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Geotechnical & Environmental Engineering

Construction Materials Engineering & Testing

Laboratory Testing of Soils, Concrete & Asphalt

Geo-Environmental Drilling & Sampling

July 1, 2024
L-97,500

Report of Soils Exploration

72-Acre Yucaipa Parcel
124 Single-Family Lots
Ravinia Drive Off 159th Street
Orland Park, Illinois

Prepared For:

Pulte Homes Company, LLC
1900 E. Golf Road, Suite 300
Schaumburg, IL 60173

GEOTECHNICAL GROUP

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REPORT OF SOILS EXPLORATION
72-ACRE YUCAIPA PARCEL
124 SINGLE-FAMILY LOTS
RAVINIA DRIVE OFF 159TH STREET
ORLAND PARK, ILLINOIS

PREPARED FOR:
PULTE HOME COMPANY, LLC
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SCHAUMBURG, IL 60173

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July 1, 2024
L-97,500

REPORT OF SOILS EXPLORATION
72-ACRE YUCAIPA PARCEL
124 SINGLE-FAMILY HOMES
RAVINIA DRIVE OFF 159TH STREET
ORLAND PARK, ILLINOIS

1.0 INTRODUCTION

This report presents results of previous and supplemental soils explorations performed for the 72-acre Yucaipa Parcel in Orland Park, Illinois. The current geotechnical engineering services are being provided in accordance with TSC Proposal No. 73,059 dated April 25, 2024 and the attached General Conditions, incorporated herein by reference. A Soils Opinion Letter and Soil Boring Evaluation Form are also being prepared in connection with this project.

The project site encompasses approximately 72 acres located off Ravinia Drive to the south of 159th Street. It extends as far south as 165th Street and also lies about one-quarter mile west of La Grange Road (U.S. Route 45). The majority of the site is currently farmed with a wetland encroaching on the far southwest corner.

The subject property has rolling terrain with the highpoint in the east-central area at approximate Elevation 740. From there it slopes down to lowpoints of approximate Elevation 695 at the north end of the site (adjoining pond on the property to north) as well as around the wetland in the southwest corner. The west-central area is also relatively low at approximate Elevation 705.

Present plans call for the site to be subdivided into 124 single-family lots. Associated homes will presumably consist of 1 to 2-story wood-frame structures with attached garages and up to 9-foot basements. Associated site improvements are to include paved streets and underground utilities with stormwater management facilities consisting of two (2) detention basins lying along the north and southern ends of the parcel.

Grading information was not available at the time of this report, i.e. top of foundation (T/F) for the proposed single-family homes as well as high and normal water levels (HWL and NWL) for the detention basins have not been set. In regard to the latter, variable depth cuts are primarily anticipated with earthen berms to likely be required around the basin perimeters.

2.0 FIELD WORK AND LABORATORY TESTING

Twenty-six (26) soil borings were previously drilled on the subject property for Pulte Homes under TSC Job No. 82,797 in February 2015. An additional seven (7) borings were drilled as part of the current study, with a Boring Location Plan included in the Appendix showing the drilling layout for Borings 1-26 and 27-33, respectively. The ground surface elevations at the borings are also shown and in both cases have been rounded to the nearest 0.5 foot.

The majority of the borings were extended to 15 feet below existing grade. Exceptions include Borings 23 - 26, 28 and 30 which were concentrated around the larger south detention area and made 20 to 25 feet deep, as well as B-33 which was a 10-foot hand auger. They were drilled and samples tested in accordance with currently recommended American Society for Testing and Materials specifications.

Soil sampling was performed at 2½-foot intervals to a depth of at least 10 feet and no greater than 5-foot intervals thereafter. The samples were taken in conjunction with the Standard Penetration Test (except the B-33 hand-auger), for which the driving resistance to a 2" split-spoon sampler (N value in blows per foot) provides an indication of the relative density of granular materials and consistency of cohesive soils. Water level readings were taken during and following completion of drilling operations.

Soil samples were examined in the laboratory to verify field descriptions and to classify them in accordance with the Unified Soil Classification System. Laboratory testing included moisture content determinations for all cohesive and intermediate (silt or loamy) soil types. An estimate of unconfined compressive strength was obtained for all cohesive soils using a calibrated pocket penetrometer, with

actual measurements of unconfined compressive strength performed on representative samples of inorganic native clay. A dry unit weight test was also run on a single sample of clay fill.

Reference is made to the boring logs in the Appendix which indicate subsurface stratigraphy and soil descriptions, results of field and laboratory tests, as well as water level observations. Definitions of descriptive terminology are also included. While strata changes are shown as a definite line on the boring logs, the actual transition between soil layers will probably be more gradual. Fluctuations in the groundwater level may also occur due to variations in precipitation (short-term and seasonal) as well as rises or drops in the adjoining pond and wetland as well as other nearby surface water features, i.e. water levels at a future date may be higher or lower than those recorded at the time of drilling.

3.0 DISCUSSION OF TEST DATA

Surficial topsoil was 8 to 16 inches thick at the majority of the boring locations, being up to 2½ and 1½ feet deep at Borings 15 and 32, respectively. Topsoil and silty clay fill extended to 3 feet below existing grade at B-23, underlain by an additional 2 feet of buried topsoil. The thicker clayey topsoil deposits at Borings 15 and 23 exhibited moisture contents on the order of 35 percent. Relatively soft and very moist silty clay was also present at B-23, extending to 8 feet below existing grade and exhibiting an unconfined compressive strength of 0.6 tons per square foot (tsf) at a moisture content of 31 percent.

Medium stiff to very stiff silty clay soils of apparent medium to high plasticity were otherwise found underlying the topsoil layer at the majority of the boring locations. These CL/CH materials (Unified classification) were generally 3 feet deep but extended up to 8 feet below existing grade at a couple of locations. They exhibited unconfined comprehensive strengths typically ranging from 1.0 to 2.5 tsf at moisture contents of 24 to 30 percent. Higher moisture contents of up to 40 percent were recorded at Borings 5 and 15.

Stiff to hard silty clay and sandy clay soils otherwise predominated and extended to the bottom of the borings. The low to medium plasticity cohesive materials (CL and CL-ML classifications) had unconfined compressive strengths typically ranging from 1.5 to 7.5 tsf (occasionally higher) at moisture contents of 12 to 24 percent. An interbedded layer of loose silty sand was encountered below 20 feet in B-26, having an SPT N-value of 18 blows per foot (bpf).

The majority of the borings were "dry" both during and following completion of drilling operations. Free water was initially encountered at 8 to 20 feet below existing grade in less than one-quarter of them. The water levels in the boreholes at the end of drilling had generally remained about the same with B-4 afterward noted as dry.

4.0 ANALYSIS AND RECOMMENDATIONS

4.1 Building Foundations

Summarized in the following table is the shallowest depth/elevation at which in-situ native soils considered capable (or marginally capable) of supporting a net allowable bearing pressure of at least 3000 pounds per square foot (psf) were encountered at each of the borings. Ground surface elevations and depths of surficial topsoil or fill over buried topsoil (F) are also indicated. Those borings with "#" sign fall in or around the proposed detention basins on the north and southern portions of the site.

Added notes relate to the presence of marginal bearing soils for fill placement and/or foundation support (M) and undercut depths as part of mass-grading (U); these conditions are discussed in greater detail in the text which follows. The recommended bearing stress of 3000 psf is typical and generally satisfactory for residential construction.

BORING NO.	GROUND SURFACE ELEVATION*	SURFICIAL TOPSOIL DEPTH (FEET)	3000 PSF NATIVE BEARING	
			DEPTH (FEET)*	ELEVATION*
1	705.5	0.8	1.0 M	704.5
2 #	698.0	0.9	1.0	697.0
3	701.5	0.8	1.0	700.5
4	713.5	1.0	1.0	712.5
5	716.0	0.9	3.0 UM	713.0
6	705.5	0.7	1.0 M	704.5
7	708.5	1.2	1.5 M	707.0
8	706.0	1.1	1.5	704.5

BORING NO.	GROUND SURFACE ELEVATION*	SURFICIAL TOPSOIL DEPTH (FEET)	3000 PSF NATIVE BEARING	
			DEPTH (FEET)*	ELEVATION*
9	714.5	1.1	1.5	713.0
10	738.5	1.0	1.0 M	737.5
11	728.5	1.2	1.5 M	727.0
12	713.5	1.2	1.5 M	712.0
13	715.5	0.8	1.0	714.5
14	706.0	1.0	1.0	705.0
15	701.0	2.5	6.0 UM	695.0
16	709.5	1.0	1.0	708.5
17	719.5	1.2	1.5 M	718.0
18	708.5	1.0	1.0 M	707.5
19	703.5	1.1	1.5	702.0
20	724.0	0.9	1.0	723.0
21	710.5	0.8	1.0	709.5
22	700.0	1.0	1.0 M	699.0
23 #	698.0	5.0 F	8.0 U	690.0
24 #	699.0	0.8	1.0	698.0
25 #	699.5	1.0	1.0 M	698.5
26 #	702.5	1.0	1.0 M	701.5
27 #	697.5	0.8	1.0	696.5
28 #	705.0	1.0	1.0	704.0
29	735.0	1.0	1.0	734.0
30	703.0	1.2	1.5	701.5
31	730.0	0.8	1.0	728.5
32 #	693.5	1.5	1.5	692.0
33 #	700.5	0.5	0.5	700.0

*	Ground surface elevations and the depth/elevation of 3000 psf native bearing soils have been rounded to the nearest 0.5 foot.
#	Borings falling in or around proposed detention basin areas.
F	Fill and buried topsoil extend to depth indicated.
M	Marginal bearing soils for fill placement and/or foundation support.
U	Undercut depth as part of building pad construction (feet).

At the majority of the boring locations, the native soils found directly underlying the topsoil layer are considered suitable (or marginally suitable) for the support of 3000 psf bearing. These are for the most part indicated by bearing depths ranging from 1.0 to 1.5 feet in the above table. They typically consist of cohesive soils exhibiting unconfined compressive strengths of 1.75 tsf or greater, 0.8 to 1.5 tsf and/or having relatively high moisture contents exceeding 25 percent in the case of marginal bearing.

In these areas of satisfactory bearing, footings may also be constructed on engineered fill that is placed as part of mass-grading. Assuming that surficial topsoil is first stripped and new fill then placed and compacted to a 95 percent criterion, footings constructed on the engineered fill may also be sized for 3000 psf bearing. However, in areas underlain by low to marginal strength and/or relatively high moisture content soils, as well as anywhere that the height of new fill is to exceed 8 feet, it is recommended that settlement considerations related to fill placement be further evaluated when grading information is available.

Removal and replacement of unsuitable soil types as part of mass-grading (i.e. building pad construction) has been recommended at Borings 5, 15 and 23 (with B-23 in the southern detention area). Relatively soft and/or very moist silty clay soils extended to approximately 3, 6 and 8 feet below existing grade at these locations, respectively. If left in-place, consolidation of these compressible soil types could lead to settlement and cracking of floor slabs and foundations constructed thereupon.

Marginal bearing soils were otherwise encountered at relatively shallow depths in over one-third of the boring locations. They include silty clay soils having unconfined compressive strengths of 0.8 to 1.5 tsf and/or moisture contents exceeding 25 percent. Relatively low strength or unstable soils exposed at footing grade should be removed and replaced with structural backfill, with undercuts of between 1 and 2 feet generally required based on field observations. Foundation overexcavations are then

typically backfilled and footings constructed at design elevations in accordance with the following recommended procedures.

The base of foundation overexcavations should exceed footing dimensions by at least 12 inches along each side, 6 inches for every foot of overdig where the undercut exceeds 2.0 feet in depth. Replacement materials should consist of crushed stone, crushed gravel or recycled concrete between ¼ to 3 inches in size and containing no fines; IDOT gradations CA-1 and CA-7 meet these criteria. This "structural" fill should be spread in 12-inch layers loose thickness, each lift to be densified using vibratory compaction equipment or by tamping with a backhoe bucket. Footings constructed on the coarse aggregate backfill may also be proportioned for 3000 psf bearing.

In order to preclude disproportionately small footing sizes, it is recommended that all continuous wall footings be made at least 20 inches wide, trench footings at least 10 inches wide and isolated foundations at least 2.5 feet square, regardless of calculated dimensions. For frost considerations, all exterior footings should be constructed at least 3.5 feet below outside finished grade and 4.0 feet for foundations located outside of heated building limits. Interior footings may be constructed at higher elevations as long as they are protected against frost heave in the event of winter construction. Consideration should be given to reinforcing foundation walls (two #4 or #5 rebars top and bottom) where footing undercuts exceed 2 feet in depth or total fill heights are 8 feet or greater.

4.2 Mass-Grading

It is recommended that building pad and pavement areas be cleared of vegetation prior to mass-grading. Stripping operations should also include the removal of all surficial topsoil and other decomposable plant matter. The building pad and pavement areas should then be proof-rolled using a loaded dump truck or other approved piece of heavy rubber-tired construction equipment, in order to detect the presence of unsuitable soil types. All soft or unstable materials determined by proof-rolling should be reworked and recompacted or, if that does not substantially improve subgrade stability, removed and replaced.

Removal and replacement of unsuitable soil types is specifically recommended as part of building pad construction at Borings 5, 15 and 23 (with B-23 in the southern detention area). Relatively soft and/or very moist silty clay soils extended to approximately 3, 6 and 8 feet below existing grade at these locations, respectively. Undercutting of unsuitable soil types will require that building pads be enlarged to permit the horizontal distribution of footing loads. It is recommended that the base of the undercut, or zone of stripping where only topsoil is to be removed, extend a minimum of 5 feet outside

the outer edge of the structure plus an additional 0.5 feet for every foot of fill to be placed.

Marginal subgrade stability, represented by clay soil types having unconfined compressive strengths of 0.8 to 1.5 tsf and/or moisture contents exceeding 25 percent, was otherwise encountered at over one-third of the boring locations. These materials will likely need to be reduced in moisture content and recompacted in order to provide a stable base. Lime modification can achieve similar results and has the advantage of allowing work to proceed under adverse weather conditions. In any event, the need for subgrade reworking or additional undercutting should be evaluated on the basis of proof-rolling.

New fill should consist of inorganic silty clay or sandy clay soils of low to medium plasticity or approved granular materials. It is recommended that compaction for building pad and pavement areas be to a minimum of 95 and 90 percent of maximum dry density, respectively, as determined by the Modified Proctor test (ASTM D 1557). The upper 2 feet of roadway subgrade is also often compacted to the 95 percent criterion, to create a more stable base for final proof-rolling as well as paving. The fill should be placed in approximate 9 inch lifts loose measure for cohesive soils and up to 12 inches for granular materials, each lift to be compacted to the specified density prior to the placement of additional fill.

Moisture control is important in the compaction of most soil types, and it is recommended that the water content of new fill be within about 1 percentage point on the low side and 3 percentage points on the high side of optimum moisture as established by its laboratory compaction curve. If the soil is compacted too dry, it will have an apparent stability which will be lost if it later becomes saturated. If the soil is too wet the Contractor will not be able to achieve proper compaction.

In regard to the use of on-site borrow, shallow silty clay soils were sometimes relatively moist - having water contents of between 24 and 30 percent. It is estimated that their use as engineered fill or a stabilized subgrade will require that the in-situ moisture be reduced by about 6 to 12+ percentage points. This reduction in moisture content is typically achieved by spreading the material in a single lift and aerating with a continuous discing operation, for obvious reasons to work best in hot, dry and windy weather. Lime modification can also be used and has the advantage of working in less ideal weather conditions.

4.3 Pavement Design and Construction

Pavement subgrade preparation may be in general accordance with previous recommendations for mass-grading. It is anticipated that existing subgrade in at least some areas will have to be reduced in moisture content and recompacted prior to paving; compaction to at least 90 percent Modified Proctor density is recommended. However, as noted above the upper 2 feet of roadway subgrade is often compacted to 95 percent Modified Proctor density to aid in proof-rolling.

If paving construction is performed when drying of surficial soils cannot be accomplished, lime modification or removal of unstable subgrade and replacement with drier cohesive fill or 1 to 2 feet of granular materials may be required. Please note that subgrade stability will also be affected by final pavement grades (especially in relationship to the groundwater table) as well as weather conditions at the time of paving.

It is recommended that a nominal Illinois Bearing Ratio (IBR) value of 2.5 be used in the design of pavements. This reflects the medium to high plasticity cohesive subgrade soils which are prevalent in the area. Use of an IBR of 2.5 assumes that any soft or unstable areas will be remediated, i.e. subgrade stabilized until able to pass a proof-roll.

Bituminous pavements are typically used in connection with residential development. Base course materials for them should conform to IDOT gradation CA-6 and be compacted to 95 percent Modified Proctor density or 100 percent of the Standard Proctor (ASTM D 698) maximum density value. Bituminous materials should conform to an approved IDOT Superpave mix design as well as Standard Specifications for Road and Bridge Construction, Sections 406 and 1032. In regard to the former, N30 or N50 is typical for light-duty pavements and N50 or N70 for heavy-duty (including those to carry high traffic loads and/or heavy truck traffic). The hot mix asphalt (HMA) should be compacted to between 93 and 97 percent of its theoretical maximum density as determined by the asphalt supplier.

4.4 Stormwater Management Facilities

Stormwater management facilities will consist of two (2) detention basins lying along the north and southern ends of the parcel. It should be noted that no grading information was available at the time this report was prepared, i.e. high and normal water levels (HWL and NWL) and bottom elevations for the basins have not been set. However, variable depth cuts are primarily anticipated with earthen berms to likely be required around the basin perimeters. The general locations of the detention basins are listed in the following table along with the borings drilled for or in the vicinity of each:

Detention Basin General Location	Soil Borings
North-Central Area	2, 32 & 33
Along Southern Portion	23 - 28

Stiff to hard silty clay and sandy clay soils predominated in the referenced borings. These cohesive materials are expected to be stable on the 3H:1V to 5H:1V slopes typically used for man-made detention basins in this area. However, localized sloughing may occur in relatively soft layers occasionally encountered at shallow depths, i.e. at B-23 where buried topsoil and soft to medium stiff silty clay were present in the upper 8 feet.

Water retention should not be a problem in the cohesive soil types. Although permeability tests were not performed on the clay materials, we would estimate their coefficients of permeability to be in the range of 10^{-6} to 10^{-8} cm/sec (practically impervious). However, the cohesive soil mass will often contain silt and sand strata as interbedded layers. In this regard, firm silty sand in a wet condition was encountered from 20 to 23 feet below existing grade in B-26.

It is recommended that any granular soils be removed from the side slopes and bottom of excavations for a wet pond. They should be replaced with cohesive materials for a distance of at least 2.0 feet perpendicular to the cut. “Capping” of the sand and gravel layers will promote water retention, the granular strata representing a potential source of leakage.

Replacement materials as well as those used to construct berms around the perimeter of the detention basins should consist of clay soil types of medium to high plasticity, ideally containing less that 35 percent sand and gravel size particles. The majority of the cohesive deposits encountered by the borings meet these general requirements. The liner/embankment materials should be placed in approximate 10 inch lifts loose measure and compacted to at least 90 percent of maximum dry density as determined by the Modified Proctor test (ASTM D 1557). At the time of placement and compaction the clay fill should also be on the wet side of optimum moisture content as determined by the laboratory compaction curve.

4.5 Groundwater Management

Serious groundwater problems are not anticipated at the site due in large part to the predominately cohesive nature of subsurface soils, with the majority of the borings also being dry at the time of

drilling. However, the accumulation of run-off water or seepage at the base of excavations is still expected to occur during foundation construction and site work, the latter to often be associated with interbedded or deeper silt and sand layers. The Contractor should therefore be prepared to implement dewatering procedures, as a minimum to include pumping from strategically placed sumps.

All basement and below grade structures should otherwise be provided with a perimeter drain tile tied into a sump pit with an automatic pumping system. This is a standard requirement in the project area, the effectiveness of which will be dependent on groundwater at the site being controllable. If problems are encountered when drilling close-out borings, excavating test pits or at any time during construction, i.e. continuous or high rates of groundwater seepage, the design engineer and geotechnical consultant should be notified so that the condition can be further evaluated.

5.0 CLOSURE

It is recommended that full-time inspection be provided by Testing Service Corporation personnel during foundation construction, so that the soils at undercut and foundation levels can be observed and tested. In addition, adequacy of building materials, stripping and undercutting, fill placement and compaction as well as slab-on-grade and pavement construction should be monitored for compliance with the recommended procedures and specifications.

This report has been prepared without the benefit of grading information. It is therefore suggested that Testing Service Corporation review these plans when available, to check the accuracy of this report as it may be affected, to verify the correct interpretation of recommendations contained herein and to modify the findings accordingly.

The analysis and recommendations submitted in this report are based upon the data obtained from the thirty-three (33) soil borings performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations which may occur between these borings, the nature and extent of which may not become evident until during the course of construction. If variations are then identified, recommendations contained in this report should be re-evaluated after performing on-site observations.

We are available to review this report with you at your convenience.

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Vice President
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GENERAL CONDITIONS

Geotechnical and Construction Services

TESTING SERVICE CORPORATION

1. PARTIES AND SCOPE OF WORK: If Client is ordering the services on behalf of another, Client represents and warrants that Client is the duly authorized agent of said party for the purpose of ordering and directing said services, and in such case the term "Client" shall also include the principal for whom the services are being performed. Prices quoted and charged by TSC for its services are predicated on the conditions and the allocations of risks and obligations expressed in these General Conditions. Unless otherwise stated in writing, Client assumes sole responsibility for determining whether the quantity and the nature of the services ordered by Client are adequate and sufficient for Client's intended purpose. Unless otherwise expressly assumed in writing, TSC's services are provided exclusively for client. TSC shall have no duty or obligation other than those duties and obligations expressly set forth in this Agreement. TSC shall have no duty to any third party. Client shall communicate these General Conditions to each and every party to whom the Client transmits any report prepared by TSC. Ordering services from TSC shall constitute acceptance of TSC's proposal and these General Conditions.

2. SCHEDULING OF SERVICES: The services set forth in this Agreement will be accomplished in a timely and workmanlike manner. If TSC is required to delay any part of its services to accommodate the requests or requirements of Client, regulatory agencies, or third parties, or due to any cause beyond its reasonable control, Client agrees to pay such additional charges, if any, as may be applicable.

3. ACCESS TO SITE: TSC shall take reasonable measures and precautions to minimize damage to the site and any improvements located thereon as a result of its services or the use of its equipment; however, TSC has not included in its fee the cost of restoration of damage which may occur. If Client desires or requires TSC to restore the site to its former condition, TSC will, upon written request, perform such additional work as is necessary to do so and Client agrees to pay to TSC the cost thereof plus TSC's normal markup for overhead and profit.

4. CLIENT'S DUTY TO NOTIFY ENGINEER: Client represents and warrants that Client has advised TSC of any known or suspected hazardous materials, utility lines and underground structures at any site at which TSC is to perform services under this Agreement. Unless otherwise agreed in writing, TSC's responsibility with respect to underground utility locations is to contact the Illinois Joint Utility Locating Information for Excavators for the location of public, but not private, utilities.

5. DISCOVERY OF POLLUTANTS: TSC's services shall not include investigation for hazardous materials as defined by the Resource Conservation Recovery Act, 42 U.S.C.§ 6901, et, seq., as amended ("RCRA") or by any state or Federal statute or regulation. In the event that hazardous materials are discovered and identified by TSC, TSC's sole duty shall be to notify Client.

6. MONITORING: If this Agreement includes testing construction materials or observing any aspect of construction of improvements, Client's construction personnel will verify that the pad is properly located and sized to meet Client's projected building loads. Client shall cause all tests and inspections of the site, materials and work to be timely and properly performed in accordance with the plans, specifications, contract documents, and TSC's recommendations. No claims for loss, damage or injury shall be brought against TSC unless all tests and inspections have been so performed and unless TSC's recommendations have been followed.

TSC's services shall not include determining or implementing the means, methods, techniques or procedures of work done by the contractor(s) being monitored or whose work is being tested. TSC's services shall not include the authority to accept or reject work or to in any manner supervise the work of any contractor. TSC's services or failure to perform same shall not in any way operate or excuse any contractor from the performance of its work in accordance with its contract. "Contractor" as used herein shall include subcontractors, suppliers, architects, engineers and construction managers.

Information obtained from borings, observations and analyses of sample materials shall be reported in formats considered appropriate by TSC unless directed otherwise by Client. Such information is considered evidence, but any inference or conclusion based thereon is, necessarily, an opinion also based on engineering judgment and shall not be construed as a representation of fact. Subsurface conditions may not be uniform throughout an entire site and ground water levels may fluctuate due to climatic and other variations. Construction materials may vary from the samples taken. Unless otherwise agreed in writing, the procedures employed by TSC are not designed to detect intentional concealment or misrepresentation of facts by others.

7. DOCUMENTS AND SAMPLES: Client is granted an exclusive license to use findings and reports prepared and issued by TSC and any sub-consultants pursuant to this Agreement for the purpose set forth in TSC's proposal provided that TSC has received payment in full for its services. TSC and, if applicable, its sub-consultant, retain all copyright and ownership interests in the reports, boring logs, maps, field data, field notes, laboratory test data and similar documents, and the ownership and freedom to use all data generated by it for any purpose. Unless otherwise agreed in writing, test specimens or samples will be disposed immediately upon completion of the test. All drilling samples or specimens will be disposed sixty (60) days after submission of TSC's report.

8. TERMINATION: TSC's obligation to provide services may be terminated by either party upon (7) seven days prior written notice. In the event of termination of TSC's services, TSC shall be compensated by Client for all services performed up to and including the termination date, including reimbursable expenses. The terms and conditions of these General Conditions shall survive the termination of TSC's obligation to provide services.

9. PAYMENT: Client shall be invoiced periodically for services performed. Client agrees to pay each invoice within thirty (30) days of its receipt. Client further agrees to pay interest on all amounts invoiced and not paid or objected to in writing for valid cause within sixty (60) days at the rate of twelve (12%) per annum (or the maximum interest rate permitted by applicable law, whichever is the lesser) until paid and TSC's costs of collection of such accounts, including court costs and reasonable attorney's fees.

10. WARRANTY: TSC's professional services will be performed, its findings obtained and its reports prepared in accordance with these General Conditions and with generally accepted principles and practices. In performing its professional services, TSC will use that degree of care and skill ordinarily exercised under similar circumstances by members of its profession. In performing physical work in pursuit of its professional services, TSC will use that degree of care and skill ordinarily used under similar circumstances. This warranty is in lieu of all other warranties or representations, either express or implied. Statements made in TSC reports are opinions based upon engineering judgment and are not to be construed as representations of fact.

Should TSC or any of its employees be found to have been negligent in performing professional services or to have made and breached any express or implied warranty, representation or contract, Client, all parties claiming through Client and all parties claiming to have in any way relied upon TSC's services or work agree that the maximum aggregate amount of damages for which TSC, its officers, employees and agents shall be liable is limited to $50,000 or the total amount of the fee paid to TSC for its services performed with respect to the project, whichever amount is greater.

In the event Client is unwilling or unable to limit the damages for which TSC may be liable in accordance with the provisions set forth in the preceding paragraph, upon written request of Client received within five days of Client's acceptance of TSC's proposal together with payment of an additional fee in the amount of 5% of TSC's estimated cost for its services (to be adjusted to 5% of the amount actually billed by TSC for its services on the project at time of completion), the limit on damages shall be increased to $500,000 or the amount of TSC's fee, whichever is the greater. This charge is not to be construed as being a charge for insurance of any type, but is increased consideration for the exposure to an award of greater damages.

11. INDEMNITY: Subject to the provisions set forth herein, TSC and Client hereby agree to indemnify and hold harmless each other and their respective shareholders, directors, officers, partners, employees, agents, subsidiaries and division (and each of their heirs, successors, and assigns) from any and all claims, demands, liabilities, suits, causes of action, judgments, costs and expenses, including reasonable attorneys' fees, arising, or allegedly arising, from personal injury, including death, property damage, including loss of use thereof, due in any manner to the negligence of either of them or their agents or employees or independent contractors. In the event both TSC and Client are found to be negligent or at fault, then any liability shall be apportioned between them pursuant to their pro rata share of negligence or fault. TSC and Client further agree that their liability to any third party shall, to the extent permitted by law, be several and not joint. The liability of TSC under this provision shall not exceed the policy limits of insurance carried by TSC. Neither TSC nor Client shall be bound under this indemnity agreement to liability determined in a proceeding in which it did not participate represented by its own independent counsel. The indemnities provided hereunder shall not terminate upon the termination or expiration of this Agreement, but may be modified to the extent of any waiver of subrogation agreed to by TSC and paid for by Client.

12. SUBPOENAS: TSC's employees shall not be retained as expert witnesses except by separate, written agreement. Client agrees to pay TSC pursuant to TSC's then current fee schedule for any TSC employee(s) subpoenaed by any party as an occurrence witness as a result of TSC's services.

13. OTHER AGREEMENTS: TSC shall not be bound by any provision or agreement (i) requiring or providing for arbitration of disputes or controversies arising out of this Agreement or its performance, (ii) wherein TSC waives any rights to a mechanics lien or surety bond claim; (iii) that conditions TSC's right to receive payment for its services upon payment to Client by any third party or (iv) that requires TSC to indemnify any party beyond its own negligence These General Conditions are notice, where required, that TSC shall file a lien whenever necessary to collect past due amounts. This Agreement contains the entire understanding between the parties. Unless expressly accepted by TSC in writing prior to delivery of TSC's services, Client shall not add any conditions or impose conditions which are in conflict with those contained herein, and no such additional or conflicting terms shall be binding upon TSC. The unenforceability or invalidity of any provision or provisions shall not render any other provision or provisions unenforceable or invalid. This Agreement shall be construed and enforced in accordance with the laws of the State of Illinois. In the event of a dispute arising out of or relating to the performance of this Agreement, the breach thereof or TSC's services, the parties agree to try in good faith to settle the dispute by mediation under the Construction Industry Mediation Rules of the American Arbitration Association as a condition precedent to filing any demand for arbitration, or any petition or complaint with any court. Paragraph headings are for convenience only and shall not be construed as limiting the meaning of the provisions contained in these General Conditions.

APPENDIX

UNIFIED CLASSIFICATION CHART

LEGEND FOR BORING LOGS

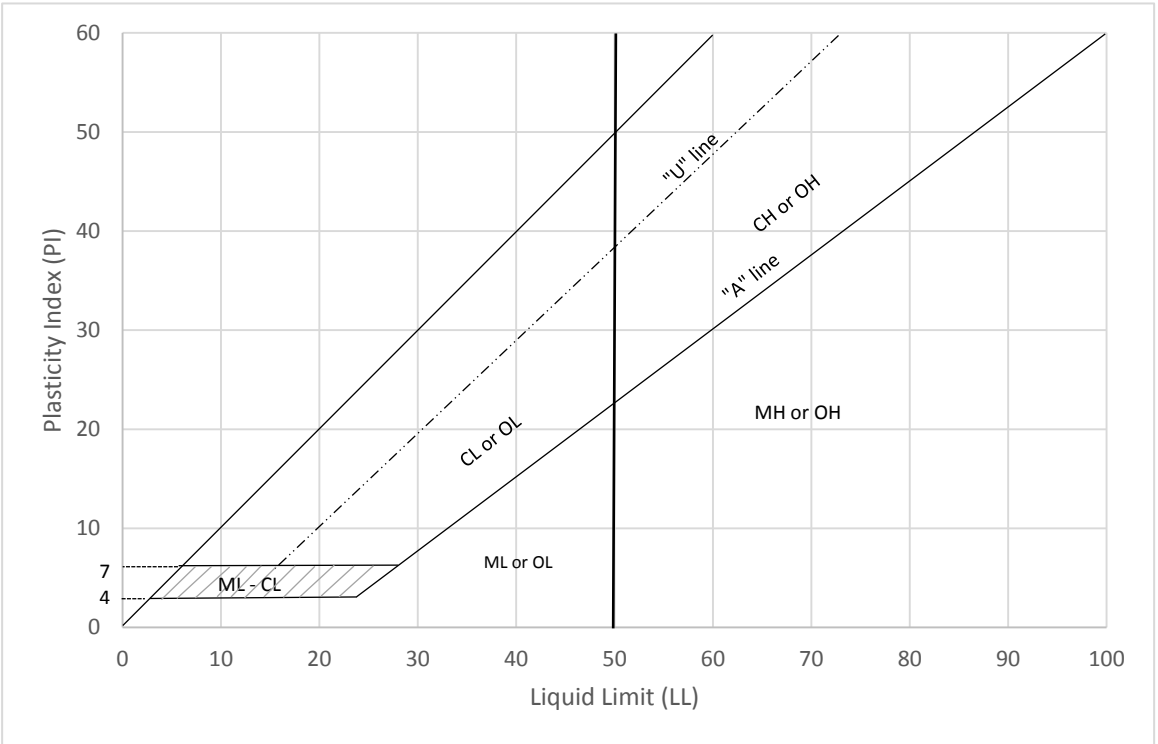
BORING LOGS

BORING LOCATION PLAN

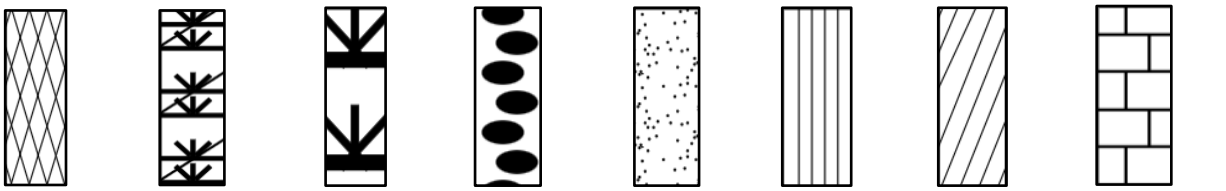
Testing Service Corporation
Unified Classification Chart

CRITERIA FOR ASSIGNING GROUP SYMBOLS AND GROUP NAMES USING LABORATORY TEST [o]				SOIL CLASSIFICATION	
				Group Symbol	GROUP NAME [b]
COARSE - GRAINED SOILS more than 50% retained on No. 200 sieve	GRAVELS More than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS less than 5% fines [c]	$C_u \geq 4$ and $1 \leq C_C \leq 3$ [e]	GW	Well-graded gravel [f]
			$C_u < 4$ and/or $1 > C_C > 3$ [e]	GP	Poorly-graded gravel [f]
		GRAVELS WITH FINES more than 12% fines [c]	Fines classify as ML or MH	GM	Silty gravel [f, g, h]
			Fines classify as CL or CH	GC	Clayey gravel [f, g, h]
	SANDS 50% or more of coarse fraction passes No. 4 sieve	CLEAN SANDS less than 5% fines [d]	$C_u \geq 6$ and $1 \leq C_C \leq 3$ [e]	SW	Well-graded sand [l]
			$C_u < 6$ and/or $1 > C_C > 3$ [e]	SP	Poorly-graded sand [l]
		SANDS WITH FINES more than 12% fines [d]	Fines classify as ML or MH	SM	Silty sand [g, h, f]
			Fines classify as CL or CH	SC	Clayey sand [g, h, f]
FINE - GRAINED SOILS 50% or more passed the No. 200 sieve	SILTS & CLAYS Liquid limit less than 50%	Inorganic	PI > 7 or plots on or above "A" line j	CL	Lean clay [k, l, m]
			PI < 4 or plots below "A" line j	ML	Silt [k, l, m]
		Organic	$\frac{\text{Liquid limit – oven dried}}{\text{Liquid limit – not dried}} < 0.75$	OL	Organic clay [k, l, m, n] Organic silt [k, l, m, o]
	SILTS & CLAYS Liquid limit 50% or more	Inorganic	PI plots on or above "A" line	CH	Fat clay [k, l, m]
			PI plots below "A" line	MH	Elastic silt [k, l, m]
		Organic	$\frac{\text{Liquid limit – oven dried}}{\text{Liquid limit – not dried}} < 0.75$	OH	Organic clay [k, l, m, p] Organic silt [k, l, m, q]
Highly organic soils		Primarily organic matter, dark in color, and organic odor		PT	Peat

a. Based on the material passing the 3-inch (75-mm) sieve.
b. If field sample contained cobbles and/or boulders, add "with cobbles and/or boulders" to group name
c. Gravels with 5 to 12% fines required dual symbols
GW-GM well graded gravel with silt
GW-GC well graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay
d. Sands with 5 to 12% fines require dual symbols
SW-SM well graded sand with silt
SW-SC well graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay
e. $C_u = D_{60}/D_{10}$ $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
f. If soils contains ≥ 15% sand, add "with sand" to group name.
g. If fines classify as CL-ML, use dual symbol GC-GM, SC-SM
h. If fines are organic, add "with organic fines" to group name
i. If soils contains ≥ 15% gravel, add "with gravel" to group name
j. If Atterberg Limits plot in hatched area, soil is a CL – ML, silty clay
k. If soils contains 15 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant
l. If soil contains ≥ 30% plus No. 200, predominantly sand, add "sandy" to group name.
m. If soils contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name
n. PI ≥ 4 and plots on or above "A" line
o. PI ≥ 4 and plots below "A" line
p. PI plots on or above "A" line
q. PI plots below "A" line



LEGEND FOR BORING LOGS



FILL TOPSOIL PEAT GRAVEL SAND SILT CLAY LIMESTONE/ DOLOMITE

SAMPLE TYPE

SS	=	Split-Spoon
ST	=	Thin-Walled Tube
A	=	Auger
MC	=	Macro-Core (Geoprobe)
RC	=	Rock Core

WATER LEVEL OBSERVATIONS

▼	While Drilling
▽	End of Boring
▼	24 Hours

FIELD AND LABORATORY TEST DATA

N	=	Standard Penetration Resistance in Blows per Foot (bpf)
WC	=	In-Situ Water Content (%)
Qu	=	Unconfined Compressive Strength in Tons per Square Foot (tsf)
Qp	=	Pocket Penetrometer Reading: Maximum Value = 4.5 tsf
γ_{dry}	=	Dry Unit Weight in Pounds per Cubic Foot (pcf)

SOIL DESCRIPTIONS:

MATERIAL	PARTICLE SIZE RANGE
BOULDER	Over 12 inches
COBBLE	12 inches to 3 inches
Large GRAVEL	3 inches to ¾ inch
Small GRAVEL	¾ inch to No. 4 Sieve
Coarse SAND	No. 4 Sieve to No. 10 Sieve
Medium SAND	No. 10 Sieve to No. 40 Sieve
Fine SAND	No. 40 Sieve to No. 200 Sieve
SILT and CLAY	Passing No. 200 Sieve

COHESIVE SOILS

CONSISTENCY	Qu (tsf)
Very Soft	Less than 0.25
Soft	0.25 to 0.5
Medium Stiff	0.5 to 1.0
Stiff	1.0 to 2.0
Very Stiff	2.0 to 4.0
Hard	4.0 and over

COHESIONLESS SOILS

RELATIVE DENSITY	N (bpf)
Very Loose	0 – 3
Loose	4 – 9
Medium Dense	10 – 29
Dense	30 – 49
Very Dense	50 and over

MODIFYING TERM	PERCENT BY WEIGHT
Trace	1 – 10
Little	10 – 20
Some	20 – 35

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **1** DATE STARTED **2-4-15** DATE COMPLETED **2-4-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **705.5**

END OF BORING **690.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.8	704.7	Black clayey TOPSOIL (OL)
1	SS		18	25.5	2.68 2.25*				Very tough brown silty CLAY, trace sand, moist (CH)
							3.0	702.5	
2	SS		18	18.7	4.5+*				Hard brown and gray silty CLAY, little sand and gravel, occasional silt and sand seams, moist (CL)
3	SS		18	18.1	4.5+*				
							8.0	697.5	
4	SS		12	13.0	4.5+*				Hard brown silty CLAY, little to some sand and gravel, moist (CL)
							10.5	695.0	
5	SS		18	19.4	4.5+*				Hard brown silty CLAY, little sand and gravel, moist (CL)
6	SS		18	16.6	4.5+*				
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

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PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **2** DATE STARTED **2-4-15** DATE COMPLETED **2-4-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **698.0**

END OF BORING **683.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.9	697.1	Black clayey TOPSOIL (OL)
1	SS		15	17.3	5.32 4.5+*				Hard brown silty CLAY, little sand and gravel, moist (CL)
2	SS		26	18.3	4.5+*				
3	SS		23	17.9	4.5+*		8.0	690.0	
4	SS		17	20.9	2.75 2.75*				Very tough brown silty CLAY, little sand, trace gravel, moist (CL)
							10.5	687.5	
5	SS		20	17.5	4.0*				Hard to very tough brown and gray silty CLAY, little sand and gravel, moist (CL)
6	SS		17	16.0	3.5*				
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **3** DATE STARTED **2-4-15** DATE COMPLETED **2-4-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **701.5**

END OF BORING **686.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.8	700.7	Black clayey TOPSOIL (OL)
1	SS		9	18.7	4.92 4.5+*				Hard brown silty CLAY, little sand and gravel, moist (CL)
2	SS		13	18.1	4.25*				
							5.5	696.0	
3	SS		17	13.0	4.5+*				Hard to very tough brown and gray silty CLAY, little to some sand and gravel, moist (CL)
4	SS		18	13.5	4.00 3.75*				
5	SS		14	13.4	4.5+*				
6	SS		12	15.0	2.5*				
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

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PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **4** DATE STARTED **2-6-15** DATE COMPLETED **2-6-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **713.5**

END OF BORING **698.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **8.0 '**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							1.0	712.5	Black clayey TOPSOIL (OL)
1	SS		16	18.6	5.57 4.5+*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
2	SS		15	18.9	4.5+*				
3	SS		20	18.5	4.5+*				
4	SS		16	18.2	7.23 4.5+*				
5	SS		17	19.9	4.5*				
							13.0	700.5	
6	SS		11	14.5	1.75*				Tough brown silty CLAY, little to some sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **5** DATE STARTED **2-6-15** DATE COMPLETED **2-6-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **716.0**

END OF BORING **701.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.9	715.1	Black clayey TOPSOIL (OL)
1	SS		7	34.3	2.0*				Tough to very tough brown and gray silty CLAY, trace sand, trace organic, moist (CH)
							3.0	713.0	
2	SS		8	28.4	1.09 1.25*				Tough brown and gray silty CLAY, trace sand, trace organic, very moist (CL)
							5.5	710.5	
3	SS		20	20.5	4.0*				Very tough to hard brown and gray silty CLAY, little sand, trace gravel, moist (CL)
4	SS		16	20.2	4.5+*				
							10.5	705.5	
5	SS		20	15.3	4.5+*				Hard to very tough gray silty CLAY, little sand and gravel, moist (CL)
6	SS		19	15.0	4.00 3.0*				
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **6** DATE STARTED **2-6-15** DATE COMPLETED **2-6-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **705.5**

END OF BORING **690.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.7	704.8	Dark brown clayey TOPSOIL (OL)
1	SS		10	18.0	4.5+*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
2	SS		15	18.4	8.55 4.5+*				
3	SS		18	17.6	4.5+*				
4	SS		17	17.8	4.5+*				
5	SS		14	18.7	4.5+*				
							13.0	692.5	
6	SS		18	15.9	9.88 4.5+*				Hard gray silty CLAY, little sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **7** DATE STARTED **2-4-15** DATE COMPLETED **2-4-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **708.5**

END OF BORING **693.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.2	707.3	Black clayey TOPSOIL (OL)
1	SS		12	26.5	1.89 1.75*				Very tough brown and gray trace black silty CLAY, trace sand, trace organic, moist (CL/CH)
							3.0	705.5	
2	SS		17	19.2	4.5+*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
3	SS		17	18.0	4.5+*				
4	SS		15	16.1	4.5+*				
5	SS		20	15.4	4.5+*				
							13.0	695.5	
6	SS		15	14.2	3.08 2.5*				Very tough gray silty CLAY, little to some sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **8** DATE STARTED **2-4-15** DATE COMPLETED **2-4-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **706.0**

END OF BORING **691.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.1	704.9	Black clayey TOPSOIL (OL)
1	SS		12	19.6	4.0*				
2	SS		13	19.1	5.57 4.5+*				Very tough to hard brown and gray silty CLAY, little sand and gravel, moist (CL)
3	SS		18	17.3	4.5+*				
							8.0	698.0	
4	SS		16	14.5	2.5*				
5	SS		16	13.4	3.34 4.0*				Very tough to hard brown and gray silty CLAY, little to some sand and gravel, moist (CL)
6	SS		19	14.4	4.25*				
							15		End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

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PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **9** DATE STARTED **2-4-15** DATE COMPLETED **2-4-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **714.5**

END OF BORING **699.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		Black clayey TOPSOIL (OL)
							1.1	713.4	
1	SS		13	25.9	4.0*				Very tough to hard brown and gray silty CLAY, trace sand, moist (CL/CH)
							3.0	711.5	
2	SS		18	18.8	4.5+*				Hard brown silty CLAY, little sand and gravel, moist (CL)
3	SS		16	18.4	4.5+*				
4	SS		20	15.6	9.88 4.5+*				
5	SS		18	16.8	4.5+*				
							13.0	701.5	
6	SS		22	16.6	4.5+*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **10** DATE STARTED **2-6-15** DATE COMPLETED **2-6-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **738.5**

END OF BORING **723.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.0	737.5	Black clayey TOPSOIL (OL)
1	SS		11	26.2	1.49 1.75*				Tough brown silty CLAY, trace sand, moist to very moist (CL/CH)
							3.0	735.5	
2	SS		20	18.2	4.5+*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
3	SS		17	18.4	4.5+*				
4	SS		18	18.9	8.22 4.5+*				
							10.5	728.0	
5	SS		18	13.0	4.5+*				Hard brown silty CLAY, little to some sand and gravel, moist (CL)
							13.0	725.5	
6	SS		16	18.8	4.25*				Hard brown silty CLAY, little sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **11** DATE STARTED **2-6-15** DATE COMPLETED **2-6-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **728.5**

END OF BORING **713.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.2	727.3	Black clayey TOPSOIL (OL)
1	SS		9	24.3	1.5*				Tough brown and dark brown silty CLAY, little sand, trace gravel, trace organic, moist to very moist (CL)
							3.0	725.5	
2	SS		18	18.5	5.32 4.5+*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
							5.5	723.0	
3	SS		20	16.8	4.5+*				Hard brown silty CLAY, little sand and gravel, moist (CL)
4	SS		15	18.3	4.5+*				
5	SS		18	19.2	4.5+*				
6	SS		18	18.3	4.53 4.5+*				
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **12** DATE STARTED **2-6-15** DATE COMPLETED **2-6-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **713.5**

END OF BORING **698.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.2	712.3	Black clayey TOPSOIL (OL)
1	SS		10	26.5	1.75 2.0*				Tough to very tough brown silty CLAY, trace sand, moist (CL/CH)
							3.0	710.5	
2	SS		11	22.3	3.5				Very tough brown and gray silty CLAY, little sand, trace gravel, moist (CL)
3	SS		12	23.2	3.25*				
							8.0	705.5	
4	SS		16	18.3	4.5+*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
5	SS		16	19.4	5.41 4.5+*				
							13.0	700.5	
6	SS		20	11.7	4.5+*				Hard brown sandy CLAY, trace to little gravel, moist (CL)
							15		End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **13** DATE STARTED **2-4-15** DATE COMPLETED **2-4-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **715.5**

END OF BORING **700.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.8	714.7	Black clayey TOPSOIL (OL)
1	SS		14	18.9	3.5*				Very tough brown and gray silty CLAY, little sand and gravel, moist (CL)
							3.0	712.5	
2	SS		13	17.0	4.5+*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
3	SS		20	17.4	6.23 4.5+*				
4	SS		18	17.7	4.5+*				
5	SS		17	17.9	4.5+*				
							13.0	702.5	
6	SS		18	14.1	2.81 3.75*				Very tough brown and gray silty CLAY, little to some sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **14** DATE STARTED **2-4-15** DATE COMPLETED **2-4-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **706.0**

END OF BORING **691.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.0	705.0	Black clayey TOPSOIL (OL)
1	SS		15	19.4	1.89 2.0*				Tough to very tough brown and gray silty CLAY, little sand and gravel, moist (CL)
							3.0	703.0	
2	SS		19	17.9	4.5+*				
3	SS		15	16.4	4.5+*				Hard brown silty CLAY, little sand and gravel, moist (CL)
4	SS		15	18.2	5.57 4.5+*				
5	SS		17	18.5	4.5+*				
							13.0	693.0	
6	SS		13	14.3	2.5*				Very tough brown and gray silty CLAY, little to some sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **15** DATE STARTED **2-6-15** DATE COMPLETED **2-6-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **701.0**

END OF BORING **686.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **8.0 '**

AT END OF BORING **8.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
1	SS		6	36.8					Black clayey TOPSOIL, very moist (OL)
							2.5	698.5	
2	SS		7	39.7	1.25*				Tough brown and dark gray silty CLAY, trace sand, trace organic, very moist (CH)
							5.5	695.5	
3	SS		6	27.9	1.16 1.25*				Tough brown and gray silty CLAY, trace sand, very moist (CL/CH)
							8.0	693.0	
4	SS		5	22.3	0.75*				Stiff gray silty CLAY, little sand, trace gravel, very moist (CL)
							10.5	690.5	
5	SS		9	20.4	2.28 2.5*				Very tough gray silty CLAY, little sand, trace gravel, moist (CL)
6	SS		12	20.3	3.5*				
							15		End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **16** DATE STARTED **2-6-15** DATE COMPLETED **2-6-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **709.5**

END OF BORING **694.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **13.0 '**

AT END OF BORING **13.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.0	708.5	Black clayey TOPSOIL (OL)
1	SS		12	23.6	2.28 2.5*				Very tough brown silty CLAY, little sand, trace gravel, moist (CL)
							3.0	706.5	
2	SS		16	18.2	4.5+*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
3	SS		18	19.3	4.5+*				
4	SS		24	18.0	7.06 4.5+*				
5	SS		23	19.4	4.5+*				
							13.0	696.5	▼
6	SS		18	14.2	3.5				Very tough gray silty CLAY, little to some sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **17** DATE STARTED **2-9-15** DATE COMPLETED **2-9-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **719.5**

END OF BORING **704.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.2	718.3	Black clayey TOPSOIL (OL)
1	SS		11	28.5	1.23 1.75*				Tough dark brown silty CLAY, trace sand, trace organic, moist to very moist (CL/CH)
							3.5	716.0	
2	SS		9	25.4	2.5*				Very tough to tough brown and gray silty CLAY, trace sand, trace organic seams, moist (CL/CH)
3	SS		12	26.4	2.0*				
							7.5	712.0	
4	SS		20	17.0	5.57 4.25*				Hard gray silty CLAY, little sand and gravel, moist (CL)
5	SS		17	16.4	4.5+*				
6	SS		22	16.6	4.5+*				
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **18** DATE STARTED **2-9-15** DATE COMPLETED **2-9-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **708.5**

END OF BORING **693.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.0	707.5	Black clayey TOPSOIL (OL)
1	SS		14	27.8	1.5*				Tough brown and gray silty CLAY, trace sand, trace organic, moist to very moist (CL/CH)
							3.0	705.5	
2	SS		23	22.6	2.68 2.5*				Very tough brown silty CLAY, little sand, trace gravel, moist (CL)
							5.5	703.0	
3	SS		22	19.0	4.5+*				Hard to very tough brown and gray silty CLAY, little sand and gravel, moist (CL)
4	SS		20	19.1	4.5+*				
5	SS		18	20.1	3.34 2.5*				
							13.0	695.5	
6	SS		16	19.5	2.25*				Very tough gray silty CLAY, little sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **19** DATE STARTED **2-9-15** DATE COMPLETED **2-9-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **703.5**

END OF BORING **688.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.1	702.4	Dark brown clayey TOPSOIL (OL)
1	SS		19	17.9	4.5+*				Hard brown silty CLAY, little sand and gravel, moist (CL)
2	SS		20	18.5	6.57 4.5+*				
3	SS		24	18.1	4.5+*				
4	SS		19	18.6	4.5+*				
5	SS		16	18.8	4.5+*				
							13.0	690.5	
6	SS		12	19.7	2.81 2.5*				Very tough gray silty CLAY, little sand and gravel, moist (CL)
							15		End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **20** DATE STARTED **2-6-15** DATE COMPLETED **2-6-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **724.0**

END OF BORING **709.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.9	723.1	Dark brown clayey TOPSOIL (OL)
1	SS		16	17.7	4.5+*				Hard brown to brown and gray silty CLAY, little sand and gravel, moist (CL)
2	SS		16	18.8	4.5+*				
3	SS		18	19.0	5.32 4.5+*				
4	SS		18	20.2	4.5+*				
							10.5	713.5	
5	SS		18	14.0	4.5+*				Hard brown silty CLAY, little to some sand and gravel, moist (CL)
							13.0	711.0	
6	SS		16	19.0	3.0*				Very tough gray silty CLAY, little sand and gravel, occasional Cobbles and Boulders, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **21** DATE STARTED **2-9-15** DATE COMPLETED **2-9-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **710.5**

END OF BORING **695.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **10.5 '**

AT END OF BORING **10.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.8	709.7	Dark brown clayey TOPSOIL (OL)
1	SS		18	17.2	6.23 4.5+*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
2	SS		19	16.1	4.5+*				
3	SS		20	17.2	4.5+*				
4	SS		18	17.4	4.5+*				
							10.5	700.0	Very tough to tough gray silty CLAY, little sand and gravel, occasional sand seams, moist (CL)
5	SS		12	16.9	3.60 2.5*				
6	SS		11	17.2	2.0*				
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **22** DATE STARTED **2-9-15** DATE COMPLETED **2-9-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **700.0**

END OF BORING **685.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							1.0	699.0	Black clayey TOPSOIL (OL)
1	SS		12	25.4	1.23 1.5*				Tough brown silty CLAY, little sand, moist to very moist (CL/CH)
							3.0	697.0	
2	SS		12	19.3	4.0*				Very tough to hard brown and gray silty CLAY, little sand and gravel, moist (CL)
3	SS		13	18.0	4.5+*				
4	SS		17	23.2	3.87 3.0*				
5	SS		20	19.1	4.5+*				
							13.0	687.0	
6	SS		12	17.6	2.0*				Tough to very tough gray silty CLAY, little sand and gravel, occasional Cobbles and Boulders, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 82797.GPJ TSC_ALL.GDT 7/1/24

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **23** DATE STARTED **2-10-15** DATE COMPLETED **2-10-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **698.0**

END OF BORING **673.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **8.0 '**

AT END OF BORING **8.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.0	697.0	FILL - Dark brown clayey TOPSOIL (OL)
1	SS		11	23.7	2.5*	102			FILL - Dark brown silty CLAY, little sand, trace organic, moist (CL)
							3.0	695.0	
2	SS		7	33.8	1.5*				Black clayey TOPSOIL, very moist (OL)
							5.0	693.0	
3	SS		6	31.4	0.60 0.75*				Soft to stiff brown and gray silty CLAY, trace sand, trace organic, very moist (CL/CH)
							8.0	690.0	
4	SS		11	19.0	2.55 2.75*				Very tough brown and gray silty CLAY, little sand and gravel, moist (CL)
5	SS		14	20.0	3.5*				
							13.0	685.0	
6	SS		10	14.1	1.5*				Tough gray sandy CLAY, trace to little gravel, moist to very moist (CL-ML)
7	SS		14	14.7	1.62 1.0*				* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
8	SS		12	13.8	1.5*				
							20.5	677.5	
9	SS		16	13.7	2.75*				Very tough gray sandy CLAY, trace to little gravel, moist (CL-ML)
10	SS		14	12.7	2.48 3.0*		25		End of Boring at 25.0'

DISTANCE BELOW SURFACE IN FEET

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **24** DATE STARTED **2-10-15** DATE COMPLETED **2-10-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **699.0**

END OF BORING **674.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **20.5 '**

AT END OF BORING **20.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.8	698.2	Dark brown clayey TOPSOIL (OL)
1	SS		17	21.7	4.07 3.5*				Very tough to hard brown and gray silty CLAY, little sand, trace gravel, moist (CL/CH)
							3.0	696.0	
2	SS		14	19.6	4.5+*				Hard to very tough brown and gray silty CLAY, little sand and gravel, moist (CL)
3	SS		13	18.3	4.5+*				
4	SS		15	19.2	3.77 4.0*				* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
5	SS		15	19.7	3.5*				
							13.0	686.0	
6	SS		17	14.4	2.0*				Tough to very tough gray silty CLAY, little to some sand and gravel, moist (CL)
							15.5	683.5	
7	SS		16	19.1	3.25*				Very tough gray silty CLAY, little sand and gravel, moist (CL)
8	SS		15	18.7	3.04 3.5*				
							20.5	678.5	
9	SS		17	23.6	2.0*				Tough to very tough gray silty CLAY, little sand, trace gravel, occasional sand seams, moist (CL)
							23.0	676.0	
10	SS		12	18.7	1.0*				Stiff to tough gray very silty CLAY, little sand, little silt seams, very moist (CL-ML)

DISTANCE BELOW SURFACE IN FEET

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 25.0'

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **25** DATE STARTED **2-9-15** DATE COMPLETED **2-9-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **699.5**

END OF BORING **674.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.0	698.5	Dark brown clayey TOPSOIL (OL)
1	SS		10	24.4	2.5*				Very tough dark brown silty CLAY, little sand, trace gravel, moist (CL/CH)
							3.0	696.5	
2	SS		13	29.0	2.25*				Very tough brown and gray silty CLAY, trace sand, trace organic seams, moist (CL/CH)
							5.5	694.0	
3	SS		16	21.4	5.32 4.5+*				Hard brown and gray silty CLAY, little sand, trace gravel, moist (CL)
							8.0	691.5	
4	SS		14	18.1	4.5*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
5	SS		11	18.6	4.5+*				
							13.0	686.5	
6	SS		19	19.1	2.42 2.0*				Tough to very tough gray silty CLAY, little sand and gravel, moist (CL)
7	SS		11	20.3	2.0*				
8	SS		11	16.4	2.0*				* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
							20.5	679.0	
9	SS		17	13.5	4.13 4.0*				Very tough to hard gray silty CLAY, little to some sand and gravel, moist (CL)
10	SS		14	14.6	4.0*				
							25		End of Boring at 25.0'

DISTANCE BELOW SURFACE IN FEET

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Ravinia Hills, Orland Park, Illinois**

CLIENT **Pulte Homes - Illinois Division, Schaumburg, IL**

BORING **26** DATE STARTED **2-10-15** DATE COMPLETED **2-10-15** JOB **L-82,797**

ELEVATIONS

GROUND SURFACE **702.5**

END OF BORING **677.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **18.0 '**

AT END OF BORING **18.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
									Black clayey TOPSOIL (OL)
							1.0	701.5	
1	SS		19	25.9	2.5*				Very tough brown silty CLAY, trace sand, moist (CL/CH)
							3.0	699.5	
2	SS		15	18.4	4.5+*				
3	SS		16	17.4	7.89 4.5+*				Hard to very tough brown silty CLAY, little sand and gravel, moist (CL)
4	SS		14	18.3	4.5+*				* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
5	SS		17	19.0	2.75*				
							13.0	689.5	
6	SS		14	14.1	1.36 1.5*				Tough gray sandy CLAY, trace to little gravel, occasional sand seams, moist to very moist (CL-ML)
7	SS		13	14.2	1.5*				
							18.0	684.5	▼
8	SS		16	14.1	3.0*				Very tough gray silty CLAY, little to some sand and gravel, moist (CL)
							20.5	682.0	
9	SS		18	16.2					Firm gray silty SAND, little gravel, wet (SM)
							23.0	679.5	
10	SS		17	15.5	3.0*				Very tough gray silty CLAY, little to some sand and gravel, moist (CL)

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **275**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 25.0'

PROJECT **72-Acre Yucaipa Parcel, Ravinia Avenue Off 159th Street, Orland Park, IL**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

STARTED **06/21/2024** FINISHED **06/21/2024** DRILL RIG NO. **262** JOB **L-97,500**

BORING **27**

ELEVATIONS

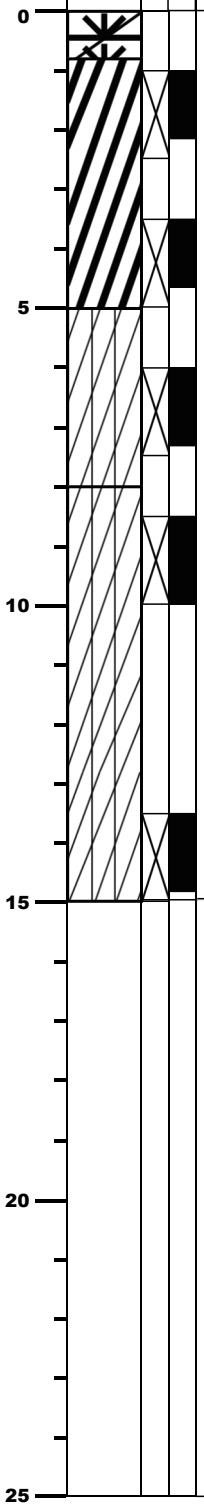
GROUND SURFACE **697.5**

END OF BORING **682.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**



SAMPLE NO.	SAMPLE TYPE	N	WC (%)	Qp (tsf)	Qu (tsf)	γ DRY (pcf)	DEPTH (ft)	ELEV.	SOIL DESCRIPTIONS
							0.8	696.7	Black clayey TOPSOIL (OL)
1	SS	6	23.0	2.5					Very stiff to stiff brown and gray silty CLAY, little sand, trace organic with Root veins, moist (CL/CH)
2	SS	7	24.0	2.0	2.04				
							5.0	692.5	
3	SS	16	20.6	4.5					Hard brown trace gray silty CLAY, little sand, trace gravel, occasional silt seams, moist (CL)
							8.0	689.5	
4	SS	9	19.0	2.25	2.43				Very stiff brownish-gray to gray silty CLAY, little to some sand and gravel, moist (CL)
5	SS	10	12.9	3.0					
									End of Boring at 15.0'

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **72-Acre Yucaipa Parcel, Ravinia Avenue Off 159th Street, Orland Park, IL**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

STARTED **06/21/2024** FINISHED **06/21/2024** DRILL RIG NO. **262** JOB **L-97,500**

BORING **28**

ELEVATIONS

GROUND SURFACE **705.0**

END OF BORING **690.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

Depth (ft.)	Lithology	Length	Recovery	SAMPLE NO.	SAMPLE TYPE	N	WC (%)	Qp (tsf)	Qu (tsf)	γ DRY (pcf)	DEPTH (ft)	ELEV.	SOIL DESCRIPTIONS
0													Dark brown clayey TOPSOIL (OL)
											1.0	704.0	
				1	SS	7	21.2	3.0					Very stiff brown and gray silty CLAY, little sand, moist (CL)
											3.0	702.0	
5				2	SS	18	17.5	4.5+					Hard brown trace gray silty CLAY, little sand, trace gravel, moist to damp (CL)
				3	SS	22	17.2	4.5+	6.54				
				4	SS	19	19.2	4.5+					
10											12.0	693.0	
				5	SS	13	17.2	4.0	4.36				Hard brownish-gray to gray silty CLAY, little sand, trace gravel, moist (CL)
15													End of Boring at 15.0'
20													
25													

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **72-Acre Yucaipa Parcel, Ravinia Avenue Off 159th Street, Orland Park, IL**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

STARTED **06/21/2024** FINISHED **06/21/2024** DRILL RIG NO. **262** JOB **L-97,500**

BORING **29**

ELEVATIONS

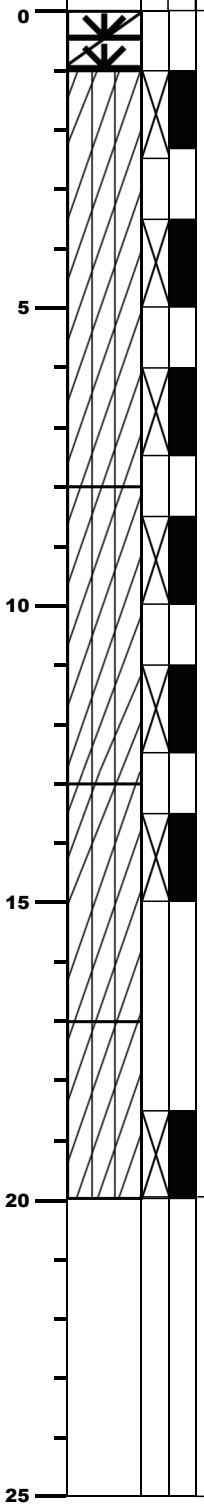
GROUND SURFACE **735.0**

END OF BORING **715.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**



SAMPLE NO.	SAMPLE TYPE	N	WC (%)	Qp (tsf)	Qu (tsf)	γ DRY (pcf)	DEPTH (ft)	ELEV.	SOIL DESCRIPTIONS
							0	735.0	Dark brown clayey TOPSOIL (OL)
1	SS	9	17.5	3.0			1.0	734.0	
2	SS	18	18.9	4.5+	5.54				Very stiff to hard brown trace gray silty CLAY, little sand, trace gravel, moist (CL)
3	SS	20	20.1	4.5+					
							8.0	727.0	
4	SS	23	20.2	4.5+	4.62				Hard brown silty CLAY, little sand, trace gravel, moist (CL)
5	SS	21	18.7	4.5+					
							13.0	722.0	
6	SS	21	18.0	4.5+	5.03				Hard brownish-gray to gray silty CLAY, little sand, trace gravel, moist (CL)
							17.0	718.0	
7	SS	12	14.6	4.5+					Hard gray silty CLAY, little sand and gravel, moist (CL)
									End of Boring at 20.0'

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **72-Acre Yucaipa Parcel, Ravinia Avenue Off 159th Street, Orland Park, IL**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

STARTED **06/21/2024** FINISHED **06/21/2024** DRILL RIG NO. **262** JOB **L-97,500**

BORING **30**

ELEVATIONS

GROUND SURFACE **703.0**

END OF BORING **688.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

Depth (ft.)	Lithology	Length	Recovery	SAMPLE NO.	SAMPLE TYPE	N	WC (%)	Qp (tsf)	Qu (tsf)	γ DRY (pcf)	DEPTH (ft)	ELEV.	SOIL DESCRIPTIONS
0													Dark brown clayey TOPSOIL (OL)
				1	SS	9	18.6	4.5+			1.2	701.8	Hard brown and gray silty CLAY, little sand, trace gravel, moist (CL)
				2	SS	15	16.7	4.75	4.86		3.5	699.5	Hard brown trace gray silty CLAY, little sand, trace gravel, moist (CL)
5				3	SS	18	18.1	4.5					
				4	SS	11	19.5	2.0	2.23		8.0	695.0	Very stiff brown trace gray silty CLAY, little sand, trace gravel, moist (CL)
10													
				5	SS	13	16.1	4.5			12.0	691.0	Hard brownish-gray to gray silty CLAY, little sand and gravel, moist (CL)
15													End of Boring at 15.0'
20													
25													

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **72-Acre Yucaipa Parcel, Ravinia Avenue Off 159th Street, Orland Park, IL**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

STARTED **06/21/2024** FINISHED **06/21/2024** DRILL RIG NO. **262** JOB **L-97,500**

BORING **31**

ELEVATIONS

GROUND SURFACE **730.0**

END OF BORING **710.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

Depth (ft.)	Lithology	Length	Recovery	SAMPLE NO.	SAMPLE TYPE	N	WC (%)	Qp (tsf)	Qu (tsf)	γ DRY (pcf)	DEPTH (ft)	ELEV.	SOIL DESCRIPTIONS
0											0.8	729.2	Black clayey TOPSOIL (OL)
				1	SS	14	17.4	4.5+					Hard brown trace gray silty CLAY, little sand and gravel, moist to damp (CL)
				2	SS	21	18.2	4.5+	8.00				
5											5.5	724.5	
				3	SS	23	18.3	4.5+					Hard brown silty CLAY, little sand, trace gravel, moist to damp (CL)
				4	SS	21	19.6	4.5+	7.56				
10											10.5	719.5	
				5	SS	20	14.0	4.5+					Hard brown and gray silty CLAY, little to some sand and gravel, moist to damp (CL)
				6	SS	12	14.3	4.5+	7.22				
15											16.0	714.0	
				7	SS	12	13.1	4.5+					Hard brownish-gray silty CLAY, little to some sand and gravel, moist (CL)
20													End of Boring at 20.0'
25													

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **72-Acre Yucaipa Parcel, Ravinia Avenue Off 159th Street, Orland Park, IL**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

STARTED **06/21/2024** FINISHED **06/21/2024** DRILL RIG NO. **262** JOB **L-97,500**

BORING **32**

ELEVATIONS

GROUND SURFACE **693.5**

END OF BORING **678.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

Depth (ft.)	Lithology	Length	Recovery	SAMPLE NO.	SAMPLE TYPE	N	WC (%)	Qp (tsf)	Qu (tsf)	γ DRY (pcf)	DEPTH (ft)	ELEV.	SOIL DESCRIPTIONS
0				1A	SS	10	26.1				1.5	692.0	Black clayey TOPSOIL, moist (OL) [Possible Partial Fill]
				1B			18.0	4.5+					Hard brown and gray silty CLAY, little sand, trace gravel, moist (CL)
				2	SS	12	19.3	4.5+	5.70		3.5	690.0	
5				3	SS	19	22.2	4.5					Hard brown trace gray silty CLAY, little sand, trace gravel, moist to damp (CL)
				4	SS	14	14.6	4.0			8.0	685.5	
10													Very stiff to hard brown and gray silty CLAY, little to some sand and gravel, moist (CL)
				5	SS	13	16.7	4.0	4.03		12.0	681.5	Very stiff to hard brownish-gray to gray silty CLAY, little sand and gravel, moist (CL)
15													End of Boring at 15.0'
20													
25													

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **72-Acre Yucaipa Parcel, Ravinia Avenue Off 159th Street, Orland Park, IL**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

STARTED **06/28/2024** FINISHED **06/28/2024** DRILL RIG NO. **HA** JOB **L-97,500**

BORING **33**

ELEVATIONS

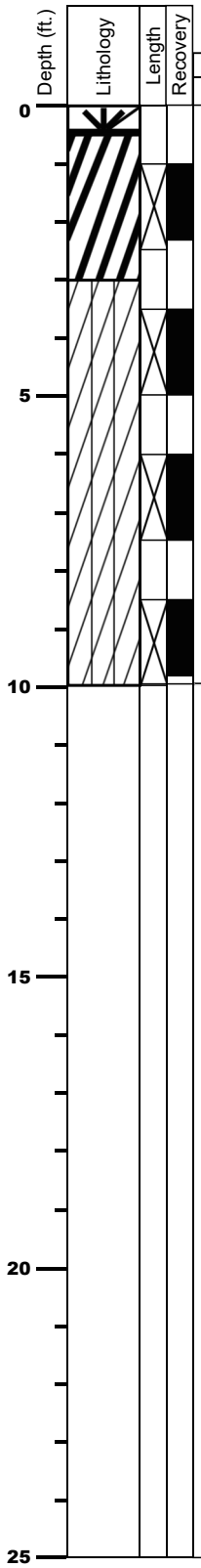
GROUND SURFACE **700.5**

END OF BORING **690.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**



SAMPLE NO.	SAMPLE TYPE	N	WC (%)	Qp (tsf)	Qu (tsf)	γ DRY (pcf)	DEPTH (ft)	ELEV.	SOIL DESCRIPTIONS
							0.5	700.0	Dark brown clayey TOPSOIL (OL)
1	SS	HA	24.4	1.75					Stiff brown silty CLAY, little sand, moist (CL/CH)
							3.0	697.5	
2	SS	HA	22.9	2.5					Very stiff to hard brown trace gray silty CLAY, little sand, trace gravel, moist (CL)
3	SS	HA	20.2	3.75					
4	SS	**HA**	19.4	4.25					
									End of Boring at 10.0'

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.
HA = Hand Auger

NOTE: GROUND SURFACE ELEVATIONS AT THE BORINGS WERE ACQUIRED BY TSC USING A TRIMBLE R12 GNSS RECEIVER, BEING ROUNDED TO THE NEAREST 0.5 FOOT.

LEGEND

BORING LOCATION

BORING LOCATION L-82,797 FEB. 2015

BORING LOCATION PLAN
72-ACRE YUCAIPA PARCEL
124 SINGLE-FAMILY LOTS
RAVINA AVENUE OFF 159TH STREET
ORLAND PARK, ILLINOIS

TESTING SERVICE CORPORATION
457 EAST GUNDERSEN DRIVE
CAROL STREAM, ILLINOIS 60188

DRAWN BY:	FFE
CHECKED BY:	MVM
JOB NO. :	L-97,500
DATE:	06-28-24

PAGE NO.
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