State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER	PAGE
DEFK9020	1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
JOHN ABBOTT
304-558-2544

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

Laurita Excavating, Inc.
302 Dents Run Road
Morgantown, WV 26501

SHIP TO
DIV ENGINEERING & FACILITIES
CAMP DAWSON ARMY TRAINING SITE
240 ARMY ROAD

KINGWOOD, WV
26537-1077 304-329-4417

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
03/12/2009				

BID OPENING DATE: 04/15/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		962-73		

RECLAMATION: RESTORATION OF LAND & OTHER PROPERTIES

CONTRACT TO PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REPAIR THE ROAD SLIP AT THE WV ARMY NATIONAL GUARD, CAMP DAWSON, KINGWOOD, WV, PER THE SPECIFICATIONS.

MANDATORY ON-SITE PRE-BID: CAMP DAWSON
240 ARMY ROAD
KINGWOOD, WV
3/30/2009; 1:30 PM

EXHIBIT 5

WEST VIRGINIA CODE 21-1D-5 PROVIDES THAT: ANY SOLICITATION FOR A PUBLIC IMPROVEMENT CONSTRUCTION CONTRACT REQUIRES EACH VENDOR THAT SUBMITS A BID FOR THE WORK TO SUBMIT AT THE SAME TIME AN AFFIDAVIT OF COMPLIANCE WIT THE BID. THE ENCLOSED DRUG-FREE WORKPLACE AFFIDAVIT MUST BE SIGNED AND SUBMITTED WITH THE BID AS EVIDENCE OF THE VENDOR'S COMPLIANCE WITH THE PROVISIONS OF ARTICLE 1D, CHAPTER 21 OF THE WEST VIRGINIA CODE. FAILURE TO SUBMIT THE SIGNED DRUG-FREE WORKPLACE AFFIDAVIT WITH THE BID SHALL RESULT IN DISQUALIFICATION OF SUCH BID.

NOTICE TO PROCEED: THIS CONTRACT IS TO BE PERFORMED WITHIN 60 CALENDAR DAYS AFTER THE NOTICE TO PROCEED IS RECEIVED. UNLESS OTHERWISE SPECIFIED, THE FULLY EXECUTED PURCHASE ORDER WILL BE CONSIDERED NOTICE TO PROCEED.

RECEIVED
2009 APR 22 A 7:39
PURCHASING DIVISION
STATE OF WV

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE [signature] TELEPHONE 304.296.7531 DATE 4/21/09

TITLE Sec/Treas FEIN 55-064-0963 ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.

2. The State may accept or reject in part, or in whole, any bid.

3. All quotations are governed by the ***West Virginia Code*** and the ***Legislative Rules*** of the Purchasing Division.

4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required $125 fee.

5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.

6. Payment may only be made after the delivery and acceptance of goods or services.

7. Interest may be paid for late payment in accordance with the ***West Virginia Code***.

8. Vendor preference will be granted upon written request in accordance with the ***West Virginia Code***.

9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.

11. The laws of the State of West Virginia and the ***Legislative Rules*** of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.

12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.

13. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.

14. HIPAA BUSINESS ASSOCIATE ADDENDUM: The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (**http://www.state.wv.us/admin/purchase/vrc/hipaa.htm**) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

15. WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT: If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.

2. SPECIFICATIONS: Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.

3. Complete all sections of the quotation form.

4. Unit prices shall prevail in case of discrepancy.

5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.

6. BID SUBMISSION: All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130

State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
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CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE MATERIALS OR WORKMANSHIP SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM WITH THE SPECIFICATIONS OF THE BID AND CONTRACT HERE IN.

WAGE RATES: THE CONTRACTOR OR SUBCONTRACTOR SHALL PAY THE HIGHER OF THE U.S. DEPARTMENT OF LABOR MINIMUM WAGE RATES AS ESTABLISHED FOR PRESTON COUNTY, PURSUANT TO WEST VIRGINIA CODE 21-5A, ET, SEQ. (PREVAILING WAGE RATES APPLY TO THIS PROJECT)

ARBITRATION: ANY REFERENCES MADE TO ARBITRATION OR INTEREST FOR PAYMENTS DUE (EXCEPT FOR ANY INTEREST REQUIRED BY STATE LAW) CONTAINED IN THIS CONTRACT OR IN ANY AMERICAN INSTITUTE OF ARCHITECTS DOCUMENTS PERTAINING TO THIS CONTRACT ARE HEREBY DELETED.

WORKERS' COMPENSATION: VENDOR IS REQUIRED TO PROVIDE A CERTIFICATE FROM WORKERS' COMPENSATION IF SUCCESSFUL.

ALL OF THE ITEMS CHECKED BELOW WILL BE A REQUIREMENT OF THIS CONTRACT:

(XX) INSURANCE: SUCCESSFUL VENDOR SHALL FURNISH PROOF OF COMMERCIAL GENERAL LIABILITY INSURANCE PRIOR TO ISSUANCE OF CONTRACT. UNLESS OTHERWISE SPECIFIED IN THE BID DOCUMENTS, THE MINIMUM AMOUNT OF INSURANCE COVERAGE REQUIRED IS $250,000.

( ) BUILDERS RISK INSURANCE: SUCCESSFUL VENDOR SHALL FURNISH PROOF OF BUILDERS RISK - ALL RISK INSURANCE IN AN AMOUNT EQUAL TO 100% OF THE AMOUNT OF THE CONTRACT.

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
[signature]	304.296.7531	4/21/09

TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
Sec/Treas	55-064-0963	

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(XX) BONDS: FIVE PERCENT (5%) OF THE TOTAL AMOUNT OF THE BID PAYABLE TO THE STATE OF WEST VIRGINIA, SHALL BE SUBMITTED WITH EACH BID AS A BID BOND. THE SUCCESSFUL BIDDER SHALL ALSO FURNISH A PERFORMANCE BOND AND LABOR/MATERIAL BOND FOR 100% OF THE AMOUNT OF THE CONTRACT. BONDS MAY BE PROVIDED IN THE FORM OF A CERTIFIED CHECK IRREVOCABLE LETTER OF CREDIT, OR BOND FURNISHED BY A SOLVENT SURETY COMPANY AUTHORIZED TO DO BUSINESS IN THE STATE OF WEST VIRGINIA. A LETTER OF CREDIT SUBMITTED IN LIEU OF A BOND WILL ONLY BE ALLOWED FOR PROJECTS UNDER $100,000. PERSONAL OR BUSINESS CHECKS ARE NOT ACCECPTABLE IN LIEU OF THE 5% BID BOND, PERFORMANCE BOND, OR LABOR AND MATERIAL BOND.

( ) MAINTENANCE BOND: A TWO (2) YEAR MAINTENANCE BOND COVERING THE ROOFING SYSTEM WILL BE A REQUIREMENT OF THE SUCCESSFUL VENDOR.

REV. 11/00

EXHIBIT 7

DOMESTIC ALUMINUM, GLASS & STEEL IN PUBLIC WORKS PROJECTS

IN ACCORDANCE WITH WEST VIRGINIA CODE 5-19-1 ET., SEQ., EVERY CONTRACT FOR CONSTRUCTION, RECONSTRUCTION, ALTERATION, REPAIR, IMPROVEMENT OR MAINTENANCE OF PUBLIC WORKS, WHERE THE COST IS MORE THAN $50,000 AND, IN THE CASE OF STEEL ONLY, WHERE THE COST OF STEEL IS MORE THAN $50,000 OR WHERE MORE THAN 10,000 POUNDS OF STEEL ARE REQUIRED, THE STATE WILL ACCEPT ONLY ALUMINUM GLASS, OR STEEL PRODUCTS PRODUCED IN THE UNITED STATES. IN ADDITION, ITEMS OF MACHINERY OR EQUIPMENT PURCHASED FOR USE AT THE SITE OF PUBLIC WORKS SHALL BE MADE OF

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DOMESTIC ALUMINUM, GLASS OR STEEL, UNLESS THE COST OF THE PRODUCT IS LESS THAN $50,000 OR LESS THAN 10,000 POUNDS OF STEEL ARE USED IN PUBLIC WORKS PROJECTS.

FOREIGN MADE ALUMINUM, GLASS OR STEEL PRODUCTS MAY BE ACCEPTED ONLY IF THE COST OF DOMESTIC PRODUCTS IS FOUN TO BE UNREASONABLE. SUCH COST IS UNREASONABLE IF IT IS 20% OR MORE HIGHER THAN THE BID PRICE FOR FOREIGN MADE PRODUCTS. IF THE DOMESTIC ALUMINUM, GLASS OR STEEL PRODUCTS TO BE SUPPLIED OR PRODUCED IN A "SUBSTANTIAL LABOR SURPLUS AREA", AS DEFINED BY THE UNITED STATES DEPARTMENT OF LABOR, FOREIGN PRODUCTS MAY BE SUPPLIED ONLY IF DOMESTIC PRODUCTS ARE 30% OR MORE HIGHER IN PRICE THAN THE FOREIGN MADE PRODUCTS.

IF, PRIOR TO THE AWARD OF A CONTRACT UNDER THE ABOVE PROVISIONS, THE SPENDING OFFICER OF THE SPENDING UNIT DETERMINES THAT THERE EXISTS A BID FOR LIKE FOREIGN ALUMINUM, GLASS OR STEEL THAT IS REASONABLE AND LOWER THAN THE LOWEST BID DOMESTIC PRODUCTS, THE SPENDING OFFICE MAY REQUEST, IN WRITING, A REEVALUATION AND REDUCTION IN THE LOWEST BID FOR SUCH DOMESTIC PRODUCTS. ALL VENDORS MUST INDICATE IN THEIR BID IF THEY ARE SUPPLYING FOREIGN ALUMINUM, GLASS OR STEEL.

REV. 3/88

EXHIBIT 9

NOTICE FOR ISSUANCE & ACKNOWLEDGEMENT OF CONSTRUCTION PROJECT ADDENDA

THE ARCHITECT/ENGINEER AND/OR AGENCY SHALL BE REQUIRED TO ABIDE BY THE FOLLOWING SCHEDULE IN ISSUING CONSTRUCTION PROJECT ADDENDA FOR STATE AGENCIES:

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE [signature] TELEPHONE 304.296.7531 DATE 4/21/09

TITLE Secretary FEIN 55-064-0963 ADDRESS CHANGES TO BE NOTED ABOVE

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(1) THE ARCHITECT/ENGINEER SHALL PREPARE THE ADDENDUM AND A LIST OF ALL PARTIES THAT HAVE PROCURED DRAWINGS AND SPECIFICATIONS FOR THE PROJECT. THE ADDENDUM AND LIST SHALL BE FORWARDED TO THE BUYER IN THE STATE PURCHASING DIVISION. THE ARCHITECT/ENGINEER SHALL ALS SEND A COPY OF THE ADDENDUM TO THE STATE AGENCY FOR WHICH THE CONTRACT IS ISSUED.

(2) THE BUYER SHALL SEND THE ADDENDUM TO ALL INTERESTED PARTIES AND, IF NECESSARY, EXTEND THE BID OPENING DATE. ANY ADDENDUM SHOULD BE RECEIVED BY THE BUYER WITHIN FOURTEEN (14) DAYS PRIOR TO THE BID OPENING DATE.

(3) ALL ADDENDA SHOULD BE FORMALLY ACKNOWLEDGED BY ALL BIDDERS AND SUBMITTED TO THE STATE PURCHASING DIVISION. THE SAME RULES AND REGULATIONS THAT APPLY TO THE ORIGINAL BIDDING DOCUMENT SHALL ALSO APPLY TO AN ADDENDUM DOCUMENT. THE ONLY EXCEPTION MAY BE FOR AN ADDENDUM THAT IS ISSUED FOR THE SOLE PURPOSE OF CHANGING A BID OPENING TIME AND/OR DATE.

REV. 11/96

EXHIBIT 10

ADDENDUM ACKNOWLEDGEMENT

I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.

ADDENDUM NOS.:

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

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NO. 1 ..... 4/6/09 .....
NO. 2 ..... 4/13/09 .....
NO. 3 .....
NO. 4 .....
NO. 5 .....

I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF TH ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF THE BIDS.

VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.

..... SIGNATURE
Laurita Excavating, Inc. ..... COMPANY
4/21/09 ..... DATE

REV. 11/96

CONTRACTORS LICENSE

WEST VIRGINIA STATE CODE 21-11-2 REQUIRES THAT ALL PERSONS DESIRING TO PERFORM CONTRACTING WORK IN THIS STATE MUST BE LICENSED. THE WEST VIRGINIA CONTRACTORS

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
	304.296.7531	4/21/09

TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
Secretary	55-064-0963	

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LICENSING BOARD IS EMPOWERED TO ISSUE THE CONTRACTORS LICENSE. APPLICATIONS FOR A CONTRACTORS LICENSE MAY BE MADE BY CONTACTING THE WEST VIRGINIA DIVISION OF LABOR CAPITOL COMPLEX, BUILDING 3, ROOM 319, CHARLESTON, WV 25305. TELEPHONE: (304) 558-7890.

WEST VIRGINIA STATE CODE 21-11-11 REQUIRES ANY PROSPECTIVE BIDDER TO INCLUDE THE CONTRACTORS LICENSE NUMBER ON THEIR BID.

BIDDER TO COMPLETE:

CONTRACTORS NAME: Laurita Excavating, Inc.

CONTRACTORS LICENSE NO.: WV 001135

THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FURNISH A COPY OF THEIR CONTRACTORS LICENSE PRIOR TO ISSUANCE OF A PURCHASE ORDER/CONTRACT

APPLICABLE LAW

THE WEST VIRGINIA STATE CODE, PURCHASING DIVISION RULES AND REGULATIONS, AND THE INFORMATION PROVIDED IN THE "REQUEST FOR QUOTATION" ISSUED BY THE PURCHASING DIVISION IS THE SOLE AUTHORITY GOVERNING THIS PROCUREMENT.

ANY INFORMATION PROVIDED IN SPECIFICATION MANUALS, OR ANY OTHER SOURCE, VERBAL OR WRITTEN, WHICH CONTRADICTS OR ALTERS THE INFORMATION PROVIDED FROM THE SOURCES AS DESCRIBED IN THE ABOVE PARAGRAPH IS VOID AND OF NO EFFECT.

BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THIS CONTRACT IS AUTOMATI-

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CALLY NULL AND VOID, AND IS TERMINATED WITHOUT FURTHER ORDER.

REV. 1/2005

NOTICE

A SIGNED BID MUST BE SUBMITTED TO:

DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
BUILDING 15
2019 WASHINGTON STREET, EAST
CHARLESTON, WV 25305-0130

THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:

SEALED BID

BUYER: JOHN ABBOTT

REQ. NO.: DEFK9020

BID OPENING DATE: 04/15/2009

BID OPENING TIME: 1:30 PM

PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:

Fax # 304-292-4606

PLEASE PRINT OR TYPE NAME OF PERSON TO CONTACT

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

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[signature]	304.296.7531	4/21/09

TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
Secretary	55-064-0963	

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	CONCERNING THIS QUOTE:					
	****** THIS IS THE END OF RFQ DEFK9020 ****** TOTAL:					$331,176.79

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE | TELEPHONE | DATE

TITLE | FEIN | ADDRESS CHANGES TO BE NOTED ABOVE

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AMEC Earth & Environmental
690 Commonwealth Center
11003 Bluegrass Parkway
Louisville, KY 40299
(502) 267-0700

Project Name: WVARNG South Gate Road
Project No. 7-7728-0000

By: CJR
Chk'd By: DWD

WVARNG
South Gate Road Slope Repair
Design Brief

Dated: 2/25/09

Prepared For: *WVARNG*

Prepared By:

CHRISTOPHER J. RAMSEY REGISTERED PROFESSIONAL ENGINEER 16164 STATE OF WEST VIRGINIA

2-25-09

AMEC Earth & Environmental
690 Commonwealth Center
11003 Bluegrass Parkway
Louisville, KY 40299
(502) 267-0700

Project Name: WVARNG South Gate Road
Project No. 7-7728-0000

By: CJR
Chk'd By: DWD

Design Discussion

The South Gate Access Road has suffered from intermittent erosion and minor landslides, which have led to a state of disrepair and limited use. AMEC prepared three concepts for stabilization of approximately 230 linear feet of the road. AMEC recommended, and WVARNG concurred that the best method of repair was a drilled shaft wall embedded into bedrock with precast concrete lagging spanning between the shafts near the surface. Multiple exploratory borings and surface reconnaissance were used to estimate the limits of the proposed drilled shaft retaining wall, the loads that would be induced on the system as it supports the restored road grade and adjacent hillside, and the soil & rock properties within the underlying subsurface profile.

Lab tests indicate an average unit weight for the overburden soils is approximately 115 pounds per cubic foot (pcf). Considering the amount of clay content in soil matrix, an appropriate friction angle would be 25 degrees. Field and lab inspection of the rock core samples indicate a hard shale, that would most likely not be easily removed with normal augering tools. As such, we assigned a unit weight of 140 pcf, a friction angle of 40 degrees and a shear strength of 10,000 pounds per square foot to the rock

Drilled shaft retaining walls are common in roadsides next to river valley applications, similar to this. The methodology developed to design this system is derived from the following sources:

- AASHTO Standard Specifications for Bridges, 17th Edition
- FHWA Publication Geotechnical Engineering Circular No. 4 (1999), and
- "Slide Control by Drilled Pier Walls", M. Nethero, ASCE National Convention; Las Vegas, NV; 1982.

AMEC Earth & Environmental
690 Commonwealth Center
11003 Bluegrass Parkway
Louisville, KY 40299
(502) 267-0700

Project Name: WVARNG South Gate Road
Project No. 7-7728-0000

By: CJR
Chk'd By: DWD

Drilled Shaft Retaining Wall - Design Section 11+00:

Soil Parameters:

Unit weight $\gamma_{soil} := 115 \cdot pcf$ Phi angle $\phi_{soil} := 25 \cdot deg$ $k_{a\_soil} := \tan\left(45 \cdot deg - \frac{\phi_{soil}}{2}\right)^2$ $k_{a\_soil} = 0.41$

Factor of Safety on Passive $FS := 1.5$ $k_{p\_soil} := \frac{1}{k_{a\_soil}}$ $k_{p\_soil} = 2.46$

Rock Parameters:

Unit weight $\gamma_{rock} := 140 \cdot pcf$ Phi angle $\phi_{rock} := 40 \cdot deg$ $k_{a\_rock} := \tan\left(45 \cdot deg - \frac{\phi_{rock}}{2}\right)^2$ $k_{a\_rock} = 0.22$

Factor of Safety on Passive $FS := 1.5$ $k_{p\_rock} := \frac{1}{k_{a\_rock}}$ $k_{p\_rock} = 4.60$

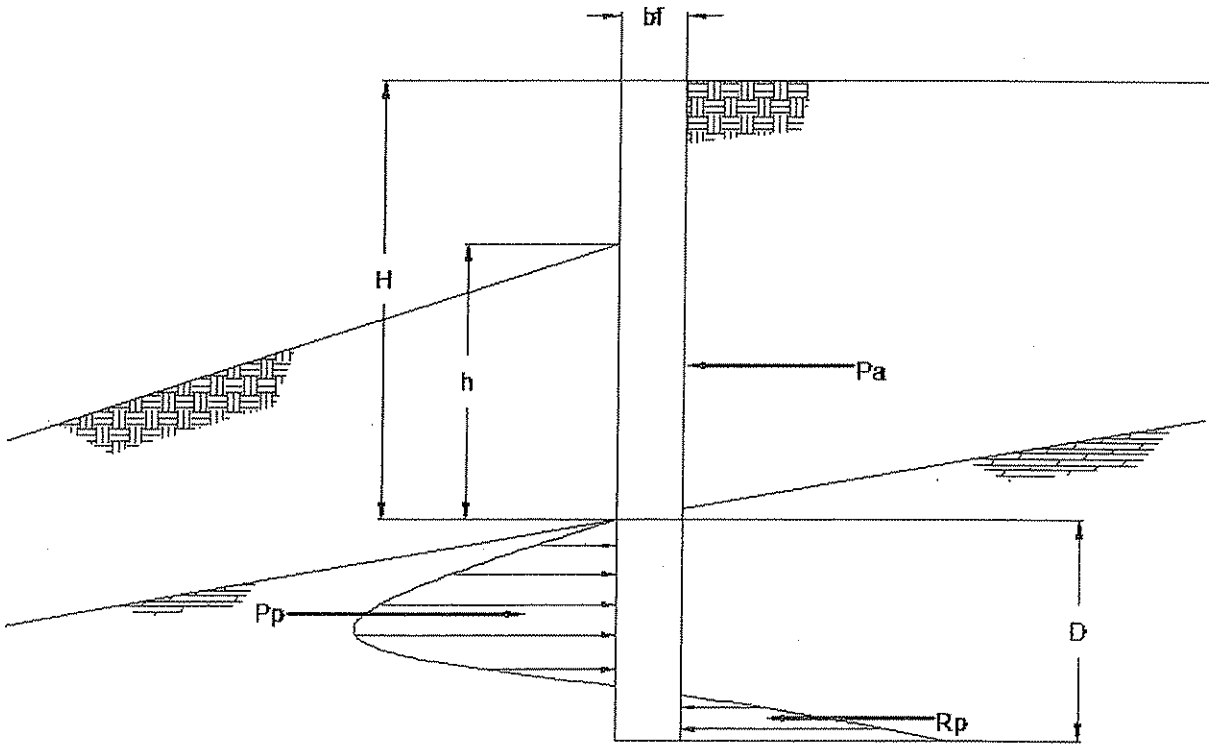
Rock Shear Strength $C_{rock} := 10ksf$

Wall Characteristics:

Wall height $H := 27 \cdot ft$ Depth of Overburden $h := 18ft$ Pile Width $b_f := 2.5 \cdot ft$ Pile spacing $s := 10 \cdot ft$

Horizontal Surcharge Pressure applied $q := 100psf$ $b_e := if\left(3 \cdot b_f < s, 3 \cdot b_f, s\right)$ $b_e = 7.5\,ft$

Depth of Rock Socket $D := 12ft$



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$$P_a := k_{a\_soil} \cdot \gamma_{soil} \cdot \frac{(H)^2}{2} = 17.01 \cdot \frac{kips}{ft}$$

SUM MOMENTS ABOUT "P" AND SOLVE FOR "Rp"

$$R_p := \left[\left(P_a \cdot s\right) \cdot \left(\frac{H}{3} + \frac{D}{3}\right) - \gamma_{soil} \cdot \left[\frac{k_{p\_soil} \cdot b_e}{FS} \cdot \left[\frac{(h)^2}{2} \right] \right] \cdot \left(\frac{h}{3} + \frac{D}{3}\right) + q \cdot H \cdot s \cdot \left(\left(\frac{H}{2} + \frac{D}{3} \right) \right) \right] \cdot \frac{9}{D \cdot 5} = 58.35 \cdot kips$$

SUM OF THE HORIZONTAL FORCES = 0, DETERMINE "Pp"

$$P_p := P_a \cdot s - \left[\gamma_{soil} \cdot \frac{k_{p\_soil} \cdot b_e}{FS} \cdot \left(\frac{h^2}{2} \right) \right] + q \cdot H \cdot s + R_p = 25.96 \cdot kips$$

$$P_{p\_avg} := \frac{P_p}{\frac{2 \cdot D \cdot b_f}{3}} = 1.3 \cdot ksf \qquad P_{p\_max} := 1.5 \cdot P_{p\_avg} = 1.95 \cdot ksf \quad \text{DUE TO PARABOLIC DISTRIBUTION}$$

$$R_{p\_avg} := \frac{R_p}{D \cdot \frac{b_f}{3}} = 5.83 \cdot ksf \qquad R_{p\_max} := 2 \cdot R_{p\_avg} = 11.67 \cdot ksf \quad \text{DUE TO TRIANGULAR DISTRIBUTION}$$

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ULTIMATE PASSIVE PRESSURE @ Pp or D/3

$$D3_{pass} := \gamma_{soil} \cdot H + 2 \cdot C_{rock} + \gamma_{rock} \cdot \frac{D}{3} = 23.66 \cdot ksf$$

$$FS_{D3\_pass} := \frac{D3_{pass}}{P_{p\_max}} = 12.15 \quad > \quad 2.0 \quad \text{OK!}$$

ULTIMATE PASSIVE PRESSURE @ Rp or 8D/9

$$D_{8\_9pass} := \gamma_{soil} \cdot H + 2 \cdot C_{rock} + \gamma_{rock} \cdot \frac{8D}{9} = 24.6 \cdot ksf$$

$$FS_{D8\_9pass} := \frac{D_{8\_9pass}}{R_{p\_avg}} = 4.22 \quad > \quad 2.0 \quad \text{OK!}$$

ULTIMATE PASSIVE PRESSURE @ D

$$D_{pass} := \gamma_{soil} \cdot H + 2 \cdot C_{rock} + \gamma_{rock} \cdot D = 24.79 \cdot ksf$$

$$FS_{Dpass} := \frac{D_{pass}}{R_{p\_max}} = 2.12 \quad > \quad 2.0 \quad \text{OK!}$$

FIND POINT OF ZERO SHEAR

$$V_o := \frac{\left[P_a \cdot s - \left[\gamma_{soil} \cdot \frac{k_{p\_soil} \cdot b_e}{FS} \cdot \left(\frac{h^2}{2}\right)\right] + q \cdot H \cdot s\right]}{b_f \cdot P_{p\_avg}} = -9.98\,ft$$ ABOVE TOP OF ROCK

MAXIMUM MOMENT

$$M_{max} := \left(\frac{H}{3} + V_o\right) \cdot P_a \cdot s - \left(\frac{h}{3} + V_o\right) \cdot \left[\gamma_{soil} \cdot \frac{k_{p\_soil} \cdot b_e}{FS} \cdot \left(\frac{h^2}{2}\right)\right] + \left(\frac{H}{2} + V_o\right) \cdot q \cdot H \cdot s - P_{p\_avg} \cdot b_f \cdot \frac{V_o^2}{2} = 680.16 \cdot ft \cdot kips$$

$F_y := 50ksi$ $F_a := .66F_y = 33 \cdot ksi$

$$S_{x\_rqd} := \frac{M_{max}}{F_a} = 247.33 \cdot in^3$$ ***USE W21x111 GR50 PILE***

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Project Name: WVARNG South Gate Road
Project No. 7-7728-0000

By: CJR
Chk'd By: DWD

Drilled Shaft Retaining Wall - Design Sections 12+00 & 13+00:

Soil Parameters:

Unit weight $\gamma_{soil} := 115 \cdot pcf$ Phi angle $\phi_{soil} := 25 \cdot deg$ $k_{a\_soil} := \tan\left(45 \cdot deg - \frac{\phi_{soil}}{2}\right)^2$ $k_{a\_soil} = 0.41$

Factor of Safety on Passive $FS := 1.5$ $k_{p\_soil} := \frac{1}{k_{a\_soil}}$ $k_{p\_soil} = 2.46$

Rock Parameters:

Unit weight $\gamma_{rock} := 140 \cdot pcf$ Phi angle $\phi_{rock} := 40 \cdot deg$ $k_{a\_rock} := \tan\left(45 \cdot deg - \frac{\phi_{rock}}{2}\right)^2$ $k_{a\_rock} = 0.22$

Factor of Safety on Passive $FS := 1.5$ $k_{p\_rock} := \frac{1}{k_{a\_rock}}$ $k_{p\_rock} = 4.60$

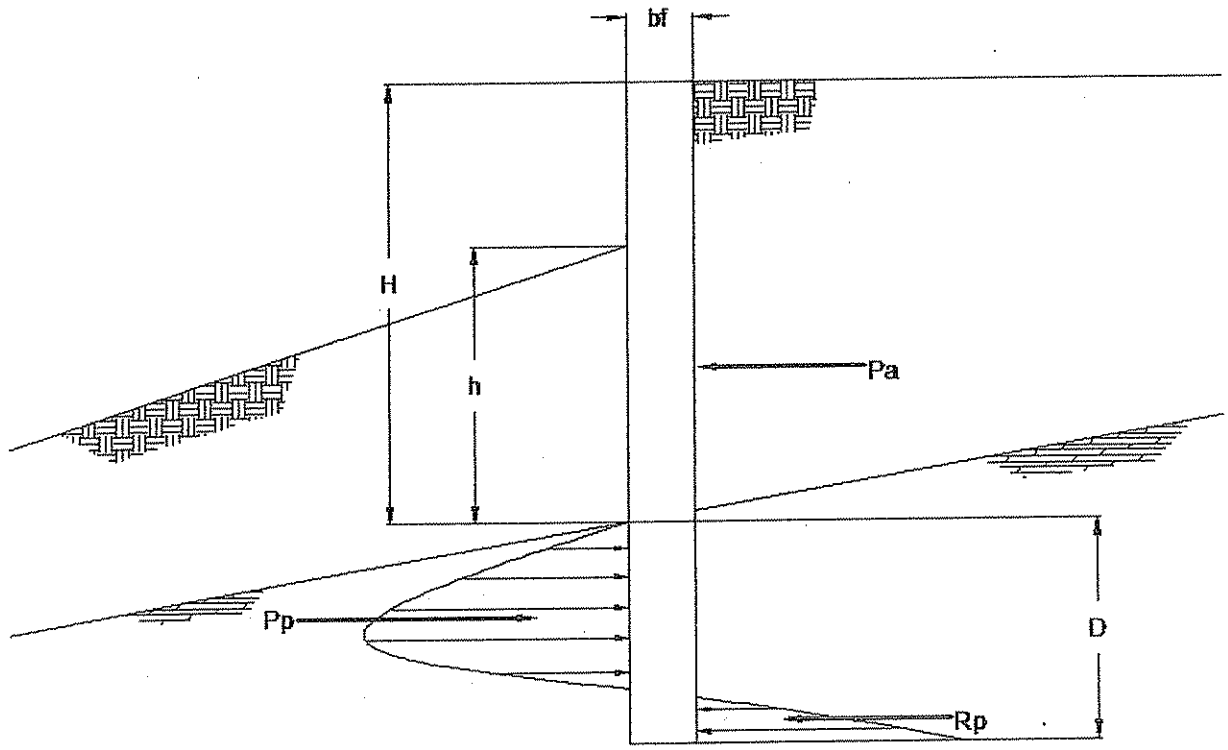
Rock Shear Strength $C_{rock} := 10ksf$

Wall Characteristics:

Wall height $H := 20 \cdot ft$ Depth of Overburden $h := 11ft$ Pile Width $b_f := 2.5 \cdot ft$ Pile spacing $s := 10 \cdot ft$

Horizontal Surcharge Pressure applied $q := 100psf$ $b_e := if(3 \cdot b_f < s, 3 \cdot b_f, s)$ $b_e = 7.5\,ft$

Depth of Rock Socket $D := 15ft$



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Project No. 7-7728-0000

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Chk'd By: DWD

$$P_a := k_{a\_soil} \cdot \gamma_{soil} \cdot \frac{(H)^2}{2} = 9.33 \cdot \frac{kips}{ft}$$

SUM MOMENTS ABOUT "P" AND SOLVE FOR "Rp"

$$R_p := \left[(P_a \cdot s) \cdot \left(\frac{H}{3} + \frac{D}{3} \right) - \gamma_{soil} \cdot b_e \cdot \left[\frac{k_{p\_soil}}{FS} \cdot \left[\frac{(h)^2}{2} \right] \right] \cdot \left(\frac{h}{3} + \frac{D}{3} \right) + q \cdot H \cdot s \cdot \left(\left(\frac{H}{2} + \frac{D}{3} \right) \right) \right] \cdot \frac{9}{D \cdot 5} = 77.54 \cdot kips$$

SUM OF THE HORIZONTAL FORCES = 0, DETERMINE "Pp"

$$P_p := P_a \cdot s - \left[\gamma_{soil} \cdot b_e \cdot \frac{k_{p\_soil}}{FS} \cdot \left(\frac{h^2}{2} \right) \right] + q \cdot H \cdot s + R_p = 105.18 \cdot kips$$

$$P_{p\_avg} := \frac{P_p}{\frac{2 \cdot D \cdot b_f}{3}} = 4.21 \cdot ksf \qquad P_{p\_max} := 1.5 \cdot P_{p\_avg} = 6.31 \cdot ksf$$ DUE TO PARABOLIC DISTRIBUTION

$$R_{p\_avg} := \frac{R_p}{D \cdot \frac{b_f}{3}} = 6.2 \cdot ksf \qquad R_{p\_max} := 2 \cdot R_{p\_avg} = 12.41 \cdot ksf$$ DUE TO TRIANGULAR DISTRIBUTION

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ULTIMATE PASSIVE PRESSURE @ Pp or D/3

$$D3_{pass} := \gamma_{soil}\cdot H + 2\cdot C_{rock} + \gamma_{rock}\cdot\frac{D}{3} = 23\cdot ksf$$

$$FS_{D3\_pass} := \frac{D3_{pass}}{P_{p\_max}} = 3.64 \quad > \quad 2.0 \quad \text{OK!}$$

ULTIMATE PASSIVE PRESSURE @ Rp or 8D/9

$$D_{8\_9pass} := \gamma_{soil}\cdot H + 2\cdot C_{rock} + \gamma_{rock}\cdot\frac{8D}{9} = 24.17\cdot ksf$$

$$FS_{D8\_9pass} := \frac{D_{8\_9pass}}{R_{p\_avg}} = 3.9 \quad > \quad 2.0 \quad \text{OK!}$$

ULTIMATE PASSIVE PRESSURE @ D

$$D_{pass} := \gamma_{soil}\cdot H + 2\cdot C_{rock} + \gamma_{rock}\cdot D = 24.4\cdot ksf$$

$$FS_{Dpass} := \frac{D_{pass}}{R_{p\_max}} = 1.97 \quad > \quad 2.0 \quad \text{OK!}$$

FIND POINT OF ZERO SHEAR

$$V_o := \frac{\left[P_a\cdot s - \left[\gamma_{soil}\cdot b_e\cdot\frac{k_{p\_soil}}{FS}\cdot\left(\frac{h^2}{2}\right)\right] + q\cdot H\cdot s\right]}{b_f\cdot P_{p\_avg}} = 2.63\,ft$$

ABOVE TOP OF ROCK

MAXIMUM MOMENT

$$M_{max} := \left(\frac{H}{3} + V_o\right)\cdot P_a\cdot s - \left(\frac{h}{3} + V_o\right)\cdot\left[\gamma_{soil}\cdot b_e\cdot\frac{k_{p\_soil}}{FS}\cdot\left(\frac{h^2}{2}\right)\right] + \left(\frac{H}{2} + V_o\right)\cdot q\cdot H\cdot s - P_{p\_avg}\cdot b_f\cdot\frac{V_o^2}{2} = 544.34\cdot ft\cdot kips$$

$F_y := 50ksi$ $\qquad F_a := .66F_y = 33\cdot ksi$

$$S_{x\_rqd} := \frac{M_{max}}{F_a} = 197.94\cdot in^3$$

USE W18x106 GR50 PILE

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Precast Lagging Design:

$t_{brg} := 5in$

$w := \frac{P_{a\_max}}{H} + q = 950.5 \cdot psf$ Clear Span of Lagging ---> $S_{clr} := s - 2t_{brg} = 9.17\,ft$

$M_{max\_lag} := w \cdot \frac{S_{clr}^2 \cdot 1ft}{10} = 7.99 \cdot ft \cdot kips$ $V_{max\_lag} := w \cdot \frac{S_{clr} \cdot 1ft}{2} = 4.36 \cdot kips$

TRY 8" THICK LAGGING

$f_c := 4ksi$ $b := 12in$ $t_{lag} := 8in$

$f_y := 60ksi$ $d := t_{lag} - 2in = 6 \cdot in$

Longitudinal bar <--- $d_{bf} := \frac{6}{8} \cdot in$ <---

$A_{bf} := \frac{\pi \cdot d_{bf}^2}{4}$ $A_{bf} = 0.44 \cdot in^2$

Number of longitudinal bars $N := 4$ $Spacing := \frac{(3ft)}{N}$ $Spacing = 9 \cdot in$

Area of flexural steel provided $As := \frac{(12in)}{Spacing} A_{bf}$ $As = 0.59 \cdot in^2$

MOMENT CALCULATION

$T_{lag} := As \cdot f_y = 35.34 \cdot kips$

$a := \frac{T_{lag}}{0.85 \cdot f_c \cdot b} = 0.87 \cdot in$

$M := T_{lag} \cdot \left(d - \frac{a}{2}\right) = 196.75 \cdot in \cdot kips$ > $M_u := M_{max\_lag} \cdot \frac{1.7}{0.9} = 181.04 \cdot in \cdot kips$ OK!

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BALANCED REINFORCEMENT RATIO

$\rho b := \frac{0.85 \cdot \beta_1 \cdot f_c}{f_y} \cdot \frac{87000 \cdot psi}{87000 \cdot psi + f_y}$ $\rho b = 0.029$ Balanced condition

$A_{smax} := 0.75 \cdot \rho b \cdot b \cdot d$ $A_{smax} = 1.54 \cdot in^2$ ACI 10.3.3 "As" provided for flexure must be less than this to ensure ductile behavior <----

$\rho min := \frac{200 \cdot psi}{f_y}$

$A_{smin} := \rho min \cdot b \cdot d$ $A_{smin} = 0.24 \cdot in^2$ ACI 10.5 minimum reinforcement required, Alternatively, area of reinforcement provided at every section shall be at least 1/3 greater than that required by analysis. <----

$a := \frac{A_s \cdot f_y}{\beta_1 \cdot f_c \cdot b}$ $a = 0.87 \cdot in$ $A_s = 0.59 \cdot in^2$ <---- check with above Asmax and Asmin criteria

SHEAR CHECK

$V_n := 2\sqrt{f_c} \cdot b \cdot d = 0.13\, ft^{0.5} \cdot s \cdot lb^{-0.5} \cdot kips$ > $V_u := V_{max\_lag} \frac{1.7}{0.85} = 8.71 \cdot kips$ OK!

BEARING

$P_{lag} := w \cdot \frac{S_{clr} \cdot 1ft}{2} = 4.36 \cdot kips$

$A_b := \frac{(P_{lag} \cdot 1.7)}{(0.7) \cdot 0.85 \cdot f_c \cdot 12in} = 0.26 \cdot in$

MIN. BEARING > .260" PER SIDE, OR .347" WITH A 0.75 FACTOR

FOR 3 FEET TALL PANELS, USE 4-#6 BARS SPACED AT 9" HORIZ., WITH 3" CLEAR AND 4-#4 BARS VERTICAL SPACED EQUALLY ACROSS, WITH 3" CLEAR

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Project Name: WVARNG South Gate Road
Project No. 7-7728-0000

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Chk'd By: DWD

APPENDIX A

SOIL BORING LOGS

BORING NUMBER E-2

AMEC
11003 Bluegrass Parkway Suite 690
Louisville, KY 40299
502-267-0700

CLIENT Army National Guard
PROJECT NUMBER 7-7728-0000-0002
DATE STARTED 10/10/08 COMPLETED 10/10/08
DRILLING CONTRACTOR MATHES
DRILLING METHOD HSA
LOGGED BY MGS
NOTES Dry Hole

PROJECT NAME South Gate Road Slope Failure
PROJECT LOCATION Camp Dawson, West Virginia
GROUND ELEVATION 1280.3 ft HOLE SIZE 3.25
GROUND WATER LEVELS:
AT TIME OF DRILLING —
AT END OF DRILLING —
AFTER DRILLING —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		NO SAMPLE POSSIBLE DUE TO PRESENCE OF RIP RAP										
5		GRAVEL, FINE, WITH SILTY CLAY, LOOSE	SS 1		3-3-4 (7)							
		ROCK, HIGHLY WEATHERED, SOME SILTY CLAY, DARK GRAY	ST 2				100	21	48	28	20	29
10		CLAY, SILTY, WITH FINE TO COARSE ROCK FRAGMENTS, SOME WEATHERED SHALE, BROWN, STIFF	SS 3		2-3-9 (12)							
15			SS 4		22-40-47 (87)							
		WEATHERED SHALE, LITTLE SILTY CLAY WITH FINE TO COARSE SAND, DARK GRAY, VERY DENSE	SS 5		50/1"							
20		SHALE, LIGHT GRAY 17.3-17.5, 17.8-18.0 - HIGHLY WEATHERED ZONES 18.6, 19.3, 21.6, 23.5, 24.5 - SLIGHTLY WEATHERED FRACTURE 26.4-26.5, 27.0 - MODERATELY WEATHERED FRACTURE 27.3 - SLIGHTLY WEATHERED FRACTURE 27.5 - SLIGHT TO MODERATELY WEATHERED FRACTURE 28.3-28.5, 28.7, 28.9, 29.5, 29.6, 30.1, 31.1 - SLIGHTLY WEATHERED FRACTURE	RC 6	100 (88)								
25			RC 7	100 (100)								
30			RC 8	92 (50)								
			RC 9	100 (91)								

Refusal at 18.3 feet.
Bottom of borehole at 33.7 feet.

AMEC
11003 Bluegrass Parkway Suite 690
Louisville, KY 40299
502-267-0700

BORING NUMBER E-4

CLIENT Army National Guard
PROJECT NUMBER 7-7728-0000-0002
DATE STARTED 10/9/08 COMPLETED 10/9/08
DRILLING CONTRACTOR MATHES
DRILLING METHOD HSA
LOGGED BY MGS
NOTES Dry Hole

PROJECT NAME South Gate Road Slope Failure
PROJECT LOCATION Camp Dawson, West Virginia
GROUND ELEVATION 1273.7 ft HOLE SIZE 3.25
GROUND WATER LEVELS:
AT TIME OF DRILLING —
AT END OF DRILLING —
AFTER DRILLING —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		GRAVEL, FINE, WITH LITTLE SILTY CLAY AND FINE TO COARSE SAND, LOOSE	SS 1		4-4-5 (9)							
5		SILT, CLAYEY, LITTLE FINE TO COARSE SAND, LITTLE FINE GRAVEL, TAN AND GRAY, STIFF	SS 2		5-6-9 (15)							
		CLAYEY SILT, TAN AND REDDISH BROWN, VERY STIFF	SS 3		15-9-14 (23)							
10		WEATHERED SHALE, DARK GRAY, VERY STIFF	SS 4		4-7-10 (17)							
15		CLAY, SILTY, WITH ROCK FRAGMENTS (HIGHLY WEATHERED), HARD	SS 5		50/3"							

Refusal at 15.0 feet.
Bottom of borehole at 15.0 feet.

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Louisville, KY 40299
502-267-0700

BORING NUMBER E-5

CLIENT Army National Guard
PROJECT NUMBER 7-7728-0000-0002
DATE STARTED 10/9/08 COMPLETED 10/9/08
DRILLING CONTRACTOR MATHES
DRILLING METHOD HSA
LOGGED BY MGS
NOTES Dry Hole

PROJECT NAME South Gate Road Slope Failure
PROJECT LOCATION Camp Dawson, West Virginia
GROUND ELEVATION 1271.2 ft HOLE SIZE 3.25
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		SILT, CLAYEY, MIX OF GRAY AND REDDISH BROWN, MEDIUM STIFF	SS 1		4-4-3 (7)							
5		SILT, CLAYEY, TRACE FINE GRAVEL, LITTLE BLACK NODULES, BROWN, MEDIUM STIFF	SS 2		5-4-4 (8)							
		SILT, CLAYEY, TRACE BLACK NODULES, TAN, VERY STIFF	SS 3		6-11-11 (22)							
10			SS 4		8-9-11 (20)							
		SILT, CLAYEY, LITTLE FINE TO COARSE ROCK FRAGMENTS, TAN, VERY STIFF	SS 5		15-12-12 (24)							
15												
		SHALE, LIGHT GRAY 18.7, 19.6 - SLIGHTLY WEATHERED FRACTURE 20.0 - SLIGHT TO MODERATELY WEATHERED FRACTURE 20.3-21.2, 21.7-21.9 - ROCK FRAGMENTS, SLIGHT TO MODERATELY WEATHERED 22-23 ZONE OF LOSS 23-23.5 ROCK FRAGMENTS SLIGHT TO MODERATELY WEATHERED 23.8 MODERATELY WEATHERED FRACTURE 24.3-24.5 ROCK FRAGMENTS SLIGHT TO MODERATELY WEATHERED 24.8, 24.9 MODERATELY WEATHERED FRACTURE 25.4, 25.8, 25.9, 26.2 - SLIGHT TO MODERATELY WEATHERED FRACTURE 28.1, 29.4, 29.9, 30.3 - SLIGHTLY WEATHERED FRACTURE 31.1, 31.4 - SLIGHT TO MODERATELY WEATHERED FRACTURE 30.8-31.0 - VERTICAL FRACTURE	RC 6	100 (72)							
20			RC 7	70 (44)								
25			RC 8	92 (82)								
30												

Refusal at 17.0 feet.
Bottom of borehole at 32.0 feet.

BORING NUMBER E-6

AMEC
11003 Bluegrass Parkway Suite 690
Louisville, KY 40299
502-267-0700

CLIENT Army National Guard
PROJECT NUMBER 7-7728-0000-0002
DATE STARTED 10/9/08 COMPLETED 10/9/08
DRILLING CONTRACTOR MATHES
DRILLING METHOD HSA
LOGGED BY MGS
NOTES Dry Hole

PROJECT NAME South Gate Road Slope Failure
PROJECT LOCATION Camp Dawson, West Virginia
GROUND ELEVATION 1271 ft HOLE SIZE 3.25
GROUND WATER LEVELS:
AT TIME OF DRILLING —
AT END OF DRILLING —
AFTER DRILLING —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		CLAY, SILTY, LITTLE BLACK NODULES, MIX OF TAN, REDDISH BROWN AND GRAY, STIFF	SS 1		5-5-6 (11)							
		SILT, CLAYEY, TRACE FINE GRAVEL, TRACE ORGANICS, TAN, STIFF	SS 2		5-6-8 (14)							
5		CLAY, SILTY, WITH FINE GRAINED SAND, REDDISH BROWN AND GRAY	SH 3				112	19	39	22	17	91
		CLAY, SILTY, TAN AND REDDISH BROWN, VERY STIFF	SS 4		10-12-15 (27)							
10												
		SILT, CLAYEY, WITH FINE GRAINED SAND, TAN, STIFF	SS 5		6-6-6 (12)			15				54
15												
		CLAY, SILTY, SOME FINE ROCK FRAGMENTS, MIX OF TAN AND DARK GRAY, STIFF	SS 6		8-7-7 (14)			10				58
20												
		WEATHERED SHALE, VERY DENSE	SS 7		46-50/1"							
25			RC 8	85 (71)								
30			RC 9	93 (76)								
35												

(Continued Next Page)

BORING NUMBER E-6

AMEC
11003 Bluegrass Parkway Suite 690
Louisville, KY 40299
502-267-0700

CLIENT Army National Guard

PROJECT NUMBER 7-7728-0000-0002

PROJECT NAME South Gate Road Slope Failure

PROJECT LOCATION Camp Dawson, West Virginia

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
35		SHALE, LIGHT GRAY 28.4 - MODERATELY TO HIGHLY WEATHERED FRACTURE 28.9 - SLIGHTLY WEATHERED FRACTURE 29.2, 29.4 - MODERATELY WEATHERED FRACTURE 29.8-30.3 - VERTICAL FRACTURE, SLIGHTLY WEATHERED 30.5 - MODERATELY WEATHERED FRACTURE 30.7 - SLIGHTLY WEATHERED FRACTURE	RC 10	100 (85)								
40		30.5-30.7 - VERTICAL FRACTURE 31.8 - SLIGHTLY WEATHERED FRACTURE 33.0 - SLIGHTLY WEATHERED FRACTURE 33.5, 34.9 - MODERATELY WEATHERED FRACTURE 35.2, 36.8-36.9, 37.2, 38.2 - SLIGHTLY WEATHERED FRACTURE 38.9 - MODERATELY WEATHERED FRACTURE 39.3 - SLIGHT TO MODERATELY WEATHERED 40.1, 40.7 - SLIGHTLY WEATHERED FRACTURE *(continued from previous page)*	RC 11	100 (61)								

Refusal at 25.0 feet.
Bottom of borehole at 40.9 feet.

BORING NUMBER E-7

AMEC
11003 Bluegrass Parkway Suite 690
Louisville, KY 40299
502-267-0700

CLIENT Army National Guard
PROJECT NUMBER 7-7728-0000-0002
DATE STARTED 10/8/08 COMPLETED 10/8/08
DRILLING CONTRACTOR MATHES
DRILLING METHOD HSA
LOGGED BY MGS
NOTES Dry Hole

PROJECT NAME South Gate Road Slope Failure
PROJECT LOCATION Camp Dawson, West Virginia
GROUND ELEVATION 1266 ft HOLE SIZE 3.25
GROUND WATER LEVELS:
AT TIME OF DRILLING —
AT END OF DRILLING —
AFTER DRILLING —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		CLAY, SILTY, SOME FINE TO COARSE SAND, TRACE FINE GRAVEL, BROWN, MEDIUM STIFF	SS 1		3-3-4 (7)							
		CLAY, SILTY, SOME FINE TO COARSE SAND, TRACE FINE GRAVEL, BROWN, MEDIUM STIFF	SS 2		3-3-3 (6)							
5		CLAY, SILTY, SOME FINE TO COARSE SAND, BROWN, VERY STIFF	SS 3		8-6-10 (16)			15				53
		CLAY, SILTY, SOME FINE TO COARSE SAND, BROWN, STIFF	SS 4		4-7-8 (15)			15				65
10		SILT, CLAYEY, TRACE FINE TO COARSE ROCK FRAGMENTS, BROWN, HARD	SS 5		6-8-28 (36)							
15		SILT, CLAYEY, DARK GRAY, STIFF	SS 6		6-8-7 (15)			15				53
20												

Refusal at 21.0 feet.
Bottom of borehole at 21.0 feet.

BORING NUMBER E-8

AMEC
11003 Bluegrass Parkway Suite 690
Louisville, KY 40299
502-267-0700

CLIENT Army National Guard
PROJECT NUMBER 7-7728-0000-0002
DATE STARTED 10/8/08 **COMPLETED** 10/8/08
DRILLING CONTRACTOR MATHES
DRILLING METHOD HSA
LOGGED BY MGS
NOTES Dry Hole

PROJECT NAME South Gate Road Slope Failure
PROJECT LOCATION Camp Dawson, West Virginia
GROUND ELEVATION 1266.4 ft **HOLE SIZE** 3.25
GROUND WATER LEVELS:
AT TIME OF DRILLING —
AT END OF DRILLING —
AFTER DRILLING —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		CLAY, SILTY, LITTLE FINE TO COARSE GRAVEL, REDDISH BROWN AND GRAY, VERY STIFF	SS 1		8-9-11 (20)							
		CLAY, SILTY, TRACE FINE GRAVEL, TAN, STIFF	SS 2		9-5-7 (12)							
5		CLAY, SILTY, LITTLE ORGANICS, LITTLE FINE TO COARSE SAND, TRACE FINE GRAVEL, MIX OF REDDISH BROWN AND GRAY, STIFF	SS 3		3-6-6 (12)							
		CLAY, SILTY, LITTLE FINE TO COARSE SAND, LITTLE BLACK NODULES, MIX OF GRAY AND BROWN, STIFF	SS 4		3-5-5 (10)							
10		CLAY, SILTY, SOME FINE TO COARSE ROCK FRAGMENTS, LITTLE BLACK NODULES, BROWN AND REDDISH BROWN, MEDIUM STIFF	SS 5		4-3-3 (6)							
15		SILT, CLAYEY, BROWN AND REDDISH BROWN, STIFF	SS 6		3-4-6 (10)			16				
20		SHALE	SS 7		50/1"							

Refusal at 23.5 feet.
Bottom of borehole at 23.5 feet.

BORING NUMBER E-9

AMEC
11003 Bluegrass Parkway Suite 690
Louisville, KY 40299
502-267-0700

CLIENT Army National Guard
PROJECT NUMBER 7-7728-0000-0002
DATE STARTED 10/8/08 COMPLETED 10/8/08
DRILLING CONTRACTOR MATHES
DRILLING METHOD HSA
LOGGED BY MGS
NOTES Dry Hole

PROJECT NAME South Gate Road Slope Failure
PROJECT LOCATION Camp Dawson, West Virginia
GROUND ELEVATION 1266.6 ft HOLE SIZE 3.25
GROUND WATER LEVELS:
AT TIME OF DRILLING —
AT END OF DRILLING —
AFTER DRILLING —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		SILT, CLAYEY, WITH FINE TO COARSE GRAVEL, SOME BLACK NODULE, BROWN, VERY STIFF	SS 1		6-9-14 (23)							
		SAND, SILTY, TRACE FINE TO COARSE SAND, TRACE FINE GRAVEL, TRACE ORGANICS, BROWN, STIFF	SS 2		6-6-8 (14)			16				47
5		CLAY, SILTY, LITTLE FINE TO COARSE SAND, TRACE BLACK NODULE, GRAY, MEDIUM STIFF	SS 3		4-2-3 (5)			15	38	23	15	
		SILT, CLAYEY, TRACE FINE GRAVEL, BROWN, MEDIUM STIFF	SS 4		3-3-4 (7)							
10		CLAY, SILTY, SOME FINE TO COARSE SAND, LITTLE BLACK NODULES, BROWN, STIFF	SS 5		2-4-6 (10)							
15		SILT, CLAYEY, LITTLE WEATHERED SHALE, BROWN AND TAN, VERY STIFF	SS 6		6-8-10 (18)							
20		SILT, CLAYEY, WITH FINE GRAINED SAND, REDDISH BROWN, MEDIUM STIFF	SS 7		3-2-4 (6)							
25			RC 8	97 (20)								
30			RC 9	91 (51)								
35												

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BORING NUMBER E-9

AMEC
11003 Bluegrass Parkway Suite 690
Louisville, KY 40299
502-267-0700

CLIENT Army National Guard
PROJECT NAME South Gate Road Slope Failure
PROJECT NUMBER 7-7728-0000-0002
PROJECT LOCATION Camp Dawson, West Virginia

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
35		SHALE, LIGHT GRAY 27.95, 28.15, 28.5, 29, 29.1, 29.3, 29.5 - MODERATE TO HIGHLY WEATHERED FRACTURE 29.7, 29.8, 30.0 - SLIGHT TO MODERATELY WEATHERED FRACTURE 30.1, 30.2, 30.4 - HIGHLY WEATHERED FRACTURE 31.1, 31.4 - SLIGHTLY WEATHERED FRACTURE 31.6, 31.7 - MODERATELY WEATHERED FRACTURE 31.9, 32.1 - HIGHLY WEATHERED FRACTURE 32.7 - SLIGHTLY WEATHERED FRACTURE 33.4-33.5 - HIGHLY WEATHERED ZONE OF LOSS 3.9, 34.0 - MODERATELY WEATHERED FRACTURE 34.5 - SLIGHTLY WEATHERED FRACTURE 34.7 - MODERATELY WEATHERED FRACTURE 36.5 - SLIGHTLY WEATHERED FRACTURE 38.9, 37.6, 38.1, 38.3, 38.4, 38.6 - MODERATELY WEATHERED FRACTURE 39, 39.3, 39.4, 39.5, 39.6, 39.8 - SLIGHT TO MODERATELY WEATHERED 40.7, 40.9 -41.0 - MODERATELY WEATHERED FRACTURE 41.5, 41.7, 42.0 - MODERATE TO HIGHLY WEATHERED FRACTURE *(continued from previous page)*									
			RC 10	100 (54)								
40			RC 11	100 (50)								
		Refusal at 27.5 feet. Bottom of borehole at 42.5 feet.										

BORING NUMBER E-10

AMEC
11003 Bluegrass Parkway Suite 590
Louisville, KY 40299
502-267-0700

CLIENT Army National Guard
PROJECT NUMBER 7-7728-0000-0002
DATE STARTED 10/7/08 COMPLETED 10/7/08
DRILLING CONTRACTOR MATHES
DRILLING METHOD HSA
LOGGED BY MGS
NOTES Dry Hole

PROJECT NAME South Gate Road Slope Failure
PROJECT LOCATION Camp Dawson, West Virginia
GROUND ELEVATION 1268.8 ft HOLE SIZE 3.25
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		GRAVEL, FINE TO COARSE, SOME SILTY CLAY, MEDIUM DENSE	SS 1		6-6-5 (11)							
		CLAY, SILTY, SOME FINE TO COARSE SAND, BROWN, MEDIUM STIFF	SS 2		2-3-5 (8)							
5		CLAY, SILTY, SOME FINE TO COARSE SAND, BROWN AND TAN, SOFT	SS 3		1-2-2 (4)							
		CLAY, SILTY, SOME FINE TO MEDIUM GRAINED SAND, BROWN AND GRAY, SOFT	SS 4		1-1-2 (3)							
10		CLAY, SILTY, LITTLE FINE TO COARSE SAND, BROWN, STIFF	SS 5		2-4-5 (9)							
15		CLAY, SILTY, SOME FINE TO COARSE SAND, SOME FINE TO COARSE ROCK FRAGMENTS, BROWN, HARD	SS 6		4-50/5"							
20		SANDSTONE, HIGHLY WEATHERED										
		SHALE, GRAY, HIGHLY WEATHERED, SOME SILTY CLAY										
25												
30			SS 7	100 (38)								
35			SS 8	94 (34)								

(Continued Next Page)

AMEC
11003 Bluegrass Parkway Suite 690
Louisville, KY 40299
502-267-0700

BORING NUMBER E-10

CLIENT Army National Guard
PROJECT NUMBER 7-7728-0000-0002
PROJECT NAME South Gate Road Slope Failure
PROJECT LOCATION Camp Dawson, West Virginia

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
35		SHALE, LIGHT GRAY										
		27.4- SLIGHTLY WEATHERED FRACTURE 27.5 - MODERATE TO HIGHLY WEATHERED FRACTURE 27.8 - SLIGHTLY WEATHERED FRACTURE 27.9 - HIGHLY WEATHERED, MUD SEAM 28.1 - HIGHLY WEATHERED, MUD SEAM 28.4-28.6 - HIGHLY WEATHERED, MUD SEAM 28.9, 29.0 - MODERATE TO HIGHLY WEATHERED FRACTURE 29.2 - SLIGHTLY WEATHERED FRACTURE 29.4, 29.9 - MODERATE TO HIGHLY WEATHERED FRACTURE 30.2, 30.4 - SLIGHTLY WEATHERED FRACTURE 30.7 - SLIGHT TO MODERATELY WEATHERED FRACTURE 30.7-30.9 - SLIGHTLY WEATHERED FRACTURE 31.0, 31.1, 31.4, 31.6 - HIGHLY WEATHERED, MUD SEAM 32.2, 32.4, 32.7 - MODERATELY WEATHERED FRACTURE 33.0, 33.1, 33.3 - SLIGHTLY WEATHERED FRACTURE 33.5, 33.8, 33.9, 34.1, 34.4, 34.5, 34.6- MODERATELY WEATHERED FRACTURE 34.9 - SLIGHTLY WEATHERED FRACTURE 35.44, 35.7, 35.8 -MODERATELY WEATHERED FRACTURE *(continued from previous page)*	SS 9	100 (100)								

Refusal at 27.0 feet.
Bottom of borehole at 39.0 feet.

BORING NUMBER E-11

AMEC
11003 Bluegrass Parkway Suite 690
Louisville, KY 40299
502-267-0700

CLIENT Army National Guard
PROJECT NUMBER 7-7728-0000-0002
DATE STARTED 10/7/08 COMPLETED 10/7/08
DRILLING CONTRACTOR MATHES
DRILLING METHOD HSA
LOGGED BY MGS
NOTES Dry Hole

PROJECT NAME South Gate Road Slope Failure
PROJECT LOCATION Camp Dawson, West Virginia
GROUND ELEVATION 1267.9 ft HOLE SIZE 3.25
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		CLAY, SILTY, LITTLE FINE TO MEDIUM GRAINED SAND, BROWN, MEDIUM STIFF (PROBABLE FILL)	SS 1		5-4-3 (7)							
		CLAY, SILTY, WITH FINE TO COARSE GRAINED SAND, GRAY AND BROWN, MEDIUM STIFF (PROBABLE FILL)	SS 2		3-3-4 (7)							
5		CLAY, SILTY, WITH FINE TO COARSE SAND, LITTLE FINE GRAVEL, BROWN, MEDIUM STIFF (PROBABLE FILL)	SS 3		3-2-3 (5)							
		CLAY, SILTY, LITTLE FINE TO COARSE SAND, SOME ORGANICS, ORGANIC ODOR, DARK GRAY, SOFT	SS 4		2-2-2 (4)							
10		CLAY, SILTY, LITTLE FINE TO COARSE SAND, REDDISH BROWN, STIFF	SS 5		4-4-5 (9)			20	41	23	18	
15		CLAY, SILTY, SOME FINE TO COARSE SAND, SOME BLACK NODULES, TAN, VERY STIFF	SS 6		5-7-9 (16)							
20		CLAY, SILTY, LITTLE FINE TO COARSE SAND, LITTLE BLACK NODULES, TAN, VERY STIFF	SS 7		6-8-11 (19)							
25												

Refusal at 27.0 feet.
Bottom of borehole at 27.0 feet.

BORING NUMBER E-12

AMEC
11003 Bluegrass Parkway Suite 690
Louisville, KY 40299
502-267-0700

CLIENT Army National Guard
PROJECT NUMBER 7-7728-0000-0002
DATE STARTED 10/7/08 COMPLETED 10/7/08
DRILLING CONTRACTOR MATHES
DRILLING METHOD HSA
LOGGED BY MGS
NOTES Dry Hole

PROJECT NAME South Gate Road Slope Failure
PROJECT LOCATION Camp Dawson, West Virginia
GROUND ELEVATION 1267 ft HOLE SIZE 3.25
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		SILT, CLAYEY, SOME FINE TO COARSE GRAVEL, LITTLE FINE TO COARSE SAND, TAN, STIFF, DRY	SS 1		6-7-6 (13)							
		SILT, CLAYEY , SOME FINE TO COARSE SAND, TAN, MOIST, STIFF	SS 2		6-5-6 (11)							
5		CLAY, SILTY, SOME FINE TO COARSE GRAINED SAND, TAN, MOIST, STIFF	SS 3		6-6-5 (11)							
		NO RECOVERY	SS 4		8-4-3 (7)							
10		CLAY, SILTY, TAN AND REDDISH BROWN, SOME FINE TO COARSE SAND, LITTLE FINE TO COARSE ROCK FRAGMENTS, MEDIUM STIFF	SS 5		0-2-4 (6)							
15		CLAY, VERY SILTY, REDDISH BROWN, SOME FINE TO COARSE GRAINED SAND, LITTLE FINE TO COARSE ROCK FRAGMENTS, MOIST, STIFF	SS 6		4-5-5 (10)							
20		CLAY, SILTY, BROWN AND TAN, SOME FINE TO COARSE SAND, LITTLE BLACK NODULES, MOIST, HARD	SS 7		9-15-16 (31)							
25												

Refusal at 28.2 feet.
Bottom of borehole at 28.2 feet.

Y	MILS (mm)
B	79 (2.0 mm)
C	109 (2.7 mm)
D	138 (3.5 mm)
E	168 (4.3 mm)
F	188 (4.8 mm)
G	218 (5.5 mm)
H	249 (6.3 mm)
J	280 (7.1 mm)

613-BLANK

SECTION 614
PILING WALLS

614.1 - DESCRIPTION:

This work shall consist of furnishing and placing steel piles in predrilled holes, concrete or grout, backfill and lagging, of the kinds and dimensions designated, in accordance with these provisions and in reasonably close conformity with the lines, grades, dimensions, and locations shown on the Plans or established by the Engineer. Painting of the exposed steel is included.

Careful attention shall be given to assuring the pile wall will tie directly into an existing stable slope. Prior to ordering any materials, the contractor in conjunction with the Engineer shall conduct a project site review in order to verify the limits of the pile wall.

614.2 - MATERIALS:

Materials shall conform to the requirements specified in the following Subsections of Division 700:

MATERIAL	SUBSECTION
Steel Piles and Splices	709.12
Steel Lagging and Wales	709.12
Reinforcing Steel	709.1
Prestressing Steel	709.2
Treated Timber Lagging	710
Portland Cement	701.1
Fine Aggregate	702.1
Fly Ash	707.4

614.3 - DRILLING:

614.4

A drilled hole is required for the buried length of the pile.

A minimum of 1/3 the total pile length or 10 feet (3 m), whichever is greater, is to be placed in bedrock/shale. Deviation from this requirement will be controlled by a Plan note. The total estimated pile length and the depth to the estimated bedrock/shale line are shown on the piling profile. Should the elevation of the actual bedrock/shale vary from the estimated elevation by more than 2.5 feet (0.8 m), the Engineer must approve the hole prior to placement of the pile. The material from the drilled hole shall be removed and disposed of by the Contractor in an approved site.

Particular care must be taken in the drilling operation to avoid deflecting the bit along a sloping bedrock/shale line. To verify proper alignment, the Contractor shall measure and record the vertical alignment of the hole using a plumb bob or other acceptable method.

Preferably, the diameter of the drilled hole shall be a size that will allow the pile, while being slowly lowered into the hole, to reach the bottom of the hole under the impetus of the pile weight. The minimum hole diameter shall be 2 inches (50 mm) larger than the diagonal distance across the pile cross section.

Light tapping (ten blows with at least 3 inches (75 mm) of penetration per blow) with a pile hammer exerting no more than 12,000 ft/lbs (16 kJ) of energy is permitted at the direction of the Engineer to advance the pile past minor obstacles in the hole.

Temporary casing of holes may be needed to maintain an open clean hole through the soil overburden. There will be no additional compensation for temporary casing. The cost of any casing used shall be included in the unit price bid for piling.

614.4 - INSTALLATION OF PILES:

Piles shall be located as shown on the Plans or as directed by the Engineer. Piles shall be installed with the pile center within 1 inch (25 mm) of the Plan location. The piles must be prevented from rotating, so that the pile axis is within five degrees of the position shown on the Plans.

The maximum permissible vertical deviation for piles shall be one percent of the total pile length, as measured at the actual pile location.

It is desirable that piles be installed without splicing; however, at the direction of the Engineer splices may be made. Splice lengths at the top of the piles may be butt welded provided the splice lengths are less than the required splice plates. No payment will be made for cut-offs. Welding shall be in accordance with 615.3.16.

Accurate records shall be maintained by the Contractor showing the depth to which each pile was placed, the plumbness, the amount of material used, elevation of bedrock/shale, and any unusual conditions encountered during the pile installation. These records shall be incorporated into the permanent records of the project.

614.5 - CORROSION PROTECTION:

Piles will be protected from corrosion and sealed by the placement of

concrete or grout, from the bottom of the hole to the bottom of the lagging or as directed by the Engineer. Vibration of the concrete or grout is not required. The Contractor shall complete all concrete or grout operations for holes drilled during the work day.

The drilled hole shall be pumped free of water and shall be reasonably free of fall-in soil or other debris prior to the placement of the concrete or grout. The concrete or grout in the bedrock/shale portion of the hole will be pumped or tremied through a pipe beginning at the bottom of the drilled hole. The pipe shall be slowly raised ensuring the pipe end remains at least 2 feet (600 mm) below the surface of the concrete or grout. A means of positively measuring the elevation of the concrete or grout as it is placed shall be provided by the Contractor.

After placing the concrete or grout in the bedrock/shale, the Contractor has the option of either pumping or pouring directly into the hole the remainder of the concrete or grout. Placing the concrete or grout from the bottom of the hole to the bottom of the lagging shall be accomplished in one continuous operation.

The Contractor will inform the Engineer, at the preconstruction conference, as to the type of corrosion protection that will be used. Intermixing of concrete and grout will not be allowed, unless approved by the Engineer.

Concrete shall be in accordance with Section 601, Class B. The job site testing is waived

Grout will be furnished and placed in accordance with the requirements specified herein.

The acceptance sampling and testing of the grout is the responsibility of the Division.

Quality Control of the concrete or grout is there responsibility of the Contractor as designated in Materials Procedure MP 601.03.50. The Contractor shall maintain equipment and qualified personnel, who shall direct all field inspection, sampling, and testing necessary to determine the magnitude of the various properties of the concrete and grout governed by the Specifications and shall maintain these properties within the limits of this Specification. The Quality Control Plan designated in MP 601.03.50 shall be submitted to the Engineer at the pre construction conference. Work shall not begin until the Plan is reviewed for conformance with the contract documents.

The required 7-day compression strength of the grout shall be a minimum of 2,000 psi (14 MPa). Grout which does not attain the 2,000 psi (14 MPa) strength in 7 days but exceeds a strength of 1,600 psi (11 MPa) shall be subject to price reduction based on the percentage of strength attained.

A grout strength test shall consist of testing three 6 in x 12 in (150 mm x 300 mm) cylindrical specimens. The test results shall be the average of the three specimens. One set of three specimens shall be made for each day's operations.

The bid price for the piling with grout compressive strengths greater than or equal to 2,000 psi (14 MPa) will be paid at 100 percent unless the piling installation does not meet Specifications for other reasons. Between 1,600 psi

(11 MPa) and 2,000 psi (14 MPa) compressive strengths, the cost of the grout will be deducted from the actual grout cost on a proportional basis with 2,000 psi (14 MPa) being 100 percent and 1,600 psi (11 MPa) being zero percent payment. With 1,600 psi (11 MPa) grout, the piling installation would be considered to meet 80 percent of the Specifications and the penalty being zero payment for the grout.

The penalty would involve only the quantity of grout represented by the failing compressive strength results.

The bid price for the piling will be reduced for the piles grouted with grout having less than 1,600 psi (11 MPa) compressive strengths as follows:

A = Compressive strength of grout
B = Total foot (meter) of piling grouted with
C = Unit bid price per foot (meter) of piling
D = Cost of grout (from Contractor)
E = 2,000 psi (14 Mpa)
F = Total penalty

$$F = D + [BC - D]\ 10.80 - (A + E)]$$

614.6 - PAINTING:

All surfaces from the top of the steel pile, down to and including 2.0 ft. (600 mm) below the top of the anticipated grout line shall be cleaned and painted. The method of surface preparation shall be hand tool cleaning to SSPC-SP-2. The paint system shall consist of one-coat of aluminum epoxy mastic meeting the requirements of 711.12 applied at a minimum dry film thickness of 5 mils (125 μm).

614.7 - LAGGING AND BACKFILLING:

Lagging of the type and size as specified on the Plans shall be installed between the piles. Backfilling and restoration of the roadway template shall be as shown on the Plans.

Timber lagging shall be Grade # 3 or better treated rough cut oak, 3 in (75 mm) wide by 8 in (200 mm) deep for heights up to 11 ft (3.4 m); and for wall heights exceeding 11 ft (3.4 m) the timber lagging shall be double 3 in (75 mm) wide by 8 in (200 mm) deep. The boards shall be cut to their required length prior to preservative treatment.

The timber lagging shall conform to Sections 710.3 and 710.4 of the West Virginia Division of Highways Standard Specifications and shall be CCA treated for soil and fresh water use, as per AWPA C2.

614.8 - METHOD OF MEASUREMENT:

The quantity of piles will be measured in linear feet (meters) of piles installed and accepted for the wall. The quantity of lagging will be measured in square feet (meters) of lagging installed and accepted for the wall.

614.9-BASIS OF PAYMENT:

The quantities will be paid for at the contract unit prices bid for the items listed below, which prices and payments shall be full compensation for furnishing all materials and doing all the work herein prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies, and incidentals necessary to complete the work. The cost of drilling, concrete, grout, wales, and painting shall be included in the price bid for the piles. The cost of painting and welding steel lagging shall be included in the price bid for steel lagging.

614.10-PAY ITEMS:

ITEM	DESCRIPTION	UNIT
614001-*	"size" STEEL PILE	LINEAR FOOT (METER)
614002-*	STEEL LAGGING, THICKNESS "thickness"	SQUARE FOOT (METER)
614003-*	CONCRETE LAGGING, THICKNESS "thickness"	SQUARE FOOT (METER)
614004-*	TIMBER LAGGING	SQUARE FOOT (METER)

* Sequence number

SUPPLEMENTARY SPECIFICATIONS

The specifications for project shall be the West Virginia Department of Highways, "Standard Specifications, Roadways and Bridges", except as modified herein.

614.1 - DESCRIPTION
Delete the last sentence in the first paragraph

614.3 – DRILLING
Revise the second paragraph to read the following:
"The minimum embedment of the pile length into bedrock shall be designated on the plans. The total estimated pile length and depth to estimated bedrock are shown in the 'Drilled Shaft Schedule' and on the 'Drilled Shaft Profile'. Should the actual elevation vary by more than 2.5 feet, the Engineer must approve the hole prior to placement of the pile. The material from the drilled hole shall be removed and disposed of by the Contractor in an approved site."

Revise portions of the fourth paragraph to state the minimum diameter of the drilled hole shall be as shown on the plans.

614.5 – CORROSION PROTECTION
Revise the first paragraph to indicate that vibration of concrete will be required for the upper ten feet of the drilled shaft.

Delete from paragraph 11 to the end of section 614.5 inclusively. All concrete is expected to reach a minimum 7 day strength of 1,600 psi and 28 day strength of 4,000 psi.

614.6 – PAINTING
Delete this section in its entirety. Painting of the structural steel is not required.

614.7 – LAGGING AND BACKFILLING
Delete paragraphs two and three in this section. Timber lagging is not applicable to this project.

MEASUREMENT AND PAYMENT
LINE ITEM 1 – *Mobilization and Demobilization*
This item will cover the payment for the mobilization and demobilization of all plant and equipment to execute the project. Payment will be made on a LUMP SUM basis.

LINE ITEM 2 – *Clear & Grub*
This item will cover the payment for clearing and grubbing the area of work, of all trees, shrubs, etc. Payment will be made on a PER ACRE basis.

LINE ITEM 3 – *Excavation and Embankment*
This item will cover payment for all excavation and embankment not otherwise included in any other line items on the Bid Form. These items include, but are not limited to, excavation and grading in front of the drilled shaft wall, excavation for the precast concrete lagging, any and all benching that may be required, miscellaneous backfill that may be required, etc. Payment will be made on a LUMP SUM basis.

LINE ITEM 4 – *Erosion & Sediment Control*

This item will cover all erosion and sediment control measures incorporated by the Contractor's approved SWPPP. Payment will be made on a LUMP SUM basis.

LINE ITEM 5 – *Roadway Grading*
This item will cover the scarifiying, mixing and recompacting of the upper 12" of the existing roadbed. Payment for this item will be made on a per CUBIC YARD basis.

LINE ITEM 6 – *Stone Base for Road*
This item will cover the 12" of ABC crushed stone to be placed for the new roadway. Payment for this item will be made on a per TON basis.

LINE ITEM 7 – *30" Diameter Drilled Shafts, Above Bedrock*
This item will cover all means, methods and materials to perform the machine excavation of the material above bedrock at the drilled shaft locations. Also included in this item shall be the concrete fill material, spoil removal, and forming above grade if necessary. Payment for this item will be made on a per LINEAR FOOT basis.

LINE ITEM 8 – *30" Diameter Drilled Shafts, Into Bedrock*
This item will cover all means, methods and materials to perform the machine excavation of the material into bedrock at the drilled shaft locations. Also included in this item shall be the concrete fill material and spoil removal. Payment for this item will be made on a per LINEAR FOOT basis.

LINE ITEM 9 – *Steel Piles, W18x106*
This item will cover all means, methods and materials to furnish, fabricate and place the steel piles at the proper centerline locations indicated. Payment for this item will be made on a per LINEAR FOOT basis.

LINE ITEM 10 – *Steel Piles, W21x111*
This item will cover all means, methods and materials to furnish, fabricate and place the steel piles at the proper centerline locations indicated. Payment for this item will be made on a per LINEAR FOOT basis.

LINE ITEM 11 – *Precast Concrete Lagging, 8" Thick*
This item will cover all means, methods and materials to furnish, fabricate and place the 8" thick precast concrete lagging at the proper locations indicated. Payment for this item will be made on a per SQUARE FOOT basis.

LINE ITEM 12 – *Free Draining Backfill*
This item will cover all excavation, furnishing & installation of backfill, compaction necessary and furnishing & installation filter fabric. Payment for this item will be made on a per TON basis.

LINE ITEM 13 – *6" Perforated Pipe*
This item will cover furnishing & installation of the 6" perforated pipe embedded in the free draining backfill. Payment for this item will be made on a per LINEAR FOOT basis.

LINE ITEM 14 – *Cable Guardrail*
This item will cover all means, methods and materials to furnish, fabricate and place the cable guardrail at the proper locations indicated. Payment for this item will be made on a per LINEAR FOOT basis.

LINE ITEM 15 - *Seed*
This item will cover all means, methods and materials to furnish and place the seeding over all areas disturbed. Payment for this item will be made on a per ACRE basis.

Bid Item Number	Description	Quantity	Unit	Unit Price	Amount
1	Mobilization and Demobilization	1.00	LS	11,144.65	$11144 - 65
2	Clear & Grub	0.25	ACRE	31,392.16	$ 7,848 - 04
3	Excavation and Embankment	1.00	LS	7,848.04	$ 7,848. - 04
4	Erosion & Sediment Control	1.00	LS	5,698.59	$ 5,698. - 59
5	Construction Layout & Staking	1.00	LS	5,628.60	$ 5,628. - 60
6	Roadway Grading	136.00	CY	11.43	$ 1,554. - 48
7	Stone Base for Road	272.00	TON	22.29	$ 6,062. - 88
8	Soil Boring	40.00	LFT	34.90	$ 1,396. - 00
9	30" Diameter Drilled Shafts, Above Bedrock	481.57	LFT	55.69	$26,818. - 63
10	30" Diameter Drilled Shafts, Into Bedrock	360.00	LFT	62.71	$22,575. - 60
11	Steel Piles, W18x106	680.00	LFT	199.99	$135,993. - 20
12	Steel Piles, W21x111	200.00	LFT	162.70	$ 32,540. - 00
13	Precast Concrete Lagging, 8" Thick	2,070.00	SFT	17.69	$ 36,618. - 30
14	Free Draining Backfill	150.00	TON	42.32	$ 6,348. - 00
15	6" Perforated Pipe	230.00	LFT	4.54	$ 1,044. - 20
16	Cable Guardrail	280.00	LFT	73.45	$ 20,566. - 00
17	Seed	0.50	ACRE	2,983.16	$ 1,491. - 58
			TOTAL BID		$331,176. - 79

Contractor Name: Laurita Excavating, Inc.
Address: 302 Dents Run Road
Morgantown, WV 26501
Date: 4/21/09
Signed: Atelio F Meale
Print Name: Atelio F. Meale
Title: Vice President

Agency Purchasing Division
REQ.P.O# DEFK9020

BID BOND

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned, Laurita Excavating, Inc. of Morgantown, WV, as Principal, and Fidelity and Deposit Company of Maryland of Baltimore, MD, a corporation organized and existing under the laws of the State of MD with its principal office in the City of Baltimore, as Surety, are held and firmly bound unto the State of West Virginia, as Obligee, in the penal sum of Five Percent of Amount Bid ($ 5%) for the payment of which, well and truly to be made, we jointly and severally bind ourselves, our heirs, administrators, executors, successors and assigns.

The Condition of the above obligation is such that whereas the Principal has submitted to the Purchasing Section of the Department of Administration a certain bid or proposal, attached hereto and made a part hereof, to enter into a contract in writing for Reclamation - Restoration of Land & Other Properties, Camp Dawson, DEFK9020

NOW THEREFORE,

(a) If said bid shall be rejected, or

(b) If said bid shall be accepted and the Principal shall enter into a contract in accordance with the bid or proposal attached hereto and shall furnish any other bonds and insurance required by the bid or proposal, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be null and void, otherwise this obligation shall remain in full force and effect. It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for the value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Obligee may accept such bid, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be affixed hereunto and these presents to be signed by their proper officers, this 15th day of April, 2009.

Principal Corporate Seal

Laurita Excavating, Inc.
(Name of Principal)

By _____
(Must be President or Vice President)

Sec / Treas / Exec VP
(Title)

Surety Corporate Seal

FIDELITY AND DEPOSIT COMPANY OF MARYLAND — INCORPORATED — 1890

Fidelity and Deposit Company of Maryland
(Name of Surety)

By: _____
Zachary C. Mendelson Attorney-in-Fact

IMPORTANT – Surety executing bonds must be licensed in West Virginia to transact surety insurance. Corporate seals must be affixed, and a power of attorney must be attached.

Power of Attorney
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

KNOW ALL MEN BY THESE PRESENTS: That the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, a corporation of the State of Maryland, by THEODORE G. MARTINEZ, Vice President, and ERIC D. BARNES, Assistant Secretary, in pursuance of authority granted by Article VI, Section 2, of the By-Laws of said Company, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, does hereby nominate, constitute and appoint **Karen M. COMPORT, Wendy L. PRICE, Zachary L. MENDELSON, Mark F. SUSCO and Kathryn J. FINDLAY, all of Pittsburgh, Pennsylvania, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Company, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its office in Baltimore, Md., in their own proper persons. This power of attorney revokes that issued on behalf of Karen M. COMPORT, Wendy L. PRICE, Zachary L. MENDELSON, Mark F. SUSCO, dated May 12, 2005.

The said Assistant Secretary does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article VI, Section 2, of the By-Laws of said Company, and is now in force.

IN WITNESS WHEREOF, the said Vice-President and Assistant Secretary have hereunto subscribed their names and affixed the Corporate Seal of the said FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 27th day of June, A.D. 2007.

ATTEST: **FIDELITY AND DEPOSIT COMPANY OF MARYLAND**

FIDELITY AND DEPOSIT COMPANY OF MARYLAND — INCORPORATED — 1890

By:

Eric D. Barnes *Assistant Secretary* *Theodore G. Martinez*

State of Maryland }
City of Baltimore } ss:

On this 27th day of June, A.D. 2007, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, came THEODORE G. MARTINEZ, Vice President, and ERIC D. BARNES, Assistant Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and they each acknowledged the execution of the same, and being by me duly sworn, severally and each for himself deposeth and saith, that they are the said officers of the Company aforesaid, and that the seal affixed to the preceding instrument is the Corporate Seal of said Company, and that the said Corporate Seal and their signatures as such officers were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

CONSTANCE A. DUNN — NOTARY PUBLIC — BALTIMORE COUNTY

Constance A. Dunn *Notary Public*

My Commission Expires: July 14, 2011

EXTRACT FROM BY-LAWS OF FIDELITY AND DEPOSIT COMPANY OF MARYLAND

"Article VI, Section 2. The Chairman of the Board, or the President, or any Executive Vice-President, or any of the Senior Vice-Presidents or Vice-Presidents specially authorized so to do by the Board of Directors or by the Executive Committee, shall have power, by and with the concurrence of the Secretary or any one of the Assistant Secretaries, to appoint Resident Vice-Presidents, Assistant Vice-Presidents and Attorneys-in-Fact as the business of the Company may require, or to authorize any person or persons to execute on behalf of the Company any bonds, undertaking, recognizances, stipulations, policies, contracts, agreements, deeds, and releases and assignments of judgements, decrees, mortgages and instruments in the nature of mortgages,...and to affix the seal of the Company thereto."

CERTIFICATE

I, the undersigned, Assistant Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that the Vice-President who executed the said Power of Attorney was one of the additional Vice-Presidents specially authorized by the Board of Directors to appoint any Attorney-in-Fact as provided in Article VI, Section 2, of the By-Laws of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed."

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the said Company,

this 15 day of April, 2009.

Gregory E. Murray

Assistant Secretary

CONTRACTOR LICENSE

Authorized by the

West Virginia Contractor Licensing Board

Number: WV001135

Classification:

GENERAL BUILDING
GENERAL ENGINEERING
MULTIFAMILY
RESIDENTIAL
SPECIALTY
EXCAVATION

LAURITA EXCAVATING INC
302 DENTS RUN ROAD
MORGANTOWN, WV 26507

Date Issued	Expiration Date
AUGUST 13, 2008	AUGUST 13, 2009

Authorized Company Signature

Michael A. Carl
Chair, West Virginia Contractor Licensing Board

WEST VIRGINIA CONTRACTOR LICENSING BOARD

This license, or a copy thereof, must be posted in a conspicuous place at every construction site where work is being performed. This license number must appear in all advertisements, on all bid submissions and on all fully executed and binding contracts. This license cannot be assigned or transferred by licensee. Issued under provisions of West Virginia Code, Chapter 21, Article 11.

State of West Virginia
DRUG FREE WORKPLACE CONFORMANCE AFFIDAVIT
West Virginia Code §21-1D-5

STATE OF West Virginia

COUNTY OF Monongalia, TO-WIT:

I, Atelio F. Meale, after being first duly sworn, depose and state as follows:

1. I am an employee of Laurita Excavating, Inc. (Company Name); and,

2. I do hereby attest that Laurita Excavating, Inc. (Company Name)

maintains a valid written drug free workplace policy and that such policy is in compliance with ***West Virginia Code*** §21-1D-5.

The above statements are sworn to under the penalty of perjury.

Laurita Excavating, Inc.
(Company Name)

By: Atelio F Meale

Title: Vice President

Date: 4/21/09

Taken, subscribed and sworn to before me this 21 day of April 2009.

My Commission Expires February 15, 2015

OFFICIAL SEAL
Notary Public, State of West Virginia
BRANDI S. GIBSON
Route 1 Box 68
Masontown, WV 26542
My commission expires February 15, 2015

Brandi S. Gibson
(Notary Public)

THIS AFFIDAVIT MUST BE SUBMITTED WITH THE BID IN ORDER TO COMPLY WITH WV CODE PROVISIONS. FAILURE TO INCLUDE THE AFFIDAVIT WITH THE BID SHALL RESULT IN DISQUALIFICATION OF THE BID.

Rev March 2009

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

VENDOR OWING A DEBT TO THE STATE:
West Virginia Code §5A-3-10a provides that: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:
If this is a solicitation for a public improvement construction contract, the vendor, by its signature below, affirms that it has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the ***West Virginia Code***. The vendor **must** make said affirmation with its bid submission. Further, public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the ***West Virginia Code*** and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the ***West Virginia Code*** may take place before their work on the public improvement is begun.

ANTITRUST:
In submitting a bid to any agency for the state of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the state of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the state of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the state of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership or person or entity submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

LICENSING:
Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

CONFIDENTIALITY:
The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf.

Under penalty of law for false swearing (***West Virginia Code*** §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

Vendor's Name: Laurita Excavating, Inc.
Authorized Signature: [signature] Date: 4-21-09