APPENDIX B:

SOIL BORINGS

From: Michael Schultz
To: Grimalkin, Sarah J
Cc: Eric Fair
Subject: FW: Garner Park Geotech C24051-2 Playground boring
Date: Saturday, March 30, 2024 9:34:12 AM
Attachments: image001.png
2819_001.pdf

At your request, CGC completed one soil boring where playground equipment is planned at Garner Park. We assume that equipment will utilize concrete footings founded at a 4-ft frost depth. The boring was done by ADC (under subcontract to CGC) on March 13, 2024 at the location selected by City of Madison personnel (location map attached), with the boring field staked by CGC. The soil profile involved the following (in descending order and presented in more detail on the attached boring log): about 4-in. of topsoil, over about 2.7 ft of fill consisting of very stiff clay, over about 2.5 ft of very stiff clay (possible additional fill), over about another 2.5 ft of native very stiff clay, followed by about 2 ft of medium dense to dense sandy silt, and then medium dense sand to the maximum depth explored of 15 ft. The silts and sands below 8 ft are also native soils. Groundwater was not encountered within the drilling depths during and shortly after drilling completion. Note that water levels can vary depending upon precipitation and other factors.

In our opinion, the observed soils at a minimum footing depth of 4 ft (for frost protection) are acceptable for support of foundations proportioned for a maximum design soil bearing pressure of 3000psf. If much softer clays are encountered at footing grade instead of the stiff clays, they will require removal of at least 1.5 ft followed by replacement with compacted clear stone or dense graded base (typical size in the 1.5 to 3-in. range) that is placed in lifts and compacted with a heavy jumping jack compactor until deflection ceases. Foundations should be a minimum of 18-in. wide for strip footings and 30-in. square for column pads. Footing subgrades should be cut with a smooth-edged bucket to minimize disturbance. Provided that the above recommendations are implemented, it is our opinion that potential settlements will not exceed typical tolerable levels of 1-in. total and 0.5-in. differential.

If access pavements are to be built, concrete can be founded on firm re-compacted clayey fill (after topsoil removal) and designed assuming a subgrade modulus of 100 pci. Bedding material should be placed below the concrete slabs involving 4 to 6-in. of compacted base course. If asphalt pavement is to be used, we recommend it be 3-in. thick (minimum) underlain by 8-in. of compacted base course. Note that if soft subgrade soils are encountered then they should be removed and replaced with additional compacted base course. Additional details can be provided upon request.

We trust this brief report addresses your present needs. Please contact CGC if we can be of

further service or should questions develop upon review of this transmittal. Information regarding limitations pertaining to opinions presented in this submittal is attached. Thank you.

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From: Michael Schultz
To: Grimalkin, Sarah J
Cc: Eric Fair
Subject: FW: Manchester Park Geotech C24051-1 Playground boring
Date: Saturday, March 30, 2024 9:13:14 AM
Attachments: image001.png
2818_001.pdf

At your request, CGC completed one soil boring where playground equipment is planned at Manchester Park. We assume that equipment will utilize concrete footings founded at a 4-ft frost depth. The boring was done by ADC (under subcontract to CGC) on March 13, 2024 at the location selected by City of Madison personnel (location map attached), with the boring field staked by CGC. The soil profile involved the following (in descending order and presented in more detail on the attached boring log): about 14-in. of topsoil, over about 3.8 ft of fill consisting of stiff clay with sand/gravel/cobbles, over about 3 ft of native stiff clay, followed by about 4 ft of loose to very loose silty fine sand and sandy silt, and then medium dense sand to the maximum depth explored of 15 ft. Groundwater was not encountered within the drilling depths during and shortly after drilling completion. Note that water levels can vary depending upon precipitation and other factors.

In our opinion, the observed soils at a minimum footing depth of 4 ft (for frost protection) are acceptable for support of foundations proportioned for a maximum design soil bearing pressure of 1500psf. This soil bearing pressure is limited somewhat because of the loose to very loose soils that underlie the stiff clays. If these loose to very loose soils are encountered at footing grade instead of the stiff clays, they will require removal of at least 1.5 ft followed by replacement with compacted clear stone or dense graded base (typical size in the 1.5 to 3-in. range) that is placed in lifts and compacted with a heavy jumping jack compactor until deflection ceases. Foundations should be a minimum of 18-in. wide for strip footings and 30-in. square for column pads. Footing subgrades should be cut with a smooth-edged bucket to minimize disturbance. Provided that the above recommendations are implemented, it is our opinion that potential settlements will not exceed typical tolerable levels of 1-in. total and 0.5-in. differential.

If access pavements are to be built, concrete can be founded on firm re-compacted clayey fill (after topsoil removal) and designed assuming a subgrade modulus of 100 pci. Bedding material should be placed below the concrete slabs involving 4 to 6-in. of compacted base course. If asphalt pavement is to be used, we recommend it be 3-in. thick (minimum) underlain by 8-in. of compacted base course. Note that if soft subgrade soils are encountered then they should be removed and replaced with additional compacted base course. Additional details can be provided upon request.

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From: Michael Schultz
To: Grimalkin, Sarah J
Cc: Eric Fair
Subject: FW: Meadowood Park Geotech C24051-4 Playground boring
Date: Saturday, March 30, 2024 10:15:18 AM
Attachments: image001.png
2820_001.pdf

At your request, CGC completed one soil boring where playground equipment is planned at Meadowood Park. We assume that equipment will utilize concrete footings founded at a 4-ft frost depth. The boring was done by ADC (under subcontract to CGC) on March 13, 2024 at the location selected by City of Madison personnel (location map attached), with the boring field staked by CGC. The soil profile involved the following (in descending order and presented in more detail on the attached boring log): about 5-in. of topsoil, over about 2.6 ft of fill consisting of stiff clay, over about 2.5 ft of native stiff clay, followed by native medium dense to dense sand that contained varying amounts of silt and gravel with scattered cobbles/boulders to the maximum depth explored of 15 ft. Groundwater was not encountered within the drilling depths during and shortly after drilling completion. Note that water levels can vary depending upon precipitation and other factors.

In our opinion, the observed soils at a minimum footing depth of 4 ft (for frost protection) are acceptable for support of foundations proportioned for a maximum design soil bearing pressure of 3000psf. If softer clays are encountered at footing grade instead of the stiff to very stiff clays, they will require removal of at least 1.5 ft followed by replacement with compacted clear stone or dense graded base (typical size in the 1.5 to 3-in. range) that is placed in lifts and compacted with a heavy jumping jack compactor until deflection ceases. Foundations should be a minimum of 18-in. wide for strip footings and 30-in. square for column pads. Footing subgrades should be cut with a smooth-edged bucket to minimize disturbance. Provided that the above recommendations are implemented, it is our opinion that potential settlements will not exceed typical tolerable levels of 1-in. total and 0.5-in. differential.

If access pavements are to be built, concrete can be founded on firm re-compacted clayey fill (after topsoil removal) and designed assuming a subgrade modulus of 100 pci. Bedding material should be placed below the concrete slabs involving 4 to 6-in. of compacted base course. If asphalt pavement is to be used, we recommend it be 3-in. thick (minimum) underlain by 8-in. of compacted base course. Note that if soft subgrade soils are encountered then they should be removed and replaced with additional compacted base course. Additional details can be provided upon request.

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From: Michael Schultz
To: Grimalkin, Sarah J
Cc: Eric Fair
Subject: FW: Sherwood Forest Park Geotech C24051-3 Playground boring
Date: Saturday, March 30, 2024 8:57:05 AM
Attachments: image001.png
2817_001.pdf

At your request, CGC completed one soil boring where playground equipment is planned at Sherwood Forest Park . We assume that equipment will utilize concrete footings founded at a 4-ft frost depth. The boring was done by ADC (under subcontract to CGC) on March 13, 2024 at the location selected by City of Madison personnel (location map attached), with the boring field staked by CGC. The soil profile involved the following (in descending order and presented in more detail on the attached boring log): about 3-in. of topsoil, over about 2.3 ft of fill consisting of medium stiff clay, over about 3 ft of native stiff clay, followed by about 2.5 ft of very soft/very loose sandy lean clay to clayey fine sand, and then medium dense sand to the maximum depth explored of 15 ft. Groundwater was not encountered within the drilling depths during and shortly after drilling completion. Note that water levels can vary depending upon precipitation and other factors.

In our opinion, the observed soils at a minimum footing depth of 4 ft (for frost protection) are acceptable for support of foundations proportioned for a maximum design soil bearing pressure of 1000psf. This soil bearing pressure is limited somewhat because of the very soft/very loose soils that underlie the stiff clays. If these very soft/very loose soils are encountered at footing grade instead of the stiff clays, they will require removal of at least 1.5 ft followed by replacement with compacted clear stone or dense graded base (typical size in the 1.5 to 3-in. range) that is placed in lifts and compacted with a heavy jumping jack compactor until deflection ceases. Foundations should be a minimum of 18-in. wide for strip footings and 30-in. square for column pads. Footing subgrades should be cut with a smooth-edged bucket to minimize disturbance. Provided that the above recommendations are implemented, it is our opinion that potential settlements will not exceed typical tolerable levels of 1-in. total and 0.5-in. differential.

If access pavements are to be built, concrete can be founded on firm re-compacted clayey fill (after topsoil removal) and designed assuming a subgrade modulus of 100 pci. Bedding material should be placed below the concrete slabs involving 4 to 6-in. of compacted base course. If asphalt pavement is to be used, we recommend it be 3-in. thick (minimum) underlain by 8-in. of compacted base course. Note that if soft subgrade soils are encountered then they should be removed and replaced with additional compacted base course. Additional details can be provided upon request.

We trust this brief report addresses your present needs. Please contact CGC if we can be of further service or should questions develop upon review of this transmittal. Information regarding limitations pertaining to opinions presented in this submittal is attached. Thank you.

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