Geotechnical Engineering Report

Proposed Strickland Brothers 10 Minute Oil Change Shop
Highway 53
Dawsonville, Georgia

November 8, 2021

TRC Project No. 465636

Prepared For:

N3 PROPERTY ADVISORS, LLC
1240 N. Kimball Avenue
Southlake, Texas 76092

Prepared By:

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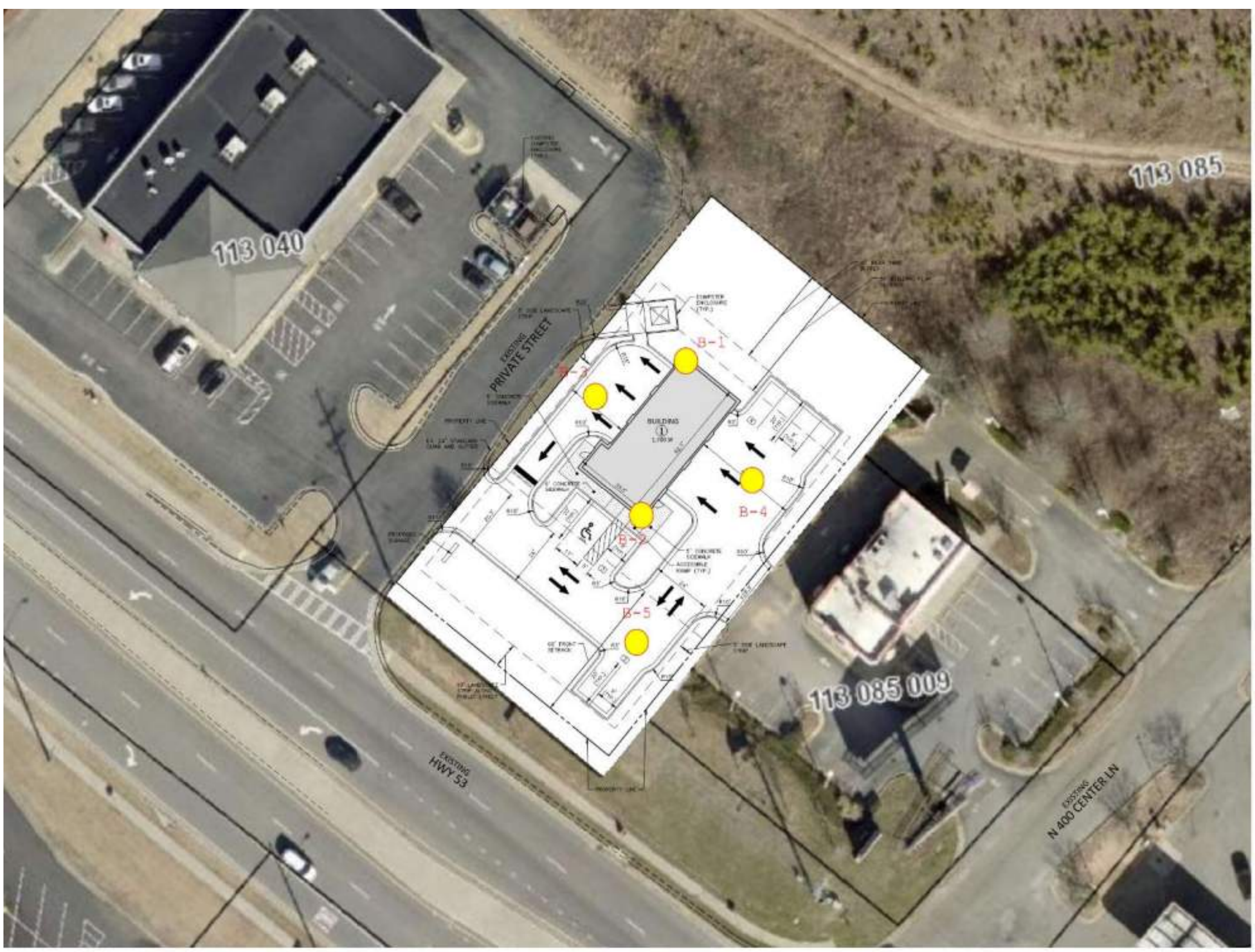

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November 8, 2021

Ms. Colleen Thelen
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Re: GEOTECHNICAL ENGINEERING REPORT
Proposed Strickland Brothers 10 Minute Oil Change Shop
Highway 53, Dawsonville, Georgia
TRC Project No. 462293.0000

Dear Ms. Thelen:

TRC Environmental Corporation (TRC) is pleased to present this Geotechnical Engineering Report for the referenced site. The attached report describes the exploration procedures, summarizes existing subsurface conditions, presents results of our laboratory testing, and provides our geotechnical findings and recommendations as relates to the referenced project.

TRC appreciates this opportunity to provide these services and looks forward to working with N3 Property Advisors, LLC on future projects. Please contact us if you have questions regarding the contents of this report or if you require additional information.

Sincerely,

TRC Engineers, Inc. *for* TRC Environmental

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ACRONYM LIST

AASHTO	American Association of State Highway and Transportation Officials
ASTM	American Society for Testing and Materials
bgs	Below Existing Ground Surface
ksi	Kilo-pounds per square inch
OSHA	Occupational Health and Safety Administration
PCCP	Portland Cement Concrete Pavement
psf	Pounds Per Square Foot
psi	Pounds Per Square Inch
tsf	Tons per Square Foot
GDOT	Georgia Department of Transportation
UCS	Unconfined Compressive Strength
USCS	United Soil Classification System

1.0 Introduction

1.1 Project Description

N3 Property Advisors, LLC (hereafter referred to as Client) retained TRC to provide geotechnical engineering services for the development of foundation, pavement, and site (earthwork) preparation recommendations at a proposed Strickland Brothers 10 Minute Oil Change Shop site located at the northwest quadrant of the intersection of Highway 53 and Center Lane in Dawsonville, Georgia (Site). Authorization to provide our services was given by signature of TRC Proposal No. N3100721 on October 14, 2021.

At the time of the field exploration, the Site consisted of a relatively flat vacant lot. Ground cover generally consisted of grass. The general arrangement of the proposed development on the Site is shown on the Site/Boring Location Plan included in Appendix A.

It is anticipated that the proposed construction will consist of a single-story structure having a slab on grade floor with 3 oil change bays each including a below grade oil change (lube) pit extending to an anticipated depth of approximately 7 feet below finished floor elevation. Plan area of the new shop is approximately 1,700 square feet. Details regarding structural loadings were not available at the time of the writing of this report. No unusual loading conditions or settlement restrictions have been specified by the Client.

Final site grading plans were not provided to TRC; however, for purposes of this project we anticipate that minor regrading will be required to achieve final grades and that finished floor elevation of the proposed shop will be established within 1 foot above the existing grade (i.e., ground surface existing at the time of our field exploration). Approximate location and plan area of the proposed structure and parking areas were obtained from a conceptual Site Sketch prepared by The John R McAdams Company Inc. (Sheet SK3, dated 9/29/21), and was used to prepare the attached Site/Boring Location Plan.

Recommendations for Portland Cement Concrete pavement (PCCP) are included in Section 5.0. It is anticipated that traffic in the proposed pavement area will consist primarily of automobile and light truck traffic, waste collection vehicle (garbage truck) with an occasional semi-tractor trailer.

If the details of the proposed construction differ from that described herein, TRC should be contacted to evaluate the potential impact on the recommendations provided in this report.

1.2 Purpose and Scope

The scope of services presented in this report has been based upon the information provided by the Client. To accomplish its intended purpose, this work has been conducted in the following phases:

1. Drilling of test borings to determine the general subsurface conditions to the depths of the test borings and to obtain samples for laboratory testing;

2. Performing laboratory tests on selected samples to determine pertinent engineering properties of the subsurface materials; and,

3. Performing engineering analyses, using the field and laboratory data to develop geotechnical-related information to be used by others for the design of building foundation

and pavement for the proposed development.

Exploration for underlying geologic conditions or evaluation of potential geologic hazards, such as salt contamination, karst conditions, sinkholes, solution cavities, seismic activity, faulting, growth faulting, ground heaving/subsidence associated with hydrocarbon production, and/or ground subsidence/cracking potential due to groundwater withdrawal/injection well activities, were beyond the scope of this report.

2.0 Field Exploration and Laboratory Testing

2.1 Field Exploration

The field exploration was conducted at the Site on October 9, 2021. TRC retained the services of an independent local drilling contractor, Bridger Drilling, to drill the test borings and collect samples for laboratory testing. Subsurface conditions beneath the Site were explored by advancing 5 test borings (B-1 through B-5) to depths of approximately 6 to 20 feet below existing ground surface (bgs). Borings B-1 and B-2 are located at the proposed building corners and were drilled 20 ft bgs. Borings B-3 to B-5 are located within the parking lot and access drives and were drilled to a depth of 10 ft bgs. The test boring locations and depths were established by TRC and were presented to the Client prior to field drilling activities. Test borings were located in the field by the drilling subcontractor by referencing from existing site features and by using conventional hand measuring methods. The accuracy of the test boring locations should only be considered to the level implied by the method used to determine them. Ground surface elevations at the test boring locations were neither surveyed nor furnished by the Client. The approximate test boring locations are shown on the Site/Boring Location Plan included in Appendix A.

An all-terrain rotary drilling rig, using solid flight augers, was used to advance the test borings. The soils encountered in the borings were continuously sampled in the upper 10 ft bgs and then at 5 ft intervals below 10 ft bgs by employing split-spoon sampling procedures by the Standard Penetration Test (SPT) Method in general accordance with ASTM Standard Method D 1586. Samples considered representative of the foundation materials were obtained by driving the split spoon sampler 18 to 24 inches into the soil with a 140-pound automatic hammer free-falling 30 inches. The number of blows required for each 6 inches of penetration was recorded separately. The blow count ("N-value") of the soil was calculated as the number of blows required for the 6 to 18 inch interval of penetration. The SPT N-value serves as an indicator of relative consistency for cohesive soils and relative density of granular soils. Upon sampler (N-value >50 over 6 inches) or auger refusal, the borings were terminated. Groundwater levels were measured during and immediately after completion of drilling. Cohesive samples were tested with a pocket penetrometer (PP) for measurement of relative unconfined compressive strength. Representative portions of each sample were selected and sealed in plastic bags to minimize loss of moisture and for use in future visual examination and possible testing in the laboratory. Samples were transported to the laboratory for visual observations and assignment of laboratory testing. Upon completion of the drilling operations, boreholes were backfilled to the ground surface with the auger cuttings.

Test borings were logged by a representative of the subcontract driller. The field boring logs and samples were reviewed and examined by a TRC geotechnical engineer. The logs were edited using the results of the sample observations and tests performed on selected soil samples from the test borings that represent foundation and pavement subgrade materials.

The Boring Logs provided in Appendix B represent the geotechnical engineer's interpretations of the subsurface conditions based on the driller's field observations, visual-manual examination of the samples provided to TRC and laboratory test results. Lines designating the interface between various strata on the Boring Logs represent the approximate positions of the interface. The in-situ transition between strata may be gradual. Groundwater conditions recorded on the Boring Logs are based on the field observations at the time the field exploration was conducted.

Samples will be retained for 30 days from the date of this report, after which time they will be discarded unless Client requests otherwise.

2.2 Laboratory Testing

The samples were transported to TRC's AASHTO accredited soils laboratory where the Field Boring Logs were reviewed and edited by a geotechnical engineer from TRC. Representative soil samples were then selected for geotechnical laboratory testing to determine soil index properties (moisture contents, particle gradations, and plasticity). The testing was conducted in general accordance with the applicable ASTM Standards. The results of the laboratory tests are provided on the appropriate Boring Logs, which are included in Appendix C. Soil descriptions recorded on the Boring Logs result from field data as well as from laboratory observations and/or test data.

3.0 SUBSURFACE CONDITIONS

3.1 Subsurface Conditions

Generally, the subsurface materials within the maximum depth explored (20 feet bgs) consists mostly of soft to medium stiff silt with varying amounts of sand (ML) and medium dense to dense silty sand (SM). Boring B-2 encountered medium stiff to stiff lean clay. Results of Atterberg limits tests indicate that the silts have liquid limits (LL) and plasticity indices (PI) on the order of 49 to 33 and NP to 6, respectively. Atterberg limit tests indicate that the silty sand material have NP to 38 liquid limits and NP plasticity indices. The lean clay encountered in boring B-2 indicated a liquid limit of 27 and a plasticity index of 8. Moisture contents of samples as received by the laboratory ranged from 17.2 to 28.9 percent.

Site Class - Part of the International Building Code (IBC) procedure to evaluate seismic forces requires the evaluation of the Seismic Site Class, which categorizes the site based upon the characteristics of the subsurface profile within the upper 100 feet of the ground surface. To define the Seismic Site Class for this project, we have interpreted the results of our soil test borings drilled within the project site and estimated appropriate soil properties below the base of the test borings to a depth of 100 feet, as permitted by the IBC. Based upon our evaluation, it is our opinion that the subsurface conditions within the Site are generally consistent with the characteristics of Site Class D as listed in Chapter 16, Section 1613.2.2 of the 2018 edition of the IBC and as defined in Table 20.3-1, Chapter 20 of ASCE 7.

3.2 Groundwater Observations

During and upon completion of the drilling operations, no ground water was encountered in any of the borings. The presence, depth, and quantity of groundwater seepage may fluctuate based on variations in seasonal rainfall, climatic conditions, site surface runoff characteristics, permeability of on-site soils, continuity of pervious materials, irrigation practices, and other factors. These observations do not constitute a long-term groundwater study nor was such an evaluation authorized as a part of the scope of this project. Any changes noted in groundwater levels during the construction process may require a review of the recommendations presented in this report.

4.1 Observations and Recommendations

4.1 Proposed Construction

The Site is located at the northwest quadrant of the intersection of Highway 53 and Center Lane in Dawsonville, Georgia. It is anticipated that the proposed construction will consist of a single-story structure having a slab on grade floor with 3 oil change bays each including a below grade oil change (lube) pit extending to an anticipated depth of approximately 7 feet below finished floor elevation. Plan area of the new shop is approximately 1,700 square feet. Details regarding structural loadings were not available at the time of this report. However, it is anticipated that maximum column, wall, and floor loads will not exceed approximately 30 kips, 1 kip/foot and 125 pounds per square foot, respectively. No unusual loading conditions or settlement restrictions have been specified by the Client. Final site grading plans were not provided to TRC; however, for purposes of this project we anticipate that minimal grading will be required to achieve final grades and that finished floor elevation of the proposed shop will be established within 1 foot above the existing grade (i.e., ground surface existing at the time of our field exploration). The general arrangement of the proposed development is shown on the Site/Boring Location Plan included Appendix A.

TRC has developed geotechnical-related information to be used by others in the building foundation and pavement design based on the previously described project characteristics and subsurface conditions observed in the test borings drilled during the field exploration and as previously discussed in this report. After final design plans and specifications are available, a general review by TRC is recommended to check that the evaluations made in preparation of this report are correct, and that earthwork, foundation, pavement, and subgrade preparation recommendations are properly interpreted and implemented.

4.2 Grade Supported Foundation

The moderately plastic silts and clays observed at this Site can shrink and swell moderately as the soil moisture content fluctuates during seasonal wet and dry cycles. The moisture induced volumetric changes associated with the silty and clayey soils present at this Site could result in significant movement of a shallow, grade supported foundation/slab system. The magnitude of shrinkage and swelling will depend on moisture fluctuations that occur during and after construction. Moisture fluctuations typically occur due to seasonal cycles, but can also be influenced by grading and drainage, landscaping, groundwater conditions, exterior flatwork and the presence of paving. Therefore, the amount of soil movement is difficult to determine due to the many unpredictable variables involved.

Actual soil movements will depend on the subsurface moisture fluctuations over the life of the structure and the overlying structural loading conditions. Soil movements may be less than those calculated if moisture variations are minimized after construction or if the structural loading conditions assumed in this report are different. However, soil movements, significantly larger than estimated, could occur due to inadequate site grading, poor drainage, ponding of rainfall, and/or leaky water or sprinkler lines. Site grading will alter the estimated movements.

In view of this and the preliminary design information, it is recommended that the proposed building be supported by a conventional reinforced, monolithic grade beam and slab on grade foundation system bearing on a properly compacted select fill building pad.

4.3 Site Preparation

Before proceeding with construction any old building foundations, buried structures, construction debris, vegetation, root systems, topsoil, refuse, sediment in low-lying areas and other deleterious non-soil materials should be stripped/removed from proposed construction areas. The actual stripping depth should be based on field observations with particular attention given to old drainage areas, uneven topography, unexpected fill material areas, and excessively wet soils (if present). The stripped areas should be observed to determine if additional excavation is required to remove weak or otherwise objectionable materials that would adversely affect the fill placement. The stripping should extend at least 5 feet beyond the limits of construction areas.

The on-site soils are moisture sensitive and will likely become unstable when saturated (wet). Generally, more undercutting and delays due to the need for extended drying times can be expected if the grading is performed in the seasonally wet period of the year.

Pavement & Other Flatwork Areas - After site stripping/removal, the pavement and other exterior flatwork subgrades shall be proofrolled to detect soft spots, which, if they exist shall be reworked. Proofrolling shall be performed using a heavy pneumatic tired roller, loaded dump truck, or similar piece of equipment weighing approximately 25 tons. The proofrolling operations shall be observed by a geotechnical engineer or his/her representative. The subgrade shall be firm and able to support the construction equipment without displacement. Soft or yielding subgrade shall be corrected and made stable before construction proceeds. The depth and extent of the undercut operations at the site should be established by a qualified geotechnical engineer during earthwork construction activities based on the results of the proofroll. Following site preparation and prior to placement of any select fill and/or construction of the pavement or other exterior flatwork, the existing subgrade (it is anticipated that the subgrade will consist of silt) should be prepared as recommended in Section 5.2

Building Pad Area - The building pad should be prepared as recommended in Section 4.6.

4.4 Placement and Compaction

The project may include the placement and compaction of a variety of fill materials, including on-site soils, non-expansive select fill and crushed aggregate base. Typical material requirements and compaction specifications for each of these materials are provided below.

- **Silts and Clays -** Compact to at least 95 and not greater than 100 percent of maximum laboratory dry density and at 2 percentage points below to 3 percentage points above the optimum moisture content (-2 to +3) as determined by Standard Proctor method (ASTM D 698).

- **Select Fill -** Non-expansive select fill should consist of sandy clay or clayey sand having a plasticity index between 5 and 15, a liquid limit less than 36, no particles greater than 3 inches, a maximum of 70 percent passing #200 sieve and be free of roots or any other organic debris. Organic content should be less than 2 percent. The select fill material used at this site should be compacted to at least 95 percent (*not greater than 100 percent behind oil change pit walls*) of maximum laboratory dry density within plus or minus 2 percentage points of optimum moisture content (-2 to +2) as determined by the Standard Proctor method (ASTM D 698). TRC recommends that any grade-raise fill placed beneath the proposed

building area meet the requirements of non-expansive select fill.

- **Aggregate Base -** Aggregate base placed beneath concrete pavement should consist of crushed stone or gravel of a Group I aggregate group, Class B aggregate as specified by Item section 800.2.01 in the latest version of the **Georgia Department of Transportation (GDOT) Standard Specifications Construction of Transportation System**. Recycled concrete aggregate, slag, or recycled asphalt pavement shall not be used. The base material should be compacted to a minimum of 100 percent of maximum laboratory dry density within plus or minus 2 percentage points of optimum moisture content (-2 to +2) as determined by the Standard Proctor method (ASTM D 698).

The moisture content must be maintained until placement of the first fill lift. Fill material, whether non-expansive select fill or moisture conditioned on site soils, should be placed in horizontal loose lifts not exceeding 8 inches in uncompacted thickness. The fill material should be uniform with respect to material type and moisture content. Clods and chunks of material should be broken, and the fill material mixed as necessary, so that a material of uniform moisture and density is obtained for each lift. Water required to bring the fill material to the proper moisture content should be applied evenly through each layer.

Each lift should be compacted, tested, and approved before another lift is added. As a guide, one field density test per lift for each 5,000 square feet of compacted area is recommended. For small areas or critical areas (e.g., building subgrade/pad or pavement subgrade), the frequency of testing may need to be increased to one test per 2,500 square feet. A minimum of two tests per lift should be required. The purpose of the field density tests is to provide some indication that uniform and adequate compaction and moisture control are being achieved. The actual quality of the fill, as compacted, should be the responsibility of the contractor and satisfactory results from the tests should not be considered as a guarantee of the quality of the contractor's work.

Backfill placed within utility trenches that cross-pavement or building areas should be properly compacted. Numerous parking, drive, sidewalk, and landscape areas for other projects typically experience settlement due to soft backfill within utility trenches. Backfill placed in utility trenches or other excavated areas within the building or paved area should be placed in lifts, compacted, and tested in accordance with these earthwork recommendations. Trenches should be opened a sufficient width to safely allow compaction equipment access to the backfill and to safely allow for confirmation testing to occur. Backfill should be placed in horizontal lifts, and if the trench is over 5 feet deep, a trench box should be used, or the side slopes benched prior to placing the backfill.

4.5 Site Excavation Characteristics

Finished grades at the Site have not been provided. We anticipate that excavations present the following general comments regarding our opinion of the excavation conditions for the designers' information with the understanding that they are opinions based on information from widely spaced test borings. More accurate information regarding the excavation conditions should be evaluated by contractors or other interested parties from test excavations using the equipment that will be used during construction.

During and upon completion of the drilling operations, no free groundwater was observed in the boreholes. The presence, depth, and quantity of groundwater seepage may fluctuate based on variations in seasonal rainfall, climatic conditions, site surface runoff characteristics, permeability of on-site soils, continuity of pervious materials, irrigation practices and other factors. These observations do not constitute a long-term groundwater study nor was such an evaluation authorized

as a part of the scope of this project. Any changes noted in groundwater levels during the construction process may require a review of the recommendations presented in this report. Groundwater traveling through the soil and rock is often unpredictable. This could be due to seasonal changes in groundwater and due to the unpredictable nature of groundwater paths. Therefore, it is necessary during construction for the contractor to be observant for groundwater seepage in excavations to assess the situation and make necessary changes and/or recommendations.

The design and maintenance of all excavations and excavation retention systems is the sole responsibility of the Contractor. Attention is drawn to OSHA Standards 29 CFR - 1926 Subpart P for guidance in the design of such systems.

4.6 Building Pad Preparation Recommendations

To provide more uniform bearing conditions and help reduce the potential for movement of the foundation due to shrinking/swelling of the silts present at the Site, the grade beams should bear on select fill having a uniform thickness. Following site preparation, overexcavate a portion of the existing silts within the entire building pad area to a sufficient depth which will allow for placement of a **minimum total uniform thickness of 2 feet** of select fill. Also, the select fill should extend below the bottom of the deepest grade beam a minimum of 2 feet. Overexcavation should extend outward beyond the proposed building lines for a distance of at least 3 feet or a minimum of 1 foot beyond sidewalks and other exterior flatwork constructed **adjacent** to the proposed structure (if it is desirable to minimize their movements as well). *Bottom of excavation should be graded so that compacted select fill will have a uniform depth.* All excavations shall conform to applicable OSHA regulations.

Once the required depth is reached and prior to select fill placement, the subgrade shall be scarified to a minimum depth of 12 inches and the subgrade compacted to at least 95 and not greater than 100 percent of maximum laboratory dry density at 2 percentage points below to 3 percentage points above optimum moisture content (-2 to +3) as determined by the Standard Proctor method (ASTM D 698). Compaction of weak or compressible areas can be aided by mixing enough hydrated lime with the existing silts to achieve the required compaction. Alternatively, the observed unstable areas could be undercut and replaced with suitable fill. As an alternative to undercutting, a layer of geotextile, such as Mirafi HP 570 or approved equivalent, can be placed over weak areas. A geogrid, such as Tensar TriAx TX5, can be used as an alternative to Mirafi HP 570 geotextile. Geotextile or geogrid should be placed in combination with crushed aggregate in accordance with the manufacturer's guidelines. Final recommendations should be based on the observations by the geotechnical engineer at the time of construction.

After the bottom of the excavation has been properly compacted, select fill placement should **promptly** commence to prevent drying of the subgrade materials. **Subgrade materials allowed to dry should be moistened with water and the water allowed to soak into the subgrade soil prior to fill placement.** All select fill placed in the building pad area should be properly compacted and consist of a select material. Compaction and composition of the select fill are described in Section 4.4. Select fill shall have a **minimum uniform total thickness of 2 feet**, measured from bottom of granular mat (which is placed directly beneath floor slab) to bottom of excavation. On-site silts should not be placed in the select fill.

Earthwork operations should undercut the subgrade around the building perimeter following grade beam construction so that 1 to 2 feet of on-site silts soils may be placed at the ground surface to act as a barrier to surface water infiltration. Where flatwork extends to the building, the barrier can be limited to a thickness of 1 foot. The thickness of the barrier should be increased to 2 feet where landscaped areas are adjacent to the building. The width of the replacement should be enough to

remove the select fill but should also be no less than 3 feet wide. Failure to provide this could result in potential deep-seated swell. Under no circumstances should a "bathtub effect" be created beneath the slab on grade foundation system.

4.7 Monolithic Slab on Grade

It is recommended that the structural frame and walls of the proposed shop be supported on a conventional reinforced, monolithic slab on grade foundation systems. The slab foundation should be designed with exterior and interior (as deemed necessary by the structural engineer) grade beams adequate to provide sufficient rigidity to the foundation systems. All grade beams and the floor slabs should be adequately reinforced with steel to minimize cracking as normal movements occur in the foundation soils. **The structural engineer should evaluate configurations and reinforcement requirements for structural loadings, anticipated foundation movements, shrinkage, and temperature stresses.**

A ***net allowable soil bearing pressure of 2,000 pounds per square foot (dead + live loads) can be used for design of grade beams bearing on compacted select fill a minimum of 18 inches below lowest adjacent grade provided that the recommendations presented in this report are followed.*** The bearing value is based on a Factor of Safety of 3 and can be increased by 1/3 for effects of seismic or wind forces. For seasonal moisture changes and frost protection, the exterior grade should be a minimum of 1 foot (12 inches) above bottoms of the exterior grade beams.

Foundation excavations should be properly observed by the geotechnical engineer or his representative to confirm that loose, soft, or otherwise undesirable materials are removed such that foundation will bear on sound material. Soils exposed in the bases of all satisfactory foundation excavations should be protected against detrimental change in condition such as rain or excessive drying. Surface runoff should be directed away from the excavations and not allowed to pond within or near formed foundation excavations. If possible, all concrete for foundations should be placed the same day the excavation is made.

Furthermore, it is recommended that floor slabs be supported on at least 4 inches of clean granular material such as sand, sand and gravel, crushed stone or recycled concrete having no more than 5 percent fines passing No. 200 US Standard Sieve. This is to help distribute concentrated loads and equalize moisture conditions beneath slab. If a capillary moisture barrier is desired, the blanket should consist of a free-draining granular material meeting the following gradation shown in Table 1, as determined by ASTM D 422:

Table 1: Rock Gradation Requirements for Capillary Moisture Barrier

Sieve Size	Percent Passing
1 inch	100
#4	0

In moisture sensitive areas, a vapor barrier consisting of 15 mil polyethylene sheeting should be placed directly above the granular blanket. The contractor should take caution during concrete placement to avoid damaging the sheeting.

4.8 Estimated Foundation Movements

The method of improving the existing subsurface conditions recommended in Section 4.6, should reduce estimated total and differential movements of the slab foundation to 1 inch or less provided the proper construction practices outlined in this report are followed. The aforementioned estimated soil movement is based on the existing grades at the time of the field exploration, observed subsurface conditions and anticipated seasonal moisture fluctuations, laboratory testing results, engineering judgment and experience. Actual amount of movement will depend upon loading conditions, moisture content of underlying silty soils at time of concrete and select fill placement, depth of expansive materials, and site drainage during and after construction. Foundation movements may be significantly more than those anticipated if free water could enter the underlying soils from such sources as plumbing leaks and irrigation systems. It is important to provide positive surface drainage away from the building and limit moisture infiltration into the underlying, as discussed in the following section. Careful field observation and testing during subgrade preparation, select fill placement and compaction will also contribute substantially to minimizing foundation movements.

4.9 Oil Change (Lube) Pits

Select fill in the pit areas should extend a minimum of 2 feet below bottom of pit floors and a minimum of 3 feet beyond exterior pit walls. The pit walls can be supported on continuous footings. ***A net allowable soil bearing pressure of 2,000 pounds per square foot can be used for design of footings bearing on compacted select fill.*** *Select fill should extend a minimum of 6 inches below bottom of deepest footing.*

Pit walls should be designed as rigid walls using an earth pressure of 67 pounds per square foot per foot of depth. Backfill placed directly behind walls should be properly compacted and consist of a select material. Compaction requirements and composition of select fill are described in Section 4.4. The on-site silts should not be used as backfill because of their poor drainage and swelling characteristics. A unit weight of 125 pounds per cubic foot can be assumed for the select fill compacted to a minimum of 95 percent of maximum laboratory dry density within plus or minus 2 percentage points of optimum moisture content (-2 to +2) as determined by Standard Proctor method (ASTM D 698). Walls subject to surcharge loads should be designed for an additional lateral pressure equal to 0.53 times the anticipated surcharge pressure.

The effects of hydrostatic pressure are not included in the foregoing earth pressure design value. Measures should be incorporated into the pit design to prevent any wash water from entering the underlying select fill and hydrostatic pressure build up.

To reduce the possibility of increases in lateral pressures due to over compaction, it is recommended that compaction of the select backfill adjacent to walls be accomplished using lightweight hand-controlled vibrating-plate compactors. Heavy compaction equipment should not be operated within 7 feet of the walls. It is also recommended that compaction of the backfill soils not exceed 100 percent Standard Proctor (ASTM D 698) maximum laboratory dry density to further limit lateral earth pressures.

4.10 Site Drainage and Landscaping

Movement of the slab foundation system, pavement, sidewalks, and other exterior flatwork can be expected because the underlying silts are subject to moderate volumetric shrinking and swelling with changes in moisture content. Adequate drainage should be provided at the site to minimize any increase in moisture content of the underlying soils. An important feature of the project is to provide positive drainage away from the structure. Ponding of water next to or below the structures should be avoided. Excessive soil movements (heave), greater than the 1 inch estimated in Section 4.8, may occur if water is permitted to stand (pond) next to or below the structure. This could result in cracking of floor slab, grade beams, interior partitions, and doors and windows out of square. A minimum slope of 1.5 percent for paved areas and 5 percent for unpaved areas should be provided, such that the ground surface slopes away from the building.

A well-designed site drainage plan is of utmost importance and surface drainage shall be provided during construction and maintained throughout the life of the structure. Drainage patterns approved at the time of finish grading should be maintained throughout the life of the building. Altered drainage patterns, landscaping, planters, and other improvements, as well as irrigation and variations in seasonal rainfall, all affect subsurface moisture conditions, which in turn could affect pavement, exterior flatwork, and structural performance. Consideration should be given to the design and location of gutter downspouts, planting areas, or other features, which may produce moisture concentration adjacent to or beneath the structure, pavement, and other exterior flatwork. It is desirable that paving and/or other exterior flatwork extend to the building line rather than have planting areas next to the structure. If plantings are desired, consideration should be given to the use of self-contained, watertight planters.

Rainwater collected by the gutter system should be transported by pipe to a storm drain or to a paved area. If downspouts discharge next to the structure onto flatwork or paved areas, the area should be watertight to eliminate infiltration next to the building.

Also, good drainage should be provided in paved areas since the at/and near surface soils are susceptible to pumping if they become saturated (wet). Pumping will contribute significantly to pavement failure.

Care should be taken to prevent the trench backfill for utilities from becoming a French drain and piping surface or subsurface water beneath structure. The use of a two-foot-wide clay or flowable fill plug shall be used adjacent to the structure within utility trenches to aid in preventing infiltration of water into the building pad.

Joints next to the structure shall be sealed with a flexible joint sealer to prevent infiltration of surface water. In general, the sealant used should remain plastic and flexible at normal service temperatures. Sealing joints will help minimize the infiltration of surface water into the underlying subgrade soils. Maintenance should include periodic inspection for open joints and cracks and resealing, as necessary.

4.11 Winter Construction

If construction of the project is accomplished during winter, steps should be taken to prevent the soils under the grade beams or floor slab from freezing. IN NO CASE should the slab on grade foundation, pavement or other exterior flatwork be placed on frozen or partially frozen materials, nor should frozen materials be placed. Frozen materials should be removed and replaced with approved on-site soils or imported select fill material as described Section 4.4.

5.0 Pavement Design Considerations

5.1 Design Considerations

Traffic loading information for the proposed pavement was not available at the time of this report submittal. It is anticipated that the parking stalls will be subject to automobile and light truck traffic only and that drives will be subject to both automobile and occasional medium to heavy truck traffic. If the anticipated traffic loading conditions are different than indicated herein, TRC should be contacted as it could impact the recommendations presented in the following sections.

5.2 Pavement Subgrade Preparation

The pavement area should be prepared as previously recommended in Section 4.3. It is anticipated that the pavement subgrade will consist of silts to sandy silts. Prior to fill placement and/or construction of the pavement, the subgrade should be scarified to a minimum depth of 12 inches, its moisture content adjusted, and the subgrade then compacted as recommended in Section 4.4.

Compaction of the subgrade should extend a minimum of 2 feet beyond the outer edges of pavement or curbs. Following compaction, the subgrade should be protected and maintained in a moist condition until the pavement is placed.

Compaction of weak or compressible areas can be aided by mixing a sufficient amount of hydrated lime with the existing silts to achieve the required compaction. Alternatively, the observed unstable areas could be undercut and replaced with suitable fill. As an alternative to undercutting, a layer of geotextile, such as Mirafi HP 570 or approved equivalent, can be placed over weak areas. A geogrid, such as Tensar TriAx TX5, can be used as an alternative to Mirafi HP 570 geotextile. Geotextile or geogrid should be placed in combination with crushed aggregate in accordance with the manufacturer's guidelines. Final recommendations should be based on the observations by the geotechnical engineer at the time of construction.

5.3 Portland Cement Concrete Pavement (PCCP)

The following PCCP pavement recommendations are made expecting that the pavement subgrade will consist of low to moderately plastic silts. Typical pavement sections for PCCP are presented in the following Table 2.

Table 2: PCCP (Rigid) Sections

Pavement Material	Pavement Section		
	Parking Areas	Main Drive Lanes	Fire Lanes and Dumpster Pad/Approach
Portland Cement Concrete	5 inches	6 inches	7 inches
Aggregate Base	6 inches	6 inches	6 inches
Compacted Subgrade	12 inches	12 inches	12 inches

The following pavement materials are based on the GDOT, related material composition and compaction requirements of the aggregate base material are provided in Section 430.1.02.

1. **Portland Cement Concrete** - GDOT Section 830 - The PCCP used should consist of class I concrete as specified by section 430.3.06.C. The concrete should have a minimum 28-day compressive strength of 3,000 psi. Concrete should be steel reinforced and include joints to control the formation of temperature and shrinkage related cracks. Concrete should include air entrainment to increase the resistance to temperature effects. The amount of air entrainment used should vary from 4 to 5.5 percent (total air volume).

2. **Aggregate Base** - The aggregate base used will comply with GDOT Section 800 and will be Class A aggregate of Grading B (see Section 800.2.01). Crushed stone, crushed slag, or gravel, granitic and gneissic rocks, can be used in the creation of the aggregate base.

5.4 Pavement Considerations

Pavement design methods are intended to provide an adequate thickness of structural materials over a particular subgrade, such that wheel loads are distributed to a level, which the subgrade can support. The support characteristics of the subgrade do not account directly for shrink and swell movements of an expansive soil subgrade. Thus, the pavement may be adequate from a structural standpoint, yet still experience cracking and deformation due to shrink/swell movements of the subgrade.

It is, therefore, important to minimize moisture changes in the subgrade to reduce shrink/swell movements and pumping. All pavements shall be sloped to provide rapid surface drainage. Water should not be allowed to pond on or adjacent to the pavement.

The aforementioned pavement design recommendations are subject to successful completion of site and subgrade preparation and structural fill placement as recommended in this report. Imported soils used in paved areas should meet the criteria outlined in Section 4.4.

Because paving and grading are typically performed by separate contractors, a time lapse generally occurs between the end of grading operations and the commencement of paving. Disturbance, desiccation, and/or wetting of the subgrade prior to completion of paving can result in deterioration of the previously compacted subgrade. A non-uniform subgrade can result in poor pavement performance and local failures relatively soon after pavements are constructed. Where applicable, we recommend that the pavement subgrade be proofrolled (see Section 4.3), and the moisture content and density of the top 12 inches of subgrade be checked within two days prior to commencement of actual paving operations. If any significant event, such as precipitation, occurs after proofrolling, the subgrade shall be reviewed by qualified personnel immediately prior to placing the pavement. The subgrade shall be in its finished form at the time of the final review.

A soils engineering technician working under the direction of a geotechnical engineer should observe compaction of the subgrade and perform soil density tests to confirm that the subgrade has been properly compacted in accordance with the recommendations presented herein. In addition, all paving materials and paving operations should meet applicable specifications of GDOT or the local governing agency.

Utility trench backfill that lies within paved and other flatwork areas must be properly compacted. Fill or backfill areas should be proofrolled to verify that soft or yielding subgrade areas have been properly compacted (refer to Section 4.3 for detailed proofrolling recommendations).

It is important to minimize moisture changes in the pavement subgrade. The pavement and adjacent areas should be well drained. Regular maintenance should be performed on cracks in the pavement

surface to prevent water passing through to the subgrade.

All joints including sawed joints should be properly cleaned and sealed as soon as possible to avoid infiltration of water, small gravel, etc. Either cold-poured or hot-poured sealing material may be used. Backing should be provided to hold the isolation joint sealant in place. Manufacturers' instructions for mixing and installing the joint materials should be followed.

It is recommended that the concrete pavement be reinforced with No. 3 or larger bars supported on appropriate chairs and placed on a minimum of approximately 24-inch (18-inch for pavement thickness greater than 5 inches) centers in each direction. Additional reinforcing consisting of #5 bars should be included around openings for manholes, drains, planters, etc. Contraction joints should not be placed greater than 20 feet on center each way (OCEW). The perimeter of the pavements should have a stiffening curb section to reduce the potential for distress due to heavy wheel loads near the edge of the pavements and to provide channelized drainage.

Periodic maintenance of all the pavement should be anticipated. This should include sealing of all cracks and joints and by maintaining proper surface drainage to avoid ponding of water on or near the pavement areas. Even with these precautions, some movements and related cracking may still occur, requiring additional maintenance.

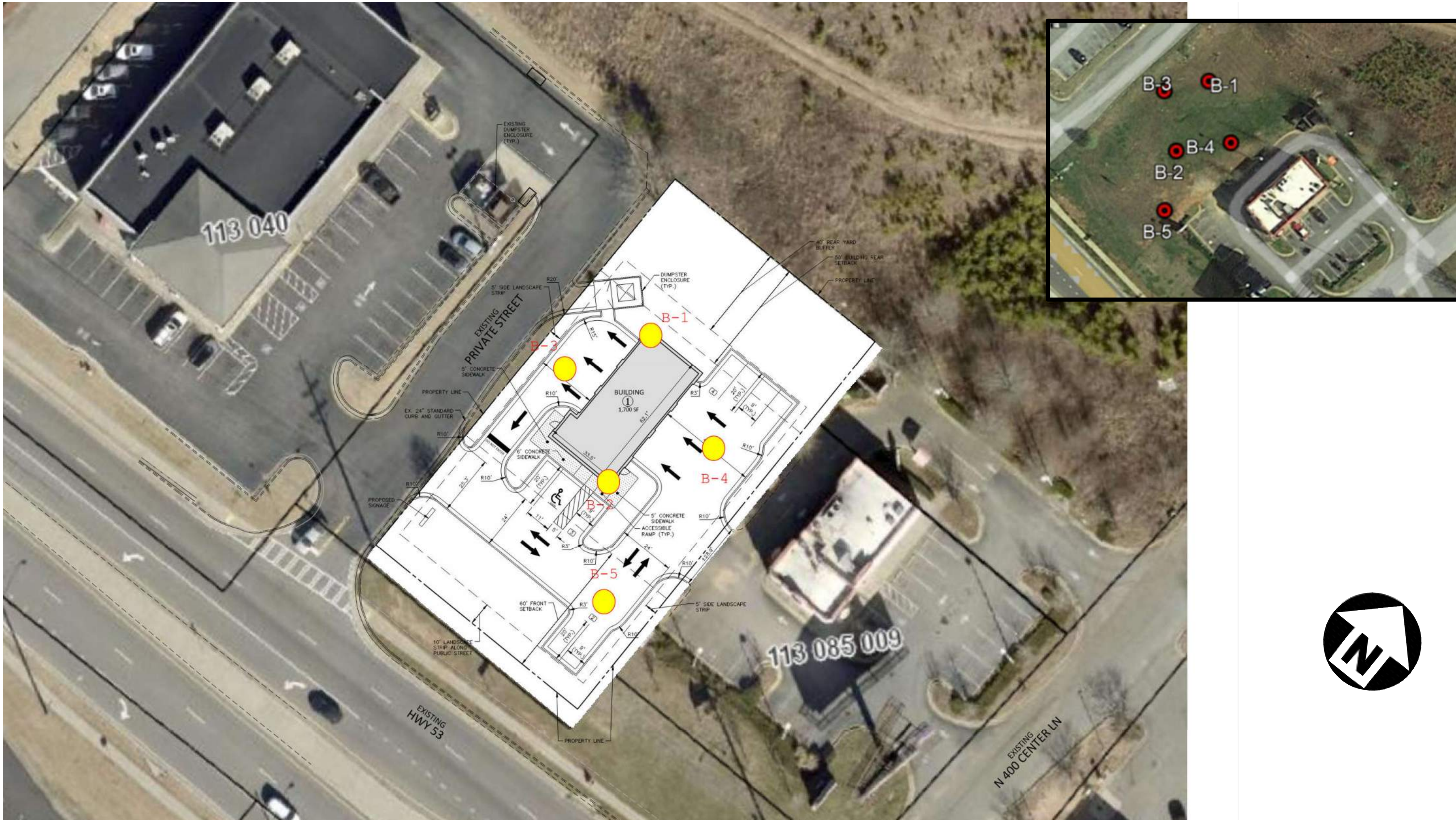
The final design of the pavement and steel reinforcement should be provided by the structural or civil designer. The information presented in this section is provided for general guidance.

6.0 Limitations

This work has been done in accordance with our authorized scope of work and in accordance with generally accepted practice in the fields of geotechnical and foundation engineering. This warranty is in lieu of all other warranties either expressed or implied. Our conclusions and recommendations are based on the data revealed by this investigation. We are not responsible for any conclusions or opinions drawn from the data included herein, other than those specifically stated, nor are the recommendations presented in this report intended for direct use as construction specifications. This report is intended for use with regard to the specific project discussed herein and any changes in loads, structures, or locations should be brought to our attention so that we may determine how they may affect our conclusions. An attempt has been made to provide for normal contingencies but the possibility remains that unexpected conditions may be encountered during construction. If this should occur, or if additional or contradictory data are revealed in the future, we should be notified so that modifications to this report can be made, if necessary. If we do not review the relevant construction documents and witness the relevant construction operations, then we cannot be responsible for any problem, which may arise, from the misunderstanding or misinterpretation of this report or failure to comply with our recommendations.

TRC

Appendix A: Site/Boring Location Map



NOTES:

1. Boring locations shown are approximate.
2. Base map taken from Site Plan prepared by The John R. McAdams Company, Inc. (dated 9/29/21).

Project No.	465363
Date:	November 5, 2021
For:	N3 Property Advisors, LLC Southlake, Texas

TRC
1382 W Ninth St, Suite 400, Cleveland, Ohio 44113
PH. (216) 344-3072 TRCcompanies.com

BORING LOCATION PLAN

Strickland Brothers 10 Minute Oil Change

Dawsonville, Georgia

FIGURE 1

TRC

Appendix B: Boring Logs

TEST BORING LOG

PROJECT: STRICKLAND BROTHERS 10 MINUTE OIL CHANGE
LOCATION: DAWSONVILLE, GA

BORING B-1
G.S. ELEV.
FILE 465636
SHEET 1 OF 1

GROUNDWATER DATA			
FIRST ENCOUNTERED NA			
DEPTH	HOUR	DATE	ELAPSED TIME

METHOD OF ADVANCING BOREHOLE				
a	FROM 0.0 '	TO 10.0 '		
d	FROM 10.0 '	TO 20.0 '		

DRILLER BRIDGER-JACOB
HELPER BRIDGER-NATE
INSPECTOR NONE
DATE STARTED 10/09/2021
DATE COMPLETED 10/09/2021

DEPTH	A	B	C	DESCRIPTION	Wn	REMARKS
	S-1	1 2 2 2				
	S-2	1 2 1 2				
5	S-3	2 2 3 6		***BROWN AND RED SILT, SOFT TO MEDIUM STIFF, MOIST TO WET***	28.9	LL = 49%, PI = 6%, %FINES = 62.4
	S-4	4 3 4 5		9.0		
10	S-5	3 3 5 4		***BROWN SILTY SAND, LOOSE, WET***		
				12.0		
15	S-6	2 3 3		***BROWN AND GRAY SILTY SAND, LOOSE TO MEDIUM DENSE, WET***		
20	S-7	2 2 2		20.0		
				END OF BORING AT 20'		
25						
30						
35						

DRN. TNG
CKD. SGM

NEW PROJECTS TEST BORING LOG 465636_N3 PA_DAWSONVILLE GA.GPJ SITE BLAUVELT.GDT 11/8/21

TRC — TEST BORING LOG

BORING	B-2
G.S. ELEV.	
FILE	465636
SHEET	1 OF 1

PROJECT: STRICKLAND BROTHERS 10 MINUTE OIL CHANGE
LOCATION: DAWSONVILLE, GA

GROUNDWATER DATA

FIRST ENCOUNTERED NA

DEPTH	HOUR	DATE	ELAPSED TIME

METHOD OF ADVANCING BOREHOLE

a	FROM	0.0 '	TO	10.0 '
d	FROM	10.0 '	TO	20.0 '

DRILLER BRIDGER-JACOB
HELPER BRIDGER-NATE
INSPECTOR NONE
DATE STARTED 10/09/2021
DATE COMPLETED 10/09/2021

DEPTH	A	B	DESCRIPTION	Wn	REMARKS
	S-1	3 4 6 6	***BROWN AND RED SILT W/ SAND, MEDIUM STIFF, MOIST***	20	LL = 41%, PI = 4%
	S-2	6 7 9 11	4.0		
5	S-3	3 5 6 6			
	S-4	8 8 8 8		24	LL = 38%, PI = NP, %FINES = 44.3
10	S-5	3 2 3 5	***BROWN SILTY SAND, LOOSE TO MEDIUM DENSE, MOIST***		
15	S-6	1 2 1			
20	S-7	2 2 2	20.0		
			END OF BORING AT 20'		
25					
30					
35					

DRN. TNG
CKD. SGM

NEW PROJECTS TEST BORING LOG 465636_N3 PA_DAWSONVILLE GA.GPJ SITE BLAUVELT.GDT 11/8/21

TEST BORING LOG

PROJECT: STRICKLAND BROTHERS 10 MINUTE OIL CHANGE
LOCATION: DAWSONVILLE, GA

BORING	**B-3**
G.S. ELEV.	
FILE	465636
SHEET	1 OF 1

GROUNDWATER DATA			
FIRST ENCOUNTERED NA			
DEPTH	HOUR	DATE	ELAPSED TIME

METHOD OF ADVANCING BOREHOLE	
a	FROM 0.0 ' TO 10.0 '

DRILLER	BRIDGER-JACOB
HELPER	BRIDGER-NATE
INSPECTOR	NONE
DATE STARTED	10/09/2021
DATE COMPLETED	10/09/2021

DEPTH	A	B	C	DESCRIPTION	Wn	REMARKS
	S-1	1 1 2 4			22.1	LL = 33%, PI = NP
	S-2	3 2 3 3			20.3	
5	S-3	2 2 3 2		***BROWN AND RED SILT, SOFT TO MEDIUM STIFF, MOIST***		
	S-4	2 2 3 9				
10	S-5	2 2 3 7		10.0		
				END OF BORING AT 10'		
15						
20						
25						
30						
35						

DRN. TNG
CKD. SGM

TEST BORING LOG

PROJECT: STRICKLAND BROTHERS 10 MINUTE OIL CHANGE
LOCATION: DAWSONVILLE, GA

BORING	B-4
G.S. ELEV.	
FILE	465636
SHEET	1 OF 1

GROUNDWATER DATA

FIRST ENCOUNTERED NA

DEPTH	HOUR	DATE	ELAPSED TIME

METHOD OF ADVANCING BOREHOLE

a	FROM 0.0 ' TO 10.0 '

DRILLER	BRIDGER-JACOB
HELPER	BRIDGER-NATE
INSPECTOR	NONE
DATE STARTED	10/09/2021
DATE COMPLETED	10/09/2021

DEPTH	A	B				C	DESCRIPTION	Wn	REMARKS
	S-1	2	1	3	0		*BROWN SILTY SAND W/ CLAY, SOFT TO MEDIUM STIFF, MOIST TO WET*	24.2	LL = NP, PI = NP
	S-2	2	2	3	13			24.2	
5	S-3	2	2	3	4				
	S-4	3	6	7	5				
10	S-5	3	2	4	7		10.0		
							END OF BORING AT 10'		
15									
20									
25									
30									
35									

DRN. TNG
CKD. SGM

NEW PROJECTS TEST BORING LOG 465636_N3 PA_DAWSONVILLE GA.GPJ SITE BLAUVELT.GDT 11/8/21

TRC TEST BORING LOG

BORING	B-5
G.S. ELEV.	
FILE	465636
SHEET	1 OF 1

PROJECT: STRICKLAND BROTHERS 10 MINUTE OIL CHANGE
LOCATION: DAWSONVILLE, GA

GROUNDWATER DATA

FIRST ENCOUNTERED NA

DEPTH	HOUR	DATE	ELAPSED TIME

METHOD OF ADVANCING BOREHOLE

a	FROM	0.0 '	TO	10.0 '	

DRILLER	BRIDGER-JACOB
HELPER	BRIDGER-NATE
INSPECTOR	NONE
DATE STARTED	10/09/2021
DATE COMPLETED	10/09/2021

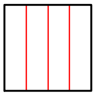
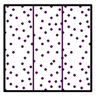
DEPTH	A	B				C	DESCRIPTION	Wn	REMARKS
	S-1	3	3	3	4		BROWN AND RED LEAN CLAY, MEDIUM STIFF TO STIFF, MOIST	17.3	LL = 27%, PI = 8%
	S-2	3	5	5	8			17.2	
5	S-3	1	3	8	9				
	S-4	5	8	10	10				
10	S-5	4	5	7	9		10.0		
							END OF BORING AT 10'		
15									
20									
25									
30									
35									

DRN. TNG
CKD. SGM

KEY TO SYMBOLS

Symbol	Description

Strata symbols

Symbol	Description
	Clay with Low Plasticity
	Silt with Low Plasticity
	Silty Sand

Misc. Symbols

Symbol	Description
	Water table first encountered
	Water table first reading after drilling
	Water table second reading after drilling
	Water table third reading after drilling
NR	Not Recorded
MH	Moh's Hardness

Sample Type

Symbol	Description
	Split Barrel

Lab Symbols

FINES = Fines %

LL = Liquid Limit %

PI = Plasticity Index %

U_c = Unconfined Compressive Strength

W/V = Unit Weight

Notes:

COLUMN A) Soil sample number.

COLUMN B) FOR SOIL SAMPLE (ASTM D 1586): indicates number of blows obtained for each 6 ins. penetration of the standard split-barrel sampler. FOR ROCK CORING (ASTM D2113): indicates percent recovery (REC) per run and rock quality designation (RQD). RQD is the % of rock pieces that are 4 ins. or greater in length in a core run.

COLUMN C) Strata symbol as assigned by the geotechnical engineer.

DESCRIPTION) Description including color, texture and classification of subsurface material as applicable (see Descriptive Terms). Estimated depths to bottom of strata as interpolated from the borings are also shown.

DESCRIPTIVE TERMS: F = fine M = medium C = coarse

RELATIVE PROPORTIONS:

-Descriptive Term-	-Symbol-	-Est. Percentages-
Trace	TR	1-10
Trace to Some	TR to SM	10-15
Some	SM	15-30
Silty, Sandy, Clayey, Gravelly	-	30-40
And	and	40-50

REMARKS) Special conditions or test data as noted during investigation. Note that W.O.P. indicates water observation pipes.

* Free water level as noted may not be indicative of daily, seasonal, tidal, flood, and/or long term fluctuations.

METHODS AND TOOLS FOR **ADVANCING BOREHOLES**

a - Continuous Sampling

b - Finger type rotary cutter head 6 in. diameter (open hole)

d - Drilled in casing 3 3/8 in. ID; 8 in. OD (hollow-stem auger)

e - Drilled in casing 2 1/2 in. ID; 6 1/4 in. OD (hollow-stem auger)

f - Driven flush joint casing (BW) - 2 3/8 in. ID; 2 7/8 in. OD (300 lb. hammer, 18 in. drop)

g - Driven flush joint casing (NW) - 3 in. ID; 3 1/2 in. OD (300 lb. hammer, 18 in. drop)

h - Tricone Roller Bit - 2 3/8 in. or 2 7/8 in.

i - Drilling Mud (Slurry Method)

c_1 - Double tube diamond core barrel (BX) : core size: 1.6 in.
hole size: 2.36 in.

c_2 - Double tube diamond core barrel (NX) : core size: 2.0 in.
hole size: 2.98 in.

c_3 - 4 in. thin walled diamond bit

c_4 - 6 in. thin walled diamond bit

METHODS AND TOOLS FOR **TESTING AND SAMPLING SOILS AND/OR ROCKS**

Penetration test and split-barrel sampling of soils, ASTM D1586

140 lb. hammer, 30 in. drop. recording number of blows obtained for each 6 in. penetration usually for a total of 18 in. penetration of the standard 2 in. O.D. and 1 3/8 in. I.D. split-barrel sampler. Penetration resistance (N) is the total number of blows required for the second and third 6 in. penetration.

Thin walled tube sampling, ASTM D1587

Samples are obtained by pressing thin-walled steel, brass or aluminum tubes into soil. Standard thin-walled steel tubes:

O.D. in.	2	3
I.D. in.	1.94	2.87

Diamond core drilling, ASTM D2113

Diamond core drilling is used to recover intact samples of rock and some hard soils generally with the use of a:

BWM double tube core barrel
NWM double tube core barrel

Appendix C: Laboratory Testing Results

SUMMARY OF LABORATORY TEST DATA

Project Name: Strickland Brothers 10 Minute Oil Change
Dawsonville, GA
Client Name: N3 Property Advisors, LLC
TRC Project #: 465363

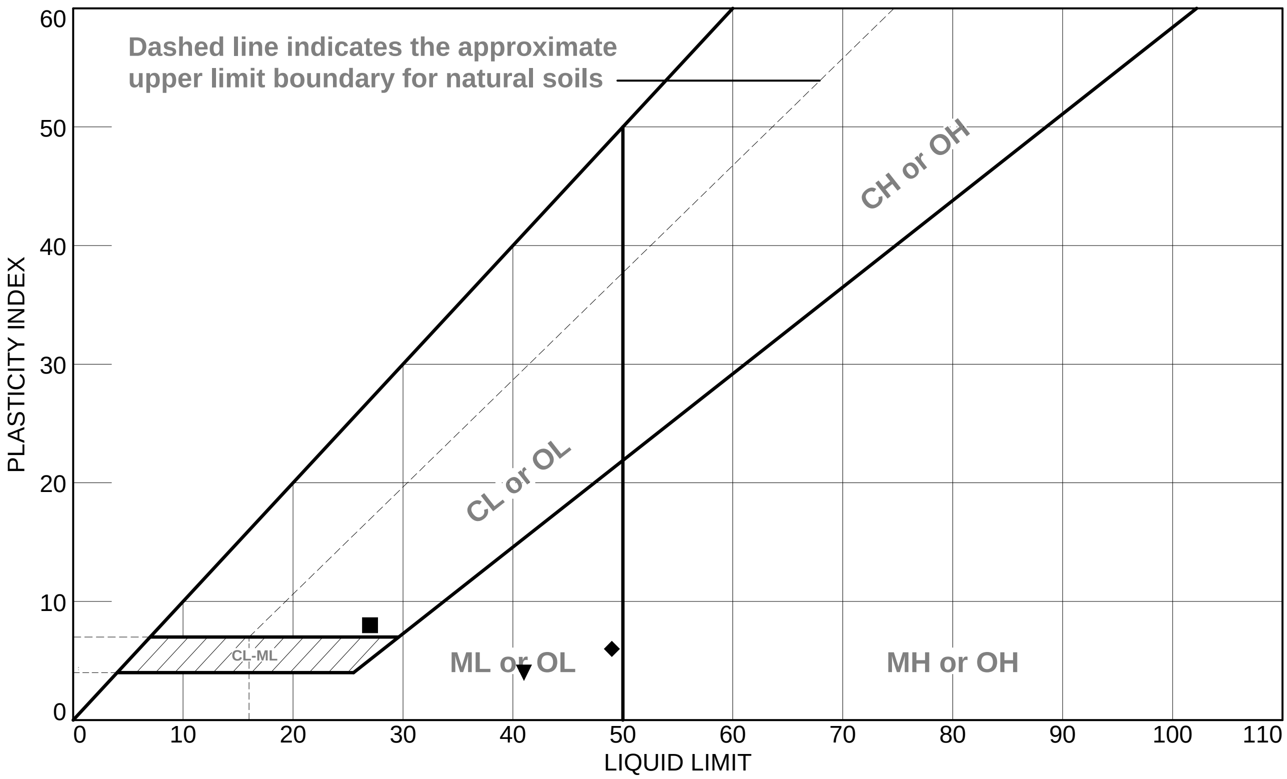
SAMPLE IDENTIFICATION			Soil Group (USCS System)	Moisture Content (%)	GRAIN SIZE DISTRIBUTION USCS GRADATION				PLASTICITY			
Boring #	Sample #	Depth (ft)			Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Liquidity Index (%)
B-4	S-1	0.0-2.0	SM*	24.2	-	-	-		NP	NP	NP	-
B-4	S-2	2. 4.		24.								
B-5	S-1	0.0-2.0	CL*	17.3	-	-	-		27	19	8	-0.2
B-5	S-2	2.0-4.0	-	17.2	-	-	-		-	-	-	-
B-3	S-1	0.0-2.0	ML*	22.1	-	-	-		33	33	NP	-
B-3	S-2	2.0-4.0	-	20.3	-	-	-		-	-	-	-
B-1	S-4	6.0-8.0	ML	28.9	0.0	37.6	62.4		49	43	6	-2.4
B-1	S-2	2.0-4.0	ML*	20.0	-	-	-		41	37	4	-4.2
B-1	S-5	8.0-10.0	SM	24.0	0.0	55.7	44.3		38	38	NP	-

NP = NON-PLASTIC

**USCS based on Atterberg limits and visual classification.*

DRAWN BY: TBT 11/04/21 CHECKED BY: SM 11/04/21

LIQUID AND PLASTIC LIMITS TEST REPORT



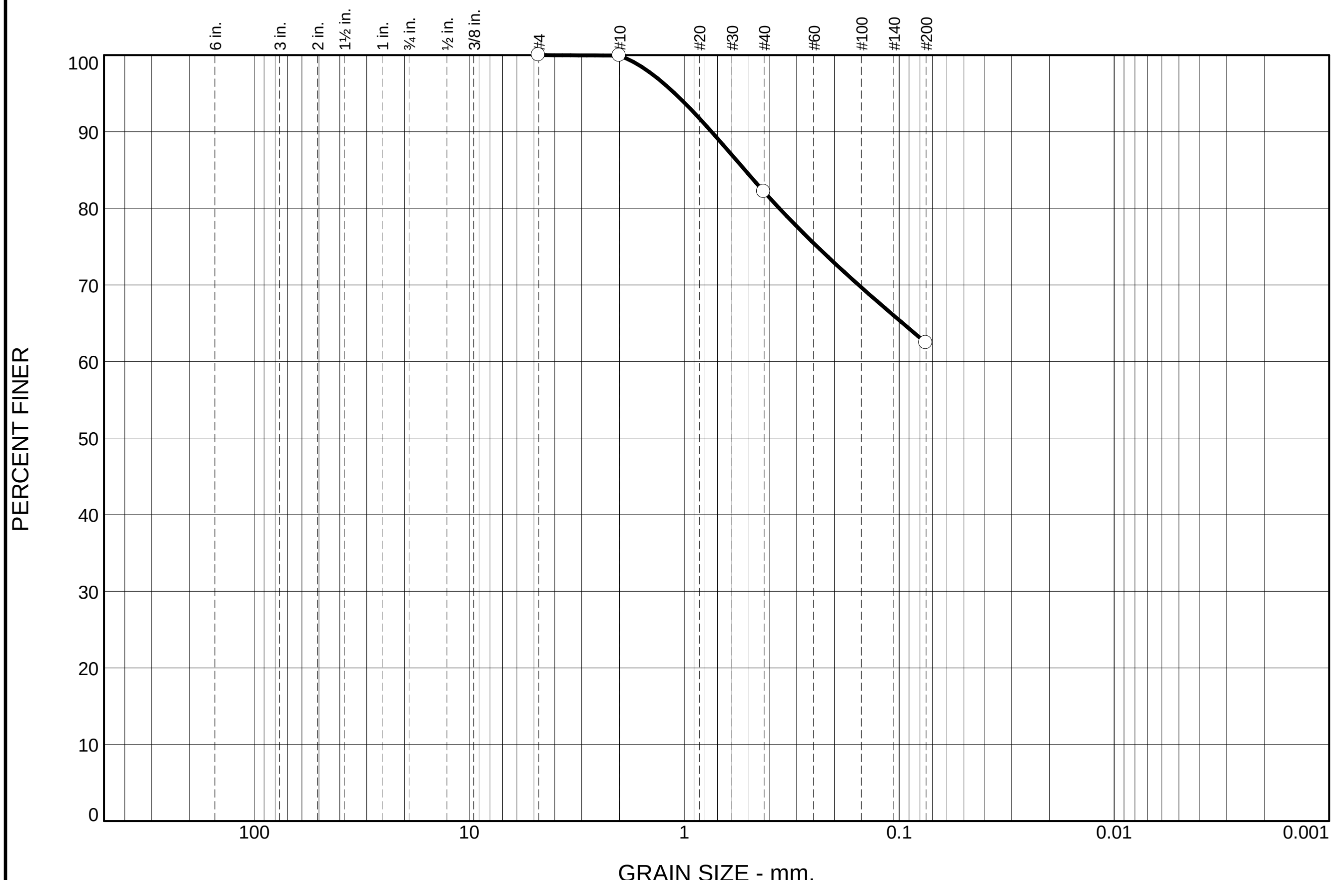
SOIL DATA

	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	LIQUIDITY INDEX	USCS
●	B-4	S-1	0.0-2.0 FT	24.2	NP	NP	NP		SM*
■	B-5	S-1	0.0-2.0 FT	17.3	19	27	8	-0.2	ML*
▲	B-3	S-1	0.0-2.0 FT	22.1	33	33	NP		ML*
◆	B-1	S-4	6.0-8.0 FT	28.9	43	49	6	-2.4	ML
▼	B-2	S-2	2.0-4.0 FT	20.0	37	41	4	-4.2	ML*
✱	B-2	S-5	8.0-10.0 FT	24.0	38	38	NP		SM

TRC
Engineers, Inc.
Mt. Laurel, NJ

Client: N3 PROPERTY ADVISORS, LLC
Project: STICKLAND BROTHERS 10 MINUTE OIL CHANGE
DAWSONVILLE, GA
Project No.: 465363 **Figure** 1

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.1	17.7	19.8	62.4	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	49	43	0.5218							

MATERIAL DESCRIPTION	TEST DATE	USCS	NM
○ RED SANDY SILT	11/04/21	ML	28.9

Project No. 465363 **Client:** N3 PROPERTY ADVISORS, LLC

Project: STICKLAND BROTHERS 10 MINUTE OIL CHANGE

DAWSONVILLE, GA

○ **Source of Sample:** B-2 **Depth:** 6.0-8.0 FT **Sample Number:** S-4

Remarks:

○SAMPLE DESCRIPTION BASED ON USCS

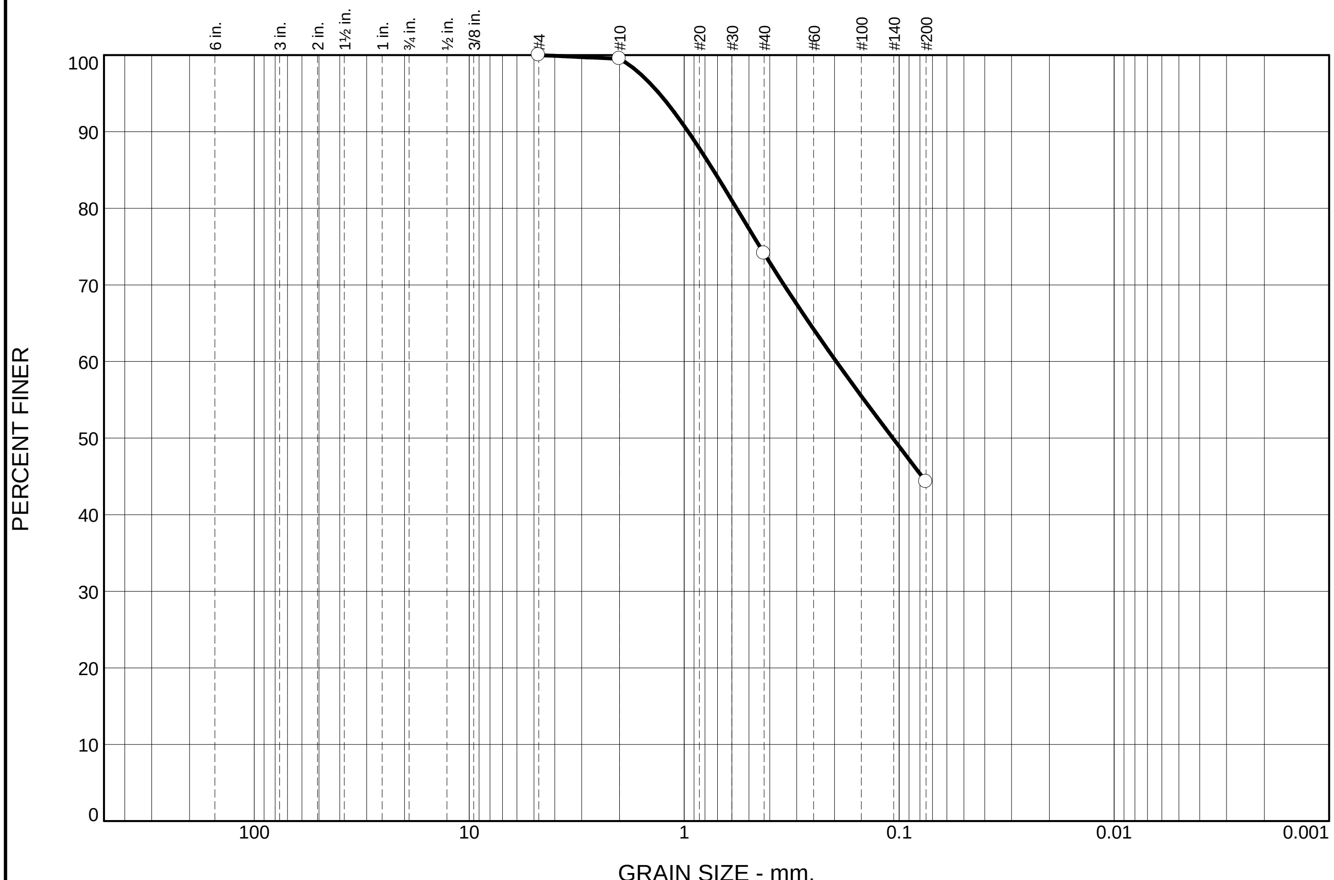
TRC Engineers, Inc.

Mt. Laurel, NJ

Figure 2

Tested By: CWZ 11/04/21 **Checked By:** SM 11/04/21

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.5	25.4	29.8	44.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	38	38	0.7329	0.1962	0.1070					

MATERIAL DESCRIPTION	TEST DATE	USCS	NM
○ RED SILTY SAND	11/04/21	SM	24.0

Project No. 465363 **Client:** N3 PROPERTY ADVISORS, LLC

Project: STICKLAND BROTHERS 10 MINUTE OIL CHANGE

DAWSONVILLE, GA

○ **Source of Sample:** B-2 **Depth:** 8.0-10.0 FT **Sample Number:** S-5

Remarks:

○SAMPLE DESCRIPTION BASED ON USCS

TRC Engineers, Inc.

Mt. Laurel, NJ

Figure 3

Tested By: CWZ 11/04/21 **Checked By:** SM 11/04/21