate, United States, or State highways shall have a 16.0 ft minimum vertical underclearance.
- (b) All bridges (except pedestrian bridges) over secondary/ county roads, and local roads and streets shall have a 14.5 ft minimum vertical underclearance.
- (c) Pedestrian bridges shall have a minimum vertical underclearance 1 ft higher than those specified above. However, if there are bridges in the general vicinity of the proposed pedestrian bridge that have an underclearance greater than the minimum required underclearance of the pedestrian bridge, then the pedestrian bridge will have its underclearance increased to equal the highest overpass bridge.
- (d) Removal of existing pavement under an existing pedestrian bridge to conform to the 1 ft higher requirement will not be required unless specified in the Contract Documents.
- (e) All bridges with overhead structural elements (e.g. through truss bridges, movable bridges with overhead bracing for counterweights, etc.) shall have a 17.5 ft minimum overhead vertical clearance.

When the above requirements are not met, the Contractor shall take remedial actions as directed by the Engineer. When remedial actions are required, and there are no pay items for the work in the Contract Documents, the provisions of GP-4.06 (Changes) and GP-4.07 (Negotiated Payment Provisions) shall apply. The cost of measurements to determine clearance heights will be incidental to other pertinent items in the Contract Documents.

A minimum of 14.5 ft underclearance shall be maintained at all bridges throughout construction over each lane or shoulder open to traffic. No portion of formwork, temporary protective shields, etc. including connection devices shall encroach on this underclearance. If less than 16.0 ft vertical underclearance is provided on bridges specified in (a) or (d) above, the Engineer will notify the Director of Construction of the exact reduced minimum clearance and the effective dates of the reduction. The Contractor shall furnish and erect signs indicating the exact minimum underclearance. The signs and their locations shall be approved by the Engineer. Signs shall be removed and become the property of the Contractor when the intended underclearance is restored.

Resurfacing. These minimum underclearances shall be maintained whenever resurfacing a roadway. This may require grinding the existing pavement prior to placing the resurfacing material. Whenever highway overpass bridges are in the general vicinity of a pedestrian and grinding is not required to maintain the specified clearances, the roadway under the pedestrian bridge shall be ground to provide a higher underclearance than the adjacent bridges. This requirement will be waived whenever the Engineer contacts the Director of Construction and determines that the grinding would have an adverse effect on drainage, utilities, etc.

TERMS AND CONDITIONS
TC SECTION 7
PAYMENT

29 **DELETE:** TC-7.02 PAYMENT ALLOWANCES FOR STORED MATERIALS in its entirety.

INSERT: The following.

TC-7.02 PAYMENT ALLOWANCES FOR STORED MATERIALS.

When the Contractor requests payment allowance for materials, the following terms and conditions shall apply:

- (a) For superstructure members delivered on the project site, an allowance of 100 percent of the material cost plus freight charges as invoiced may be made provided the cost does not exceed 90 percent of the Contract price of the applicable Contract item. The allowance will be based upon validated invoices or bills for material including freight charges, and a copy thereof shall be made a part of the documented records for the project.
- (b) For reinforcement steel, piling, pipe, traffic barrier, signs and sign assemblies, and other nonperishable material in storage on the project, but excluding aggregates, cement, seed, plants, fertilizer or other perishable items, an allowance of 100 percent of the invoiced cost of the material plus freight charges to the Contractor may be made provided the cost does not exceed 90 percent of the Contract price of the applicable Contract item. Such material shall be delivered and stock-piled at the project site, and have been tested by the Administration and found to have conformed to the Specifications or have been accepted under an approved certification program prior to the allowance.
- (c) No allowance will be made for fuels, form lumber, falsework, temporary structures or other materials of any kind which will not become an integral part of the finished construction.

No payment for stored material will be made if it is anticipated that the material will be incorporated into the work within 30 days of the written request.

Only end product manufactured material or fully fabricated products that are awaiting installation or incorporation into the finished work are eligible for prepayment. Components, elements, or ingredients of a finished product are not eligible for prepayment.

- (d) Material for which an allowance is requested shall be stored in an approved manner in areas within the State of Maryland where damage is not likely to occur. If any of the stored materials are lost or become damaged in any manner, the Contractor shall be responsible for repairing or replacing the damaged materials. The value of the

lost or damaged material will be deducted from the Contractor's subsequent estimates until replacement has been accomplished. The request for allowances for any materials stored on private property within the State of Maryland shall be accompanied by a release from the owner and/or tenant of such property agreeing to permit the removal of the materials from the property without cost to the State of Maryland.

The material shall be clearly marked with the Administration's Contract number on individual units. If the material is normally shipped to the project in bundles or other forms of packaging, the Administration's Contract number shall be clearly marked or affixed to the package. When the material is not stored at the actual project site, the material shall be physically separated by fencing or equivalent barrier from other materials stored at the same site. The material shall be accessible to the Administration at all times.

When it is considered impractical to store materials on the actual project, the Engineer may approve storage areas in the vicinity of the actual project which will be considered at the project site.

When storage of the materials within the State of Maryland is not practical, approval shall be obtained from the District Engineer for storage elsewhere. Storage of materials outside the State of Maryland will be subject to the conditions set forth in this provision and limited to materials exceeding twenty-five thousand dollars (\$25 000), which are designed and fabricated exclusively for use on a specific project.

- (e) Material for which payment has been made, either wholly or partially, shall not be removed from the approved location until such time that it is to be incorporated into the work unless authorized by the Engineer.
- (f) The Contractor shall submit a written request for payment to the District Engineer at least two weeks prior to the estimate cutoff date established by the District Engineer. The following items shall accompany the written request for payment:
 - (1) Consent of surety specifying the material type and the item(s) in which the material is to be used.
 - (2) Validated invoices with the signature of an officer of the company supplying the material showing actual cost.
 - (3) A notarized statement from the Contractor attesting that the invoices as submitted do not include charges or fees for placing, handling, erecting or any other charges or markups other than the actual material cost, sales tax(es), if applicable, and freight charges.
 - (4) Bills of lading showing delivery of the material. The request for allowances for any materials stored on property outside the State of Maryland shall be accompanied by a release from the owner or tenant of such property agreeing to

permit verification by the Inspector that the material is stored at the approved location, and to permit the removal of the materials from the property without cost to the State of Maryland.

- (5) Inspection test reports, certifications and/or a written statement from the Inspector attesting to the inspection and approval of the material.

Upon receipt of the above by the District Engineer and verification by the Inspector that the material is stored at the approved location, the District Engineer will authorize payment.

- (6) A statement explaining why the material can not be stored on the project, if the Contractor is requesting to store material at a location other than the project site. The statement shall include the methods of storage, separation, and identification to be used by the Contractor. The Contractor shall provide a method of inventory control and withdrawal satisfactory to the Administration which shall be used by the Contractor to monitor materials not stored on the project.

- (7) A breakdown of the Contract line item bid unit price showing the relationship of the cost of the stored material to the costs of all other materials, labor, and components of the work included in the Contract line item unit price bid by the Contractor.

Upon receipt of the above by the District Engineer and verification by the Inspector that the material is stored at the approved location, the District Engineer will authorize payment.

The Contractor shall pay the material provider the amount shown on the invoice within 10 calendar days of receipt of payment from the Administration. Evidence of payment shall be provided to the Administration. Failure to make invoice payments as specified will be cause to deduct the monies from future estimates and/or deny future stored materials payment requests.

Copies of all pertinent data shall be made by the Contractor and distributed to the Inspector for retention as part of the documented records for the project.

TC-7.03 FORCE ACCOUNT WORK.

(e) Subcontracting.

35 **ADD:** The following to the end of the paragraph.

"or five hundred dollars (\$500) which ever sum is greater."

DELETE: TC-7.05 PROGRESS PAYMENTS Subsection (a) (3) Variable Retainage

INSERT: The following.

- (3) **VARIABLE RETAINAGE.** The Contract will be subject to a variable retainage based upon the Authority's performance evaluations of the Contractor.

Those qualifying may have retainage reduced upon request of the Contractor with consent of surety. This request must be processed through the Construction Manager. If at any time during the performance of the project, the evaluation of the Contractor changes, retainage reduction may be reconsidered.

Contractors with "A" evaluations for the last two years may be reduced from 5 percent to 2.0 percent upon request after 15 percent project completion. Project completion percentage will be based upon actual work completed (excluding monies paid for stored materials). An interim evaluation of the current project must be completed and must be an "A". Contractors with "A" evaluations for the last two years may petition to have all retainage at that point released upon completion of a significant milestone. Retainage will continue at 2.0 percent until the next milestone of completion of the contract.

Contractors with "B" evaluations or any combination of "A" and "B" evaluations for the last two years may be reduced from 5 percent to 2.5 percent at 50 percent project completion and remain at that level until released upon final payment. Project completion percentage will be based upon actual work completed (excluding monies paid for stored materials). An interim evaluation of the current project shall be completed and shall be an "A" or "B".

Contractors with "C" evaluations or any combination of "C" and "D" evaluations for the last two years will begin and remain at 5 percent for the life of the project. An interim evaluation of the current project shall be completed and shall be a "C" or better rating.

Contractors with a "D" evaluation for the last two years will begin at 5 percent. Project performance will be evaluated monthly. Should the contractor performance remain at the "D" level, to protect the State's interest 10% of the progress payment will be withheld until performance improves to a "C".

New Bidders. Contractors who have not been previously rated by the Authority may be eligible for a reduction in retainage. To be eligible, their past performance on highway and bridge work shall be documented by the government agency with whom they had a contract and their performance shall be documented on Authority forms.

All other Contractors who do not fit into the above criteria would require a 5 percent retainage throughout the life of the Contract.

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**CATEGORY 100
PRELIMINARY**

SECTION 103 — ENGINEERS OFFICE

103.03 CONSTRUCTION.

144 **DELETE:** 103.03.06 Microcomputer System for all Offices in its entirety.

INSERT: The following.

103.03.06 Microcomputer System for all Offices.

(a) Desktop Unit.

- (1) IBM compatible with an Intel or AMD processor.
- (2) Minimum microprocessor speed of 3.0 GHz.
- (3) Minimum hard drive storage of 80 GB (gigabyte).
- (4) Minimum of 2 GB RAM (Random Access Memory).
- (5) Enhanced 101 key keyboard with wrist rest.
- (6) Super Video Graphics Accelerator (SVGA).
- (7) Modem 56K BPS, ITU V.92 compliant – required for remote dial-in to the computer to provide MCMS system administration.
- (8) Mouse with mouse pad.
- (9) One CD-RW drive [re-writable CD-ROM].

(b) Operating System. Minimum Microsoft® Windows XP – all Microsoft Windows Critical Updates shall be installed prior to computer set up in the field office.

(c) Video Monitor. Flat-Panel LCD Monitor conforming to Energy Star requirements with a minimum screen size of 17 in.

(d) Printer. B&W Laser Jet Printer with a minimum resolution of 1200 DPI (dots per in.) and a minimum of 8 MB of RAM. Inkjets will not be accepted. Printer shall have a minimum print speed of 15 PPM (pages per minute).

(e) Software.

- (1) Microsoft® Office 2007 Professional for Windows™ or later.
- (2) Symantec® pcAnywhere32 for Windows™ version 12.0 or later.



- (3) Antivirus software shall be installed and configured to perform an automatic update when the microcomputer system connects to the internet. Antivirus software approved for SHA web email: *Norton, McAfee, Sophos, or ETrust.

(*Norton Internet Security includes both Antivirus and a Personal Firewall).

- (f) **Internet Access.** The microcomputer system shall be provided with unlimited Internet service approved by the Engineer. Where available internet high-speed service [DSL or cable] must be provided. With DSL or cable internet service an external Router device and firewall software are required to protect the computer from security intrusions. With DSL a Dual Outlet Modular Adapter [single-line RJ11] will be required to connect the DSL modem and the 56k dial-up modem to the same line.

(g) **Accessories.**

- (1) Uninterruptible power supply (UPS).
- (2) Standard computer workstation with minimum desk space of 60 X 30 in. and a swivel type office chair, padded with arm rests.
- (3) 8-1/2 X 11 in. xerographic paper to be supplied as needed.
- (4) Toner or ink as needed for printer.
- (5) Maintenance agreement to provide for possible down time.
- (6) Physical security system to deter theft of computer components.
- (7) Three 1GB USB Flash Drive storage devices.
- (8) Blank recordable CD-R media for re-writable CD-ROM drive to be supplied as needed.

(h) **Notes.**

- (1) The microcomputer system shall be completely set up ready for use on or before the day the Engineers office is to be occupied.
- (2) All software stated above shall be supplied on original disks with manuals and be retained in the construction field office for the duration of the Contract.
- (3) If for any reason the system fails to operate, the system shall be replaced or repaired within 48 hours.

When the microcomputer system is no longer required, the Construction Management software system including original user/operator guide manuals, program disks, and all data files (including those stored on external media: USB flash drives, CD-R's, ZIP disks, etc.) will be removed by the Engineer and delivered to the District Engineer and become the property of the



Administration. The remaining microcomputer system shall remain the property of the Contractor.

148 **ADD:** The following after 103.03.08 Office Requirements.

103.03.09 Recyclable Materials (Paper, Bottles, Cans, Etc.). The Administration's Environmental Stewardship Plan includes recycling initiatives at the Administration's construction sites and encourages recycling of all suitable material at all Engineers Offices and Contractor's site facilities.

While recycling is encouraged at all sites, the Administration is requiring recycling at the Type D Engineers Office as well as the Contractors facilities at the location of the Type D Engineers Office. The Contractor shall provide the containers as well as arrange for the removal of the recycled material from the site. Recycling will not be measured but the cost will be incidental to the Type D Engineers Office.



**CATEGORY 100
PRELIMINARY**

SECTION 104 — MAINTENANCE OF TRAFFIC

104.00 General.

148 **ADD:** After the first paragraph, "This work shall...pedestrians, and workers."

Access to homes and businesses shall not be blocked without prior coordination with the property owner. The access shall be maintained as close as possible in width to the existing.



**CATEGORY 100
PRELIMINARY**

SECTION 107 — CONSTRUCTION STAKEOUT

107.03 CONSTRUCTION.

107.03.04 Control Stakes.

186 **ADD:** The following as the second paragraph.

The Engineer as specified in 107.03.01 will provide control stakes and preserve those stakes for the correct layout and inspection activities. When the Contractor utilizes construction equipment guided by Global Positioning System (GPS) and Robotic Total Station (RTS), the Contractor shall set additional stakes directed by the Engineer for horizontal and vertical controls as necessary for the correct layout and inspection of the work.

107.03.08 Subgrade, Subbase and Base Controls.

187 **ADD:** The following after the second paragraph.

(a) Automated Machine Control. The Contractor may elect to use construction equipment guided by a Global Positioning System (GPS) or Robotic Total Station (RTS) equipment in the placement of subgrade, subbase, base courses, and other roadway materials.

(1) The Contractor utilizing this approach shall develop and submit a Digital Terrain Model (DTM) to the Engineer for review. The Contractor using the Contract Documents and any Administration furnished DTM data, if available, shall independently develop the DTM. To use any Administration furnished DTM data, the Contractor shall release the Administration and its designers from all liability for the accuracy of the data and its conformance to the Contract Documents furnished by the Administration.

(2) The Contractor shall establish primary control points at appropriate intervals and at locations along the length of the project and outside the project limits and where project work is performed by the Contractor beyond the project limits as required at intervals not to exceed 1000 ft. The horizontal position of these points shall be determined by static GPS sessions or by traverse connection from the original base line control points. The elevation of these control points shall be established using differential leveling from the project benchmarks, forming closed loops where practical. A copy of all new control point information shall be provided to the Engineer prior to construction activities. The Contractor shall be responsible for all errors resulting from their efforts and shall correct the deficiencies to the satisfaction of the Engineer and at no additional cost to the Administration.



- (3) The Contractor shall provide control points and conventional grade stakes at critical points such as, but not limited to, all PC's, PT's and super elevation points begin full super, half-level plane inclined, etc., along with other critical points required for the construction of structures and utility relocation or coordination. The Engineer will determine whether additional control points and stakeout are necessary.
- (4) The Contractor shall provide adequate control points, stationing and stakes for coordination activities involving environmental agencies, utility companies and Contractors on adjacent projects at no additional cost to the Administration.
- (b) Real-Time Kinematic (RTK) GPS.** RTK GPS may be utilized to control equipment and shall be within tolerances of ± 0.1 ft.
- (c) RTS Positioning.** RTS positioning shall be utilized where grade tolerances are less than ± 0.1 ft. The index error of the vertical circle of the RTS shall be checked and adjusted as necessary prior to each day's operations. Each work session shall begin and end by checking between adjacent control points.
- (d) Grade Busts.** Grade busts and all associated quantity adjustments or errors resulting from the Contractor's activities shall be corrected by the Contractor to the satisfaction of the Engineer at no additional cost to the Administration.
- (e) Utilizing Automated Controlled Equipment.** When the Contractor chooses to utilize automated controlled equipment, the Contractor shall furnish a GPS Rover instrument for Administration use during the project, along with 8 hours of formal training on GPS/RTS and the Contractor's systems. The Contractor shall provide a surveyor to perform verification when discrepancies arise.
- (f) Test Sections.** The Contractor shall perform test sections with both GPS and RTS systems to demonstrate they have the capability, knowledge, equipment, and experience to properly operate the systems and achieve acceptable tolerances. If the Contractor fails to demonstrate this ability, the Contractor shall conform to the requirements for the conventional stakeout.



Maryland
Transportation
Authority

SPECIAL PROVISIONS INSERT

CONTRACT NO. IC 2210-000-006/7R

111 — SAMPLING DEVICES AND TESTING EQUIPMENT

1 of 5

**CATEGORY 100
PRELIMINARY**

198 **DELETE: SECTION 111 THRU 119 — RESERVED**

INSERT: SECTION 111 AND 112 — RESERVED

199 **ADD:** The following.

**SECTION 111 — SAMPLING DEVICES
AND TESTING EQUIPMENT**

111.01 DESCRIPTION. This work shall consist of furnishing and maintaining Sampling Devices and Testing Equipment with accessories that are required to sample and test all materials used on the project. The Sampling Devices and Testing Equipment shall be of the quality, quantity and type required to perform the sampling and testing requirements of the Administration's Materials Manual, including all inserts, Sample Frequency Guide and Special Provisions, including policies, directives and all other revisions made unless otherwise directed by the Engineer. The sampling and testing equipment will be used by Administration employees as directed by the Engineer. The Contractor shall be responsible for maintaining the testing equipment in good working condition and all equipment will be approved by the Administrations' Office of Materials and Technology (OMT). The sampling devices and testing equipment shall be furnished to the Engineer a minimum of five days prior to commencement of work on the project and shall remain in the Engineers' possession until all sampling and testing on the project is completed. At the completion of the project all sampling devices and testing equipment shall be returned to the contractor. For questions concerning this equipment contact OMT Materials Management Division at 410-321-4100.

111.02 MATERIALS. Sampling devices and containers required by the Administrations' Materials Manual, including all inserts, Sample Testing and Frequency Guide and this Specification. The quantity will be designated by the Engineer at the preconstruction meeting.

111.03 CONSTRUCTION.

Testing Equipment Requirements. The Contractor shall furnish and maintain equipment and accessories required to perform the tests required for the items of work in the Contract Documents as specified in the most recently published cited standards. The Contractor shall maintain the equipment in good working condition and a written certification shall be submitted to SHA stating when the testing equipment was last calibrated and/or inspected by an Administration approved testing agency. Equipment shall then be calibrated at the frequency required for that type of equipment as specified in the test method and AASHTO R18.

Unless otherwise specified, all testing equipment and accessories furnished by the Contractor shall remain the property of the Contractor at the completion of the project.

If any testing equipment or accessories become defective, are stolen, or for any other reason do not function as intended, it shall be replaced with an equal or better unit at no additional cost to the Administration within eight hours after the Contractor is notified by the Engineer.



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111 — SAMPLING DEVICES AND TESTING EQUIPMENT

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111.03.01 Sampling Devices and Testing Equipment with Accessories. The following is a general list for sampling devices and testing equipment to be furnished by the Contractor for the specified testing. The Contractor may contact OMT Materials Management Division at 410-321-4100 for any questions concerning the requirements for Sampling Devices, Testing Equipment and Accessories. The devices, testing equipment and accessories will be randomly inspected during Independent Assurance Audits.

(a) Sampling Devices from the Administration's Materials Manual.

- (1) Soil bags (ability to hold min. of 35 lb).
- (2) Screw top cans - 1 qt.
- (3) Friction top cans - 1 qt and 1 gal.
- (4) Plastic jar - 1 gal.
- (5) Flow panels for joint sealer.

(b) Testing Equipment and Accessories from the Administration's Materials Manual - Determination of Moisture Content of Aggregates (MSMT 251).

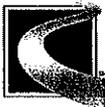
- (1) Electric hot plate or a gas burner.
- (2) Scale or balance conforming to M 231, Class G2.
- (3) Metal container, such as large frying pan or equivalent.
- (4) Pointing trowel or large spoon.

(c) Field Determination of the Amount of Stabilization Agent in Bases and Subbases (MSMT 254).

- (1) Scale or balancing conforming to M 231, Class G 100 having a minimum capacity of 100 lb/sample containers.
- (2) Bench brush.
- (3) Large spoon or scoop.
- (4) Sampling mat consisting of a sheet of plywood or canvas with a minimum surface of 1 yd².
- (5) Tape measure.

(d) Field Determination of Moisture Density Relations of Soils (MSMT 351). Refer to MSMT 350

(e) Hot Applied Joint Materials Sealer and Crack Filler (MSMT 404). Flow panels (brass panel may be used in lieu of a tin panel).



(f) In-Place Density of Embankment, Subbase, Base, Surface and Shoulder Material (T 99, T 180, T 191, and MSMT 350).

- (1) Cylindrical compaction molds, 1/30 and 1/13.33 ft³.
- (2) Compaction rammers, 5.5 and 10 lb.
- (3) 12 in. straightedge.
- (4) Scale or balance conforming to M 231, Class G 100, having 100 lb minimum capacity.
- (5) Two 10 in. pie pans.
- (6) 12 in. frying pan.
- (7) 12 in. rocker set complete with pan.
- (8) One each of the following sieves conforming to M 92:

SIZE (in.)	SHAPE	SIZE OPENINGS
12	Square	2 in.
12	Square	3/4 in.
12	Square	No. 4
12	Square	No. 10
*8	Round	No. 10

* For density sand.

- (9) Field density plate with recess to accommodate sand cone apparatus.
- (10) Steel pan, 12 x 30 in.
- (11) Electric plate or gas burner.
- (12) Soil density pick.
- (13) Precalibrated sand cone density apparatus.
- (14) Spatula, 3 in.
- (15) Two water pails.
- (16) Bag of density sand.
- (17) Stencil brush, bench brush, sprinkling can, large spoon, and sample shovel.



(g) Sampling Hot Mix Asphalt prior to Compaction (MSMT 457) - Performed by the paving contractor).

- (1) Measuring tape, 25 ft minimum.
- (2) Random selection cards numbered from 0 to width of the paving lane in 1 ft increments.
- (3) Sample boxes.
- (4) Spatula.
- (5) Spray paint or other suitable marking material.
- (6) GPS equipment.
- (7) Masonry nails or equivalent.
- (8) Thermometers (50 to 550°F).
- (9) Square end shovel or fire shovel or grain shovel.
- (10) Scoop.
- (11) 24 ft of 18 gauge mechanical wire or equivalent to tie through each hole of the plate template.

(h) Concrete Tests.

TEST	METHOD
Slump	T 119
Air Content - Pressure Method	T 152,
Air Content - Volumetric Method	T 196
Sampling	T 141
Temperature	T 309

- (1) Air meter, pressure type for conventional concrete and Roll-a-Meter for lightweight Concrete.
- (2) Air Bulb.
- (3) Air pump.
- (4) Rubber mallet.
- (5) Slump cone with rod.
- (6) Steel straight edge.



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- (7) Large scoop.
- (8) Trowel.
- (9) 3/8 in. rod for latex cylinder.
- (10) Unit weight bucket for light weight concrete.
- (11) Sprinkle can or bucket for water.
- (12) Postal scale (only for lightweight concrete).
- (13) Thermometer (0 to 220° F).
- (14) 6 x 12 in. cylinder molds.
- (15) 3 x 6 in. cylinder molds for latex concrete.

111.04 MEASUREMENT AND PAYMENT. Sampling devices and testing equipment will not be measured but the cost will be incidental to items of work for which they are required.



CATEGORY 100
PRELIMINARY

SECTION 112 — CRITICAL PATH METHOD PROJECT SCHEDULE
DETAIL BUILD

112.01 DESCRIPTION. This work shall consist of the Detail Build Firm planning, scheduling, and constructing the project by using a Critical Path Method Project Schedule (CPM). The CPM shall be used for coordinating and monitoring all the work specified in the Contract Documents including all activities of subcontractors, vendors, suppliers, utilities, railroads, the Administration, and all other parties associated with the construction of the Contract. All work including but not limited to submittals, major procurement, delivery, and construction activities shall be included. The CPM schedule shall be used for coordinating activities for both design and construction tasks by incorporating all activities into one CPM schedule. All work including but not limited to activities associated with design elements, milestones, permits, utility relocations, and submittals shall be represented by schedule activities. All appropriate schedule logic relationships between the design element activities and the corresponding construction activities shall be shown. The CPM shall be based upon the entirety of the Contract Documents. The software utilized for the CPM shall generate files that are compatible with Primavera Project Planner.

Float. The CPM utilizes float. Float is defined as the amount of time between when an activity “can start or finish” and when an activity “must start or finish”. Float is a shared commodity for the use of the Administration and the Detail Build Firm and is not for the exclusive use or benefit of either party. The parties have the full use of the float until it is depleted.

Scheduling Representative. The Detail Build Firm shall designate a scheduling representative, prior to submission of the Initial Critical Path Method Project Schedule (ICPM). The scheduling representative is the person primarily responsible for development and maintenance of the Detail Build Firm’s CPM schedule. The scheduling representative shall represent the Detail Build Firm in all matters regarding the schedule and shall attend all schedule related meetings. Replacement of the scheduling representative by the Detail Build Firm will require written approval from the Administration.

The Detail Build Firm shall submit the qualifications of the designated scheduling representative to the Administration for approval. This approval is required before the ICPM will be accepted. The designated scheduling representative shall have at least three years of verifiable experience for preparing and maintaining CPM project schedules on Contracts of the same or similar size and complexity.

Initial Critical Path Method Project Schedule (ICPM). The ICPM shall consist of:

- (a) A time scaled diagram. The ICPM time scaled diagram shall have a scale and format that is acceptable to the Engineer. The activities shall be labeled with the activity identification clearly shown for each activity. All relationships between activities shall be shown.



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(b) Tabular reports with activities sorted as follows:

- (1) Activity ID. This report shall include predecessors and successors for each activity with leads and lags shown.
- (2) Activity ID. This report shall include resources. This report shall clearly define the resources assigned to each activity.
- (3) Early Start, Total Float.
- (4) Total Float, Early Start.
- (5) Project Area (if applicable).
- (6) Project Phase (if applicable).
- (7) Responsibility, e.g., Detail Build Firm, Designer, specific subcontractor, specific supplier, the Administration, etc.
- (8) Other activity codes as required by the Engineer.

The header of each tabular report shall include the project name, Contract number, data date, run date and number, and report type.

The body of each report shall include the activity identification, activity description, original and remaining duration, early/late start and finish dates, percent complete, actual start/finish dates, total float, and calendar designation for every activity.

- (c) Written Narrative (WN). The WN shall comply with the requirements described hereinafter.
- (d) Printed Calendars. The printed calendars shall include a listing, description, and calendar form tabulation of all calendars used in the ICPM. The calendars shall contain the total number of anticipated work days required to complete all the work required in the Contract. The calendars shall delineate the holidays and anticipated nonwork days or periods. An explanation of the Detail Build Firm's basis for determining each nonwork day or period shall be included in the WN.
- (e) Data disc containing all of the information contained in the CPM. The format shall be compatible with Primavera Project Planner software.

All construction activities shall have durations not exceeding 10 working days, unless otherwise approved by the Engineer. Activities representing review and approval of construction submittals by the Administration shall be given a duration of not less than 30 calendar days. Activities representing review and approval of design submittals by the Administration shall be



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given a duration of not less than 45 calendar days. The Detail Build Firm may submit a short list of highly critical approval activities to the Engineer. The Engineer will make every effort to expedite the approval of these submittals, however, this will not alter the requirements to include 30 calendar days for approval of construction activities and 45 calendar days for approval of design activities in the ICPM. Activities for curing, pre-load, etc. shall be scheduled in calendar days. Durations for procurement activities will be evaluated on a case by case basis.

The latest calculated early finish date in the ICPM shall equal the Contract calendar date for completion specified in the Contract Documents. If the Detail Build Firm submits an earlier completion date than specified in the Contract Documents, the Administration, upon acceptance of the ICPM, will issue a change order to adjust the Contract time to the completion date shown on the ICPM.

The Detail Build Firm shall resource load all construction activities in its schedule with the material, equipment, and manpower planned to be utilized by the Detail Build Firm and its subcontractors in accomplishing each activity. Resource loading of the CPM shall be fully explained in the WN.

The Engineer reserves the right to specify the number of activities and to require at any time additional breakdown of the activities.

The Detail Build Firm shall utilize activity codes to categorize activities by at least the following: project area; construction phase; design phase, and responsibility, e.g. Detail Build Firm or specific subcontractor.

The Detail Build Firm shall provide a WN as part of the ICPM. This WN shall explain the sequence of work, the critical path, interim completion dates, project phasing, nonwork days or periods, maintenance of traffic, and labor and equipment resources. In addition, the Detail Build Firm shall explain how it has provided for permit requirements, environmental requirements, coordination with other public contractors, milestone dates (for the Contract or other related contracts), coordination with other entities, coordination with all utility companies, special nonwork days or periods, and weather in its ICPM. The WN shall be used to explain the specific scope of each activity and the basis used to determine the original duration of each activity, i.e., production rates and anticipated quantities. All activities quantified in the Contract Documents shall be addressed in the WN. The Detail Build Firm shall utilize the WN to explain the following:

- (a) Relationships between activities not obviously identified.
- (b) Equipment usage and limitations.
- (c) Manpower usage and limitations.
- (d) Use of additional shifts and overtime.



- (e) Activity codes, abbreviations, and activity identification system.
- (f) All calendars utilized in the CPM.
- (g) Date or time constraints.
- (h) All abbreviations in the ICPM.
- (i) Use of calendars.
- (j) Scheduling of weather and temperature sensitive activities.
- (k) Design phases/milestone dates.

The Detail Build Firm shall complete and submit the proposed ICPM within 30 calendar days after receiving the Notice of Award and submit five sets of all information required to the Engineer for review and acceptance. No work shall begin until the Engineer has accepted the ICPM. Upon issuance of the Notice to Proceed, the start date utilized in the ICPM shall be adjusted to comply with the Notice to Proceed.

The Engineer will complete the review of the Detail Build Firm's ICPM schedule within 30 calendar days after the submittal. If required, the Engineer will convene a Joint Review Conference at which time the Engineer and Detail Build Firm may make corrections and adjustments to the proposed ICPM. If a revision is necessary due to the Engineer's review or the Joint Review Conference, the proposed revision shall be submitted by the Detail Build Firm within seven calendar days after the Detail Build Firm receives the Engineer's review comments or within seven calendar days after the date of the Joint Review Conference whichever is the latest. Revisions shall conform to the requirements for the ICPM. The Engineer will respond to the revised ICPM within seven calendar days after the revised ICPM is received.

Any delay in starting work caused by the acceptance of the ICPM by the Engineer will not be considered as a basis for any adjustment in the Contract amount or time.

When the Engineer notifies the Detail Build Firm that the ICPM has been accepted, that document will become the CPM of record. The Detail Build Firm shall be responsible for implementing and executing the work specified in the Contract in strict conformance with the CPM of record. The CPM of record shall be the Detail Build Firm's work plan for completing the entire Contract as specified in the Contract Documents.

Failure of the Detail Build Firm to adhere to the CPM of record will be cause for the Administration to deny any and all requests for additional compensation or extensions of the Contract duration and may result in the Engineer withholding pay estimates.

CPM Updates. Monthly updates of the CPM of record are required. CPM update submissions shall contain the activity data as specified in (a) through (e) of the ICPM. The update shall be



used to describe the progress of the project to date. The WN shall include a description of the work performed during the update periods, current critical path, the amount of float on the critical path, any delays or disruptions experienced by the Detail Build Firm during the period of the update, any change in manpower or equipment, and any potential delays or disruptions.

The Detail Build Firm's scheduling representative and the Engineer shall meet to review, mutually agree to, and sign-off on the information required to update (actual start and finish dates, remaining durations, and percentages complete) the schedule. The Detail Build Firm shall use an update form acceptable to the Engineer. The data date for each update shall be seven days prior to the cut-off date of the pay estimate for that month. The update shall be submitted by the Detail Build Firm within seven calendar days from the data date. Failure to timely submit the update, may result in the Engineer withholding pay estimates. Upon acceptance by the Engineer, the update shall become the CPM of record for the period between its data date and the data date of the next approved update or revision.

Updates shall not include any revision to the CPM, unless prior approval by the Engineer is received for the insertion of minor revisions.

Revisions to the Schedule of Record. Revisions are defined as one or more of the following:

- (a) A change in the original duration of an activity.
- (b) A change in the logic of the schedule.
- (c) A change in the calendars or to the calendar to which an activity is assigned.
- (d) A change to resources.
- (e) A change to any actual date, previously established.
- (f) The deletion or addition of an activity.
- (g) A change to, addition of, or deletion of a date or time constraint.
- (h) A change to, addition of, or deletion of an activity code.
- (i) A change to an activity description.
- (j) Any change other than updating an activity.

When the Detail Build Firm proposes to make a revision to the CPM, the Detail Build Firm shall verbally discuss the proposed revision with the Engineer. If the revision is minor in nature, the Engineer may allow the Detail Build Firm to include the revision on the next Update of the CPM. If the Engineer determines that the revision is not minor in nature, the Detail Build Firm



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shall submit the proposed revision to the Engineer for review and approval prior to deviating from the approved CPM.

When the Detail Build Firm is required to make a revision to the CPM due to changes in the Contract initiated by the Engineer, the Detail Build Firm shall immediately contact the Engineer to discuss the changes. If the revision is minor in nature, the Engineer may allow the Detail Build Firm to include the revision on the next Update of the CPM. If the Engineer determines that the revision is not minor in nature, the Detail Build Firm shall submit the proposed revision to the Engineer for review and approval prior to deviating from the approved CPM.

The Engineer may allow the Detail Build Firm to deviate from the approved CPM for specific mitigating activities.

The proposed revision shall be submitted to the Engineer in the same format and with the same requirements used for the ICPM. The proposed revision shall be made to the CPM of record at the time the revision is made, i.e. the revision shall include all update information and revisions previously approved and the additional progress to the date of the revision. The WN accompanying the proposed revision shall describe the reason for the revision, the resulting critical path, and all particulars of the revision. These shall include, but not be limited to, changes in the method or manner of the work, changes in design phases, changes in specifications, changes in resources, addition or deletion of work, increased or decreased quantities, defective work, and acceleration of the work.

The Engineer will review and respond to the Detail Build Firm's proposed revision within 14 calendar days after its receipt. Resubmittal by the Detail Build Firm, if required, shall be made within seven calendar days after receipt of the Engineer's review comments. The Administration reserves the right to reject any proposed revision, which adversely impacts the Administration, utilities, or other concerned parties.

Extensions of Contract Time or Incentive/Disincentive Date. All requests for an extension of Contract time shall be made in writing and are subject to the notice and timeliness of submission provisions as provided for elsewhere in the Contract. Any written request for an extension of Contract time or change in an incentive/disincentive date will be evaluated by the Engineer's analysis of the CPM of record and a proposed revision submitted by the Detail Build Firm. The request shall include a WN of the events, which would require an extension of the Contract time or incentive/disincentive date.

Only delays to activities which affect the Contract completion date or incentive/disincentive date will be considered for an extension of Contract time. The extension of the specified Contract completion date or incentive/disincentive date will be based upon the number of calendar days the Contract completion date or incentive/disincentive date is impacted as determined by the Engineer's analysis.



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When the Detail Build Firm fails to submit an acceptable Update or Revision within the time limits prescribed above, the Engineer may withhold pay estimates until an acceptable Update or Revision is submitted.

112.02 MATERIALS. Not Applicable.

112.03 CONSTRUCTION. Not Applicable.

112.04 MEASUREMENT AND PAYMENT. Payment for the accepted Initial Critical Path Method Project Schedule, Critical Path Method Project Schedule Revisions, and all accepted Critical Path Method Project Schedule Updates will be included in the Contract Lump Sum Price for the Detail Build item.



CATEGORY 100
PRELIMINARY

SECTION 113 — DIGITAL CAMERA

113.01 DESCRIPTION. Furnish a new or like new digital camera with a Color Inkjet Printer for use by Administration personnel. The digital camera and printer shall be delivered to the Engineer at the time of the Notice to Proceed. They shall remain operational and not be returned to the Contractor until final acceptance of the entire project, in conformance with GP-5.13.

113.02 MATERIALS.

(a) **Digital Camera.** The digital camera shall meet the following requirements and be furnished with the specified accessories.

- (1) Windows 2000, ME, XP compatible operating system
- (2) Photo Suite, Photo Deluxe, Picture Works, Photo Shop, or similar Photo Managing Software
- (3) 4.0 megapixel image resolution (minimum)
- (4) 3X optical zoom (minimum)
- (5) Two (2) sets of rechargeable batteries
- (6) SmartMedia Card or memory stick (512 MB minimum)
- (7) Pop-up or built-in flash modes
- (8) All items required for quick downloading
- (9) Auto-quick focus
- (10) Lens Cover, Shoulder Strap, and Carrying Case
- (11) AC adapter and Battery Charger

(b) **Color Inkjet Printer.** The printer shall conform to the following minimum requirements;

- (1) Resolution of 2400 x 1200 DPI (dots per inch).
- (2) Print speed of 17 PPM (pages per minute) for black and white and 13 PPM for color.
- (3) Memory 8 MB.
- (4) Duty cycle of 5,000 pages/month.

Office-jets and Bubble-jets will not be accepted.

113.03 CONSTRUCTION. Not applicable.



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113.04 MEASUREMENT AND PAYMENT. The digital camera will not be measured but the cost will be incidental to the Contract price for Maintenance of Traffic unless otherwise specified in the Contract Documents. If the digital camera or printer becomes defective, is stolen, or for any other reason does not function as intended, it shall be replaced with an approved camera or printer at no additional cost to the Administration. A nonfunctioning or stolen camera or printer shall be replaced within eight hours after the Engineer notifies the Contractor.

Ownership of the camera and printer will remain with the Contractor. The Administration assumes neither responsibility nor liability for the condition of the camera when returned.



CATEGORY 200
GRADING

SECTION 203 — BORROW EXCAVATION

203.01.02 Notice to Contractor —Borrow Pits.

225 **ADD:** After the first paragraph.

This project is located in Montgomery County. The following conditions applicable to the county or city shall be complied with and documented.

Anne Arundel (AA) County

- Site Plan approved by Soil Conservation District.
- Planning and zoning approval - special exception required.
- Grading plan issued by the County Department of Inspections and Permits.
- Critical Areas approval (if applicable).
- Inspection by County and SHA.

Baltimore (BA) County

- Site Plan approved by the Department of Environmental Protection and the Soil Conservation District.
- County Grading Permit.
- Critical Areas approval by the Department of Environmental Protection and Resource Management (if applicable).
- Inspection by County.

Caroline (CO), Cecil (CE), Queen Anne's (QA) and Talbot (TA) Counties

- Site plan approved by Soil Conservation District.
- Planning and Zoning approval.
- Critical Areas approval (if applicable).
- Inspection by SHA.

Charles (CH) County

- Site Plan approved by Soil Conservation District.
- Special exception granted by the County.
- Critical Areas approval (if applicable).
- Inspection by SHA.

Harford (HA) County

- Site Plan approved by Soil Conservation District.
- County Grading Permit.
- Critical Areas approval (if applicable).
- Inspection by County.



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Howard (HO) County

Site Plan approved by Soil Conservation District.
County Grading Permit.
Inspection by County.

Montgomery (MO) County

Sediment control permit and plan approval by County
Department of Environmental Protection, Division of
Water Resources Management, Storm Water Management Section/Sediment
Control.
Approval by Maryland National Capital Park and Planning Commission (if
applicable).
Inspection by County.

Prince Georges (PG) County

Site Plan approved by Soil Conservation District.
County Grading Permit.
Tree conservation plan approval by Maryland National Capital Park and
Planning Commission (if applicable).
Critical Areas approval (if applicable).
Payment of all pertinent county fees and/or securing of county required bonding.
Inspection by SHA with oversight by County.

BALTIMORE CITY (BC)

Site plan approved Baltimore City Department of Public Works (BCDPW).
Inspection by BCDPW.

STATE AND FEDERAL PROPERTY

Borrow pits located on state and federal property are subject to Maryland
Department of the Environment approval.
Inspection by SHA.



CATEGORY 300
DRAINAGE

SECTION 308 — EROSION AND SEDIMENT
CONTROL

308.01 DESCRIPTION.

253 **ADD:** The following after the third paragraph.

General Notes.

(a) **MDE Notification.** If an Erosion and Sediment Control Permit is issued for this project, notify the Administration and MDE in writing or by telephone (410) 537-3510 at the following points:

- (1) Pre-construction meeting.
- (2) Erosion and sediment control meeting (minimum 7 working days prior to commencing earth disturbing activities).
- (3) Following installation of initial sediment control measures.
- (4) During installation of major sediment control basins/traps.
- (5) Prior to removal or modification of any sediment control structures.
- (6) Prior to removal of all sediment control devices.
- (7) Prior to final acceptance by the Administration.

(b) **Ingress/Egress Controls.** Protect all points of construction ingress and egress to prevent the deposition of materials on public roads. Immediately remove all materials deposited on public roads. The flushing of road surfaces is prohibited.

Control all ingress and egress points through the use of a stabilized construction entrance conforming to 308.03.30.

(c) **Inspection.** Inspect all erosion and sediment control measures daily and maintain continuously in an effective operating condition.

(d) **Shutdowns and/or Penalties.** Total compliance with the approved erosion and sediment control plan is expected at all times. In cases where the Contractor is found to be in non-compliance, the Director of Construction may take steps to impose selected or total shutdowns and impose per day penalties for non-compliance.

The Director of Construction may impose a total or partial shutdown if the project may adversely impact the waters of the State.



SPECIAL PROVISIONS

308 — EROSION AND SEDIMENT CONTROL

- (e) **Record Keeping.** Make the project's approval letter, approved erosion and sediment control plans, approved change requests, daily log books and test reports available on-site for inspection by duly authorized officials of MDE.
- (f) **Erosion and Sediment Control Excavation.** Place silt removed from control devices in an approved waste site either on or off the project. Material stored on-site may be reused once it is dried and if it conforms to the Administration's requirements for embankment or any unspecified need.
- (g) **Off-Site Utility Work.** Follow these additional best management practices for sediment control for utility construction in areas outside of designed controls:
 - (1) Call "Miss Utility" at 1-800-257-7777 forty-eight (48) hours prior to the start of work.
 - (2) Place excavated material on the high side of the trench.
 - (3) Backfill, compact and stabilize trenches for utility installations at the end of each working day. When this is not possible, follow (4).
 - (4) Place temporary silt fences immediately downstream of any disturbed area intended to remain disturbed for more than one day.
- (h) **Sensitive Areas.** No construction activities are allowed within specified sensitive areas of the project without prior notification of the Engineer. Designate a responsible party to monitor all work in these areas to assure that reasonable care is taken in or adjacent to these areas. Areas considered sensitive are defined as: floodplains, wetlands (tidal, nontidal and associated buffers) critical areas, forested areas, archeological sites, historic sites, parkland, and open water.
- (i) **Standard Stabilization Note.** Following initial soil disturbance or redisturbance, complete permanent or temporary stabilization within seven (7) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1); and fourteen days (14) as to all other disturbed or graded areas on the project site.
- (j) **Site Information (Not for Bidding Purposes).**

(1) Total area of site	5.29 acres
(2) Area disturbed	4.25 acres
(3) Area to be roofed or paved	2.0 acres
(4) Total cut	11,000 cubic yards
(5) Total fill	2,000 cubic yards
(6) Off-site waste/borrow area location (if known)	N/A



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- (k) **Incremental Stabilization.** Refer to the current Maryland Standards and Specifications for Soil Erosion and Sediment Control for the incremental stabilization of cuts and fills.
- (l) **Disturbed Areas.** Place excavated trench material for any storm drain pipe and underdrain pipe installation on the high side of the trench. Backfill, compact, and stabilize trenches for any storm drain pipe and underdrain pipe installations at the end of each working day.
Stabilize all other disturbed areas at the end of the working day. Place silt fence downgrade of any areas that cannot be stabilized at the end of the work day such that all runoff from the disturbed area will be filtered.
- (m) **Removal of Controls.** Establish permanent stabilization for all contributory disturbed areas and obtain permission from MDE and the Director of Construction prior to the removal of sediment control measures.

Immediately stabilize any areas disturbed by the removal of sediment control measures.
- (n) **Notice of Enforcement.** Sediment and erosion control regulations will be strictly enforced.

308.05 DESIGN CERTIFICATION

Insert: The following:

ENVIRONMENTAL INFORMATION

MDE # _____

DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I & II, AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT EROSION AND SEDIMENT AND STORMWATER MANAGEMENT REGULATIONS."

NAME

SIGNATURE

MARYLAND REGISTRATION NUMBER
P.E., R.L.S. OR R.L.A. (circle)

DATE



Maryland
Transportation
Authority

SPECIAL PROVISIONS
308 — EROSION AND SEDIMENT CONTROL

CONTRACT NO. IC 2210-000-006/7R
4 of 4

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. _____, EXPIRATION DATE: _____."

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SECTION 003132 - SUBSURFACE DRILLING AND SAMPLING INFORMATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract Specification Sections, apply to this Section.
- B. The information contained by inclusion or by reference is for the bidder/contractors information only and is not to be considered as part of the contract documents.

1.2 GEOTECHNICAL REPORT

- A. A Geotechnical Report was prepared by URS Corporation, dated December 2007, is included as reference material for the convenience of the Contractor and is not to be considered as part of the contract documents. Data indicating conditions is not intended as representations or warranties of accuracy or continuity between test locations. It is expressly understood that the Maryland Transportation Authority and the Architect/Engineer will not be responsible for interpretations or conclusions drawn therefrom.
- B. Geotechnical Report Issued with 100% submission (December 2007) is unchanged from Geotechnical Report original Issuance with 65% Submission (August 2007).

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION 003132

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MARYLAND TRANSPORTATION AUTHORITY

GEOTECHNICAL REPORT
(Original Issuance with 65% Submission)
100% Submission – No Revisions

WESTERN MAINTENANCE FACILITY (CASEY 6)
MONTGOMERY COUNTY, MARYLAND

Prepared By

URS CORPORATION
Hunt Valley, Maryland 21030

(August 2007)
December 2007

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Introduction.....	1
Geologic Setting.....	1
Proposed Structures	2
Subsurface Investigation.....	3
Subsurface Conditions	4
Analyses.....	4
Recommendations and Construction Considerations	5

Appendices:

- Appendix A – Boring Location Plan & Logs
- Appendix B – Laboratory Test Results

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GEOTECHNICAL REPORT
WESTERN MAINTENANCE FACILITY (CASEY 6)
MONTGOMERY COUNTY, MARYLAND
MARYLAND TRANSPORTATION AUTHORITY
(65% Submission)

INTRODUCTION

This report presents the results of a subsurface investigation for the Maryland Transportation Authority's proposed Western Maintenance Facility located approximately 500 feet east of the Muscatello Court and Oakmont Avenue intersection. The report includes data and geotechnical recommendations for the design of foundations, pavements, earthwork, and storm water management facilities.

GEOLOGIC SETTING

The eastern portion of Maryland is separated from the central and western portions of the state by the "Fall Line" between the Piedmont Plateau to the west and the Atlantic Coastal Plain to the east. The Piedmont Plateau is generally underlain by crystalline rocks, chiefly schist and gneiss with a mantle of decomposed and/or weathered rock occurring between the surficial soil and sound bedrock.

Published geologic literature indicates that the site is specifically underlain by the Upper Pelitic Schist facies of the Wissahickon Formation. The formation consists of micaceous schist with sporadic thin beds of quartzite.

Natural soil profiles in the Wissahickon are residual, having been formed by in-place weathering of the parent rock. Profiles typically include sandy silts and clays near the ground surface, transitioning to silty sands to sands with fewer fines at greater depth. Typical consistencies range from medium stiff or medium dense near the surface, increasing to dense and very dense as the degree of weathering decreases. Residual profiles eventually transition to intact bedrock, although the depth to fresh rock is erratic.

At distances approximating 400 to 500 feet north of the project site, outcrops of ultramafic rocks are indicated by the geologic mapping. These rocks generally consist of serpentinite, with chlorite-actinolite-talc schist near contacts, and minor amounts of gabbro and diorite. They generally weather to thin to moderately thick saprolite, providing a gradual to somewhat more abrupt transition into sound bedrock than the schist.

PROPOSED STRUCTURES

Maintenance Building. The proposed maintenance building will be a single story 40-foot x 70-foot Concrete Masonry Unit (CMU) structure, with a 24-foot wide bay for tool and equipment storage. The proposed building location is near the center of the site and is delimited on the boring location plan, see *Appendix A*, by boring targets G-BG-01 through G-BG-04. Structural loads on the order of 6 klf will be transferred to the underlying subgrade by continuous exterior bearing walls and partition walls within the building. Plan finish floor will be at about elevation 501, thereby requiring less than about 2 feet of cut and fill.

Temporary Police Station. The temporary police station will be a steel frame, flexible metal siding structure, and approximating 36-feet x 60-feet in plan dimensions. The proposed structure is located immediately east of the maintenance building and indicated by boring targets G-BG-05 and G-BG-06 on the boring location plan. The structural support requirements will be dictated by the building supplier, but will most likely consist of exterior shallow continuous footings, with bearing pressures less than 2 klf. Plan finish floor will be at about elevation 501, thereby requiring less than about 5 feet of cut and fill.

Salt Dome. The proposed salt dome will be a pre-engineered wood structure, with a nominal 90-foot diameter and an 8-foot high concrete perimeter wall. The proposed dome is located on the far northwest corner of the site and is delimited on the boring location plan by boring targets G-SD-01 through G-SD-03. Per the manufacturer, the domed structure will be founded directly on the bituminous concrete pavement. The maximum wall load is expected to be significantly less than the load of the salt stored within the dome. The finish floor will be at about elevation 502.5, thereby requiring no fill and less than about 4.5 feet of cut.

Storage Shed. The proposed storage shed will be a single story 40-foot x 20-foot CMU structure. The proposed shed is located on the far southwest corner of the site and is indicated by boring target G-SS-01 on the boring location plan. The structural loads will be transferred to the underlying subgrade by continuous bearing walls within the building and around the perimeter. The finish floor will be at about elevation 502, thereby requiring no fill and less than about 7.0 feet of cut.

SUBSURFACE INVESTIGATION

The subsurface investigation consisted of 23 borings drilled to depths ranging from 10 feet to 52 feet. The borings were drilled by Connelly and Associates, Inc. as a subcontractor to ECS Mid-Atlantic, LLC.

Boring logs were prepared by ECS Mid-Atlantic, LLC. The logs include the Standard Penetration Test (SPT) values, sample recovery lengths, visual soil classifications, groundwater and boring cave-in depths, and an interpretation of the probable subsurface conditions between sampling intervals. At the completion of drilling operations, selected samples were returned to the laboratory for determination of moisture content, grain-size distribution and the Atterberg Limits. In addition, bulk samples of potential subgrade soil were retrieved from the auger cuttings to determine moisture-density relationships (Modified Proctor) and the California Bearing Ratio (CBR).

The boring location plan and final boring logs are included in *Appendix A*. The laboratory test results are included in *Appendix B*.

SUBSURFACE CONDITIONS

The site is generally overlain by 1 to 8.5 feet of soft to medium stiff sandy silt and loose silty sand, containing varying proportions of mica, and exhibiting SPT resistance values typically ranging from about 4 to 9 blows per foot. The underlying residuum generally consists of medium stiff to stiff sandy silt and loose to very dense silty sand, containing varying fractions of mica. SPT resistance values in the residuum range from about 6 to 50 blows per foot, generally increasing with depth. The residuum is underlain by decomposed/weathered rock at depths that range between 14.5 to 34.0 feet. The decomposed/weathered rock exhibits SPT resistance values consistently greater than 100 blows per foot. Bedrock was encountered in all six of the building borings (GBG-01 through GBG-06) at depths ranging from 40.0 to 43.7. Rock coring was completed in 2 of the borings, revealing schist bedrock possessing rock quality designations (RQD) ranging from 0% to 61%, indicative of very poor to fair rock quality.

Ground water level observations were made during drilling and immediately after completion of each boring (prior to casing removal and after casing removal). These readings indicate ground water levels 7.0 and 24.0 feet below the ground surface, which are not expected to affect site development.

ANALYSES

Shallow Strip Footings for Buildings. Soil strength and unit weight were estimated from the laboratory and SPT test results. Based upon an internal angle of friction (Φ) of 28 degrees and a unit weight (γ) of 110 pcf, the allowable bearing capacity and estimated settlement were calculated using the procedures outlined by Meyerhoff and Schmertmann, respectively. Allowable bearing was based upon a minimum 3.0 factor of safety against general shear failure.

RECOMMENDATIONS AND CONSTRUCTION CONSIDERATIONS

Earthwork and Subgrade Preparation. The site should be stripped of vegetation, topsoil and any other organic or deleterious materials. Topsoil thicknesses range from 4 to 11 inches, averaging 8 inches. Site soils are generally suitable for use as common borrow, as per Section 916, per Maryland “*State Highway Administration Standard Specifications for Construction and Materials*” (SHA). Prior to placement of any fill, exposed surfaces should be proofrolled to detect any soft, yielding or unstable areas, as per Maryland SHA Section 208. Areas of visible weakness should be undercut and replaced with engineered fill, under moisture-density control, per Section 208 of that same specification. Thereafter, fill placement to establish finish grades should follow similar procedures, with compaction to at least 97% of modified Proctor, as per Section 208. Final prepared subgrades should be similarly proofrolled and repaired. Undercut is expected to be of minor extent and volume, however, as evidenced by the relatively low SPT resistances in combination with the typical soil gradations from the upper 10 feet of the site, the natural soils are judged to be highly susceptible to deterioration with exposure to construction traffic and/or wet weather conditions, which can be worsened by the presence of mica. As such, it is essential to maintain positive drainage during construction. Construction traffic should be minimized on prepared surfaces and foundations and pavements should be constructed as soon as practicable following excavation to finish grades.

Maintenance Building, Temporary Police Station and Storage Shed. Finished grade around the proposed buildings will range from 0 to 7 feet below existing grade. The proposed buildings can be founded on shallow strip footings bearing on stable natural ground, or engineered fill compacted as specified above. The exposed bearing surfaces are likely to consist of medium stiff to stiff micaceous silt and silty sand. Strip footings bearing upon a properly prepared subgrade can be proportioned for a maximum allowable bearing pressure of 2.0 ksf. For proper confinement and frost protection, exterior footings should be embedded 30-inches below adjacent exterior finished grade. A minimum footing width of 2.5-feet should be used for the proposed continuous strip footings, regardless of loading and the prepared foundation subgrades should be inspected should be inspected and approved prior to placement of foundation concrete.

Some minor repairs may be warranted within foundation footing excavations. Undercut foundation subgrades can be replaced with concrete or compacted dense-graded crushed stone. If foundation subgrades are properly prepared, total settlement is expected to be less than 1-inch. Differential settlement for this type of construction is not expected to exceed one-half the total settlement.

Salt Dome. Based upon the structure plan dimensions, maximum storage capacity is expected to approximate 4,400 tons, which translates to about 2.0 ksf of transient storage load. The bituminous concrete pavement can be placed directly on the prepared subgrade at the thicknesses standard for traffic lanes and parking areas, as described below. Maximum settlement is expected to approximate 1 to 2 inches. The perimeter wall, which will also be founded on the pavement, could experience comparable settlement.

Pavements and Slabs. The three laboratory CBR values of 3.6, 6.9, and 7.2 do not preclude the use of the MdTA standard pavement sections for maintenance facilities, however, the low plasticity silts are highly susceptible to frost heave and strength loss upon saturation. As such, maintenance of positive subbase drainage is essential to long-term satisfactory performance of pavements. Standard pavement sections for design of facilities are as follows:

- Traffic Lanes and Parking Areas:
 - 2-inches bituminous concrete surface course
 - 5-inches bituminous concrete base course (2 – 2.5-inch lifts)
 - 8-inches graded aggregate base
 - Prepared subgrade

- Refueling Areas
 - 9-inches of Portland cement concrete
 - 8-inches of graded aggregate base
 - Prepared subgrade

Grade slab thicknesses for other uses can be based upon a subgrade reaction modulus of 100 pci for the compacted on-site soils. A minimum 4-inch thick free-draining aggregate base and a vapor barrier should be used for all climate controlled interior space slab designs.

Stormwater Management Pond. In-situ infiltration tests were performed at three (3) locations. Holes were offset 5-feet from the specific SWM borings and augered to a depth of 5-feet for performance of the tests. Field testing was performed in accordance with USDA Natural Resources Conservation Service, Maryland, Conservation Practice Standard “*Pond Code 378*”, Appendix D-1, “*Testing Requirements for Infiltration, Bioretention and Sand Filter Subsoils*”. The results of those tests are summarized as follows.

Boring Designation	Test Elevation	Infiltration Rate (in/hr)
G-SWM-01	489.0	1.83
G-SWM-02	487.5	3.0
G-SWM-03	491.0	3.0

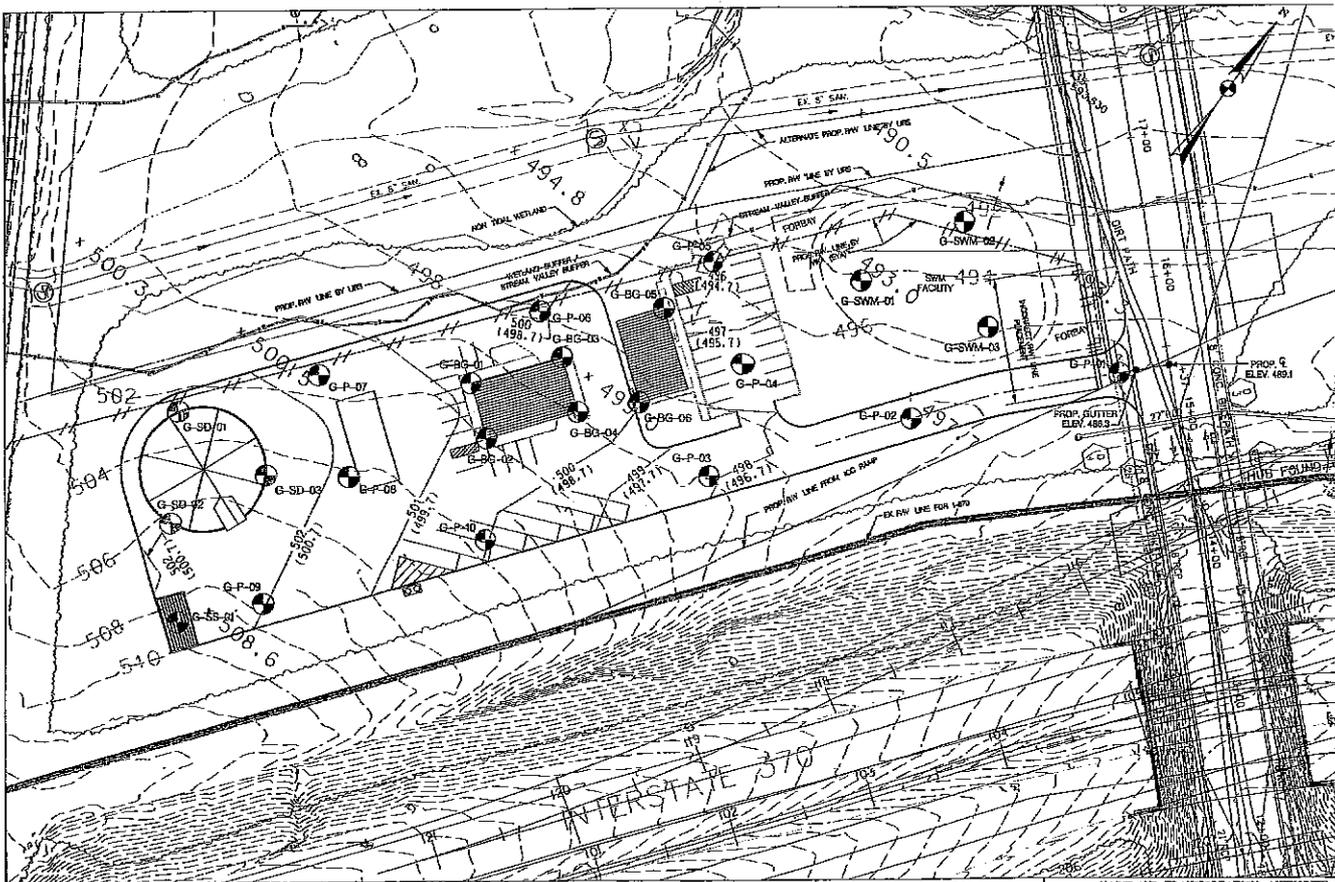
Geologic Risks. As noted in the “Geologic Setting” section of this report, geologic mapping indicates the possible presence of actinolite approximately 500 feet north of the site. As none was encountered on-site during the subsurface investigation, including rock cores, it is not expected to be encountered during construction.

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Appendix A

Boring Location Plan & Logs

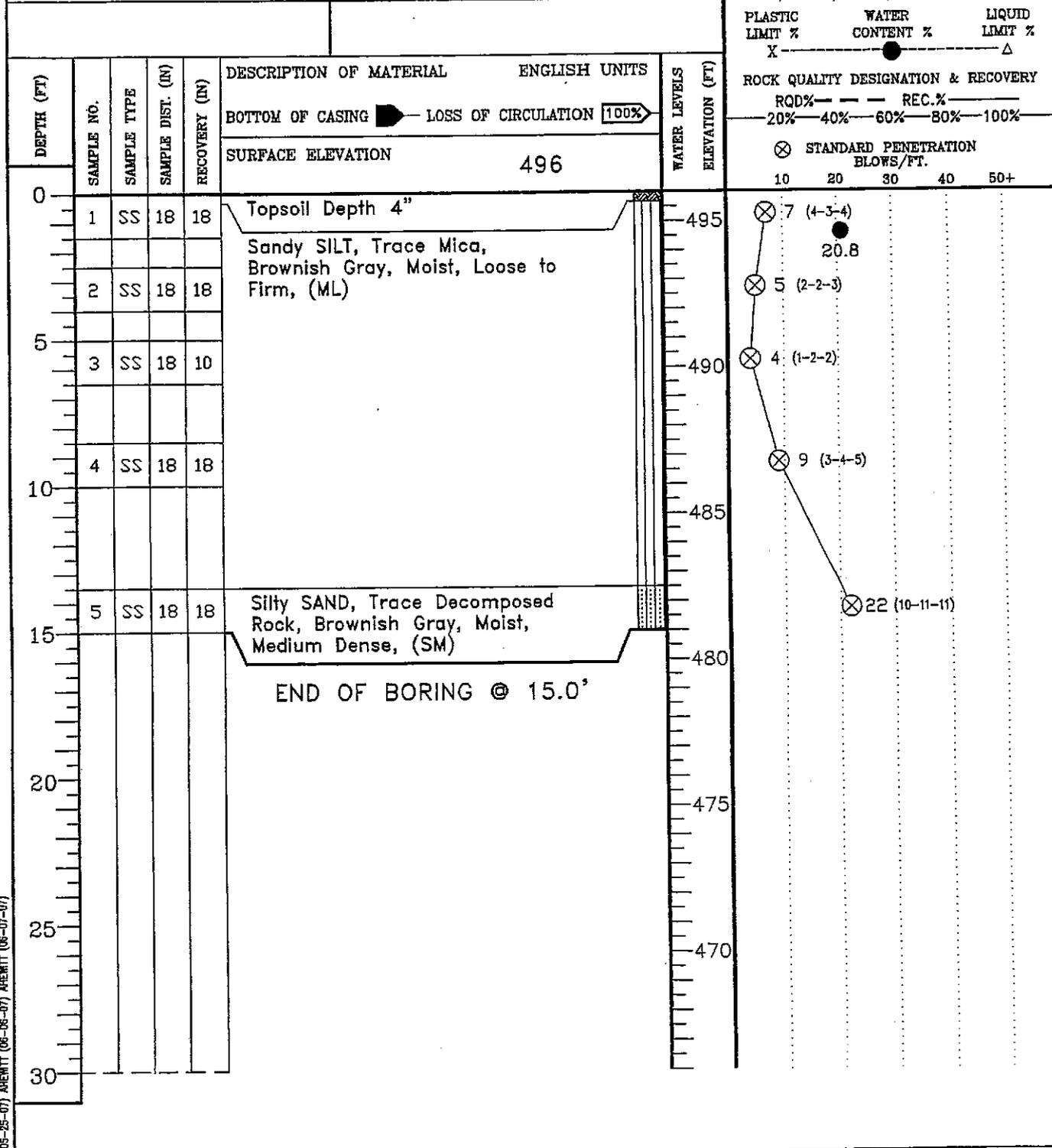
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		JUDGMENTS & REVISIONS NO. DESCRIPTION BY DATE		MARYLAND TRANSPORTATION AUTHORITY WEST OPERATIONS FACILITY SDM BORING PLAN		
		DESIGNED BY: _____ DATE: FEBRUARY 27, 2003		DRAWN BY: _____ DATE: FEBRUARY 27, 2003		CHECKED BY: _____ SCALE: AS SHOWN

CLIENT EYA	JOB # 13-3042	BORING # GP-01	SHEET 1 OF 1	
PROJECT NAME CASEY 6 PROPERTY		ARCHITECT-ENGINEER		

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND



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

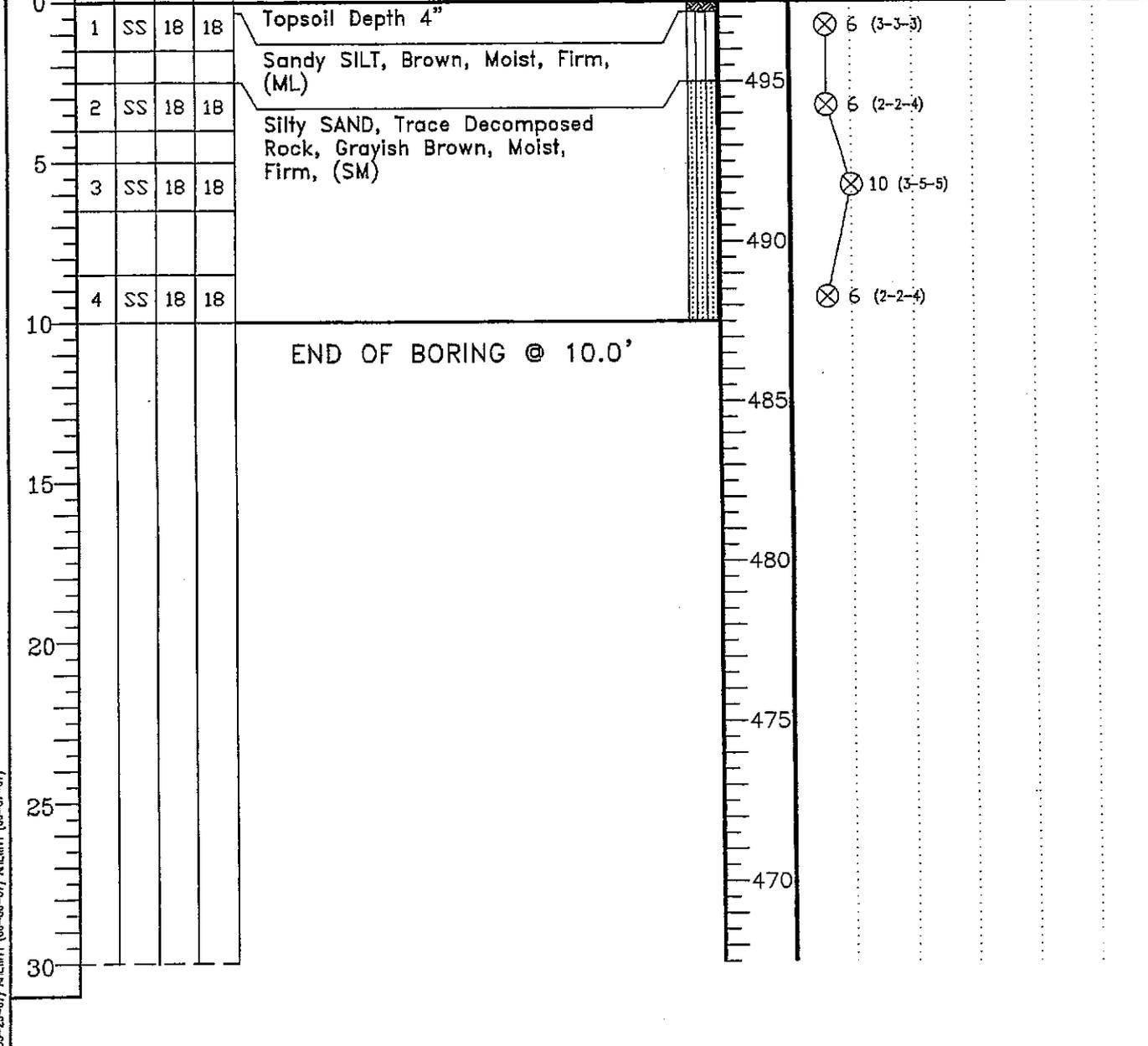
∇ WL DRY	WS OR (D)	BORING STARTED	05-16-07	
∇ WL(BCR) DRY	∇ WL(ACR) DRY	BORING COMPLETED	05-16-07	CAVE IN DEPTH @ 11'
∇ WL		RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

CLIENT EYA	JOB # 13-3042	BORING # GP-02	SHEET 1 OF 1	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

PLASTIC LIMIT % X	WATER CONTENT % ●	LIQUID LIMIT % Δ
ROCK QUALITY DESIGNATION & RECOVERY ROD% --- REC.% --- 20% 40% 60% 80% 100%		
STANDARD PENETRATION BLOWS/FT. ⊗		
1	2	3
4	5+	



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

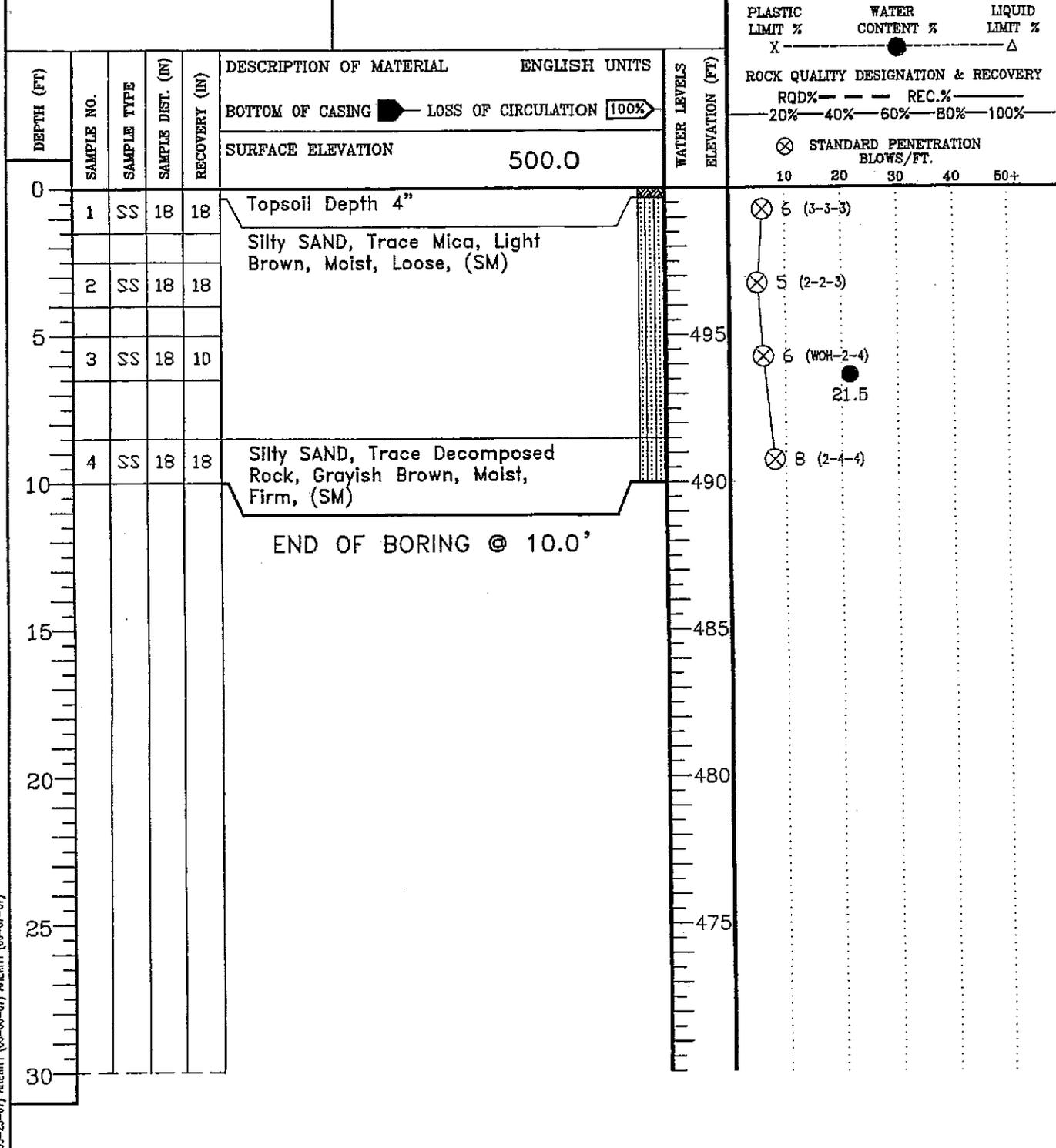
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∇ WL(BCR) DRY	∇ WL(ACR) DRY	BORING COMPLETED	05-16-07	CAVE IN DEPTH @ 6'
∇ WL		RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (05-06-07) AHEWITT (06-07-07)

Geddes

CLIENT EYA	JOB # 13-3042	BORING # GP-03	SHEET 1 OF 1	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND



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

∇ WL DRY	WS OR	BORING STARTED	05-16-07	
∇ WL(BCR) DRY	∇ WL(ACR) DRY	BORING COMPLETED	05-16-07	CAVE IN DEPTH @ 6'
∇ WL		RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (05-25-07) AHEWITT (05-06-07) AHEWITT (06-07-07)

Grafowski

CLIENT EYA	JOB # 13-3042	BORING # GP-04	SHEET 1 OF 1	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

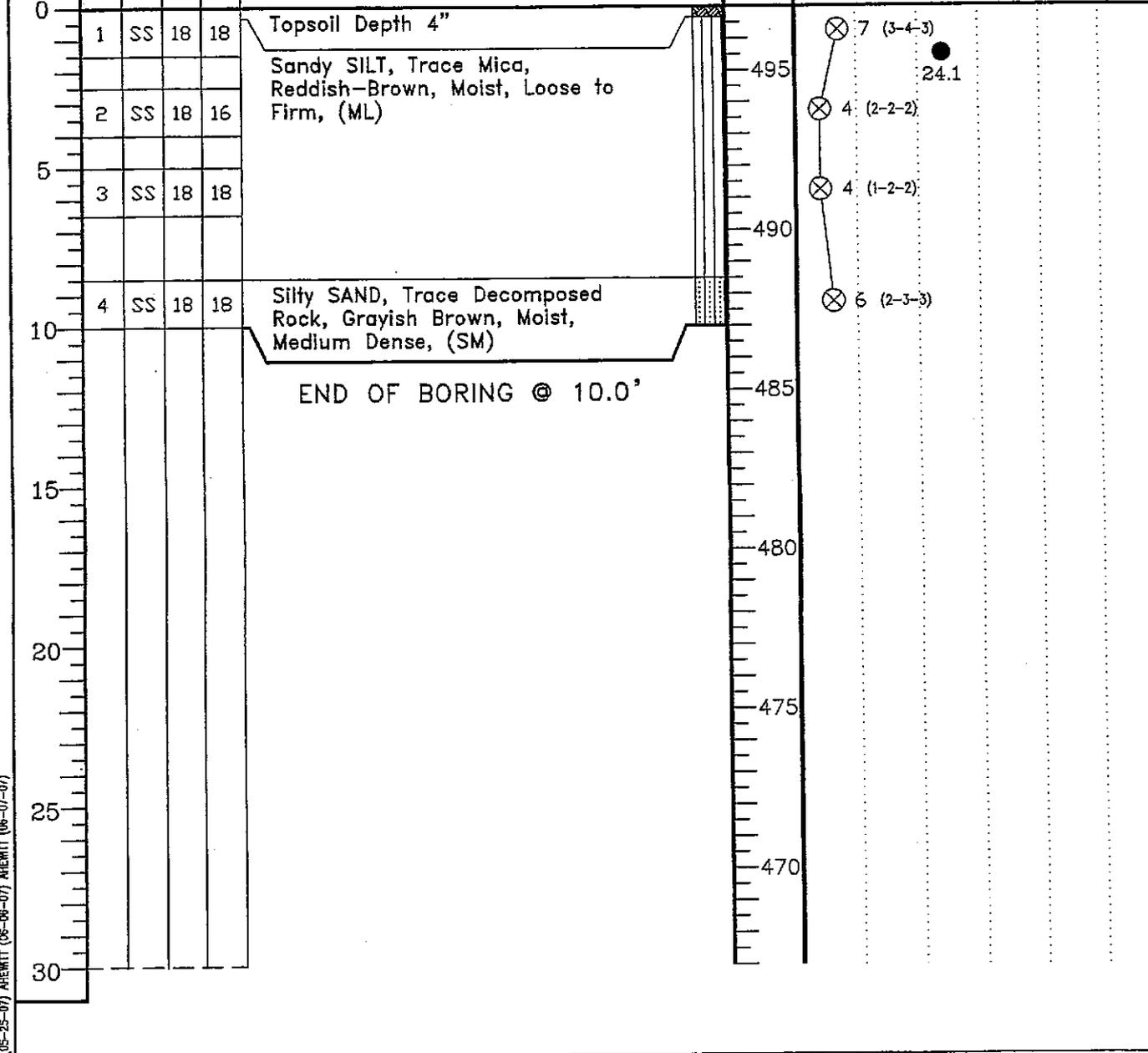
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)
0	1	SS	18	18	Topsoil Depth 4"		495
	2	SS	18	16	Sandy SILT, Trace Mica, Reddish-Brown, Moist, Loose to Firm, (ML)		490
5	3	SS	18	18			
10	4	SS	18	18	Silty SAND, Trace Decomposed Rock, Grayish Brown, Moist, Medium Dense, (SM)		485
					END OF BORING @ 10.0'		480
							475
							470

○ CALIBRATED PENETROMETER TONS/FT.²
1 2 3 4 5+

PLASTIC LIMIT % WATER CONTENT % LIQUID LIMIT %
X ● Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% --- REC.% ---
20% 40% 60% 80% 100%

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



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

∇ WL DRY	WS OR (D)	BORING STARTED	05-16-07
∇ WL(BCR) DRY ∇ WL(ACR) DRY		BORING COMPLETED	05-16-07
∇ WL		RIG 750	FOREMAN GOMEZ
			DRILLING METHOD HSA

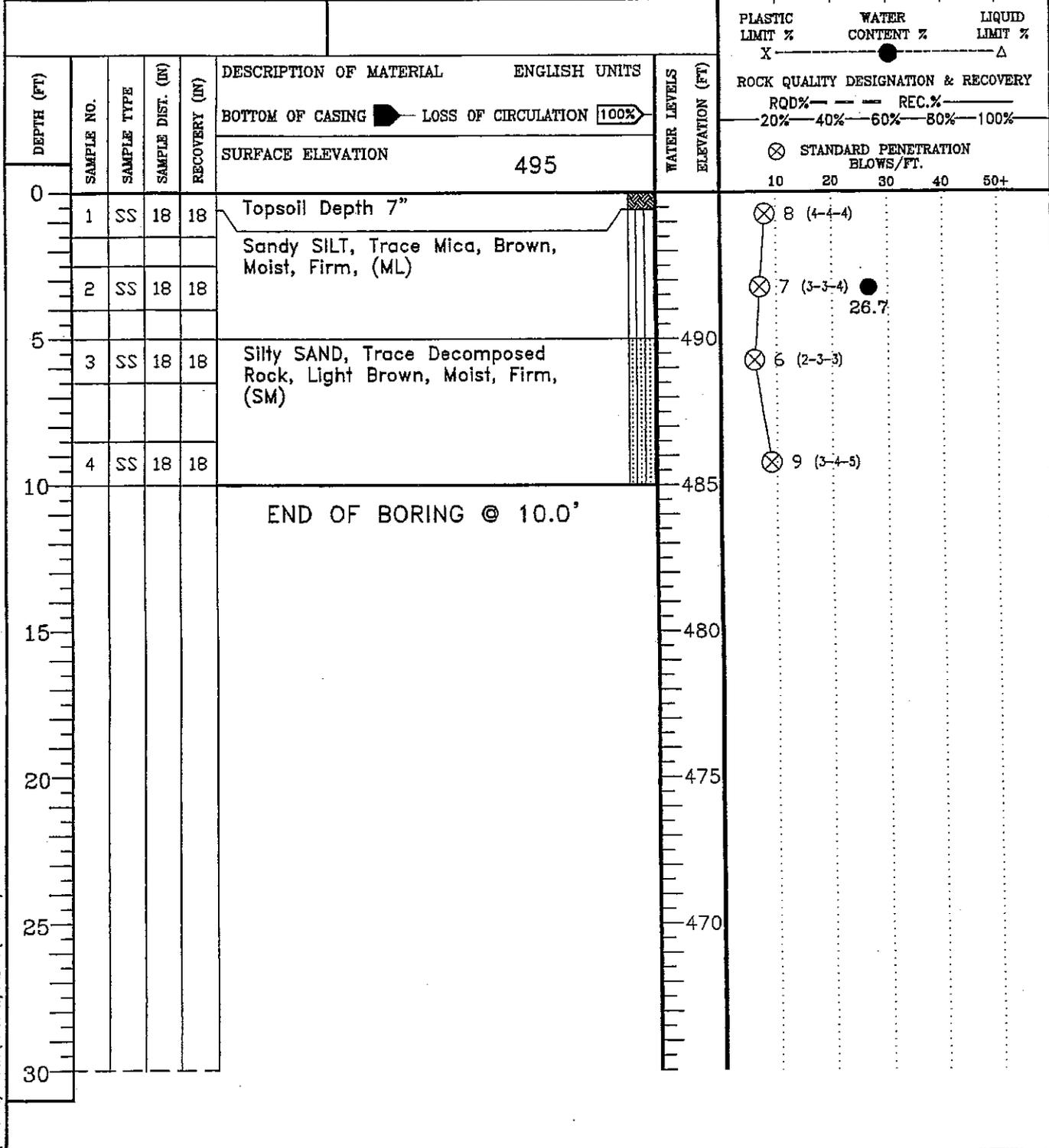
CAVE IN DEPTH @ 7'

AHEWITT (05-25-07) AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

GSA/KORSHI

CLIENT EYA	JOB # 13-3042	BORING # GP-05	SHEET 1 OF 1	
PROJECT NAME CASEY 6 PROPERTY		ARCHITECT-ENGINEER		

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND



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

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∇ WL(BCR) DRY	∇ WL(ACR) DRY	BORING COMPLETED	05-16-07	CAVE IN DEPTH @ 7'
∇ WL		RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

GEOLOGICAL

CLIENT EYA	JOB # 13-3042	BORING # GP-06	SHEET 1 OF 1	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY		ARCHITECT-ENGINEER		

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)
0	1	SS	18	10	Topsoil Depth 7"		495
	2	SS	18	14	Silty SAND, Trace Mica, Brown, Moist, Firm, (SM)		490
5	3	SS	18	18	Silty SAND, Trace Decomposed Trace Mica, Brown, Moist, Medium Dense, (SM)		485
10	4	SS	18	18			480
					END OF BORING @ 10.0'		475
							470

○ CALIBRATED PENETROMETER TONS/FT. ²

1 2 3 4 5+

PLASTIC LIMIT % WATER CONTENT % LIQUID LIMIT %

X ————— ● ————— Δ

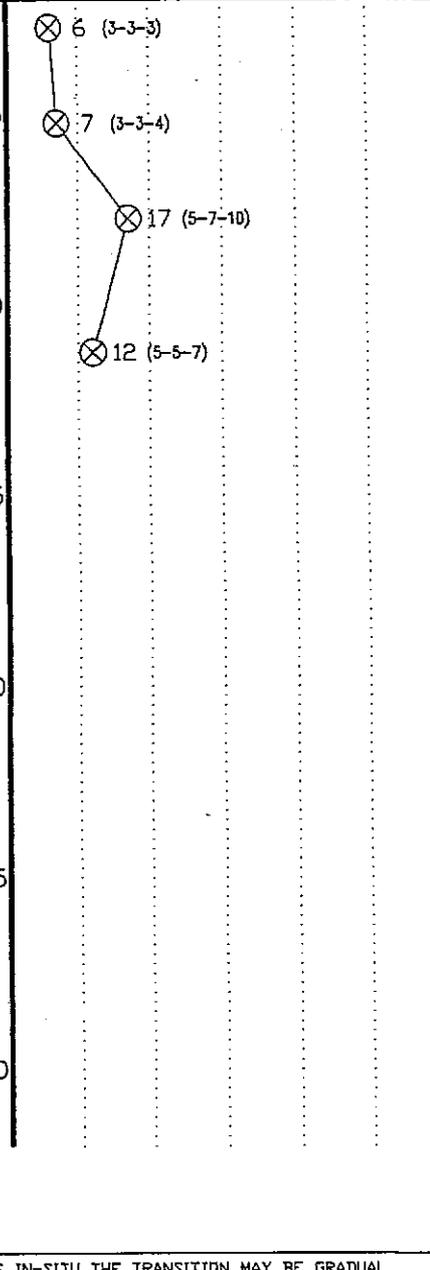
ROCK QUALITY DESIGNATION & RECOVERY

RQD% — — — REC.% — — —

20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT.

10 20 30 40 50+



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

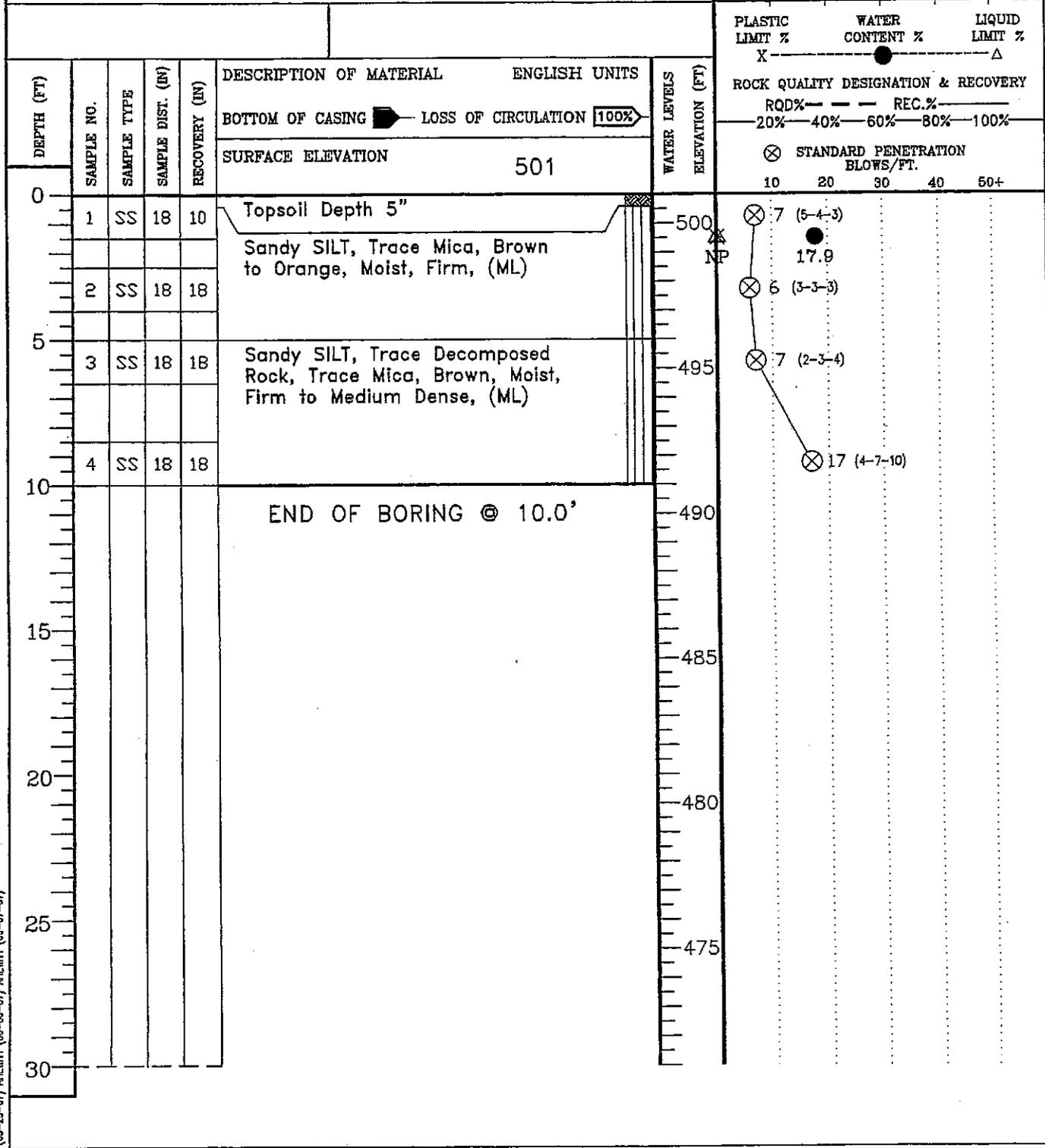
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▽ WL(BCR) DRY	▽ WL(ACR) DRY	BORING COMPLETED	05-16-07	CAVE IN DEPTH @ 8'
▽ WL		RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (05-25-07) AHEWITT (05-06-07) AHEWITT (06-07-07)

Gardner&Gardner(05/21/2007)

CLIENT EYA	JOB # 13-3042	BORING # GP-07	SHEET 1 OF 1	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL			
WL DRY	WS OR	BORING STARTED	05-16-07
WL(BCR) DRY	WL(ACR) DRY	BORING COMPLETED	05-16-07
WL	RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

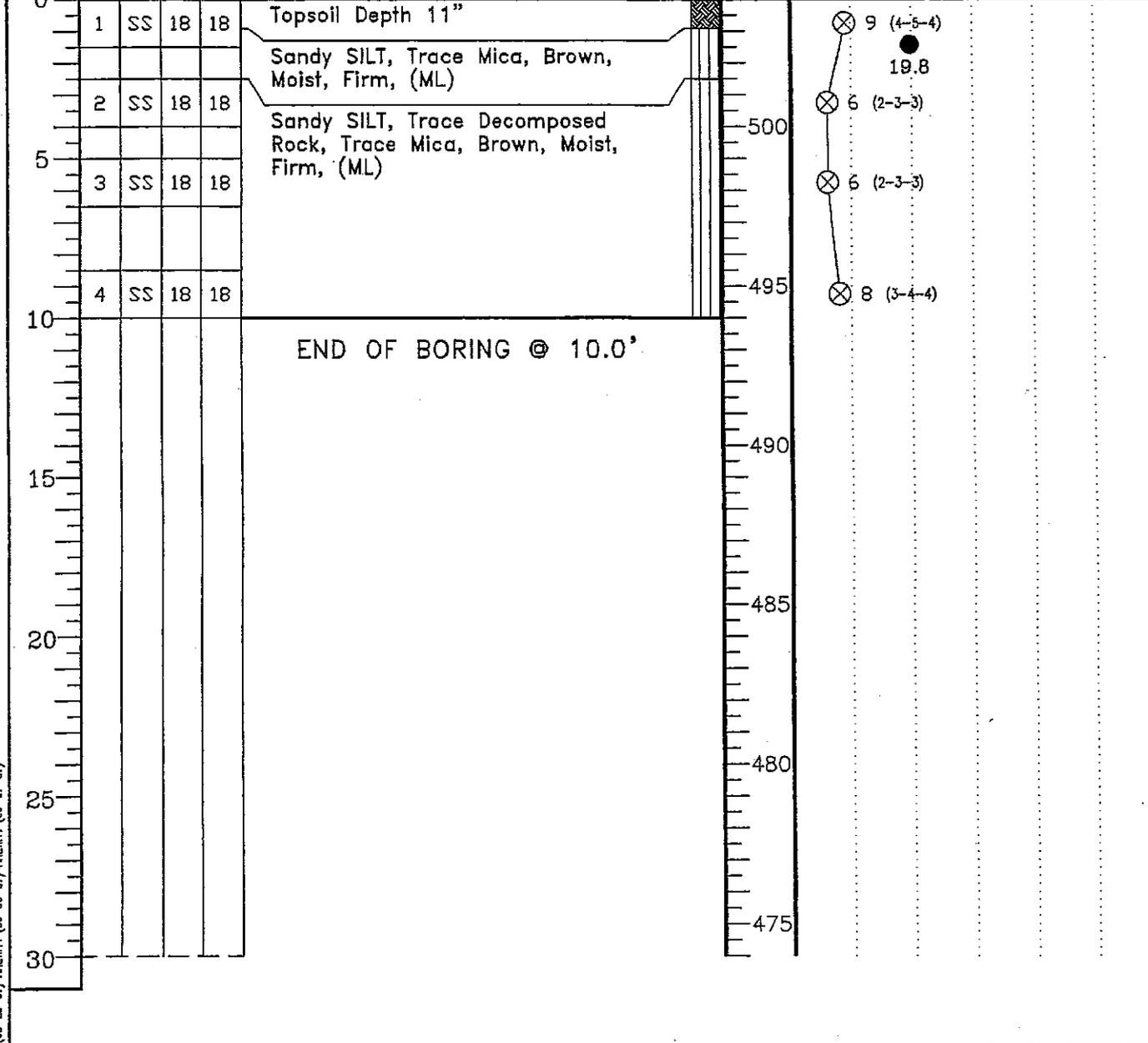
AHEWITT (05-25-07) AHEWITT (06-08-07) AHEWITT (06-07-07)

Graftonak(05/21/2007)

CLIENT EYA	JOB # 13-3042	BORING # GP-08	SHEET 1 OF 1	
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)
					BOTTOM OF CASING LOSS OF CIRCULATION 100%		
					SURFACE ELEVATION		504



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

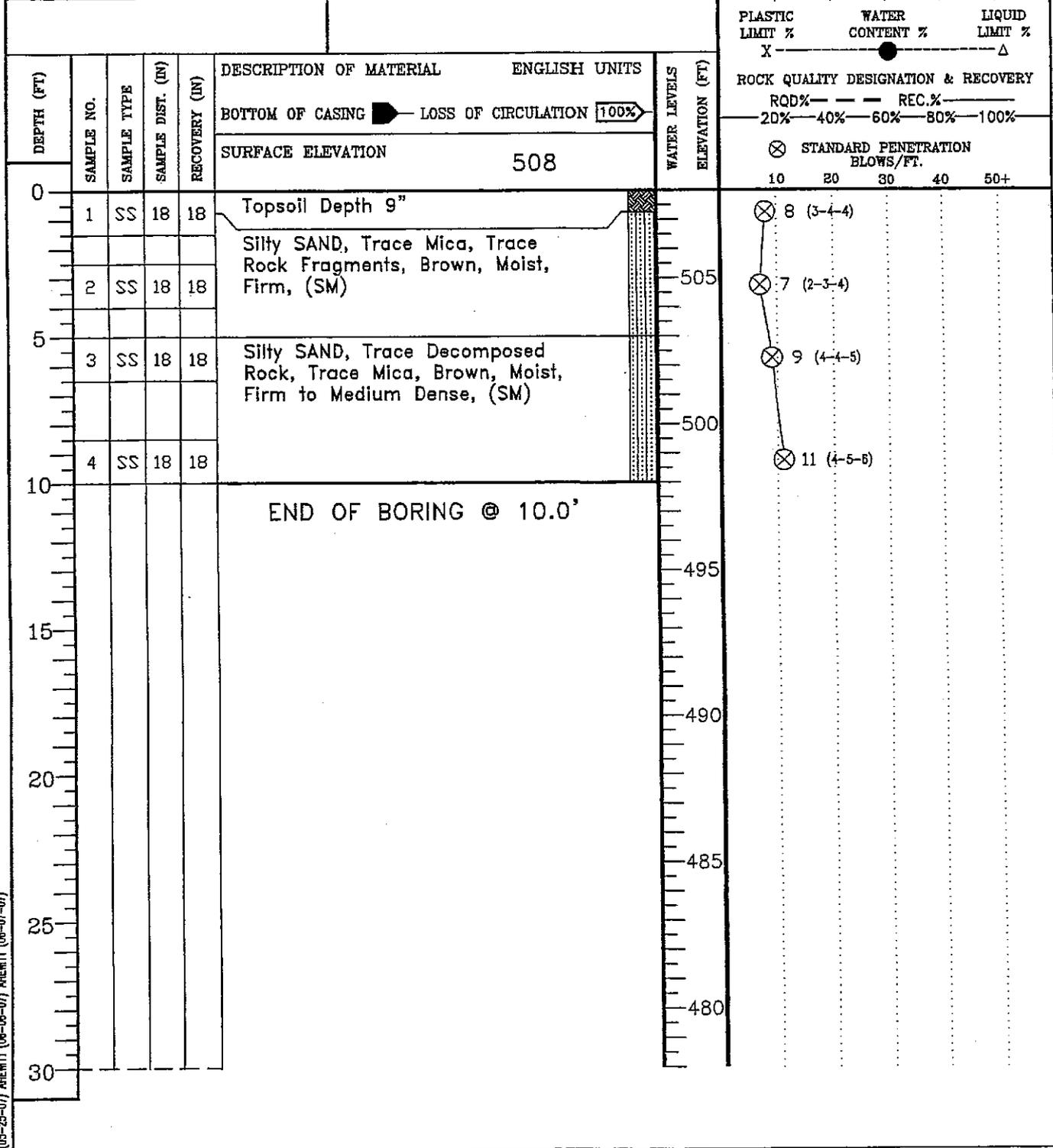
WATER LEVEL (W) DRY	WS OR (W)	BORING STARTED	05-17-07
WATER LEVEL (BCR) DRY	WATER LEVEL (ACR) DRY	BORING COMPLETED	05-17-07
WATER LEVEL (W)	RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWIT (05-25-07) AHEWIT (05-25-07) AHEWIT (06-06-07) AHEWIT (06-07-07)

CS/10/05/21/2007

CLIENT EYA	JOB # 13-3042	BORING # GP-09	SHEET 1 OF 1	
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND



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

▽WL DRY	WS OR	BORING STARTED	05-17-07	
▽WL(BCR) DRY ▽WL(ACR) DRY		BORING COMPLETED	05-17-07	CAVE IN DEPTH @ 6.5'
▽WL		RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

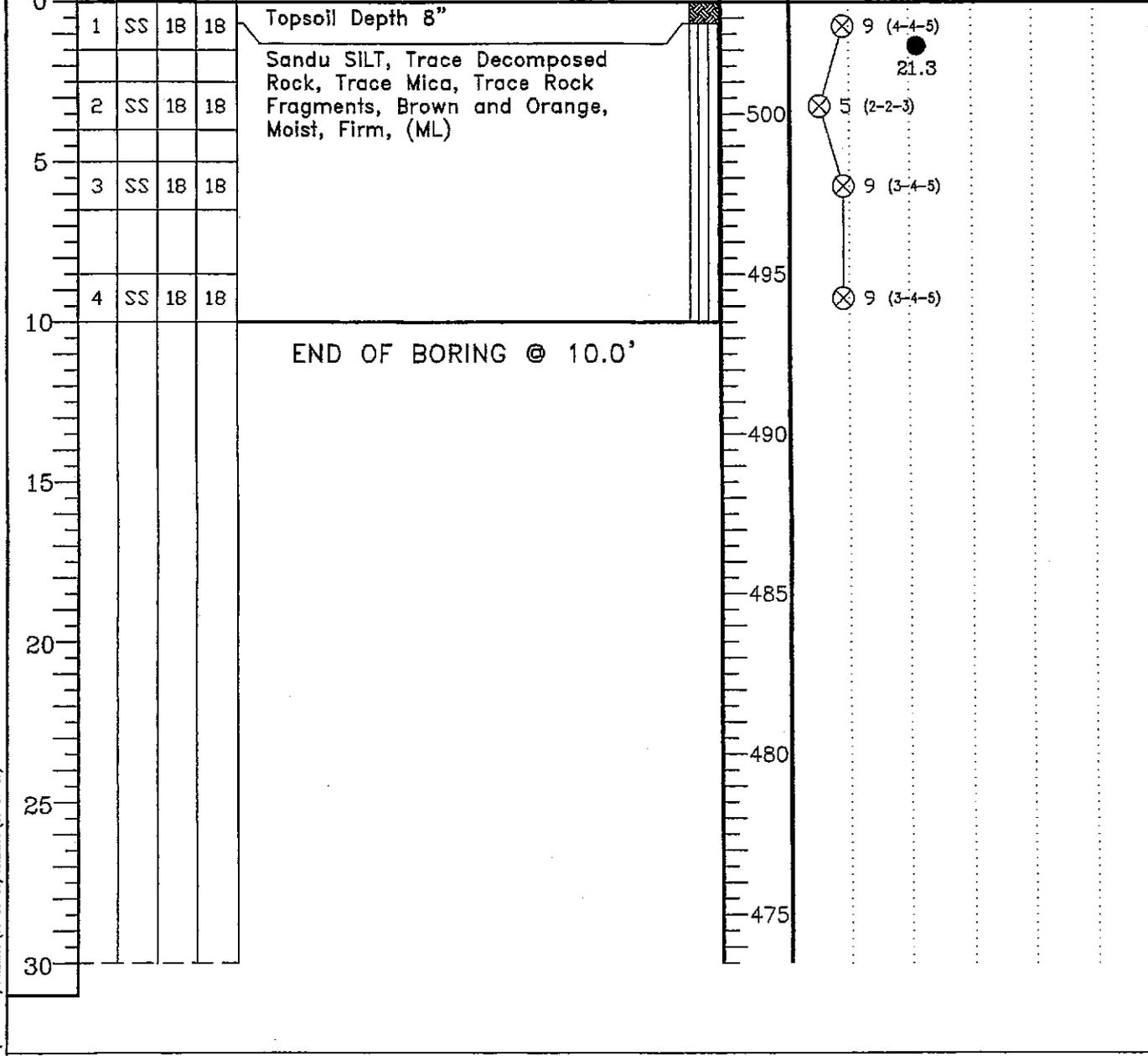
CS/06/05/21/2007

CLIENT EYA	JOB # 13-3042	BORING # GP-10	SHEET 1 OF 1	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

PLASTIC LIMIT %	WATER CONTENT %	LIQUID LIMIT %
X	●	△

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)
0					TOPSOIL DEPTH 8"		
	1	SS	18	18	Sandu SILT, Trace Decomposed Rock, Trace Mica, Trace Rock Fragments, Brown and Orange, Moist, Firm, (ML)	100%	
	2	SS	18	18			
	3	SS	18	18			
	4	SS	18	18			
	END OF BORING @ 10.0'						



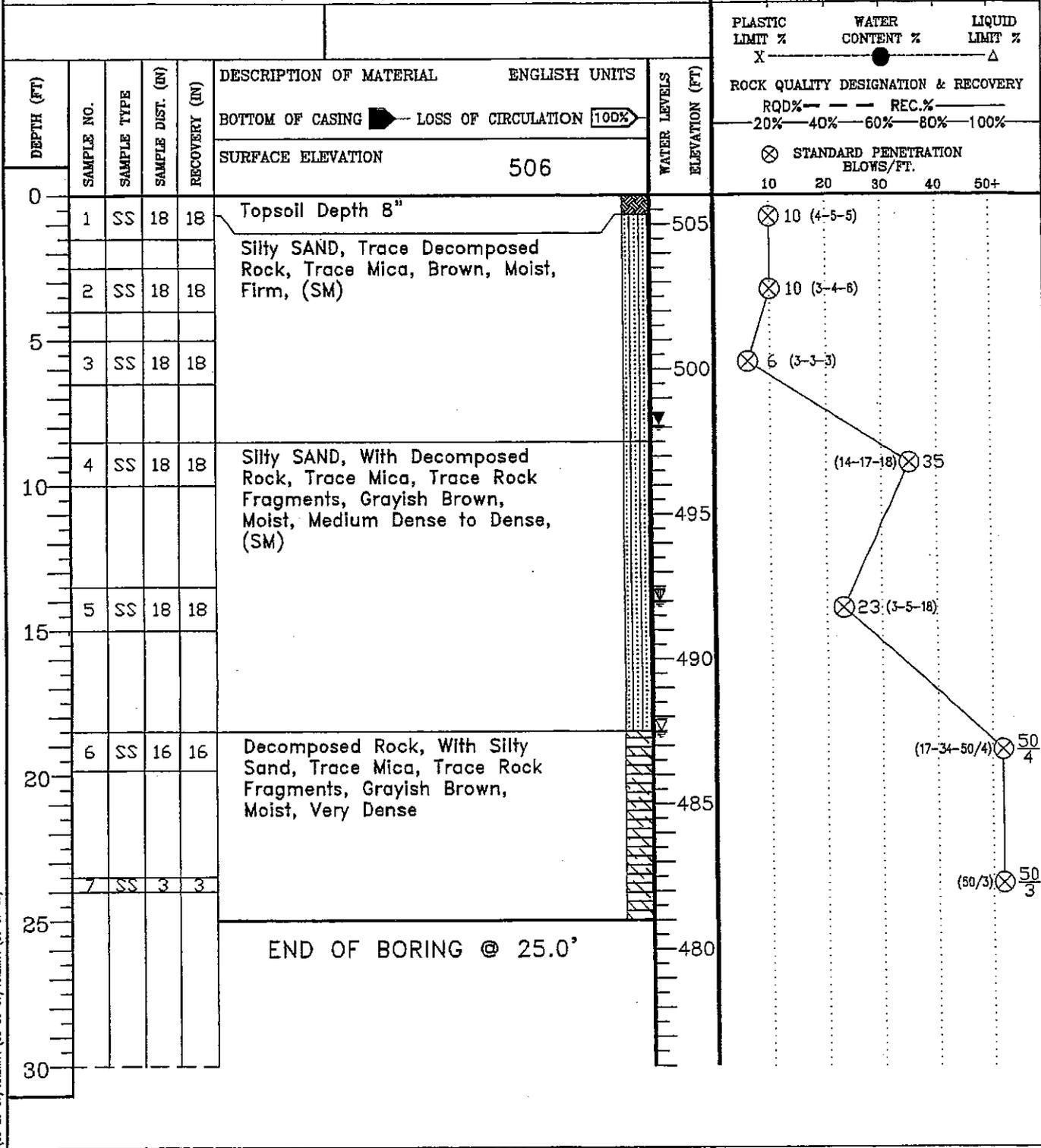
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL			
∇ WL DRY	WS OR (WD)	BORING STARTED	05-17-07
∇ WL(BCR) DRY	∇ WL(ACR) DRY	BORING COMPLETED	05-17-07
∇ WL	RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

CRAIKAWAK(05/21/2007)

CLIENT EYA	JOB # 13-3042	BORING # GSD-02	SHEET 1 OF 1	
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND



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

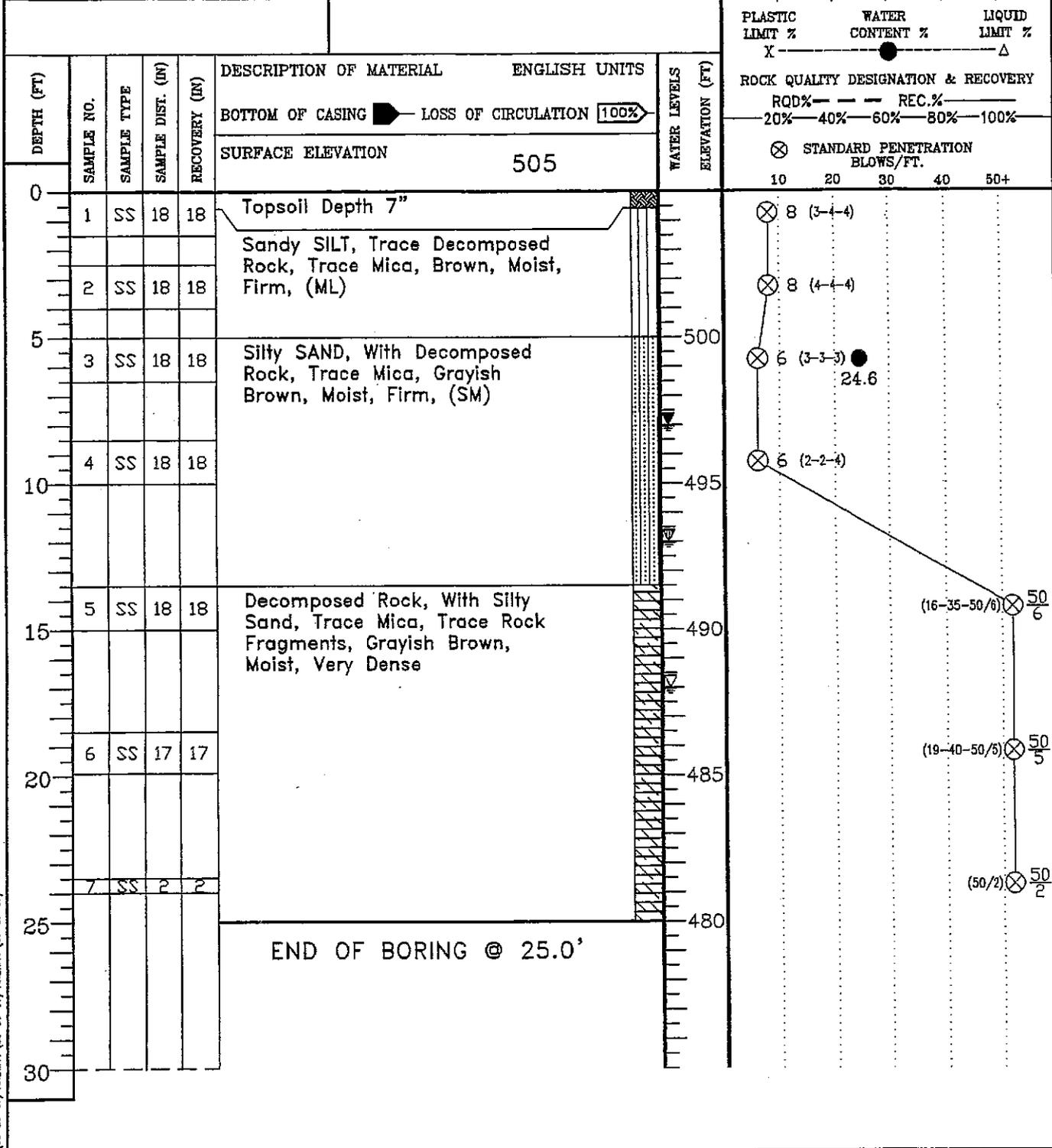
▽ WL 18.5'	WS OR (WD)	BORING STARTED 05-17-07	
▽ WL(BCR) 14.0' ▽ WL(ACR) 7.9'		BORING COMPLETED 05-17-07	CAVE IN DEPTH @ 8.0'
▽ WL		RIG 750 FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (06-05-07) AHEWITT (06-07-07)

CRAIKAWAK(05/21/2007)

CLIENT EYA	JOB # 13-3042	BORING # GSD-03	SHEET 1 OF 1	
PROJECT NAME CASEY 6 PROPERTY		ARCHITECT-ENGINEER		

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND



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

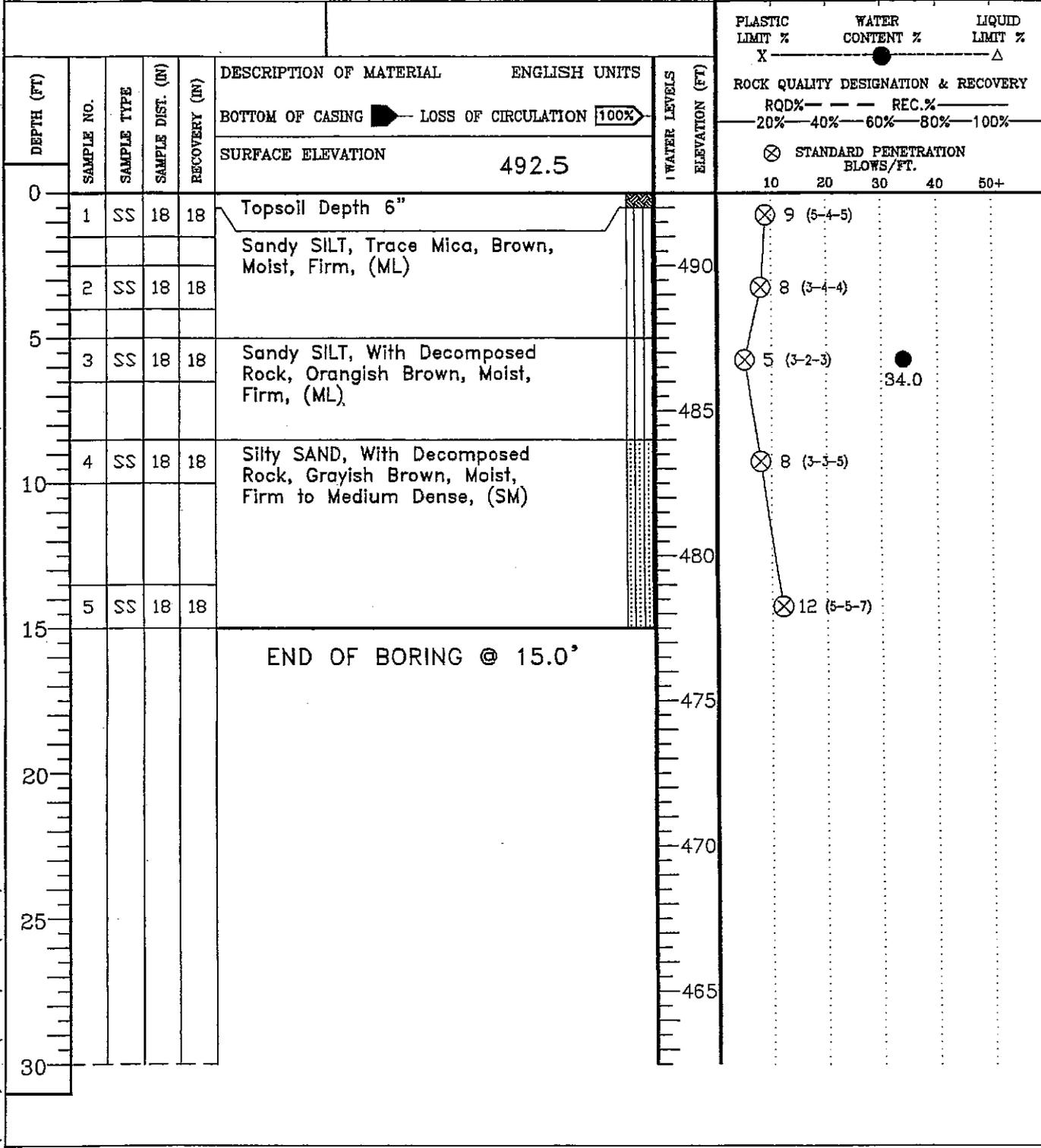
▽ WL 17.0'	WS OR (W)	BORING STARTED 05-17-07	
▽ WL(BCR) 12.0' ▽ WL(ACR) 8.0'		BORING COMPLETED 05-17-07	CAVE IN DEPTH @ 16.0'
▽ WL		RIG 750 FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWIT (05-25-07) AHEWIT (05-25-07) AHEWIT (05-06-07) AHEWIT (05-07-07)

Grafton/05/21/2007

CLIENT EYA	JOB # 13-3042	BORING # GSWM-02	SHEET 1 OF 1	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND



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

∇ WL DRY	WS OR WD	BORING STARTED	05-19-07
∇ WL(BCR) DRY	∇ WL(ACR) DRY	BORING COMPLETED	05-19-07
∇ WL		RIG 750	FOREMAN GOMEZ
			DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

GRIKOWSKI(05/21/2007)

CLIENT EYA	JOB # 13-3042	BORING # GSWM-03	SHEET 1 OF 1	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

○ CALIBRATED PENETROMETER
TONS/FT. ²

1 2 3 4 5+

PLASTIC LIMIT % X
WATER CONTENT % ●
LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
ROD% --- REC.% ---
20% 40% 60% 80% 100%

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

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)
0					Topsoil Depth 5"		495
1	1	SS	18	18	Sandy SILT, Trace Mica, Reddish Brown, Moist, Medium Dense, (ML)	100%	⊗ 11 (5-5-6)
2	2	SS	18	18			⊗ 11 (3-5-6)
3	3	SS	18	18			⊗ 16 (5-7-9)
4	4	SS	18	18	Sandy SILT, Trace Decomposed Rock, Trace Mica, Gray, Moist, Medium Dense, (ML)		⊗ 15 (4-6-9)
5	5	SS	18	18			● 23.4
15					END OF BORING @ 15.0'		⊗ 20 (7-8-11)

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

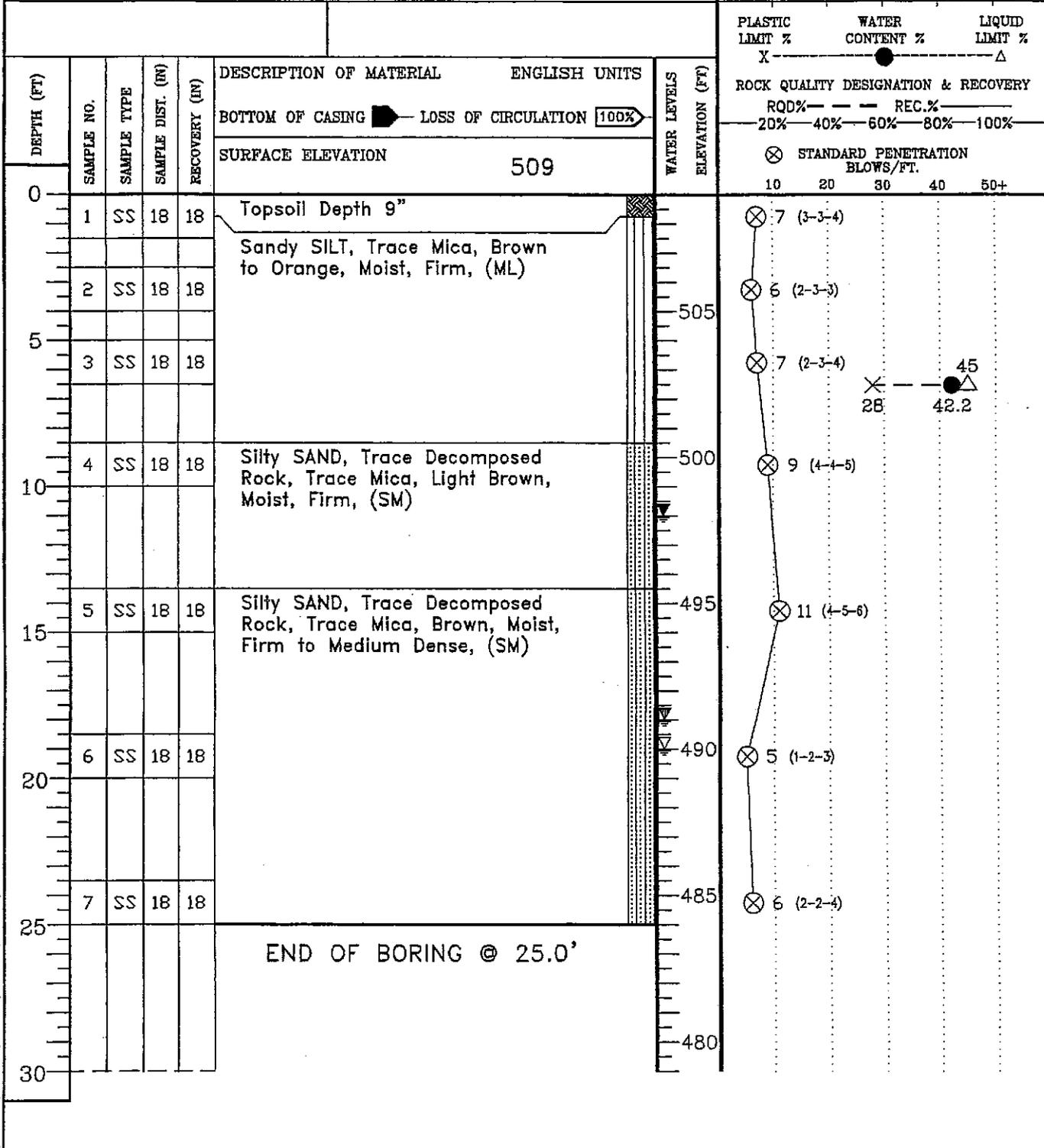
∇ WL DRY	WS OR (WD)	BORING STARTED	05-17-07
∇ WL(BCR) DRY	∇ WL(ACR) DRY	BORING COMPLETED	05-17-07
∇ WL		RIG 750	FOREMAN GOMEZ
		CAVE IN DEPTH @ 12.0'	
		DRILLING METHOD HSA	

AHEWITT (05-25-07) AHEWITT (06-05-07) AHEWITT (06-07-07)

Gladstein (05/21/2007)

CLIENT EYA	JOB # 13-3042	BORING # GSS-01	SHEET 1 OF 1	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND



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

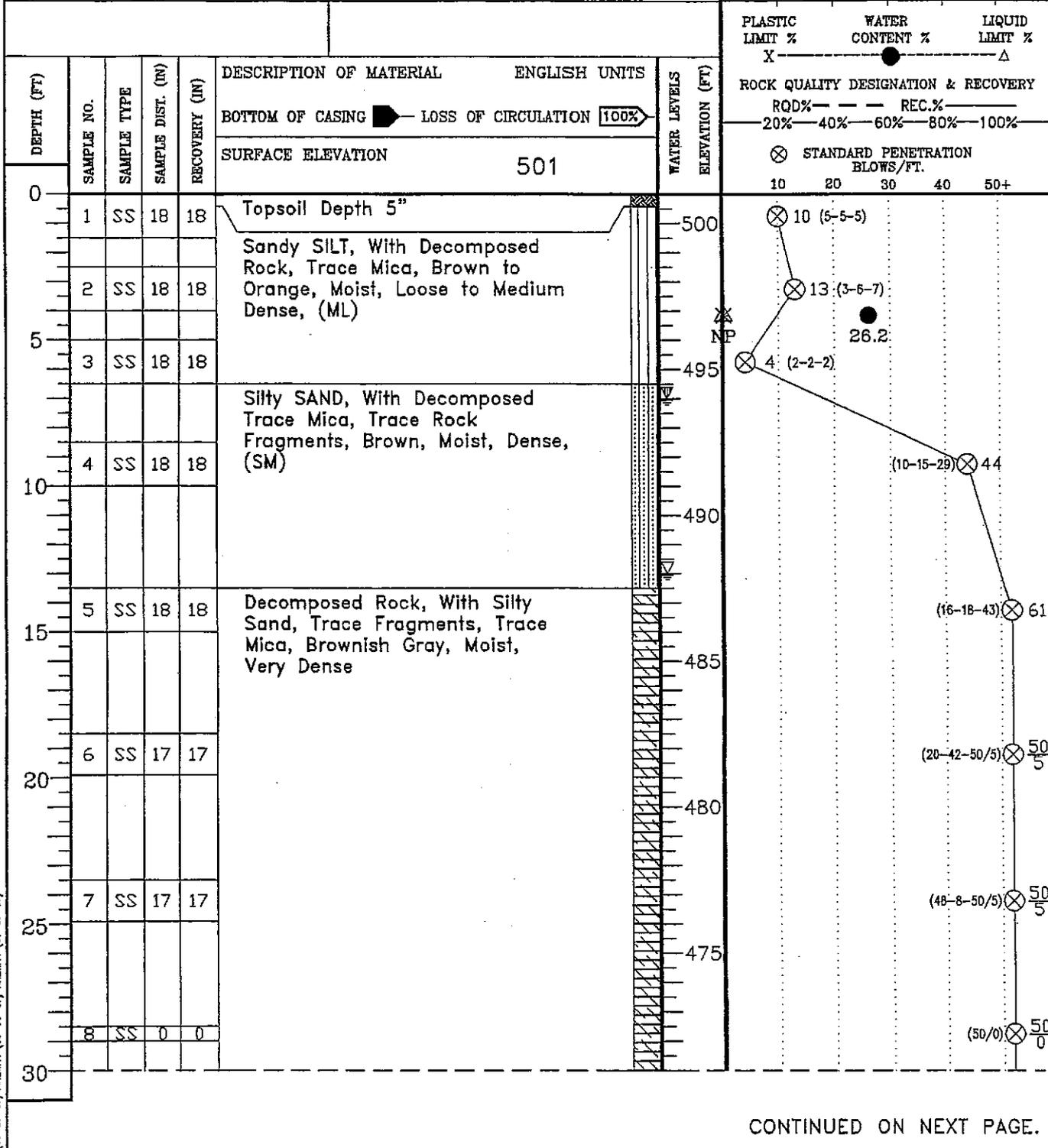
▽ WL 19.0'	WS OR (M)	BORING STARTED	05-17-07
▽ WL(BCR) 18.0' ▽ WL(ACR) 11.0'		BORING COMPLETED	05-17-07
▽ WL		RIG 750	FOREMAN GOMEZ
			DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

CROKOWSKI(05/21/2007)

CLIENT EYA	JOB # 13-3042	BORING # GBG-01	SHEET 1 OF 2	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND



CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SDIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL			
▽ WL 13.0'	WS OR (WD)	BORING STARTED	05-21-07
▽ WL(BCR) 7.0'	▽ WL(ACR) DRY	BORING COMPLETED	05-21-07
▽ WL		RIG 750	FOREMAN GOMEZ
			DRILLING METHOD HSA

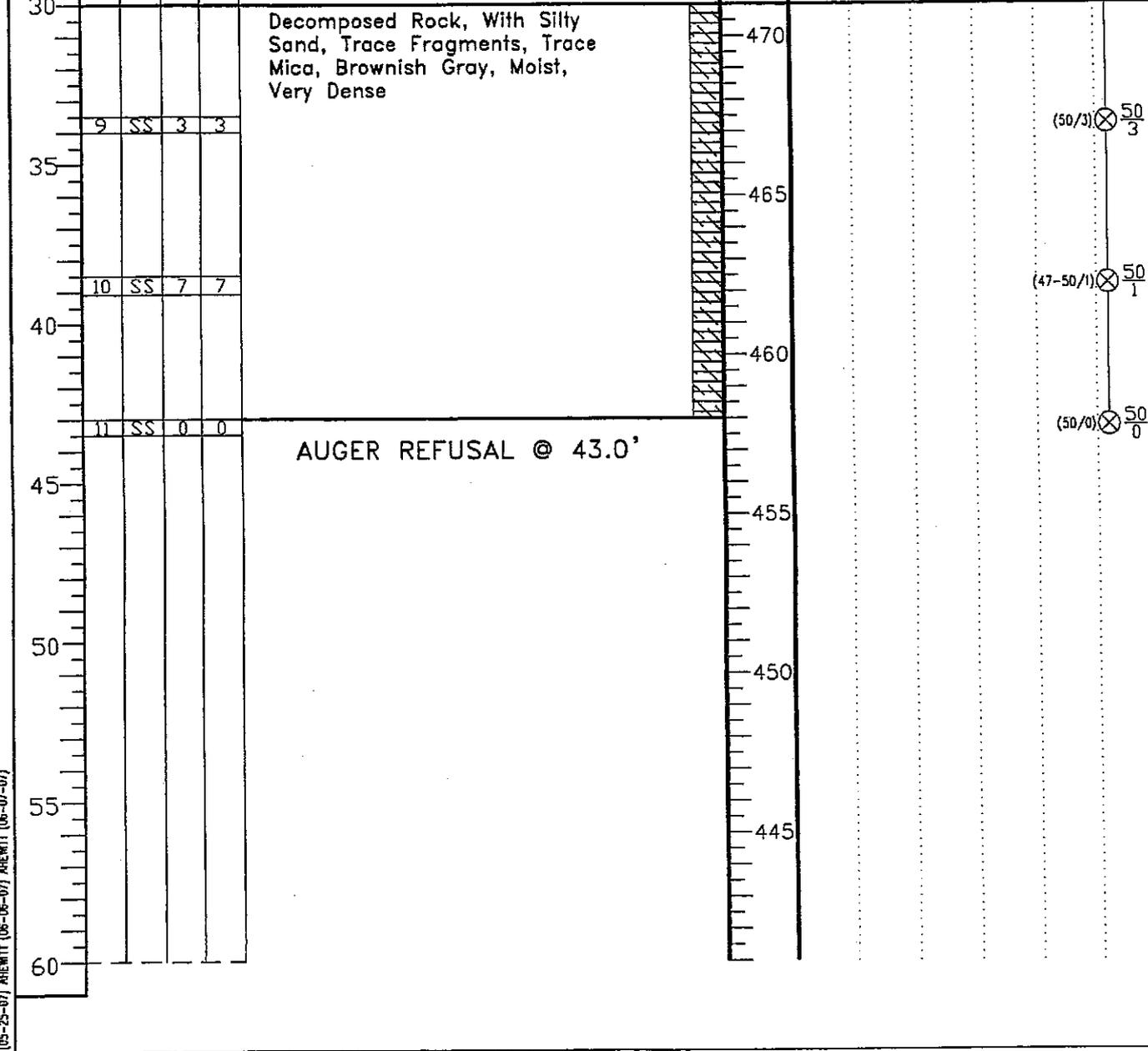
AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

GEOLOGICAL (05/22/2007)

CLIENT EYA	JOB # 13-3042	BORING # GBG-01	SHEET 2 OF 2	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	○ CALIBRATED PENETROMETER TONS/FT. ² 1 2 3 4 5+ PLASTIC LIMIT % WATER CONTENT % LIQUID LIMIT % X-----●-----Δ ROCK QUALITY DESIGNATION & RECOVERY RQD%---REC.%--- 20%---40%---60%---80%---100% ⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+
					BOTTOM OF CASING	LOSS OF CIRCULATION 100%		
					SURFACE ELEVATION		501	



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

▽ WL 13.0'	WS OR (D)	BORING STARTED 05-21-07	
▽ WL(BCR) 7.0'	▽ WL(ACR) DRY	BORING COMPLETED 05-21-07	CAVE IN DEPTH @ 3.0'
▽ WL		RIG 750 FOREMAN GOMEZ	DRILLING METHOD HSA

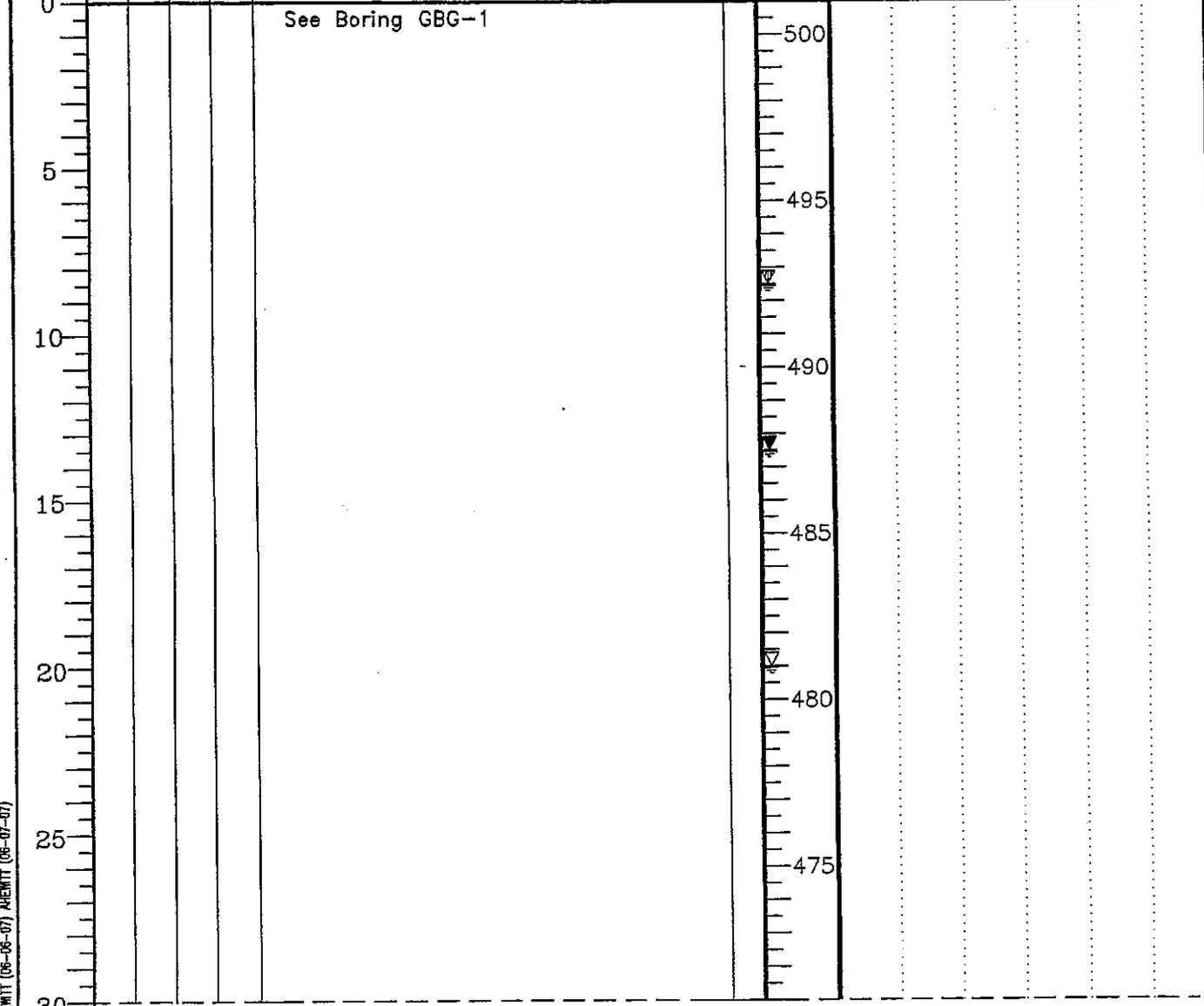
AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

Graham (05/22/2007)

CLIENT EYA	JOB # 13-3042	BORING # GBG-01-A	SHEET 1 OF 2	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	○ CALIBRATED PENETROMETER TONS/FT. ² 1 2 3 4 5+ PLASTIC LIMIT % WATER CONTENT % LIQUID LIMIT % X-----●-----Δ ROCK QUALITY DESIGNATION & RECOVERY ROD% --- REC.% --- 20%---40%---60%---80%---100% ⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+
					BOTTOM OF CASING	LOSS OF CIRCULATION	100%	
					SURFACE ELEVATION		501	



CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL			
▽ WL 20'	WS OR (W)	BORING STARTED	05-22-07
▽ WL(BCR) 8.5'	▽ WL(ACR) 13.5'	BORING COMPLETED	05-22-07
▽ WL	RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWIT (05-25-07) AHEWIT (05-25-07) AHEWIT (06-06-07) AHEWIT (06-07-07)

GEOLOGICAL (05/22/2007)

CLIENT EYA	JOB # 13-3042	BORING # GBG-01-A	SHEET 2 OF 2	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	○ CALIBRATED PENETROMETER TONS/FT. ² 1 2 3 4 5+
					BOTTOM OF CASING	LOSS OF CIRCULATION		PLASTIC LIMIT % X WATER CONTENT % ● LIQUID LIMIT % Δ ROCK QUALITY DESIGNATION & RECOVERY RQD% --- REC.% --- 20% 40% 60% 80% 100% ⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+

30					See Boring GBG-1		470	
35					Moderately Hard, Moderately Weathered, Slightly Fractured, Gray, SCHIST, Recovery = 2%, RQD = 0%		465	
40					Soft, Severely Weathered, Extremely Fractured, Gray, SCHIST, Recovery = 10%, RQD = 0%		460	
45					Soft, Severely Weathered, Extremely Fractured, Gray, SCHIST, Recovery = 50%, RQD = 0%		455	
50					END OF BORING @ 50.5'		450	
55							445	
60								

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

▽ WL 20'	WS OR (D)	BORING STARTED	05-22-07	
▽ WL(BCR) 8.5'	▽ WL(ACR) 13.5'	BORING COMPLETED	05-22-07	CAVE IN DEPTH @ 25'
▽ WL		RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

CSH/BRW/05/22/2007

CLIENT EYA	JOB # 13-3042	BORING # GBG-02	SHEET 1 OF 2
PROJECT NAME CASEY 6 PROPERTY		ARCHITECT-ENGINEER	



SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)
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0	1	SS	18	18	Topsoil Depth 8"		500
2	2	SS	18	18	Sandy SILT, Trace Gravel, Dark Brown, Moist, Medium Dense, (ML)		
5	3	SS	18	18	Sandy SILT, Brown, Moist, Medium Dense, (ML)		
10	4	SS	18	18	Silty SAND, With Decomposed Rock, Trace Mica, Trace Rock Fragments, Brown, Moist, Firm to Medium Dense, (SM)		
15	5	SS	18	18			
20	6	SS	18	18	Sandy SILT, Trace Decomposed Rock, Trace Mica, Trace Rock Fragments, Grayish Brown, Moist, Firm, (ML)		
25	7	SS	11	11	Decomposed Rock, With Silty Sand, Trace Rock Fragments, Trace Mica, Brownish Gray, Moist, Very Dense		
30	8	SS	4	4			

○ CALIBRATED PENETROMETER TONS/FT. ²

1 2 3 4 5+

PLASTIC LIMIT % WATER CONTENT % LIQUID LIMIT %

X ————— ● ————— Δ

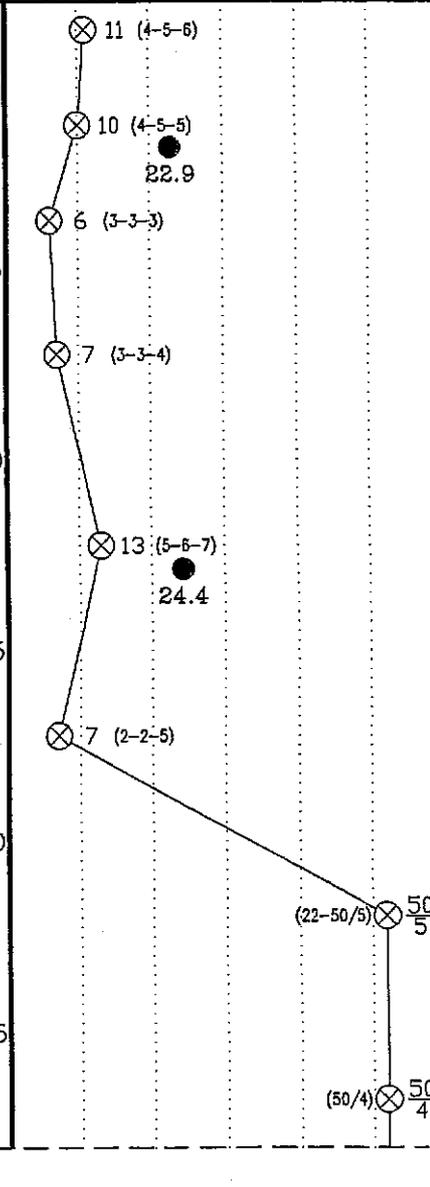
ROCK QUALITY DESIGNATION & RECOVERY

RQD% — — — REC.% — — —

20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT.

10 20 30 40 50+



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL			
▽ WL 24.0'	WS OR (WD)	BORING STARTED 05-21-07	
▽ WL(BCR) 14.0'	▽ WL(ACR) 11.5'	BORING COMPLETED 05-21-07	CAVE IN DEPTH ● 13.0'
▽ WL	RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

AHEWITT (05-25-07) AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

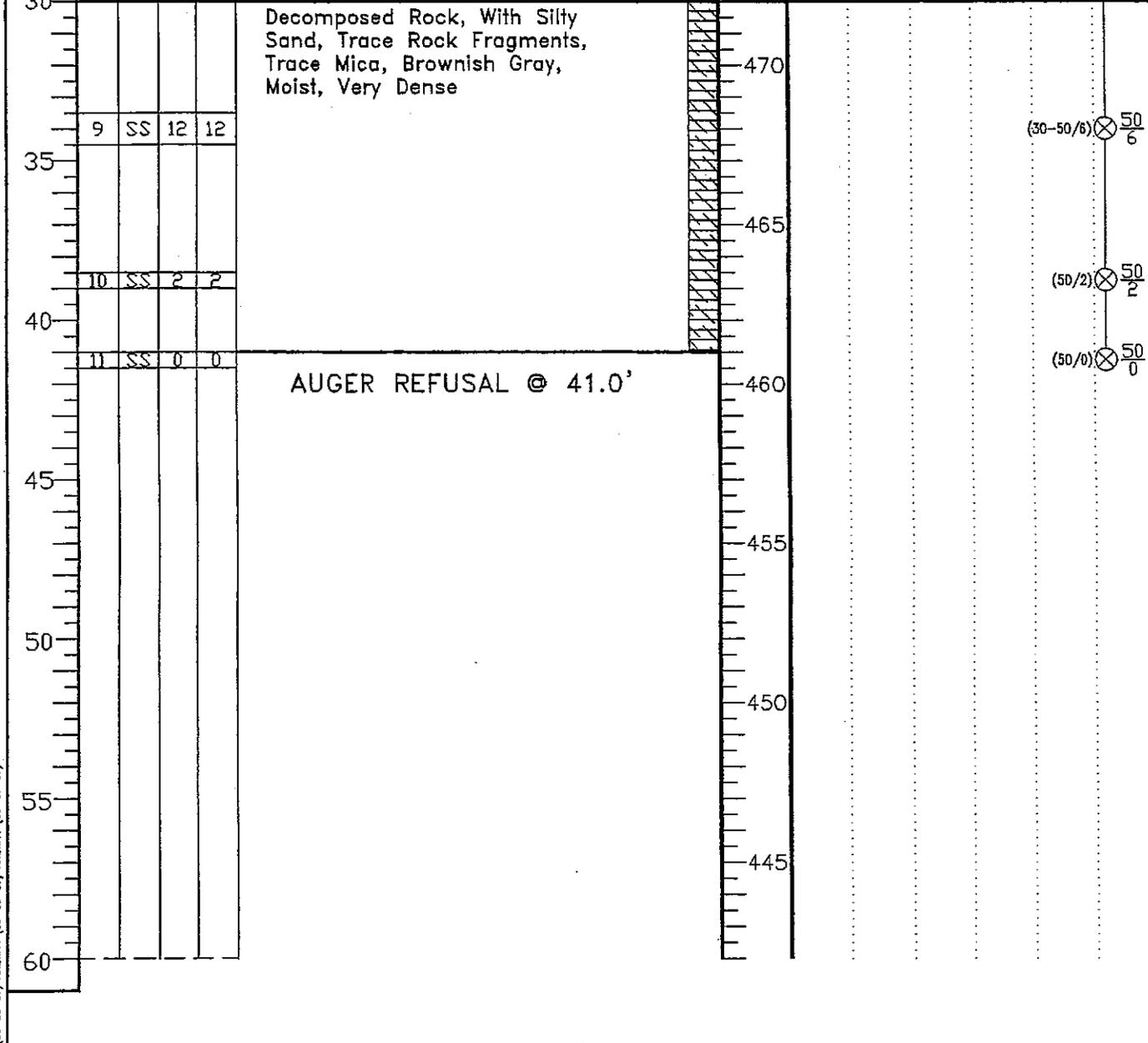
Guthrie/05/22/2007

CLIENT EYA	JOB # 13-3042	BORING # GBG-02	SHEET 2 OF 2	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

PLASTIC LIMIT % X	WATER CONTENT % ●	LIQUID LIMIT % Δ
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DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)
30					BOTTOM OF CASING	LOSS OF CIRCULATION 100%	
					SURFACE ELEVATION 502		



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

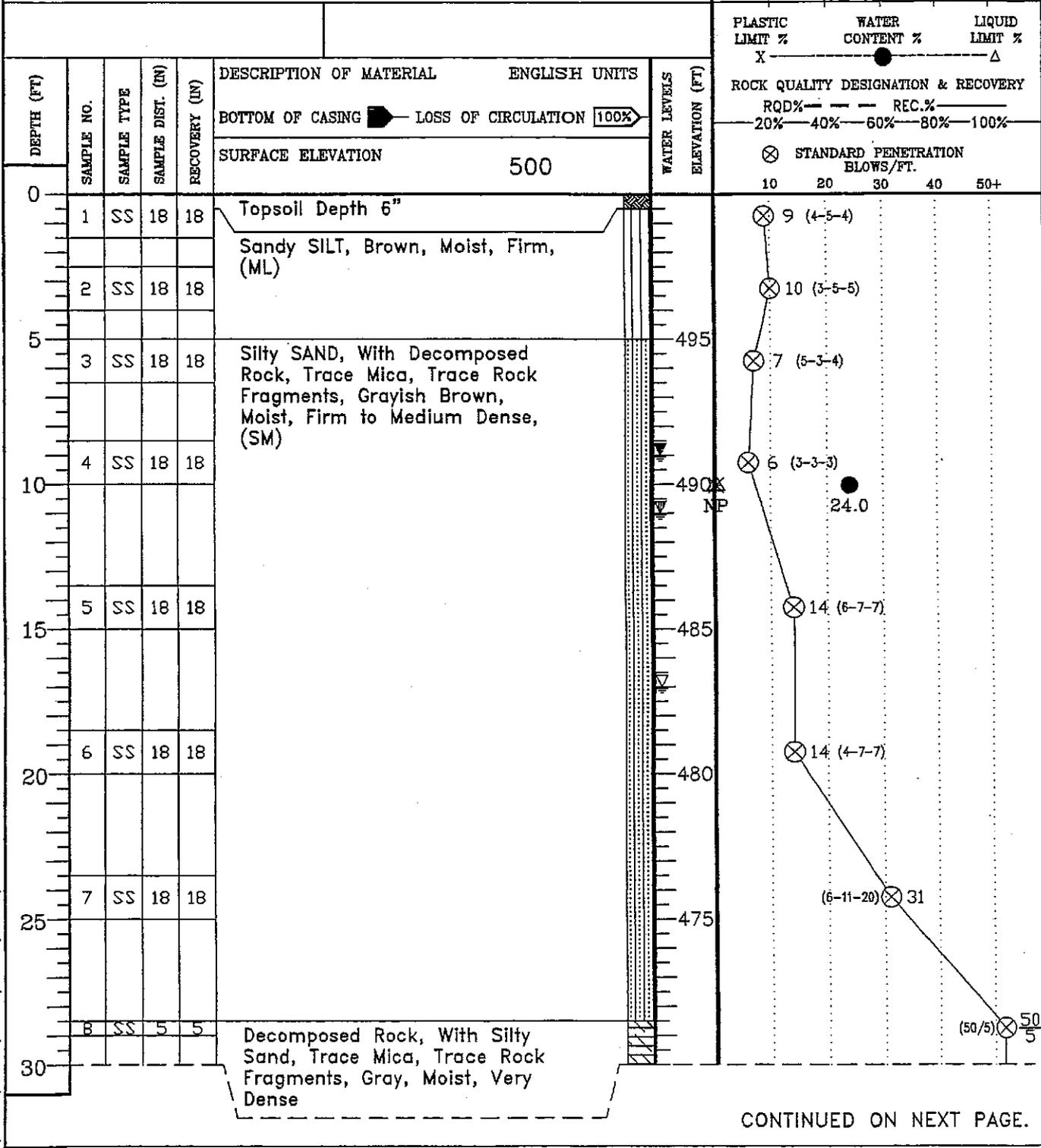
∇ WL 24.0'	WS OR (D)	BORING STARTED 05-21-07
∇ WL(BCR) 14.0' ∇ WL(ACR) 11.5'		BORING COMPLETED 05-21-07
∇ WL	RIG 750 FOREMAN GOMEZ	CAVE IN DEPTH @ 13.0'
		DRILLING METHOD HSA

AHEWIT (05-25-07) AHEWIT (05-25-07) AHEWIT (05-09-07) AHEWIT (06-07-07)

Grolkowski (05/22/2007)

CLIENT EYA	JOB # 13-3042	BORING # GBG-04	SHEET 1 OF 2	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND



CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL			
▽ WL 17.0'	WS OR WD	BORING STARTED	05-21-07
▽ WL(BCR) 11.0' ▽ WL(ACR) 9.0'		BORING COMPLETED	05-21-07
▽ WL		RIG 750 FOREMAN GOMEZ	CAVE IN DEPTH ● 16.0'
			DRILLING METHOD HSA

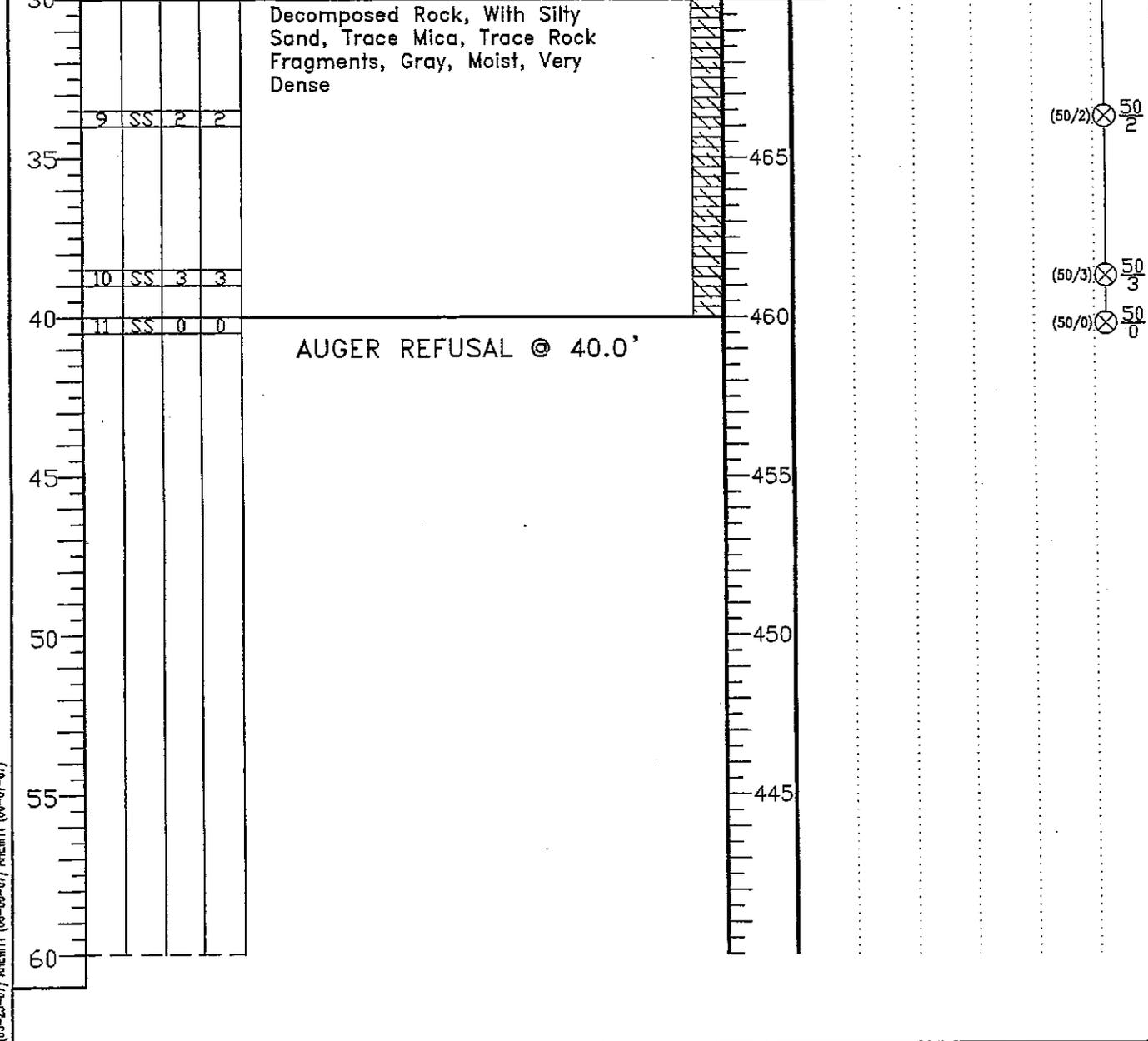
AHEWITT (05-25-07) AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

CRABBS BRANCH (05/22/2007)

CLIENT EYA	JOB # 13-3042	BORING # GBG-04	SHEET 2 OF 2	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	○ CALIBRATED PENETROMETER TONS/FT. ² 1 2 3 4 5+
					BOTTOM OF CASING	LOSS OF CIRCULATION		100%



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

▽ WL 17.0'	WS OR WD	BORING STARTED	05-21-07
▽ WL(BCR) 11.0' ▽ WL(ACR) 9.0'		BORING COMPLETED	05-21-07
▽ WL		RIG 750	FOREMAN GOMEZ
			DRILLING METHOD HSA

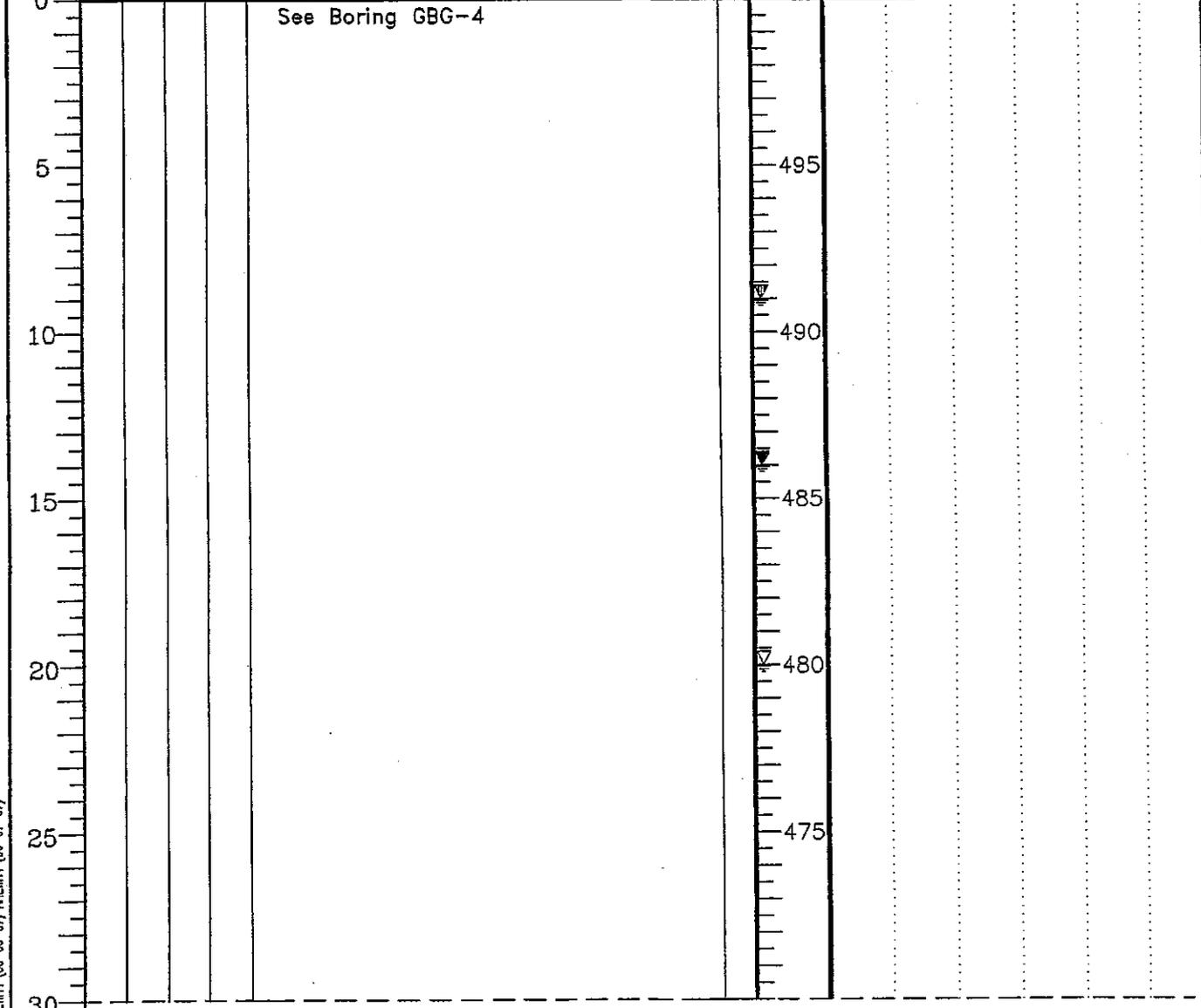
AHEWITT (05-25-07) AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

Gardner&Gardner(05/22/2007)

CLIENT EYA	JOB # 13-3042	BORING # GBG-04-A	SHEET 1 OF 2	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	-○- CALIBRATED PENETROMETER TONS/FT. ² 1 2 3 4 5+
					BOTTOM OF CASING	LOSS OF CIRCULATION		100%



CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL					
▽WL 20'	WS OR (WD)	BORING STARTED	05-22-07		
▽WL(BCR) 9'	▽WL(ACR) 14'	BORING COMPLETED	05-22-07	CAVE IN DEPTH @ 27'	
▽WL		RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA	

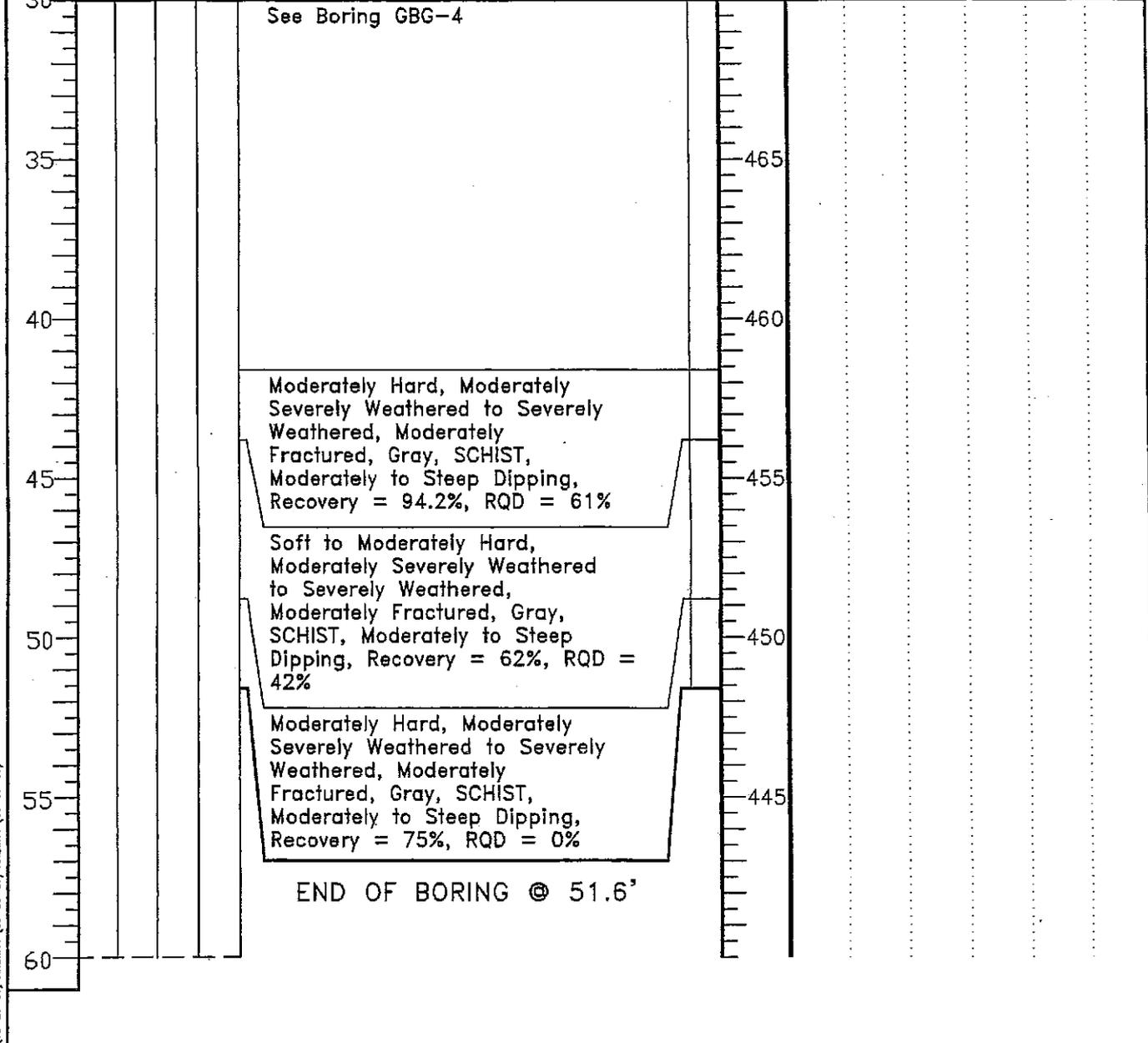
AHEWITT (05-25-07) AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

Graftonak(05/22/2007)

CLIENT EYA	JOB # 13-3042	BORING # GBG-04-A	SHEET 2 OF 2	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	○ CALIBRATED PENETROMETER TONS/FT. ² 1 2 3 4 5+
					BOTTOM OF CASING	LOSS OF CIRCULATION		100%



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

▽WL 20'	WS OR (WD)	BORING STARTED	05-22-07
▽WL(BCR) 9'	▽WL(ACR) 14'	BORING COMPLETED	05-22-07
▽WL	RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

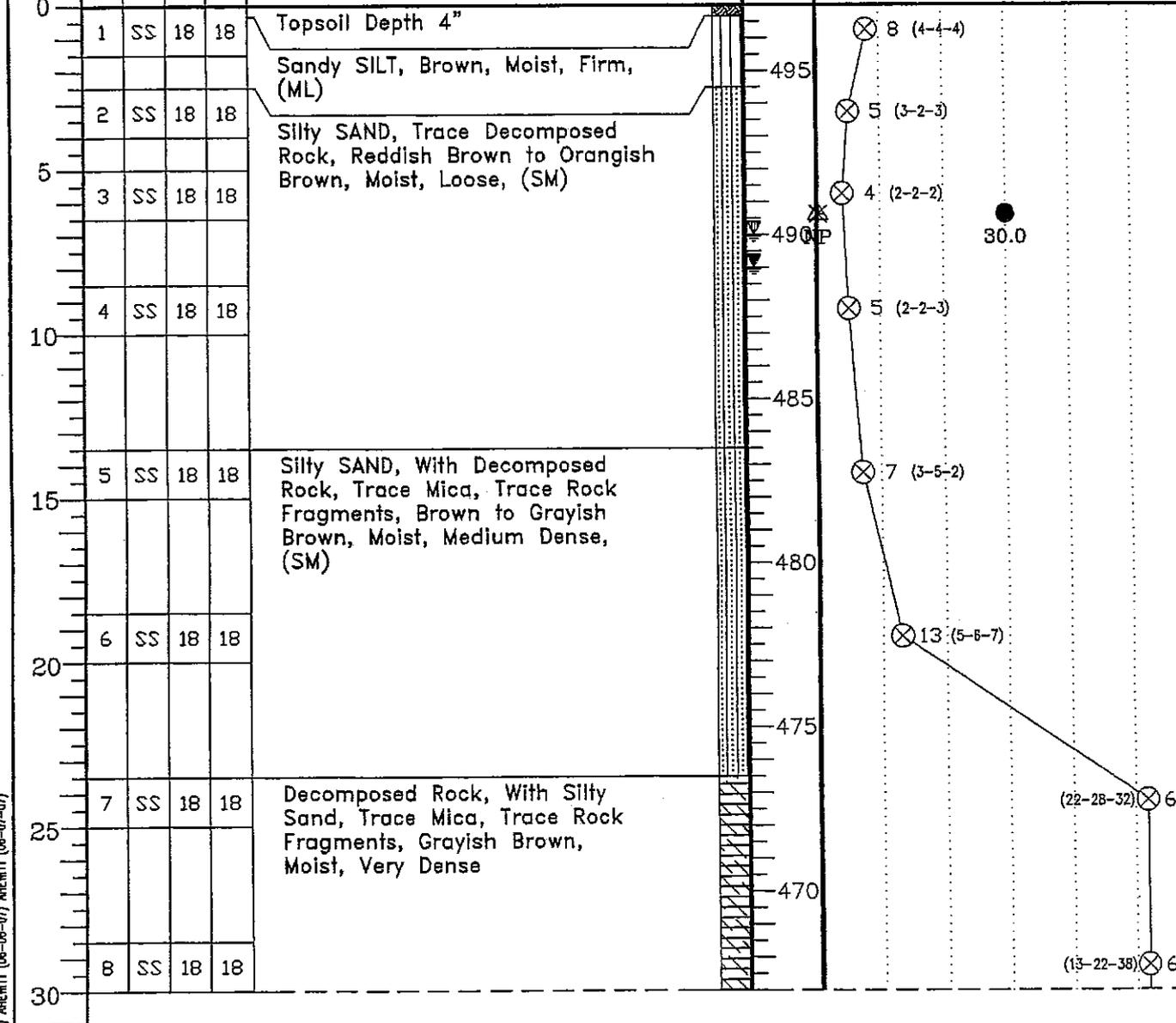
AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

Cratechek(05/22/2007)

CLIENT EYA	JOB # 13-3042	BORING # GBG-05	SHEET 1 OF 2	EGS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY		ARCHITECT-ENGINEER		

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	CALIBRATED PENETROMETER TONS/FT. ² 1 2 3 4 5+
								PLASTIC LIMIT % X WATER CONTENT % ● LIQUID LIMIT % Δ ROCK QUALITY DESIGNATION & RECOVERY RQD% — — — REC.% — — — 20% — 40% — 60% — 80% — 100% ⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+



CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL					
▽ WL 8.0'	WS OR (TD)	BORING STARTED	05-19-07		
▽ WL(BCR) 7'	▽ WL(ACR) 8'	BORING COMPLETED	05-19-07	CAVE IN DEPTH ● 15'	
▽ WL	RIG 750	FOREMAN	GOMEZ	DRILLING METHOD HSA	

AHEWITT (05-25-07) AHEWITT (05-25-07) AHEWITT (06-06-07) AHEWITT (06-07-07)

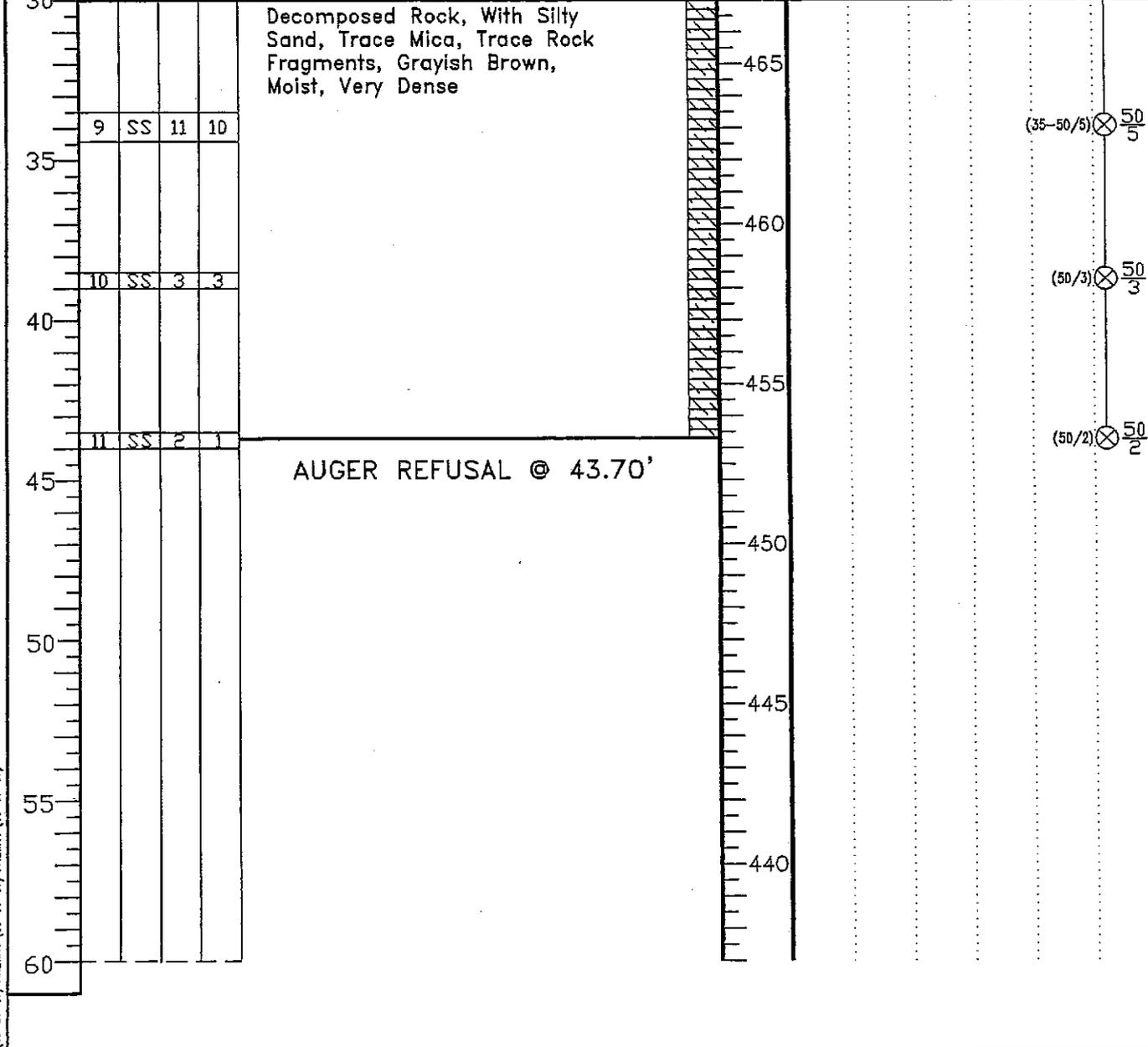
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CLIENT EYA	JOB # 13-3042	BORING # GBG-05	SHEET 2 OF 2	
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

PLASTIC LIMIT % X	WATER CONTENT % ●	LIQUID LIMIT % Δ
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DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	ROCK QUALITY DESIGNATION & RECOVERY RQD% --- REC.% --- 20% 40% 60% 80% 100%
					BOTTOM OF CASING	LOSS OF CIRCULATION 100%		
					SURFACE ELEVATION 497			



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

▽ WL 8.0'	WS OR (WD)	BORING STARTED 05-19-07	
▽ WL(BCR) 7'	▽ WL(ACR) 8'	BORING COMPLETED 05-19-07	CAVE IN DEPTH @ 15'
▽ WL		RIG 750 FOREMAN GOMEZ	DRILLING METHOD HSA

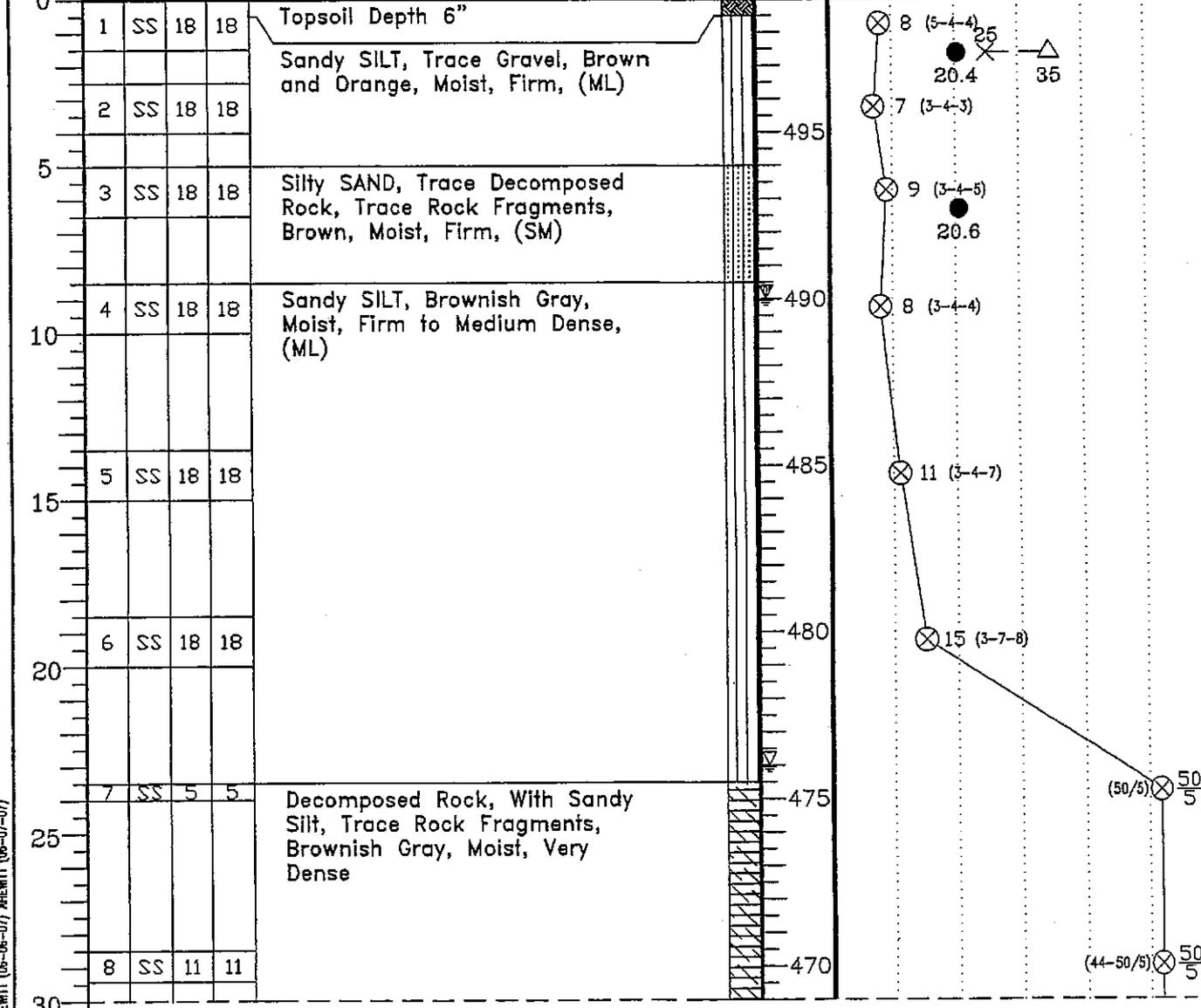
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6/20/07 (05/22/2007)

CLIENT EYA	JOB # 13-3042	BORING # GBG-06	SHEET 1 OF 2	
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	○ CALIBRATED PENETROMETER TONS/FT. ² 1 2 3 4 5+
					BOTTOM OF CASING LOSS OF CIRCULATION 100% SURFACE ELEVATION 499	PLASTIC LIMIT % X WATER CONTENT % ● LIQUID LIMIT % △ ROCK QUALITY DESIGNATION & RECOVERY ROD% --- REC.% --- 20% 40% 60% 80% 100% ⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+		



CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL			
▽ WL 23.0'	WS OR	BORING STARTED	05-21-07
▽ WL(BCR) 9.0'	▽ WL(ACR) DRY	BORING COMPLETED	05-21-07
▽ WL	RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

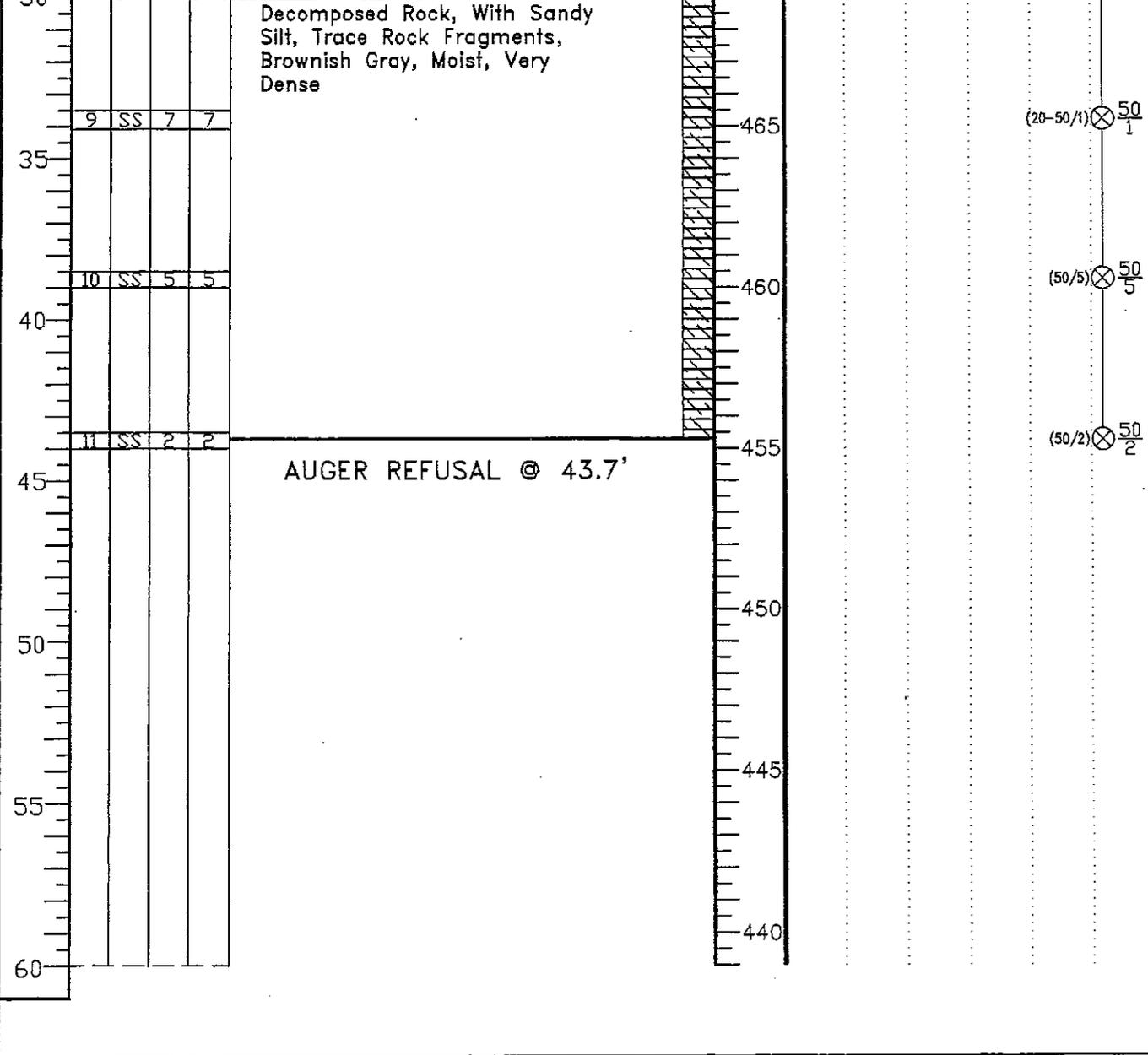
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CLIENT EYA	JOB # 13-3042	BORING # GBG-06	SHEET 2 OF 2	ECS LLC MID-ATLANTIC
PROJECT NAME CASEY 6 PROPERTY	ARCHITECT-ENGINEER			

SITE LOCATION
CRABBS BRANCH WAY AND ROUTE 370, GAITHERSBURG, MONTGOMERY COUNTY, MARYLAND

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	○ CALIBRATED PENETROMETER TONS/FT. ² 1 2 3 4 5+
					BOTTOM OF CASING LOSS OF CIRCULATION 100%			PLASTIC LIMIT % X WATER CONTENT % ● LIQUID LIMIT % △
					SURFACE ELEVATION	499		ROCK QUALITY DESIGNATION & RECOVERY RQD% --- REC.% --- 20% 40% 60% 80% 100%
								⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+



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

▽WL 23.0'	WS OR	BORING STARTED	05-21-07	
▽WL(BCR) 9.0'	▽WL(ACR) DRY	BORING COMPLETED	05-21-07	CAVE IN DEPTH @ 7.5'
▽WL		RIG 750	FOREMAN GOMEZ	DRILLING METHOD HSA

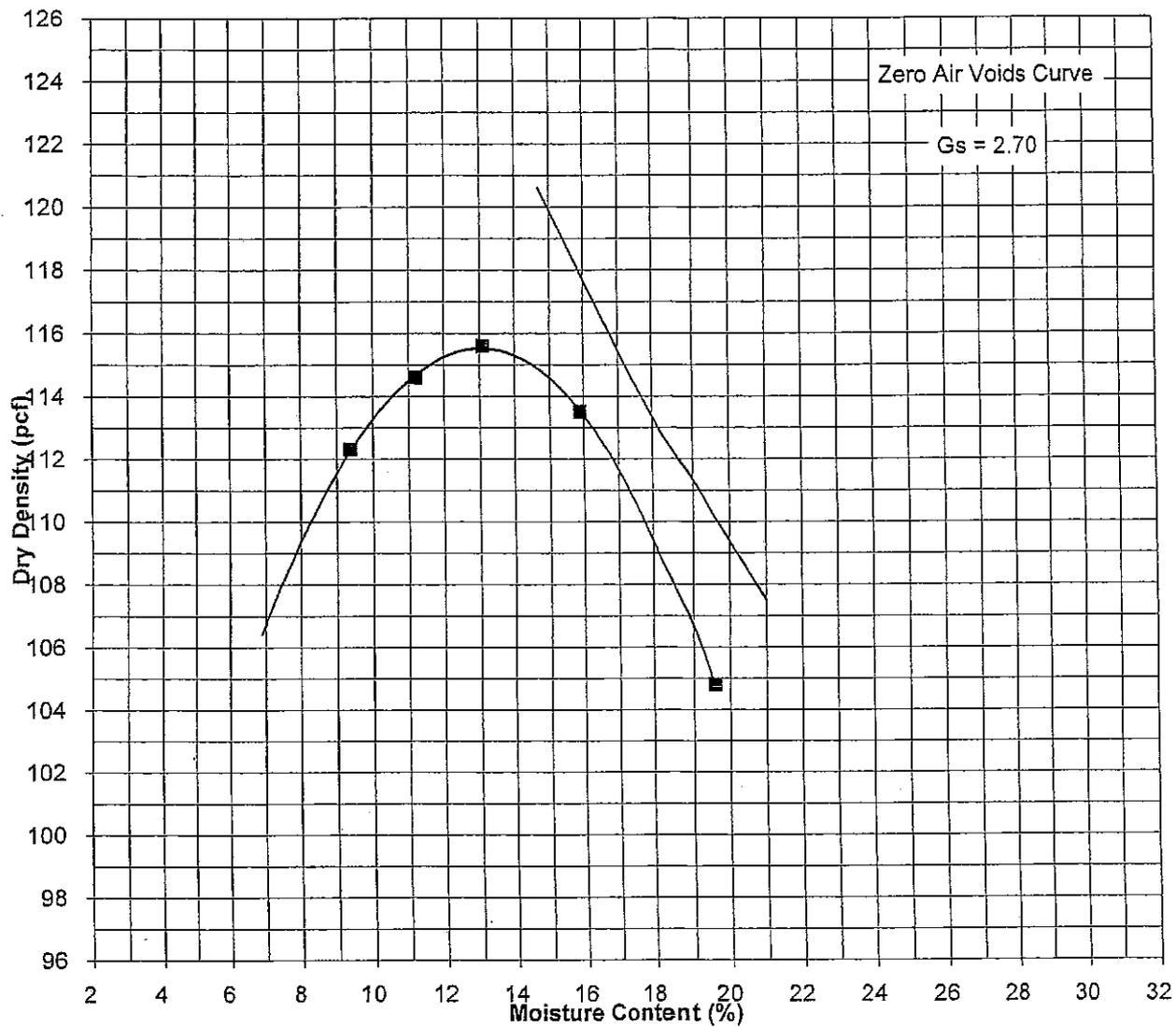
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Craikowski (05/22/2007)

Appendix B

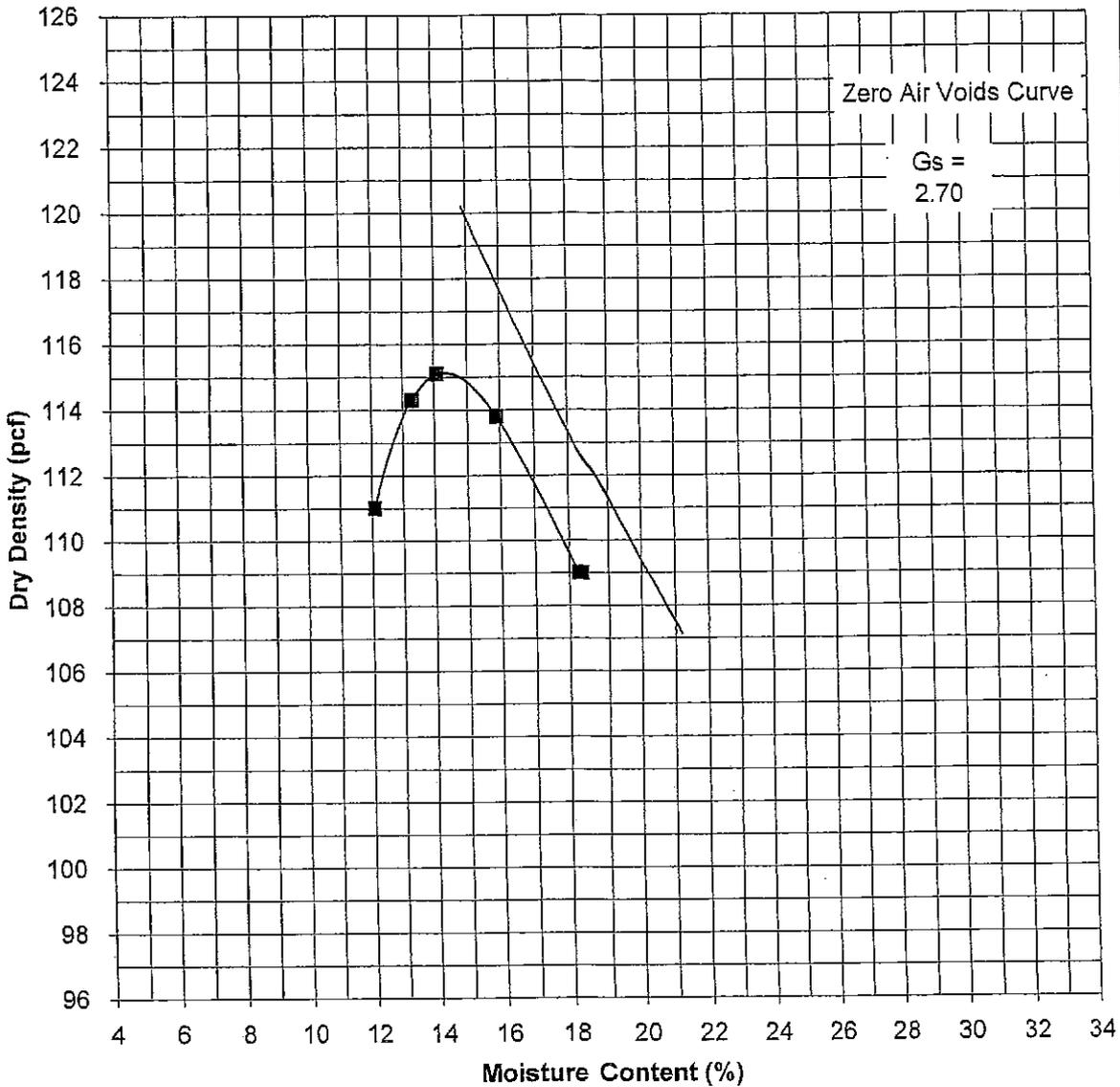
Laboratory Test Results

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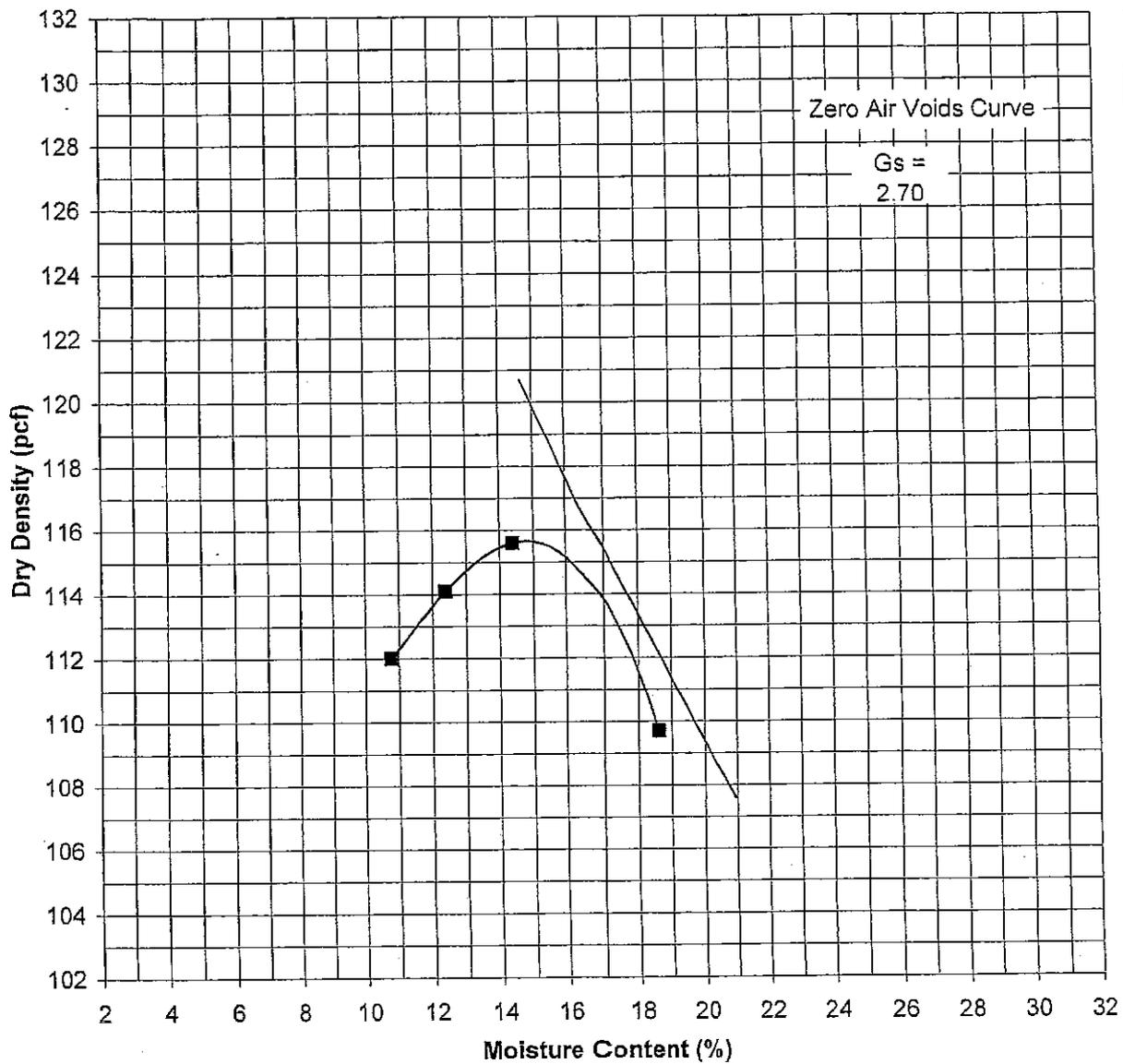


Sample No.	GP02/BAG/2-10	Natural Moisture Content	
Street		Percent Passing No. 200 Sieve	43.4
Station		Percent Retained on No. 4 Sieve	8.8
Liquid Limit (LL)	NP	Percent Retained on 3/4" Sieve	5.5
Plastic Limit (PL)	NP	Maximum Dry Density (pcf)	115.6
Plasticity Index (PI)	NP	Optimum Moisture Content (%)	13.1
Liquidity Index (LI)		Corr. Maximum Dry Density (pcf)	118.9
Description	BROWN SILTY SAND	Corr. Optimum Moisture Content (%)	12.1
Classification	SM	Percent (%) Gravel as Tested	0.0
Specific Gravity	2.70	Percent (%) Gravel Total	8.8
Test Standard	D-1557	Test Method	A

Project: CASEY 6	ECS MID-ATLANTIC, LLC
Project No.: 13-3042	Frederick, Maryland
Date: 5/26/2007	Moisture Density Relationship Curve

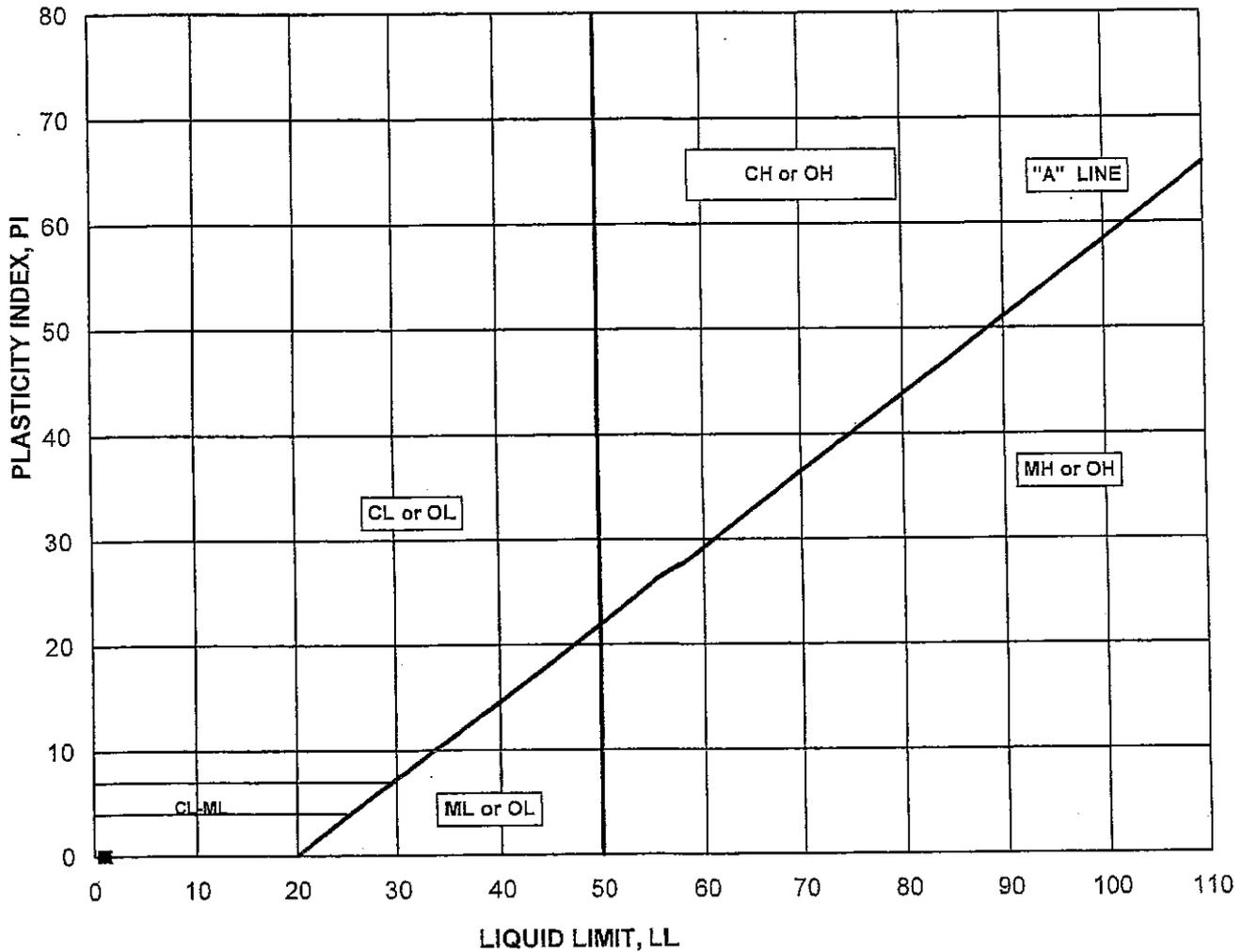


Sample No.	GP06/BAG/2-10	Natural Moisture Content	
Street		Percent Passing No. 200 Sieve	46.7
Station		Percent Retained on No. 4 Sieve	4.9
Liquid Limit (LL)	NP	Percent Retained on 3/4" Sieve	1.9
Plastic Limit (PL)	NP	Maximum Dry Density (pcf)	115.2
Plasticity Index (PI)	NP	Optimum Moisture Content (%)	14.3
Liquidity Index (LI)		Corr. Maximum Dry Density (pcf)	117.0
Description	BROWN SILTY SAND	Corr. Optimum Moisture Content (%)	13.7
Classification	SM	Percent (%) Gravel as Tested	0.0
Specific Gravity	2.70	Percent (%) Gravel Total	4.9
Test Standard	D-1557	Test Method:	A
Project: CASEY 6		ECS MID-ATLANTIC, LLC	
Project No.: 13-3042		Frederick, Maryland	
Date: 5/26/2007		Moisture Density Relationship Curve	



Sample No.	GP09/BAG/2-10	Natural Moisture Content	
Street		Percent Passing No. 200 Sieve	38.2
Station		Percent Retained on No. 4 Sieve	3.3
Liquid Limit (LL)	NP	Percent Retained on 3/4" Sieve	0
Plastic Limit (PL)	NP	Maximum Dry Density (pcf)	115.7
Plasticity Index (PI)	NP	Optimum Moisture Content (%)	14.9
Liquidity Index (LI)		Corr. Maximum Dry Density (pcf)	116.9
Description	REDDISH SILTY SAND	Corr. Optimum Moisture Content (%)	14.5
Classification	SM	Percent (%) Gravel as Tested	0.0
Specific Gravity	2.70	Percent (%) Gravel Total	3.3
Test Standard	D-1557	Test Method:	A

Project: CASEY 6	ECS MID-ATLANTIC, LLC
Project No.: 13-3042	Frederick, Maryland
Date: 5/26/2007	Moisture Density Relationship Curve



BORING/ SAMPLE No.	DEPTH (feet)	TEST SYMBOL	DESCRIPTION	WATER CONTENT (%)		
				LL	PL	PI
GP02 / BAG	2-10	□	BROWN SILTY SAND (SM)	NP	NP	NP
GP06 / BAG	2-10	■	BROWN SILTY SAND (SM)	NP	NP	NP
GP09 / BAG	2-10	△	REDDISH SILTY SAND (SM)	NP	NP	NP
/		▲		-	-	-
/		X		-	-	-
/		○		-	-	-
/		●		-	-	-
/		◇		-	-	-
/		◆		-	-	-
/		+		-	-	-
/		×		-	-	-

Applicable ASTM: D-4318

Project: CASEY 6

Project No.: 13-3042

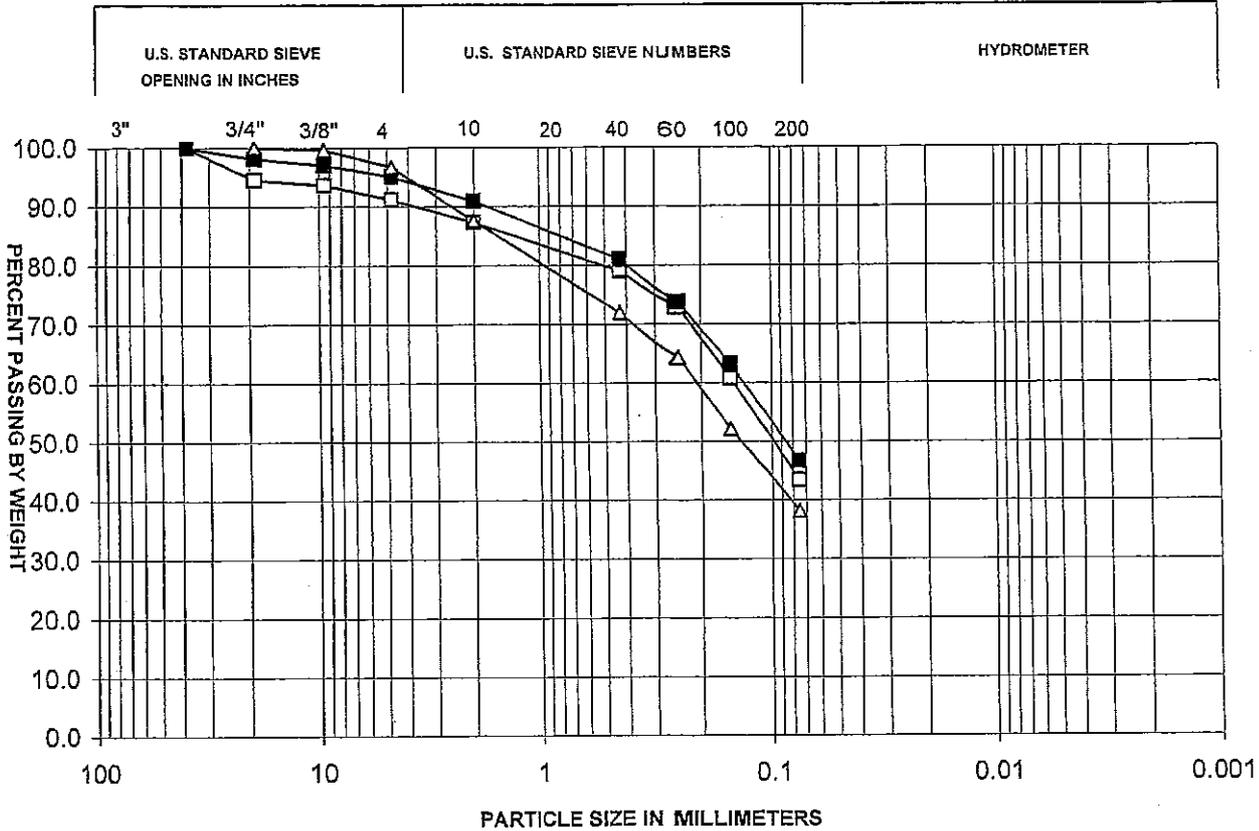
Date: 5/26/2007

ECS - MID ATLANTIC LLC

Frederick, Maryland

Plasticity Chart

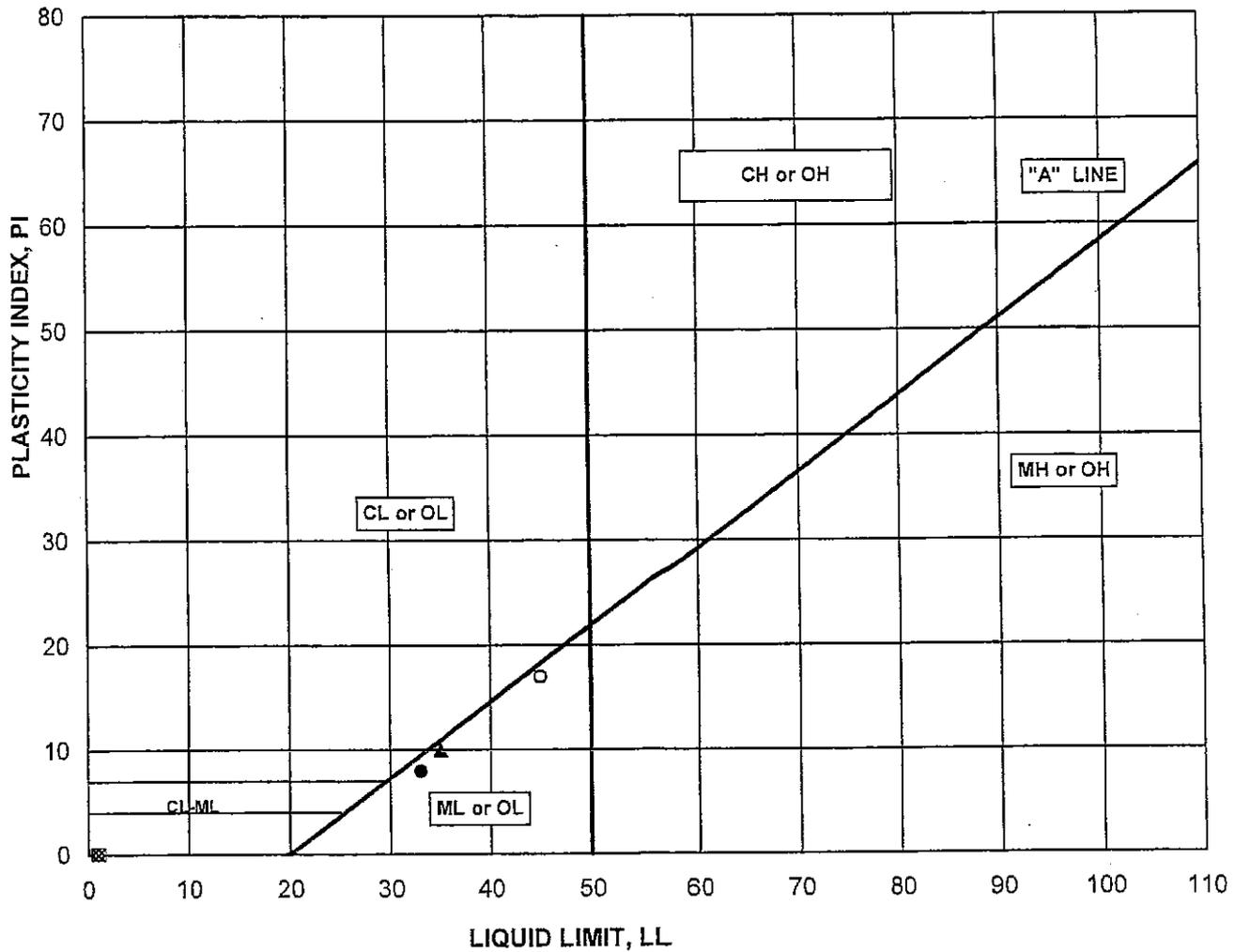
COBBLE	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Boring/ Sample No.	Depth (feet)	Symbol	LL	PI	Description
GP02 / BAG	2-10	□	NP	NP	BROWN SILTY SAND (SM)
GP06 / BAG	2-10	■	NP	NP	BROWN SILTY SAND (SM)
GP09 / BAG	2-10	△	NP	NP	REDDISH SILTY SAND (SM)
/		▲			

Project: CASEY 6
 Project No.: 13-3042
 Date: 5/26/2007

ECS - MID ATLANTIC LLC
 FREDERICK, MD
 Grain Size Analysis



BORING/ SAMPLE No.	DEPTH (feet)	TEST SYMBOL	DESCRIPTION	WATER CONTENT (%)	LL	PL	PI
GBG01 / S2	2.5-4	□	ORANGE SANDY SILT (ML)	26.2	NP	NP	NP
GBG04 / S4	8.5-10	■	BROWN SILTY SAND (SM)	24.0	NP	NP	NP
GBG05 / S3	5-6.5	△	ORANGE SILTY SAND (SM)	30.0	NP	NP	NP
GBG06 / S1	0-1.5	▲	ORANGE SILT W/ SAND (ML)	20.4	35	25	10
GP07 / S1	0-1.5	X	ORANGE SANDY SILT (ML)	17.9	NP	NP	NP
GSS01 / S3	5-6.5	○	ORANGE SILT W/ SAND (ML)	42.2	45	28	17
GSD01 / S2	2.5-4	●	BROWN SANDY SILT (ML)	27.1	33	25	8
/		◇			-	-	-
/		◆			-	-	-
/		+			-	-	-
/		X			-	-	-

Applicable ASTM: D-4318

Project: CASEY 6

Project No.: 13-3042

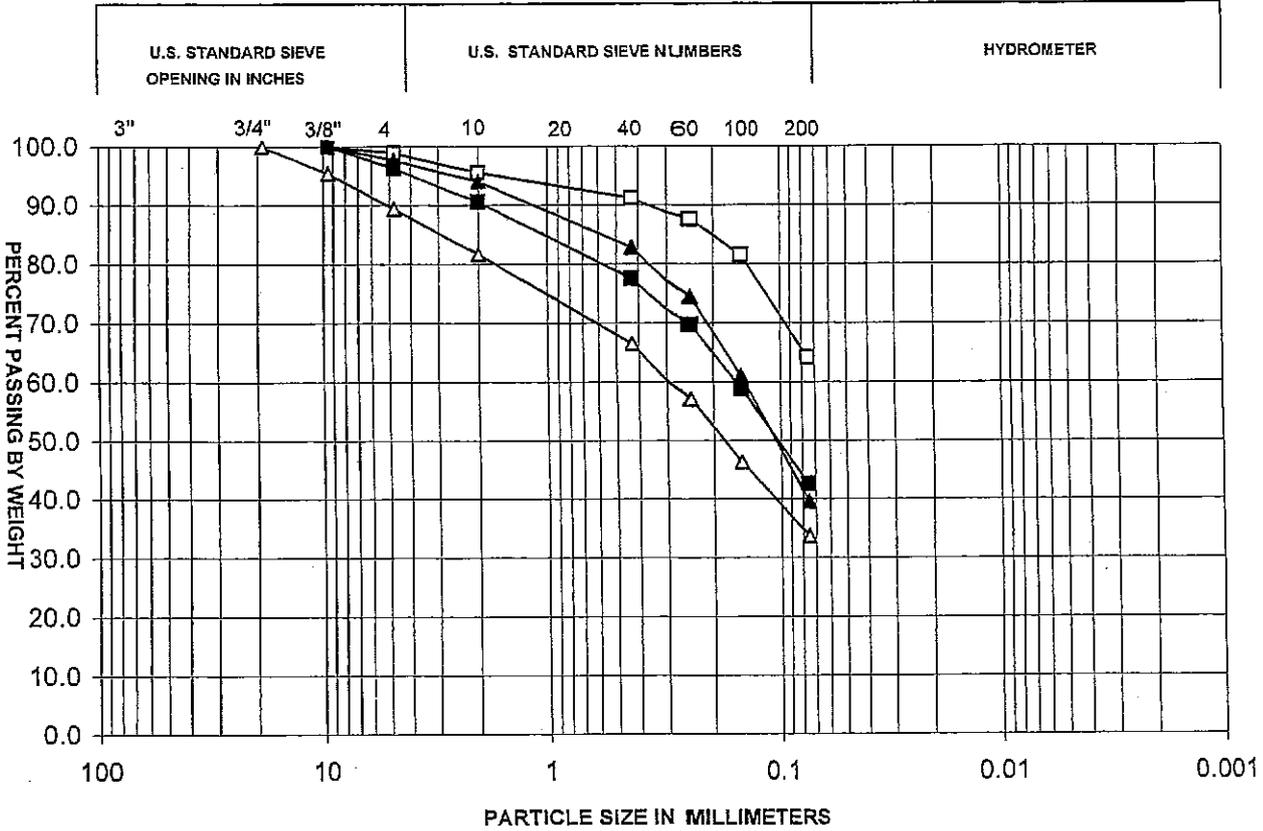
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ECS - MID ATLANTIC LLC

Frederick, Maryland

Plasticity Chart

COBBLE	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

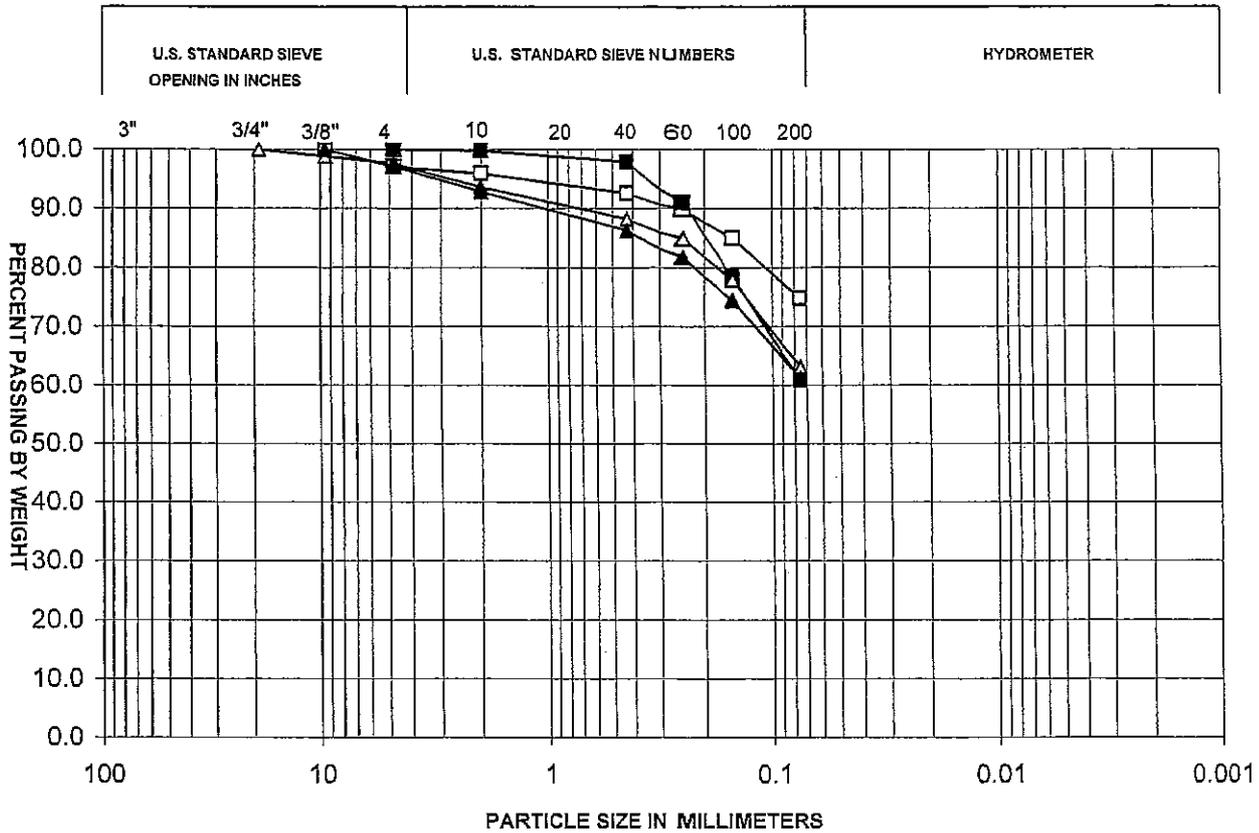


Boring/ Sample No.	Depth (feet)	Symbol	LL	PI	Description
GBG01 / S2	2.5-4	□	NP	NP	ORANGE SANDY SILT (ML)
GBG02 / S5	13.5-15	■			BROWN SILTY SAND (SM)
GBG04 / S4	8.5-10	△	NP	NP	BROWN SILTY SAND (SM)
GBG05 / S3	5-6.5	▲	NP	NP	ORANGE SILTY SAND (SM)

Project: CASEY 6
Project No.: 13-3042
Date: 6/2/2007

ECS - MID ATLANTIC LLC
FREDERICK, MD
Grain Size Analysis

COBBLE	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

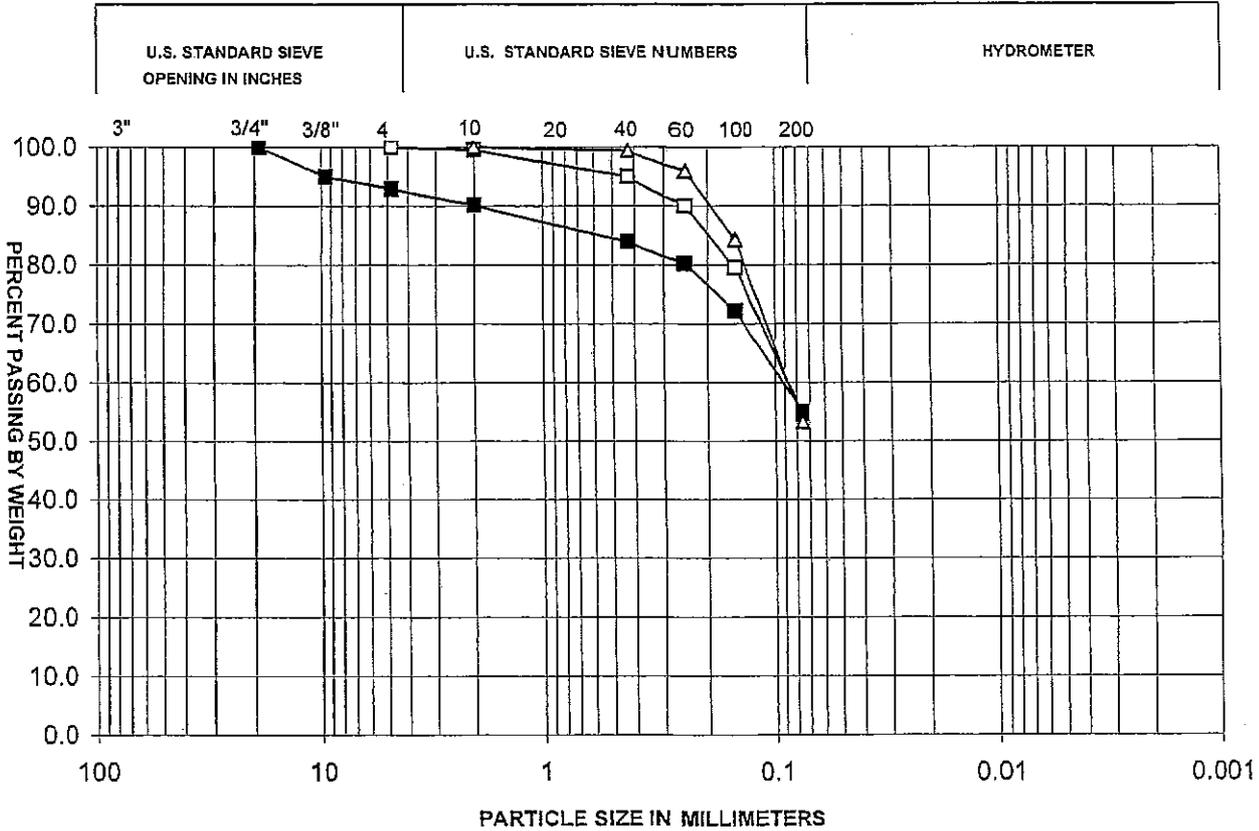


Boring/ Sample No.	Depth (feet)	Symbol	LL	PI	Description
GBG06 / S1	0-1.5	□	35	10	ORANGE SILT W/ SAND (ML)
GP01 / S1	0-1.5	■			BROWN SANDY SILT (ML)
GP04 / S1	0-1.5	△			REDDISH SANDY SILT (ML)
GP07 / S1	0-1.5	▲	NP	NP	ORANGE SANDY SILT (ML)

Project: CASEY 6
 Project No.: 13-3042
 Date: 6/2/2007

ECS - MID ATLANTIC LLC
 FREDERICK, MD
 Grain Size Analysis

COBBLE	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

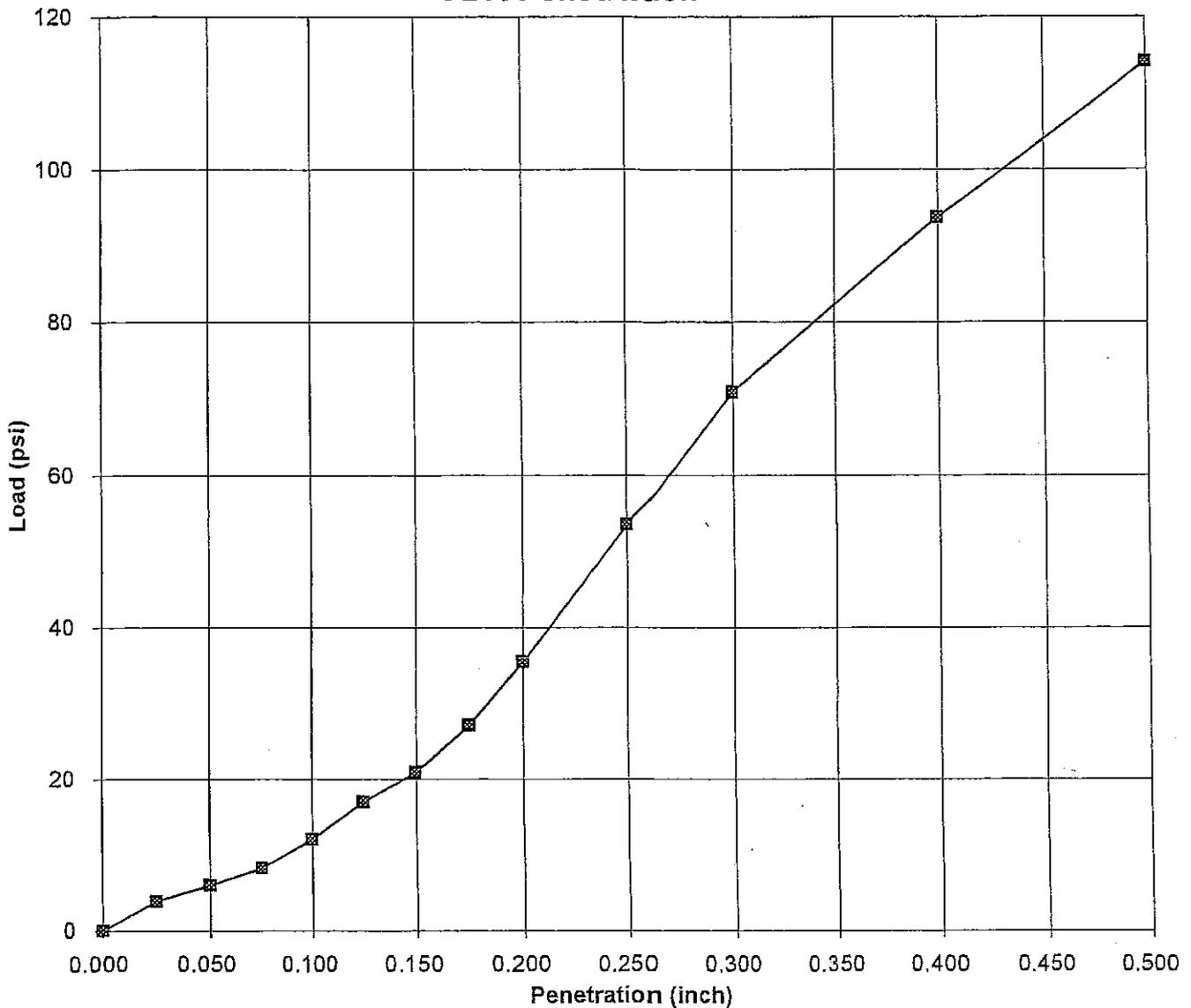


Boring/ Sample No.	Depth (feet)	Symbol	LL	PI	Description
GSWM01 / S5	13.5-15	□			BROWN SANDY SILT (ML)
GSWM02 / S3	5-6.5	■			ORANGE SANDY SILT (ML)
GSWM03 / S4	8.5-10	△			TAN SANDY SILT (ML)
/		▲			

Project: CASEY 6
Project No.: 13-3042
Date: 6/2/2007

ECS - MID ATLANTIC LLC
FREDERICK, MD
Grain Size Analysis

CBR Penetration

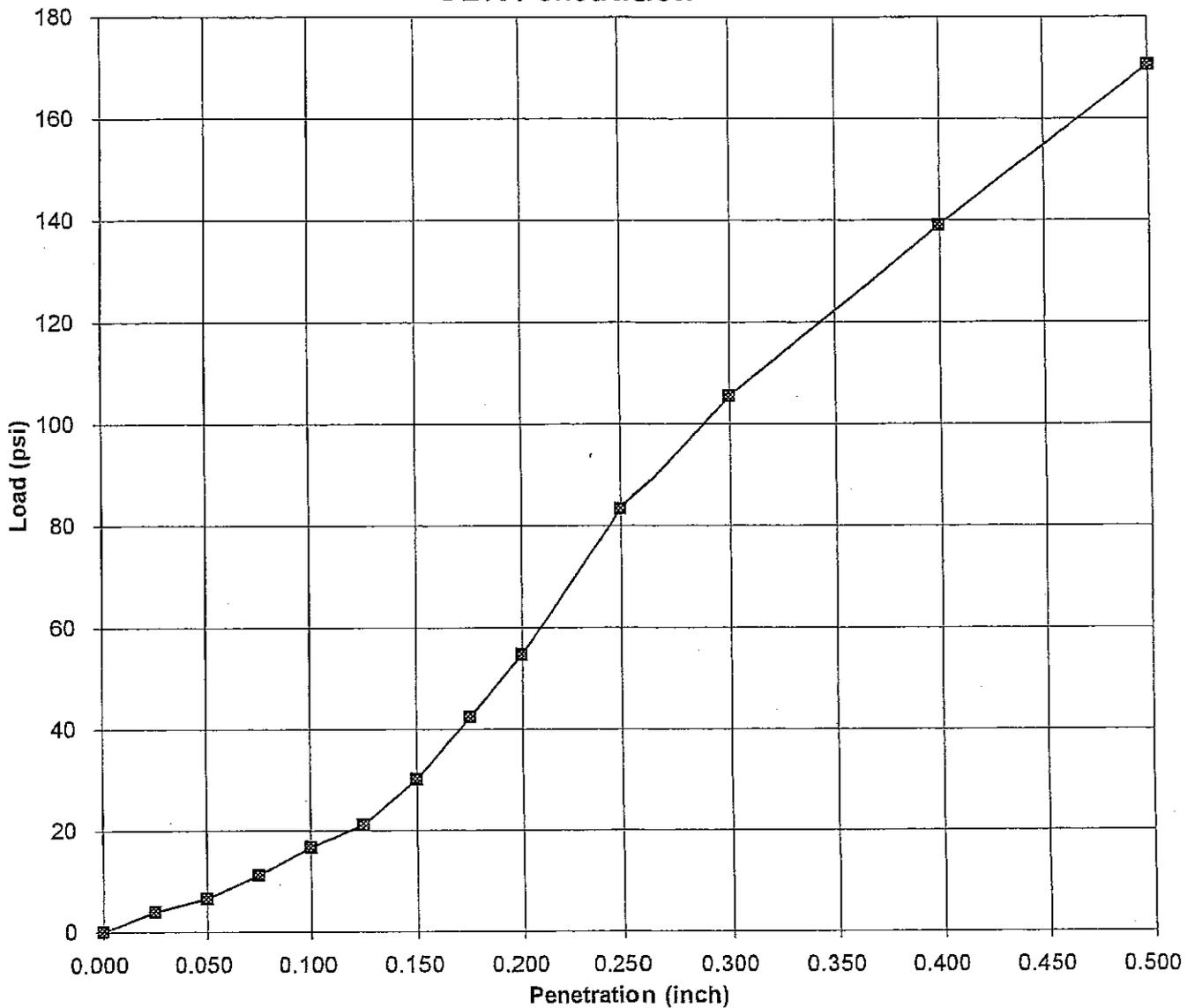


Sample No.: GP02/BAG/2-10	Street: 0
Description: BROWN SILTY SAND	Station No.: 0
Classification: SM	Test Method: D-1883

Maximum Dry Density (pcf)	118.9		CBR 1
Opt. Moisture Content (%)	12.1	Corrected CBR @ 0.1"	1.2
Natural Moisture Content		Corrected CBR @ 0.2"	2.4
Liquid Limit (LL)	NP	Proctor Method	D-1557A
Plastic Limit (PL)	NP	Dry Density as Molded	111.3
Plasticity Index (PI)	NP	Molded Moisture Content	11.9
Liquidity Index (LI)		Percent of Maximum Density	93.6
Percent Retained 3/4" Sieve	5.5	Moisture Content +/- Opt	-0.2
Percent Retained No. 4 Sieve	8.8	Percent (%) Swell	4.9
Percent Passing No.200 Sieve	43.4		

Project: CASEY 6 Project No.: 13-3042 Date: 5/30/2007	ECS MID-ATLANTIC, LLC Frederick, Maryland California Bearing Ratio Curves
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CBR Penetration



Sample No.: GP02/BAG/2-10	Street: 0
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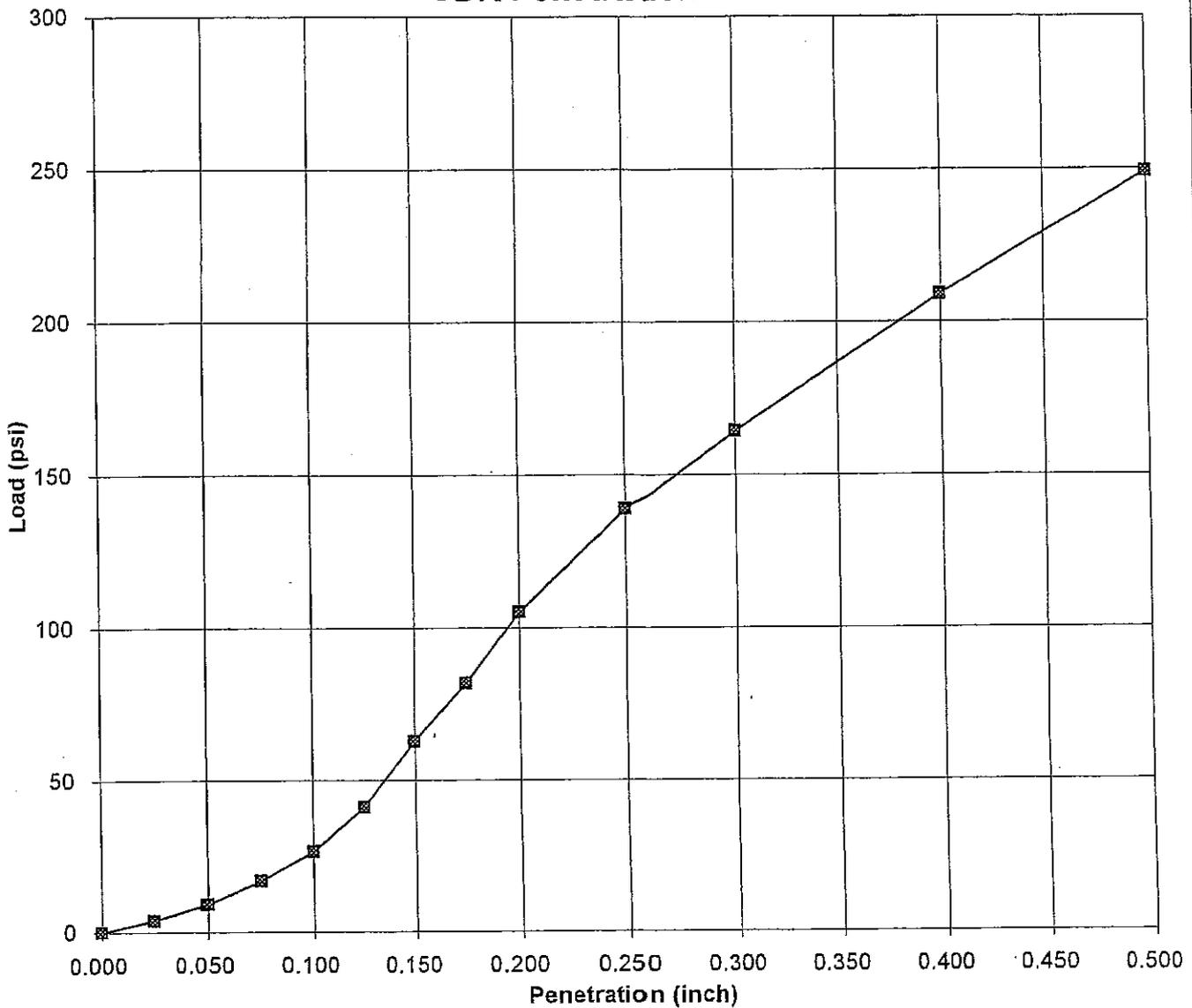
Description: BROWN SILTY SAND	Station No.: 0
-------------------------------	----------------

Classification: SM	Test Method: D-1883
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Maximum Dry Density (pcf)	118.9		CBR 2
Opt. Moisture Content (%)	12.1	Corrected CBR @ 0.1"	1.7
Natural Moisture Content		Corrected CBR @ 0.2"	3.6
Liquid Limit (LL)	NP	Proctor Method	D-1557A
Plastic Limit (PL)	NP	Dry Density as Molded	112.1
Plasticity Index (PI)	NP	Molded Moisture Content	11.9
Liquidity Index (LI)		Percent of Maximum Density	94.3
Percent Retained 3/4" Sieve	5.5	Moisture Content +/- Opt	-0.2
Percent Retained No. 4 Sieve	8.8	Percent (%) Swell	4.1
Percent Passing No.200 Sieve	43.4		

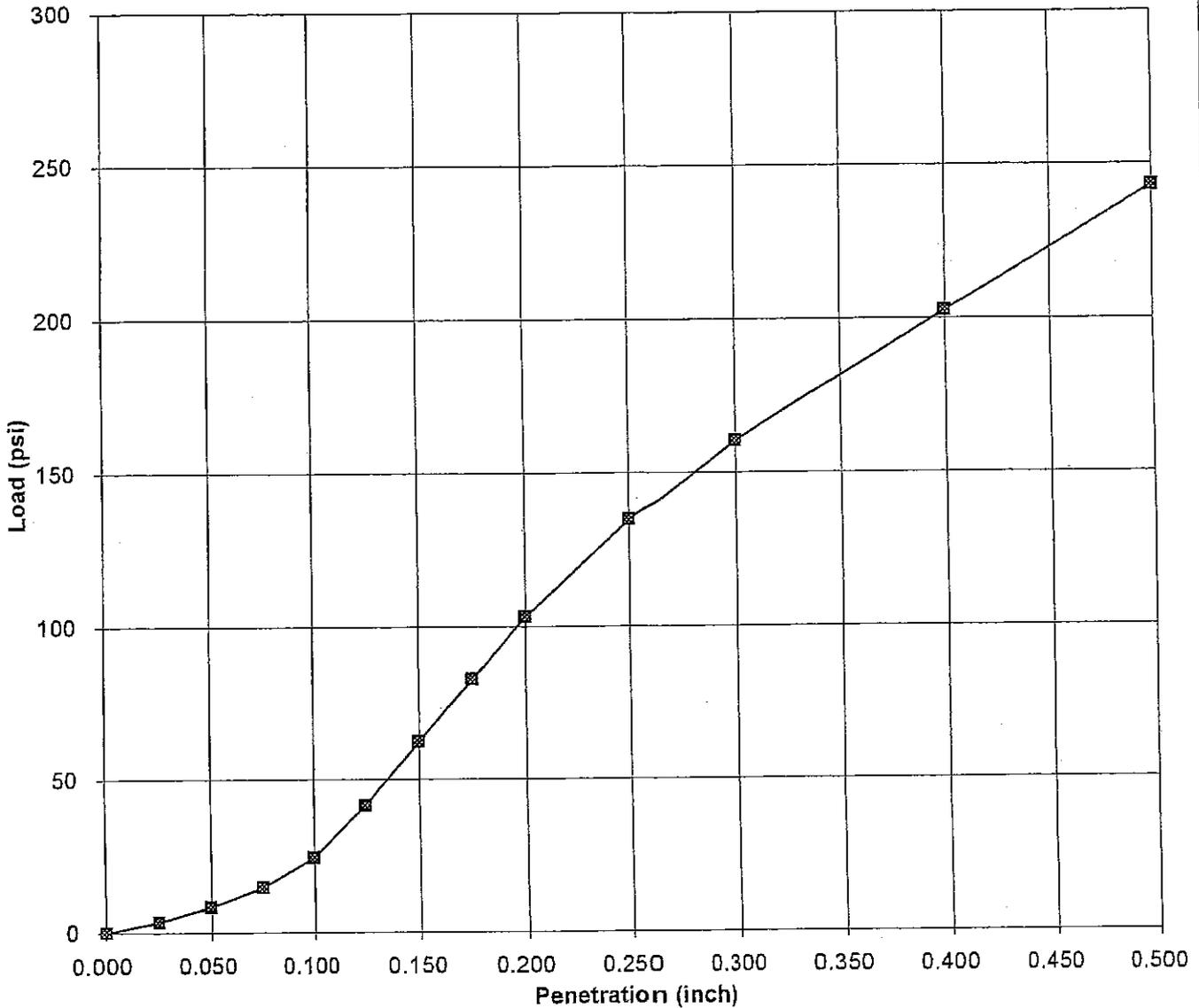
Project: CASEY 6 Project No.: 13-3042 Date: 5/30/2007	ECS MID-ATLANTIC, LLC Frederick, Maryland California Bearing Ratio Curves
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CBR Penetration



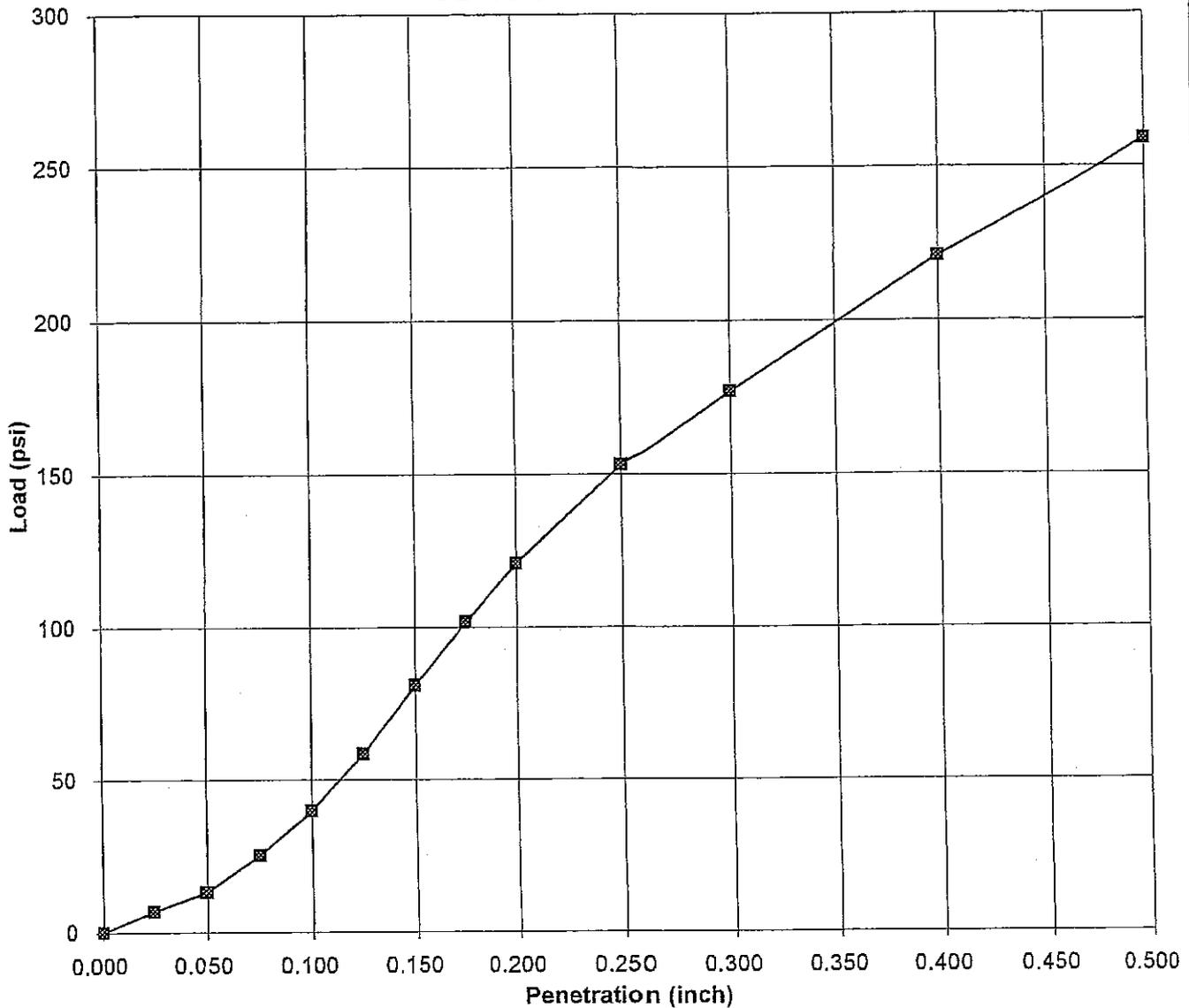
Sample No.: GP06/BAG/2-10		Street: 0	
Description: BROWN SILTY SAND		Station No.: 0	
Classification: SM		Test Method: D-1883	
Maximum Dry Density (pcf)	117.0		CBR 1
Opt. Moisture Content (%)	13.7	Corrected CBR @ 0.1"	2.7
Natural Moisture Content		Corrected CBR @ 0.2"	7.0
Liquid Limit (LL)	NP	Proctor Method	D-1557A
Plastic Limit (PL)	NP	Dry Density as Molded	111.0
Plasticity Index (PI)	NP	Molded Moisture Content	13.5
Liquidity Index (LI)		Percent of Maximum Density	94.9
Percent Retained 3/4" Sieve	1.9	Moisture Content +/- Opt	-0.2
Percent Retained No. 4 Sieve	4.9	Percent (%) Swell	2.4
Percent Passing No.200 Sieve	46.7		
Project: CASEY 6		ECS MID-ATLANTIC, LLC Frederick, Maryland California Bearing Ratio Curves	
Project No.: 13-3042			
Date: 5/30/2007			

CBR Penetration



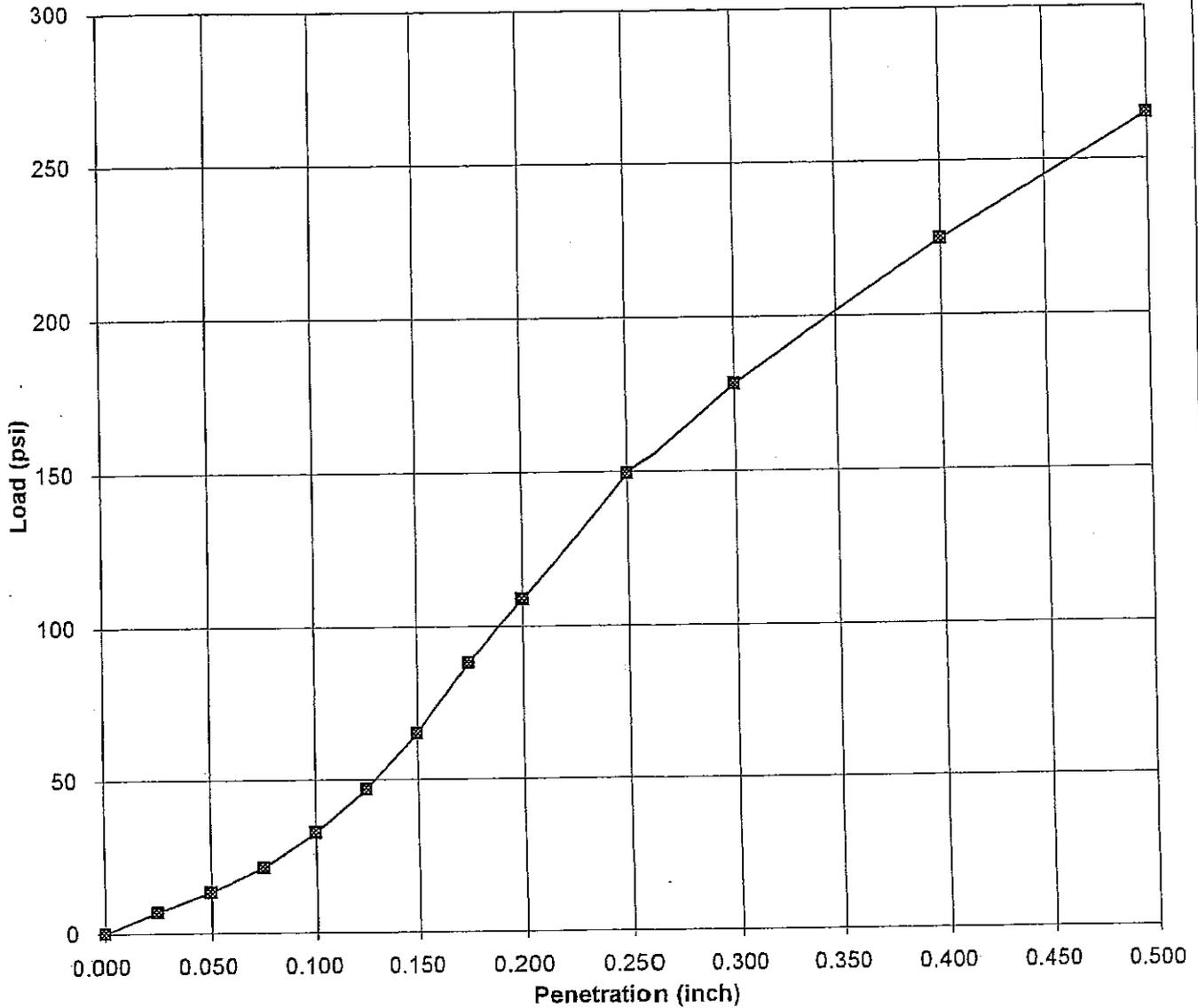
Sample No.: GP06/BAG/2-10		Street: 0	
Description: BROWN SILTY SAND		Station No.: 0	
Classification: SM		Test Method: D-1883	
Maximum Dry Density (pcf)	117.0		CBR 2
Opt. Moisture Content (%)	13.7	Corrected CBR @ 0.1"	2.5
Natural Moisture Content		Corrected CBR @ 0.2"	6.9
Liquid Limit (LL)	NP	Proctor Method	D-1557A
Plastic Limit (PL)	NP	Dry Density as Molded	112.6
Plasticity Index (PI)	NP	Molded Moisture Content	13.5
Liquidity Index (LI)		Percent of Maximum Density	96.2
Percent Retained 3/4" Sieve	1.9	Moisture Content +/- Opt	-0.2
Percent Retained No. 4 Sieve	4.9	Percent (%) Swell	2.7
Percent Passing No. 200 Sieve	46.7		
Project: CASEY 6		ECS MID-ATLANTIC, LLC Frederick, Maryland California Bearing Ratio Curves	
Project No.: 13-3042			
Date: 5/30/2007			

CBR Penetration



Sample No.: GP09/BAG/2-10		Street: 0	
Description: REDDISH SILTY SAND		Station No.: 0	
Classification: SM		Test Method: D-1883	
Maximum Dry Density (pcf)	116.9		CBR 1
Opt. Moisture Content (%)	14.5	Corrected CBR @ 0.1"	4.0
Natural Moisture Content		Corrected CBR @ 0.2"	8.0
Liquid Limit (LL)	NP	Proctor Method	D-1557A
Plastic Limit (PL)	NP	Dry Density as Molded	111.2
Plasticity Index (PI)	NP	Molded Moisture Content	14.7
Liquidity Index (LI)		Percent of Maximum Density	95.1
Percent Retained 3/4" Sieve		Moisture Content +/- Opt	0.2
Percent Retained No. 4 Sieve	3.3	Percent (%) Swell	2.8
Percent Passing No.200 Sieve	38.2		
Project: CASEY 6		ECS MID-ATLANTIC, LLC Frederick, Maryland California Bearing Ratio Curves	
Project No.: 13-3042			
Date: 5/30/2007			

CBR Penetration



Sample No.: GP09/BAG/2-10		Street: 0	
Description: REDDISH SILTY SAND		Station No.: 0	
Classification: SM		Test Method: D-1883	
Maximum Dry Density (pcf)	116.9		CBR 2
Opt. Moisture Content (%)	14.5	Corrected CBR @ 0.1"	3.3
Natural Moisture Content		Corrected CBR @ 0.2"	7.2
Liquid Limit (LL)	NP	Proctor Method	D-1557A
Plastic Limit (PL)	NP	Dry Density as Molded	113.3
Plasticity Index (PI)	NP	Molded Moisture Content	14.7
Liquidity Index (LI)		Percent of Maximum Density	96.9
Percent Retained 3/4" Sieve		Moisture Content +/- Opt	0.2
Percent Retained No. 4 Sieve	3.3	Percent (%) Swell	2.9
Percent Passing No.200 Sieve	38.2		
Project: CASEY 6		ECS MID-ATLANTIC, LLC Frederick, Maryland California Bearing Ratio Curves	
Project No.: 13-3042			
Date: 5/30/2007			

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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Work covered by the Contract Documents.
 - 2. Type of the Contract.
 - 3. Work phases.
 - 4. Work under other contracts.
 - 5. Use of premises.
 - 6. Owner's occupancy requirements.
 - 7. Work restrictions.
 - 8. Specification formats and conventions.

- B. Related Sections include the following:

- 1. Division 01 Section "Temporary Facilities and Controls".

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: ICC West Operations Facility, MdTA Contract No IC 2210-000-006/7
 - 1. Project Location: Casey - 6 Property (Montgomery County, Maryland).

- B. Owner: Maryland Transportation Authority.
- C. Architect: URS Corporation (URS)
4 North Park Drive, Suite 300
Hunt Valley, Maryland 21030
- D. The Work consists of the following:
 - 1. The Work includes: all site grading; environmental and sediment/erosion controls; pavement around buildings and for access road; sidewalks, curb and gutters for paved areas and access roads; landscaping; utilities (power, communications, water, stormwater, and sanitary sewer); underground fuel storage tanks and associated fuel island and dispensing equipment; salt dome; maintenance operations building; police building and utility connections; storage building; signage; and other items as shown on the plans and specified herein.

1.4 TYPE OF CONTRACT

- A. Project will be constructed under a single prime contract.

1.5 WORK UNDER OTHER CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.
- B. Concurrent Work: Owner has awarded separate contract(s) for the following construction operations adjacent to the Project site. Those operations will be conducted simultaneously with work under this Contract.
 - 1. Intercounty Connector (ICC) Design Build Contracts.
 - 2. Construction of Crabbs Branch Way roadway extension and utility extensions with stub connections by others.

1.6 USE OF PREMISES

- A. General: Contractor shall have use of premises for construction operations, including use of Project site, during construction period. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

1.7 OWNER'S OCCUPANCY REQUIREMENTS

- A. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.
1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.
 2. Obtain a Certificate of Occupancy from authorities having jurisdiction before Owner occupancy.
 3. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of building.
 4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of buildings.

1.8 WORK RESTRICTIONS

- A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify Owner not less than ten calendar days in advance of proposed utility interruptions.
 2. Do not proceed with utility interruptions without Owner's written permission.

1.9 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the CSI/CSC's "MasterFormat" numbering system.
1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of

the Project Manual to determine numbers and names of Sections in the Contract Documents.

2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 – MEASUREMENT

4.1 METHOD OF MEASUREMENT

- A. No separate measurement will be made for work under this section.

PART 5 – PAYMENT

5.1 BASIS OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in each contract bid item.

- B. Costs include all labor, materials, services, testing and equipment necessary to complete the work in every respect.

END OF SECTION 011000

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SECTION 011001 – MOBILIZATION / DEMOBILIZATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 DESCRIPTION

- A. This item shall consist of the performance and construction preparatory operations, including the movement of personnel, equipment and materials from the project site; preparation and maintenance of the contractor staging area; obtaining and maintaining employee identification badges; obtaining all construction permits; maintaining security of the construction site; payment of performance bond, payment bond, guaranty bond, and other insurance premiums; cranes and other rented equipment necessary for construction operations; coordination with all utility agencies and other local authorities and agencies having jurisdiction; general requirements of the Contract not otherwise included in pay items; and for the establishment and subsequent removal of the Engineer's and Contractor's offices and other facilities necessary to begin and sustain work for the Contract. At the completion of work all areas disturbed by the Contractor's operations shall be left of debris. All improved surfaces shall remain after completion of the project. Cost for all permits related to the construction, including inspection fees, shall be included in this lump sum bid pay item, including all permit and inspection fees required by the Washington Suburban Sanitary Commission (WSSC) for all water and sanitary sewer plumbing fixtures, utility lines and connections, and water supply meter and vault serving the ICC Western Facility Site.

PART 2 - PRODUCTS

- 2.1 ENGINEER'S OFFICE: See section 015000 "Temporary Facilities and Controls".
- 2.2 CONTRACTORS STAGING AREA: Coordinate with the Owner for establishing Contractors staging area. All work associated with setting up the staging area including clearing and grubbing, grading, security, and other items necessary to maintain the area shall not be paid separately and considered incidental to Mobilization / Demobilization.

PART 3 - EXECUTION

3.1 EXECUTION

- A. Perform all work in accordance with the requirements of the related Sections, and as shown on the plans.

PART 4 – MEASUREMENT

4.1 METHOD OF MEASUREMENT

- A. Payment for Mobilization/Demobilization will be made on a lump sum basis wherein no measurement will be made.

PART 5 – PAYMENT

5.1 BASIS OF PAYMENT

- A. This item will be paid for at the Contract lump sum price for Mobilization / Demobilization, which price shall be full compensation for performing the work specified and the furnishing of all materials, labor, tools, equipment and incidentals necessary to mobilize and subsequently demobilize the construction preparatory operations.
- B. Payment for this item will be made in installments. The first payment of 50 percent of the lump sum price will be included in the first progress estimate following partial mobilization including the placement or erection of the Contractor's office and the initiation of construction work. The remaining 50 percent of the lump sum price will be included as installments in subsequent progress estimates. Each such installment will be determined based on the ratio of the total work completed to date to the total contract amount.
- C. The lump sum price for mobilization / demobilization shall not exceed five (5) percent of the total Contract bid amount for base bid less the bid price for mobilization / demobilization. No payment in excess of 5 percent of the total contract bid amount for base bid less the bid price for mobilization / demobilization will be made for this item. If the total cost for all items required for mobilization are in excess of 5 percent of the total contract bid amount for base bid less the bid price for mobilization / demobilization, the Contractor shall include the excess in the unit price of other items of work.
- D. No additional payment will be made for demobilization and remobilization due to weather related shutdowns, suspensions of the work or for other mobilization activities.
- E. Payment will be made under:

Item 01 10 01-01 Mobilization / Demobilization--per lump sum

END OF SECTION 011001

SECTION 011010 – STRUCTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 DESCRIPTION

- A. The following describes the Structures that shall be bid and paid for on a lump sum basis for the ICC Western Operations Facility. Typical for each structure, all work included in the respective pay items will be within five (5) feet of the structure, unless otherwise described below. Grading of the site prior to placement of the building will be measured and paid for under the unit bid prices in Section 312000. Pavement under the “Western Facility Salt Dome” will be paid for under the unit bid prices in Section 321216.
 - 1. “Western Facility Operations Building” – All work associated with the new construction for the Operations Building as specified herein and shown on the plans. Work includes all architecture, structural, mechanical, and electrical work. Associated mechanical and electrical equipment (such as HVAC equipment condensing units, emergency generator, etc.) that is shown on the plans that may straddle or be beyond five foot of the Operations Building, is included in the building bid pay item. All sidewalks, concrete slabs for HVAC equipment, generator, and dumpsters, adjacent to the Operations Building are included in this bid pay item. Security access equipment and power for the security access gates on the site are included in this bid pay item. The two (2) video cameras located on the site lighting poles (including conduits and wiring connecting the cameras to the surveillance system) are included in this bid pay item. The six (6) Vehicle Block Heater Power Stations (including wiring and conduits) shown and detailed on the plans are included in this bid pay item. The flagpole and associated items shall be included in this bid pay item.
 - 2. “Western Facility Police Building” – All work associated with the new construction for the Police Building as specified herein and shown on the plans. Work includes all architecture, structural, mechanical, and electrical work. All ramps and sidewalks adjacent to the Police Building are included in this bid pay item.
 - 3. “Western Facility Fuel Island” – All work associated with the new construction for the Fuel Island as specified herein and shown on the plans. Work includes all architecture (canopy and associated items), structural, mechanical, and electrical

work. Fuel tank (including excavation and backfill), fuel dispensers, fuel piping, leak detection system, and associated electrical conduits, panels, and wiring are included in this bid pay item.

4. "Western Facility Salt Dome" – All work associated with the new construction for the Salt Dome as specified herein and shown on the plans. Work includes all architecture, structural, mechanical, and electrical work.
5. "Western Facility Storage Building" – All work associated with the new construction for the Storage Building as specified herein and shown on the plans. Work includes all architecture, structural, mechanical, and electrical work.

PART 2 - PRODUCTS

2.1 PRODUCTS

- A. Provide all products in accordance with the requirements of the related Sections, and as shown on the plans.

PART 3 - EXECUTION

3.1 EXECUTION

- A. Perform all work in accordance with the requirements of the related Sections, and as shown on the plans.

PART 4 – MEASUREMENT

4.1 METHOD OF MEASUREMENT

- A. Payment for the various "Structures" described herein will be made on a lump sum basis; therefore no measurement will be made.

PART 5 – PAYMENT

5.1 BASIS OF PAYMENT

- A. These items will be paid for at the Contract Lump Sum Price bid for each respective item as described herein and shown below. This price shall be full compensation for all work contained in the bid item as described herein and required by the related Sections. Costs include all labor, materials, services, and equipment necessary to complete the work in every respect.

B. Payment will be made under:

- Item 011010-01 Western Facility Operations Building – per lump sum
- Item 011010-02 Western Facility Police Building – per lump sum
- Item 011010-03 Western Facility Fuel Island – per lump sum
- Item 011010-04 Western Facility Salt Dome – per lump sum
- Item 011010-05 Western Facility Storage Building – per lump sum

END OF SECTION 011010