csra TESTING AND ENGINEERING CO., INC.

1005 Emmett St., Suite A
Augusta, Georgia 30904
(706) 733-6960
Fax (706) 737-0629

July 2, 2014

Johnson, Laschober & Associates, P.C.
1296 Broad Street
Augusta, GA 30901

Attn: Mr. Herbert W. Gilliam, P.E.

Re: Report of Geotechnical Exploration
Roy Warner Park Improvements
Wagener, South Carolina
CSRA Report No. B-060.14

Dear Mr. Gilliam:

CSRA Testing & Engineering is pleased to submit this report of our exploration services for the proposed project. Our services were provided in accordance with your written authorization our proposal. This report presents a review of the information provided to us, a discussion of the site and subsurface conditions, and our foundation and earthwork recommendations. The appendix contains a boring location plan and the results of our field and laboratory testing.

Project Information

Based on our conversations, the project is to involve the construction of improvements to the existing Roy Warner Park located on Festival Trail Road in Wagener, South Carolina. We understand that the improvements are to consist of a soccer/multipurpose field, baseball and softball fields, and new basketball and volleyball courts. The complex will include the construction of several structures to include a restroom/concession building, baseball field scoring tower and dugouts, a gym/indoor facility, a maintenance building and bleachers. The structures are expected to be one to two-story, masonry buildings. The foundation systems will consist of lightly loaded shallow footings with a concrete slab on grade at each structure. We anticipate that the bleachers will be of metal construction. The project is to also include new

parking areas that are planned to be located predominately in the northern and southern portions of the site with a central drive area.

A final site grading plan has not been provided to us at this time. However, based on our review of the existing site topographic data, the southern portions of the site are generally level to gently sloping and we expect that site grading will be minimal to moderate in the proposed structure/field locations. The northern portions of the site are moderately to steeply sloping to the north and we expect that these areas will be terraced such that site grading will be moderate to significant in the proposed structure/field locations.

Purpose Of Exploration

The purpose of this exploration was to obtain specific subsurface data at the site and to provide foundation and earthwork recommendations for the proposed project.

Site Conditions

We conducted a site reconnaissance to observe and document surface conditions at the site. Information gathered was used to help us interpret the subsurface data and to detect conditions which could affect our recommendations.

The site is located at the existing Roy Warner Park located on Festival Trail Road in Wagener, South Carolina. The southern portion of the site is generally level to gently sloping and the northern portion of the site is moderately to steeply sloping to the north. Ground surface elevations at the site range from approximately +430 to +475 feet MSL. The site is generally open and grass covered with very scattered trees and brush. The northern and western perimeter are wooded. Surface soils exposed consist of sandy topsoils and typical coastal plain sands. No surface water was noted on the site at the time of our field work.

Site Geologic Conditions

The project site is located in the Coastal Plain Physiographic Province. The Coastal Plain consists mainly of marine sediments which were deposited during successive periods of fluctuating sea level and moving shoreline. The formations dip slightly seaward and several are exposed at the surface in bands paralleling the coast. Many beds exist only as fragmental erosional remnants sandwiched between more continuous strata above and below. The soils in this province are typical of those laid down in a shallow sloping sea bottom; interbedded sands, silts, and clays.

Subsurface Conditions

The subsurface conditions were explored with widely spaced soil test borings drilled according to the procedures presented in the Appendix. The boring locations were selected by others. The boring depths were selected by CSRA. The actual field boring locations were determined by our field crew which used a 100 foot tape and turned estimated right angles relative to existing site features. Boring elevations were obtained by interpolation between contours on the drawings provided to us. The boring locations and elevations shown in the appendix should be considered accurate only to the degree implied by the method used.

The subsurface conditions encountered at the boring locations are shown on the test boring records in the Appendix. These boring records represent our interpretation of the subsurface conditions based on the field logs, visual examination of field samples by an engineer and tests of the field samples. The lines designating the interface between various strata on the boring records represent the approximate interface location. Water levels shown on the boring records represent the conditions only at the time of our exploration.

Five (5) soil test borings were drilled in the proposed building areas to a depth of 20 feet below the ground surface. Eleven additional soil test borings were drilled in the proposed field/parking/drive areas to depth of 5 feet below the ground surface. The soil test borings revealed a subsurface profile generally consisting of interbedded layers of sandy, clayey silts (ML) and sands with varying fine grained particle content (typical coastal plain soils). The surficial layer generally consisted of either gravel, asphalt paving or a sandy, loamy organic topsoil. The surficial layer was generally encountered to a depths ranging from 0 to 12 inches below the ground surface.

The sandy soils ranged from clean and poorly graded (SP) to clayey (SC) and were recorded to be very loose to very firm in consistency. Standard penetration resistances ranged from 4 to 29 blows per foot. The sandy, clayey silts (ML) encountered were recorded to be stiff to hard in consistency. Standard penetration resistances ranged from 13 to 40 blows per foot.

Groundwater Conditions

No groundwater was encountered in the borings at the time of drilling. In silty sands the water levels can usually be determined accurately near the time of drilling. In fine grained soils and clayey sands, it may take several days for water levels to stabilize. Fluctuations in the groundwater level can occur due to variations in rainfall, evaporation, construction activity, surface runoff, and other site specific factors.

The likelihood of groundwater in the near surface soils can be expected to increase following periods wet weather. This is due to rain water infiltration through the upper cleaner and silty sands at some locations. The water can then become "perched" on top of the clayey sands and silts below.

Site Preparation Recommendations

All topsoil, vegetation, and surface soils containing organic material should be removed from the proposed construction area and either wasted from the site or used as topsoil in areas to be landscaped. The depth of topsoil or other unsuitable material encountered in our borings varied from approximately 0 to 12 inches deep.

During the stripping and rough grading, positive surface drainage should be maintained to prevent the accumulation of water. If the exposed subgrade becomes excessively wet or frozen, or if conditions are encountered different from those described previously in this report, the geotechnical engineer should be contacted.

After stripping and rough grading, we recommend that the subgrade be proofrolled prior to excavation of foundations or placing any structural fills. We recommend that the proofrolling operation be observed and documented by experienced geotechnical personnel. If unsuitable conditions are encountered at the subgrade level, recommendations for dealing with the conditions should be provided to the owner's representative by the geotechnical engineer. Soft, organic, or excessively wet soils encountered should be excavated and replaced with properly compacted fill.

Foundation Recommendations

We recommend that a system of shallow spread footings be utilized to support the proposed structures. Based on the anticipated grades, shallow footings will bear in very loose to very firm virgin sands and compacted fill. The bottom of the footings should be densified with light hand-held compaction equipment (i.e. jumping jack plate tamp, etc.). Shallow footings bearing in these materials can be designed for a maximum allowable net bearing pressure of 1,500 psf if the additional fill is placed in accordance with the compacted fill section of this report.

The maximum net allowable bearing pressure recommended is based on our previous experience and correlations made previously between standard penetration test resistances and the performance of foundations supported by soils similar to those at this site. We expect total settlements on the order of 1 inch and differential settlements of less than 0.5 inch.

We recommend that the walls be provided with construction joints at locations of change in soil support from virgin soils to compacted fill in order to accommodate some possible differential settlements at such locations. Individual column footings should be entirely supported by either compacted fill or virgin material.

We recommend that the minimum widths for individual column and continuous wall footings be 24 and 16 inches, respectively. The minimum widths are recommended to provide a margin of safety against a local or punching shear failure of the foundation soils. Exterior footings should bear at least 18 inches below final exterior grade. The depths of interior footings should be a minimum of 12 inches below the top of the floor slab. This embedment is necessary to provide adequate confinement of the bearing soils and to achieve the recommended bearing pressure.

Foundation concrete should be placed the same day that excavations are dug. If the bearing soils are softened by surface water intrusion or exposure, the softened soils must be removed from the foundation excavation bottom immediately prior to placement of concrete. If the excavation must remain open overnight or if rainfall becomes imminent while the bearing soils are exposed, we recommend that a 2 to 4-inch thick "mud-mat" of "lean" (2,000 psi) concrete be placed on the bearing soils before the placement of reinforcing steel.

We recommend that experienced geotechnical personnel observe the footing excavations immediately prior to placing concrete. He should compare the soils exposed with those encountered in the soil test borings and document the results. Any significant differences should be brought to the attention of the owners' representative along with appropriate recommendations. The foundation bearing area should be level or suitably benched. It should also be free of loose soil, ponded water and debris prior to the inspection.

Grade Slab Recommendations

We understand that a soil supported grade slab will be used for each of the proposed structures. The grade slabs should be jointed around columns and along footing supported walls so that the slabs and foundations can settle differentially without damage. Joints containing dowels or keys may be used in the slabs to permit rotational movement between parts of the slabs without cracking or sharp vertical displacements.

A 6 inch layer of clean gravel or free draining sand covered with an impermeable membrane should be placed beneath the grade slabs to provide a vapor barrier and permit lateral drainage beneath the slabs.

Piping underneath the grade slabs should be avoided whenever possible. Where absolutely necessary, pipe joints must be tight to prevent leakage. Leakage from under floor piping is often the source of excessive soil moisture which can lead to damage due to potential soil expansion or erosion.

Construction activities and exposure to the environment can cause deterioration of prepared subgrades. Therefore, we recommend that density and moisture content tests be conducted on the final subgrade soils immediately prior to grade slab construction to determine their condition.

Compacted Fill Recommendations

We recommend that soils used as compacted fills be free of debris and have less than 3% by weight fibrous organic material. They should have a maximum dry density of at least 95 pcf, a liquid limit of less than 50, and a plasticity index of less than 20. Before filling operations begin, representative samples of each proposed fill material should be collected. The samples should be tested to determine the maximum dry density, optimum moisture content, natural moisture content, gradation and plasticity of the soil. These tests are needed for quality control during compaction and also to determine if the fill material is acceptable. Visual observation indicates that the near surface soils at the site can be utilized as fill.

We recommend that all compacted fill be constructed by spreading acceptable soil in loose layers not more than 10 inches thick. The fill should be compacted in thin lifts to at least 95 percent of the standard proctor maximum dry density (ASTM D-698). The moisture content of the fill soils should be maintained within +3 and -3 percentage points of the optimum moisture content as determined from the proctor compaction test. This provision may require the contractor to dry the soils during periods of wet weather or wet the soils during the hot summer months.

The fill surface must be adequately maintained during construction in order to achieve an acceptable compacted fill. We recommend that the fill surface be sloped to achieve sufficient drainage and to prevent water from ponding on the fill. If precipitation is expected while fill construction is temporarily halted, the surface should be rolled with rubber tired or steel drummed equipment to improve surface run-off. If the surface soils become excessively wet or frozen, fill operations should be halted and the geotechnical engineer should be consulted for guidance.

We recommend that the fill placement and compaction be observed and documented by experienced geotechnical personnel. Significant deviations, either from specifications or good practice, should be brought to the attention of the owner's representative, along with appropriate recommendations. At least one field density test should be performed in each 3,000 square feet of fill for each fill layer.

Pavement Recommendations

No subgrade strength tests have been performed at this time. However, based on our experience with similar conditions, we recommend that a design CBR value of 6 be used for preliminary thickness determinations for pavements supported by the near surface clayey sands and silts at some locations. The actual values should be confirmed by testing prior to the actual construction. If pavements are to be constructed on compacted fill, we recommend that the fill material be placed slightly dry of optimum moisture content. Testing has shown that CBR values can be greatly reduced for fills compacted wet of optimum.

The base course material should comply with the requirements of and should be constructed in accordance with section 305 of the South Carolina Department of Highways and Public Transportation standard specifications. The base course material should not contain more than 12 percent fine grained material. The asphalt concrete surface course material should comply with the requirements of at least a Type 3. The materials and the construction should be in accordance with the section 405 of the South Carolina Department of Highways and Public Transportation standard specifications.

We recommend that the exposed subgrade in the pavement areas be proofrolled to detect unsuitable soil conditions. Proofrolling should be done immediately before paving and after a suitable period of dry weather to avoid degrading an otherwise acceptable subgrade. Proofrolling should be performed with a heavily loaded dump truck or with similar approved construction equipment. The proofrolling equipment should make at least four passes over each section, with the last two passes perpendicular to the first two.

Basis For Recommendations

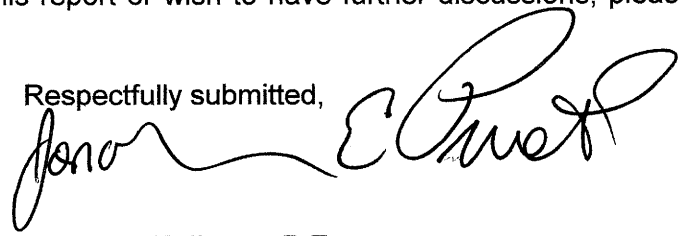
The recommendations provided are based in part on project information provided to us and they only apply to the specific project and site discussed in this report. If the project information section in this report contains incorrect information or if additional information is available, you should convey the correct or additional information to us and retain us to review our recommendations. We can then modify our recommendations if they are inappropriate for the proposed project.

Regardless of the thoroughness of a geotechnical exploration, there is always a possibility that conditions between borings will be different from those at specific boring locations and that conditions will not be as anticipated by the designers or contractors. In addition, the construction process may itself alter soil conditions. Therefore, experienced geotechnical personnel should observe and document the construction procedures used and the conditions encountered. Unanticipated conditions and inadequate procedures should be reported to the design team along with timely recommendations to solve the problems created. We recommend that the owner retain CSRA to provide this service based upon our familiarity with the project, the subsurface conditions and the intent of the recommendations.

We wish to remind you that our exploration services include storing the samples collected and making them available for inspection for 60 days. The samples are then discarded unless you request otherwise.

We will be happy to discuss our recommendations with you and would welcome the opportunity to provide the additional studies or services necessary to complete this project. We appreciate the opportunity to provide our professional services and look forward to working with you on the remainder of this project and on future projects. If you have any questions concerning this report or wish to have further discussions, please contact us at (706) 733-6960.

Respectfully submitted,

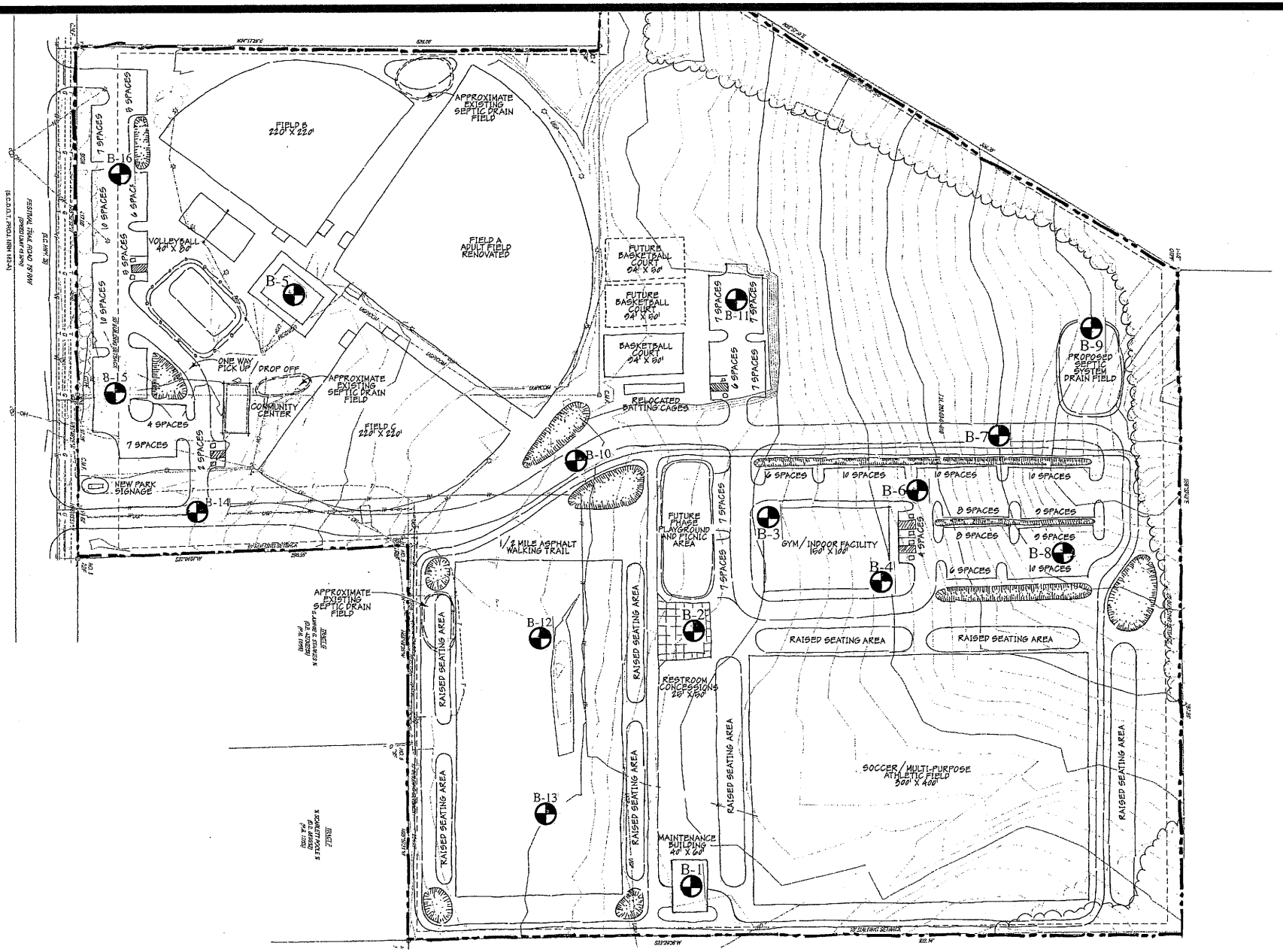


Jonathan E. Pruett, P.E.

APPENDICES

APPENDIX I

Boring Location Plan



Reference : Boring Plan Provided By Johnson, Laschober & Associates, P. C..

csra

TESTING & ENGINEERING CO., INC.

1005 Emmett Street, Suite A ■ Augusta, Georgia 30904 ■ (706) 733-6960

BORING LOCATION PLAN

Roy Warner Park
Aiken County, South Carolina

JOB NO.	DESIGNED BY
B-060.14	
SCALE	DRAWN BY
1"=170'	R.W.S.
DATE	CHECKED BY
06/24/14	J.M.P.

APPENDIX II

Soil Boring Logs

csra TESTING AND ENGINEERING COMPANY, INC.
1005 EMMETT STREET, SUITE A AUGUSTA, GEORGIA 30904 (706) 733-6960
(FAX) 737-0629

PROJECT Roy Warner Park BORING NO. B-1

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Loose, Tan Slightly Silty Sand	5 @ 1'	SM	
		21 @ 3.5'		
5'				
		29 @ 6'		
	Very Firm to Firm, Tan, Brown, and Red Clayey Sand		SC	
		19 @ 8.5'		
10'				
		10 @ 13.5'		
15'	Loose to Firm, Tan and Red Slightly Silty Sand		SP-SM	
		13 @ 18.5'		
20'	Boring Terminated at 20 feet.			
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

None WATER TABLE

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(FAX) 737-0629

PROJECT Roy Warner Park BORING NO. B-2

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Loose, Tan Silty Sand	9 @ 1'	SM	
		6 @ 3.5'		
5'		29 @ 6'		
	Very Firm, Reddish-Brown Clayey Sand	28 @ 8.5'	SC	
10'				
		15 @ 13.5'		
15'	Firm, Tan and Red Slightly Clayey Sand		SM	
		18 @ 18.5'		
20'	Boring Terminated at 20 feet.			
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

None WATER TABLE

csra TESTING AND ENGINEERING COMPANY, INC.
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PROJECT Roy Warner Park BORING NO. B-3

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Loose, Tan Sand	8 @ 1'	SP	
		8 @ 3.5'		
5'	Very Firm, Red, Brown, and Tan Clayey Sand	21 @ 6'	SC	
		27 @ 8.5'		
10'	Firm to Very Firm, Red and Tan Slightly Clayey Sand	17 @ 13.5'	SM	
15'				
		24 @ 18.5'		
20'	Boring Terminated at 20 feet.			
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

None WATER TABLE

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PROJECT Roy Warner Park BORING NO. B-4

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Loose to Very Loose, Tan Sand	7 @ 1'	SP	
		4 @ 3.5'		
5'	Loose, Tan Silty Sand	10 @ 6'	SM	
		18 @ 8.5'		
10'	Firm, Red, Brown, and Tan Clayey Sand	16 @ 13.5'	SC	
15'				
		19 @ 18.5'		
20'	Boring Terminated at 20 feet.			
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

None WATER TABLE

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PROJECT Roy Warner Park BORING NO. B-5

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
		20 @ 1'		
	Very Firm, Red, Brown, Tan, and Purple Clayey Sand	26 @ 3.5'	SC	
5'		29 @ 6'		
	Hard, Red, Brown, Tan, and Purple Sandy Clayey Silt	40 @ 8.5'	ML	
10'				
		11 @ 13.5'		
15'	Firm, Tan Slightly Clayey Sand		SM	
		11 @ 18.5'		
20'	Boring Terminated at 20 feet. Top 3" Topsoil.			
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

None WATER TABLE

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(FAX) 737-0629

PROJECT Roy Warner Park BORING NO. B-6

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Loose, Tan Sand	6 @ 1' 6 @ 3.5'	SP	
5'	Boring Terminated at 5 feet. Top 3" Topsoil.			
10'				
15'				
20'				
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

None WATER TABLE

csra TESTING AND ENGINEERING COMPANY, INC.
1005 EMMETT STREET, SUITE A AUGUSTA, GEORGIA 30904 (706) 733-6960
(FAX) 737-0629

PROJECT Roy Warner Park BORING NO. B-7

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Loose, Tan Slightly Silty Sand	6 @ 1'	SP-SM	
	Loose, Tan Silty Sand	9 @ 3.5'	SM	
5'	Boring Terminated at 5 feet. Top 4" Topsoil.			
10'				
15'				
20'				
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

None WATER TABLE

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1005 EMMETT STREET, SUITE A AUGUSTA, GEORGIA 30904 (706) 733-6960
(FAX) 737-0629

PROJECT Roy Warner Park BORING NO. B-8

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Loose, Tan Slightly Silty Sand	6 @ 1'	SP-SM	
	Loose, Reddish-Tan Clayey Sand	9 @ 3.5'	SC	
5'	Boring Terminated at 5 feet. Top 12" Topsoil.			
10'				
15'				
20'				
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

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(FAX) 737-0629

PROJECT Roy Warner Park BORING NO. B-9

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Tan Sand	21 @ 1'	SM	
	Very Firm, Red, Brown, and Tan Clayey Sand	26 @ 3.5'	SC	
5'	Boring Terminated at 5 feet. Top 6" Topsoil.			
10'				
15'				
20'				
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

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PROJECT Roy Warner Park BORING NO. B-10

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Loose, Tan Slightly Silty Sand	9 @ 1' 6 @ 3.5'	SP-SM	
5'	Boring Terminated at 5 feet.			
10'				
15'				
20'				
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

None WATER TABLE

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PROJECT Roy Warner Park BORING NO. B-11

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Loose to Firm, Tan and Brown Slightly Silty Sand	9 @ 1' 12 @ 3.5'	SP-SM	
5'	Boring Terminated at 5 feet. Top 2" Topsoil.			
10'				
15'				
20'				
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

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PROJECT Roy Warner Park BORING NO. B-12

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Loose, Red and Brown Clayey Sand (Fill)	20 @ 1'	SC	
	Firm, Brown and Tan Silty Sand	16 @ 3.5'	SM	
5'	Boring Terminated at 5 feet.			
10'				
15'				
20'				
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

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PROJECT Roy Warner Park BORING NO. B-13

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Reddish-Tan Clayey Sand (Fill)	15 @ 1'	SC	
	Firm, Brown and Tan Silty Sand	15 @ 3.5'	SM	
5'	Boring Terminated at 5 feet.			
10'				
15'				
20'				
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

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PROJECT Roy Warner Park BORING NO. B-14

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Loose, Tan Silty Sand	5 @ 1'	SM	
	Very Stiff, Reddish-Brown Sandy Clayey Silt	29 @ 3.5'	ML	
5'	Boring Terminated at 5 feet.			
10'				
15'				
20'				
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

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PROJECT Roy Warner Park BORING NO. B-15

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Very Loose, Tan Sand	4 @ 1'	SP	
	Very Firm, Reddish-Tan Clayey Sand	26 @ 3.5'	SC	
5'	Boring Terminated at 5 feet. Top 2" Gravel.			
10'				
15'				
20'				
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

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1005 EMMETT STREET, SUITE A AUGUSTA, GEORGIA 30904 (706) 733-6960
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PROJECT Roy Warner Park BORING NO. B-16

LOCATION Wagener, South Carolina DATE June 9, 2014

DEPTH FEET	VISUAL SOIL DESCRIPTION	PENETRATION VALUE (N)	VISUAL UNIFIED CLASS.	PERCENT MOISTURE
	Stiff to Very Stiff, Tan and Red Sandy Clayey Silt	13 @ 1' 24 @ 3.5'	ML	
5'	Boring Terminated at 5 feet. Top 1½" Asphalt.			
10'				
15'				
20'				
25'				
30'				
35'				
40'				

N Value is number of blows of 140 pound hammer required to drive 2" split-tube sampler one foot after seated.

None
WATER TABLE

APPENDIX III

Field Testing Procedures

FIELD TESTING PROCEDURES

SOIL TEST BORINGS

Soil sampling and penetration testing were performed in general accordance with ASTM D 1586.

The borings were made by mechanically twisting a continuous steel flight hollow stem auger into the soil. At regular intervals, soil samples obtained with a standard 1.4 inch I.D., two inch O.D., split-barrel sampler. The sampler was first seated six inches to penetrate any loose cuttings, then driven an additional foot with blows of a 140-pound hammer falling 30 inches. The number of hammer blows required to drive the sampler the final foot was recorded as the "penetration resistance". The penetration resistance, when properly evaluated, is an index to the soil strength and foundation supporting capability.

Representative portions of the soil samples, obtained from the sampler, were placed in glass jars and transported to our laboratory. In the laboratory, the samples were examined by an engineer to verify the driller's field classifications. Test Boring Records are attached, graphically showing the soil descriptions and penetration resistances.