GEOTECHNICAL INVESTIGATION

CHIPOTLE RESTAURANT
CROSSROADS MIXED USE COMMERCIAL DEVELOPMENT
U.S. HIGHWAY 24 AND COLORADO STATE HIGHWAY 94
COLORADO SPRINGS, COLORADO

Prepared for:

CROSSROADS DEVELOPMENT, LLC
90 SOUTH CASCADE AVENUE, SUITE 1500
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Attention: Ms. Kelly Nelson

Project No. CS19629.003-125

November 14, 2024

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SCOPE

This report presents the results of our Geotechnical Investigation for the proposed commercial pad site, planned to be developed as a Chipotle Restaurant, located near the west corner of the intersection of U.S. Highway 24 and Colorado State Highway 94 in Colorado Springs, Colorado. The purpose of our investigation was to evaluate subsurface conditions at the site in order to develop geotechnical design criteria for the proposed restaurant and associated site improvements. This report summarizes the results of our field and laboratory investigations, and presents our design and construction recommendations for foundations, floor systems, and pavement section alternatives, as well as other details influenced by subsurface conditions. We believe the investigation was completed in accordance with our proposal (CTL|T Proposal No. CS-24-0195) dated October 16, 2024. Evaluation of the property for the possible presence of potentially hazardous materials (environmental site assessment) is not included in the scope.

The report was prepared based on conditions disclosed by our exploratory borings, results of laboratory tests, engineering analyses, and our experience. The design criteria presented in the report were based on our understanding of the planned construction. The following section summarizes the report. More detailed descriptions of subsurface conditions, as well as our design and construction recommendations, are presented in the report.

SUMMARY OF CONCLUSIONS

1. Subsurface conditions were explored by advancing two (2) exploratory borings within the approximate footprint of the proposed Chipotle Restaurant building. Soils encountered within the two (2) exploratory borings consisted of natural slightly silty to silty sand extending to the maximum depths explored of 25 and 30 feet. Bedrock was not encountered in our borings. The near surface silty sand is judged to be non-expansive.

2. Groundwater was not encountered in our exploratory borings during our drilling operations. Groundwater levels may rise in response to seasonal precipitation and irrigation.

3. The proposed commercial building can be constructed using a spread footing foundation system. Footings should be underlain by natural, undisturbed granular soils or properly moisture conditioned and densely compacted fill.

4. We believe a low risk of poor slab-on-grade performance will exist for a slab-on-grade floor when underlain by the natural, undisturbed granular soils or new, properly constructed fill.

5. Surface drainage should be designed and maintained to provide for the rapid removal of runoff away from the proposed building to reduce potential subsurface wetting. Water should not be allowed to pond adjacent to the building.

6. The design and construction criteria for foundations and slabs-on-grade included in this report were compiled with the expectation that all recommendations will be incorporated into the project and that the property manager will maintain the structures, use prudent irrigation practices, and maintain surface drainage. It is critical that all recommendations in this report are followed.

SITE CONDITIONS

The site is vacant and consists of about 1-acre of land. The ground surface across the site is generally graded flat and level to gently sloping downward toward the west at a grade of less than about 1 percent. The ground surface at the site is generally devoid of vegetation. Central Rail Point and U.S. Highway 24 are present adjacent to the north and south, respectively. Similar commercial developments are present in the immediate vicinity to the north, east, and west of the site. The general vicinity of the property and location of the proposed structure is presented in Fig. 1.

PROPOSED CONSTRUCTION

A Chipotle restaurant is planned to be constructed on a commercial pad site located at the approximate location shown on Fig. 1. The restaurant is planned as a single-story commercial structure. The structure will be constructed using either light gauge metal framing or lumber framing with metal, block veneer, or composite exterior finishes. The structure is planned to contain nearly 2,200 square feet. No below grade construction is planned. Our understanding of the proposed construction is based on discussions with the client and an AutoCAD file supplied to us by Crossroads Development via email on October 9, 2024.

INVESTIGATION

Subsurface conditions at the site were investigated by drilling two (2) exploratory borings for the proposed restaurant. The proposed parking lot and drive lane subgrade was investigated by drilling two (2) shallow subgrade borings. The borings were drilled at the approximate locations shown on Fig. 1 and advanced to depths of 25 and 30 feet using 4-inch diameter, continuous-flight auger and a truck-mounted drill rig.

Samples of the soil were obtained at 5 to 10-foot intervals using a 2.5-inch diameter (O.D.) modified California barrel sampler driven by blows from a 140-pound hammer falling 30 inches. A representative of CTL|Thompson, Inc. was present during drilling to observe drilling operations, log the subsurface conditions encountered in the borings, and obtain samples for laboratory tests.

Samples were returned to our laboratory where they were examined by our engineer and laboratory tests were assigned. Laboratory tests included dry density, moisture content, Atterberg limits, gradation analysis, and water-soluble sulfate concentration. Summary logs of the exploratory borings, including results of field penetration resistance tests and a portion of the laboratory data, are presented on Fig. 2. Gradation test results are presented on Figs. 3 and 4. The laboratory results are summarized on Table 1.

SURFACE CONDITIONS

Subsurface soils encountered in the two (2) building borings consisted of natural slightly silty to silty sand to the maximum depths explored of 25 and 30 feet. Subsurface soils encountered in the two (2) shallow parking lot subgrade borings consisted of about 4 feet of natural, silty sand. Although not encountered in our borings, shallow fills may be encountered at the site resulting from the prior overall site grading and nearby underground utility installation. Some pertinent engineering characteristics of the soils encountered, as well as groundwater conditions, are described in the following paragraphs.

Granular Soils

Slightly silty to silty sand was encountered at the ground surface within the building footprint and extended to depths of up to 30 feet below existing grades. Materials encountered within the parking lot also consisted of silty sand. The sand is judged to be loose to dense based on field penetration resistance testing. Six samples of the natural silty sands were subjected to laboratory testing and contained 10 to 14 percent silt and clay-sized particles. Atterberg limits testing of a sample indicates the natural sands are non-plastic. Based on the laboratory test results and our experience, we judge the sand soils to be non-expansive when wetted.

Groundwater

Groundwater was not encountered in the exploratory borings during our drilling operations. The borings were drilled in the mid fall season when groundwater depths are departing the shallow depths of the summer months. Water levels may rise in response to seasonal precipitation and irrigation.

Seismicity

According to the USGS, Colorado's Front Range and eastern plains are considered low seismic hazard zones. The earthquake hazard exhibits higher risk in western Colorado compared to other parts of the state. The Denver Metropolitan area has experienced earthquakes within the past 100 years, shown to be related to deep drilling, liquid injection, and oil/gas extraction. Naturally occurring earthquakes along faults due to tectonic shifts are rare in this area.

The soil and bedrock at this site are not expected to respond unusually to seismic activity. The 2021 International Building Code (Section 1613.2.2) defers the estimation of Seismic Site Classification to ASCE 7-16, as outlined in the table below.

ASCE 7-16 SITE CLASSIFICATION CRITERIA

Seismic Site Class	$\bar{s}_u$, Average Undrained Shear Strength (lb/ft^2)	$\bar{N}$, Average Standard Penetration Resistance (blows/ft)	$\bar{v}_s$, Average Shear Wave Velocity (ft/s)
A. Hard Rock	N/A	N/A	>5,000
B. Rock	N/A	N/A	2,500 to 5,000
C. Very Dense Soil and Soft Rock	>2,000	>50 blows/ft	1,200 to 2,500
D. Stiff Soil	1,000 to 2,000	15 to 50 blows/ft	600 to 1,200
E. Very Loose Sand or Soft Clay Soil	<1,000	<15 blows/ft	<600
F. Soils requiring Site Response Analysis	See Section 20.3.1	See Section 20.3.1	See Section 20.3.1

Based on the results of our investigation, we judge a Seismic Site Classification of D (Stiff Soil). The subsurface conditions indicate low susceptibility to liquefaction from a materials and groundwater perspective. If desired, we can provide shear wave velocity testing to evaluate the site classification.

SITE DEVELOPMENT

The site is relatively flat and level to slightly sloping toward the west. Materials encountered in the vicinity of the proposed Chipotle building consist of natural, non-expansive granular soils. Based on the existing site grading, we expect cuts and fills of less than about 2 to 3 feet will be needed to establish a building pad. Grading plans have not been provided for our review.

Excavation

We believe the near-surface soils can be excavated with conventional, heavy-duty excavation equipment. Excavation will likely remain within the overburden silty sand materials. Based on our investigation and Occupational Safety and Health Administration (OSHA) standards, we believe the granular materials classify as Type C soil. Type C soil requires a maximum slope inclination of 1.5:1 (horizontal to vertical) for dry conditions. Excavation slopes specified by OSHA are dependent upon the types of soil and groundwater conditions encountered. The contractor's "competent person" should identify the soils encountered in the excavation and refer to OSHA standards to determine appropriate slopes. Stockpiles of soils and equipment should not be placed within a horizontal distance equal to one-half the excavation depth, from the edge of the excavation.

Fill Placement

We anticipate new site grading fill will be placed at the site to establish a building pad. The properties of the fill will affect the performance of foundations and slabs-on-grade. The near surface soils are expected to be suitable to re-use or as fill and back fill material. Vegetation, topsoil, debris, building remnants, and other deleterious materials should be substantially removed, if encountered. If imported fill is necessary, it should ideally consist of granular material with 100 percent passing the 2-inch sieve and less than 30 percent passing the No. 200 sieve. The import soil should exhibit low plasticity with a Liquid Limit less than 30 and a Plasticity Index less than 10. Import soils similar to the on-site natural soils may be suitable. A sample of the import material should be submitted to our office for approval before stockpiling at the site.

Prior to fill placement, vegetation, topsoil, and other deleterious material should be removed. Areas to receive fill should be scarified to a depth of 8 inches, moisture conditioned to near optimum moisture content and compacted to high densities.

Fill and backfill should be placed in thin, loose lifts of 8 inches or less. Granular materials placed as fill should be moisture conditioned to within 2 percent of optimum moisture contents and compacted to at least 95 percent of maximum modified Proctor dry density (ASTM D 1557). Compaction of backfill should be observed and tested by a representative of our firm during construction.

Water and sewer lines are often constructed beneath slabs and pavements. Compaction of utility trench backfill can have a significant effect on the life and serviceability of floor slabs, pavements, and exterior flatwork. We recommend utility trench backfill in non-building areas be moisture conditioned to within 2 percent of optimum moisture content and compacted to at least 95 percent of maximum modified Proctor dry density (ASTM D 1557). Our experience indicates the use of a self-propelled compactor results in more reliable performance compared to trench backfill compacted by a sheepsfoot wheel attachment on a backhoe or trackhoe. The upper portion of the trenches should be widened to allow the use of a self-propelled compactor. The placement and compaction of utility trench backfill should be observed and tested by a representative of our firm during construction.

Fill should not be placed when frozen and should not be placed over top of frozen soils. Once fill is placed, it is important that measures be planned to reduce drying of the near-surface materials. If the fill dries excessively prior to building construction, it may be necessary to rework (scarify, moisture condition, and compact) the upper, drier materials prior to the placement of concrete and forms for the new foundations or floor slabs.

FOUNDATIONS

Based on our exploratory borings and understanding of the proposed construction, we anticipate natural, non-expansive silty sand is present at elevations that will influence the performance of shallow foundations. In our opinion, the restaurant building can be constructed utilizing a shallow foundation consisting of a spread footings and underlain by undisturbed, natural silty sand or densely compacted fill. If loose soils are encountered or materials are loosened during the construction process, the soils should be moisture conditioned and densely compacted. If fills are encountered during construction, they should be excavated to depths that expose the natural sand soils. The excavated fills can likely be reused as compacted and moisture conditioned backfill as discussed in the SITE DEVELOPMENT section of this report. Design and construction criteria for the spread footing foundations are presented in the following section.

Spread Footing Foundations

The following presents our design and construction recommendations for the spread footing foundation option.

1. Spread footings for the proposed restaurant should be constructed on the natural, undisturbed granular soils or properly constructed fill. Soils loosened during construction or encountered in the excavation should be moisture conditioned and densely compacted per the fill placement section of this report.

2. Spread footings can be designed for a maximum allowable soil bearing pressure of 2,500 psf when underlain by natural, undisturbed granular soils and/or new fill.

3. We recommend footings beneath continuous foundation walls be at least 16 inches wide. Footings beneath isolated column pads should be at least 24 inches square. Larger footing sizes may be required to accommodate the anticipated foundation loads.

4. Foundation walls should be well-reinforced. We recommend reinforcement sufficient to span an unsupported distance of at least 10 feet.

5. We recommend designs consider total movement of 1-inch and differential movement of 1/2-inch.

6. A coefficient of friction of 0.4 (cast-in-place concrete on silty sand) can be used during design to resist lateral loads.

7. Exterior footings must be protected from frost action. Normally, 30 inches of frost cover is required in the area, according to the Pikes Peak Regional Building Department.

8. A representative of our firm should observe the completed foundation excavation to confirm the exposed conditions are similar to those encountered in our exploratory borings. The placement and compaction of below-footing fill and footing subgrade preparation should be observed and tested by a representative of our firm during construction.

9. Excessive wetting of foundation soils during and after construction can cause softening and settlement of foundation soils and result in footing and slab movements. Proper surface drainage around the building is critical to control wetting.

FLOOR SYSTEMS

Materials at and directly below the main floor level include non-expansive slightly silty to silty soils and potentially, new fill. We understand existing grades are near finished floor elevations. Based on our understanding of the proposed construction, near surface materials encountered in our exploratory borings, laboratory test results, and our experience, we believe a low risk of poor slab performance due to swelling or settling of the on-site soils exists. We understand a slab-on-grade floor is likely the preferred floor system of the proposed commercial building. The following presents our design and construction recommendations for slabs-on-grade.

Slab-on-Grade

We believe a low risk of poor slab performance will exist for floor slabs underlain by the natural, undisturbed granular materials. New fill may be placed to establish a building pad; however, based on existing grades of the site, we do not believe site grading fill will exceed about 2 to 3 feet.

Shallow building foundations will likely settle relative to lightly loaded slab-on-grade floors. We estimate this relative movement between footing foundations and floor slabs could be on the order of 1-inch. The settlement can cause cosmetic cracking of finishing products that are used in areas such as the kitchen, dining area, offices, break rooms, restrooms, etc. We recommend the slab-on-grade floors be separated from exterior walls and interior bearing members with joints that allow for free vertical movement of the slab. Slip-joints in slab-bearing partitions should allow for at least 1-1/2 inches of free vertical movement. If the “float” is provided at the tops of partitions, the connection between interior, slab-supported partitions and exterior, foundation-supported walls should be detailed to allow differential movement. These architectural connections are critical to help reduce cosmetic damage when foundations and floor slabs move relative to each other. We have seen instances where these architectural connections were not designed and constructed properly and resulted in moderate cosmetic damage, even though the movement experienced was well within the anticipated range. The architect should pay special attention to these issues and detail the connections accordingly.

All parties must realize that even small movements of the floor slab (less than 1-inch) can damage comparatively brittle floor treatments such as ceramic or stone tile that might be used in restrooms, or impact equipment that is sensitive movement. If some movement of the slab is not acceptable, a structurally supported floor with an air space between the floor and the subgrade soils is recommended. The air space required by building codes depends on the materials used to construct the floor. The structural floor is supported by the foundation system. There are design and construction issues associated with structural floors, such as ventilation and increased lateral loads that must be considered.

The 2021 International Building Code (IBC) requires a vapor retarder be placed between base course or the subgrade soils and the concrete slab-on-grade floor, unless the designer of the floor waives this requirement. The merits of installing a vapor retarder below the floor slab depend on the sensitivity of floor coverings and building use to moisture. A properly installed vapor retarder (10 mil minimum) is more beneficial below concrete slab-on-grade floors where floor coverings, painted floor surfaces or products stored on the floor will be sensitive to moisture. The vapor retarder is most effective when concrete is placed directly on top of it, rather than placing a sand or gravel leveling course between the vapor retarder and the floor slab. The placement of concrete on the vapor retarder may increase the risk of shrinkage cracking and curling. Use of concrete with reduced shrinkage characteristics including minimized water content, maximized coarse aggregate content, and reasonably low slump will reduce the risk of shrinkage cracking and curling. Considerations and recommendations for the installation of vapor retarders below concrete slabs are outlined in Section 5.2.3.2 of the 2015 report of the American Concrete Institute (ACI) Committee 302, “Guide for Concrete Floor and Slab Construction (ACI 302.R-15)”.

Exterior Flatwork

We recommend exterior flatwork and sidewalks be isolated from the foundations to reduce the risk of transferring heave, settlement, or freeze-thaw movement to the structures. One alternative would be to construct the inner edges of the flatwork on haunches or steel angles bolted to the foundation walls and detail the connections such that movement will cause less distress to the building, rather than tying the slabs directly into the building foundation. Construction on haunches or steel angles and reinforcing the sidewalks and other exterior flatwork will reduce the potential for differential settlement and better allow them to span across wall backfill. Frequent control joints should be provided to reduce problems associated with shrinkage cracking. Panels that are approximately square perform better than rectangular areas.

BELOW-GRADE CONSTRUCTION

It is our understanding that no below-grade construction (habitable or mechanical such as elevator pits) is planned for the proposed Chipotle Restaurant. If plans change and habitable, below-grade areas will be included in the structure, our office should be contacted to assess our shallow foundation recommendations as well as provide design criteria for lateral earth pressures and subsurface drain systems.

PAVEMENTS

We understand the construction of the proposed Chipotle restaurant will include drive lanes and a parking lot. The automobile parking lot will contain about 47 parking stalls located northwest, northeast, and southwest of the proposed building. Our exploratory borings and understanding of the proposed construction suggest the subgrade soils in the vicinity of the restaurant consist predominantly of slightly silty to silty sand. Two samples of the near surface subgrade soils were obtained during drilling. The subgrade samples were returned to our laboratory, combined, and assigned laboratory classification testing. Classification testing included gradation analysis and Atterberg Limits. The combined sample contained 13 percent silt and clay-sized particles (passing the No. 200 sieve). The sample was subjected to Atterberg limits testing resulting in non-plastic properties. The pavement subgrade sample classified as SM soils using the Unified Soil Classification System (USCS). According to the American Association of State Highway Transportation Officials (AASHTO) classification system, the subgrade soils present within the proposed parking lots and drive lanes classify as A-2-4 soils. These types of materials generally exhibit good pavement support characteristics. For design purposes, an estimated Hveem Stabilometer ("R") value of 40 was assigned for the existing subgrade materials, based on our laboratory classification testing (Atterberg Limits and sieve analysis).

We anticipate the parking lot will be subjected to passenger pick-up trucks, automobiles, and occasional delivery trucks. We considered a daily traffic number (DTN) of 5 for the automobile parking lot, including the drive lanes which correspond to 18-kip Equivalent Single-Axle Loads (ESAL) of 36,500 for a 20-year flexible pavement design life (asphalt pavement). An 18-kip ESAL of 91,250 for a 50-year rigid pavement design life (concrete) was used for design of the concrete pavement option. Parking lot pavement options are presented in the following table. If the estimated DTN values are significantly different, we should be contacted to revise our calculations to reflect the different values.

RECOMMENDED PAVEMENT DESIGN SECTION ALTERNATIVES

Street/Parking Lot	ESAL Asphalt/Concrete	Asphalt Section (AC) Inches	Asphalt Pavement + Aggregate Base Course (AC + ABC) Inches	Plain Portand Cement Concrete (PCC) Inches
Automobile Parking Lot	36,500 / 91,250	4	3 + 6	6

We recommend a concrete pad be provided at the trash dumpster site, if included in the proposed construction. The pad should be at least 8 inches thick and long enough to support the entire length of the trash truck and dumpster. Joints between concrete and asphalt pavements should be sealed with a flexible compound.

Our design considers pavement construction will be completed in accordance with the City Colorado Springs Specifications. The specifications contain requirements for the pavement materials (asphalt, base course, and concrete) as well as the construction practices used (compaction, materials sampling, and proof-rolling). Of particular importance are those recommendations directed toward subgrade and basecourse compaction and proof-rolling. During proof-rolling, attention should be directed toward the areas of confined backfill compaction such as utility trenches. Soft or loose subgrade or areas that pump excessively should be stabilized prior to pavement construction. Subgrade areas that pass the proof-roll should be stable enough to pave. A representative of our office should be present at the site during placement of fill and construction of pavements to perform density testing.

CONCRETE

Concrete in contact with soil can be subject to sulfate attack. We measured water-soluble sulfate concentration of less than 0.1 percent in a sample obtained from the site. As indicated in our tests and ACI 318-19, the sulfate exposure class is *not applicable* or S0.

SULFATE EXPOSURE CLASSES PER ACI 318-19

Exposure Classes		Water-Soluble Sulfate (SO_4) in Soil [A] (%)
Not Applicable	S0	< 0.10
Moderate	S1	0.10 to 0.20
Severe	S2	>0.20 to 2.00
Very Severe	S3	> 2.00

A) Percent sulfate by mass in soil determined by ASTM C1580

For this level of sulfate concentration, ACI 318-19, *Building Code Requirements for Structural Concrete*, indicates there are no special cement type requirements for sulfate resistance as indicated in the table below.

CONCRETE DESIGN REQUIREMENTS FOR SULFATE EXPOSURE PER ACI 318-19

Exposure Class		Maximum Water/ Cement Ratio	Minimum Compressive Strength (psi)	Cementitious Material Types [A]			Calcium Chloride Admixtures
				ASTM C150/ C150M	ASTM C595/ C595M	ASTM C1157/ C1157M	
S0		N/A	2500	No Type Restrictions	No Type Restrictions	No Type Restrictions	No Restrictions
S1		0.50	4000	II [B]	Type with (MS) Designation	MS	No Restrictions
S2		0.45	4500	V [B]	Type with (HS) Designation	HS	Not Permitted
S3	Option 1	0.45	4500	V + Pozzolan or Slag Cement [C]	Type with (HS) Designation plus Pozzolan or Slag Cement [C]	HS + Pozzolan or Slag Cement [C]	Not Permitted
S3	Option 2	0.4	5000	V [D]	Type with (HS) Designation	HS	Not Permitted

A) Alternate combinations of cementitious materials shall be permitted when tested for sulfate resistance meeting the criteria in section 26.4.2.2(c).
B) Other available types of cement such as Type III or Type I are permitted in Exposure Classes S1 or S2 if the C3A contents are less than 8 or 5 percent, respectively.
C) The amount of the specific source of pozzolan or slag to be used shall not be less than the amount that has been determined by service record to improve sulfate resistance when used in concrete containing Type V cement. Alternatively, the amount of the specific source of the pozzolan or slab to be used shall not be less than the amount tested in accordance with ASTM C1012 and meeting the criteria in section 26.4.2.2(c) of ACI 318.
D) If Type V cement is used as the sole cementitious material, the optional sulfate resistance requirement of 0.040 percent maximum expansion in ASTM C150 shall be specified.

Superficial damage may occur to the exposed surfaces of highly permeable concrete. To control this risk and to resist freeze-thaw deterioration, the water-to-cementitious materials ratio should not exceed 0.50 for concrete in contact with soils that are likely to stay moist due to surface drainage or high-water tables. Concrete should have a total air content of 6 percent ± 1.5

percent. We advocate damp-proofing of all foundation walls and grade beams in contact with the subsoils.

SURFACE DRAINAGE

Performance of the foundation system, floor slabs, pavements, and concrete flatwork to be constructed at this site will be influenced by the moisture conditions existing within the near-surface soils. Overall surface drainage patterns must be planned to provide for the rapid removal of storm runoff. Water should not be allowed to pond adjacent to foundations or over pavements or concrete flatwork. We recommend the following precautions be observed during construction and maintained at all times after the building is completed.

1. Excessive wetting or drying of the open foundation excavation should be avoided.

2. Foundation wall backfill should be graded to provide for the rapid removal of run-off. We recommend a slope equivalent to at least 6 inches in the first 10 feet. In flatwork areas adjacent to the structure, the slope may be reduced to comply with ADA requirements.

3. Backfill around foundations should be moistened and compacted according to criteria presented in <u>Fill Placement</u>.

4. Roof downspouts and drains should discharge well away from the building. Downspout extensions and/or splash blocks should be provided to help reduce infiltration into the backfill adjacent to the structure.

5. Landscaping concepts should concentrate on use of plantings that require little or no supplemental irrigation after the vegetation is established. Irrigated sod, if it is included in the landscaping plan, should not be located within 6 feet of the foundation walls. Irrigation should be limited to the minimum amount sufficient to maintain vegetation. Application of more water will increase likelihood of slab and foundation movements.

6. Backfill around foundations should be moistened and compacted according to criteria presented in <u>Fill Placement</u>.

CONSTRUCTION OBSERVATIONS

We recommend that CTL|Thompson, Inc. provide construction observation services to allow us the opportunity to confirm subsurface conditions are consistent with those found during this investigation. If others perform these observations, they must accept responsibility to judge whether the recommendations in this report remain appropriate.

GEOTECHNICAL RISK

The concept of risk is an important aspect with any geotechnical evaluation primarily because the methods used to develop geotechnical recommendations do not comprise an exact science. We never have complete knowledge of subsurface conditions. Our analysis must be tempered with engineering judgment and experience. Therefore, the recommendations presented in any geotechnical evaluation should not be considered risk-free. Our recommendations represent our judgment of those measures that are necessary to increase the chances that the structures will perform satisfactorily. It is critical that all recommendations in this report are followed during construction. The owner must assume responsibility for maintaining the structure and use appropriate practices regarding drainage.

LIMITATIONS

This report has been prepared for the exclusive use of Crossroads Development, LLC for the purpose of providing geotechnical design and construction criteria for the proposed Chipotle Restaurant located west of the intersection of U.S. Highway 24 and Colorado State Highway 94 in Colorado Springs, Colorado. The information, conclusions, and recommendations presented herein are based upon consideration of many factors including, but not limited to, the type of structure proposed, the geologic setting, and the subsurface conditions encountered. The conclusions and recommendations contained in the report are not valid for use by others. Standards of practice continuously evolve in the area of geotechnical engineering. The recommendations provided are appropriate for about three years. If the project is not constructed within about three years, we should be contacted to determine if we should update this report.

Our borings were spaced to obtain a reasonably accurate picture of foundation conditions below the proposed building area. The data are representative of conditions encountered only at the exact boring locations. Variations in the subsurface conditions not indicated by our borings are possible. Representatives of our firm should periodically visit the site during construction to perform observation and testing services.

We believe this investigation was conducted in a manner consistent with that level of skill and care normally used by geotechnical engineers practicing in this area at this time. No warranty, express or implied, is made.

If we can be of further service in discussing the contents of this report or in the analysis of the influence of the subsoil conditions on design of the building, please call.

CTL|THOMPSON, INC.

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Reviewed by:

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LEGEND:

TH-1 ● APPROXIMATE LOCATION OF EXPLORATORY BORING.

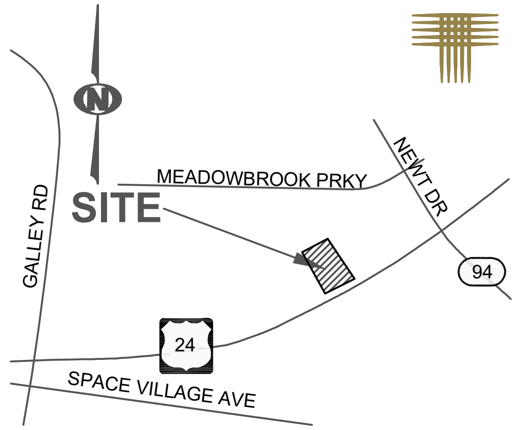
S-1 ○ APPROXIMATE LOCATION OF SUBGRADE BORING.

— - - — PROJECT BOUNDARY

LOCATION OF PROPOSED BUILDING FOOTPRINT.

LOCATION OF PROPOSED DRIVE LANES AND PARKING AREAS.

NOTE:
BASE DRAWING WAS PROVIDED BY THE EQUITY GROUP VIA EMAIL ON OCTOBER 16, 2024.



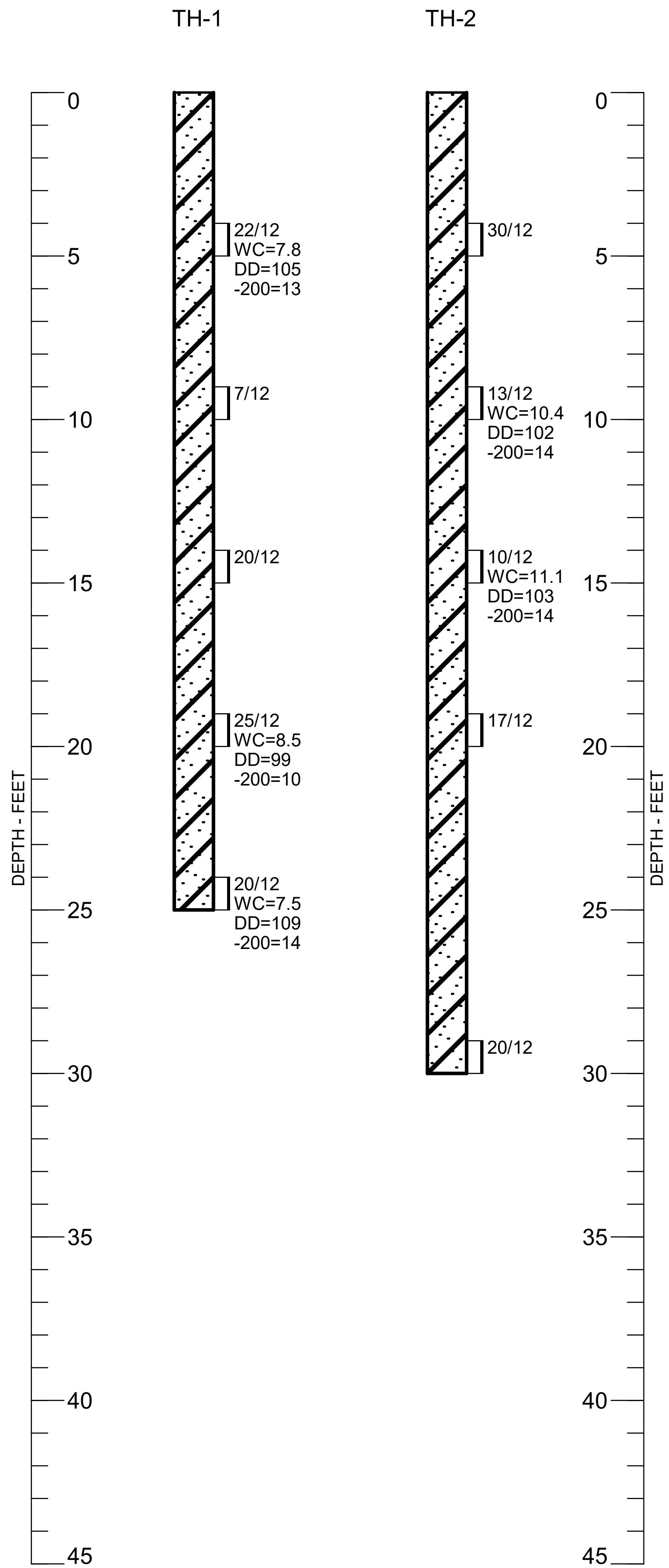
VICINITY MAP

(NOT TO SCALE)

CROSSROADS DEVELOPMENT, LLC
CHIPOTLE RESTAURANT - CROSSROADS MIXED USE
CTL|T PROJECT NO. CS19629.003-125

Location of Exploratory Borings

FIG. 1



LEGEND:

SAND, SLIGHTLY SILTY TO SILTY, LOOSE TO DENSE, MOIST, LIGHT BROWN TO BROWN (SP-SM, SM).

DRIVE SAMPLE. THE SYMBOL 22/12 INDICATES 22 BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE A 2.5-INCH O.D. SAMPLER 12 INCHES.

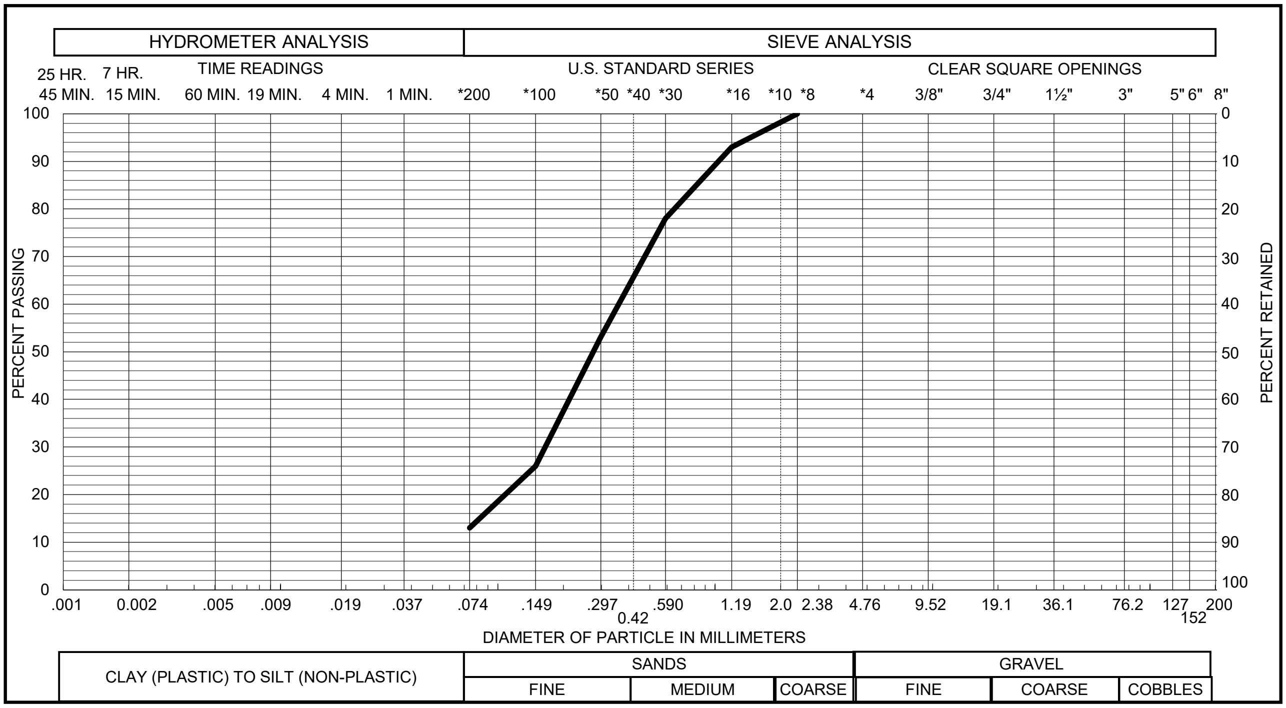
NOTES:

1. THE BORINGS WERE DRILLED OCTOBER 25, 2024 USING A 4-INCH DIAMETER, CONTINUOUS-FLIGHT AUGER AND A CME-55, TRUCK-MOUNTED DRILL RIG.
2. THESE LOGS ARE SUBJECT TO THE EXPLANATIONS, LIMITATIONS, AND CONCLUSIONS AS CONTAINED IN THIS REPORT.
3. GROUNDWATER WAS NOT ENCOUNTERED IN THE EXPLORATORY BORINGS DURING THIS INVESTIGATION.
4. WC - INDICATES MOISTURE CONTENT. (%)
   DD - INDICATES DRY DENSITY. (PCF)
   -200 - INDICATES PASSING NO. 200 SIEVE. (%)

CROSSROADS DEVELOPMENT, LLC
CHIPOTLE RESTAURANT - CROSSROADS MIXED USE
CTL|T PROJECT NO. CS19629.003-125

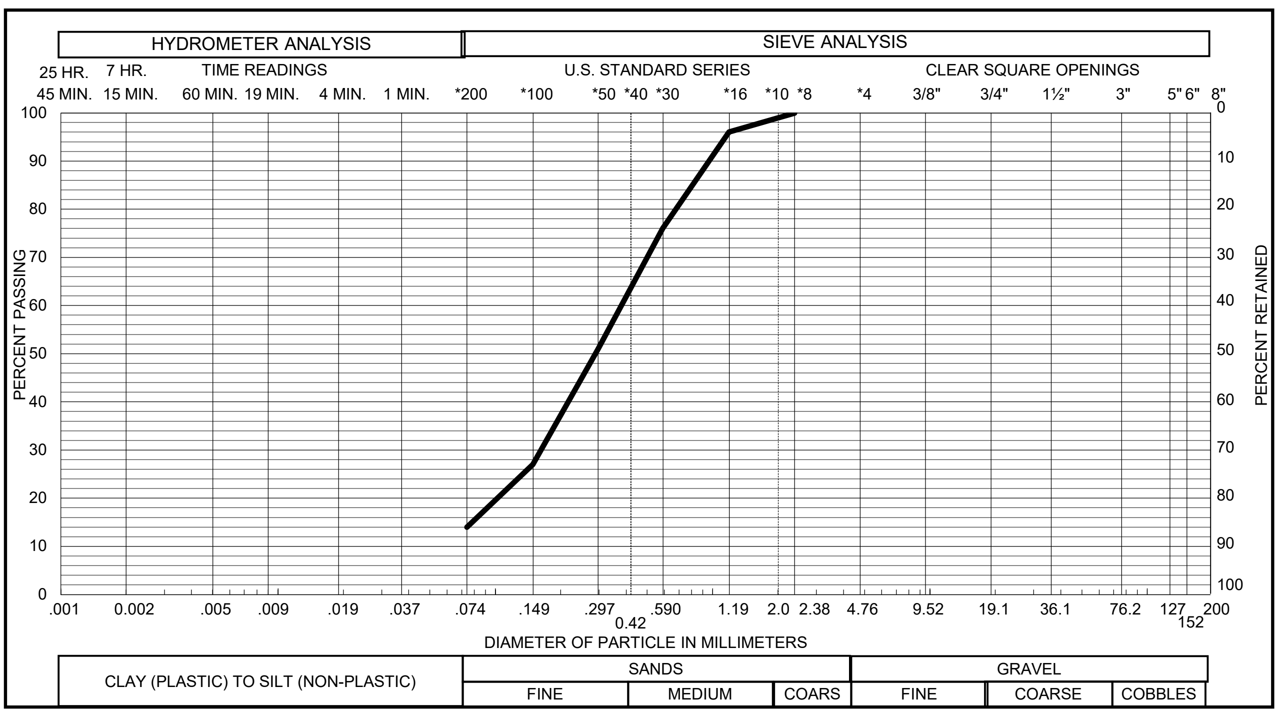
Summary Logs of Exploratory Borings

FIG. 2



Sample of SAND, SILTY (SM)
From TH - 1 AT 4 FEET

GRAVEL 0 % SAND 87 %
SILT & CLAY 13 % LIQUID LIMIT
PLASTICITY INDEX



Sample of SAND, SILTY (SM)
From TH - 2 AT 9 FEET

GRAVEL 0 % SAND 86 %
SILT & CLAY 14 % LIQUID LIMIT
PLASTICITY INDEX

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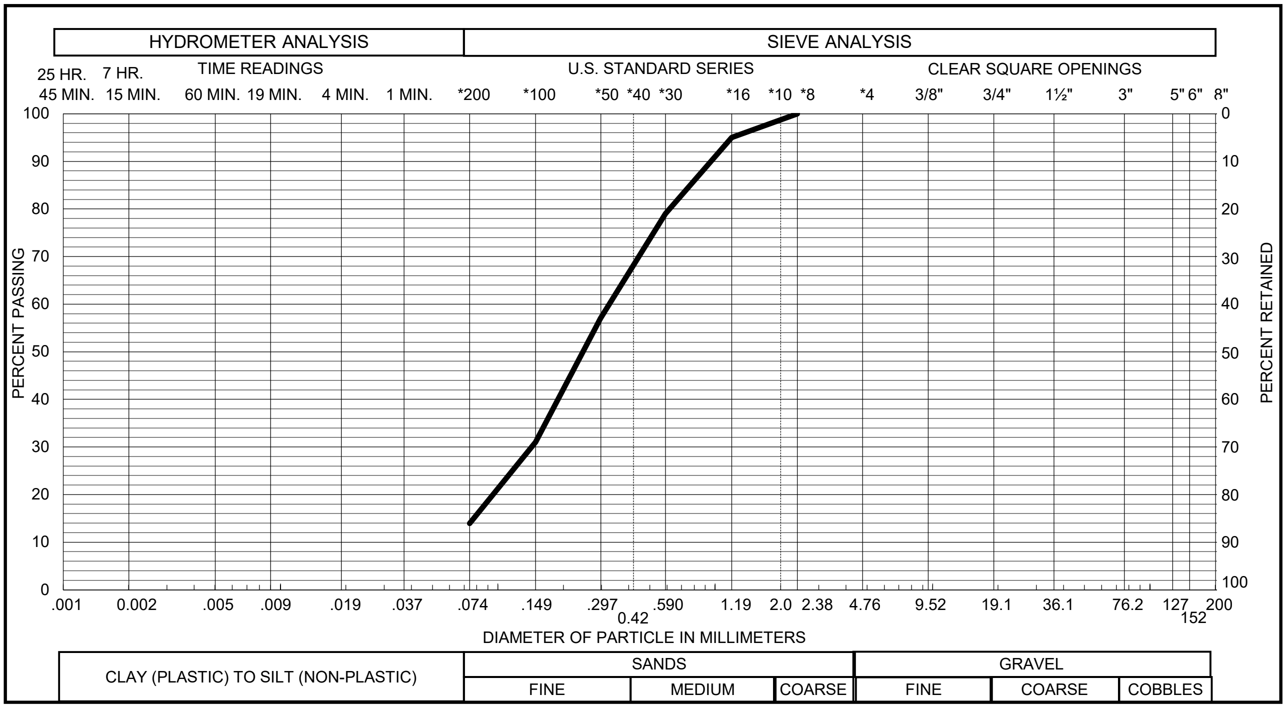
Gradation Test Results

FIG. 3



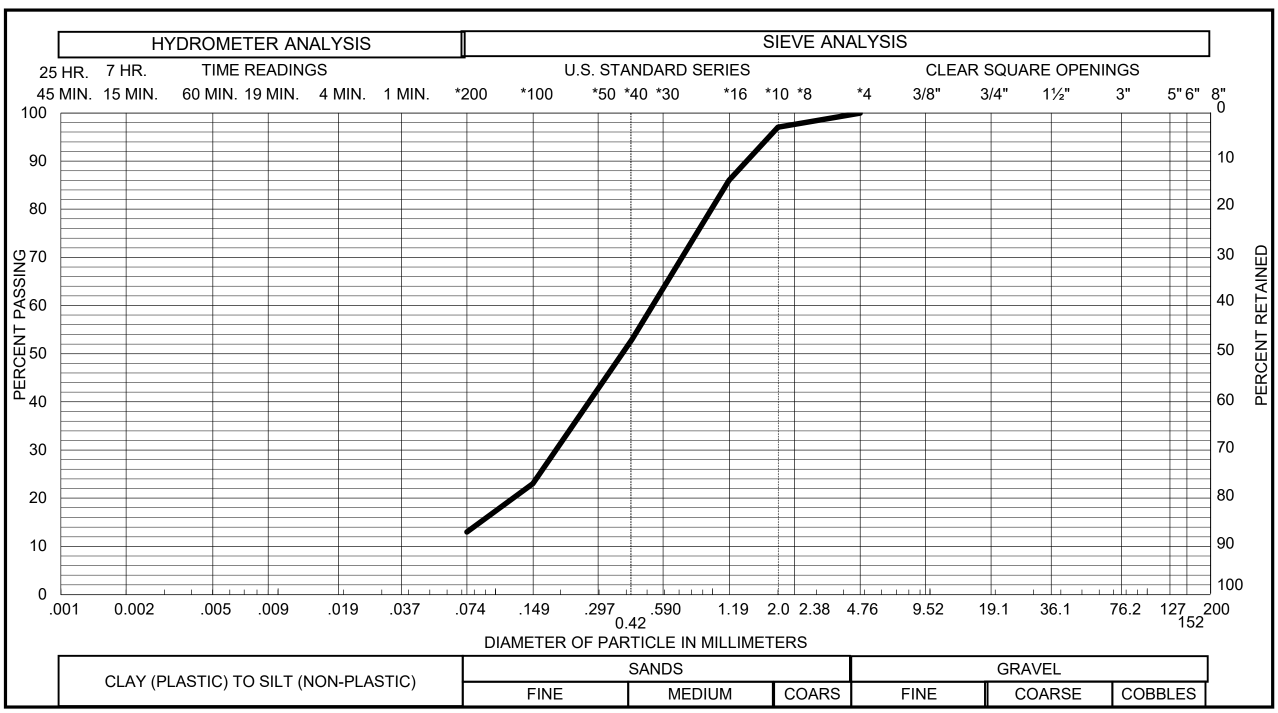
Sample of SAND, SILTY (SM)

From TH - 2 AT 14 FEET

GRAVEL 0 % SAND 86 %

SILT & CLAY 14 % LIQUID LIMIT

PLASTICITY INDEX



Sample of SAND, SILTY (SM)

From S - 1 AT 0-4 FEET

GRAVEL 0 % SAND 87 %

SILT & CLAY 13 % LIQUID LIMIT NV

PLASTICITY INDEX NP

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Gradation Test Results

FIG. 4

TABLE I

SUMMARY OF LABORATORY TESTING
CTL|T PROJECT NO. CS19629.003-125

BORING	DEPTH (FEET)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	ATTERBERG LIMITS LIQUID LIMIT	ATTERBERG LIMITS PLASTICITY INDEX	PASSING NO. 200 SIEVE (%)	WATER SOLUBLE SULFATES (%)	DESCRIPTION
TH-1	4	7.8	105			13		SAND, SILTY (SM)
TH-1	19	8.5	99			10		SAND, SLIGHTLY SILTY (SP-SM)
TH-1	24	7.5	109			14		SAND, SILTY (SM)
TH-2	9	10.4	102			14		SAND, SILTY (SM)
TH-2	14	11.1	103			14		SAND, SILTY (SM)
S-1	0	7.4		NV	NP	13	<0.1	SAND, SILTY (SM)

* SWELL MEASURED UNDER ESTIMATED IN-SITU OVERBURDEN PRESSURE.
NEGATIVE VALUE INDICATES COMPRESSION.