SUPPLEMENTAL INFORMATION
ADDENDUM NO. 2

PROJECT: ITB 22-55-001 - Guyton Fire Station #13 - Construction

CONTACT: Alison Bruton, Purchasing Agent
912-754-2159 abruton@effinghamcounty.org

DATE ISSUED: March 24, 2022

ITB 22-55-001 - Guyton Fire Station #13 - Construction is hereby amended as noted herein: BIDDER TO ACKNOWLEDGE RECEIPT OF ADDENDUM BY SIGNING ON THE SIGNATURE LINE BELOW AND INCLUDING A COPY WITH SUBMITTED BID. FAILURE TO DO SO MAY, AT THE OWNER'S DISCRETION, SUBJECT THE BIDDER TO DISQUALIFICATION

1) QUESTION: After speaking with my distributors for products, It appears that both the Ceramic Tile and Carpet Tile specified for this project have been discontinued.
Could we get an alternate selection for these items?
ANSWER: Ceramic tile: Daltile, Volume 1.0, glazed porcelain, Carpet: Shaw Contract, Brightwork

2) QUESTION: Also Armstrong wall base has been specified. Would Roppe or Johnsonite be viable substitutions?
ANSWER: Yes Roppe and Johnsonite will be acceptable

3) QUESTION: While reviewing the documents I noticed the Division 27 - Telecommunications/ Communications Cabling does not appear on the Specs and the Drawings. Has this design been finalized by Effingham Co IT, if so, will it be included in this Project's Scope of Work?
ANSWER: In addition to what is on the plans the contractor shall provide a 2" underground conduit from the data closet, to the right side of the building where the power is shown. Contractor to provide 3 additional data drops, location provided in the field. The County will provide data wire, terminations and all network equipment

4) QUESTION: Is the job site staked out? Are there corner markers on-site?
ANSWER: The full site is not staked out, but there are corner markers.

5) QUESTION: Please advise if they can take MASA's Extrudeck for canopy pricing?
ANSWER: Yes, that seems appropriate.

6) QUESTION: Is there a Geo Technical Report for this project?
ANSWER: yes, Attached

7) QUESTION: [Ref Dwg: A1.2] A 4' wall is called out to extend above the storage room floor. Will a 4' wall need to be installed on the North End of the Storage Room as well?
ANSWER: No

8) QUESTION: [Ref Dwg: A1.2] Would you like the horizontally run 2x8 floor joists to run the full extent of the hallway, North and South, for the gyp board ceiling to take too? The current drawing illustrates more or less a platform bridging both sides of the storage room.
ANSWER: yes, the second floor platform shall be continuous over the entire living quarters.

9) QUESTION: Do you happen to have a physical address beyond it being on HWY 119 in Guyton?
ANSWER: Not yet

10) QUESTION: Please clarify as to whom the responsibility of the tap fee and permit fee falls on, General Contractor or Owner?
ANSWER: Contractor shall pull permit, owner to waive fees

11) QUESTION: Please clarify as to whom the responsibility of special inspections / testing falls on, General Contractor or Owner?
ANSWER: Contractor to Coordinate testing, Contractor shall provide testing schedule to architect for approval, Owner shall pay for testing

12) QUESTION: Will there be an updated bid form specific to the length of contract (currently 240 days) to reflect the longer than usual lead times of PEMB fabrication and shipment to site?
ANSWER: Yes

13) QUESTION: On the plans, it states that the framing is to be wood framing on all pages that I see, except for page A3.4 where it mentions 8" metal framing under the windows. Please elaborate if the metal framing is only under the windows, or where all it may be.
ANSWER: All wood framing except for the PEMB components

14) QUESTION: Have the plans been submitted to GDOT yet for their permit? If not, will the GC need to carry that responsibility and fee?
ANSWER: Plans were submitted and approved by GDOT. Contractor must call area inspector to activate the permit.

15) QUESTION: The plans say there was a Geo tech report done. Can you send that to us? Are any unsuitable soils expected? If yes, we would like to suggest a unit price for removing and replacing unsuitable soil on the bid form.
ANSWER: See Attached

16) QUESTION: Is the furniture being bought and installed by the owner? (tables, beds, etc)
ANSWER: Yes

17) QUESTION: I am seeking clarification if we are we to paint the metal beams in the App bay?
ANSWER: No

18) QUESTION: On the appliances, there are no specifications that I have seen in the bid documents.
-The plans Sheet A1.1 indicate the washer, dryer, range and fridge are NIC. is the GC to install these? No
-What about the range hood? Please provide a spec for it if it is GC furnished and installed. Called out on M2.1
-What about the ice machine in the truck bay? Please provide a spec for it if it is GC furnished and installed.
ANSWER: Owner furnished owner installed

19) QUESTION: On the interior signage allowance of $1,500.00.
-Does the 1,500.00 need to be included in our bid price? Yes
-Does the 1,500.00 cover furnish and install or should we add installation? Furnish and install
-What about exterior signage? There is no spec for exterior detailing what material is desired for the lettering, logo and numerals.
ANSWER: SEE SHEET A3.3 ½" thick acrylic letters

20) QUESTION: The structural drawings have this structure listed as Risk Category IV (Essential Facility, 150 MPH wind rating). However, the specifications for the windows do not meet this building criteria as written. Shouldn't the windows be impact resistant and able to withstand large missile impact according to the Builders Code for this type of structure?
ANSWER: Windows as Specified

21) QUESTION: Can other brick manufacturers (Cherokee) be used as an alternative to "triangle" brick if they have a similar color?
ANSWER: Yes – Owner must approve

22) QUESTION: Flooring suppliers have said the carpet tile and ceramic tile are discontinued from the manufacturer. Can you make another selection or provide a square foot allowance for the material?
ANSWER: See Above

23) QUESTION: On the door hardware,
-Is doormakaba acceptable for the closers and door control devices, electric strikes, exit devices? Yes
- Is Rockwood Holders acceptable for the overhead door holders? Provide submittal for approval
- Is Pemko acceptable for the thresholds and door seals/gasketing? Yes
- What is the desired finish for the door hardware? Some items reference bronze and some do not. Stainless Steel Finish
- Is 613 Dark Oxidized Satin Bronze, Oil Rubbed Bronze acceptable in lieu of 615 Oxidized Satin Bronze, relieved, Waxed? Stainless Steel Finish
ANSWER:

24) QUESTION: The notes on the structural drawings state the owner will pay for testing but the GC will select the independent testing agency. Please clarify who will hire and compensate the testing company?
ANSWER: Contractor to Coordinate testing, Contractor shall provide testing schedule

to architect for approval, Owner shall pay for testing Owner has been using Whitaker labs

25) QUESTION: Have the plans been submitted the AHJ? It was mentioned in the pre bid that the owner would waive permit fee's but please confirm.
ANSWER: Contractor to submit for permit, owner to waive fees

26) QUESTION: Is closet shelving to be included in Room 3? If yes, please provide what is desired here.
ANSWER: Contractor to provide and install three - ½" fir plywood shelves with 1x2 solid wood nosing painted, on ledgers

27) QUESTION: Is FS Industries and approved manufacturer for the Ships Ladder?
ANSWER: Yes

28) QUESTION: Written specifications were not included for any of the civil/site work. Please confirm there are no written specifications and only what is on the plans.
ANSWER: Civil Specifications per Effingham County Typical Specifications found on the county web site - https://www.effinghamcounty.org/243/Forms-Links

29) QUESTION: Are bid price modifications allowed on the outside of the envelope?
ANSWER: No

30) QUESTION: Are self-proposed VE options and clarifications allowed on a separate piece of paper inside the bid envelope?
ANSWER: Yes

31) QUESTION: Is the article 5.01 (sheet 01250-3 in the ITB) required to be turned in as the bid form? It does not follow a standard CSI division schedule of values (1. general conditions, 2. site work, 3. concrete, 4. masonry etc...)
ANSWER: Yes

32) QUESTION: Are subcontractor E verify due at time of bid or before a contract can be executed? Generally, subcontractors will not submit this e verify with their bid.
ANSWER: E-Verify after low bid confirmation, prior to contract

33) QUESTION: Do we have an expected date of when the selection will be made? This could help us cover any price escalations up front in our bid if we know how long from time of bid to official award.
ANSWER: Approximately 30 days

All other terms and conditions in ITB 22-55-001 remain unchanged.

Effingham County reserves the right to reject any and all proposals, to waive any technicalities or irregularities and to award the offer based upon the most responsive, responsible submission.

Please sign receipt of this Addendum No. 2 below:

_____	_____	_____
Print Name	Signature	Date

END OF ADDENDUM NO. 2

WHITAKER
LAB & ENGINEERING

Geotechnical Engineering Report

Proposed Fire Station #13
Highway 119 near Highway 17
Effingham County, Georgia
September 24, 2020
Project No. 9-24-20-1

Prepared For:

DPR Architecture
Statesboro, GA

Prepared By:

Whitaker Laboratory, Inc.
Savannah, Georgia

WHITAKER LAB & ENGINEERING

2500 Tremont Road • Savannah, Georgia 31405

912.234.0696 • www.whitakerlab.net

September 24, 2020

DPR Architecture
12-A East Grady Street
Statesboro, GA 30458

Attention: Mr. Kevin Palmer
kevin@dprarch.com

Referencing: Report of Geotechnical Evaluation Services for
Proposed Fire Station #13
Highway 119 near Highway 17
Effingham County, Georgia
Project No. 9-24-20-1

Dear Mr. Palmer:

As requested, WHITAKER LABORATORY, INC. has conducted a geotechnical investigation at the above referenced site. Authorization to perform this investigation was provided by your acceptance of our proposal dated March 12, 2020. Our findings and recommendations for design and construction are attached and it is important that you read the report in its entirety.

It is a pleasure to provide our services to you and we look forward to further opportunities to assist you on this and other projects.

Respectfully submitted,
WHITAKER LABORATORY, INC.

Jason H. Follo, P.E.
Chief Engineer
GA #31031

Blake L. Jones, P.E.
Project Engineer
GA #44657

TABLE OF CONTENTS

REPORT OF GEOTECHNICAL EVALUATION
Proposed Fire Station #13
Highway 119 near Highway 17
Effingham County, Georgia

I. INTRODUCTION / SCOPE

WHITAKER LABORATORY, INC. has completed this field investigation of the surface and subsurface conditions at this site. The preliminary conditions found, and how those conditions could affect the design and construction of foundations for the structures planned, form the basis for this report. Regardless of the thoroughness of any geotechnical investigation, there are limitations, and deviations from the conditions found in this investigation could be subsequently disclosed. We recommend that this report be provided to all parties involved in the planned development to include but not necessarily limited to the Owner, Architect, Design Engineers, General Contractor and sub-contractors. Unanticipated circumstances often arise during sitework, earthwork and foundation construction. Accordingly, we recommend that our firm be retained to provide the construction surveillance, inspection, and testing on the project, thereby being readily available to assist in the evaluation of any conditions encountered that differ from those anticipated.

The site is located on Highway 119 near Highway 17 in Effingham County, Georgia. We understand construction will consist of a new Fire Station facility incorporating a building structure and associated pavements. In an effort to evaluate subsurface soil conditions and their impact on the design and construction of the planned structure and pavements, a total of two cone penetration test (CPT) soundings and three dynamic cone penetration (DCP) test hand auger borings were performed. The soundings and hand borings were advanced within the planned building pad and pavement areas extending to depths ranging from 4 to 37 feet below the ground surface.

Please note that this evaluation only applies to the foundations and pavements planned for construction. This evaluation does not apply to any future improvements, which may be made to the site. In particular, if at any time should additional fill be placed, adjacent to or nearby the structures referenced in this report, additional geotechnical borings and a follow up geotechnical analysis will be required. Standard billing rates will apply for this work.

II. EXECUTIVE SUMMARY

The following recommendations shall be considered a summary of the recommendations contained within this report and utilized as such. This report shall be read in its entirety.

- The encountered near surface soils can be made suitable for support of the structure utilizing shallow spread pier and/or strip footing foundations with slab-on-grade flooring if liquefaction induced settlements are not of concern to the owner and/or structural design, our foundation loading assumptions are not exceeded and the recommendations contained within this report are performed and verified during construction.

- In an effort to achieve superior drainage on this site, site grades should be established by setting bottom of pavement section elevations (bottom of stone base) residing at least 6 inches above existing grade elevations. This will likely require finished grade elevations for the building pad to reside 3 to 4 feet above existing grades.

- Marginally soft sand clays and clays were encountered bracketing elevations 3 to 6 feet below existing grades on this site. In an effort to reduce the necessity for bearing subgrade improvement (undercutting and replacement) below footing areas to achieve recommended bearing pressures provided in this report, bottom of footing elevations should not reside more than 12 inches below existing grades. In an effort to achieve this recommendation, finished grade elevations for the building pad will likely require residing 3 to 4 feet above existing grades.

At any time, we will be glad to discuss the contents of this report. This includes insuring that you fully consider potential problems for design and construction procedures in respect to interpretations of the data.

III. PROJECT INFORMATION & DESCRIPTION

We have not been provided foundation loads for the building, however for the purpose of this report we will assume that foundation loads will not exceed 75 kips for columns and/or 3.5 kips per linear foot for walls. We will further assume that site grades will not be raised more than 5 feet above existing ground surface elevations to achieve finished grade elevations for the ground surface or slabs-on-grade.

Item	Description
Proposed Improvements	Fire Station # 13
Finished grade elevation for ground surface and/or slabs-on-grade	Assume maximum 5 feet above existing grade
Maximum Foundation loads	Assume 75 kips for columns and 3.5 kips for walls
Maximum Floor Loads for slabs-on-grade	Assume 150 pounds per square foot
Maximum allowable settlement	Assume 1 inch overall and ½ inch differential
Above information was assumed by Whitaker Laboratory, Inc.	

If our assumptions are incorrect, we should be contacted immediately, provided the correct information and allowed an opportunity to change and/or modify the recommendations contained within this report if necessary.

IV. SITE LOCATION & DESCRIPTION

Item	Description
Location	Highway 119 near Hwy. 17, Effingham County, Georgia
Existing Structures	None
Current ground cover	Heavily Wooded
Existing topography	Generally flat

At the time of our site visit, the site was heavily wooded. Pathway clearing was required to gain access to the boring locations. After pathway clearing, boring locations were accessible and the near surface soils were stable to our truck mounted CPT equipment within the cleared pathways. Ground surface topography was generally flat.

V. AREA GEOLOGY

This project is located in Effingham County, Georgia. This overall project area resides along the eastern edge of the South Atlantic Coastal Plain. In South Carolina and Georgia, this broad, gently sloping region extends southeastward from the Fall Line (Chesterfield - Columbia - Augusta - Macon - Columbus) to the Atlantic Ocean. The soils encountered are sedimentary in origin, and consist of layered marine deposits of sands, silts, and clays. These deposits have since been subjected to successive erosion and re-deposition, by fluctuations of sea levels, storm tides, and winds. Many of the surface sands are the result of depositional forces along ancient beaches, which formed during the changing shoreline and river conditions. Intermittent deposits of shells occur within the strata at irregular intervals. The surface soils in a majority of this Coastal Plain area were deposited during the Pleistocene Era, however surface soils near the coast are likely of the Holocene Era.

VI. TEST BORINGS AND SUBSURFACE CONDITIONS

The field exploration to determine the characteristics of the subsurface materials included a reconnaissance of the project site, the advancement of a DCP auger boring and the advancement of an electronic cone penetrometer.

Dynamic Cone Penetration testing (DCP) is done within hand augered holes. The DCP test is performed at regular intervals below the ground surface. DCP testing is performed with a hand held 15-pound hammer. The hammer falls 20-inches every blow. The hammer is attached to steel rods containing a conical driving tip that is 1.5-inches in diameter (ASTM STP-339).

The electric cone penetrometer is utilized to perform Cone Penetration Testing (CPT). An electric cone attached to the end of a series of rods is pushed into the ground at a constant rate and nearly continuous measurements are made of the resistance to penetration on the cone. Load cells (bonded strain gauges) build inside the electronic cone record end bearing, qc, and friction sleeve stress, fs as the cone is being pushed into the ground.

Both the Cone Penetration Test (CPT) and Dynamic cone penetrometer (DCP) test provide an indication of the relative consistency, density and in-situ strengths of the tested soils.

Soil samples from auger cuttings have been used for identification and visual classification. The subsurface stratification and the profile as presented in the boring logs, represent approximate boundary lines between the strata and materials encountered. These boundary lines are usually gradual and not clearly defined, and it is sometimes difficult to record changes in stratification precisely. It should be noted that underlying soil conditions can, and do, vary considerably within short lateral distances. It is possible that conditions may be revealed between boring locations that are different from those found by our borings and used for our analysis.

Soil behavior types identified within CPT logs are generated from the data collected during the CPT test and are based upon the soil classification chart for standard electronic friction cone (adopted from Robertson and Campanella UBC - 1983). The chart can be viewed within Appendix IV of this report.

The approximate locations of DCP auger borings and CPT tests are shown on the attached BORING LOCATION PLAN. Our field crews based on landmarks and features available at the time of work have estimated the test locations in the field. If the precise test locations are critical, this can be determined by employing a land-surveying firm to plot the true locations. Such survey should be completed promptly and before any disturbance to the area has occurred. If desired, WHITAKER LABORATORY, INC. will be glad to coordinate surveying arrangements for an additional fee.

Below approximately 6 to 8 inches of organic topsoil, the near surface soils on this site predominately consist of loose sands (SP-SM) extending to depths reaching 2 to 3 feet below the existing ground surface elevation. Below these surface sands, soft to stiff sand clays and clays (SC and CL) were encountered and extended to depths reaching 7 feet below the existing ground surface elevation. Below 7 feet, loose to very firm sands and silty sands (with thin seams of clays) were encountered and extended to the termination depth of the deeper sounding at 37 feet below the ground surface.

The above description of the subsurface profile should be considered a general description intended to highlight the major strata encountered. More detailed profiles can be observed within the attached CPT logs. Please note that CPT logs are only representative of their location. Stratification transitions should be expected to occur outside and between boring locations.

VII. GROUNDWATER TABLE

The apparent groundwater table was estimated from pore water pressure measurements from CPT soundings. Groundwater levels were estimated to reside 5 feet below the ground surface at the time of testing. The groundwater elevation shall be expected to fluctuate with the season of the year, surrounding ground surface conditions, and with recent rainfall amounts. Thus, groundwater elevations mentioned in this report shall be considered an estimate and valid only for the date of testing.

Please note that perched ground water conditions can be expected on this site during and/or after periods of rainfall due to the sand clays encountered directly below the thin sandy surface stratum. Perched groundwater can not only make grading operations difficult, but can also degrade the loose sandy surface soils residing above the clays and cause the underlying clay soils to degrade putting pavement sections and/or foundation elements at risk of experiencing unanticipated distress.

Whitaker Laboratory recommends making provisions in the site design to permanently drain the near surface sandy stratum through the installation of permanent under drains residing below pavements and around the perimeter of structures. Invert elevations for under drains should reside at least 3 feet below existing grades or 2 ½ feet below bottom of pavement section elevations or 2 ½ feet below bottom of footing elevations, whichever is deepest below existing grades.

Under drains should be designed to promote continuous positive drainage away from the structural areas and day-lighted to a drainage feature that will not restrict or back up the flow of water.

Site drainage should be established at the onset of earthwork activity, which includes the installation of temporary and/or permanent drainage features (including underdrains). Temporary drainage ditches determined necessary during construction should be converted to permanent under drains.

VIII. SEISMIC SITE CLASSIFICATION AND COEFFICIENTS

Liquefaction Potential:

Whitaker Laboratory, Inc. performed a liquefaction analysis on the soils encountered within soil test boring B-1. Liquefaction typically occurs when very loose to loose non-cohesive soils encountered below the groundwater table experience a significant loss of shear strength due to the increase in porewater pressure resulting from seismic vibrations.

The design earthquake utilized in our analysis (Charleston, SC earthquake with magnitude 7.3 and a 2% probability of exceedance in 50 years) yielded peak horizontal ground surface accelerations of 0.24g on this site. Based upon the design earthquake and characteristics of subsurface soils, the liquefaction analysis indicated that the encountered sand stratifications present below the groundwater table have potential to liquefy during the design seismic event. The amount of settlement estimated during and shortly after a seismic event of this magnitude approximated 2 ½ inches.

Settlements of this magnitude could cause damage to the structure. If the risk of anticipated settlements due to liquefaction are unacceptable to the owner, extensive ground modification would need to be performed on the liquefiable soil stratums or supporting the structure on pile foundation systems bearing below the potentially liquefiable soil zones would be required. Whitaker Laboratory should be contacted if this risk is unacceptable. Additional evaluation will be required to provide foundation recommendations capable of guarding the structure against liquefaction induced settlements.

International Building Code:

Assuming the structure has a period of vibration under 0.5 second and disregarding liquefaction potential, this site would be defined as a Site Class "D". The classification is determined by average soil properties in the top 100 feet of the soil profile, including standard penetration test N values, shear wave velocities, in-situ shear strengths and moisture contents, as specified by IBC 2018 / ASCE 7-16.

$S_s = 0.296$
$S_1 = 0.11$
$S_{MS} = 0.462$
$S_{M1} = 0.261$
$S_{DS} = 0.308$
$S_{D1} = 0.174$

A summary report is attached in Appendix III of this report. If the period of vibration for the planned structure is in excess of 0.5 second or the size and design of this structure justifies additional investigation, a Site Specific Geotechnical Investigation and dynamic site response analysis shall be performed. Our firm has the ability to provide our clients such testing and evaluation, and we will be available to discuss the cost, and potential benefit, if any, of such if you desire.

IX. EARTHWORK AND FOUNDATION DESIGN CONSIDERATIONS

The encountered near surface soils can be made suitable for support of the structure utilizing shallow spread pier and/or strip footing foundations with slab-on-grade flooring if liquefaction induced settlements are not of concern to the owner and/or structural design, our foundation loading assumptions are not exceeded and the recommendations contained within this report are performed and verified during construction.

Earthwork:

- We recommend that the building site plus a minimum of 10 feet beyond the perimeter of all structural areas be stripped of any organics, stumps, roots and unsuitable surface soils. Stripping depths should be anticipated to extend 6 to 8 inches or more to effectively remove all unsuitable surface organic materials.

- After stripping, all exposed subgrade soils shall be thoroughly compacted in-place to 95% of ASTM-D-1557 and pass proof-rolling inspections prior to backfilling/filling operations begin. Areas found to pump or deflect should be undercut to a competent material and backfilled with an approved compacted material.

- Please note that due to loose sands being encountered at the near ground surface, compaction efforts on exposed subgrade soils after stripping shall be made with a large vibratory smooth drum roller (Cat CS 74 or equivalent - centrifugal force range of 37,300 – 74,600 lb).

- The exposed subgrade soils within all structural areas shall be inspected, tested and approved by Whitaker Laboratory personnel prior to backfilling/filling placement begins.

- Please note that areas of this site contain soft sand clays as shallow as 2 to 3 feet below existing grades (see DCP-2 and CPT-1). Whitaker recommends making provisions in the earthwork contract for the performance of subgrade stabilization within areas of this site. Subgrade stabilization may require undercutting to a competent material and backfilling with an approved, compacted, sandy soil and/or placement of stabilization fabric (Mirafi RS580i or Terra Tex HPG-HM58) on exposed subgrade soil prior to placement of backfill.

- Backfill and fill material required to replace the stripped areas and to raise the pad and pavement areas to achieve finished subgrade elevations, should consist of granular soils and meet the requirements for material type and placement as outlined within the SITE WORK RECOMMENDATIONS section of this report.

Foundations:

Once the above is accomplished, footings can be excavated. Bottom of footing excavations should be thoroughly compacted to meet or exceed 95% of the soils modified proctor maximum dry density in accordance with ASTM-D-1557. Footing excavations shall be compacted utilizing mechanical jumping tamps.

After exposed subgrade soils residing within bottom of footing excavations have been compacted in-pace, footing inspections shall be conducted by performing dynamic cone penetrometer testing within bottom of footing excavations extending to depths reaching 3 feet below bottom of footing elevations to verify adequate bearing material is present. Subsurface bearing soils deemed unsuitable based upon dynamic cone penetrometer testing should be undercut to a competent material and backfilled with an approved material.

Marginally soft sand clays and clays were encountered bracketing elevations 3 to 6 feet below existing grades on this site. Please note that if bottom of footing elevations require residing deeper than 12 inches below existing grades, undercutting and replacement of bearing subgrade soils will likely be necessary in footing areas to achieve below recommended bearing pressures with adequate factor of safety.

After the above is completed and verified by Whitaker personnel during construction, footings may be designed for safe soil bearing pressures of 1500 PSF. Our technicians, prior to placing steel and concrete, should approve all footing excavations. All footings should have minimum plan dimensions of 24 inches. Bearing edges of slabs-on-grade should be a minimum of 18 inches wide. All footings, and bearing edges should reside at least 12 inches below finished grade and above the groundwater table. Overall settlements on the order of one inch should be anticipated. Differential settlement is anticipated to be on the order of ½ the overall settlement. Floor slabs can be designed utilizing a modulus of subgrade reaction "k" value of 150 pci.

Lateral loads can be resisted by passive earth pressure due to compacted structural fill placed against the sides of the footings. The upper 1-foot of resistance should be neglected unless the fill is confined by a pavement or floor slab. A soil unit weight of 110 pcf and passive earth pressure coefficient of 3.0 can be utilized in the analysis. Additionally, a friction coefficient of 0.35 between the concrete footings and underlying soil can be used in combination with passive earth pressures to resist lateral loads. The coefficient of friction should be applied to dead normal loads only.

X. SITE WORK RECOMMENDATIONS

We will be pleased to discuss these recommendations with the owner and the site work contractor selected to do the work. We believe it will be beneficial to the project, for the owner and the contractor to have a clear understanding of our recommendations.

1. Prior to construction, all building areas, plus at least 10 feet on each side and all areas to be paved, should be stripped of all vegetation, topsoil and root systems. Site drainage during construction should be considered prior to this clearing and stripping. Preventing the ponding of storm water is of particular importance.

2. Topsoil, organics, root-mat and other surface materials will likely vary across the site. Individual test borings may not accurately reflect the presence of, or the thickness of such materials due to site variability and/or surfacing clearing to facilitate access for drilling equipment. Site clearing and grubbing, when unsupervised, and particularly in areas of wet soils and times of wet weather, may push organic debris into otherwise stable soils. Undercutting and clearing with a track hoe in lieu of bulldozers can minimize this.

3. Any stump holes or other depressions should be cleared of loose material and debris, and should then be back-filled with approved fill. The backfill should be placed in 6-inch thick lifts and compacted to 95% density in accordance with ASTM D-1557.

4. Any existing utilities that underlie the site should be relocated and their trenches back-filled with approved soil. The backfill should be placed in 6-inch lifts and compacted to 95% density according to ASTM D-1557.

5. Prior to fill placement, the subgrade should be proof rolled with a loaded dump truck to locate unstable or soft areas. Any unstable areas should then be investigated to determine the cause of the instability. If due to unsuitable soils, such as highly organic soils or soft clays, the areas should be undercut to firm soil and replaced with approved fill compacted in 6-inch lifts to minimum density of 95% in accordance with ASTM D-1557. If the instability is due to excess moisture in otherwise stable soil, the area should be drained and compacted to 95% density.

6. Any fill or backfill required to level or raise the site should be placed in 8 to 10 inch thick, loose lifts and compacted by appropriate compaction equipment to 95% density in accordance with ASTM D-1557.

7. All of the fill and backfill (including utility line backfill) for this project should consist of clean, free draining granular soils. The fill should be free of objectionable roots, clay lumps, organics and other debris. The fill should be readily compactable during placement. Soils classified as SW, SP, SP-SM or SM with a maximum of 15% passing a #200 sieve may be acceptable. Soils with the minus #200 fraction classified as MH, CH, OH, ML, CL or SC may be rejected. Soils with a maximum plasticity index of 25 and a maximum liquid limit 40 may be acceptable for use only beneath building pads which are situated well above the groundwater table with approval from the geotechnical engineer. Soils classified as SC or CL, exhibiting moisture sensitivity, soils with excessive clay content, or excessive moisture should not be used without approval from the geotechnical engineer. Approved sands will also need to be moisture conditioned as necessary to facilitate proper compaction throughout its entire depth. If utility trenches cannot be sufficiently dewatered to readily allow compaction of the specified pipe bedding material, then a class I (ASTM-D-2321) gravel or gravel mixture will be required.

8. To assist in reducing moisture beneath the structure, and to reduce the potential for mold growth, the site shall be graded and filled as necessary to direct drainage away from the structure. If sub drains are installed, these alone may not prevent moisture vapor beneath the structure that can cause mold growth. (Also refer to paragraph 10 below). Care must be taken to not place concrete on top of wet soils. For example, if fill or natural soils experience heavy rain, the soils should be properly drained and dried, prior to placement of concrete. Otherwise moisture migration through the slab will occur.

9. Compact all footing excavations and slab subgrades to a minimum density of 95% in accordance with ASTM-D-1557, prior to placement on concrete. The footing excavations, and all prepared slab subgrade, should be maintained in a dry and compacted condition until the concrete is placed. Areas that are softened by water or that are disturbed by construction activity should be re-worked, re-compacted, or appropriately repaired to the required bearing and density. If necessary, stone backfill or other corrective measures may be implemented to stabilize footings.

10. All slabs-on-grade should be supported on a minimum of 4-inches of granular, free-draining gravel or coarse sand to reduce moisture migration by capillarity. A vapor retarding membrane, overlying this granular base, is recommended to further reduce moisture migration into finished areas of the structure. Note that the use of these measures will not totally prevent moisture under or on top of slabs or beneath structures. (Also refer to paragraph 8 above).

11. Any footing excavations that are directly adjacent to the existing foundations should be done in small increments to avoid undermining them and causing a loss of support to the existing structure. If necessary, the excavations should be sheeted and braced or grouting should stabilize the soil in the immediate area.

XI. PAVEMENT RECOMMENDATIONS

Subgrade for driveways and parking areas should consist of a minimum of 24-inches of clean sand subgrade compacted to a density of 95% of its maximum dry density as determined by ASTM-D-1557. Pavement designs should also provide a minimum of 24-inches separation between the bottom of the base course material and the seasonal high ground water table. Undercutting, re-compacting, and/or replacing of existing surface soils will be required unless subgrade consists of organic free, virgin sandy soils that are proven to be a minimum of 24-inches thick, 24-inches above the seasonal high ground water table, compacted to 95% of ASTM D-1557 and passes a proof-roll. Final grades and elevations will determine the extent of any filling, undercutting and backfilling that may be required.

The pavement design must provide for the pavement subgrade soils to drain and not ever become saturated by surface water, perched groundwater or groundwater table.

Site grades should be established on this site by setting bottom of pavement section elevations residing 6 inches above existing grade elevations.

Assuming site grades are established as recommended above, perched groundwater potential would reside 2 feet below bottom of pavement section elevations and under drains would not be required in the pavement design. In addition, the near surface soil conditions will consist of sandy type soils, which can be made suitable for use as pavement subgrade material as long as the in-place sandy soils are compacted for a full 24-inch depth below bottom of pavement section elevations.

Please note however that areas of this site contain soft sand clays as shallow as 2 to 3 feet below existing grades (see DCP-2 and CPT-1). Whitaker recommends making provisions in the earthwork contract for the performance of subgrade stabilization within areas of this site. Subgrade stabilization may require undercutting to a competent material and backfilling with an approved, compacted, sandy soil and/or placement of stabilization fabric (Mirafi RS580i or Terra Tex HPG-HM58) on exposed subgrade soil prior to placement of backfill.

As recommended above, compaction efforts on exposed subgrade soils shall be made with a large vibratory smooth drum roller (Cat CS 74 or equivalent - centrifugal force range of 37,300 – 74,600 lb).

All proof rolling, construction observations, compaction testing of paved areas must be in accordance with the SITE WORK section above. If a rain event of 0.5 inches or more, occurs after initial proof rolling and prior to subsequent placement of base or surface wearing course, the proof roll testing must be repeated just prior to additional work.

The below recommended pavement sections should be considered standard and typical for the area. We have not been provided traffic data and/or been instructed to perform CBR testing on subgrade soils, therefore these pavement sections should not be considered a pavement design. The below recommended pavement sections are based upon the assumption that the sandy subgrade soils will yield a minimum CBR value of 8 if compacted to 95% ASTM D-1557 for a full 24-inch depth. In addition, the below recommended light duty pavement sections should be considered for car traffic areas only. Below recommended heavy duty sections should be utilized for all areas receiving truck traffic (delivery trucks and garbage trucks with 18-kip axle loads). In addition the heavy duty sections recommended below are for low volume truck traffic (15 to 20 trucks per day).

LIGHT DUTY PAVEMENT (CARS & LIGHT TRUCKS)

SUBGRADE:	Minimum – 24-inches of drained, compacted, coarse grained soil
BASE COURSE:	Minimum - 6-inches of Graded Aggregate Construction
SURFACE COURSE:	Minimum - 2-inches of 12.5 mm Superpave

HEAVY DUTY PAVEMENT (LOADED TRUCKS WITH 18+ kip AXLE LOADS)

SUBGRADE:	Minimum – 24 inches of drained, compacted, coarse grained soil
BASE COURSE:	Minimum - 8-inches of Graded Aggregate Construction
BINDER COURSE:	Minimum - 2-inches of 19 mm Superpave
SURFACE COURSE:	Minimum - 2.0-inches of 9.5 mm Type II Superpave, or Minimum - 2.0-inches of 12.5 mm Superpave

In all projects, a minimum mat temperature of 185° F must be maintained through final roller pass.

Please note that specifications for the above mentioned base course and surface course can be found under Sections 310, 400, 815 and 828 of the Georgia Department of Transportation State of Georgia Standard Specifications Construction of Transportation Systems, 2001 Edition. The mix design must include "lime".

All testing procedures, pavement densities, void ratios, and all criteria for final pavement approval must be agreed upon by the parties after completion of a rolling pattern or test strip segment. It must also be agreed that the reference to Georgia DOT Specifications shall mean the entirety of the specification. Portions of such Standard State pavement specifications are not stand alone provisions, and must be considered as mutually complementary provisions, to be used in their entirety. Selected portions of the Standard State specifications may be included, only after completion of a rolling pattern or test strip segment, and the agreement of the parties.

Several studies have shown that recycled concrete aggregates may have suitable physical and geotechnical properties for road construction; however, the studies related to leaching behavior and potential clogging have not been investigated in depth. Whitaker Laboratory recommends that recycled concrete aggregate and/or recycled masonry materials should not be used in project designs and construction where geotechnical fabrics are part of a drainage filter design. Such recycled materials have the potential for precipitating calcium-based compounds and causing clogging of the fabric filter materials

PORTLAND CEMENT CONCRETE PAVEMENT

HEAVY DUTY:	8-inches of Portland cement concrete with minimum compressive strength of 4000 PSI.
LIGHT DUTY:	5-inches of Portland cement concrete with minimum compressive strength of 4000 PSI.

Whitaker Laboratory recommends incorporating a minimum of 4-inches of graded aggregate base course below the above concrete pavement sections for maintaining a smooth and level surface during placement of the pavement section.

Joints must be placed a MAXIMUM spacing in FEET of 2.5 times the pavement thickness in inches, and in no case more distant apart than 15 feet.

Pavement Design should include:

- Requirements to seal all pavement joints to prevent surface water entry into base / subgrade. Such provision should minimize pumping failures at joints.
- Requirements that pavement sections and panels subject to repetitive braking and/or acceleration should be designed with lug anchors or tie-bars to minimize separation or misalignment at the joints.
- Provisions for load transfer across construction joints by dowels or other acceptable means.

- In general, the design should follow the recommendations and practices for all components as described in ACI 330.1 and/or ACI 330R as applicable.

XII. QUALITY CONTROL AND TESTING

Documented inspections and/or testing performed by Whitaker Laboratory personnel, at the following critical milestones during construction, will be required for the recommendations contained within this report to be validated:

Earthwork:

- After stripping and prior to backfill/fill placement: Perform density testing and proofrolling on exposed subgrade soil to verify exposed subgrade soils are compacted and stable enough to begin receiving backfill / fill.

- Collect sample of proposed backfill / fill material, perform laboratory testing and determine suitability for use (approve or disapprove).

- During backfill / fill placement: Perform density testing on each lift of backfill and/or fill soil.

Footings:

- Once footings are excavated: Perform inspection on bearing subgrade soils within bottom of footing excavations extending to depths reaching 3 feet below bottom of footing elevations prior to placement of reinforcing steel or concrete. Provide recommendations for undercutting and replacement if deemed necessary.

At the appropriate time, please contact Whitaker Laboratory, Inc. for budgetary and scheduling purposes for the performance of the above required inspection and testing services.

We further offer concrete, asphalt, masonry, and structural steel inspections and testing. Whitaker Laboratory, Inc. also performs observational services for mold mitigation, including observation of installation of vapor retarding membranes, subdrains, overall site drainage, and regularly scheduled observations after construction of site and landscape drainage, and monitoring of humidity and moisture in slabs and basement walls.

XIII. QUALIFICATIONS OF REPORT

Any recommendations or opinions offered in this report are based on our interpretation of the data obtained from this investigation. It should be noted that underlying subsurface and soil conditions can, and do, vary considerably within short lateral distances. Regardless of the thoroughness of any subsurface investigation, it is possible that conditions may be revealed between boring locations that are different from those found by our borings and used for our analysis. For this reason, we recommend that the site preparation and foundation construction for this project be monitored closely. If deviations of the soil conditions from those presented in this report appear, we will be glad to furnish any additional analyses and recommendations that may be required.

This report was made to investigate subsurface properties of the site and is not intended to serve as a wetlands survey, toxic mold assessment, or environmental site assessment. No effort has been made to define, delineate, or designate any area as wetlands or an area of environmental concern or contamination. Any references to low areas, poorly drained areas, etc. are related to geotechnical applications. Any recommendations regarding drainage and earthwork are made on the basis that such work can be permitted and performed in accordance with the current laws pertaining to wetlands, storm water runoff, and environmental contamination.

This report does not attempt to define or represent any FEMA, or otherwise designated, flood, erosion, scour, or other hazardous zones; nor does it presume to reflect that governmental or other authorities will grant approval of the project and issue appropriate permits.

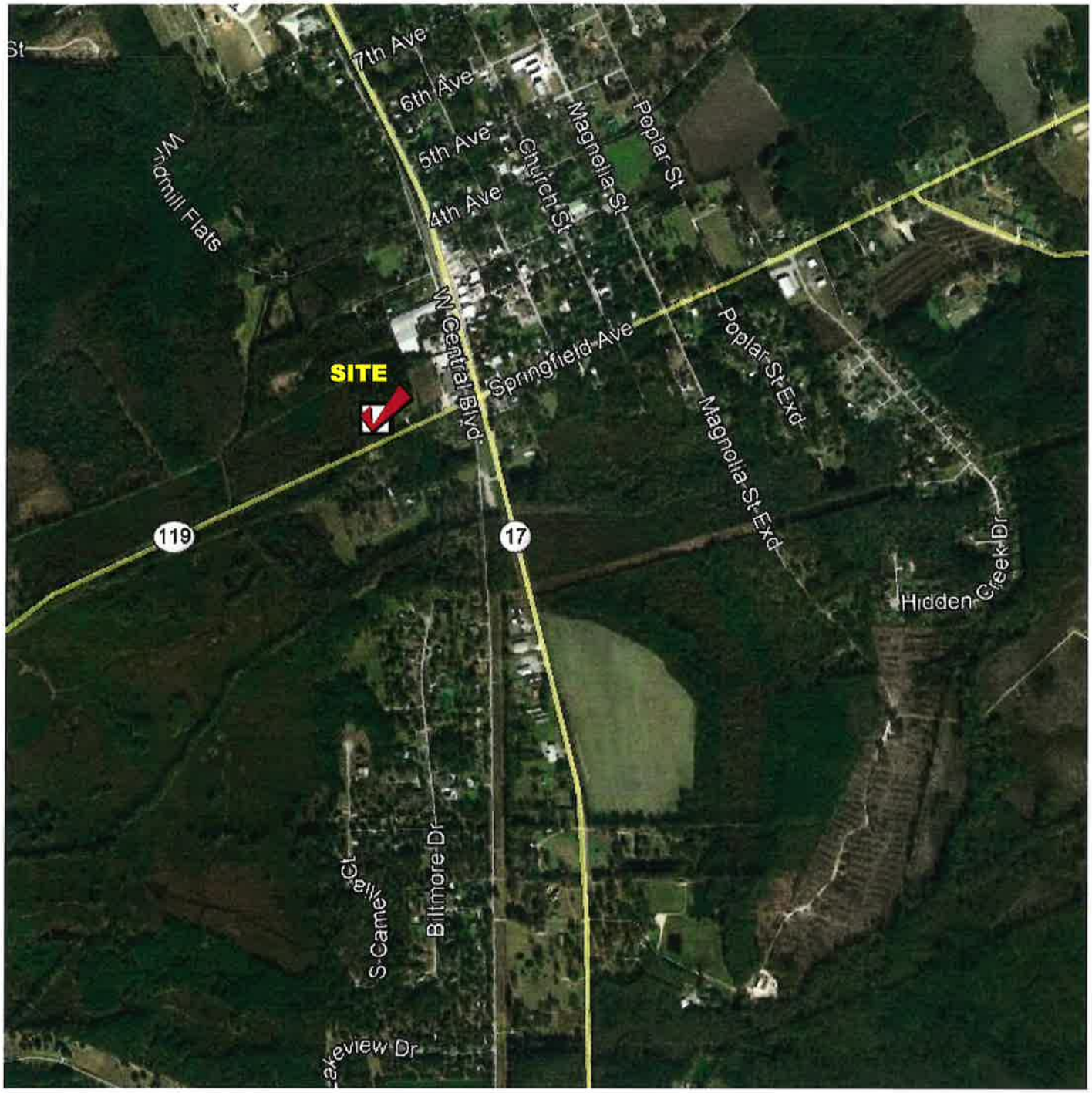
WARRANT: WHITAKER LABORATORY, INC. and its professional engineers strive to perform all services in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering profession practicing in the same locality and under similar conditions. No other warranty or representation, expressed or implied, is included or intended in this agreement, in any report, opinion, document, or otherwise. We carry commercial general liability insurance, including completed operations, and professional liability insurance in aggregate amounts deemed adequate, and we comply with the statutory requirements for workmen's compensation insurance. Accordingly, by accepting and relying on the contents of this report, the liability of WHITAKER LABORATORY, INC. and its professional engineers, to the client, owner, or any other party, for any loss or damage, resulting from any cause, including professional acts, errors, omissions, negligence, toxic mold and other environmental claims, breach of warranty or breach of contract, shall not exceed the total compensation received by us for services related to this project; and client will defend, settle, and discharge any claims or allegations of liability for same against us by others. If client desires higher monetary limits of our liability, we will be pleased to discuss such higher limits and the impact on liability and fees. In the event the client makes a claim against us, at law or otherwise, for any alleged act, error, omission, negligence, breach of warranty or

breach of contract, arising from the performance of our services, it is mutually agreed that initially, the client and Whitaker Laboratory, Inc. will attempt to resolve such dispute through direct negotiations between the appropriate representatives of each party. Secondly, if such negotiations are not fully successful, the parties agree to resolve any remaining disputes by formal nonbinding arbitration mediation in accordance with the rules and procedures to be agreed upon by the parties. Mediation is a pre-condition to litigation. The exclusive venue for any disputes relating to Whitaker Laboratory's service shall be in Chatham County, GA. Furthermore, if the client fails to prove such claim, then client shall pay all costs accrued by us in defending ourselves.

TITLE: The ownership of opinions, technical ideas, methods and means, drawings, calculations, and other data developed by us during the course of preparing proposals or rendering engineering services remains exclusively with us. It is a condition of this report or proposal that the client agrees not to use the opinions, technical ideas, methods and means, drawings, calculations or any other data for projects or locations, other than those specifically addressed in the report, and that no one other than the client may use this report, without the written permission of WHITAKER LABORATORY, INC.

APPENDIX I

SITE VICINITY & BORING LOCATION PLANS

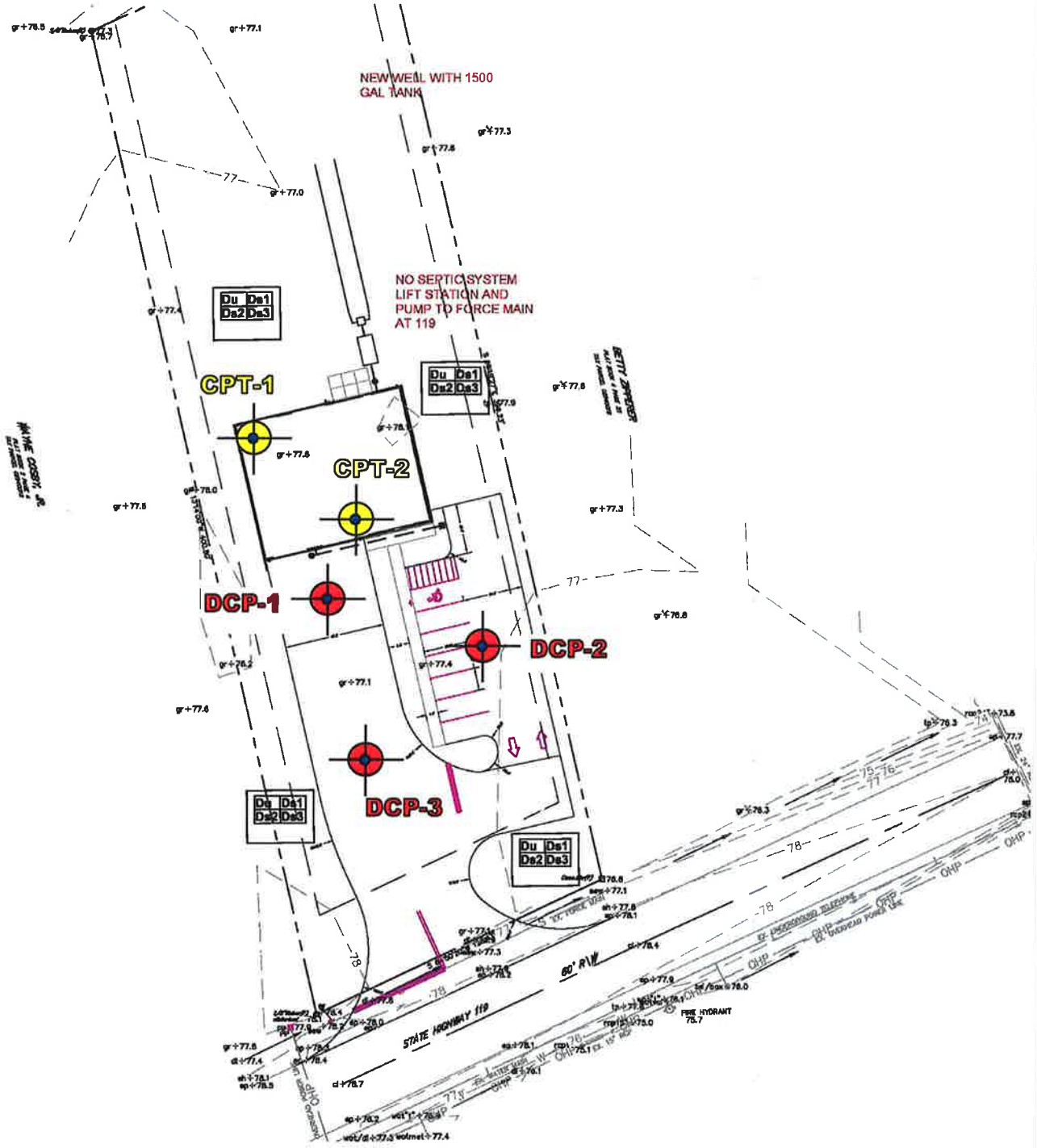


Site Vicinity Map

Guyton Fire Station
Highway 119
Guyton, Effingham County, Georgia

N

WHITAKER LABORATORY, INC.



Boring Location Plan

Guyton Fire Station
Highway 119
Guyton, Effingham County, Georgia

N

ALL BORING LOCATIONS ARE APPROXIMATE, & ARE BASED ONLY ON FIELD ESTIMATES.

WHITAKER LABORATORY, INC.

APPENDIX II

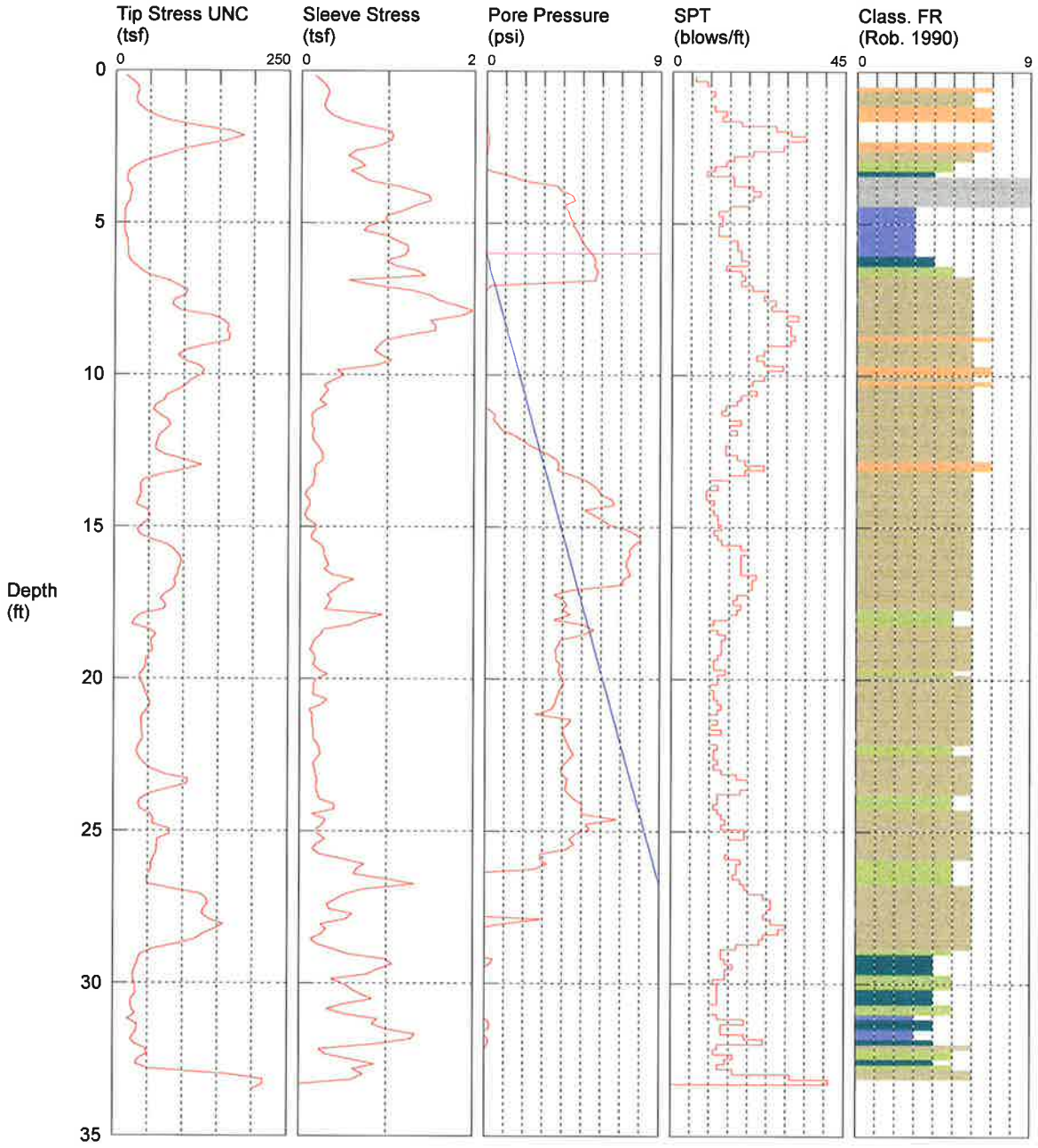
BORING RECORDS

CPT-1

SOUNDING
CUSTOMER: Customer
OPERATOR: Jones
CONE ID: DSG1024
LOCATION: Effingham County GA

JOB NUMBER: Hwy 119 and HW 17
HOLE NUMBER: CPT-1
TEST DATE: 9/22/2020 1:31:30 PM
COMMENT: CPT-1

COMMENT: CPT-1
SOUNDING



1 Sensitive, fine grained
2 Organic soils - peats
3 Clays - clay to silty clay
4 Silt mixtures - clayey silt to silty clay
5 Sand mixtures - silty sand to sandy si
6 Sands - clean sand to silty sand
7 Gravelly sand to sand
8 Very stiff sand to clayey sand **
9 Very stiff, fine grained **

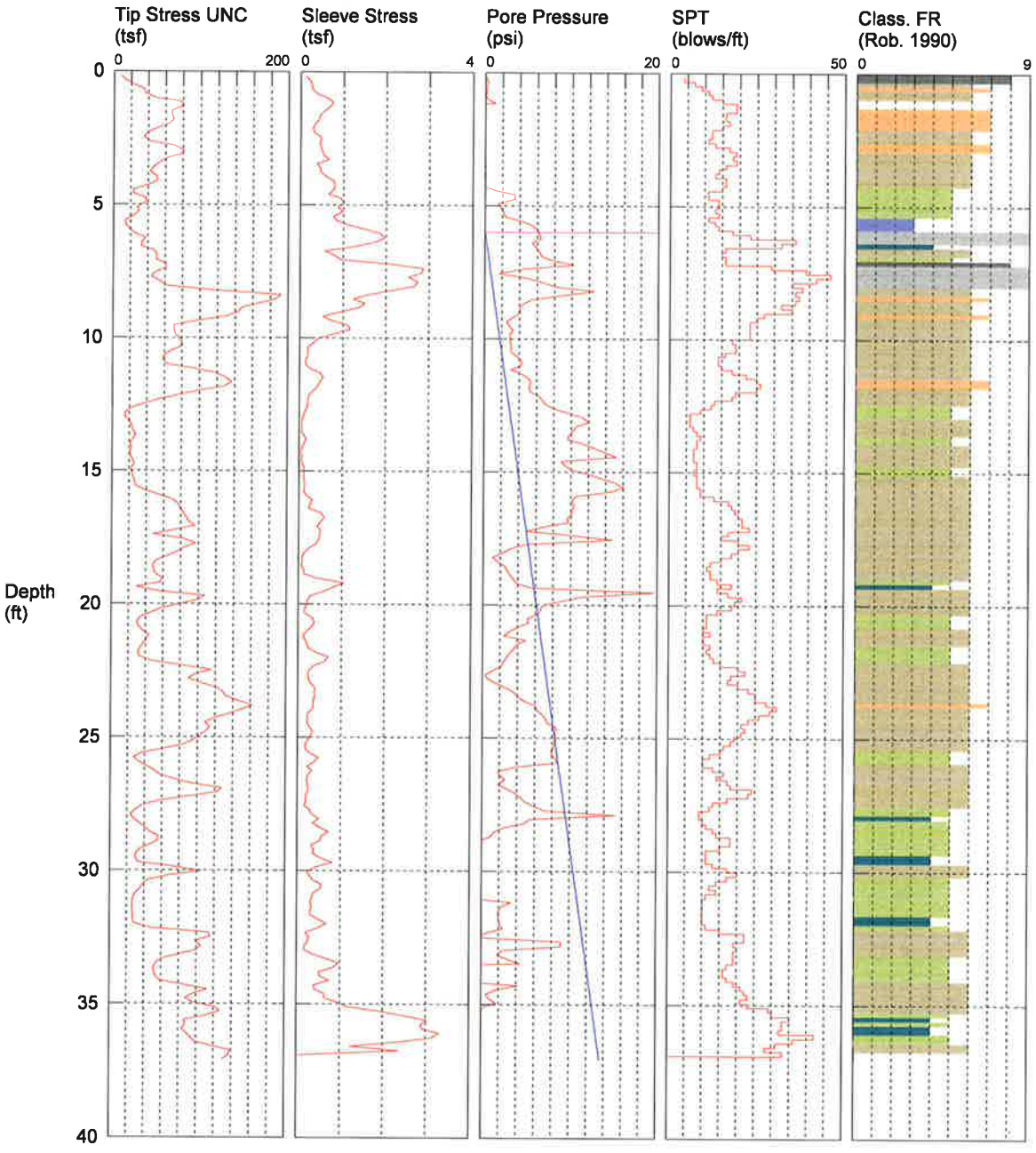
*SBT: Robertson 1990; **Overconsolidated or Cemented; *SBT/SPT CORRELATION: UBC-1983

CPT-2

SOUNDING
CUSTOMER: Customer
OPERATOR: Jones
CONE ID: DSG1024
LOCATION: Effingham County GA

JOB NUMBER: Hwy 119 and HW 17
HOLE NUMBER: CPT-2
TEST DATE: 9/22/2020 1:59:55 PM
COMMENT: CPT-1

COMMENT: CPT-1
SOUNDING



1 Sensitive, fine grained
2 Organic soils - peats
3 Clays - clay to silty clay
4 Silt mixtures - clayey silt to silty clay
5 Sand mixtures - silty sand to sandy sil
6 Sands - clean sand to silty sand
7 Gravelly sand to sand
8 Very stiff sand to clayey sand **
9 Very stiff, fine grained **

*SBT: Robertson 1990; **Overconsolidated or Cemented; *SBT/SPT CORRELATION: UBC-1983

WHITAKER LABORATORY, INC.
P.O. BOX 7078
SAVANNAH, GEORGIA 31418

Project Name Fire Station- Highway 119 **Date** 9/22/2020

Project Location Guyton, GA

Boring Number _____ **Field Engineer** Blake Jones

Ground Surface Elevation _____ **Ground Water Elevation** _____

Sample No.	Sample		Stratum		Visual Field Classification	Blows/Foot
	From	To	From	To		
DCP-1			0	6"	Topsoil	-1' – 6-7-8
			6"	24"	Loose Tan/Brown Fine Sand (SP-SM)	-2' – 5-6-6
			24"	48"	Firm to Stiff Tan-Orange- Brown Sand Clay (SC)	-3' – 4-6-9
					No Groundwater Encountered	-4' – 5-12-14
DCP-2			0	8"	Topsoil	-1' – 4-6-7
			8"	24"	Loose to Very Loose Tan Fine Sand (SP-SM)	-2' – 3-3-3
			24"	48"	Soft Tan-Orange Sand Clay (SC)	-3' – 2-3-4
					No Groundwater Encountered	-4' – 2-4-4
DCP-3			0	8"	Topsoil	-1' – 4-4-6
			8"	24"	Loose Tan Fine Sand (SP-SM)	-2' – 5-5-7
			24"	48"	Firm Tan-Orange Sand Clay (SC)	-3' – 3-5-5
					No Groundwater Encountered	-4' – 4-5-6

APPENDIX III

LIQUEFACTION & SEISMIC PARAMETERS

Hwy. 119 Fire Station #13, Effingham County, GA

Latitude, Longitude: 32.33, -81.396

Date	9/24/2020, 10:41:58 AM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Default (See Section 11.4.3)

Type	Value	Description
S_S	0.296	MCE_R ground motion. (for 0.2 second period)
S_1	0.11	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.462	Site-modified spectral acceleration value
S_{M1}	0.261	Site-modified spectral acceleration value
S_{DS}	0.308	Numeric seismic design value at 0.2 second SA
S_{D1}	0.174	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	C	Seismic design category
F_a	1.563	Site amplification factor at 0.2 second
F_v	2.381	Site amplification factor at 1.0 second
PGA	0.16	MCE_G peak ground acceleration
F_{PGA}	1.48	Site amplification factor at PGA
PGA_M	0.237	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
SsRT	0.296	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	0.337	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.11	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.125	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.5	Factored deterministic acceleration value. (Peak Ground Acceleration)

Type	Value	Description
C_{RS}	0.879	Mapped value of the risk coefficient at short periods
C_{R1}	0.878	Mapped value of the risk coefficient at a period of 1 s

LIQUEFACTION ANALYSIS

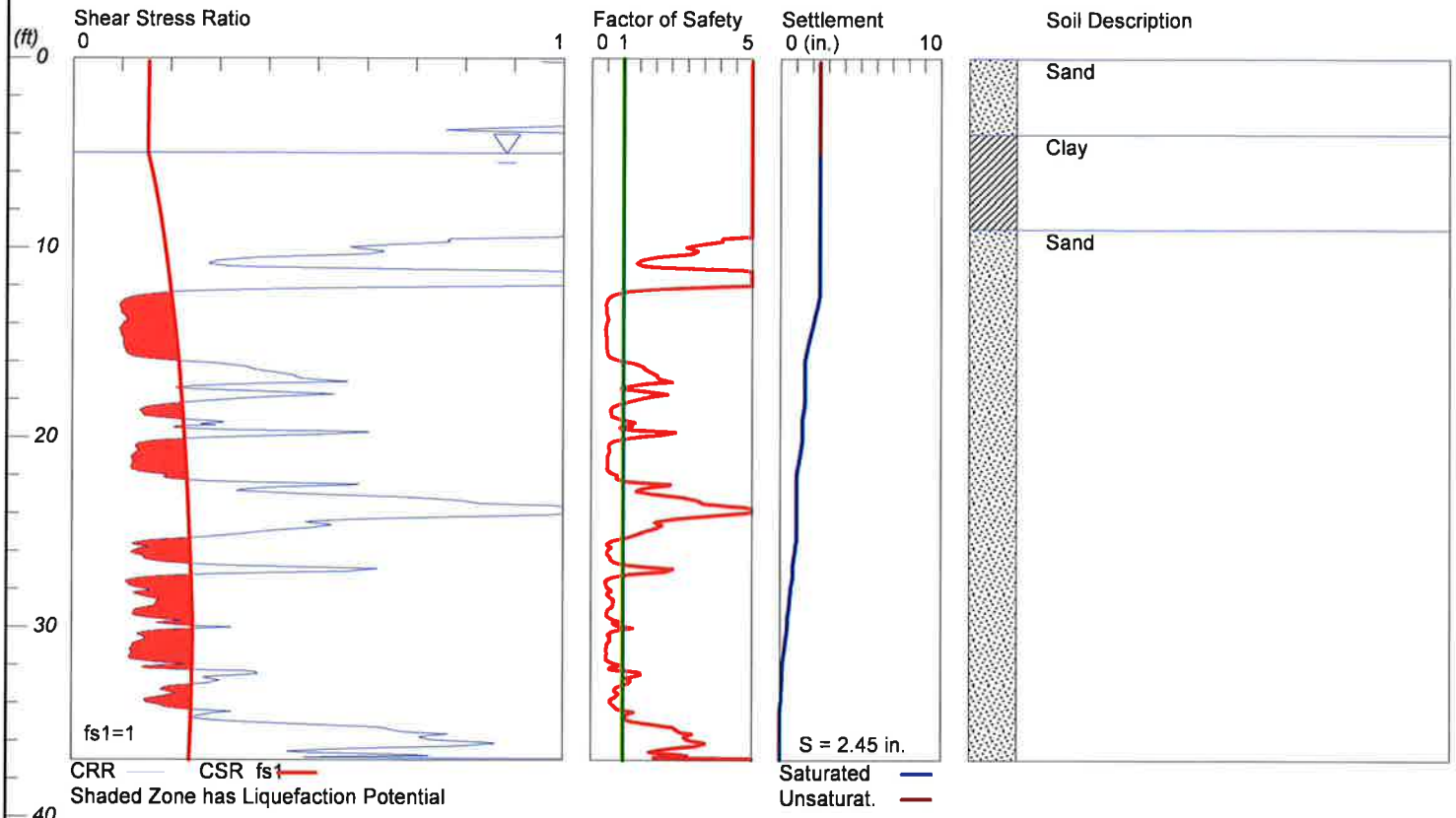
Highway 119 Fire Station #13

Hole No.=CPT-2 Water Depth=5 ft

Ground Improvement of Fill=3 ft

Magnitude=7.3

Acceleration=0.24g

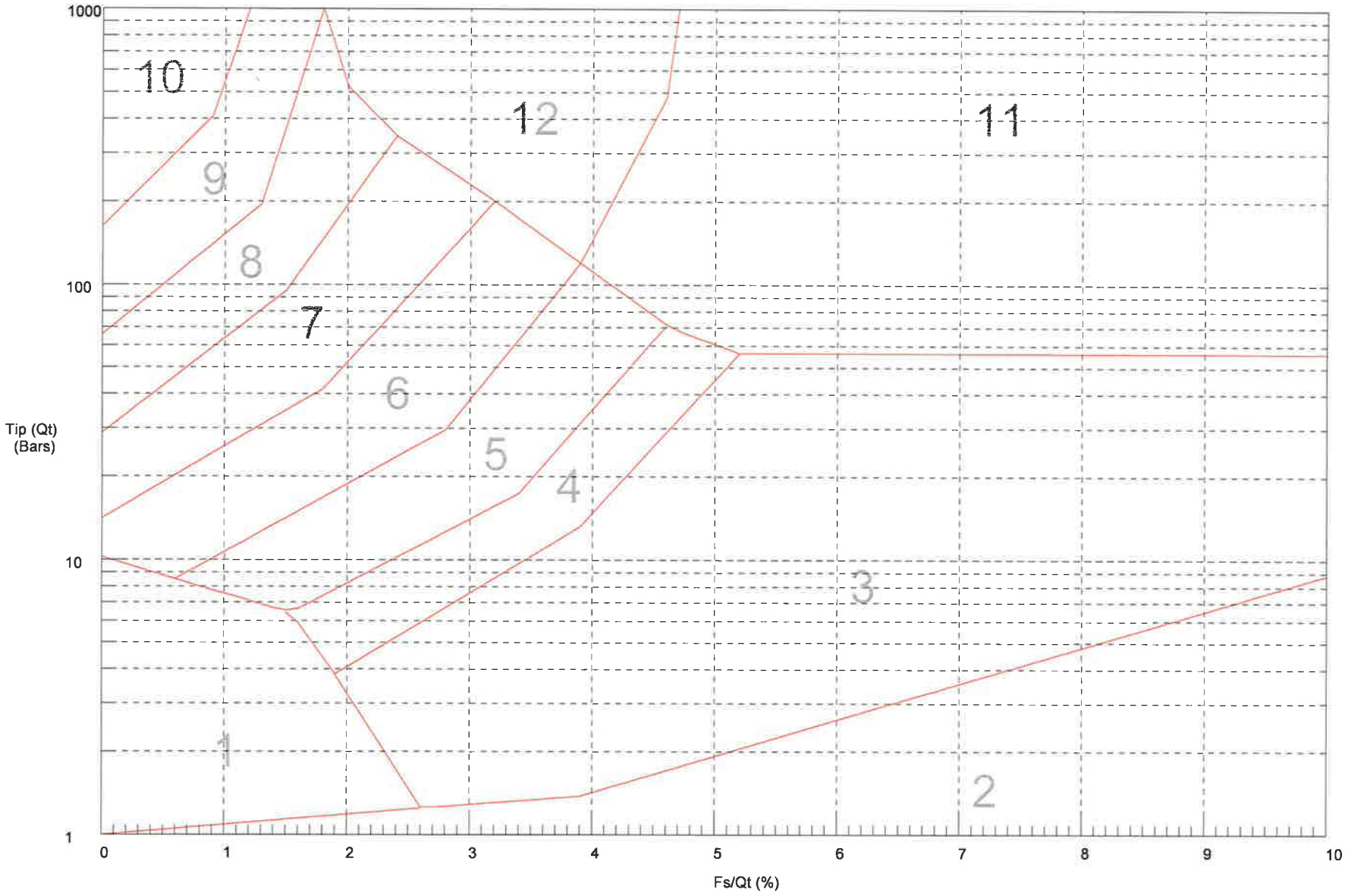


APPENDIX IV

IMPORTANT GENERAL NOTES

Whitaker Laboratory, Inc.

Classification Data:
Robertson and Campanella UBC-1983



1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

GENERAL NOTES

The "standard" penetration resistance is an indication of the density of cohesion less soils and of the strength of cohesive soils. The "standard" penetration test is measured with a 1.4 inch I.D., 2 inch O.D., sampler driven one (1) foot with a 140 pound hammer falling 30 inches.

RELATIVE DENSITY OF SOIL THAT IS PRIMARILY SAND

Number of Blows	Relative Density
0 - 4	Very loose
5 - 10	Loose
11 - 20	Firm
21 - 30	Very firm
31 - 50	Dense
Over 51	Very dense

CONSISTENCY OF SOIL THAT IS PRIMARILY SILT OR CLAY

Number of Blows	Consistency
0 - 2	Very soft
3 - 4	Soft
5 - 8	Firm
9 - 15	Stiff
16 - 30	Very stiff
Over 31	Hard

While individual test boring records are considered to be representative of subsurface conditions at the respective boring locations on the dates shown, it is not warranted that they are representative of subsurface conditions at other locations and times.

The subsoil stratification shown on these profiles is not warranted but is estimated based on accepted soil engineering principles and practices and reasonable engineering judgment.

Unless notified, samples will be disposed of after 60 days.

GROUP		
MAJOR DIVISIONS	SYMBOLS	TYPICAL NAMES
COARSE-GRAINED SOILS		
More than 50% retained on No. 200 Sieve*		
GRAVELS		
50% or more of coarse fraction retained on No. 4 sieve		
CLEAN GRAVELS	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
GRAVELS WITH FINES	GM	Silty gravels, gravel-sand-silty mixtures
	GC	Clayey gravels, gravel sand clay mixtures
SANDS		
More than 50% of coarse fraction passes No. 4 sieve		
CLEAN SANDS	SW	Well graded sand and gravelly sands, little or no fines
	SP	Poor graded sands and gravelly sands, little or no fines
SANDS WITH FINES	SM	Silty sands, sand-silt mixtures
	SC	Clayey sands, sand clay mixtures
FINE GRAINED SOILS		
50% or more passes No. 200 Sieve*		
SILTS AND CLAYS		
Liquid Limit 50% or less		
	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS		
Liquid Limit greater than 50%		
	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity
HIGHLY ORGANIC SOILS	PT	Peat, muck and other highly organic soils

*Based on the material passing the 3 in. (75 mm) sieve.

BID FORM

ARTICLE 1 - BID RECIPIENT

1.01 This Bid is submitted to:

Effingham County Board of Commissioners

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 - BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 - BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; and the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

E. Based on the information and observations referred to in Paragraph 3.01.D above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

ARTICLE 4 - BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;

2."fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

THIS SECTION INTENTIONALLY LEFT BLANK

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.01.A, below:

For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the actual quantity of that item:

Guyton Fire Station #13 - Construction – Highway 119					
Item No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
1	MOBILIZATION	LS	1	$	$
2	CLEARING	LS	1	$	$
3	SITE GRADING	LS	1	$	$
4	EROSION CONTROL	LS	1	$	$
5	CONCRETE DRIVEWAY	LS	1	$	$
6	WATER SYSTEM, COMPLETE	LS	1	$	$
7	CONCRETE SIDEWALKS	LS	1	$	$
8	ASPHALT PAVEMENT, COMPLETE	LS	1	$	$
9	MOBILIZATION	LS	1	$	$
10	PRE-ENGINEERING METAL BUILDING – PROCUREMENT AND INSTALLATON (INCLUDING ROOFING AND SIDING)	LS	1	$	$
11	BUILDING FOUNDATIONS&SLAB, COMPLETE	LS	1	$	$
12	HVAC/MECHANICAL SYSTEMS, COMPLETE	LS	1	$	$
13	ELECTRICAL SYSTEMS, COMPLETE	LS	1	$	$
14	ARCHITECTURAL FINISHES, COMPLETE	LS	1	$	$
Total Bid– Guyton Fire Station #13 - Construction					**$**

Proposed PEMB Lead Time: _____

THIS SECTION INTENTIONALLY LEFT BLANK

ARTICLE 6 - TIME OF COMPLETION

6.01 Bidder agrees to commence work within ten (10) days after the Notice to Proceed is issued and to complete all Work within 240 days after the Notice to Proceed is issued.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 - ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security in the form of_____;

B. Evidence of authority to do business in the state of the Project;

C. Drug Free Workplace Certification (Attachment A);

D. Promise of Non Discrimination Statement (Attachment B);

E. Disclosure of Responsibility Statement - Bidders Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion (Attachment C);

F. Non Collusion Affidavit - (Attachment D);

G. Contractor Affidavit and Agreement (E-VERIFY) (Attachment **E**);

H. Subcontractor Affidavit if applicable (E-VERIFY) (Attachment **F**);

I. List of Proposed Subcontractors (Attachment H);

ARTICLE 8 - DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 - BID SUBMITTAL

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____
Type (General Business, Professional, Service, Limited Liability):_____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in Georgia is ____/____/____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____(SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

_____

Phone No. _____ Fax No. _____

E-mail _____ _____

SUBMITTED on _____, 20____.

State Contractor License No. _____.

THIS SECTION INTENTIONALLY LEFT BLANK