



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
COR61443

PAGE
1

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

RFQ COPY
 TYPE NAME/ADDRESS HERE

V
E
N
D
O
R

S
H
I
P
T
O

DIVISION OF CORRECTIONS
 MT. OLIVE CORRECTIONAL
 CENTER
 1 MOUNTAINSIDE WAY
 MT. OLIVE, WV
 25185 304-442-7213

DATE PRINTED 12/22/2009	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
-----------------------------------	---------------	----------	--------	---------------

BID OPENING DATE: **01/13/2010** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM #03						
THIS ADDENDUM IS ISSUED TO MODIFY, CLARIFY, ADD TO AND EXTEND THE BID OPENING, PER THE ATTACHED DOCUMENTATION, AND THE DRAWING ISSUED BY THE ARCHITECT.						
REVISED BID OPENING DATE: 1/13/2010; 1:30 PM						
NO ADDITIONAL QUESTIONS WILL BE ACCEPTED OR ACKNOWLEDGED.						
0001	1	LS		910-82		
ELECTRICAL SUBSTATION INSTALLATION						
***** THIS IS THE END OF RFQ COR61443 ***** TOTAL: _____						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE		TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	

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

GENERAL TERMS & CONDITIONS PURCHASE ORDER/CONTRACT

1. **ACCEPTANCE:** Seller shall be bound by this order and its terms and conditions upon receipt of this order.
2. **APPLICABLE LAW:** 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.
3. **NON-FUNDING:** All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the terms of the Purchase Order/Contract, 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.
4. **COMPLIANCE:** Seller shall comply with all federal, state and local laws, regulations and ordinances including, but not limited to, the prevailing wage rates of the WV Division of Labor.
5. **MODIFICATIONS:** This writing is the parties' final expression of intent. No modification of this order shall be binding unless agreed to in writing by the Buyer.
6. **ASSIGNMENT:** Neither this Order nor any monies due, or to become due hereunder may be assigned by the Seller without the Buyer's consent.
7. **WARRANTY:** The Seller expressly warrants that the goods and/or services covered by this order will:
{a} conform to the specifications, drawings, samples or other description furnished or specified by the Buyer; {b} be merchantable and fit for the purpose intended; and/or {c} be free from defect in material and workmanship.
8. **CANCELLATION:** The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
9. **SHIPPING, BILLING & PRICES:** Prices are those stated in this order. No price increase will be accepted without written authority from the Buyer. All goods or services shall be shipped on or before the date specified in this Order.
10. **LATE PAYMENTS:** Payments may only be made after the delivery of goods or services. Interest may be paid on late payments in accordance with the *West Virginia Code*.
11. **TAXES:** The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
12. **RENEWAL:** 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, the State may deem this contract null and void, and terminate such contract without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at www.state.wv.us/admin/purchase/vrc/hipaa.htm and 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. **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>.
16. **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 agency 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.



405 Capitol Street, Upper Atrium
 Charleston, WV 25301-1727
 304.346.0565 - Fax 304.346.1522
 www.silling.com

ADDENDUM NO. 3

Date: December 21, 2009

Project: MT. OLIVE CORRECTIONAL COMPLEX
 ELECTRICAL SUBSTATION

Architect: Silling Associates, Inc.
 405 Capitol Street, Upper Atrium
 Charleston, WV 25301

Owner: WV Division of Corrections

The following amendments, addenda, additions and deletions shall be made to the contract documents titled as above. Insofar as the contract documents are at variance with Addendum Number One, this Addendum shall govern. Bidders shall acknowledge receipt of the Addendum on the Bid Form included in the Project Manual.

BID DATE

The Bid Date has been extended to January 14th at 1:30 p.m.

PRE-BID MEETING

See attached copy of pre-bid meeting sign-in sheets. (6 pages)

QUESTIONS & CLARIFICATIONS

Q1: Is there a borrow site on prison property?

A: If required, a proposed borrow site is located on the north facing slope between the proposed substation and existing dog kennels. See attached sketch drawing. (1 Page)
 Contractor is responsible for clearing any portion of this area that is required, sloping cuts to a maximum slope of 2.5H:1V when complete and stabilizing the borrow area at no additional cost to the owner. Owner and architect must be consulted as to exact borrow plan prior to

disturbing this area. It is recommended that bidders independently verify the earthwork quantity they feel necessary to complete the work and bid accordingly.

If this borrow site is utilized, Contractor will be required to place at least 18" of soil over the existing gas line in a designated crossing area to protect the line from heavy equipment.

Q2: Will contractor be able to dispose of drilling, footer and excavation excess on prison property?

A: Yes, all material from on-site excavations (footers, and equipment pads) shall be stockpiled and used for fill material to establish subgrade for the substation. If not required, this soil shall be spread out to the southeast of the substation work between the gas line and asphalt drive and graded for positive drainage. It is the intent of this project to keep disturbance to an absolute minimum. Contractor is responsible for stabilizing all soil disturbance generated from their activities at no increase to their bid price. See attached sketch drawing. (1 Page)

Q3: Site electric shows locations for work but there is no legend or description on the drawings.

A: See electrical plans for additional details.

Q4: Is there a geotechnical study for this project? If so, will it be made available?

A: See attached geotechnical report. (16 pages)

Q5: There are control points for layout of the project but I don't see a bench mark. Will one be provided?

A: Control points that are to the north, south, and west of the site will serve as benchmarks for the proposed project. The (Z) delineation of the control points designates elevation.

Q6: We are a CATERPILLAR dealer and were wondering if it was acceptable for us to quote the new Paralleling Switchgear and new ATS's using Russelectric to the Electrical Contractors?

A: The generator supplier is responsible to furnish the paralleling switchgear and transfer switches as part of their package to insure the whole system is properly coordinated. This is extremely important since we are upgrading the engines with digital control and the paralleling gear needs to coordinate with the digital interface. Splitting the package is not acceptable.

Q7: Who takes ownership of the 34.5kv cable, the 15 padmount transformers that are removed and the 5 defective existing padmount transformers stored on site?

A: Contractor shall remove and legally dispose of all old wiring, transformers, etc. Shown to be removed per specifications.

ARCHITECTURAL DRAWINGS
INCLUDE THE FOLLOWING ITEMS:

Item No. 1: Replace Drawing A1-0 – Floor Plan/Layout Plan with attached Revised A1-0. (30"x 42")

- Revised drawing scale.

ELECTRICAL**INCLUDE THE FOLLOWING ITEMS:**

Item No. 1: Specification Section 16341 2.1 A.1.

Add the following manufactures.

Eaton Cutler Hammer

Square D

General Electric

Siemens

Powell

Item No. 2: Drawing E5-3

Add General Note 8 to read as follows – “ Provide a trailer mounted 1500KW, 480/277V, 3 phase, 4W temporary diesel generator set with 480V to 34.5 KV, 3 phase, delta-wye or wye-wye connected temporary transformer. The generator set supplier shall provide and connect temporary 480V power wiring between the generator and transformer primary. Temporary 34.5KV secondary wiring shall be provided by the Electrical contractor in accordance with the Feeder Schedule. Provide and connect temporary remote start wiring as described in Note 7 of the “Suggested Sequence of Work” located on drawing E5-1.

Revise the note adjacent to the temporary 1.5KW diesel generator to read “Temporary 1.5MW trailer mounted diesel generator set with step-up transformer by E.C. See General Note 8.”

Item No. 3: Drawing E5-4

Revise “Alternate No.3 “ to read “Alternate No. 1” in Coded Note 12.

Add General Note 6 to read as follows – “Provide (1) temporary 500KW diesel generator set with output connectable for 480/227V, 3 phase, 4W or 208/120V, 3 phase, 4W. Utilize generator to provide temporary power for buildings as their respective padmount transformer is being replaced. Provide and connect temporary cabling to connect generator set at the padmount transformer or the building’s main service panel.

END OF ADDENDUM NO. 3

... CIVIC CONNECTION COMPANY
 New Substation - Pre-Bid Meeting

SIGN IN SHEET

Request for Proposal No. _____

PLEASE PRINT

Date: 12/15/2009 Page 1 of 6

* PLEASE BE SURE TO PRINT LEGIBLY - IF POSSIBLE, LEAVE A BUSINESS CARD

FIRM & REPRESENTATIVE NAME	MAILING ADDRESS	TELEPHONE & FAX NUMBERS
Company: <u>GLEN COMPANY</u>	<u>GLEN COMPANY</u>	PHONE <u>304 541-9098</u>
Rep: <u>DAVID W. MUSSER</u>	<u>PO BOX 2109</u>	TOLL FREE <u>800 339 8390</u>
Email Address: <u>DWMUSSER@WVDSL.NET</u>	<u>CHARLESTON, WV 25328</u>	FAX <u>304 344 0833</u>
Company: <u>City Construction</u>	<u>CHARSBURG WV 26301</u>	PHONE <u>304-623-2573</u>
Rep: <u>Brian Henderson</u>		TOLL FREE
Email Address: <u>apollock@wvdlc.net</u>		FAX <u>304-326-2069</u>
Company: <u>Nitro Electric</u>	<u>4300 First Ave - 2nd floor</u>	PHONE <u>(304) 204-1500</u>
Rep: <u>Bob Beardsley</u>	<u>PO Box 879</u>	TOLL FREE <u>20-</u>
Email Address: <u>bbeardsley@nitro-electric.com</u>	<u>Nitro WV 25143</u>	FAX <u>204-1350</u>
Company: <u>City Electric Co.</u>	<u>1219 Pennsylvania Avenue</u>	PHONE <u>(304) 345-6150</u>
Rep: <u>Chris Whitlock</u>	<u>Charleston, WV 25302</u>	TOLL FREE
Email Address: <u>cwhitlock@cityelectricwv.com</u>		FAX <u>304) 345-6151</u>
Company: <u>CITY ELECTRIC CO.</u>	<u>P.O. Box 6550</u>	PHONE <u>(304) 345-6150</u>
Rep: <u>Chris Myers</u>	<u>Charleston, WV 25362</u>	TOLL FREE
Email Address: <u>Cmyres@cityelectricwv.com</u>		FAX <u>(304) 345-6151</u>

11/11/07 BIVC COLLECTIONAL COMPLEX
 New Substation - Pre-bid meeting

SIGN IN SHEET

PLEASE PRINT

Page 2 of 6
 12/15/2009

PRE-BID SIGN-IN SHEET - PLEASE LEAVE A BUSINESS CARD - DPS0832 - 12/15/09 14:00hrs

FIRM & REPRESENTATIVE NAME	MAILING ADDRESS	TELEPHONE & FAX NUMBERS
Company: <u>NEIGHBORHOOD CONSTRUCTION</u>	<u>1216 SEVENTH AVE</u>	PHONE <u>(304) 525-5181</u> x246
Rep: <u>DAVID R. McCARTY</u>	<u>HUNTINGTON, WV</u>	TOLL FREE
Email Address: <u>dmccarty@neighborhood.com</u>	<u>25701</u>	FAX <u>(304) 525-7795</u>
Company: <u>Aggreko LLC</u>	<u>4220 Woodrum Lane</u>	PHONE <u>(304) 744-9434</u>
Rep: <u>Scott George</u>	<u>Charleston, WV 25313</u>	TOLL FREE
Email Address: <u>Scott.george@aggreko.com</u>		FAX <u>(304) 744-9443</u>
Company: <u>Scheerer, Buckley, Mayfield</u>	<u>1540 Corporate Woods Parkway</u>	PHONE <u>330-896-4664</u> x1287
Rep: <u>John Mc Donough</u>	<u>Uniontown, Ohio 44685</u>	TOLL FREE
Email Address: <u>j.mcdonough@sbmcs.com</u>		FAX <u>330-896-9180</u>
Company: <u>Tri County Electric</u>		PHONE <u>304-296-3090</u>
Rep: <u>Michael Foster</u>		TOLL FREE
Email Address: <u>M.Foster@Perwhire.com</u>		FAX
Company: <u>Cummins Crosspoint</u>	<u>602 New Goff Mt Rd</u>	PHONE <u>304-769-1012</u>
Rep: <u>LARRY CURTIS</u>	<u>Cross Lanes, WV 25313</u>	TOLL FREE
Email Address: <u>LARRY.W.CURTIS@Cummins.com</u>		FAX <u>304-769-1022</u>

Mount Olive Connectional Complex
New Substation Pre-Bid Meeting

SIGN IN SHEET

Request for Proposal No.

PLEASE PRINT

Page 3 of 6
Date: 12/15/2009

* PLEASE BE SURE TO PRINT LEGIBLY - IF POSSIBLE, LEAVE A BUSINESS CARD

FIRM & REPRESENTATIVE NAME	MAILING ADDRESS	TELEPHONE & FAX NUMBERS
Company: CW WRIGHT CONST. CO. INC	11500 Ironbridge Rd	PHONE 304 568 2382
Rep: Luke Spencer	Chester Va 23831	TOLL FREE 800 540 5392
Email Address: luke-spencer@cwwright.com		FAX 304 568 2926
Company: Master Service Mid Atlantic	PO Box 2417	PHONE 304 636 8170
Rep: Patrick Smith	ELKINS WV 26241	TOLL FREE EXT. 13
Email Address: pat.smith.msma@verizon.net		FAX 304 636 8206
Company: MASTER SERVICE MID-ATLANTIC	P.O. BOX 2417	PHONE 304-636-8170
Rep: STERL DEAN	ELKINS, WV. 26241	TOLL FREE EXT 16
Email Address: ssdean1@mac.com		FAX 304-636-8706
Company: NEW RIVER ELECTRICAL	15 CLOVERDALE PLACE	PHONE 540-966-1650
Rep: MICHAEL D. SAWCHUK	P.O. BOX 70	TOLL FREE
Email Address: msawchuk@newriverelectrical.com	CLOVERDALE, VA 24077	FAX 540-966-1699
Company: SWLING ASSOC. INC	405 CAPITAL ST	PHONE 304-346-0565
Rep: JASON RUTLEDGE	UPPER ATTAPUM	TOLL FREE
Email Address: JRUTLEDGE@SILLING.COM	CHARLESTON, WV 25301	FAX 304-346-1522

UNIT FIVE CORRECTION COMPANIES
 New Substation - Pre-bid meeting

SIGN IN SHEET

Request for Proposal No.

Date: 12/15/09

PLEASE PRINT

* PLEASE BE SURE TO PRINT LEGIBLY - IF POSSIBLE, LEAVE A BUSINESS CARD

FIRM & REPRESENTATIVE NAME		MAILING ADDRESS	TELEPHONE & FAX NUMBERS
Company:	General Electric	103 McDaniel Lane	PHONE 304 346 5960 TOLL FREE
Rep:	Noah Dillard	Charleston, WV 25311	FAX
Email Address:	Noah.dillard@ge.com		
Company:	GE	#3 Cloverleaf Cir.	PHONE 304-743-0238 TOLL FREE
Rep:	Steve Lawrence	Callodan WV 25510	FAX 304-743-0248
Email Address:	Steve.Lawrence@ge.com		
Company:	Aggreko	16748 New Ave	PHONE 800. Aggreko TOLL FREE
Rep:	Todd Walker	Bement FL	FAX
Email Address:	Todd.walker@aggreko.com		
Company:			PHONE TOLL FREE
Rep:			FAX
Email Address:			
Company:			PHONE TOLL FREE
Rep:			FAX
Email Address:			

MOUNT WINE Correction Complex
New Substation - Pre-bid meeting

SIGN IN SHEET
PLEASE PRINT

PRE-BID SIGN-IN SHEET - PLEASE LEAVE A BUSINESS CARD - DPS0832 - 12/15/09 14:00hrs

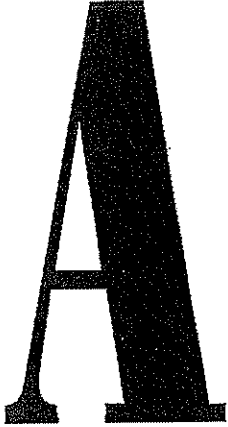
FIRM & REPRESENTATIVE NAME	MAILING ADDRESS	TELEPHONE & FAX NUMBERS
Company: Danhill Construction	P.O. Box 685	PHONE 304-632-1600
Rep: Danhill	Gauley Bridge, W.Va	TOLL FREE 304-632-1501
Email Address: Radar.hill@hotmail.com	25085	FAX
Company: Cummins Classport	602 New Goff Mtn. Rd	PHONE 304 769-1012
Rep: Kevin Pell	Cross Lanes, WV 25313	TOLL FREE
Email Address: kevin.m.pell@cummins.com		FAX
Company: Arthur N. Ulrich Co	10340 Palmer Rd SW	PHONE 740-927-8244
Rep: Tim Ulrich	Patauskula, OH 43062	TOLL FREE 800-848-2090
Email Address: tmulrich@anu-co.com		FAX 740-927-6017
Company: DANHILL CONSTRUCTION	P.O. Box 685	PHONE 304-632-1600
Rep: MICHAEL SIEMNIAK K.O.B.	Gauley Bridge, WV 25085	TOLL FREE
Email Address: Poulackiniv@Hormail.com		FAX 304-632-1501
Company: GE Energy - Industrial Services	306 MacCorkle Ave SE	PHONE 304-347-5008
Rep: Greg Engle	Charleston, WV 25314	TOLL FREE
Email Address: greg.engle@ge.com		FAX 304-345-3370

Mount Olive Correctional Complex
 New Substation - Pre-bid meeting

SIGN IN SHEET
 PLEASE PRINT

PRE-BID SIGN-IN SHEET- PLEASE LEAVE A BUSINESS CARD - DPS0832 - 12/15/09 14:00hrs

FIRM & REPRESENTATIVE NAME	MAILING ADDRESS	TELEPHONE & FAX NUMBERS
Company: <u>Summit Elect</u>	<u>P.O. Box 254 Hurricane</u>	PHONE <u>304 562 7091</u>
Rep: <u>Rick Gandy</u>	<u>WV 25526</u>	TOLL FREE
Email Address: <u>Kathy.hicks@suddenlink.net</u>		FAX <u>304 562 7137</u>
Company: <u>Dixon Electrical Systems</u>		PHONE <u>304 523 2712</u>
Rep: <u>Charles A Trautwein</u>		TOLL FREE
Email Address: <u>andy@dixonelectrical.com</u>		FAX <u>304 523 2713</u>
Company: _____		PHONE _____
Rep: _____		TOLL FREE _____
Email Address: _____		FAX _____
Company: _____		PHONE _____
Rep: _____		TOLL FREE _____
Email Address: _____		FAX _____
Company: _____		PHONE _____
Rep: _____		TOLL FREE _____
Email Address: _____		FAX _____



American Geotech, Inc.
601 Ohio Avenue
Charleston, WV 25302
(304) 340-4277
Fax 340-4278

AMERICAN GEOTECH, INC.
Geotechnical, Environmental and Testing Engineers

REPORT OF
SUBSURFACE EXPLORATION
PROPOSED ELECTRICAL SUBSTATION
MT. OLIVE CORRECTIONAL COMPLEX
MT. OLIVE, WEST VIRGINIA

Prepared For

SILLING ASSOCIATES, INC.
CHARLESTON, WEST VIRGINIA
DECEMBER - 2008

December 23, 2008

Mr. Jody Driggs, AIA
Silling Associates, Inc.
405 Capitol Street, Upper Atrium
Charleston, WV 25301-1727

**Re: Report of Subsurface Exploration
Proposed Electrical Substation
Mt. Olive Correctional Complex
Mt. Olive, West Virginia**

Dear Mr. Driggs:

In accordance with your request, American Geotech, Inc. (AGI) is pleased to provide this report of our auger sounding subsurface exploration for the proposed electrical substation, to be constructed at the Mt. Olive Correctional Complex in Mt. Olive, West Virginia. This exploration was completed in accordance with our verbal agreement.

The new electrical substation will be contained in a chain-link fence enclosure having dimensions of 60 feet by 120 feet. The site of the substation is presently occupied by an open, grassy lawn area adjacent to the existing maintenance building and switchgear station. It is our understanding that the substation equipment requires that grounding elements be installed at least 10 feet into the subsurface soils. The presence of bedrock within 10 feet below the surface at this site would seriously affect the installation of the grounding elements. Overhead high-voltage electric lines and underground gas and water lines are present within the substation footprint.

Subsurface Exploration

The overall Mt. Olive Correctional Complex site was previously a mountaintop removal coal mine. Thus, bedrock could be present near the existing ground surface or below deep deposits of mine spoil materials. Rock was observed at the ground surface at several locations across the site.

Eight (8) auger sounding test borings (B-1 to B-8) were drilled at this site on December 18, 2008, at the locations shown on the attached Test Boring Location Plan. The test borings were auger sounded to a depth of 10 feet below the existing surface grades at this site and no sampling of the existing materials was performed for this exploration. Most of our test borings encountered approximately 3 inches of topsoil at the ground surface. Test borings B-1 to B-7

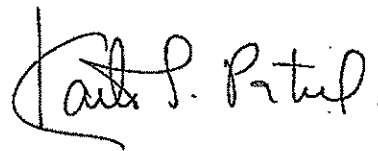
encountered mine related fill materials to the completion depth of 10 feet below the existing surface grades. The fill materials typically consisted of brown, tan, black, maroon, and gray clayey sand and silty clay, with significant percentages of rock fragments. Most of these test borings encountered a layer of coal refuse or shale boulders situated in the approximate middle of the explored vertical soil column. These damp to moist soil materials extended to the completion depth of 10 feet below the existing surface in B-1 to B-7.

The only exception from the above described stratigraphy was the material encountered in boring B-8. This test boring encountered highly weathered sandstone bedrock just below the ground surface. This weathered sandstone stratum was noted as soft rock and the material was penetrated by our truck-mounted drill rig to the completion depth of 10 feet without encountering auger refusal conditions. Typically, weathered bedrock materials that are penetrable by our drill rig will also be rippable using conventional excavation equipment.

We appreciate the opportunity to be of service to you on this project. If you have any questions or require additional information, please feel free to contact us.

Respectfully Submitted,

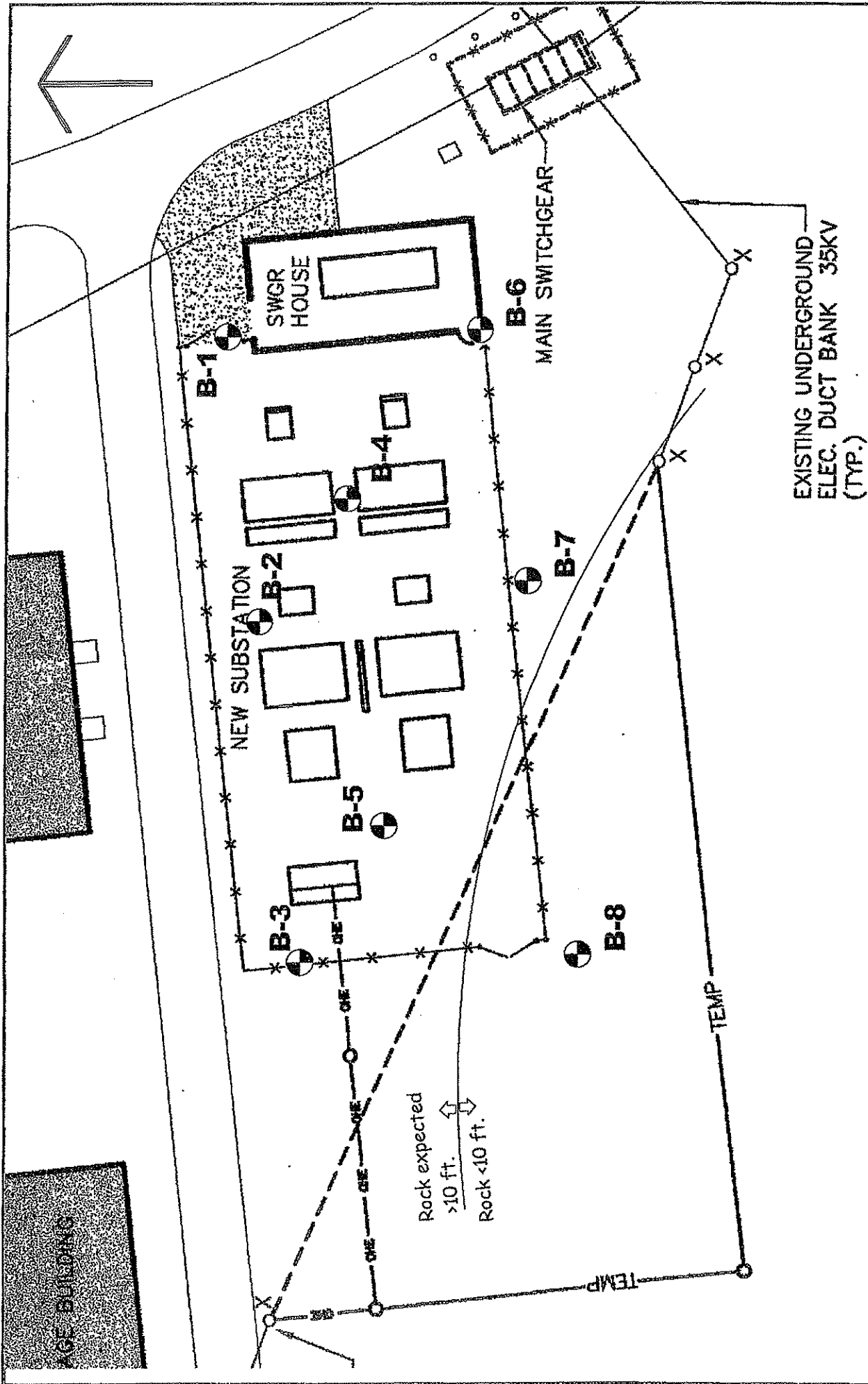
AMERICAN GEOTECH, INC.

A handwritten signature in black ink, appearing to read "Kanti S. Patel". The signature is written in a cursive, flowing style with a large initial "K".

Kanti S. Patel, M.S.C.E., P.E.
Principal Engineer

TEST BORING LOCATION

*American Geotech, Inc.
601 Ohio Avenue
Charleston, West Virginia 25302*



<p>TEST BORING LOCATION PLAN PROPOSED ELECTRICAL SUBSTATION MT. OLIVE CORRECTIONAL COMPLEX MT. OLIVE, WV</p>	<p>AMERICAN GEOTECH, INC. 601 OHIO AVENUE CHARLESTON, WV 25302 (304) 340-4277</p>	<p>DATE 12/23/08 DRAWN BY SILLING ADAPTED BY RDJ SCALE NONE CHK'D BY KSP SHEET 1 OF 1</p>
--	---	--

Soil Test Boring Logs

*American Geotech, Inc.
601 Ohio Avenue
Charleston, West Virginia 25302*

Terminology

Grain Size

Soil Fraction		Particle Size	U.S. STD. Sieve Size
Boulders		Larger than 12"	Larger than 12"
Cobbles		3" to 12"	3" to 12"
Gravel	Coarse	3/4" to 3"	3/4" to 3"
	Fine	4.75 mm to 3/8"	#4 to #40
Sand	Coarse	2.00 to 4.75 mm	#10 to #40
	Medium	0.425 to 2.00 mm	#40 to #100
	Fine	0.075 to 0.425 mm	#200 to #400
Fines	Clays & Silts	smaller than 0.075 mm	smaller than #200

Plasticity characteristics differentiate between silts and clays

Relative Density

Term	"N" Value
very loose	0 - 4
loose	5 - 10
medium dense	11 - 30
dense	31 - 50
very dense	over 50

Consistency

Term	ID Procedures	"N" Value
Soft	Easily penetrated by thumb	0 - 4
Medium Stiff	Penetrated by thumb with moderate effort	5 - 8
Stiff	Penetrated by thumb with great effort	9 - 15
Very Stiff	Readily indented by thumbnail	16 - 30
Hard	Indented by thumbnail with difficulty	31 - 50
Very Hard		over 50

Relative Moisture Description

Dry	Soil noticeably below optimum moisture
Moist	near optimum, but less than liquid limit
Damp	near or exceeding liquid limit
Wet	soil below water table

Symbols

Drilling and Sampling

RC - Rock Coring: Sizes AW, BW, NW, NQ
 RQD - Rock Quality Designator
 DC - Drive Casing
 HSA - Hollow Stem Auger
 FA - Flight Auger
 AG - Auger
 HA - Hand Auger
 SS - 2" diameter Split Barrel Sampler
 ST - 3" diameter Thin-Walled Tube Sampler
 AS - Auger Sample
 WS - Wash Sample
 NR - No Recovery
 S - Sounding
 ATV - All Terrain Vehicle

Laboratory Tests

PP - Pocket Penetrometer Reading, Tons/ft²
 QU - Unconfined Strength, Tons/ft²
 W - Moisture Content, %
 LL - Liquid Limit, %
 PL - Plastic Limit, %
 D - Dry Unit Weight, lbs/ft³

Standard Penetration Test

The penetration resistance, or N-value as it is commonly referred to, is the summation of the number of blows required to drive the last two successive 6" penetrations of the 2" diameter -18" long split barrel sampler. The sampler is driven with a 140 lb. weight falling 30". The standard penetration test is performed in compliance with procedures as set forth in ASTM D-1586

Water Level Measurement

NW - No water encountered
 WD - While drilling
 BCR - Before casing removal
 ACR - After casing removal
 CW - Caved and wet
 CM - Caved and moist
 BP - Backfilled upon completion

LOG OF TEST BORING

18

CLIENT Silling Associates, Inc. **BORING NO.** B-1
PROJECT Proposed Electrical Substation - Mt. Olive, WV **DATE START** 12/18/08
BORING LOCATION As shown on plan **DATE COMP.** 12/18/08
ELEV. REF. None available **ORDER NO.** _____

ELEV. FT.	DEPTH FT.	DESCRIPTION OF MATERIALS	SAMPLE				
			NO.	TP	DEPTH	BLOWS/6"	REC.
	0.0	Brown, tan, and gray clayey sand 10.0' to silty clay with rock fragments (FILL), moist. - Coal refuse from 6' to 8.5'. Boring completed.			Auger Sounding		
	10.0						

GENERAL NOTES DRILLER <u>J. Neal</u> RIG NO. <u>CME-55</u> RIG TYPE <u>Truck</u> METHOD <u>HSA</u>	<u>AMERICAN GEOTECH, INC.</u> Geotechnical, Environmental & Testing Engineers 601 Ohio Avenue Charleston, WV 25302 (304) 340-4277	WATER LEVEL OBSERVATIONS IMMEDIATE <u>NW</u> <u> </u> FT. AT COMPLETION <u>NW</u> <u> </u> FT. AFTER <u>BP</u> HRS. <u>NW</u> <u> </u> FT. WATER USED IN DRILLING <u>NW</u> FT.
---	--	---

LOG OF TEST BORING

19

CLIENT Silling Associates, Inc. BORING NO. B-2
 PROJECT Proposed Electrical Substation - Mt. Olive, WV DATE START 12/18/08
 BORING LOCATION As shown on plan DATE COMP. 12/18/08
 ELEV. REF. None available ORDER NO. _____

ELEV. FT.	DEPTH FT.	DESCRIPTION OF MATERIALS	SAMPLE				
			NO.	TP	DEPTH	BLOWS/6"	REC.
	0.0	0.3' Topsoil.					
	0.3	Brown, tan, and gray clayey sand			Auger		
	9.7	to silty clay with rock fragments (FILL), moist.			Sounding		
	10.0	- Coal refuse from 5' to 6.5'. Boring completed.					

<p>GENERAL NOTES DRILLER <u>J. Neal</u> RIG NO. <u>CME-55</u> RIG TYPE <u>Truck</u> METHOD <u>HSA</u></p>	<p>AMERICAN GEOTECH, INC. Geotechnical, Environmental & Testing Engineers 601 Ohio Avenue Charleston, WV 25302 (304) 340-4277</p>	<p>WATER LEVEL OBSERVATIONS IMMEDIATE <u>NW</u> FT. AT COMPLETION <u>NW</u> FT. AFTER <u>BP</u> HRS. <u>NW</u> FT. WATER USED IN DRILLING <u>NW</u> FT.</p>
--	--	--

LOG OF TEST BORING

20

CLIENT Silling Associates, Inc. **BORING NO.** B - 3
PROJECT Proposed Electrical Substation - Mt. Olive, WV **DATE START** 12/18/08
BORING LOCATION As shown on plan **DATE COMP.** 12/18/08
ELEV. REF. None available **ORDER NO.** _____

ELEV. FT.	DEPTH FT.	DESCRIPTION OF MATERIALS	SAMPLE				
			NO.	TP	DEPTH	BLOWS/6'	REC.
	0.0	0.3' Topsoil.					
	0.3	Brown, tan, maroon, black, and			Auger		
	9.7	gray clayey sand to silty clay with			Sounding		
	10.0	rock fragments (FILL), moist.					
		Boring completed.					

GENERAL NOTES DRILLER <u>J. Neal</u> RIG NO. <u>CME-55</u> RIG TYPE <u>Truck</u> METHOD <u>HSA</u>	AMERICAN GEOTECH, INC. Geotechnical, Environmental & Testing Engineers 601 Ohio Avenue Charleston, WV 25302 (304) 340-4277	WATER LEVEL OBSERVATIONS IMMEDIATE <u>NW</u> <u> </u> FT. AT COMPLETION <u>NW</u> <u> </u> FT. AFTER <u>BP</u> <u>HRS.</u> <u>NW</u> <u> </u> FT. WATER USED IN DRILLING <u>NW</u> <u> </u> FT.
---	---	--

LOG OF TEST BORING

21

CLIENT Silling Associates, Inc. **BORING NO.** B-4
PROJECT Proposed Electrical Substation - Mt. Olive, WV **DATE START** 12/18/08
BORING LOCATION As shown on plan **DATE COMP.** 12/18/08
ELEV. REF. None available **ORDER NO.** _____

ELEV. FT.	DEPTH FT.	DESCRIPTION OF MATERIALS	SAMPLE				
			NO.	TP.	DEPTH	BLOWS/6"	REC.
	0.0	Brown, tan, and gray clayey sand 10.0' to silty clay with rock fragments (FILL), moist. - Coal refuse from 6' to 7.5'.			Auger Sounding		
	10.0	Boring completed.					

GENERAL NOTES
 DRILLER J. Neal
 RIG NO. CME-55
 RIG TYPE Truck
 METHOD HSA

AMERICAN GEOTECH, INC.
 Geotechnical, Environmental & Testing Engineers
 601 Ohio Avenue
 Charleston, WV 25302
 (304) 340-4277

WATER LEVEL OBSERVATIONS
 IMMEDIATE NW FT.
 AT COMPLETION NW FT.
 AFTER BP HRS. NW FT.
 WATER USED IN DRILLING NW FT.

LOG OF TEST BORING

22

CLIENT Silling Associates, Inc. **BORING NO.** B - 5
PROJECT Proposed Electrical Substation - Mt. Olive, WV **DATE START** 12/18/08
BORING LOCATION As shown on plan **DATE COMP.** 12/18/08
ELEV. REF. None available **ORDER NO.** _____

ELEV. FT.	DEPTH FT.	DESCRIPTION OF MATERIALS	SAMPLE					
			NO.	TP.	DEPTH	BLOWS/6"	REC.	
	0.0							
	0.3	0.3' Topsoil.						
	9.7	Brown, tan, and gray clayey sand to silty clay with rock fragments (FILL), damp to moist.			Auger Sounding			
	10.0	Boring completed.						

GENERAL NOTES DRILLER <u>J. Neal</u> RIG NO. <u>CME-55</u> RIG TYPE <u>Truck</u> METHOD <u>HSA</u>	<u>AMERICAN GEOTECH, INC.</u> Geotechnical, Environmental & Testing Engineers 601 Ohio Avenue Charleston, WV 25302 (304) 340-4277	WATER LEVEL OBSERVATIONS IMMEDIATE <u>NW</u> FT. AT COMPLETION <u>NW</u> FT. AFTER <u>BP</u> HRS. <u>NW</u> FT. WATER USED IN DRILLING <u>NW</u> FT.
---	--	---

LOG OF TEST BORING

23

CLIENT Silling Associates, Inc. **BORING NO.** B - 6
PROJECT Proposed Electrical Substation - Mt. Olive, WV **DATE START** 12/18/08
BORING LOCATION As shown on plan **DATE COMP.** 12/18/08
ELEV. REF. None available **ORDER NO.** _____

ELEV. FT.	DEPTH FT.	DESCRIPTION OF MATERIALS	SAMPLE				
			NO.	TP.	DEPTH	BLOWS/6"	REC.
	0.0	Brown, tan, and gray clayey sand 10.0' to silty clay with rock fragments (FILL), damp to moist. - Shale boulder from 5' to 6'.			Auger Sounding		
	10.0		Boring completed.				

GENERAL NOTES DRILLER <u>J. Neal</u> RIG NO. <u>CMB-55</u> RIG TYPE <u>Truck</u> METHOD <u>HSA</u>	AMERICAN GEOTECH, INC. Geotechnical, Environmental & Testing Engineers 601 Ohio Avenue Charleston, WV 25302 (304) 340-4277	WATER LEVEL OBSERVATIONS IMMEDIATE <u> </u> <u>NW</u> <u> </u> FT. AT COMPLETION <u> </u> <u>NW</u> <u> </u> FT. AFTER <u> </u> <u>BP</u> <u> </u> HRS. <u> </u> <u>NW</u> <u> </u> FT. WATER USED IN DRILLING <u> </u> <u>NW</u> FT.
---	---	---

LOG OF TEST BORING

24

CLIENT Silling Associates, Inc. BORING NO. B-7

PROJECT Proposed Electrical Substation - Mt. Olive, WV DATE START 12/18/08

BORING LOCATION As shown on plan DATE COMP. 12/18/08

ELEV. REF. None available ORDER NO. _____

ELEV. FT.	DEPTH FT.	DESCRIPTION OF MATERIALS	SAMPLE					
			NO.	TP.	DEPTH	BLOWS/6"	REC.	
	0.0							
	0.3	0.3' Topsoil.						
		Brown, tan, and gray clayey sand			Auger			
		9.7' to silty clay with rock fragments			Sounding			
		(FILL), moist.						
		- Coal refuse from 6' to 8.5'.						
	10.0	Boring completed.						

<p>GENERAL NOTES DRILLER <u>J. Neal</u> RIG NO. <u>CME-55</u> RIG TYPE <u>Truck</u> METHOD <u>HSA</u></p>	<p><u>AMERICAN GEOTECH, INC.</u> Geotechnical, Environmental & Testing Engineers 601 Ohio Avenue Charleston, WV 25302 (304) 340-4277</p>	<p>WATER LEVEL OBSERVATIONS IMMEDIATE <u>NW</u> FT. AT COMPLETION <u>NW</u> FT. AFTER <u>BP</u> HRS. <u>NW</u> FT. WATER USED IN DRILLING <u>NW</u> FT.</p>
--	---	--

LOG OF TEST BORING

25

CLIENT Silling Associates, Inc. BORING NO. B - 8

PROJECT Proposed Electrical Substation - Mt. Olive, WV DATE START 12/18/08

BORING LOCATION As shown on plan DATE COMP. 12/18/08

ELEV. REF. None available ORDER NO. _____

ELEV. FT.	DEPTH FT.	DESCRIPTION OF MATERIALS	SAMPLE				
			NO.	TP.	DEPTH	BLOWS/6"	REC.
	0.0	0.3' Topsoil.			Auger Sounding		
	0.3						
		Brown, orangish-brown, and tan 9.7' sandstone, highly weathered, soft.					
	10.0	Boring completed.					

GENERAL NOTES
 DRILLER J. Neal
 RIG NO. CMB-55
 RIG TYPE Truck
 METHOD HSA

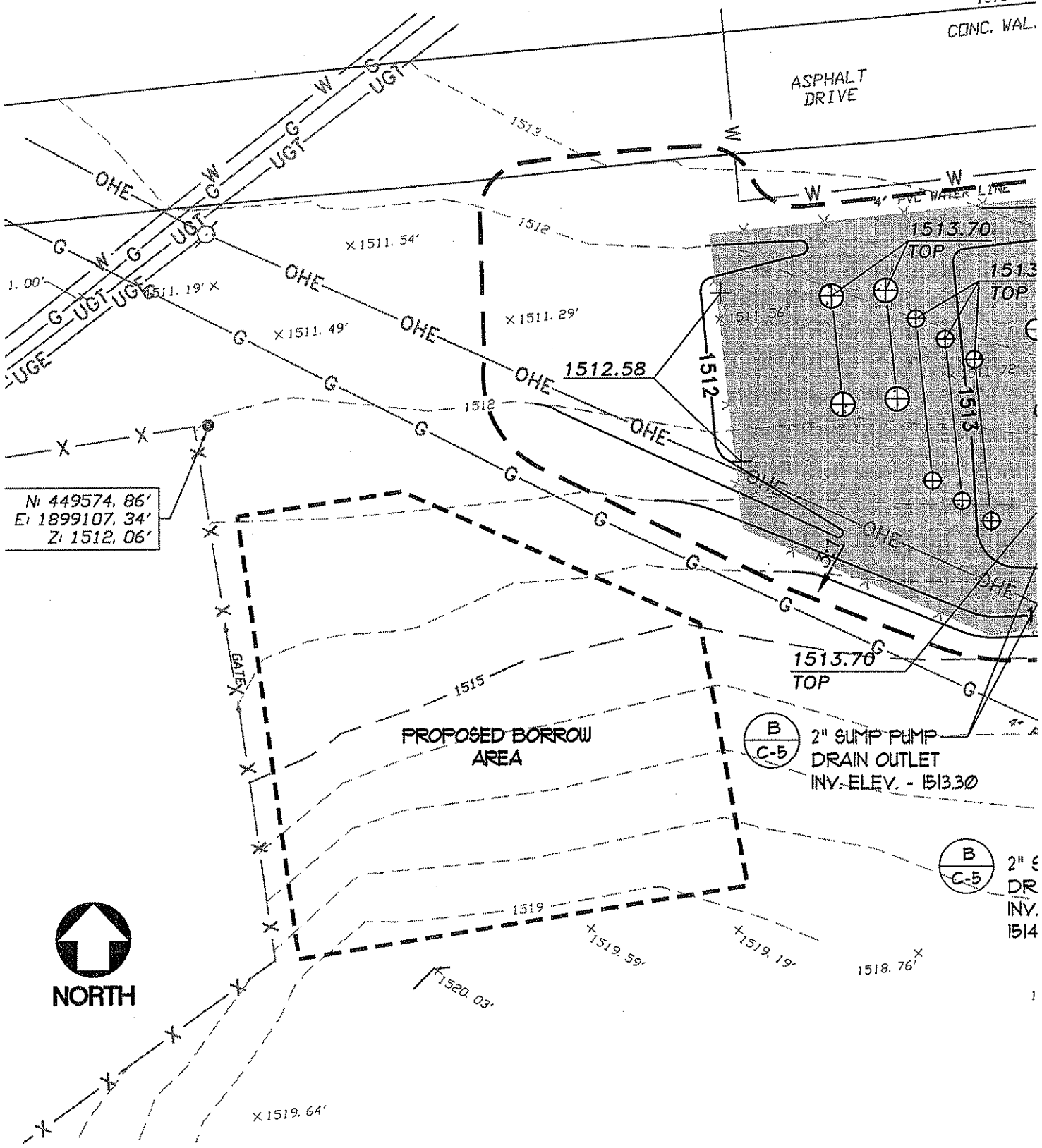
AMERICAN GEOTECH, INC.
 Geotechnical, Environmental & Testing Engineers
 601 Ohio Avenue
 Charleston, WV 25302
 (304) 340-4277

WATER LEVEL OBSERVATIONS
 IMMEDIATE NW FT.
 AT COMPLETION NW FT.
 AFTER BP HRS. NW FT.
 WATER USED IN DRILLING NW FT.

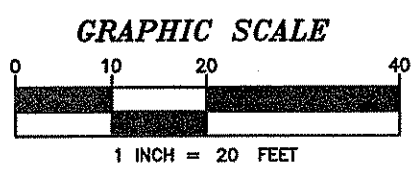
1513.84'
CONC. WAL.

ASPHALT DRIVE

4" PVC WATER LINE



N: 449574.86'
E: 1899107.34'
Z: 1512.06'



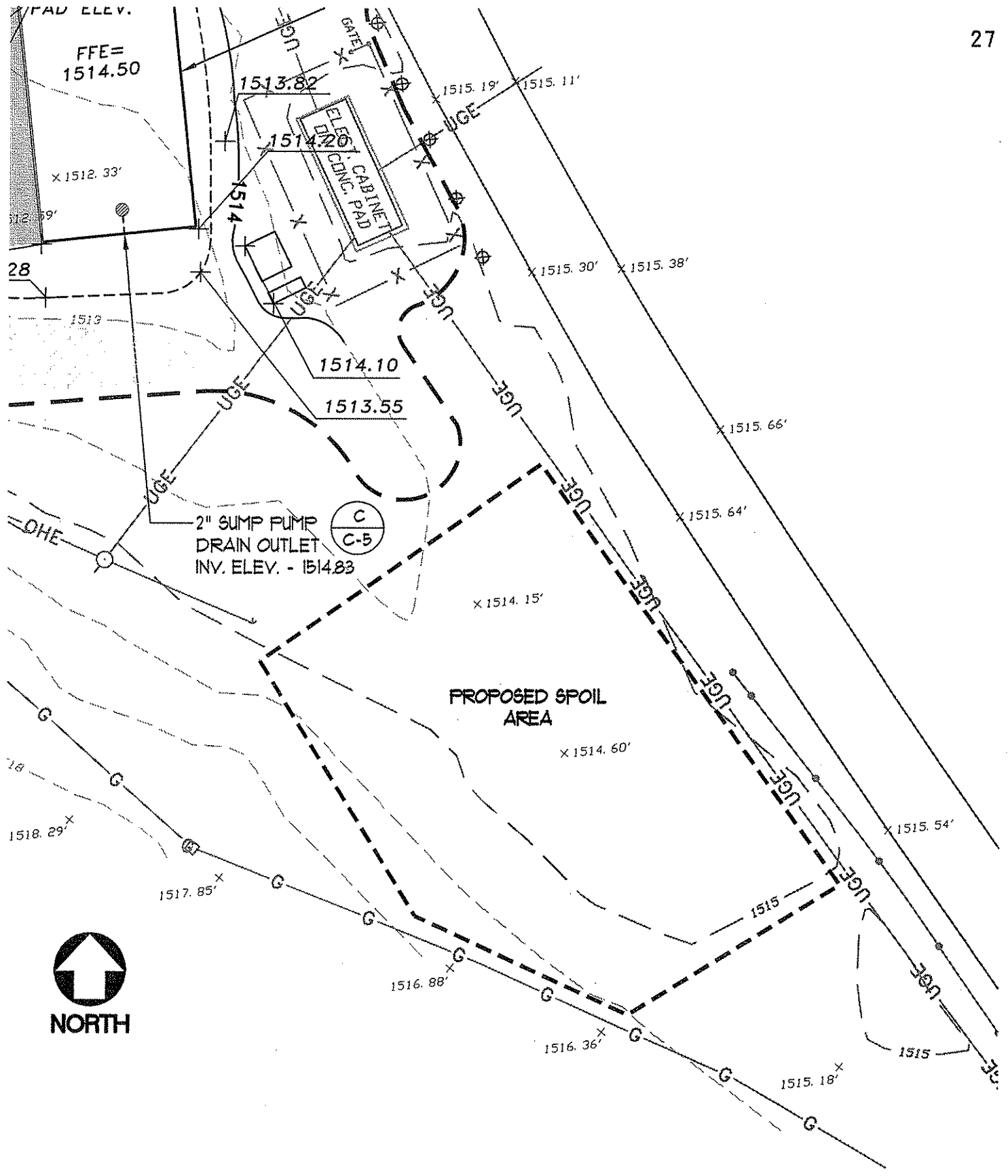
MT OLIVE CORRECTIONAL SUBSTATION

DRAWING: SK-CE1
12-21-09

REVISIONS BY:



gai consultants
500 SUMMERS ST., 3rd FLOOR
CHARLESTON, WV 25301

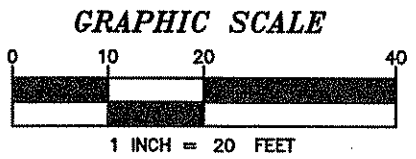


FFAD ELEV.
FFE = 1514.50

EL. B. CABINET
EL. B. CLINIC. PAD

2" SUMP PUMP
DRAIN OUTLET
INV. ELEV. - 1514.83

PROPOSED SPOIL
AREA



MT OLIVE CORRECTIONAL SUBSTATION

DRAWING: SK-CE2
12-21-09

REVISIONS BY:



gai consultants
500 SUMMERS ST., 3rd FLOOR
CHARLESTON, WV 25301