CITY OF HOUSTON

Administration and Regulatory Affairs Department
Strategic Purchasing Division

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Mayor

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July 12, 2010

Subject: Letter of Clarification No. 1 to Invitation to Bid No. S50-C23678, for Structural Remediation at Fire Station No. 29, for the General Services Department

To: All Prospective Contractors:

This letter of Clarification is being issued for the following reasons:

- **To revise SECTION "B" - SCOPE OF WORK/DRAWINGS, as follows:**

1. **SHEET – A.101 – NOTE D103:** TEMPORARY SECURITY WALL: There are two changes here; first, move location of the wall to column line No. 9; second, build to the structure above an "I" beam approximately 14'-0". The construction of the wall shall be 2"x 6" framing with studs on 24" centers. The top plate shall be securely fastened to the structural "I" beam above, the bottom plate shall be drilled and anchored to the slab. When wall is removed, holes shall be filled with an appropriate concrete patching material. Apply ½" CDX plywood to framing from top to bottom and end to end of wall, adequately screw the plywood framing with 1 ¼" drywall screws or equal.

2. **SHEET – A.101 – NOTE D105:** CEILING REMOVAL: Prior to building this wall the 2'x 4' lay-in ceiling must be removed to just beyond the proposed location of the security wall and support ceiling as necessary. Lighting shall be removed by City personnel. This is much more ceiling than shown on plan; the area is approximately 57'-0" x 22'-0" or 1,254' sq. ft. The bidder should factor this into its bid.

3. **SHEET – A.101 – NOTE D107 & 115:** DRIVEWAY PAVEMENT REPLACEMENT: The concrete being removed is 8" thick – 4000 psi w/ a double mat of #4 rebar on 18" centers each way. The Contractor shall demo the concrete to the nearest expansion joints, repair or replace any expansion joint material or smooth dowels damaged during demolition. The Contractor shall pour "new" 4000 psi concrete, 8" thick w/ a double mat of #4 rebar,18" on center each way.

4. **SHEET – A.101:** As shown on drawing there is a small room, (8' tall) constructed of 8" CMU in the south east corner. These walls shall be demollished, and not built back.

    - **SPECIAL NOTE:** The slab of this area was done in two pours, one on top of the other. This was done to fix a mistake in elevations by the original builder. The CMU wall was built on the first pour, thus when the CMU wall is removed there will be a pocket in the floor. The Contractor must remove all CMUs from the pocket and fill with 3500 psi concrete. The Contractor shall also use # 3 rebar, with two (2) running lengthwise and the perpendicular re-bar on 12" centers. The concrete shall be hard trowel finished and sealed with a clear concrete sealer.

5. **SHEET – S1.0 –** Before drilling piers, the Contractor shall verify the exact location of all underground utilities. In this case, there is a known storm drain line in the area. The Contractor must locate the storm catch basin in the grass area to the south of the wall being worked on, to help determine the underground utilitiy line locations.

6. **SHEET – S1.0 –** The "Shaft" of the new piers shall be drilled as close as possible to the "Bell" of the existing piers; however, the new shafts can be up to 12 inches away from the edge of the existing bells once they are located. Locations and size of the existing piers, as shown on the drawings, are based on the original plans and have not been verified. The Contractor shall be

responsible for locating the existing bell & piers and will need to determine its own means/methods to do that.

7. Remove pages 5, 8 and 9 of 116 and replace with the attached pages 5, 8, and 9 of 116 marked "Revised 7/8/2010".

8. Removal of the following equipment with-in the work area is the responsibility of City personnel**:**

- Large Air Compressor including associated electrical and pipe as required
- One Hose Dryer (large blue metal cabinet)
- One Hose washer (next to Hose dryer)
- One suspended gas heater
- The five (5) 2'x4' light fixtures in the ceiling to be removed by the contractor.
- Overhead Doors are the responsibility of City of Houston.
  (See the attached revised page 9 of 116)

9. The City is requesting that references be supplied for all subcontractors, working for the General, which show experience in this type of construction. (See the attached revised page 5 of 116)

10. The Contractor should have the following drawing sheets as they are part of this project.
G.000.1 - G.000.2 – G.020 – G.021 – A.101 – A.501 – S0.0 – S1.0 – S2.0
(See the attached revised page 8 of 116)

11. A geotechnical soils report is available on the COH website.
(See the attached revised page 9 of 116)

12. The contract term is 30 days as already stated. If the awarded contractor foresees a delay due unavailability of materials, or a longer lead time on delivery than previously anticipated, he or she must submit a signed letter from his supplier stating the reason for the delay and the expected delivery to site date. When verified the contractor will be granted an extension of the contract term based on the information in the submitted letter.
(See the attached revised page 8 of 116)

Note: No further questions will be accepted after the publication of this Letter of Clarification.

When issued, Letter(s) of Clarification shall automatically become a part of the bid documents and shall supersede any previous specification(s) and/or provision(s) in conflict with the Letter(s) of Clarification. It is the responsibility of the bidders to ensure that it has obtained all such letter(s). By submitting a bid on this project, bidders shall be deemed to have received all Letter(s) of Clarification and to have incorporated them into this solicitation.

Furthermore, it is the responsibility of each Contractor to obtain any previous Letter of Clarification associated with this solicitation.

Arturo Lopez

Arturo Lopez
Senior Procurement Specialist

Attachments: 1. Revised pages 5, 8 and 9 of 116 Marked, Revised 7/8/2010.
2. Geotechnical Soils Report

A PDF version of the Geotechnical Soils Report can also be viewed at the following web Link
https://purchasing.houstontx.gov/buyer/BidDocumentManager.aspx?id=C23678

CONTRACTOR'S QUESTIONNAIRE ***REVISED 7/8/2010***

In order to receive bid award consideration, the bidder must be able to demonstrate that they are currently providing or have had at least one contract, for s**tructural remediation consisting of masonry wall demolition and replacement, concrete pier construction for foundation repair, roof repair, interior painting and acoustical ceiling installation** that is similar in size and scope to this contract. **Bidder must have references documenting that it has performed structural remediation consisting of masonry wall demolition and replacement, concrete pier construction for foundation repair, roof repair, interior painting and acoustical ceiling installation.** The reference(s) should be included in the space provided below. Please attach another piece of paper if necessary. If references are not included with the bid, the bidder shall be required to provide such references to the City of Houston within five working days from receipt of a written request from the City of Houston to do so. **Bidder's capability and experience shall be a factor in determining the Contractor's responsibility.**

1. Business Name: _____

Business Address: _____

City, State, Zip: _____

Name of Owner/Contact Person: _____

Phone: _____ Fax: _____Email:_____

No. of Years providing Service to this business: _____

2. Business Name: _____

Business Address: _____

City, State, Zip: _____

Name of Owner/Contact Person: _____
Phone: _____Fax:_____ Email:_____

No. of Years providing Service to this business: _____

3. Business Name: _____

Business Address: _____

City, State, Zip: _____

Name of Owner/Contact Person: _____
Phone: _____Fax:_____ Email:_____

No. of Years providing Service to this business: _____

The City of Houston reserves the right to inspect the bidder's current place of business to evaluate equipment condition and capabilities, staff experience, training and capabilities, and storage capabilities as they relate to the performance of this contract. ***The City is requesting that references be supplied for all subcontractors, working for the General, which show experience in this type of construction.***

REVISED 7/8/2010

1. Training shall be conducted, utilizing draft O&M manuals.

A. No additional condition to those described in Paragraph 1.10 may be included in Contractor's punch list.

PART 2 - PERFORMANCE TIME

2.01 The Contractor shall have ***30 calendar days*** to complete all work associated with this project after receipt of the Notice – To - Proceed.

The contract term is 30 days as already stated. If the awarded contractor foresees a delay due unavailability of materials, or a longer lead time on delivery than previously anticipated, he or she must submit a signed letter from his supplier stating the reason for the delay and the expected delivery to site date. When verified the contractor will be granted an extension of the contract term based on the information in the submitted letter.

PART 3 - RELATED SECTIONS

3.01 All Documents and Sections that are not visible in the Technical Specifications can be viewed from the following Public Works and Engineering web link:
http://pwecms.cityofhouston.net/forms-amp-policies/search_result-2.html

PART 4 – DRAWINGS

4.01 ***Contractors should have the following sheets for bidding this project.***
G.000.1 - G.000.2 – G.020 – G.021 – A.101 – A.501 – S0.0 – S1.0 – S2.0

LIST OF DRAWINGS

Sheet No.	**Drawing Title**
	Cover
G.000.1	General Information
G.000.2	General Information
G.020	Texas Accessibility
G.021	Texas Accessibility
Architectural	
A.101	Remediation Plan
A.010	Remediation Section & Details
Structural	
S0.0	Structural General Notes
S1.0	Foundations and Structural Wall Repair Plan
S2.0	Shear Wall Detail

GENERAL NOTE: Removal of the following equipment with-in the work area is the responsibility of City personnel:

REVISED 7/8/2010

- ***Large Air Compressor including associated electrical and pipe as required***
- ***One Hose Dryer (large blue metal cabinet)***
- ***One Hose washer (next to Hose dryer)***
- ***One suspended gas heater***
- ***The five (5) 2'x4' light fixtures in the ceiling to be removed by the contractor.***
- ***Overhead Doors are the responsibility of City of Houston.***

A geotechnical soils report is available on the COH website.

END OF SECTION

TECHNICAL SPECIFICATIONS

SECTION 01450

TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 REFERENCED DOCUMENTS:

A. The Drawings, Division 1 Specifications, and General Provisions and General and Supplemental Conditions of the Contract apply to work of this section.

1.02 WORK INCLUDED:

A. The testing laboratory shall make all inspections and perform all tests in accordance with the building code, local authorities, ASTM specifications and the Contract Documents.

B. Materials and workmanship not meeting the required standards are to be removed and replaced. Replacement and subsequent testing shall be at the expense of the Contractor.

C. Testing, inspection, and certifications specified in other sections of these Specifications shall be paid by the Contractor, unless otherwise indicated.

D. Inspection by the laboratory shall not relieve the Contractor or Fabricator of his responsibility to furnish materials and workmanship in accordance with the Contract Documents.

1.03 SELECTION AND PAYMENT:

A. Owner will employ and pay for services of an independent testing laboratory to perform inspection and testing services specified in this section.

1.04 REFERENCED STANDARDS:

A. The latest adopted edition of all standards referenced in this Section shall apply, unless noted otherwise. In case of conflict between these Contract Documents and a referenced standard, the Contract Documents shall govern. In case of conflict between these Contract Documents and the

S50-C23678 / LETTER OF CLARIFICATION NO.1
STRUCTURAL REMEDIATION AT FIRE STATION NO. 29
FOR THE GENERAL SERVICES DEPARTMENT

GEOTECHNICAL INVESTIGATION
Proposed Foundation Repair
4831 Galveston Road (Fire Station No. 29)
Houston, Texas

Reported to
CSF Consulting, L.P.
Houston, Texas

Prepared by
A&R Engineering and Testing, Inc.
Houston, Texas

PROJECT NO. : 09S4073

November, 2009

A&R

323 Martin Street • Houston, TX 77018-3305 • 713-290-1912 • Fax: 713-290-9089

A&R

A&R ENGINEERING and TESTING

Geotechnical & Material Engineers

November 12, 2009

CSF Consulting, L.P.
11210 Steeplecrest Drive, Suite 202
Houston, Texas 77065

Attention: Mr. Cory Walker, P.E.

Reference: Geotechnical Investigation
Proposed Foundation Repair
4831 Galveston Road (Fire Station No. 29)
Houston, Texas
A&R NO.: 09S4073

Dear Mr. Walker:

A&R Engineering and Testing, Inc. is pleased to submit this report for the above referenced project. This study was authorized by you on November 06, 2009. This report briefly describes the procedures employed in our investigation and presents the conclusions and recommendations of our studies.

We appreciate the opportunity to work with you on this phase of the project. If you have any question concerning this report or require additional information, please contact us.

Very Truly Yours,

STATE OF TEXAS
RASMY M. HASSOUNA
81966
REGISTERED
PROFESSIONAL ENGINEER

Russ M. Hassouna, MSCE., P.E.
Principal Engineer

STATE OF TEXAS
ALFRED A. MACEIRAS
25357
REGISTERED
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Principal Engineer

A&R

323 Martin Street • Houston, TX 77018-3305 • 713-290-1912 • Fax: 713-290-9089

INTRODUCTION

A&R Engineering and Testing, Inc. (A&R) hereby submits this report of Geotechnical Investigation of subsurface conditions at the site of the Proposed Foundation Repair located at 4831 Galveston Road (Fire Station No. 29) in Houston, Texas. **A&R's** investigation was authorized by Mr. Cory Walker, P.E. with CSF Consulting, L.P. on November 06, 2009.

PURPOSE

The purpose of the Geotechnical Investigation was to determine the subsurface soil conditions on the site of the Proposed Foundation Repair with particular reference to the design of the foundation for the structure.

FIELD INVESTIGATION

The field portion of this study was completed on the site located at 4831 Galveston Road (Fire Station No. 29) in Houston, Texas on November 11, 2009. The subsurface soil conditions were explored by advancing and sampling one (1) soil boring drilled to a depth of twenty (20) feet below existing ground surface. The approximate boring locations are shown on the attached Boring Plan, Plate No. 1.

Sample depth, description of soil and soil classification (Based on the Unified Soil Classification System) are presented on the Boring Log, Plate No.2. Keys to terms and symbols used on the boring log are shown on Plate No. 3.

The soil boring was of three-inch nominal diameter. Undisturbed samples of the soils were obtained at two (2) foot intervals continuously to a depth of ten (10) feet, and at five (5) foot intervals thereafter. Samples of the soils were obtained by means of two-inch O.D. shelby tube sampler. All undisturbed samples were extruded mechanically from the shelby tubes in the field, wrapped in aluminum foil, and sealed in plastic bags to prevent moisture loss and disturbance. All of the samples were transported to our geotechnical laboratory for examination, testing and analysis.

LABORATORY TESTING

All field soil samples from the borings were examined and classified by a soils engineer. Laboratory tests were then performed on selected soil samples in order to evaluate and determine the physical and engineering properties of the foundation soils in accordance with the prescribed ASTM standards. Strength properties of the foundation soils were determined by means of Pocket Penetrometer and Unconfined Compression Tests performed on undisturbed samples.

The type and number of laboratory tests performed for this study are:

DESCRIPTION	NO. OF TESTS
Hand Penetrometer Test	7
Moisture Content Tests	7
Atterberg Limits	3
Unconfined Compression Tests	2
Dry Density Tests	2

The tests noted above were performed to establish the index properties and to aid in the proper classification of the subsurface soils. The test results are shown on the boring logs and are presented on Plate No. 2.

GENERAL SUBSURFACE CONDITIONS

The site is relatively level with an existing Building. The surface soils were moist and firm at the time of our investigation. The specific subsurface stratigraphy as determined by the field exploration, is shown in detail on the boring logs herein. However, the stratigraphy can be generalized as follows:

Depth (FT.)	DESCRIPTION
0' - 6'	Stiff to Very Stiff Gray and Tan Clay (CH)*.
6' - 20'	Very Stiff Reddish-Brown and Light Gray Clay (CH).

* Classification is in accordance with the Unified Soil Classification system.

The information in this report summarizes conditions as found on the date the borings were drilled. Free groundwater was not encountered during the field drilling operation. Long term monitoring of the groundwater level was beyond the scope of this study. It should be noted that the groundwater table may be expected to fluctuate with environmental variations such as frequency and magnitude of rainfall and at the time of year when construction begins.

EXPANSIVE CLAY

The Atterberg Limit tests indicate that the Liquid Limit of the soils is in the order of 55 to 94 and the Plasticity Index (P.I.) is in the order of 32 to 71. The subsoil would then be described as expansive clays classified as "CH" having a very high shrink/swell potential.

UNDERREAMED FOOTINGS

Based on the soil conditions revealed by the field soil test borings, the structure at this site can be supported on a foundation system comprised of drilled and underreamed footings bearing at a depth of sixteen (16) feet below existing grade in the layer of Reddish-Brown and Light Gray Clay. The footings may be sized for a net allowable bearing pressure of 4,000 psf for dead load plus sustained live load. The bearing pressure contains a factor of safety of 2.5 and can be increased 25 percent for total load conditions, whichever is critical.

The plinths of underreamed footings should be reinforced with sufficient reinforcing steel to resist the potential tension force induced by swelling soils between the depth of seasonal moisture changes and the final ground surface elevation.

Caving of piers may occur during construction of the drilled piers due to the presence of Slickensided Clays. In order to minimize the possibility of piers caving during drilled pier construction, the construction contractor should be prepared to use Cased Piers or Straight Sided Shaft Foundations if caving occur. We recommend that the drilling be performed under the supervision of a Geotechnical Engineer.

Experience indicates that underreams can be successfully installed, and based on local practice for performing underream drill piers is to utilize 3.0 to 1.0 for underream to shaft ratio. Should caving occur during belling operations, the shaft diameter may have to be increased, thereby, changing the bell to shaft ratio. If the soil conditions warrant the changing of the shaft diameter, the Structural Engineer of record should be informed about any changes because they may require a change in reinforcing steel or bell diameter. Another alternative, would be to change the typical 45 degree angle of the underream to 60 degree.

The concrete should be placed in a timely manner after drilling to minimize the potential for caving of the foundation soils. No footings should be poured without the prior approval of the Project Engineer, Architect or Owners Representative. Since the exact size and locations of the footings are not known at this time. A detailed settlement analysis was not authorized, nor performed. It is anticipated that the footings designed using the recommended allowable bearing capacity will experience small settlements that will be well within the tolerable limits for the proposed structure. A detailed settlement analysis can be performed, if desired.

SITE DRAINAGE

It is recommended that site drainage be well developed. Surface water should be directed away from the foundation soils (use a minimum slope of 5% within 10 feet of foundation). No ponding of surface water should be allowed near the structure.

VEGETATION CONTROL

We recommend trees not to be closer than half the canopy diameter of mature trees from the grade beams, typically a minimum of 20 feet. This will minimize possible foundation settlement caused by the tree root systems.

INSPECTION DURING CONSTRUCTION

The recommendations are based on the subsoils data in the field exploration and laboratory testing. Due to the geological deposition of the area, variances may occur between boring locations. Therefore, the footing excavations should be inspected under the supervision of a geotechnical engineer to confirm that the bearing soils are similar to those encountered in our field exploration and that the footing areas have been properly prepared. The geotechnical engineer should be immediately notified should any subsoil conditions be uncovered that will alter the conclusions and recommendations contained in this report. Further investigation and supplemental recommendations may be required if such a condition is encountered.

Prior to placement of concrete, the footings should be inspected to monitor that:

(1) The footing bears in the proper bearing strata at the depth recommended in this report.

(2) The footing shaft is to the proper dimensions and reinforcing steel is placed as shown on the structural drawings.

(3) The footings are concentric with the shaft and the shaft has been drilled plumb within specified tolerances.

(4) Excessive cutting, build up of cutting, and any other soft compressible materials have been removed from the bottom of the excavations.

Samples of the subgrade soil and structural fill material should be obtained prior to compaction operations for laboratory moisture/density testing (Proctor Tests). The tests will then provide a basis for evaluating the in-place density requirements during compaction operations. A qualified soil technician should perform sufficient in-place density tests during the filling operations to verify that proper levels of compaction are being attained.

GENERAL

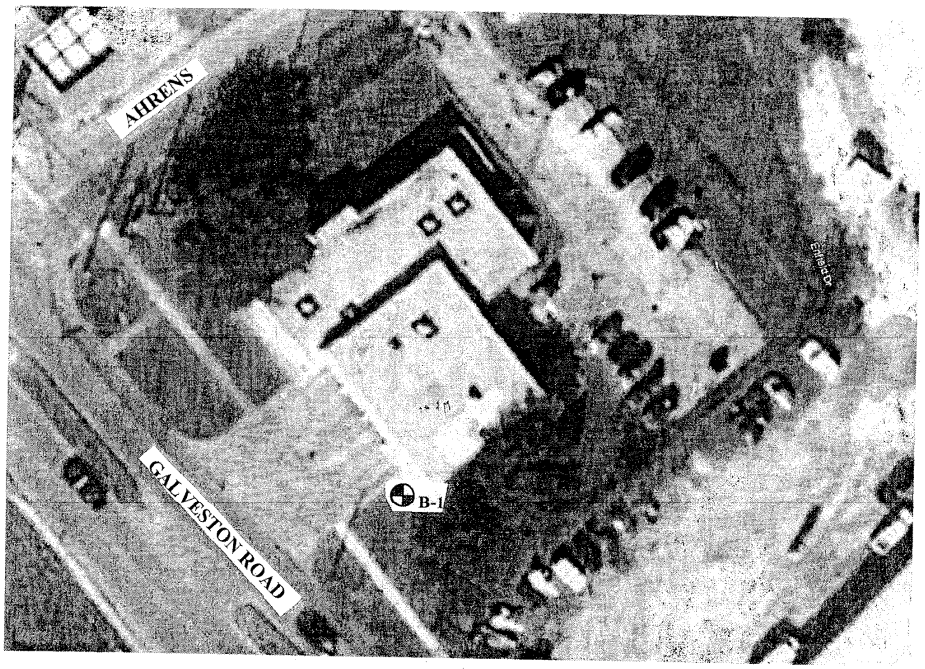
The information and recommendations contained in this report summarized conditions found at the site specified, on the date that the field exploration and soil borings were drilled. The attached boring logs are a true representation of the soils encountered at the specific boring locations on the date of field drilling and represent the stratigraphy as found during the field exploration and drilling of the subject site.

Reasonable variations from the subsurface information presented in this report are assumed. If conditions encountered during construction are significantly different than those presented in this report, **A&R** should be notified immediately.

In addition, the construction process may itself alter site soil conditions. Therefore, experienced personnel should observe and document the construction procedures and all conditions encountered. We would welcome the opportunity to discuss our recommendations with you and hope we may have the opportunity to provide any additional studies or services to complete this project.

The following illustrations are attached and complete this report.

	Plate
Location Plan	1
Boring Log	2
Symbols and Terms Used on Boring Log	3



Approximate Boring Locations

LOCATION
Proposed Foundation Repair
4831 Galveston Road (Fire Station No. 29)
Houston, Texas

A&R NO. 09S4073

NOT TO SCALE

PLATE NO. 1

A & R Engineering and Testing, Inc.

GEOTECHNICAL & MATERIALS ENGINEERS

LOG OF BORING

PROJECT NO.: 09S4073
DRY AUGER: 0 - 20'
DATE OF BORING: 11-11-09

DEPTH (FT)	SOIL SYMBOL	BLOW PER FT.	SAMPLE	DESCRIPTION OF STRATUM B-1	MOISTURE %	DRY DENSITY PCF	% PASS # 200 SIEVE	SHEAR STRENGTH (TSF) O PENETROMETER ● UNCONFINED 0.5 1.0 1.5	LIQUID LIMIT	PLASTICITY INDEX
1				Stiff to Very Stiff Gray and Tan Clay						
2					19				55	32
3										
4					26	82				
5										
6					25				94	71
7				Very Stiff Reddish-Brown and Light Gray Clay						
8				-Slickensided	15					
9										
10					19				72	49
11										
12										
13										
14										
15					28	93				
16										
17										
18										
19										
20					25					

PLATE NO.: 2

KEY TO SOIL CLASSIFICATION AND SYMBOLS

SOIL TYPES

- Gravel (GW, GP, GM, GC)
- Sand (SW, SP)
- Silty Sand (SM)
- Clayey Sand (SC)
- Clayey Silt (ML)
- Silt (ML)
- Sandy Silt (ML)
- Silty or Sandy Clay (CL)
- Clay (CH)

CONSISTENCY OF COHESIVE SOILS

Description	Shear Strength-KSF	Penetration Resistance Blows / Ft
Very Soft	Less than 0.25	0 - 2
Soft	0.25 - 0.50	2 - 4
Firm	0.50 - 1.00	4 - 8
Stiff	1.00 - 2.00	8 - 15
VeryStiff	2.00 - 4.00	15 - 30
Hard	Greater than 4.00	> 30

RELATIVE DENSITY OF COHESIONLESS SOIL

Description	Penetration Resistance Blows / Ft	Relative Density , %
Very Loose	0 - 4	0 - 15
Loose	4 - 10	15 - 35
Medium Dense	10 - 30	35 - 65
Dense	30 - 50	65 - 85
Very Dense	> 50	85 -100

SOIL STRUCTURE

CALCAREOUS NODULES	- Nodules of Calcium Carbonate
FERROUS NODULES	- Nodules of Ferrous Material
SLICKENSIDED	- Having inclined planes of weakness that are slick and glossy
BLOCKY	- Having inclined planes of weakness that are frequent and rectangular in pattern
LAMINATED	- Composed of thin layers of varying soil type and texture
FISSURED	- Containing shrinkage cracks frequently filled with fine sand
INTERBEDDED	- Composed of alternate layers of different soil types

SAMPLE SYMBOLS

- Shelby Tube Sample
- Standard Penetration Test
- Auger or Wash Sample
- No Recovery

GROUNDWATER

(24 hr) - Water level after drilling (time increment after drilling)
- Free water observed during drilling

FAILURE DESCRIPTION (COMPRESSION TEST)

B - Bulge
S - Shear
M/S - Multiple Shear

SLS - Failure surface occuring along slickensided plane
SAS - Failure surface occuring along or in sand seam
SS - Failure surface occuring in or along other secondary structure such as calcareous pockets

PLATE NO.: 3

A&R

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A PDF version of the Geotechnical Soils Report can also be viewed at the following web Link
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END OF DOCUMENT