Milpitas High School Performing Arts Center and Gym Project

Appendix A: Arborist Report, WCA, Inc., October 2020

ARBORIST REPORT

Milpitas Unified School District

Tree Protection Plan – Milpitas HS – P. A. C., Second GYM and Fitness Center

Submitted to:

Brian Shreve
Director of Maintenance Operations & Transportation
1585 Roger Street
Milpitas, CA 95035-2870

October 19, 2020

Tree Care Professionals Serving Communities Who Care about Trees www.WCAINC.com

Prepared by:

Glenn O. Whitlock-Reeve
REGISTERED CONSULTING ARBORIST #704 | BOARD CERTIFIED MASTER ARBORIST *WE-10177BTM*
390 MARTIN AVE SANTA CLARA, CA 95050 - (408) 835-0438 - GREEVE@WCAINC.COM

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Summary

Milpitas Unified School District (USD) contracted West Coast Arborists Inc. (WCA) assess trees near proposed construction at Milpitas High School. Twenty-four trees were identified during the assessment. Eight trees will require removal due to planned grading or due to preexisting decline or structural issues. Remaining trees are to be retained through construction and will require basic maintenance and sufficient tree protection zones/measures to minimize impacts from construction activities. Basic tree protection guidelines have been provided in this report.

Background

Milpitas USD has contracted WCA for arborist services and requested a tree protection plan for proposed construction at Milpitas High School. A new PAC building is being planned on the north side of the school at an existing parking lot. The project managers contacted me in early October 2020 and requested an assessment of the trees adjacent to the planned construction area and to provide a formal report. I visited the site on October 8th and have included my findings herein.

Assignment

Milpitas USD has contracted WCA to provide the following services.

- Visit the site and conduct a **limited visual assessment** [1] of the established trees near planned construction, based on plans provided by the city.
- Provide tree protection recommendations to reduce impact to trees through construction.

Assignment Limitations

This report is limited to the trees listed on Page-10. No formal risk assessment was made and only basic information regarding construction plans were provided to me. Basic guidelines have been provided in this report to minimize impacts to trees, however negligence of the contractor or undisclosed construction plans cannot be accounted for.

[1] Terms in **Bold** are defined in the glossary.

Site Observations

The proposed PAC building is located on the north side of Milpitas High School, where a parking lot is currently located. A grassy area is present between the parking lot and Escuela Pkwy, where trees 1-14 are located. The grassy area was heavily irrigated during my inspection. I was informed that the site may be using reclaimed water but did not notice any of the typical purple pipes/boxes that indicate this. The saturated soil has resulted in surface root development for many of the trees that have been impacted by mowers.

Two Chinese Pistache (*Pistacia chinensis*) are located in the grassy area (Tree #s 8 and 9). Tree 8 had appeared to have a **girdling root** present on the northeast side, made evident by a flat area where the trunk meets the ground, this condition can significantly reduce the trees stability and should be removed. Tree 9 is located directly south of Tree 8 and has a large split on the west side of the trunk and decay is suspected at critical limp attachments. The two trees are recommended for removal.

At the southeast perimeter of the project two Coastal Redwoods (*Sequoia sempervirens*) (Tree #s 12 and 13) are present that display declining canopies. Coastal redwoods are sensitive to salt, and reclaimed water typically has higher salt content that can significantly impact the trees. The two trees have display advanced decline and I believe that any attempt to restore vigor to the trees would be ineffective. Construction plans show a third Redwood on the west side of the sidewalk closer to the building, which at the time of my inspection had already been removed. The two remaining trees are recommended for removal.

The majority of the trees are well outside the anticipated construction area, although 4 trees will require removal due to grading (Tree #s 1-4). The planned excavation in this area may also impact 3 Southern Magnolia (*Magnolia grandiflora*) that are planted in a parkway strip on the east side of the sidewalk. Roots from these trees may be extending under the sidewalk into the excavation area, this will require construction crews to be cautious excavation in this area.

Six trees are located in close proximity of the construction area (Tree #s 14-19). Currently these trees are planted in small areas surrounded by concrete and asphalt. Potential hardscape renovations in the area could significantly impact the roots and require further assessment as to if the trees are suitable for retention. However, if no change to hardscape or excavation is planned impacts should be limited. Construction equipment/materials could impact the trunks or low lateral branches and tree protection zones will still be necessary to prevent **mechanical scarring** or burning sensitive plant tissues from machinery exhaust.

Tree Protection Zones (TPZ)

Construction around trees can often result in damage that can contribute to tree decline or even jeopardize structural integrity. Above ground damage such as mechanical scaring to the trunk of a tree, broken branches, and damage to roots can open a tree up for decay issues and structural problems. Damage done during construction can often take years to be noticed and could lead to property damage and even injury/death. Therefore, the negative impacts of site construction shall be mitigated by establishing a tree protection zone around trees to be retained per ISA Best Management Practices.

Establishing TPZ Boundaries

Defining how much room is necessary to provide sufficient area to protect trees may require infield assessment depending on construction activities in the area. Different species can have varying levels of tolerance to construction and/or root loss. Typically establishing the TPZ at the dripline provides sufficient protection, although different species and structural issues may have driplines that are smaller than the optimal TPZ.

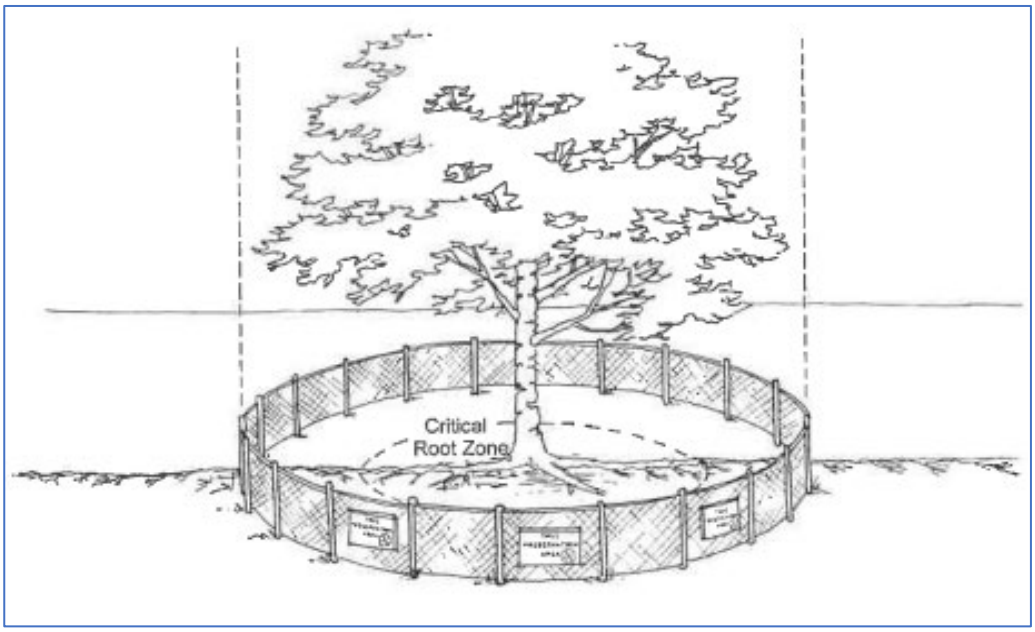


Image above was taken from ISA Best Management Practices – Managing Trees during construction.

For the purpose of this report, the dripline method will be used for establishing TPZ zones. The dripline method uses the canopy's dripline to define the boundaries of the TPZ, however trees located to the east of the construction are recommended to be fenced as a one area at the perimeter of the construction area. Excurrent trees such as Redwoods should have a TPZ 2-times the dripline radius (Excurrent Tree TPZ Radius=Dripline Radius x 2).

TPZ-Continued

Site Preparation

Establishing 4 to 6-inches of woodchips/mulch within the TPZ will allow soils to stay moist, reduce compaction, provide nutrients and optimal conditions for healthy trees. A blend of low nitrogen/fungicidal soil injections can improve tree vigor and natural defenses. These are good options for high value trees that may have environmental stresses or will be significantly impacted by root pruning and construction activities. Trees with hardscape within the dripline will not benefit from mulching unless hardscape is removed.

TPZ Fencing and Signage

Fencing should be orange construction fencing or chain-link depending on time construction lasts. Signage should be placed every 10-feet on fencing that reads “KEEP OUT -TREE PROTECTION AREA”.

TPZ Encroachment

Construction managers should plan to have a Certified Arborist on site during any work or excavation within the TPZ. If fencing interferes with construction plans, project managers should consult with an arborist before moving. No trimming of canopy and/or roots over 2-inches in diameter within the TPZ should be cut without approval from a Certified Arborist. Roots greater than 2-inches in diameter, trimmed in this area will require special attention and should be cut with a sterile/sharp saw and sealed with natural shellac and covered with wet burlap sacks to retain moisture. Roots over 3-inches in diameter outside the TPZ should be evaluated by a certified arborist prior to removal. Any excavation in the **Critical Root Zone (CRZ)** should be performed with **Air-spade** by a certified arborist. Trenches with in the CRZ should not be left open for more than 48-hours during and during high temperatures roots should be covered with damp burlap to keep cool. Heavy equipment operators should also position their equipment to direct exhaust away from any tree part and should not idle under tree canopies for long periods to avoid burning plant tissue. Heavy equipment operation with in the TPZ will require protective boarding placed on trunks and low lateral branches to avoid **mechanical scaring**.

TPZ Enforcement and Tree damage

Regular monitoring during and after construction is recommended to ensure that TPZs are being maintained. Accidental, negligent, or intentional tree damage/removal should be considered for penalty by the construction managers. An appraised value by a certified arborist of lost or damaged trees should be considered for fines.

In summary, construction can have long lasting effects to trees from root loss compaction or mechanical scaring. Pre- and post-construction inspections are also necessary to ensure that trees do not pose a threat to construction crews or people/property in the area after construction. Despite all efforts to retain trees, unforeseen problems may occur, and tree survival is never guaranteed during construction.

Conclusion

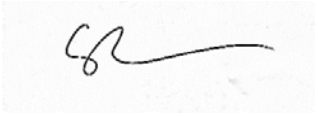
The proposed construction is anticipated to have minimal impact to the established trees on site if appropriate measures are taken. Trees 1-4 will require removal due to construction. Trees 8, 9, 12, and 13 were determined to be poor candidates for retention and are recommended for removal. Trees 14-19 may require further evaluation based on hardscape changes still in review by project design team. Current paving plans may have significant impact to roots depending on extent of excavation required to complete new sidewalks. TPZ fencing may not be necessary for trees in park strip along roadway (trees 20-24) if side walk remains open to public, however if construction activities are planed from the road or equipment is staged on roadway TPZ fencing and trunk protection will be necessary within the park strip. Additionally, planned excavation on the west side of sidewalk will require caution to avoid root damage to trees 23 and 24.

Recommendation

1. Tree and stump removal of tree #s 1-4, 8, 9, 12 and 13.
2. Trees with greater than 25% impact to root zone require further assessment.
    a. Grade changes greater than 4-inches accounting for more than 25% of root zone may warrant removal if large lateral root damage is sustained. Documented exploratory excavation by certified arborist may be necessary to determine extent of root impact.
    b. Any root cut greater than 2-inches within the defined TPZ must be evaluated by a certified arborist.
3. Maintenance trim retained trees prior to construction.
    a. Trimming should be focused on weight reduction of overextended branches. Remove all dead branches over 2" diameter, do not remove any live branch greater than 2-inches diameter or more than 15% of canopy.
    b. All trimming must meet *ANSI A-300* pruning standards (Tree Care Industry Association, Inc., 2017) and be supervised or performed by a certified arborist.
4. Establish Tree protection Zones (TPZ) as instructed in this report.
    a. TPZ zones should be inspected by a Certified Arborist prior to construction.
    b. Periodic inspections during construction by certified arborist recommended.
5. All work within the TPZ perimeters defined in this report to be supervised or approved by a certified arborist.
    a. No staging construction materials, excavated soil, equipment, or temporary structures (including portable bathrooms) within TPZ.
6. Documented post-construction assessment by certified arborist.

Thank you for the opportunity to assist you in your tree assessment needs. If there are any questions or concerns feel free to contact me directly at (408) 835-0438, greeve@wcainc.com

Respectfully,



Glenn O. Whitlock-Reeve
Registered Consulting Arborist #704
Board Certified Master Arborist WE-10177BTM

Glossary

Advanced Risk Assessment- an assessment performed to provide detailed information about specific tree parts, defects or targets or site conditions. Specialized equipment, data collection and analysis, and/or expertise are usually required.

Air Spade- specialist excavation tool that uses compressed air to remove and break up soil with minimal damage to roots and underground utilities. It can be used for a variety of reasons including the alleviation of compaction, soil improvement, root inspection and root location.

Cabling- installing of a cable within a tree between limbs or leaders to limit movement and provide supplemental support.

Critical Root Zone (CRZ)- An area where roots are present around a tree that are crucial to health and stability of the tree. Tree roots expand far beyond the canopy of the tree; most roots grow within the top 6-8" of the soil. Roots grow where conditions are most favorable, seeking oxygen water and nutrients. There is no industry standard to for measuring the *Critical Root Zone,* but for the purpose of this report it shall be defined as the DSH multiplied by 8-inches. All excavation should be completed by hand and with an Air-spade in the defined CRZ. No root larger than 2-inches in diameter shall be cut without approval from certified arborist within the **CRZ.**

girdling root – root that encircles all or part of the tree trunk or the tree's other roots, constricting the vascular tissue and inhibiting secondary growth and the movement of water and photosynthates.

Limited visual Assessment- quick assessment, identifying significant defects of concern requiring mitigation.

Mechanical scarring- scratches from tool or equipment to the trunk or lateral branches.

Multileader- trees that lack a central leader.

Root flare- The root flare is the area at the base of the trunk that swells out to become buttress roots entering the soil; and is also known as the root collar.

Structural roots- Support roots that help the tree stand.

Tree Protection Zone (TPZ): defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, especially during construction or development.

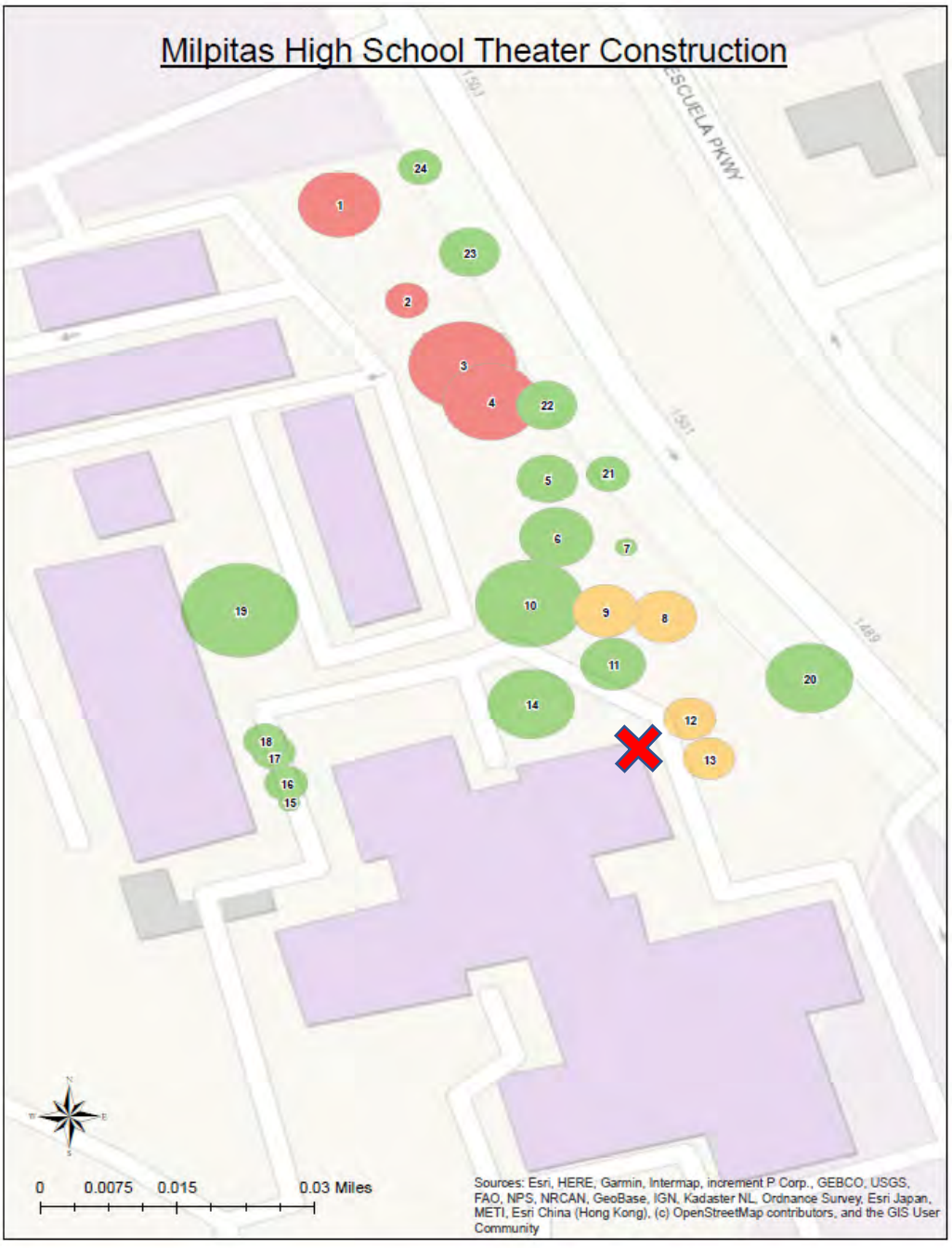
Bibliography

Kelby Fite, E. S. (2016). *ISA Best Management Practices, Managing trees during construction.* Champaign, Illinois: International Society of Arboriculture .

Tree Care Industry Association, Inc. (2017). *Tree, Shrub, and Other Woody Plant Management- Standard Practices (Pruning).* New Hapshire : Tree Care Industry Association, Inc.

Appendix A- Map (Approximate tree locations)

Trees shown in red are construction related removals, trees in yellow are recommended for removal. The Red X shows where a redwood has been removed recently.



Appendix B- Tree List

Trees in red indicate planned removals for construction. Trees in yellow are recommended for removal due to prexisting conditions.

Site	Species	DSH	Height	Condition	Maint
1	Allepo Pine (*Pinus halepenss*)	33	4	Fair	Grid/Routine Trim
2	American Sweetgum (*Liquidambar styraciflua*)	14	2	Good	Grid/Routine Trim
3	Holly Oak (*Quercus ilex*)	17	2	Good	Grid/Routine Trim
4	Canary Island Pine (*Pinus canariensis*)	27	2	Fair	Monitor-Structure
5	Holly Oak (Quercus ilex)	14	2	Fair	Grid/Routine Trim
6	Holly Oak (Quercus ilex)	19	2	Fair	Grid/Routine Trim
7	Holly Oak (Quercus ilex)	6	1	Good	Grid/Routine Trim
8	Chinese Pistache (*Pistacia chinensis*)	16	1	Poor	Monitor-Structure
9	Chinese Pistache (Pistacia chinensis)	14	1	Fair	Monitor-Structure
10	Holly Oak (Quercus ilex)	22	1	Fair	Grid/Routine Trim
11	Holly Oak (Quercus ilex)	14	1	Good	Grid/Routine Trim
12	Coastal Redwood (Sequoia sempervirens)	26	4	Poor	Monitor-Disease/Decline
13	Coastal Redwood (Sequoia sempervirens)	27	4	Poor	Monitor-Disease/Decline
14	Coastal Redwood (Sequoia sempervirens)	40	4	Good	Grid/Routine Trim
15	American Sweetgum (*Liquidambar styraciflua*)	8	2	Good	Grid/Routine Trim
16	American Sweetgum (*Liquidambar styraciflua*)	12	2	Good	Grid/Routine Trim
17	American Sweetgum (*Liquidambar styraciflua*)	9	2	Good	Grid/Routine Trim
18	American Sweetgum (*Liquidambar styraciflua*)	12	2	Good	Grid/Routine Trim
19	Holly Oak (Quercus ilex)	23	3	Good	Monitor-Structure
20	Southern Magnolia (*Magnolia grandiflora*)	24	3	Fair	Grid/Routine Trim
21	Southern Magnolia (Magnolia grandiflora)	16	2	Fair	Grid/Routine Trim
22	Southern Magnolia (Magnolia grandiflora)	14	2	Fair	Grid/Routine Trim
23	Southern Magnolia (Magnolia grandiflora)	22	2	Fair	Grid/Routine Trim
24	Southern Magnolia (Magnolia grandiflora)	14	2	Fair	Grid/Routine Trim

Appendix C- Observation Photos

Figure 1: Looking southwest at proposed construction area. Magnolia trees in park strip noted by red arrow.

Figure 2: Looking south west at toward trees that will be removed for grading, noted by red arrows.

Figure 3: Evidence of girdling root on tree #8 shown by red arrow.

Figure 4: Trees 12 and 13 seen looking south, note declining canopies (lighting was adjusted on picture due to overcast conditions during inspection). Red arrow indicates location of recently removed Redwood.

Figure 5: Liquidambar trees seen looking south.

Figure 6: Compacted soils around liquidambar trees.

Figure 3: Tree 19, (Holly Oak) shown looking north. Note pavement beneath dripline.

Figure 4: Magnolia trees in park strip looking south, red arrows indicates areas where roots of these trees may be impacted from grading.

ASSUMPTIONS AND LIMITING CONDITIONS

1. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the Consultant can neither guarantee nor be responsible for the accuracy of information provided by others. Standard of Care has been met with regards to this project within reasonable and normal conditions.

2. The Consultant will not be required to give testimony or to attend court by reason of this report unless subsequent contractual agreements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

3. Loss or alteration of any part of this report invalidates the entire report.

4. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior written consent of the Consultant.

5. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a stipulated result, a specified value, the occurrence of a subsequent event, nor upon any finding to be reported.

6. Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, or coring, unless otherwise stated. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the tree(s) or property in question may not arise in the future.

7. Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. It is highly recommended that you follow the arborist recommendations; however, you may choose to accept or disregard the recommendations and/or seek additional advice.

8. Arborists cannot detect every condition that could possible lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specific period of time.

9. Any recommendation and/or performed treatments (including, but not limited to, pruning or removal) of trees may involve considerations beyond the scope of the arborist's services, such as property boundaries, property ownership, site lines, disputes between neighbors, and any other related issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist can then be expected to consider and reasonably rely on the completeness and accuracy of the information provided.

10. The author has no personal interest or bias with respect to the subject matter of this report or the parties involved. He/she has inspected the subject tree(s) and to the best of their knowledge and belief, all statements and information presented in the report are true and correct.

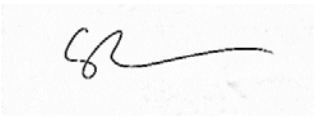
11. Unless otherwise stated, trees were examined using the risk assessment criteria detailed by the International Society of Arboriculture's publications *Best Management Practices – Tree Risk Assessment* and the *Tree Risk Assessment Manual*.

Appendix D- Certification of Performance

I, Glenn O. Whitlock-Reeve, Certify that:

1. I have personally inspected the tree and property referred to in this report and have stated my findings accurately.
2. I have no current or prospective interest in the tree or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
3. The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts.
4. My analysis, opinions and conclusions were developed, and this report has been prepared according to commonly accepted arboricultural practices and standards.
5. No one provided significant professional assistance to me, except as indicated within the report.
6. My compensation is not contingent upon the reporting of predetermined conclusion that favors the cause of the client or any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of the American Society of Consulting Arborists and a Board-Certified Master Arborist with the International Society of Arboriculture (ISA). I have been a Certified Arborist since 2013 and in the practice of arboriculture for over 10 years.

Signed: 

Date: 10/19/2020

Milpitas High School Performing Arts Center and Gym Project

Appendix B: Air Quality CalEEMod Calculations, MIG, Inc., October 2021

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

MHS: PAC, 2nd Gym, Fitness Center Project

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Educational	11,088.00	User Defined Unit	0.42	11,088.00	0
User Defined Educational	18,128.00	User Defined Unit	0.75	18,128.00	0
User Defined Educational	39,330.00	User Defined Unit	2.34	39,330.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: CPD. Project involves construction activities ony.

Land Use - User defined educational use includes Performing Arts Center, 2nd Gym, and Fitness Center.

Construction Phase - Construction schedule provided by MUSD. For modeling purposes, construction assumed to start in January 2022.

Off-road Equipment - Demolition equipment removed, phase not included in modeling.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - PAC building foundation equipment reduced to account for foundation work only.

Off-road Equipment -

Off-road Equipment - Architectural coating equipment increased to account for multiple sites.

Off-road Equipment - PAC vertical building construction equipment reduced to account for vertical construction activities only.

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - PAC MEP and Interior finish equipment reduced to account for interior work only.

Off-road Equipment - Gym building construction equipment reduced to account for simpler structural design.

Off-road Equipment - Fitness center building construction equipment reduced to account for less complex structure, smaller building.

Grading - Material imported assumes type 2 aggregate base at 165 lbs/ft3 (5,000 tons = 2,245 cu yds).

Trips and VMT - Vendor trips added to Paving phase to account for average asphalt deliveries (600 tons) per day during phase.

Construction Off-road Equipment Mitigation - Construction mitigation includes site watering 2x per day.

Table Name	Column Name	Default Value	New Value
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MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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2.0 Emissions Summary

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.4632	4.3495	3.8610	8.6500e-003	0.4570	0.1925	0.6495	0.2148	0.1822	0.3970	0.0000	764.7843	764.7843	0.1287	0.0255	775.5995
2023	0.5039	1.2271	1.4498	2.8600e-003	0.0416	0.0550	0.0966	0.0113	0.0526	0.0639	0.0000	248.1732	248.1732	0.0386	4.7800e-003	250.5620
Maximum	**0.5039**	**4.3495**	**3.8610**	**8.6500e-003**	**0.4570**	**0.1925**	**0.6495**	**0.2148**	**0.1822**	**0.3970**	**0.0000**	**764.7843**	**764.7843**	**0.1287**	**0.0255**	**775.5995**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.4632	4.3495	3.8610	8.6500e-003	0.2696	0.1925	0.4621	0.1140	0.1822	0.2962	0.0000	764.7836	764.7836	0.1287	0.0255	775.5989
2023	0.5039	1.2271	1.4498	2.8600e-003	0.0416	0.0550	0.0966	0.0113	0.0526	0.0639	0.0000	248.1729	248.1729	0.0386	4.7800e-003	250.5618
Maximum	**0.5039**	**4.3495**	**3.8610**	**8.6500e-003**	**0.2696**	**0.1925**	**0.4621**	**0.1140**	**0.1822**	**0.2962**	**0.0000**	**764.7836**	**764.7836**	**0.1287**	**0.0255**	**775.5989**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**37.59**	**0.00**	**25.12**	**44.56**	**0.00**	**21.86**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2022**	**3-31-2022**	1.1032	1.1032
2	**4-1-2022**	**6-30-2022**	1.2789	1.2789
3	**7-1-2022**	**9-30-2022**	1.2370	1.2370
4	**10-1-2022**	**12-31-2022**	1.1887	1.1887
5	**1-1-2023**	**3-31-2023**	0.9469	0.9469
6	**4-1-2023**	**6-30-2023**	0.2550	0.2550
7	**7-1-2023**	**9-30-2023**	0.5379	0.5379
		Highest	1.2789	1.2789

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3615	5.7100e-003	0.6289	5.0000e-005		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	1.2248	1.2248	3.2000e-003	0.0000	1.3048
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3615**	**5.7100e-003**	**0.6289**	**5.0000e-005**	**0.0000**	**2.2400e-003**	**2.2400e-003**	**0.0000**	**2.2400e-003**	**2.2400e-003**	**0.0000**	**1.2248**	**1.2248**	**3.2000e-003**	**0.0000**	**1.3048**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3615	5.7100e-003	0.6289	5.0000e-005		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	1.2248	1.2248	3.2000e-003	0.0000	1.3048
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3615**	**5.7100e-003**	**0.6289**	**5.0000e-005**	**0.0000**	**2.2400e-003**	**2.2400e-003**	**0.0000**	**2.2400e-003**	**2.2400e-003**	**0.0000**	**1.2248**	**1.2248**	**3.2000e-003**	**0.0000**	**1.3048**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	12/31/2021	5	0	
2	Site Preparation	Site Preparation	1/3/2022	2/1/2022	5	22	1. 1 month site prep all sites
3	Grading	Grading	2/2/2022	4/4/2022	5	44	2. 2 months grading all sites

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	PAC Building Foundation	Building Construction	4/5/2022	7/5/2022	5	66	3. 3 months PAC foundation
5	Paving	Paving	6/9/2023	8/9/2023	5	44	8. Paving all sites
6	Architectural Coating	Architectural Coating	8/10/2023	9/4/2023	5	18	9. Coating all sites
7	PAC Vertical Building Construction	Building Construction	7/6/2022	12/6/2022	5	110	4. 5 months PAC vertical
8	PAC MEP and Interior Finish	Building Construction	12/7/2022	6/8/2023	5	132	5. 6 months PAC interior
9	Gym Construction	Building Construction	4/6/2022	4/5/2023	5	261	6. 2nd Gym construction
10	Fitness Center Construction	Building Construction	4/1/2022	3/31/2023	5	261	7. Fitness Center construction

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 8

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 102,819; Non-Residential Outdoor: 34,273; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	2	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
PAC Building Foundation	Cranes	1	7.00	231	0.29
Demolition	Excavators	0	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
PAC Building Foundation	Forklifts	1	8.00	89	0.20
PAC Building Foundation	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
PAC Building Foundation	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
PAC Building Foundation	Welders	1	8.00	46	0.45
Fitness Center Construction	Cranes	1	7.00	231	0.29
PAC Vertical Building Construction	Cranes	1	7.00	231	0.29
PAC MEP and Interior Finish	Cranes	0	7.00	231	0.29
Gym Construction	Cranes	1	7.00	231	0.29
Fitness Center Construction	Forklifts	1	8.00	89	0.20
PAC Vertical Building Construction	Forklifts	1	8.00	89	0.20
PAC MEP and Interior Finish	Forklifts	1	8.00	89	0.20
Gym Construction	Forklifts	1	8.00	89	0.20
Fitness Center Construction	Generator Sets	1	8.00	84	0.74
PAC Vertical Building Construction	Generator Sets	1	8.00	84	0.74
PAC MEP and Interior Finish	Generator Sets	1	8.00	84	0.74
Gym Construction	Generator Sets	1	8.00	84	0.74
Fitness Center Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
PAC Vertical Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
PAC MEP and Interior Finish	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Gym Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Fitness Center Construction	Welders	1	8.00	46	0.45
PAC Vertical Building Construction	Welders	1	8.00	46	0.45
PAC MEP and Interior Finish	Welders	1	8.00	46	0.45
Gym Construction	Welders	1	8.00	46	0.45

Trips and VMT

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	2,818.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
PAC Building Foundation	6	29.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
PAC Vertical Building Construction	5	29.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
PAC MEP and Interior Finish	3	29.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Gym Construction	5	29.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fitness Center Construction	5	29.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2027	0.0000	0.2027	0.1097	0.0000	0.1097	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0349	0.3639	0.2167	4.2000e-004		0.0177	0.0177		0.0163	0.0163	0.0000	36.7833	36.7833	0.0119	0.0000	37.0807
Total	**0.0349**	**0.3639**	**0.2167**	**4.2000e-004**	**0.2027**	**0.0177**	**0.2205**	**0.1097**	**0.0163**	**0.1260**	**0.0000**	**36.7833**	**36.7833**	**0.0119**	**0.0000**	**37.0807**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	3.9000e-004	4.7700e-003	1.0000e-005	1.5700e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2338	1.2338	4.0000e-005	4.0000e-005	1.2454
Total	**5.3000e-004**	**3.9000e-004**	**4.7700e-003**	**1.0000e-005**	**1.5700e-003**	**1.0000e-005**	**1.5800e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.2338**	**1.2338**	**4.0000e-005**	**4.0000e-005**	**1.2454**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0912	0.0000	0.0912	0.0494	0.0000	0.0494	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0349	0.3639	0.2167	4.2000e-004		0.0177	0.0177		0.0163	0.0163	0.0000	36.7833	36.7833	0.0119	0.0000	37.0807
Total	**0.0349**	**0.3639**	**0.2167**	**4.2000e-004**	**0.0912**	**0.0177**	**0.1090**	**0.0494**	**0.0163**	**0.0657**	**0.0000**	**36.7833**	**36.7833**	**0.0119**	**0.0000**	**37.0807**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	3.9000e-004	4.7700e-003	1.0000e-005	1.5700e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2338	1.2338	4.0000e-005	4.0000e-005	1.2454
Total	**5.3000e-004**	**3.9000e-004**	**4.7700e-003**	**1.0000e-005**	**1.5700e-003**	**1.0000e-005**	**1.5800e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.2338**	**1.2338**	**4.0000e-005**	**4.0000e-005**	**1.2454**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1380	0.0000	0.1380	0.0735	0.0000	0.0735	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0429	0.4588	0.3360	6.5000e-004		0.0207	0.0207		0.0190	0.0190	0.0000	57.3205	57.3205	0.0185	0.0000	57.7840
Total	**0.0429**	**0.4588**	**0.3360**	**6.5000e-004**	**0.1380**	**0.0207**	**0.1587**	**0.0735**	**0.0190**	**0.0925**	**0.0000**	**57.3205**	**57.3205**	**0.0185**	**0.0000**	**57.7840**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.6600e-003	0.2440	0.0513	9.0000e-004	0.0239	2.2000e-003	0.0261	6.5700e-003	2.1000e-003	8.6800e-003	0.0000	88.6823	88.6823	3.0500e-003	0.0141	92.9467
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.8000e-004	6.5000e-004	7.9500e-003	2.0000e-005	2.6200e-003	1.0000e-005	2.6300e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	2.0562	2.0562	6.0000e-005	6.0000e-005	2.0757
Total	**7.5400e-003**	**0.2446**	**0.0592**	**9.2000e-004**	**0.0265**	**2.2100e-003**	**0.0287**	**7.2700e-003**	**2.1100e-003**	**9.3900e-003**	**0.0000**	**90.7386**	**90.7386**	**3.1100e-003**	**0.0141**	**95.0224**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0621	0.0000	0.0621	0.0331	0.0000	0.0331	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0429	0.4588	0.3360	6.5000e-004		0.0207	0.0207		0.0190	0.0190	0.0000	57.3204	57.3204	0.0185	0.0000	57.7839
Total	**0.0429**	**0.4588**	**0.3360**	**6.5000e-004**	**0.0621**	**0.0207**	**0.0828**	**0.0331**	**0.0190**	**0.0521**	**0.0000**	**57.3204**	**57.3204**	**0.0185**	**0.0000**	**57.7839**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.6600e-003	0.2440	0.0513	9.0000e-004	0.0239	2.2000e-003	0.0261	6.5700e-003	2.1000e-003	8.6800e-003	0.0000	88.6823	88.6823	3.0500e-003	0.0141	92.9467
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.8000e-004	6.5000e-004	7.9500e-003	2.0000e-005	2.6200e-003	1.0000e-005	2.6300e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	2.0562	2.0562	6.0000e-005	6.0000e-005	2.0757
Total	**7.5400e-003**	**0.2446**	**0.0592**	**9.2000e-004**	**0.0265**	**2.2100e-003**	**0.0287**	**7.2700e-003**	**2.1100e-003**	**9.3900e-003**	**0.0000**	**90.7386**	**90.7386**	**3.1100e-003**	**0.0141**	**95.0224**

3.5 PAC Building Foundation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0441	0.3973	0.3992	7.0000e-004		0.0195	0.0195		0.0185	0.0185	0.0000	59.7152	59.7152	0.0129	0.0000	60.0377
Total	**0.0441**	**0.3973**	**0.3992**	**7.0000e-004**		**0.0195**	**0.0195**		**0.0185**	**0.0185**	**0.0000**	**59.7152**	**59.7152**	**0.0129**	**0.0000**	**60.0377**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 PAC Building Foundation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-004	0.0205	5.9800e-003	8.0000e-005	2.3900e-003	2.1000e-004	2.6000e-003	6.9000e-004	2.1000e-004	9.0000e-004	0.0000	7.5291	7.5291	1.7000e-004	1.1100e-003	7.8644
Worker	2.5600e-003	1.8800e-003	0.0231	7.0000e-005	7.5900e-003	4.0000e-005	7.6300e-003	2.0200e-003	4.0000e-005	2.0600e-003	0.0000	5.9631	5.9631	1.8000e-004	1.7000e-004	6.0194
Total	**3.3600e-003**	**0.0223**	**0.0290**	**1.5000e-004**	**9.9800e-003**	**2.5000e-004**	**0.0102**	**2.7100e-003**	**2.5000e-004**	**2.9600e-003**	**0.0000**	**13.4922**	**13.4922**	**3.5000e-004**	**1.2800e-003**	**13.8838**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0441	0.3973	0.3992	7.0000e-004		0.0195	0.0195		0.0185	0.0185	0.0000	59.7151	59.7151	0.0129	0.0000	60.0376
Total	**0.0441**	**0.3973**	**0.3992**	**7.0000e-004**		**0.0195**	**0.0195**		**0.0185**	**0.0185**	**0.0000**	**59.7151**	**59.7151**	**0.0129**	**0.0000**	**60.0376**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 PAC Building Foundation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-004	0.0205	5.9800e-003	8.0000e-005	2.3900e-003	2.1000e-004	2.6000e-003	6.9000e-004	2.1000e-004	9.0000e-004	0.0000	7.5291	7.5291	1.7000e-004	1.1100e-003	7.8644
Worker	2.5600e-003	1.8800e-003	0.0231	7.0000e-005	7.5900e-003	4.0000e-005	7.6300e-003	2.0200e-003	4.0000e-005	2.0600e-003	0.0000	5.9631	5.9631	1.8000e-004	1.7000e-004	6.0194
Total	**3.3600e-003**	**0.0223**	**0.0290**	**1.5000e-004**	**9.9800e-003**	**2.5000e-004**	**0.0102**	**2.7100e-003**	**2.5000e-004**	**2.9600e-003**	**0.0000**	**13.4922**	**13.4922**	**3.5000e-004**	**1.2800e-003**	**13.8838**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0202	0.1934	0.2682	4.2000e-004		9.5800e-003	9.5800e-003		8.8600e-003	8.8600e-003	0.0000	36.0329	36.0329	0.0113	0.0000	36.3159
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0202**	**0.1934**	**0.2682**	**4.2000e-004**		**9.5800e-003**	**9.5800e-003**		**8.8600e-003**	**8.8600e-003**	**0.0000**	**36.0329**	**36.0329**	**0.0113**	**0.0000**	**36.3159**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.9600e-003	6.2000e-004	1.0000e-005	2.9000e-004	1.0000e-005	3.0000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.8749	0.8749	2.0000e-005	1.3000e-004	0.9136
Worker	1.1000e-003	7.7000e-004	9.8200e-003	3.0000e-005	3.4900e-003	2.0000e-005	3.5100e-003	9.3000e-004	2.0000e-005	9.4000e-004	0.0000	2.6567	2.6567	8.0000e-005	7.0000e-005	2.6807
Total	**1.1500e-003**	**2.7300e-003**	**0.0104**	**4.0000e-005**	**3.7800e-003**	**3.0000e-005**	**3.8100e-003**	**1.0100e-003**	**3.0000e-005**	**1.0300e-003**	**0.0000**	**3.5315**	**3.5315**	**1.0000e-004**	**2.0000e-004**	**3.5943**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0202	0.1934	0.2682	4.2000e-004		9.5800e-003	9.5800e-003		8.8600e-003	8.8600e-003	0.0000	36.0329	36.0329	0.0113	0.0000	36.3159
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0202**	**0.1934**	**0.2682**	**4.2000e-004**		**9.5800e-003**	**9.5800e-003**		**8.8600e-003**	**8.8600e-003**	**0.0000**	**36.0329**	**36.0329**	**0.0113**	**0.0000**	**36.3159**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.9600e-003	6.2000e-004	1.0000e-005	2.9000e-004	1.0000e-005	3.0000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.8749	0.8749	2.0000e-005	1.3000e-004	0.9136
Worker	1.1000e-003	7.7000e-004	9.8200e-003	3.0000e-005	3.4900e-003	2.0000e-005	3.5100e-003	9.3000e-004	2.0000e-005	9.4000e-004	0.0000	2.6567	2.6567	8.0000e-005	7.0000e-005	2.6807
Total	**1.1500e-003**	**2.7300e-003**	**0.0104**	**4.0000e-005**	**3.7800e-003**	**3.0000e-005**	**3.8100e-003**	**1.0100e-003**	**3.0000e-005**	**1.0300e-003**	**0.0000**	**3.5315**	**3.5315**	**1.0000e-004**	**2.0000e-004**	**3.5943**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3574					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4500e-003	0.0235	0.0326	5.0000e-005		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003	0.0000	4.5959	4.5959	2.7000e-004	0.0000	4.6027
Total	**0.3609**	**0.0235**	**0.0326**	**5.0000e-005**		**1.2700e-003**	**1.2700e-003**		**1.2700e-003**	**1.2700e-003**	**0.0000**	**4.5959**	**4.5959**	**2.7000e-004**	**0.0000**	**4.6027**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	9.0000e-005	1.2100e-003	0.0000	4.3000e-004	0.0000	4.3000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.3261	0.3261	1.0000e-005	1.0000e-005	0.3290
Total	**1.3000e-004**	**9.0000e-005**	**1.2100e-003**	**0.0000**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3261**	**0.3261**	**1.0000e-005**	**1.0000e-005**	**0.3290**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3574					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4500e-003	0.0235	0.0326	5.0000e-005		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003	0.0000	4.5959	4.5959	2.7000e-004	0.0000	4.6027
Total	**0.3609**	**0.0235**	**0.0326**	**5.0000e-005**		**1.2700e-003**	**1.2700e-003**		**1.2700e-003**	**1.2700e-003**	**0.0000**	**4.5959**	**4.5959**	**2.7000e-004**	**0.0000**	**4.6027**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	9.0000e-005	1.2100e-003	0.0000	4.3000e-004	0.0000	4.3000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.3261	0.3261	1.0000e-005	1.0000e-005	0.3290
Total	**1.3000e-004**	**9.0000e-005**	**1.2100e-003**	**0.0000**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3261**	**0.3261**	**1.0000e-005**	**1.0000e-005**	**0.3290**

3.8 PAC Vertical Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0655	0.5815	0.5577	1.0100e-003		0.0281	0.0281		0.0268	0.0268	0.0000	86.3737	86.3737	0.0173	0.0000	86.8049
Total	**0.0655**	**0.5815**	**0.5577**	**1.0100e-003**		**0.0281**	**0.0281**		**0.0268**	**0.0268**	**0.0000**	**86.3737**	**86.3737**	**0.0173**	**0.0000**	**86.8049**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 PAC Vertical Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3400e-003	0.0341	9.9700e-003	1.3000e-004	3.9800e-003	3.6000e-004	4.3400e-003	1.1500e-003	3.4000e-004	1.4900e-003	0.0000	12.5485	12.5485	2.8000e-004	1.8500e-003	13.1073
Worker	4.2700e-003	3.1300e-003	0.0384	1.1000e-004	0.0127	7.0000e-005	0.0127	3.3600e-003	6.0000e-005	3.4300e-003	0.0000	9.9385	9.9385	3.1000e-004	2.9000e-004	10.0324
Total	**5.6100e-003**	**0.0372**	**0.0484**	**2.4000e-004**	**0.0166**	**4.3000e-004**	**0.0171**	**4.5100e-003**	**4.0000e-004**	**4.9200e-003**	**0.0000**	**22.4870**	**22.4870**	**5.9000e-004**	**2.1400e-003**	**23.1397**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0655	0.5815	0.5577	1.0100e-003		0.0281	0.0281		0.0268	0.0268	0.0000	86.3736	86.3736	0.0173	0.0000	86.8048
Total	**0.0655**	**0.5815**	**0.5577**	**1.0100e-003**		**0.0281**	**0.0281**		**0.0268**	**0.0268**	**0.0000**	**86.3736**	**86.3736**	**0.0173**	**0.0000**	**86.8048**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 PAC Vertical Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3400e-003	0.0341	9.9700e-003	1.3000e-004	3.9800e-003	3.6000e-004	4.3400e-003	1.1500e-003	3.4000e-004	1.4900e-003	0.0000	12.5485	12.5485	2.8000e-004	1.8500e-003	13.1073
Worker	4.2700e-003	3.1300e-003	0.0384	1.1000e-004	0.0127	7.0000e-005	0.0127	3.3600e-003	6.0000e-005	3.4300e-003	0.0000	9.9385	9.9385	3.1000e-004	2.9000e-004	10.0324
Total	**5.6100e-003**	**0.0372**	**0.0484**	**2.4000e-004**	**0.0166**	**4.3000e-004**	**0.0171**	**4.5100e-003**	**4.0000e-004**	**4.9200e-003**	**0.0000**	**22.4870**	**22.4870**	**5.9000e-004**	**2.1400e-003**	**23.1397**

3.9 PAC MEP and Interior Finish - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.4800e-003	0.0490	0.0587	1.0000e-004		2.5300e-003	2.5300e-003		2.4800e-003	2.4800e-003	0.0000	7.9895	7.9895	8.4000e-004	0.0000	8.0104
Total	**6.4800e-003**	**0.0490**	**0.0587**	**1.0000e-004**		**2.5300e-003**	**2.5300e-003**		**2.4800e-003**	**2.4800e-003**	**0.0000**	**7.9895**	**7.9895**	**8.4000e-004**	**0.0000**	**8.0104**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 PAC MEP and Interior Finish - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2000e-004	5.5800e-003	1.6300e-003	2.0000e-005	6.5000e-004	6.0000e-005	7.1000e-004	1.9000e-004	6.0000e-005	2.4000e-004	0.0000	2.0534	2.0534	5.0000e-005	3.0000e-004	2.1448
Worker	7.0000e-004	5.1000e-004	6.2900e-003	2.0000e-005	2.0700e-003	1.0000e-005	2.0800e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.6263	1.6263	5.0000e-005	5.0000e-005	1.6417
Total	**9.2000e-004**	**6.0900e-003**	**7.9200e-003**	**4.0000e-005**	**2.7200e-003**	**7.0000e-005**	**2.7900e-003**	**7.4000e-004**	**7.0000e-005**	**8.0000e-004**	**0.0000**	**3.6797**	**3.6797**	**1.0000e-004**	**3.5000e-004**	**3.7865**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.4800e-003	0.0490	0.0587	1.0000e-004		2.5300e-003	2.5300e-003		2.4800e-003	2.4800e-003	0.0000	7.9895	7.9895	8.4000e-004	0.0000	8.0104
Total	**6.4800e-003**	**0.0490**	**0.0587**	**1.0000e-004**		**2.5300e-003**	**2.5300e-003**		**2.4800e-003**	**2.4800e-003**	**0.0000**	**7.9895**	**7.9895**	**8.4000e-004**	**0.0000**	**8.0104**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 PAC MEP and Interior Finish - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2000e-004	5.5800e-003	1.6300e-003	2.0000e-005	6.5000e-004	6.0000e-005	7.1000e-004	1.9000e-004	6.0000e-005	2.4000e-004	0.0000	2.0534	2.0534	5.0000e-005	3.0000e-004	2.1448
Worker	7.0000e-004	5.1000e-004	6.2900e-003	2.0000e-005	2.0700e-003	1.0000e-005	2.0800e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.6263	1.6263	5.0000e-005	5.0000e-005	1.6417
Total	**9.2000e-004**	**6.0900e-003**	**7.9200e-003**	**4.0000e-005**	**2.7200e-003**	**7.0000e-005**	**2.7900e-003**	**7.4000e-004**	**7.0000e-005**	**8.0000e-004**	**0.0000**	**3.6797**	**3.6797**	**1.0000e-004**	**3.5000e-004**	**3.7865**

3.9 PAC MEP and Interior Finish - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0378	0.2905	0.3701	6.1000e-004		0.0138	0.0138		0.0136	0.0136	0.0000	50.6000	50.6000	5.0600e-003	0.0000	50.7266
Total	**0.0378**	**0.2905**	**0.3701**	**6.1000e-004**		**0.0138**	**0.0138**		**0.0136**	**0.0136**	**0.0000**	**50.6000**	**50.6000**	**5.0600e-003**	**0.0000**	**50.7266**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 PAC MEP and Interior Finish - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9000e-004	0.0279	8.8000e-003	1.3000e-004	4.1300e-003	1.6000e-004	4.2900e-003	1.1900e-003	1.6000e-004	1.3500e-003	0.0000	12.4667	12.4667	2.6000e-004	1.8300e-003	13.0190
Worker	4.1300e-003	2.8800e-003	0.0369	1.1000e-004	0.0131	6.0000e-005	0.0132	3.4900e-003	6.0000e-005	3.5500e-003	0.0000	9.9807	9.9807	2.9000e-004	2.8000e-004	10.0707
Total	**4.8200e-003**	**0.0308**	**0.0457**	**2.4000e-004**	**0.0172**	**2.2000e-004**	**0.0175**	**4.6800e-003**	**2.2000e-004**	**4.9000e-003**	**0.0000**	**22.4474**	**22.4474**	**5.5000e-004**	**2.1100e-003**	**23.0897**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0378	0.2905	0.3701	6.1000e-004		0.0138	0.0138		0.0136	0.0136	0.0000	50.6000	50.6000	5.0600e-003	0.0000	50.7265
Total	**0.0378**	**0.2905**	**0.3701**	**6.1000e-004**		**0.0138**	**0.0138**		**0.0136**	**0.0136**	**0.0000**	**50.6000**	**50.6000**	**5.0600e-003**	**0.0000**	**50.7265**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 PAC MEP and Interior Finish - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9000e-004	0.0279	8.8000e-003	1.3000e-004	4.1300e-003	1.6000e-004	4.2900e-003	1.1900e-003	1.6000e-004	1.3500e-003	0.0000	12.4667	12.4667	2.6000e-004	1.8300e-003	13.0190
Worker	4.1300e-003	2.8800e-003	0.0369	1.1000e-004	0.0131	6.0000e-005	0.0132	3.4900e-003	6.0000e-005	3.5500e-003	0.0000	9.9807	9.9807	2.9000e-004	2.8000e-004	10.0707
Total	**4.8200e-003**	**0.0308**	**0.0457**	**2.4000e-004**	**0.0172**	**2.2000e-004**	**0.0175**	**4.6800e-003**	**2.2000e-004**	**4.9000e-003**	**0.0000**	**22.4474**	**22.4474**	**5.5000e-004**	**2.1100e-003**	**23.0897**

3.10 Gym Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1149	1.0203	0.9785	1.7800e-003		0.0494	0.0494		0.0470	0.0470	0.0000	151.5466	151.5466	0.0303	0.0000	152.3032
Total	**0.1149**	**1.0203**	**0.9785**	**1.7800e-003**		**0.0494**	**0.0494**		**0.0470**	**0.0470**	**0.0000**	**151.5466**	**151.5466**	**0.0303**	**0.0000**	**152.3032**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Gym Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3500e-003	0.0598	0.0175	2.3000e-004	6.9900e-003	6.3000e-004	7.6100e-003	2.0200e-003	6.0000e-004	2.6200e-003	0.0000	22.0169	22.0169	5.0000e-004	3.2500e-003	22.9974
Worker	7.4900e-003	5.4900e-003	0.0674	1.9000e-004	0.0222	1.2000e-004	0.0223	5.9000e-003	1.1000e-004	6.0100e-003	0.0000	17.4376	17.4376	5.4000e-004	5.1000e-004	17.6022
Total	**9.8400e-003**	**0.0653**	**0.0849**	**4.2000e-004**	**0.0292**	**7.5000e-004**	**0.0299**	**7.9200e-003**	**7.1000e-004**	**8.6300e-003**	**0.0000**	**39.4544**	**39.4544**	**1.0400e-003**	**3.7600e-003**	**40.5996**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1149	1.0203	0.9785	1.7800e-003		0.0494	0.0494		0.0470	0.0470	0.0000	151.5464	151.5464	0.0303	0.0000	152.3030
Total	**0.1149**	**1.0203**	**0.9785**	**1.7800e-003**		**0.0494**	**0.0494**		**0.0470**	**0.0470**	**0.0000**	**151.5464**	**151.5464**	**0.0303**	**0.0000**	**152.3030**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Gym Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3500e-003	0.0598	0.0175	2.3000e-004	6.9900e-003	6.3000e-004	7.6100e-003	2.0200e-003	6.0000e-004	2.6200e-003	0.0000	22.0169	22.0169	5.0000e-004	3.2500e-003	22.9974
Worker	7.4900e-003	5.4900e-003	0.0674	1.9000e-004	0.0222	1.2000e-004	0.0223	5.9000e-003	1.1000e-004	6.0100e-003	0.0000	17.4376	17.4376	5.4000e-004	5.1000e-004	17.6022
Total	**9.8400e-003**	**0.0653**	**0.0849**	**4.2000e-004**	**0.0292**	**7.5000e-004**	**0.0299**	**7.9200e-003**	**7.1000e-004**	**8.6300e-003**	**0.0000**	**39.4544**	**39.4544**	**1.0400e-003**	**3.7600e-003**	**40.5996**

3.10 Gym Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0375	0.3325	0.3417	6.3000e-004		0.0153	0.0153		0.0145	0.0145	0.0000	53.4035	53.4035	0.0105	0.0000	53.6667
Total	**0.0375**	**0.3325**	**0.3417**	**6.3000e-004**		**0.0153**	**0.0153**		**0.0145**	**0.0145**	**0.0000**	**53.4035**	**53.4035**	**0.0105**	**0.0000**	**53.6667**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Gym Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1000e-004	0.0167	5.2500e-003	8.0000e-005	2.4600e-003	1.0000e-004	2.5600e-003	7.1000e-004	9.0000e-005	8.1000e-004	0.0000	7.4363	7.4363	1.6000e-004	1.0900e-003	7.7657
Worker	2.4600e-003	1.7200e-003	0.0220	6.0000e-005	7.8200e-003	4.0000e-005	7.8600e-003	2.0800e-003	4.0000e-005	2.1200e-003	0.0000	5.9534	5.9534	1.7000e-004	1.7000e-004	6.0071
Total	**2.8700e-003**	**0.0184**	**0.0273**	**1.4000e-004**	**0.0103**	**1.4000e-004**	**0.0104**	**2.7900e-003**	**1.3000e-004**	**2.9300e-003**	**0.0000**	**13.3897**	**13.3897**	**3.3000e-004**	**1.2600e-003**	**13.7728**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0375	0.3325	0.3417	6.3000e-004		0.0153	0.0153		0.0145	0.0145	0.0000	53.4034	53.4034	0.0105	0.0000	53.6667
Total	**0.0375**	**0.3325**	**0.3417**	**6.3000e-004**		**0.0153**	**0.0153**		**0.0145**	**0.0145**	**0.0000**	**53.4034**	**53.4034**	**0.0105**	**0.0000**	**53.6667**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Gym Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1000e-004	0.0167	5.2500e-003	8.0000e-005	2.4600e-003	1.0000e-004	2.5600e-003	7.1000e-004	9.0000e-005	8.1000e-004	0.0000	7.4363	7.4363	1.6000e-004	1.0900e-003	7.7657
Worker	2.4600e-003	1.7200e-003	0.0220	6.0000e-005	7.8200e-003	4.0000e-005	7.8600e-003	2.0800e-003	4.0000e-005	2.1200e-003	0.0000	5.9534	5.9534	1.7000e-004	1.7000e-004	6.0071
Total	**2.8700e-003**	**0.0184**	**0.0273**	**1.4000e-004**	**0.0103**	**1.4000e-004**	**0.0104**	**2.7900e-003**	**1.3000e-004**	**2.9300e-003**	**0.0000**	**13.3897**	**13.3897**	**3.3000e-004**	**1.2600e-003**	**13.7728**

3.11 Fitness Center Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1167	1.0362	0.9937	1.8100e-003		0.0501	0.0501		0.0478	0.0478	0.0000	153.9022	153.9022	0.0307	0.0000	154.6706
Total	**0.1167**	**1.0362**	**0.9937**	**1.8100e-003**		**0.0501**	**0.0501**		**0.0478**	**0.0478**	**0.0000**	**153.9022**	**153.9022**	**0.0307**	**0.0000**	**154.6706**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Fitness Center Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3800e-003	0.0608	0.0178	2.3000e-004	7.0900e-003	6.4000e-004	7.7300e-003	2.0500e-003	6.1000e-004	2.6600e-003	0.0000	22.3591	22.3591	5.1000e-004	3.3000e-003	23.3549
Worker	7.6100e-003	5.5800e-003	0.0685	1.9000e-004	0.0225	1.2000e-004	0.0227	5.9900e-003	1.1000e-004	6.1000e-003	0.0000	17.7086	17.7086	5.5000e-004	5.2000e-004	17.8758
Total	**9.9900e-003**	**0.0664**	**0.0863**	**4.2000e-004**	**0.0296**	**7.6000e-004**	**0.0304**	**8.0400e-003**	**7.2000e-004**	**8.7600e-003**	**0.0000**	**40.0677**	**40.0677**	**1.0600e-003**	**3.8200e-003**	**41.2307**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1167	1.0362	0.9937	1.8100e-003		0.0501	0.0501		0.0478	0.0478	0.0000	153.9021	153.9021	0.0307	0.0000	154.6704
Total	**0.1167**	**1.0362**	**0.9937**	**1.8100e-003**		**0.0501**	**0.0501**		**0.0478**	**0.0478**	**0.0000**	**153.9021**	**153.9021**	**0.0307**	**0.0000**	**154.6704**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Fitness Center Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3800e-003	0.0608	0.0178	2.3000e-004	7.0900e-003	6.4000e-004	7.7300e-003	2.0500e-003	6.1000e-004	2.6600e-003	0.0000	22.3591	22.3591	5.1000e-004	3.3000e-003	23.3549
Worker	7.6100e-003	5.5800e-003	0.0685	1.9000e-004	0.0225	1.2000e-004	0.0227	5.9900e-003	1.1000e-004	6.1000e-003	0.0000	17.7086	17.7086	5.5000e-004	5.2000e-004	17.8758
Total	**9.9900e-003**	**0.0664**	**0.0863**	**4.2000e-004**	**0.0296**	**7.6000e-004**	**0.0304**	**8.0400e-003**	**7.2000e-004**	**8.7600e-003**	**0.0000**	**40.0677**	**40.0677**	**1.0600e-003**	**3.8200e-003**	**41.2307**

3.11 Fitness Center Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0358	0.3178	0.3266	6.0000e-004		0.0146	0.0146		0.0139	0.0139	0.0000	51.0474	51.0474	0.0101	0.0000	51.2991
Total	**0.0358**	**0.3178**	**0.3266**	**6.0000e-004**		**0.0146**	**0.0146**		**0.0139**	**0.0139**	**0.0000**	**51.0474**	**51.0474**	**0.0101**	**0.0000**	**51.2991**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Fitness Center Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.9000e-004	0.0159	5.0200e-003	7.0000e-005	2.3500e-003	9.0000e-005	2.4500e-003	6.8000e-004	9.0000e-005	7.7000e-004	0.0000	7.1082	7.1082	1.5000e-004	1.0400e-003	7.4231
Worker	2.3500e-003	1.6400e-003	0.0210	6.0000e-005	7.4800e-003	4.0000e-005	7.5100e-003	1.9900e-003	3.0000e-005	2.0200e-003	0.0000	5.6907	5.6907	1.6000e-004	1.6000e-004	5.7421
Total	**2.7400e-003**	**0.0176**	**0.0261**	**1.3000e-004**	**9.8300e-003**	**1.3000e-004**	**9.9600e-003**	**2.6700e-003**	**1.2000e-004**	**2.7900e-003**	**0.0000**	**12.7989**	**12.7989**	**3.1000e-004**	**1.2000e-003**	**13.1652**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0358	0.3178	0.3266	6.0000e-004		0.0146	0.0146		0.0139	0.0139	0.0000	51.0474	51.0474	0.0101	0.0000	51.2990
Total	**0.0358**	**0.3178**	**0.3266**	**6.0000e-004**		**0.0146**	**0.0146**		**0.0139**	**0.0139**	**0.0000**	**51.0474**	**51.0474**	**0.0101**	**0.0000**	**51.2990**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Fitness Center Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.9000e-004	0.0159	5.0200e-003	7.0000e-005	2.3500e-003	9.0000e-005	2.4500e-003	6.8000e-004	9.0000e-005	7.7000e-004	0.0000	7.1082	7.1082	1.5000e-004	1.0400e-003	7.4231
Worker	2.3500e-003	1.6400e-003	0.0210	6.0000e-005	7.4800e-003	4.0000e-005	7.5100e-003	1.9900e-003	3.0000e-005	2.0200e-003	0.0000	5.6907	5.6907	1.6000e-004	1.6000e-004	5.7421
Total	**2.7400e-003**	**0.0176**	**0.0261**	**1.3000e-004**	**9.8300e-003**	**1.3000e-004**	**9.9600e-003**	**2.6700e-003**	**1.2000e-004**	**2.7900e-003**	**0.0000**	**12.7989**	**12.7989**	**3.1000e-004**	**1.2000e-003**	**13.1652**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Educational	0.00	0.00	0.00		
User Defined Educational	0.00	0.00	0.00		
User Defined Educational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Educational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Educational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Educational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Educational	0.572464	0.055653	0.187060	0.115672	0.020329	0.005102	0.007934	0.006404	0.000900	0.000380	0.024412	0.000914	0.002776

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Educational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Educational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Educational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Educational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3615	5.7100e-003	0.6289	5.0000e-005		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	1.2248	1.2248	3.2000e-003	0.0000	1.3048
Unmitigated	0.3615	5.7100e-003	0.6289	5.0000e-005		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	1.2248	1.2248	3.2000e-003	0.0000	1.3048

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0357					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2677					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0581	5.7100e-003	0.6289	5.0000e-005		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	1.2248	1.2248	3.2000e-003	0.0000	1.3048
Total	**0.3615**	**5.7100e-003**	**0.6289**	**5.0000e-005**		**2.2400e-003**	**2.2400e-003**		**2.2400e-003**	**2.2400e-003**	**0.0000**	**1.2248**	**1.2248**	**3.2000e-003**	**0.0000**	**1.3048**

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0357					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2677					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0581	5.7100e-003	0.6289	5.0000e-005		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	1.2248	1.2248	3.2000e-003	0.0000	1.3048
Total	**0.3615**	**5.7100e-003**	**0.6289**	**5.0000e-005**		**2.2400e-003**	**2.2400e-003**		**2.2400e-003**	**2.2400e-003**	**0.0000**	**1.2248**	**1.2248**	**3.2000e-003**	**0.0000**	**1.3048**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Educational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Educational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Educational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Educational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

MHS: PAC, 2nd Gym, Fitness Center Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Milpitas High School Performing Arts Center and Gym Project

Appendix C: Updated Geotechnical Investigation and Geologic Hazards Evaluation, Cornerstone Earth Group, July 2021

CORNERSTONE EARTH GROUP

TYPE OF SERVICES	Update Geotechnical Investigation and Geologic Hazards Evaluation
PROJECT NAME	Milpitas High School – Performing Arts Center, Gymnasium, Fitness Center and Solar-Parking Canopies
LOCATION	1285 Escuela Parkway Milpitas, California
CLIENT	Milpitas Unified School District
PROJECT NUMBER	578-6-4
DATE	July 6, 2021

CORNERSTONE EARTH GROUP

Type of Services	**Updated Geotechnical Investigation and Geologic Hazards Evaluation**
Project Name	**Milpitas High School – Performing Arts Center, Gymnasium, Fitness Center and Solar-Parking Canopies**
Location	**1285 Escuela Parkway** **Milpitas, California**
Client	**Milpitas Unified School District**
Client Address	**1585 Rogers Street** **Milpitas, California**
Project Number	**578-6-4**
Date	**July 6, 2021**

Prepared by **Nicholas S. Devlin, P.E.**
Principal Engineer
Geotechnical Project Manager

Prepared by **Craig Harwood, C.E.G.**
Project Engineering Geologist

CERTIFIED ENGINEERING GEOLOGIST
CRAIG S. HARWOOD
No. 2275
STATE OF CALIFORNIA

Prepared by **John R. Dye, P.E., G.E.**
Senior Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
JOHN R. DYE
No. GE2582
EXPIRES 12/31/22
GEOTECHNICAL
STATE OF CALIFORNIA

1259 Oakmead Parkway | Sunnyvale, CA 94085
T 408 245 4600 | F 408 245 4620

1220 Oakland Boulevard, Suite 220 | Walnut Creek, CA 94596
T 925 988 9500 | F 925 988 9501

www.cornerstoneearth.com

CORNERSTONE EARTH GROUP

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CORNERSTONE EARTH GROUP

Type of Services	**Updated Geotechnical Investigation and Geologic Hazards Evaluation**
Project Name	**Milpitas High School – Performing Arts Center, Gymnasium, Fitness Center, and Solar-Parking Canopies**
Location	**1285 Escuela Parkway** **Milpitas, California**

SECTION 1: INTRODUCTION

This updated geotechnical investigation and geologic hazards evaluation report was prepared for the sole use of Milpitas Unified School District and their design consultants for the Milpitas High School Performing Arts Center (PAC), Gymnasium, Fitness Center, and Solar-Parking Canopies project located within the Milpitas High School campus in Milpitas, California. The location of the site is shown on the Vicinity Map, Figure 1. For our use, we were provided with the following documents:

- Preliminary project plans titled “Milpitas HS – P.A.C., Second Gym, and Fitness Center”, prepared by LPA, Inc., dated June 24, 2020.
- Topographic plans titled “Topographic Survey Plan, Milpitas High School, 1285 Escuela Parkway, Milpitas, CA 95035”, prepared by Hohbach-Lewin, Inc. Structural & Civil Engineers, dated May 22, 2020.
- Architectural plans titled “Developed for Milpitas Unified School District”, prepared by LPA, Inc., not dated.
- Conceptual plans titled “MHS – Survey Scope”, prepared by LPA, Inc., not dated.
- Structural plans titled “Swimming Pool and Related Facilities, Milpitas High School, Milpitas High School District, Sheets S-5 and S-6”, prepared by Allan M. Walter and Associates, Inc., dated March 30, 1971.

1.1 PROJECT DESCRIPTION

Based on the referenced plans, the project will consist of a two-story performing arts center (PAC) with a below-grade orchestra pit level, a one-story, at-grade gymnasium, and a one-story, at-grade fitness center on the 44-acre campus. Solar-parking canopies are also planned for the

project. We anticipate the proposed buildings will be of wood-, concrete- and/or steel-frame construction. The solar-parking canopies will be of steel-frame construction.

For our analysis, we have assumed dead plus live column loads of 300 to 500 kips and dead plus live wall loads on the order of 4 to 6 kips per lineal foot for the PAC. We have assumed dead plus live column loads of 100 to 250 kips and dead plus live wall loads of 1 to 2 kips per lineal foot for the gymnasium. For the one-story structures, we have assumed dead plus live column loads on the order of 50 kips and dead plus live wall loads on the order of 1 to 2 kips per lineal foot. We understand the solar-parking canopies will be designed per Division of State Architect (DSA) pre-approved Pre-Check plans and loading. Column dead plus live loads provided on the PC plans include a downward vertical load of 18.1 kips, a lateral load of 12.8 kips, and a bending moment of 213.4 kip-feet. Additionally, grading is anticipated to include cuts/fills of up to 5 feet for construction of the building pads and installation of utilities. However, we anticipate cuts of up to 15 feet for the orchestra pit for the PAC.

1.2 SCOPE OF SERVICES

Our scope of services was presented in our proposal dated March 24, 2020 and consisted of field and laboratory programs to evaluate physical and engineering properties of the subsurface soils, engineering analysis to prepare recommendations for site work and grading, building foundations, flatwork, retaining walls, and pavements, and preparation of this report. Brief descriptions of our exploration and laboratory programs are presented below.

1.3 EXPLORATION PROGRAM

Field exploration consisted of eight borings drilled on May 19, 28, and 29, 2020 and April 29, 2021 with truck-mounted and track-mounted, limited-access, hollow-stem auger drilling equipment and 14 Cone Penetration Tests (CPTs) advanced on May 26 and 27, 2020 and April 28, 2021. The borings were drilled to depths of 20 to 40 feet; the CPTs were advanced to depths of 50¼ to 101¼ feet. Seismic shear wave velocity measurements were collected from CPT-1, CPT-8, CPT-13, and CPT-14. Borings EB-4, EB-5, and EB-6 were advanced adjacent to CPT-5, CPT-7, and CPT-8, respectively, for direct evaluation of physical samples to correlated soil behavior.

In addition, we performed four relatively shallow test pits on May 20, 2021. The test pits were excavated with a rubber tire, back-hoe equipped tractor and hand auger equipment to a depth of 4¾ feet below the existing grades.

The borings and CPTs were backfilled with cement grout in accordance with local requirements; exploration permits were obtained as required by local jurisdictions. Our test pits were backfilled with compacted spoils and the pavement patched with hot mix asphalt concrete.

The approximate locations of our exploratory borings, CPTs, and test pits are shown on the Site Plan and Geologic Map, Figure 2. Details regarding our field program are included in Appendix A.

1.4 LABORATORY TESTING PROGRAM

In addition to visual classification of samples, the laboratory program focused on obtaining data for foundation design and seismic ground deformation estimates. Testing included moisture contents, dry densities, washed sieve analyses, Plasticity Index tests, a one-dimensional consolidation test, and soil corrosion testing. Details regarding our laboratory program are included in Appendix B.

1.5 ENVIRONMENTAL SERVICES

Cornerstone Earth Group also provided environmental services for this project, including soil profiling for potential future off-haul during construction; our environmental findings and conclusions are provided under a separate cover.

SECTION 2: REGIONAL SETTING

2.1 GEOLOGICAL SETTING

2.1.1 Regional Geologic Setting

The relatively flat-lying plain along the western edge of the San Francisco Bay is bounded by the Santa Cruz Mountains on the west and the San Francisco Bay to the east. The Coast Ranges geomorphic province of California that stretches from the Oregon border nearly to Point Conception. In the San Francisco Bay area, most of the Coast Ranges have developed on a basement of tectonically mixed Cretaceous- and Jurassic-age (70 to 200 million years old) rocks of the Franciscan Complex. Younger sedimentary and volcanic units locally cap these basement rocks. Still younger surficial deposits that reflect geologic conditions of the last million years or so cover most of the Coast Ranges.

Movement on the many splays of the San Andreas Fault system has produced the dominant northwest-oriented structural and topographic trend seen throughout the Coast Ranges today. This trend reflects the boundary between two of the Earth's major tectonic plates, 1) the North American plate to the east and 2) the Pacific plate to the west. The San Andreas Fault system and its major branches is about 40 miles wide in the Bay area and extends from the San Gregorio Fault near the coastline to the Coast Ranges-Central Valley blind thrust at the western edge of the Great Central Valley as shown on the Regional Fault Map, Figure 3. The San Andreas Fault is the dominant structure in the system, nearly spanning the length of California, and capable of producing the highest magnitude earthquakes. Many other subparallel or branch faults within the San Andreas system are equally active and nearly as capable of generating large earthquakes. Right-lateral movement dominates on these faults but an increasingly large amount of thrust faulting resulting from compression across the system has more recently been identified by geologists working in the bay region.

2.1.2 Local Geology

The site is in an area adjacent to the San Francisco Bay where Holocene age (11,000 years or

less before present) alluvial fan deposits account for the majority of Quaternary sediment which has been shed from the northwest-trending East Bay Hills located in the eastern portion of the Milpitas and nearby Calaveras Reservoir quadrangles (CGS, 2001). The gentle southwest-sloping alluvial plain within the Milpitas Quadrangle is covered by Holocene and Pleistocene alluvial fan and associated deposits, most of which been deposited by the various creeks that drain the east foothills (California Geological Survey, 2001).

Published geologic maps covering the general area of the site include those of Dibblee (1972), Helley and Wesling (1989), Graymer et al. (1994), Helley and Graymer (1997), Wentworth et al, (1998), Knudsen et al. (2000), the California Geological Survey ("CGS", 2001), and the Dibblee Geological Foundation (2005). The CGS geologic map is reproduced as the Vicinity Geologic Map, Figure 4. The CGS mapping (CGS, 2001) shows the site in an area underlain by Holocene alluvial fan deposits ("Qhf"). Wentworth et al., (1998) describe the Qhf unit as; "brown gravelly sand and sandy and clayey gravel, grading upward to sandy and silty clay, moderately dense to dense, coarser near the fan heads and upstream, deposited by flooding streams where they emerge from constrained channels of the uplands." Knudsen et al. (2000) characterize the Qf unit as follows: "Sediment deposited by streams emanating from mountain canyons onto alluvial valley floors or alluvial plains as debris flows, hyperconcentrated mudflows, or braided stream flows. Alluvial fan sediment includes sand, gravel, silt, and clay, and is moderately to poorly sorted, and moderately to poorly bedded. Alluvial fan surfaces are steepest near their apex at the valley mouth, and slope gently basinward, typically with gradually decreasing gradient. Alluvial fan deposits are identified primarily on the basis of fan morphology and topographic expression. Holocene alluvial fans are relatively undissected, especially when compared to older alluvial fans. In places, Holocene deposits may be only a thin veneer over Pleistocene deposits. Soils are typically entisols, inceptisols, mollisols, and vertisols."

2.2 REGIONAL SEISMICITY

The San Francisco Bay area is one of the most seismically active regions in the United States. Significant earthquakes occurring in the Bay area are generally associated with crustal movement along well-defined, active fault zones of the San Andreas Fault system. A Regional Fault Map is presented as Figure 4, illustrating the relative distances of the site to significant fault zones. Figure 5 also shows regional faults with historical earthquake information superimposed. The faults considered capable of generating significant earthquakes are generally associated with the well-defined areas of crustal movement, which trend northwesterly. The San Andreas Fault generated the great San Francisco earthquake of 1906 and the Loma Prieta earthquake of 1989, and passes approximately 17.4 miles west of the school site. Other major active faults in the Bay area include the Hayward, Calaveras, and the San Gregorio Fault Zone. The range of distances to significant faults is a result of variations in how a source measures distance to a fault. Tables 1A through 1C list all known active faults in order of increasing distance within 100 kilometers (62 miles) of the site. The range of distances to significant faults is a result of variations in how a source measures distance to a fault. Tables 1A through 1C list all known active faults in order of increasing distance within 100 kilometers (62 miles) of the site. The fault distances presented in Table 1A are based on the USGS fault and fold database (2006) for the faults our Certified Engineering Geologist considered

significant. The fault distances presented in Table 1B are based on the 2014 USGS fault model from the online Unified Hazard Tool (UHT). The fault distances presented in Table 1C are based on the 2008 USGS fault model from the computer program EZ Frisk. The seismic characteristics of some faults vary along its length so different segments of the same fault could be listed separately in the table. We have presented three different fault sources to provide a comprehensive look at the faults considered significant to the project site. At this time, the USGS 2014 fault model is only available in the UHT and we are not aware of an option for a full fault distance search. Therefore, our Certified Engineering Geologist has compiled a list of faults considered geologically significant within 100 km (Table 1A). We have also included the faults considered significant in the UHT (Table 1B) and the known active faults within 100 km based on the 2008 USGS fault model available on EZ Frisk.

Table 1A: Approximate Fault Distances (USGS 2006 Fault and Fold Database)

Fault Name	Distance (miles)	Distance (kilometers)
Hayward	0.5	0.8
Calaveras	4.9	7.8
Monte Vista-Shannon	14.5	23.3
Northern San Andreas	17.4	28.0
Greenville Connected	19.4	31.0
Mount Diablo Thrust	19.9	31.9
Sargent-Berrocal	23.5	14.6
Great Valley	28.0	46.0
San Gregorio Connected	29.2	46.9
Concord	32.0	51.7
Ortigalita	37.2	59.9
Monterey Bay – Tularcitos	40.1	64.5
Green Valley Connected	45.1	72.5
West Napa	51.9	83.5

Table 1B: Approximate Fault Distances (USGS Unified Hazard Tool, 2014)

Fault Name	Distance (miles)	Distance (kilometers)
Hayward (South)	1.3	2.1
Calaveras	4.7	7.5

Table 1C: Approximate Fault Distances (EZ Frisk Database)

Fault Name	Distance (miles)	Distance (kilometers)
Hayward-Rodgers Creek	2.5	4.0
Calaveras	5.0	8.0
Monte Vista-Shannon	13.6	21.7
Northern San Andreas	16.9	27.1
Greenville Connected	19.4	31.0
Mount Diablo Thrust	20.5	32.8
Great Valley 7	23.4	37.4
Zayante-Vergeles	25.5	40.8
San Gregorio Connected	29.3	46.9
Green Valley Connected	31.6	50.6
Green Valley 8	36.1	57.8
Ortigalita	36.6	58.5
Monterey Bay-Tularcitos	38.8	62.1
Great Valley 5-Pittsburg (Kirby Hills)	39.9	63.8
Quien Sabe	47.1	75.4
West Napa	53.0	84.8
Great Valley 9	53.4	85.7
Rinconada	54.5	87.2
Great Valley 4b (Gordon Valley)	56.3	90.0
Point Reyes	61.6	98.5

A regional fault map is presented as Figure 3, illustrating the relative distances of the site to significant fault zones.

SECTION 3: SITE CONDITIONS

3.1 SITE BACKGROUND

Based on aerial images provided on the Historic Aerials website (NETROnline, 2021), the site was occupied by agricultural fields and orchards and residential development to the north and Calero Creek to the south are visible in images dated 1948 through 1960. Construction of a school campus/track is visible north of the site; however, the site is undeveloped and is occupied by agricultural fields in images dated 1966 and 1968. Development of the campus including several classroom and administrative buildings are visible in the eastern portion of the site, a track and field and a baseball diamond are visible in the western portion of the site, and paved parking and ball courts are visible in the northern portion of the site in images dated 1979 through 1993. Portable (i.e. relocatable) classrooms are visible in the paved parking and ball

court areas in the northern portion of the site and additional paved parking in the northwestern portion of the site is visible in an image dated 1998. Construction of the existing Building L in the southern portion of the site and renovation of the existing track and field and construction of an artificial turf soccer field are visible in an image dated 2002. Renovation of the existing baseball diamond in the southwestern portion of the site is visible in an image dated 2004. The existing solar shade structures in the northern portion of the site are visible in an image dated 2009. Significant changes to the site were not observed in images dated after 2009. The site is currently occupied by the Milpitas High School campus.

3.2 SURFACE DESCRIPTION

The project site is within the Milpitas High School campus located at 1285 Escuela Parkway in Milpitas, California. The site is currently occupied by a gymnasium (Building A), an auxiliary gymnasium and locker room buildings (Buildings B and C), a performing arts building (Building D), classroom buildings (Buildings E through H and K), a cafeteria/library building (Building J), a math and science building (Building L), several relocatable classrooms, artificial turf sports fields, a running track and bleachers, a swimming pool and locker/restroom building, paved sports courts, paved flatwork, and parking areas, parking photovoltaic/shade (solar-parking canopies) structures, and landscape features.

The overall topography of the campus is relatively flat with a gentle downward slope to the west. Based on topographical survey plans, the overall ground surface of the campus ranges from Elevation 23½ feet North American Datum 1983 (NAD 83) in the southwestern portion of the campus to Elevation 51½ feet (NAD 83) in the northeastern portion of the campus.

Surface pavements generally consisted of 2½ to 6 inches of asphalt concrete over 2 to 6 inches of aggregate base. Based on our observations, the existing pavements are in poor to fair condition with localized alligator cracking.

3.3 GEOLOGY AND SUBSURFACE CONDITIONS

Below the surface pavements, our explorations generally encountered Holocene alluvial fan deposits (Qhf); however, undocumented fill was encountered within our Exploratory Boring EB-6 to a depth of 4 feet and in our Test Pits TP-1 through TP-3 to depths of 4¼ to 4¾ feet below the existing grades. it is noted that undocumented fill can be present at other areas of the project site.

3.3.1 Solar-Parking Canopies

EB-1 and EB-2 encountered alluvium (Qhf) consisting of stiff to very stiff, lean clay, sandy lean clay, and lean clay with sand to depths of 20 and 21½ feet below the existing grades, respectively; however, medium dense, clayey sand with gravel was encountered within EB-1 at depths of 4½ to 8 feet and 17 to 21 feet below the existing grade. EB-7 and EB-8 encountered very stiff, lean clay, hard, lean clay with sand to depths of 4 to 15½ feet below the existing grades, underlain by medium dense, clayey sand and clayey sand with gravel to depth of 7½ to 19½ feet, underlain by very stiff, sandy lean clay and lean clay with sand to depths of 22 to 40

feet, the terminal depth of EB-8. Medium dense, silty sand was encountered at depths of 22 to 26 feet below the existing grades.

CPT-11 through CPT-14 generally indicated soil bearing types (SBTs) consisting of clay, silty clay to clay, sandy silt to clayey silt, silty sand to sandy silt, sand to silty sand, sand and sand to clayey sand to a depth between 75¾ to 101¼ feet below the existing grades.

3.3.2 Performing Arts Center

Holocene alluvium (Qhf) was encountered in our Borings EB-3 and EB-4 to a depth of the terminal depth and 40 feet, respectively. Borings EB-3 and EB-4 encountered hard, lean clay, stiff to hard, lean clay with sand, and stiff to very stiff, sandy lean clay to depths of 30 to 40 feet below the existing grades, respectively. Loose, clayey sand with gravel was encountered at depths of 17 to 20 feet within Boring EB-3, and loose to medium dense, clayey sand at depths of 10½ to 12 feet and 21½ to 24 feet within Boring EB-4.

Our Cone Penetrometer Tests (CPT) CPT-1 through CPT-6 generally indicated Soil Behavior Types (SBT) consisting of clay, silty clay to clay, clayey silt to silty clay, sandy silt to clayey silt with some layers of silty sand to sandy silt and sand to silty sand to a depth of 100½ feet below the existing grades, the terminal depth of CPT-1.

3.3.3 Fitness Center

Boring EB-5 encountered Holocene alluvium (Qhf) consisting of very stiff, lean clay, very stiff, lean clay with sand, and medium stiff to stiff, sandy lean clay to a depth of 30 feet, the terminal depth of the boring. Medium dense, clayey sand was also encountered at depths of 9¼ to 10¾ feet and 13 to 14½ feet below the existing grade.

CPT-7 indicated SBTs consisting of clay, silty clay to clay, clayey silt to silty clay, sandy silt to clayey silt, and sand to a depth of 50¾ feet below the existing grade.

3.3.4 Gymnasium

Boring EB-6 generally encountered undocumented fill overlying Holocene alluvium (Qhf). The undocumented fill was encountered to a depth of 4 feet below the existing grades and consisted of medium dense, clayey sand with gravel and very stiff, lean clay with sand. The underlying alluvium consisted of stiff, lean clay, stiff to very stiff, lean clay with sand, and stiff to very stiff, sandy lean clay to a depth of 30 feet, the terminal depth of the boring. Medium dense, clayey sand was also encountered at depths of 20 to 22 feet below the existing grade.

Our Test Pits TP-1 through TP-3 also encountered undocumented fill consisting of clayey sand with gravel and lean clay with sand to depths of 4¼ to 4¾ feet below the existing grades. The undocumented fill was underlain by alluvium (Qhf) consisting of lean clay.

CPT-8 through CPT-10 generally indicated SBTs consisting of clay, silty clay to clay, sandy silt to clayey silt, silty sand to sandy silt, sand to silty sand, sand and sand to clayey sand to a depth of 100¾ feet below the existing grades.

The California Geological Survey has published a compilation of 2,785 geotechnical laboratory tests conducted on the Qhf mapping unit and compiled by the CGS indicates this unit typically consists of 53% lean clay, 11% clayey sand, 10% silty sand, 10% silt, and 16% other constituents. (CGS, 2001). The subsurface conditions encountered at our exploratory borings and the CPT test holes are generally consistent with that characterization.

Our geologic Cross Sections A-A' through C-C' (Figures 6 through 8) were prepared from the site geologic map as well as data from our Exploratory Borings EB-1 through EB-8 and CPT-1 through CPT-14.

3.3.5 Plasticity/Expansion Potential

We performed three Plasticity Index (PI) tests on representative samples. Test results were used to evaluate expansion potential of surficial soils. The surficial PI tests resulted in PIs ranging from 21 to 33, indicating moderate to high expansion potential to wetting and drying cycles.

3.3.6 In-Situ Moisture Contents

3.3.5.1 Solar-Parking Canopies

Laboratory testing indicated that the in-situ moisture contents within the upper 10 feet range from 3 to 10 percent below the estimated laboratory optimum moisture.

3.3.5.2 Performing Arts Center and Fitness Center

Laboratory testing indicated that the in-situ moisture contents within the upper 10 feet range from 0 to 5 percent below the estimated laboratory optimum moisture.

3.3.5.3 Gymnasium

Laboratory testing indicated that the in-situ moisture contents within the upper 10 feet range from 0 to 5 percent above the estimated laboratory optimum moisture.

3.4 Groundwater

Groundwater was encountered in our borings at the depths and corresponding elevations presented in the following table. The groundwater levels indicated at the CPT locations are inferred from the results of pore pressure dissipation (PPD) tests. All measurements from our borings were taken at the time of drilling and may not represent the stabilized levels that can be higher than the initial levels encountered.

Fluctuations in groundwater levels occur due to many factors including seasonal fluctuation, underground drainage patterns, regional fluctuations, and other factors.

Table 2: Depth to Groundwater

Boring/CPT Number	Date Drilled	Depth to Groundwater (feet)	Groundwater Elevation* (feet)	Depth of Boring/CPT (feet)
EB-1	5/19/2020	14.0	23.0	21.5
EB-2	5/19/2020	16.0	24.3	20.0
EB-3	5/29/2020	18.0	26.0	40.0
EB-4	5/29/2020	20.5	24.0	30.0
EB-5	5/28/2020	11.0	27.3	30.0
EB-6	5/26/2020	11.0	18.5	30.0
EB-7	4/29/2021	-	-	30.0
EB-8	4/29/2021	18.0	20.4	40.0
CPT-1	5/26/2020	2.9**	41.1	100.6
CPT-2	5/27/2020	10.6**	33.4	50.7
CPT-3	5/27/2020	13.7**	30.3	50.5
CPT-4	5/27/2020	-	-	50.7
CPT-6	5/27/2020	5.0**	39.0	50.9
CPT-8	5/26/2020	14.3**	29.7	100.7
CPT-9	5/26/2020	11.4**	42.6	50.7
CPT-10	5/26/2020	-	-	50.4
CPT-11	4/28/2021	12.1**	23.9	75.8
CPT-12	4/28/2021	14.9**	22.6	75.6
CPT-13	4/28/2021	-	-	101.2
CPT-14	4/28/2021	15.7**	22.3	100.7

*Elevation datum (NAD 83, Kier & Wright, 2020)
**Groundwater levels for CPTs are based on pore pressure dissipation tests.

Additionally, groundwater level data provided on the GeoTracker website (2020) from monitoring wells located approximately 1,500 feet west of the site indicated groundwater levels of 7½ to 8¼ feet below existing grades. In addition, the mapped historic high groundwater depth is 8 feet (CGS, 2001); therefore, a design high groundwater depth of 8 feet is recommended for the site.

3.5 CORROSION SCREENING

We tested four samples collected at a depth of 3½ feet for resistivity, pH, soluble sulfates, and chlorides. The laboratory test results are summarized in Table 3A.

Table 3A: Summary of Corrosion Test Results

Boring	Depth (feet)	Soil pH[1]	Resistivity[2] (ohm-cm)	Chloride[3] (mg/kg)	Sulfate[4,5] (mg/kg)
EB-3	3.5	7.5	1,177	20	91
EB-5	3.5	7.8	1,407	13	79
EB-6	3.5	7.6	910	54	147
EB-7	3.5	7.2	1,652	12	72

Notes: [1]ASTM G51
[2]ASTM G57 - 100% saturation
[3]ASTM D3427/Cal 422 Modified
[4]ASTM D3427/Cal 417 Modified
[5]1 mg/kg = 0.0001 % by dry weight

Many factors can affect the corrosion potential of soil including moisture content, resistivity, permeability, and pH, as well as chloride and sulfate concentration. Typically, soil resistivity, which is a measurement of how easily electrical current flows through a medium (soil and/or water), is the most influential factor. In addition to soil resistivity, chloride and sulfate ion concentrations, and pH also contribute in affecting corrosion potential.

3.5.1 Preliminary Soil Corrosion Screening

Based on the laboratory test results summarized in Table 3A and published correlations between resistivity and corrosion potential, the soils may be considered severely to very severely corrosive to buried metallic improvements (Chaker and Palmer, 1989).

In accordance with the 2019 CBC Section 1904A.1, alternative cementitious materials for different exposure categories and classes shall be determined in accordance with ACI 318-19 Table 19.3.1.1, Table R19.3.1, and Table 19.3.2.1. Based on the laboratory sulfate test results, a cement type restriction is not required, although, in our opinion, it is generally a good idea to include some sulfate resistance and to maintain a relatively low water-cement ratio. We have summarized applicable exposure categories and classes from ACI 318-19, Table 19.3.1.1 below in Table 3B.

Table 3B: ACI 318-19 Table 19.3.1.1 Exposure Categories and Classes

Freezing and Thawing (F)	Sulfate (S, soil)	In Contact with Water (W)	Corrosion Protection of Reinforcement (C)
F0[1]	S0[2]	W0[3]	C1[4]

1 (F0) “Concrete not exposed to freezing-and-thawing cycles” (ACI 318-19)
2 (S0) “Water soluble sulfate in soil, percent by mass” is less than 0.10 (ACI 318-19)
3 (W0) “Concrete dry in service. Concrete in contact with water and low permeability is not required” (ACI 318-19)
4 (C1) “Concrete exposed to moisture but not to an external source of chlorides” (ACI 318-19)

In addition, ACI 318-19, Table 19.3.2.1 provides requirements for concrete by exposure class. Table 3C below indicates different requirements that we recommend be followed for the concrete design.

Table 3C: ACI 318-19 Table 19.3.2.1 Requirements for Concrete by Exposure Class

Exposure Class	Maximum water:cement ratio	Minimum Compressive Strength (psi)	Maximum Water-Soluble Chloride Ion Content (% wt)
F0	N/A	2,500	N/A
S0 (soil)	N/A	2,500	N/A
W0	N/A	2,500	N/A
C1	N/A	2,500	0.30 (0.06)[1]

1 Maximum water-soluble chloride ion content for non-pre-stressed concrete, (value for pre-stressed concrete).

We recommend the structural engineer and a corrosion engineer be retained to confirm the information provided and for additional recommendations, as required.

SECTION 4: GEOLOGIC HAZARDS

4.1 FAULT SURFACE RUPTURE

As discussed above several significant faults are located within 25 kilometers of the site most notably the Hayward Fault Zone located 0.5 miles east of the site. However, no faults are mapped trending through or immediately adjacent to the site (Dibblee, 1972; Bryant, 1980; ICBO, 1998; Wentworth et al., 1999; Dibblee and Minch, 2005; USGS Quaternary Fault and Fold Database, 2006). Accordingly, the site is not located within a state-designated Earthquake Fault Zone (CDMG, 1982). A review of aerial photos did not reveal any patterns of photographic features indicative of active faulting nor did our surface reconnaissance reveal any patterns of geomorphic features indicative of faulting. Additionally, our subsurface explorations did not reveal any stratigraphic or groundwater patterns that would suggest disruption of the structure or water table by fault offset. It our judgement fault surface rupture hazard is not a significant geologic hazard at the site.

4.2 HISTORICAL GROUND FAILURES

The Qhf geologic unit which underlies the ground surface at the site has experienced liquefaction related ground failure historically prior to the 1989 Loma Prieta Earthquake and has been generally given a moderate susceptibility for liquefaction where the groundwater table is located greater than 10 feet below the ground surface (Knudsen et al., 2000). In the Milpitas Quadrangle (California Geological Survey, 2001) historic ground failures have been documented with the nearest (a sand boil) occurring about 1¼ miles south of the site in an area mapped as Qhff (alluvial fan fine facies). They show three occurrences of lateral spreading located about 2½ miles southwest of the site in an area mapped as underlain by Qhfy (Latest Holocene alluvial fan deposits). For reasons discussed below, the subsurface soil conditions encountered in our explorations at the site suggest the soils would not be susceptible to sand boils or lateral spreading and we judge that the nearby historical occurrences of these types of ground failure are not a concern for this project.

4.3 ESTIMATED GROUND SHAKING

Moderate to severe (design-level) earthquakes can cause strong ground shaking, which is the case for most sites within the Bay Area. A peak ground acceleration (PGA_M) was estimated following the ground motion hazard analysis procedure presented in Chapter 21, Section 21.2 of ASCE 7-16 and Supplement No.1. For our liquefaction analysis we used a PGA_M of 1.147g which was determined in accordance with Section 21.5 of ASCE 7-16.

4.4 LIQUEFACTION POTENTIAL

The site is within a State-designated Liquefaction Hazard Zone (CGS, Milpitas Quadrangle, 2001) as well as a Santa Clara County Liquefaction Hazard Zone (Santa Clara County, 2003). Our field and laboratory programs addressed this issue by testing and sampling potentially liquefiable layers to depths of at least 50 feet, performing visual classification on sampled materials, evaluating CPT data, and performing various tests to further classify soil properties.

4.4.1 Background

During strong seismic shaking, cyclically induced stresses can cause increased pore pressures within the soil matrix that can result in liquefaction triggering, soil softening due to shear stress loss, potentially significant ground deformation due to settlement within sandy liquefiable layers as pore pressures dissipate, and/or flow failures in sloping ground or where open faces are present (lateral spreading) (NCEER 1998). Limited field and laboratory data is available regarding ground deformation due to settlement; however, in clean sand layers settlement on the order of 2 to 4 percent of the liquefied layer thickness can occur. Soils most susceptible to liquefaction are loose, non-cohesive soils that are saturated and are bedded with poor drainage, such as sand and silt layers bedded with a cohesive cap.

4.4.2 Analysis

As discussed in the “Subsurface” section above, several sand layers were encountered below the design groundwater depth of 8 feet. Following the liquefaction analysis framework in the 2008 monograph, *Soil Liquefaction During Earthquakes* (Idriss and Boulanger, 2008), incorporating updates in *CPT and SPT Based Liquefaction Triggering Procedures* (Boulanger and Idriss, 2014), and in accordance with CDMG Special Publication 117A guidelines (CDMG, 2008) for quantitative analysis, these layers were analyzed for liquefaction triggering and potential post-liquefaction settlement. These methods compare the ratio of the estimated cyclic shaking (Cyclic Stress Ratio - CSR) to the soil’s estimated resistance to cyclic shaking (Cyclic Resistance Ratio - CRR), providing a factor of safety against liquefaction triggering. Factors of safety less than or equal to 1.3 are considered to be potentially liquefiable and capable of post-liquefaction re-consolidation (i.e. settlement).

The CSR for each layer quantifies the stresses anticipated to be generated due to a design-level seismic event, is based on the peak horizontal acceleration generated at the ground surface discussed in the “Estimated Ground Shaking” section above, and is corrected for

overburden and stress reduction factors as discussed in the procedure developed by Seed and Idriss (1971) and updated in the 2008 Idriss and Boulanger monograph.

The soil's CRR is estimated from the in-situ measurements from CPTs and laboratory testing on samples retrieved from our borings. SPT "N" values obtained from hollow-stem auger borings were not used in our analyses, as the "N" values obtained are less reliable in sands below groundwater. The tip pressures are corrected for effective overburden stresses, taking into consideration both the groundwater level at the time of exploration and the design groundwater level, and stress reduction versus depth factors. The CPT method utilizes the soil behavior type index (I_C) to estimate the plasticity of the layers. Selected soil samples collected from advancing Borings EB-4, EB-5, and EB-6 adjacent to CPT-5, CPT-7, and CPT-8, respectively, were tested to evaluate grain size, as well as visually observed for confirmation of CPT soil behavior types. Based on laboratory test results and visual classification of samples collected from our paired borings, several layers encountered in CPT-5, CPT-7, and CPT-8 were removed from our analysis as the soil was classified as a lean clay and therefore non-liquefiable, specifically the layers at approximately 12½ to 14 feet in CPT-5, 10½ to 12½ feet and 18 ½ to 21½ feet in CPT-7, and 10½ to 13 feet in CPT-8.

The results of our CPT analyses (CPT-1 through CPT-14) are presented on Figures 9A through 9M of this report. Calculations for these CPTs are attached as Appendix C.

4.4.3 Summary

4.4.3.1 Solar-Parking Canopies

Our analyses indicate that several layers could potentially experience liquefaction triggering that could result in post-liquefaction total settlement at the ground surface ranging from about ¾ to 1 inch based on the Yoshimine (2006) method. As discussed in SP 117A, differential movement for level ground sites over deep soil sites will be up to about two-thirds of the total settlement between independent foundation elements. In our opinion, the differential settlement is anticipated to be up to ⅔ inch between independent foundation elements or over a horizontal distance of 30 feet.

4.4.3.2 Performing Arts Center

Our analyses indicate that several layers could potentially experience liquefaction triggering that could result in post-liquefaction total settlement at the ground surface ranging from about ¼ to ½ inch based on the Yoshimine (2006) method. As discussed in SP 117A, differential movement for level ground sites over deep soil sites will be up to about two-thirds of the total settlement between independent foundation elements. In our opinion, the differential settlement is anticipated to be up to ⅓ inch between independent foundation elements or over a horizontal distance of 30 feet.

4.4.3.3 Fitness Center

Our analyses indicate that several layers could potentially experience liquefaction triggering that could result in post-liquefaction total settlement at the ground surface of about ⅓ inch based on the Yoshimine (2006) method. As discussed in SP 117A, differential movement for level ground sites over deep soil sites will be up to about two-thirds of the total settlement between independent foundation elements. In our opinion, the differential settlement is anticipated to be less than ¼ inch between independent foundation elements or over a horizontal distance of 30 feet.

4.4.3.4 Gymnasium

Our analyses indicate that several layers could potentially experience liquefaction triggering that could result in post-liquefaction total settlement at the ground surface of ½ to ¾ inch based on the Yoshimine (2006) method. As discussed in SP 117A, differential movement for level ground sites over deep soil sites will be up to about two-thirds of the total settlement between independent foundation elements. In our opinion, the differential settlement is anticipated to be on the order of ½ inch or less between independent foundation elements or over a horizontal distance of 30 feet.

4.4.4 Ground Rupture Potential

The methods used to estimate liquefaction settlements assume that there is a sufficient cap of non-liquefiable material to prevent ground rupture or sand boils. For ground rupture to occur, the pore water pressure within the liquefiable soil layer will need to be great enough to break through the overlying non-liquefiable layer, which could cause significant ground deformation and settlement. The work of Youd and Garris (1995) indicates that the 10- to 12-foot thick layers of non-liquefiable cap are sufficient to prevent ground rupture; therefore, the above total settlement estimates are reasonable.

4.5 LATERAL SPREADING

Lateral spreading is horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically, lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. As failure tends to propagate as block failures, it is difficult to analyze and estimate where the first tension crack will form.

As discussed, Calera Creek is location along the southern campus boundary. Calera Creek's closest proximity to the project is 300 feet from the proposed gymnasium building. At this area, the creek channel is 4 to 5 feet deep which is above the design groundwater and the potentially liquefiable soil layers. Therefore, in our opinion, the potential for lateral spreading to impact the proposed improvements at the site is low.

4.6 SEISMIC SETTLEMENT/UNSATURATED SAND SHAKING

Loose unsaturated sandy soils can settle during strong seismic shaking. We evaluated the potential for seismic compaction of the medium dense, clayey sand we encountered in a few of our borings above a design groundwater depth of 8 feet based on the work by Pradel (1998). Our analyses indicate the clayey sand would experience less than ¼ inch of movement after strong seismic shaking.

4.7 LANDSLIDING

The site is not located in or adjacent to any mapped landslides (Dibblee, 1972; Graymer et al, 1994; Bryant, 1980; Dibblee and Minch, 2005; Weigers, 2011; California Geological Survey, 2016). Accordingly, the site is not located within a county or state regulatory zone for landsliding (Santa Clara County Planning Dept., 2003; California Geological Survey, 2004). Due to the flat-lying nature of the site and the absence of slopes within a few miles of the site, in our opinion, the potential for landsliding to affect the site is negligible.

4.8 FLOODING AND RESERVOIR INUNDATION

Based on our internet search of the Federal Emergency Management Agency (FEMA) flood map public database, the site is located within flood zone category “Zone X” (subject to inundation by the 0.2% annual chance flood”). However, a portion of the site just south of the proposed gymnasium along with Calero Creek is located within “Zone AE” (1 percent annual chance flood discharge contained within structure) with a Base Flood Elevation (BFE) of 34 feet. The California Division of Safety of Dams has compiled a database and interactive map depicting Dam Breach Inundation Maps (DSOD, 2020). These maps are intended for planning purposes only. Based on our review of these maps, the site is located within a dam failure inundation area based on its location (and other factors) relative to the Higuera Reservoir located in the foothills to the east of the site. We recommend the project civil engineer be retained to confirm this information and verify the base flood elevation, if appropriate.

4.9 SEISMICALLY INDUCED WAVES - TSUNAMIS/SEICHES

The terms tsunami or seiche are described as ocean waves or similar waves usually created by undersea fault movement or by a coastal or submerged landslide. Tsunamis may be generated at great distance from shore (far field events) or nearby (near field events) and have affected the west coasts during historic times. The Fort Point tide gauge in San Francisco recorded approximately 21 tsunamis between 1854 and 1964. The 1964 Alaska earthquake generated a recorded wave height of 7.4 feet and drowned eleven people in Crescent City, California. More recently the 2011 Japanese earthquake generated a tsunami that damaged docks and boats at the Santa Cruz Yacht harbor, located 33 miles south so the subject site. For the case of a far-field event, the Bay area would have hours of warning; for a near field event, there may be only a few minutes of warning, if any.

A tsunami or seiche originating in the Pacific Ocean would lose much of its energy passing through San Francisco Bay. Based on the study of tsunami inundation potential for the San

Francisco Bay Area (Ritter and Dupre, 1972), areas most likely to be inundated are marshlands, tidal flats, and former bay margin lands that are now artificially filled, but are still at or below sea level, and are generally within 1½ miles of the shoreline. The site is approximately 6 miles inland from the San Francisco Bay shoreline and is approximately 21 to 29 feet above mean sea level. Furthermore, the California Emergency Management Agency (CEMA) Tsunami-themed series of maps shows the nearest Tsunami inundation zone as being located at the bay waterfront, 3.75 miles west of the campus.

The site is located a significant distance from areas expected to be impacted in a tsunami event (ABAG, 2007; CEMA, 2009; Tsunami Modeling Working Group, 2013). Based on the above described factions, it is our opinion that the potential for inundation due to tsunami or seiche is considered to be very low.

4.10 VOLCANIC ERUPTION

The site is located over 200 miles from the nearest potentially or historically active volcano (at Mt. Lassen National Park). We believe the hazards associated with volcanic eruptions (primarily particulate airborne ash) for the school site is very low.

4.11 NATURALLY OCCURRING ASBESTOS

Chrysotile and amphibole asbestos occur naturally in certain geologic settings in the San Francisco Bay area most commonly in serpentinite and other ultramafic rocks. These are igneous and metamorphic rocks with a high content of magnesium and iron minerals. The most common type of asbestos is chrysotile, which is commonly found in serpentinite rock formations. When disturbed by construction, grading, quarrying, or surface mining operations, asbestos-containing dust can be generated. Exposure to asbestos can result in lung cancer, mesothelioma, and asbestosis. In July 2001, the California Air Resources Board approved an Asbestos Airborne Toxic Control measure for Construction, Grading, Quarrying, and Surface Mining activities in areas where naturally occurring asbestos (NOA) will likely be found and to provide best dust mitigation measures and practices. These are mountainous areas or areas of shallow bedrock that could be encountered during construction. The subject site is not underlain by ultramafic rocks nor is it located immediately adjacent to any known deposits of ultramafic rocks. These published geologic maps referenced in the current school site evaluation indicate the nearest mapped outcrop of ultramafic rock occurs an elongate, northwest trending band of serpentinite located approximately 5.5 miles southwest of the site (Graymer et al., 1997; Wentworth et al., 1999; Dibblee and Minch, 2005). Our mapping and subsurface investigation of the subject site revealed only Holocene alluvial fan deposits in the vicinity of the site. These earth materials are unlikely to contain serpentinite or another ultramafic rock with NOA. If additional information is needed regarding NOA in the soil, we would recommend testing be performed.

SECTION 5: CONCLUSIONS

5.1 SUMMARY

From a geotechnical viewpoint, the project is feasible provided the concerns listed below are addressed in the project design. Descriptions of each concern with brief outlines of our recommendations follow the listed concerns.

- Presence of expansive soils (at-grade improvements and buildings)
- Potential for liquefaction-induced settlement (buildings and structures)
- Presence of undocumented fill (Gymnasium and potentially other areas)
- Shallow groundwater (PAC stage area, solar-parking canopies, and utility excavations)
- Difficult pier drilling conditions (solar-parking canopies)
- Soil corrosion potential

5.1.1 Presence of Expansive Soils (At-Grade Improvements and Buildings)

Highly expansive surficial soils generally blanket the site. Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wetted. To reduce the potential for damage to the planned structures, slabs-on-grade should have sufficient reinforcement and be supported on a layer of non-expansive fill; footings should extend below the zone of seasonal moisture fluctuation. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering. Detailed grading and foundation recommendations addressing this concern are presented in the “Earthwork” and “Foundation” sections of this report.

5.1.2 Presence of Undocumented Fill (New Gymnasium and Potentially Other Areas)

As discussed in Section 3.3, undocumented fill was encountered to a depth of 4¾ feet below the existing ground surface within our boring and test pits for the planned Gymnasium and generally consisted of medium dense, clayey sand with gravel and very stiff, lean clay with sand. Since the proposed structure can likely be supported on shallow foundations, we recommend that remedial grading include removal of undocumented fill within the building footprint. Recommendations for remedial grading are presented in the “Earthwork” section of this report.

5.1.3 Shallow Groundwater (PAC Stage Area, Solar-Parking Canopies, and Utility Excavations)

Shallow groundwater was measured within our borings at depths of approximately 11 to 20½ feet below the existing ground surface in our borings; however, shallower groundwater depths were indicated from the pore pressure dissipation tests performed at the CPT locations. Based our review of the published maps and GeoTracker website, we are recommending a design high groundwater of 8 feet below the ground surface for this project. Our experience with similar

sites in the vicinity indicates that shallow groundwater could significantly impact underground construction. These impacts typically consist of potentially wet and unstable trench walls, difficulty achieving compaction, and difficult pier drilling and underground utility installation. In addition, we anticipate the solar-parking canopies will be supported on deep foundations consisting of drilled piers. Groundwater will likely be encountered during drilling and should be anticipated and planned for by the contractor. Dewatering and shoring of utility trenches and casing of drilled shafts may be required in some isolated areas of the site. Detailed recommendations addressing this concern are presented in the "Earthwork" section of this report.

5.1.4 Potential for Liquefaction-Induced Settlement (Buildings and Structures)

As discussed, our liquefaction analysis indicates that there is a potential for liquefaction of localized sand layers during a significant seismic event. Our analysis indicates that total settlement on the order of ¼ to ¾ inch may occur due to liquefaction which would result in differential settlement ranging from ¼ to ½ inch over a horizontal distance of 30 feet.

5.1.4.1 Solar-Parking Canopies

Although the potential for liquefied sand to vent to the ground surface through cracks in the surficial soils is low, our analysis indicates that liquefaction-induced settlement ranging from about ¾ to 1 inch could occur, resulting in differential settlement of up to ⅔ inch over a horizontal distance of 30 feet.

5.1.4.2 Performing Arts Center

Although the potential for liquefied sand to vent to the ground surface through cracks in the surficial soils is low, our analysis indicates that liquefaction-induced settlement ranging from about ¼ to ½ inch could occur, resulting in differential settlement of less than ½ inch over a horizontal distance of 30 feet.

5.1.4.3 Fitness Center

Although the potential for liquefied sand to vent to the ground surface through cracks in the surficial soils is low, our analysis indicates that liquefaction-induced settlement of about ⅓ inch could occur, resulting in differential settlement of less than ⅓ inch over a horizontal distance of 30 feet.

5.1.4.4 Gymnasium

Although the potential for liquefied sand to vent to the ground surface through cracks in the surficial soils is low, our analysis indicates that liquefaction-induced settlement ranging from about ½ to ¾ inch could occur, resulting in differential settlement on the order of ½ inch over a horizontal distance of 30 feet.

Foundations should be designed to tolerate the anticipated total and differential settlements. Based on our assumed foundation loads, it should be feasible to support the proposed buildings on shallow foundations; however, the building foundations will need to be designed to tolerate total and differential settlement due to static loads and liquefaction-induced settlement. Detailed foundation recommendations are presented in the "Foundations" section.

5.1.5 Difficult Pier Drilling Conditions (Solar-Parking Canopies)

As discussed, the solar-parking canopies will be supported on conventional CIDH (i.e. drilled) piers. Based on the subsurface conditions at the site, groundwater and significant sand layers (below the groundwater) will likely be encountered during drilling of the piers. Drilling slurry and/or casing for and dewatering of the pier excavations should be anticipated and planned for by the contractor.

5.1.6 Soil Corrosion Potential

Our testing indicates sulfate exposure at the site is low and therefore no cement-type restrictions to buried concrete. The corrosion potential for buried metallic structures, such as metal pipes, is considered very severely corrosive. Based on the results of the preliminary soil corrosion screening, special requirements for corrosion control will likely be required to protect metal pipes and fittings. We recommend a corrosion engineer be engaged to provide recommendations for corrosion protection of metal pipes, if used on this project.

5.2 PLANS AND SPECIFICATIONS REVIEW

We recommend that we be retained to review the geotechnical aspects of the project structural, civil, and landscape plans and specifications, allowing sufficient time to provide the design team with any comments prior to issuing the plans for construction.

5.3 CONSTRUCTION OBSERVATION AND TESTING

As site conditions may vary significantly between the small-diameter borings performed during this investigation, we also recommend that a Cornerstone representative be present to provide geotechnical observation and testing during earthwork and foundation construction. This will allow us to form an opinion and prepare a letter at the end of construction regarding contractor compliance with project plans and specifications, and with the recommendations in our report. We will also be allowed to evaluate any conditions differing from those encountered during our investigation and provide supplemental recommendations as necessary. For these reasons, the recommendations in this report are contingent of Cornerstone providing observation and testing during construction. Contractors should provide at least a 48-hour notice when scheduling our field personnel.

SECTION 6: EARTHWORK

6.1 SITE DEMOLITION

All existing improvements not to be reused for the current development, including all foundations, flatwork, pavements, utilities, and other improvements should be demolished and removed from the site. Recommendations in this section apply to the removal of these improvements prior to the start of mass grading or the construction of new improvements for the project.

Cornerstone should be notified prior to the start of demolition and should be present on at least a part-time basis during all backfill and mass grading as a result of demolition. Occasionally, other types of buried structures (wells, cisterns, debris pits, etc.) can be found on sites with prior development. If encountered, Cornerstone should be contacted to address these types of structures on a case-by-case basis.

6.1.1 Demolition of Existing Slabs, Foundations and Pavements

All slabs, foundations, and pavements should be completely removed from within planned building areas.

Special care should be taken during the demolition and removal of existing floor slabs, foundations, utilities and pavements to minimize disturbance of the subgrade. Excessive disturbance of the subgrade, which includes either native or previously placed engineered fill, resulting from demolition activities can have serious detrimental effects on planned foundation and paving elements and will likely require over-excavation and recompaction of disturbed soils.

Existing foundations are typically mat-slabs, shallow footings, or piers/piles. If slab or shallow footings are encountered, they should be completely removed. If drilled piers are encountered, they should be cut off at an elevation at least 24 inches below proposed footings or the final subgrade elevation, whichever is deeper. The remainder of the drilled pier could remain in place. Foundation elements to remain in place should be surveyed and superimposed on the proposed development plans to determine the potential for conflicts or detrimental impacts to the planned construction. Following review, additional mitigation or planned foundation elements may need to be modified.

6.1.2 Abandonment of Existing Utilities

All utilities should be completely removed from within planned building areas.

Utilities extending beyond the building area may be abandoned in place provided the ends are plugged with concrete, they do not conflict with planned improvements, and that the trench fills do not pose significant risk to the planned surface improvements.

6.2 SITE CLEARING AND PREPARATION

6.2.1 Site Stripping

The site should be stripped of all surface vegetation, and surface and subsurface improvements to be removed within the proposed development area. Demolition of existing improvements is discussed in the prior paragraphs. A detailed discussion of removal of existing fills is provided later in this report. Surface vegetation and topsoil should be stripped to a sufficient depth to remove all material greater than 3 percent organic content by weight. Based on our site observations, surficial stripping should extend about 3 to 4 inches below existing grade in vegetated areas.

6.2.2 Tree and Shrub Removal

Trees and shrubs designated for removal should have the root balls and any roots greater than ½-inch diameter removed completely. Mature trees are estimated to have root balls extending to depths of 2 to 4 feet, depending on the tree size. Significant root zones are anticipated to extend to the diameter of the tree canopy. Grade depressions resulting from root ball removal should be cleaned of loose material and backfilled in accordance with the recommendations in the "Compaction" section of this report.

6.3 REMOVAL OF EXISTING FILLS

Fills encountered during site grading should be completely removed from within building areas and to a lateral distance of at least 5 feet beyond the building footprint or to a lateral distance equal to fill depth below the perimeter footing, whichever is greater. However, we understand the existing mechanical building will be less than 5 feet from the outside of the new gymnasium. As discussed, we encountered undocumented fill with our Boring EB-6 and Test Pits TP-1 through TP-3 at depths of 4 to 4¾ feet below the existing grade. Based on a fill depth of 4¾ feet, we recommend that undocumented fill be removed to a lateral distance of 2 feet beyond the gymnasium footprint along the existing mechanical building and then cut back at a 1:1 (horizontal;vertical) slope toward the mechanical building. If fills deeper than 4 feet are encountered along this side of the new gymnasium, we should be consulted to revise our recommendations discussed above which may include performing the over-excavation using slot cuts or temporary shoring and/or underpinning. To further evaluate the depth of existing undocumented fill between the mechanical building and new gymnasium, we can perform supplemental explorations consisting of relatively shallow test pits excavated with a backhoe equipped, rubber-tired tractor, if desired.

6.3.1 Performing Arts Center and Fitness Center

Fill was not encountered within our explorations for the Performing Arts Center and the Fitness Center; however, localized fill may be encountered during grading and/or demolition for the project. Additionally, construction of the pads for the buildings will need to include the 18-inch section of non-expansive fill (NEF) further discussed and recommended in the "Foundations" section of this report.

6.3.2 Gymnasium

As discussed in Section 3, undocumented fill was encountered up to a depth of 4¾ feet below the existing ground surface within our Boring EB-6 and TP-1 through TP-3 for the new Gymnasium. Therefore, an over-excavation depth of 4¾ feet for the gymnasium should be anticipated and planned for by the contractor. Additionally, construction of the pad for the building will need to include the 18-inch section of NEF further discussed and recommended in the "Foundations" section of this report.

Provided the fills meet the "Material for Fill" requirements below, the fills may be reused when backfilling the excavations. Based on review of the samples collected from our borings, it appears that the fill may be reused. If materials are encountered that do not meet the requirements, such as debris, wood, trash, those materials should be screened out of the remaining material and be removed from the site. Backfill of excavations should be placed in lifts and compacted in accordance with the "Compaction" section below.

6.3.3 Pavement and Flatwork Areas

Fills extending into planned pavement and flatwork areas may be left in place provided they are determined to be a low risk for future differential settlement and that the upper 12 to 18 inches of fill below pavement subgrade is re-worked and compacted as discussed in the "Compaction" section below.

6.4 TEMPORARY CUT AND FILL SLOPES

The contractor is responsible for maintaining all temporary slopes and providing temporary shoring where required. Temporary shoring, bracing, and cuts/fills should be performed in accordance with the strictest government safety standards. On a preliminary basis, the upper 10 feet at the site may be classified as OSHA Soil Type C materials. A Cornerstone representative should be retained to confirm the preliminary site classification. Excavations performed during site demolition and fill removal should be sloped at 1:1 inclination (horizontal:vertical) within the upper 5 feet below building subgrade unless the OSHA soil classification indicates that slopes should not exceed 1.5:1.

6.5 DEEP FOUNDATION EXCAVATIONS

As discussed, several prominent sand layers with gravel were encountered within our explorations below groundwater. We anticipate the solar-parking canopies will be supported on deep foundations consisting of drilled pier extending below the existing groundwater levels at the site. therefore, difficult drilling conditions including caving soil and shallow groundwater should be anticipated and planned for by the contractor. The use of casing and/or drilling slurry may be needed in order to drill through sandy layers and/or below groundwater.

6.6 SUBGRADE PREPARATION

After site clearing and demolition is complete, and prior to backfilling any excavations resulting from fill removal or demolition, the excavation subgrade and subgrade within areas to receive additional site fills, slabs-on-grade and/or pavements should be scarified to a depth of 6 inches, moisture conditioned, and compacted in accordance with the "Compaction" section below.

6.7 WET SOIL STABILIZATION GUIDELINES

Soil subgrade and fill materials, especially soils with high fines contents such as clays and silty soils, can become unstable due to high moisture content, whether from high in-situ moisture contents or from winter rains. As the moisture content increases over the laboratory optimum, it becomes more likely the materials will be subject to softening and yielding (pumping) from construction loading or become unworkable during placement and compaction.

As discussed in the "Subsurface" section in this report, the in-situ moisture contents are about 0 to 5 percent below the estimated laboratory optimum for the Performing Arts Center and Fitness Center and 0 to 5 percent over the estimated laboratory optimum for the gymnasium in the upper 10 feet of the soil profile. However, these soils may become over-optimum during the wet winter months. The contractor should anticipate drying the soils prior to reusing them as fill. In addition, repetitive rubber-tire loading will likely de-stabilize the soils.

There are several methods to address potential unstable soil conditions and facilitate fill placement and trench backfill. Some of the methods are briefly discussed below. Implementation of the appropriate stabilization measures should be evaluated on a case-by-case basis according to the project construction goals and the particular site conditions.

6.7.1 Scarification and Drying

The subgrade may be scarified to a depth of 8 to 12 inches and allowed to dry to near optimum conditions if sufficient dry weather is anticipated to allow sufficient drying. More than one round of scarification may be needed to break up the soil clods.

6.7.2 Removal and Replacement

As an alternative to scarification, the contractor may choose to over-excavate the unstable soils and replace them with dry on-site or import materials. A Cornerstone representative should be present to provide recommendations regarding the appropriate depth of over-excavation, whether a geosynthethic (stabilization fabric or geogrid) is recommended, and what materials are recommended for backfill.

6.7.3 Chemical Treatment

Where the unstable area exceeds about 5,000 to 10,000 square feet and/or site winterization is desired, chemical treatment with quicklime (CaO), kiln-dust, or cement may be more cost-

effective than removal and replacement. Recommended chemical treatment depths will typically range from 12 to 18 inches depending on the magnitude of the instability.

6.8 MATERIAL FOR FILL

6.8.1 Re-Use of On-site Soils

On-site soils with an organic content less than 3 percent by weight may be reused as general fill. General fill should not have lumps, clods or cobble pieces larger than 6 inches in diameter; 85 percent of the fill should be smaller than 2½ inches in diameter. Minor amounts of oversize material (smaller than 12 inches in diameter) may be allowed provided the oversized pieces are not allowed to nest together and the compaction method will allow for loosely placed lifts not exceeding 12 inches.

6.8.2 Re-Use of On-Site Site Improvements

If desired to reuse the asphalt concrete grindings as part of general site fill, the grindings should be thoroughly mixed with on-site soil resulting in a mixture or less than 40 percent grindings by weight. The resulting mixture should also meet the "Material for Fill" requirements in this report. Due to the potential for slight petroleum odors penetrating into classroom and office spaces, fill containing asphalt concrete should not be used within building areas.

6.8.3 Potential Import Sources

Imported and non-expansive material should be inorganic with a Plasticity Index (PI) of 15 or less, and not contain recycled asphalt concrete where it will be used within the building areas. To prevent significant caving during trenching or foundation construction, imported material should have sufficient fines. Samples of potential import sources should be delivered to our office at least 10 days prior to the desired import start date. Information regarding the import source should be provided, such as any site geotechnical reports. If the material will be derived from an excavation rather than a stockpile, potholes will likely be required to collect samples from throughout the depth of the planned cut that will be imported. At a minimum, laboratory testing will include PI tests. Material data sheets for select fill materials (Class 2 aggregate base, ¾ inch crushed rock, quarry fines, etc.) listing current laboratory testing data (not older than 6 months from the import date) may be provided for our review without providing a sample. If current data is not available, specification testing will need to be completed prior to approval.

Environmental and soil corrosion characterization should also be considered by the project team prior to acceptance. Suitable environmental laboratory data to the planned import quantity should be provided to the project environmental consultant; additional laboratory testing may be required based on the project environmental consultant's review. The potential import source should also not be more corrosive than the on-site soils, based on pH, saturated resistivity, and soluble sulfate and chloride testing.

6.8.4 Non-Expansive Fill Using Lime Treatment

As discussed above, non-expansive fill should have a Plasticity Index (PI) of 15 or less. Due to the high clay content and PI of the on-site soil materials, it is not likely that sufficient quantities of non-expansive fill would be generated from cut materials. As an alternative to importing non-expansive fill, chemical treatment can be considered to create non-expansive fill. It has been our experience that for high PI clayey soil and bedrock materials will likely need to be mixed with at least 5 percent quicklime (CaO) or approved equivalent to adequately reduce the PI of the on-site soils to 15 or less. For planning purposes, a dry soil weight of 110 pcf can be used to estimate the spread rate for the lime. If this option is considered, additional laboratory tests should be performed during initial site grading to further evaluate the optimum percentage of quicklime required.

6.9 COMPACTION REQUIREMENTS

All fills, and subgrade areas where fill, slabs-on-grade, and pavements are planned, should be placed in loose lifts 8 inches thick or less and compacted in accordance with ASTM D1557 (latest version) requirements as shown in the table below. In general, clayey soils should be compacted with sheepsfoot equipment and sandy/gravelly soils with vibratory equipment; open-graded materials such as crushed rock should be placed in lifts no thicker than 18 inches consolidated in place with vibratory equipment. Each lift of fill and all subgrade should be firm and unyielding under construction equipment loading in addition to meeting the compaction requirements to be approved. The contractor (with input from a Cornerstone representative) should evaluate the in-situ moisture conditions, as the use of vibratory equipment on soils with high moistures can cause unstable conditions. General recommendations for soil stabilization are provided in the "Subgrade Stabilization Measures" section of this report. Where the soil's PI is 20 or greater, the expansive soil criteria should be used.

Table 4: Compaction Requirements

Description	Material Description	Minimum Relative[1] Compaction (percent)	Moisture[2] Content (percent)
General Fill (within upper 5 feet)	On-Site Expansive Soils	87 – 92	>3
	Low Expansion Soils	90	>1
General Fill (below a depth of 5 feet)	On-Site Expansive Soils	95	>3
	Low Expansion Soils	95	>1

1 – Relative compaction based on maximum density determined by ASTM D1557 (latest version)
2 – Moisture content based on optimum moisture content determined by ASTM D1557 (latest version)
3 – Class 2 aggregate base shall conform to Caltrans Standard Specifications, latest edition, except that the relative compaction should be determined by ASTM D1557 (latest version)
4 – Using light-weight compaction or walls should be braced

Table 4 is continued on the next page.

Table 4 (cont.): Compaction Requirements

Description	Material Description	Minimum Relative[1] Compaction (percent)	Moisture[2] Content (percent)
Trench Backfill	On-Site Expansive Soils	87 – 92	>3
Trench Backfill	Low Expansion Soils	90	>1
Trench Backfill (upper 6 inches of subgrade)	On-Site Low Expansion Soils	95	>1
Crushed Rock Fill	¾ Inch Clean Crushed Rock	Consolidate In-Place	NA
Non-Expansive Fill	Imported Non-Expansive Fill	90	Optimum
Flatwork Subgrade	On-Site Expansive Soils	87 - 92	>3
Flatwork Subgrade	Low Expansion Soils	90	>1
Flatwork Aggregate Base	Class 2 Aggregate Base[3]	90	Optimum
Pavement Subgrade	On-Site Expansive Soils	87 - 92	>3
Pavement Subgrade	Low Expansion Soils	95	>1
Pavement Aggregate Base	Class 2 Aggregate Base[3]	95	Optimum
Asphalt Concrete	Asphalt Concrete	91 - 95 (Caltrans/Rice)	NA

1 – Relative compaction based on maximum density determined by ASTM D1557 (latest version)
2 – Moisture content based on optimum moisture content determined by ASTM D1557 (latest version)
3 – Class 2 aggregate base shall conform to Caltrans Standard Specifications, latest edition, except that the relative compaction should be determined by ASTM D1557 (latest version)
4 – Using light-weight compaction or walls should be braced

6.9.1 Construction Moisture Conditioning

Expansive soils can undergo significant volume change when dried then wetted. The contractor should keep all exposed expansive soil subgrade (and also trench excavation side walls) moist until protected by overlying improvements (or trenches are backfilled). If expansive soils are allowed to dry out significantly, re-moisture conditioning may require several days of re-wetting (flooding is not recommended), or deep scarification, moisture conditioning, and re-compaction.

6.10 TRENCH BACKFILL

Utility lines constructed within public right-of-way should be trenched, bedded and shaded, and backfilled in accordance with the local or governing jurisdictional requirements. Utility lines in private improvement areas should be constructed in accordance with the following requirements unless superseded by other governing requirements.

All utility lines should be bedded and shaded to at least 6 inches over the top of the lines with crushed rock (⅜-inch-diameter or greater) or well-graded sand and gravel materials conforming to the pipe manufacturer's requirements. Open-graded shading materials should be consolidated in place with vibratory equipment and well-graded materials should be compacted

to at least 90 percent relative compaction with vibratory equipment prior to placing subsequent backfill materials.

General backfill over shading materials may consist of on-site native materials provided they meet the requirements in the “Material for Fill” section, and are moisture conditioned and compacted in accordance with the requirements in the “Compaction” section.

Where utility lines will cross perpendicular to strip footings, the footing should be deepened to encase the utility line, providing sleeves or flexible cushions to protect the pipes from anticipated foundation settlement, or the utility lines should be backfilled to the bottom of footing with sand-cement slurry or lean concrete. Where utility lines will parallel footings and will extend below the “foundation plane of influence,” an imaginary 1:1 plane projected down from the bottom edge of the footing, either the footing will need to be deepened so that the pipe is above the foundation plane of influence or the utility trench will need to be backfilled with sand-cement slurry or lean concrete within the influence zone. Sand-cement slurry used within foundation influence zones should have a minimum compressive strength of 75 psi.

On expansive soils sites it is desirable to reduce the potential for water migration into building and pavement areas through the granular shading materials. We recommend that a plug of low-permeability clay soil, sand-cement slurry, or lean concrete be placed within trenches just outside where the trenches pass into building and pavement areas.

6.11 SITE DRAINAGE

6.11.1 Surface Drainage

Ponding should not be allowed adjacent to building foundations, slabs-on-grade, or pavements. Hardscape surfaces should slope at least 2 percent towards suitable discharge facilities; landscape areas should slope at least 3 percent towards suitable discharge facilities. Roof runoff should be directed away from building areas in closed conduits, to approved infiltration facilities, or on to hardscaped surfaces that drain to suitable facilities. Retention, detention or infiltration facilities should be spaced at least 10 feet from buildings, and preferably at least 5 feet from slabs-on-grade or pavements. However, if retention, detention or infiltration facilities are located within these zones, we recommend that these treatment facilities meet the requirements in the Storm Water Treatment Design Considerations section of this report.

6.12 LOW-IMPACT DEVELOPMENT (LID) IMPROVEMENTS

The Municipal Regional Permit (MRP) requires regulated projects to treat 100 percent of the amount of runoff identified in Provision C.3.d from a regulated project’s drainage area with low impact development (LID) treatment measures onsite or at a joint stormwater treatment facility. LID treatment measures are defined as rainwater harvesting and use, infiltration, evapotranspiration, or biotreatment. A biotreatment system may only be used if it is infeasible to implement harvesting and use, infiltration, or evapotranspiration at a project site.

Technical infeasibility of infiltration may result from site conditions that restrict the operability of infiltration measures and devices. Various factors affecting the feasibility of infiltration treatment may create an environmental risk, structural stability risk, or physically restrict infiltration. The presence of any of these limiting factors may render infiltration technically infeasible for a proposed project. To aid in determining if infiltration may be feasible at the site, we provide the following site information regarding factors that may aid in determining the feasibility of infiltration facilities at the site.

- The near-surface soils at the site are clayey, and categorized as Hydrologic Soil Group D, and is expected to have infiltration rates of less than 0.2 inches per hour. In our opinion, these clayey soils will significantly limit the infiltration of stormwater.
- Locally, seasonal high groundwater is mapped at a depth of 8 feet, and therefore is expected to be within 10 feet of the base of the infiltration measure.
- No groundwater production wells are within 100 feet of potential locations for infiltration facilities.
- The site has a known geotechnical hazard consisting of soil subject to liquefaction; therefore, stormwater infiltration facilities may not be feasible.
- In our opinion, infiltration locations within 10 feet of the buildings would create a geotechnical hazard.

6.12.1 Storm Water Treatment Design Considerations

If storm water treatment improvements, such as shallow bio-retention swales, basins or pervious pavements, are required as part of the site improvements to satisfy Storm Water Quality (C.3) requirements, we recommend the following items be considered for design and construction.

6.12.1.1 General Bioswale Design Guidelines

- If possible, avoid placing bioswales or basins within 10 feet of the building perimeter or within 5 feet of exterior flatwork or pavements. If bioswales must be constructed within these setbacks, the side(s) and bottom of the trench excavation should be lined with 10-mil visqueen to reduce water infiltration into the surrounding expansive clay.
- Bioswales constructed within 3 feet of proposed buildings may be within the foundation zone of influence for perimeter wall loads. Therefore, where bioswales will parallel foundations and will extend below the “foundation plane of influence,” an imaginary 1:1 plane projected down from the bottom edge of the foundation, the foundation will need to be deepened so that the bottom edge of the bioswale filter material is above the foundation plane of influence.

- The bottom of bioswale or detention areas should include a perforated drain placed at a low point, such as a shallow trench or sloped bottom, to reduce water infiltration into the surrounding soils near structural improvements, and to address the low infiltration capacity of the on-site clay soils.

6.12.1.2 Bioswale Infiltration Material

- Gradation specifications for bioswale filter material, if required, should be specified on the grading and improvement plans.
- Compaction requirements for bioswale filter material in non-landscaped areas or in pervious pavement areas, if any, should be indicated on the plans and specifications to satisfy the anticipated use of the infiltration area.

- If required, infiltration (percolation) testing should be performed on representative samples of potential bioswale materials prior to construction to check for general conformance with the specified infiltration rates.

- It should be noted that multiple laboratory tests may be required to evaluate the properties of the bioswale materials, including percolation, landscape suitability and possibly environmental analytical testing depending on the source of the material. We recommend that the landscape architect provide input on the required landscape suitability tests if bioswales are to be planted.

- If bioswales are to be vegetated, the landscape architect should select planting materials that do not reduce or inhibit the water infiltration rate, such as covering the bioswale with grass sod containing a clayey soil base.

- If required by governing agencies, field infiltration testing should be specified on the grading and improvement plans. The appropriate infiltration test method, duration and frequency of testing should be specified in accordance with local requirements.

- Due to the relatively loose consistency and/or high organic content of many bioswale filter materials, long-term settlement of the bioswale medium should be anticipated. To reduce initial volume loss, bioswale filter material should be wetted in 12-inch lifts during placement to pre-consolidate the material. Mechanical compaction should not be allowed, unless specified on the grading and improvement plans, since this could significantly decrease the infiltration rate of the bioswale materials.

- It should be noted that the volume of bioswale filter material may decrease over time depending on the organic content of the material. Additional filter material may need to be added to bioswales after the initial exposure to winter rains and periodically over the life of the bioswale areas, as needed.

6.12.1.3 Bioswale Construction Adjacent to Pavements

If bio-infiltration swales or basins are considered adjacent to proposed parking lots or exterior flatwork, we recommend that mitigative measures be considered in the design and construction of these facilities to reduce potential impacts to flatwork or pavements. Exterior flatwork, concrete curbs, and pavements located directly adjacent to bio-swales may be susceptible to settlement or lateral movement, depending on the configuration of the bioswale and the setback between the improvements and edge of the swale. To reduce the potential for distress to these improvements due to vertical or lateral movement, the following options should be considered by the project civil engineer:

- Improvements should be setback from the vertical edge of a bioswale such that there is at least 1 foot of horizontal distance between the edge of improvements and the top edge of the bioswale excavation for every 1 foot of vertical bioswale depth, or
- Concrete curbs for pavements, or lateral restraint for exterior flatwork, located directly adjacent to a vertical bioswale cut should be designed to resist lateral earth pressures in accordance with the recommendations in the “Retaining Walls” section of this report and designed for at-rest earth and surcharge pressures.

6.13 LANDSCAPE CONSIDERATIONS

Since the near-surface soils are moderately to highly expansive, we recommend greatly reducing the amount of surface water infiltrating these soils near foundations and exterior slabs-on-grade. This can typically be achieved by:

- Using drip irrigation
- Avoiding open planting within 3 feet of the building perimeter or near the top of existing slopes or using deep irrigation to regulate watering
- Regulating the amount of water distributed to lawns or planter areas by using irrigation timers
- Selecting landscaping that requires little or no watering, especially near foundations.

We recommend that the landscape architect consider these items when developing landscaping plans.

SECTION 7: 2019 CBC SEISMIC DESIGN CRITERIA

We developed site-specific seismic design parameters in accordance with Chapter 16, Chapter 18 and Appendix J of the 2019 California Building Code (CBC) and Chapters 11, 12, 20, and 21 and Supplement No. 1 of ASCE 7-16.

7.1 SITE LOCATION AND PROVIDED DATA FOR 2019 CBC SEISMIC DESIGN

The project is located at latitude 37.451097° and longitude -121.902344°, which is based on Google Earth (WGS84) coordinates at the approximate center of the site at 1385 Escuela Parkway in Milpitas, California. We have assumed that a Seismic Importance Factor (I_e) of 1.25 has been assigned to the structure in accordance with Table 1.5-2 of ASCE 7-16 for structures classified as Risk Category III. The building period has not been provided by the project structural engineer.

7.2 SITE CLASSIFICATION – CHAPTER 20 OF ASCE 7-16

Code-based site classification and ground motion attenuation relationships are based on the time-weighted average shear wave velocity of the top approximately 100 feet (30 meters) of the soil profile (V_{S30}).

As discussed in Section 3, our explorations generally encountered medium dense to very dense sands and gravels with varying amounts of clay and silt and medium stiff to hard clay deposits to a depth of 100 feet, the maximum depth explored. Shear wave velocity (V_S) measurements were performed while advancing CPT-8, resulting in a time-averaged shear wave velocity for the top 30 meters (V_{S30}) of 264 meters per second. In accordance with Table 20.3-1 of ASCE 7-16, we recommend the site be classified as Soil Classification D, which is described as a "stiff soil" profile. Because we used site specific data from our explorations and laboratory testing, the site class should be considered as "determined" for the purposes of estimating the seismic design parameters from the code outlined below. Our site-specific ground motion hazard analysis considered a V_{S30} of 264 m/s (866 ft/s).

7.2.1 Code-Based Seismic Design Parameters

Code-based spectral acceleration parameters were determined based on mapped acceleration response parameters adjusted for the specific site conditions. Mapped Risk-Adjusted Maximum Considered Earthquake (MCE_R) spectral acceleration parameters (S_S and S_1) were determined using the ATC Hazards by Location website (https://hazards.atcouncil.org).

The mapped acceleration parameters were adjusted for local site conditions based on the average soil conditions for the upper 100 feet (30 meters) of the soil profile. Code-based MCE_R spectral response acceleration parameters adjusted for site effects (S_{MS} and S_{M1}) and design spectral response acceleration parameters (S_{DS} and S_{D1}) are presented in Table 5.

In accordance with Section 11.4.8 of ASCE 7-16, structures on Site Class D sites with mapped 1-second period spectral acceleration (S_1) values greater than or equal to 0.2 require a site-specific ground motion hazard analysis be performed in accordance with Section 21.2 of ASCE 7-16. ***Design seismic parameters determined by performing a Ground Motion Hazard Analysis per Section 21.2 of ASCE 7-16 are presented in Table 8. Recommended values in Table 5 should not be used for design unless in the judgement of the structural engineer an exception can be taken in accordance with Section 11.4.8 of ASCE 7-16.*** Values summarized in Table 5 are only used to determine Seismic Design Category and

comparison with minimum code requirements for further use in our ground motion hazard analysis (GMHA).

Table 5: 2019 CBC Site Categorization and Site Coefficients

Classification/Coefficient	Design Value
Site Class	D
Site Latitude	37.451097°
Site Longitude	-121.902344°
Risk Category	III
Short Period Mapped Spectral Acceleration – S_S	2.257g
1-second Period Mapped Spectral Acceleration – S_1	0.874g
Short-Period Site Coefficient – F_a	1.0
Long-Period Site Coefficient – F_v	*null
Short Period MCE Spectral Response Acceleration Adjusted for Site Effects – S_{MS}	2.257g
1-second Period MCE Spectral Response Acceleration Adjusted for Site Effects – S_{M1}	*null
Short Period, Design Earthquake Spectral Response Acceleration – S_{DS}	1.505g
1-second Period, Design Earthquake Spectral Response Acceleration – S_{D1}	*null
Long-Period Transition – T_L	12 seconds
Site Coefficient – F_{PGA}	1.1
Site Modified Peak Ground Acceleration – PGA_M	1.044g

*null – per section 11.4.8 of ASCE 7-16

7.3 GROUND MOTION HAZARD ANALYSIS

Following Section 11.4.8 of ASCE 7-16, we performed a ground motion hazards analysis (GMHA) in accordance with Chapter 21, Section 21.2 of ASCE 7. We evaluated both Probabilistic MCE_R Ground Motions in accordance with Method 1 and Deterministic MCE_R Ground Motions to generate our recommended design response spectrum for the project.

Our analyses were performed using the USGS interface Unified Hazard Tool (UHT) based on the UCERF 3 Data Set, Building Seismic Safety Council (BSSC) Scenario Catalog 2014 event set (BSSC 2014), and the 2014 National Seismic Hazard Maps – Source Parameters (NSHMP deterministic event set). Additionally, we utilized the USGS program Response Spectra Plotter with combined models (Combined: WUS 2014 (4.1)).

Our analysis utilized the mean ground motions predicted by four of the Next Generation Attenuation West 2 (NGA-West 2) relationships: Boore-Atkinson (2013), Campbell-Bozorgnia (2013), Chiou-Youngs (2013), and Abrahamson-Silva (2013). Rotation factors (scale factors)

were determined as specified in ASCE 7-16 Chapter 21, Section 21.2, to calculate the maximum rotated component of ground motions (ASCE, 2016).

7.3.1 Probabilistic MCE_R

We also performed a probabilistic seismic hazard analysis (PSHA) per ASCE 7-16 Section 21.2.1. The probabilistic MCE acceleration response spectrum is defined as the 5 percent damped acceleration response spectrum having a 2 percent probability of exceedance in a 50-year period (2,475-year return period). The probabilistic MCE spectrum was multiplied by Risk Coefficients (CR) to determine the probabilistic MCER. We used Risk Coefficients (CR_S and CR_1) of 0.914 and 0.901, respectively, based on ASCE 7-16 Section 21.2.1.1 – Method 1 and the ATC website. Risk coefficients for the various periods are presented in Table 6, Column 3.

The resulting probabilistic MCE_R is presented on Figure 11 (red line). Spectral ordinates are tabulated in Table 6, Column 6.

7.3.2 Deterministic MCER

We performed deterministic seismic hazard analyses in accordance with ASCE 7-16 Section 21.2.2 and ASCE 7-16 Supplement No. 1. The deterministic MCE_R acceleration response spectrum is calculated as the largest 84th percentile ground motion in the direction of maximum horizontal response for each period for characteristic earthquakes on all known active faults within the region. The largest deterministic ground motion resulted from a M_w 7.58 earthquake on the fully combined Hayward Fault (RC+HN+HS+HE segments), located at a distance of approximately 2.1 km from the.

In accordance with Supplement No.1 of ASCE 7-16, when the largest spectral response acceleration of the resulting deterministic ground motion response spectrum is less than $1.5F_a$ then the largest 84th percentile rotated response spectrum (Table 6, Column 4) shall be scaled by a single factor such that the maximum response spectral acceleration equals $1.5F_a$. For Site Classes A, B, C and D, F_a is determined using Table 11.4.1 with the value of S_s taken as 1.5; for Site Class E, F_a shall be taken as 1.0. When the largest spectral response acceleration of the probabilistic ground motion response of 21.2.1 is less than $1.2F_a$, the deterministic ground motion response spectrum does not need to be calculated.

As the largest probabilistic spectral response acceleration was determined to be 3.372 which is greater than $1.2F_a$, where F_a is taken as 1.000 from Table 11.4-1 in ASCE 7-16 Supplement No.1, the 84th percentile rotated response spectrum was calculated as part of the deterministic analyses. The maximum spectral acceleration from the 84th percentile rotated response spectrum was then compared to $1.5F_a$ to determine if a scale factor needed to be applied. The deterministic MCE spectrum are tabulated in Table 6, Column 5. The deterministic MCE_R is presented graphically on Figure 11 (blue line).

7.3.3 Site-Specific MCE_R

The site-specific MCE_R is defined by ASCE 7-16 Section 21.2.3 as the lesser of the deterministic and probabilistic MCE_R's at each period. Spectral ordinates for the site-specific MCE_R are tabulated in Table 6, Column 7 and shown graphically on Figure 11 (dashed black line).

Table 6: Development of Site-Specific MCE_R Spectrum

Period (seconds)	CBC General Spectrum (g)	Risk Coefficient	Det. 84th Percentile Rotated	Deterministic MCE_R (g)	Probabilistic MCE_R (g)	Site-Specific MCE_R (g)
0.000	0.602	0.914	1.262	1.262	1.211	1.211
0.050	0.835	0.914	1.310	1.310	1.584	1.310
0.100	1.068	0.914	1.868	1.868	1.957	1.868
0.150	1.301	0.914	2.261	2.261	2.254	2.254
0.194	1.505	0.914	2.462	2.462	2.516	2.462
0.200	1.505	0.914	2.489	2.489	2.552	2.489
0.250	1.505	0.913	2.665	2.665	2.811	2.665
0.300	1.505	0.912	2.767	2.767	3.071	2.767
0.400	1.505	0.911	2.909	2.909	3.221	2.909
0.500	1.505	0.909	2.925	2.925	3.372	2.925
0.750	1.505	0.905	2.554	2.554	3.030	2.554
0.968	1.505	0.902	2.279	2.279	2.789	2.279
1.000	1.457	0.901	2.239	2.239	2.754	2.239
2.000	0.728	0.901	1.207	1.207	1.581	1.207
3.000	0.486	0.901	0.812	0.812	1.044	0.812
4.000	0.364	0.901	0.562	0.562	0.723	0.562
5.000	0.291	0.901	0.430	0.430	0.541	0.430

7.3.4 Design Response Spectrum

The Design Response Spectrum (DRS) is defined in ASCE 7-16 Section 21.3 as:

- two-thirds of the site-specific MCE_R, but
- not less than 80% of the general design response spectrum

Spectral accelerations corresponding to two-thirds of the MCE_R are tabulated in Table 7, Column 2. Ordinates corresponding to 80% of the general Site Class D response spectrum are tabulated below in Table 7, Column 3. Ordinates of the site-specific DRS are tabulated in Table 7, Column 4. Development of the site-specific DRS is presented graphically on Figure 12 (dashed black line).

Table 7: Development of Site-Specific Design Response Spectrum

Period (seconds)	2/3 Site-Specific MCE_R (g)	80% CBC General Spectrum (g)	Design Response Spectrum (g)
0.000	0.807	0.481	0.807
0.050	0.873	0.668	0.873
0.100	1.245	0.855	1.245
0.150	1.503	1.041	1.503
0.194	1.641	1.204	1.641
0.200	1.660	1.204	1.660
0.250	1.776	1.204	1.776
0.300	1.845	1.204	1.845
0.400	1.939	1.204	1.939
0.500	1.950	1.204	1.950
0.750	1.702	1.204	1.702
0.968	1.519	1.204	1.519
1.000	1.492	1.165	1.492
2.000	0.804	0.583	0.804
3.000	0.541	0.388	0.541
4.000	0.375	0.291	0.375
5.000	0.286	0.233	0.286

7.3.5 Design Acceleration Parameters

Design acceleration parameters (S_{DS} and S_{D1}) were determined in accordance with Section 21.4 of ASCE 7-16. S_{DS} is defined as the design spectral acceleration at 90% of the maximum spectral acceleration, S_a, obtained from the site-specific spectrum, at any period within the range from 0.2 to 5 seconds, inclusive. S_{D1} is defined as the maximum value of the product, TS_a, for periods from 1 to 2 seconds for sites with vs,30 > 1,200 ft/s ($v_{s,30}$ > 365.76 m/s) and for periods from 1 to 5 seconds for sites with vs,30 ≤ 1,200 ft/s ($v_{s,30}$ ≤365.76 m/s).

Site-specific MCE_R spectral response acceleration parameters (S_{MS} and S_{M1}) are calculated as:

- 1.5 times the S_{DS} and S_{D1} values, respectively, but
- not less than 80% of the code-based values presented in Table 5

Recommended design acceleration parameters are summarized in Table 8.

When using the Equivalent Lateral Force Procedure, ASCE 7-16 Section 21.4 allows using the spectral acceleration at any period (T) in lieu of S_{D1}/T in Eq. 12.8-3 and $S_{D1}T_L/T_2$ in Eq. 12.8-4.

The site-specific spectral acceleration at any period may be calculated by interpolation of the spectral ordinates in Table 7, Column 4.

Table 8: Site-Specific Design Acceleration Parameters

Parameter	Value
S_{DS}	1.755
S_{D1}	1.623
S_{MS}	2.633
S_{M1}	2.435

7.3.6 Site-Specific MCE_G Peak Ground Acceleration

We calculated the Site-Specific MCE_G Peak Ground Acceleration (PGA_M) per ASCE 7-16 Section 21.5. The Site-Specific PGA_M is calculated as the lesser of probabilistic and deterministic geometric mean PGA. The 2% in 50-year probabilistic geometric mean PGA is 1.205g. The deterministic PGA is considered the greater of the largest 84th percentile deterministic geometric mean PGA (1.147 g) or one-half of the tabulated F_{PGA} value from ASCE 7-16 Table 11.8.1 with the value of PGA taken as 0.5g. For Site Class D, F_{PGA} is 1.100 and one-half of the F_{PGA} is 0.55g; therefore, the deterministic PGA is 1.147g. Additionally, the Site-Specific PGA_M may not be less than 80% of the mapped PGA_M determined from ASCE 7-16 Equation 11.8-1. The mapped PGA_M for the site is 1.044g; 80% of PGA_M is 0.835g.

Based on the above, the recommended Site-Specific PGA_M for the site is 1.147g.

SECTION 8: FOUNDATIONS

8.1 SUMMARY OF RECOMMENDATIONS

In our opinion, the proposed structures (i.e. Performing Arts Center, Fitness Center, and Gymnasium) may be supported on shallow foundations and the solar-parking canopies may also be supported on shallow foundations or as an alternative, deep foundations consisting of drilled piers provided the recommendations in the “Earthwork” section and the sections below are followed.

8.2 SHALLOW FOUNDATIONS – PAC, FITNESS CENTER, GYMNASIUM, AND SOLAR-PARKING CANOPIES

8.2.1 Spread Footings

Spread footings should bear on natural, undisturbed soil or engineered fill, be at least 12 inches wide, and extend at least 24 inches below the lowest adjacent grade. Lowest adjacent grade is defined as the deeper of the following: 1) bottom of the adjacent interior slab-on-grade, or 2)

finished exterior grade, excluding landscaping topsoil. The deeper footing embedment is due to the presence of moderately to highly expansive soils and is intended to embed the footing below the zone of significant seasonal moisture fluctuation, reducing the potential for differential movement.

Footings constructed to the above dimensions and in accordance with the "Earthwork" recommendations of this report are capable of supporting maximum allowable bearing pressures of 2,000 psf for dead loads, 3,000 psf for combined dead plus live loads, and 4,000 psf for all loads including wind and seismic. These pressures are based on factors of safety of 3.0, 2.0, and 1.5 applied to the ultimate bearing pressure for dead, dead plus live, and all loads, respectively. These pressures are net values; the weight of the footing may be neglected for the portion of the footing extending below grade (typically, the full footing depth). Top and bottom mats of reinforcing steel should be included in continuous footings to help span irregularities and differential settlement. A preliminary subgrade modulus of 50 pounds per cubic inch (pci) may be used for design. If the loadings assumed below are significantly different than those estimated for design, we should be retained to reevaluate the preliminary subgrade modulus based on the final design loads.

8.2.2 Footing Settlement

Structural loads for the buildings were not provided to us at the time this report was prepared; therefore, we assumed the typical loading in the following table.

Table 9A: Structural Loading

Building	Column Load*	Wall Load*
PAC	300 to 500 kips	4 to 6 kips per lineal foot
Gymnasium	100 to 250 kips	1 to 2 kips per lineal foot
Fitness Center (at-grade)	50 kips	1 to 2 kips per lineal foot

*Assumed dead plus live load.

Based on the above loading and the allowable bearing pressures presented above, we estimate the total static footing settlement will be ½ to 1 inch, with about ¼ to ½ inch of post-construction differential settlement between independent/adjacent foundation elements.

8.2.2.1 Performing Arts Center (PAC)

In addition, we estimate the differential seismic movement will be on the order of ½ inch, resulting in a total estimated differential footing movement of about 1 inch between independent foundation elements, assumed to be on the order of 30 feet.

8.2.2.2 Fitness Center

In addition, we estimate that differential seismic movement will be less than ⅓ inch, resulting in a total estimated differential footing movement of less than ¾ inch between independent foundation elements, assumed to be on the order of 30 feet.

8.2.2.3 Gymnasium

In addition, we estimate that differential seismic movement will be on the order of about ½ inch, resulting in a total estimated differential footing movement of less than 1 inch between independent foundation elements, assumed to be on the order of 30 feet.

As our footing loads were assumed, we recommend we be retained to review the final footing layout and loading and verify the settlement estimates above.

The following structural loads were provided by the DSA PC plans and tables to be used for design of the solar-parking structures.

Table 9B: Structural Loading

Building	Axial Load*	Lateral Load*	Bending Moment*
Solar-Parking Canopies	18.1 kips	12.8 kips	213.4 kip-feet

*Provided loads from DSA PC plans.

Based on the above loading and the allowable bearing pressures presented above, we estimate the total static footing settlement will be ¼ inch, with less than ¼ inch of post-construction differential settlement between independent/adjacent foundation elements. In addition, we estimate the differential seismic movement will be less than ½ inch, resulting in a total estimated differential footing movement of ½ inch between independent foundation elements, assumed to be on the order of 50 feet.

8.2.3 Lateral Loading

Lateral loads may be resisted by friction between the bottom of footing and the supporting subgrade, and also by passive pressures generated against footing sidewalls. An ultimate frictional resistance of 0.45 applied to the footing dead load, and an ultimate passive pressure based on an equivalent fluid pressure of 450 pcf may be used in design. The structural engineer should apply an appropriate factor of safety (such as 1.5) to the ultimate values above. Where footings are adjacent to landscape areas without hardscape, the upper 12 inches of soil should be neglected when determining passive pressure capacity.

8.2.4 Spread Footing Construction Considerations

Where utility lines will cross perpendicular to strip footings, the footing should be deepened to encase the utility line, providing sleeves or flexible cushions to protect the pipes from anticipated foundation settlement, or the utility lines should be backfilled to the bottom of footing with sand-

cement slurry or lean concrete. Where utility lines will parallel footings and will extend below the "foundation plane of influence," an imaginary 1:1 plane projected down from the bottom edge of the footing, either the footing will need to be deepened so that the pipe is above the foundation plane of influence or the utility trench will need to be backfilled with sand-cement slurry or lean concrete within the influence zone. Sand-cement slurry used within foundation influence zones should have a minimum compressive strength of 75 psi.

Footing excavations should be filled as soon as possible or be kept moist until concrete placement by regular sprinkling to prevent desiccation. A Cornerstone representative should observe all footing excavations prior to placing reinforcing steel and concrete. If there is a significant schedule delay between our initial observation and concrete placement, we may need to re-observe the excavations.

8.3 DEEP FOUNDATIONS – SOLAR-PARKING CANOPIES

As an alternative to shallow foundations, the solar-parking canopies may be supported on deep foundations consisting of drilled piers 30 inches in diameter. Recommendations for drilled piers based on the loading provided in the DSA PC plans being used for design are presented in the following sections.

8.3.1 Drilled Piers

The provided solar-parking canopy loads may be supported on drilled, cast-in-place, straight-shaft friction piers. We understand the piers will have a diameter of 30 inches. Based on the provided loading discussed above, piers should extend to a depth of at least 10 feet below the bottom of the finish grades. Final pier depth/length will be determined by the project structural engineer. Adjacent piers centers should be spaced at least three diameters apart, otherwise, a reduction for group effects may be required. Grade beams should span between piers and/or pier caps in accordance with structural requirements. Conventional slabs-on-grade may be used provided the subgrade soils are prepared in accordance with the "Earthwork" section and that the estimated seismic differential movement is acceptable.

8.3.1.1 Vertical Capacity and Estimated Settlement

As no significantly thick, uniform, dense sand layers were encountered during our investigation that would provide adequate end bearing support, vertical capacity is based on frictional resistance. We evaluated the allowable vertical capacity for a 30-inch diameter pier and present the results on Figure 13. The allowable capacities are for dead plus live loads; dead loads should not exceed two-thirds of the allowable capacities. The allowable capacities may be increased by one-third for wind and seismic loads. Uplift loads should not exceed 75 percent of the allowable downward vertical capacity under seismic loading. Gross capacity of the piles should be less than the structural capacity of the piles.

Total settlement of individual piers or pier groups of four or less should not exceed ½ inch to mobilize static capacities and post-construction differential settlement over a horizontal distance of 50 feet should not exceed ¼ inch due to static loads.

8.3.1.2 Lateral Capacity

Lateral load resistance is developed by the soil's resistance to pile bending. The magnitude of the shear and bending moment developed within the pier are dependent on the pier stiffness, embedment length, the fixity of the pier into the pier cap (free or fixed-head conditions), the surrounding soil properties, the tolerable lateral deflection, and yield moment capacity of the pier.

We utilized the computer program L-Pile to model the load-deflection (p-y) curves representing the soil conditions surrounding the pier and estimate the ultimate lateral load capacity of the pier. The following table presents the probable response of the piers under short-term loading conditions; the structural engineer should apply an appropriate factor of safety on the shears and moments presented. Pier stiffnesses (EI) of 100.3 x 10^9 lb-in^2 (reduced for cracking) has been assumed in our analysis for a 30-inch pier. We assumed a concrete compressive strength of 4,000 psi for the concrete modulus calculations. If the pier stiffness varies by less than 20 percent of our assumed stiffness, the lateral load parameters below may be interpolated by multiplying the values by the ratio of the different pier stiffness values. We should be retained to re-evaluate the lateral load capacity for piles with a stiffness significantly different from what was assumed.

Table 10: Ultimate Lateral Load Capacity

Pier Type	Lateral Deflection (inches)	Maximum Shear (kips)	Maximum Moment (kip-feet)	Depth to Maximum Moment (feet)	Depth to Zero Moment (feet)
30-inch	0.5	41.2	211.4	1.2	10.0

The above lateral capacities are for single piers and may not be representative of piles in groups. Group effects, including the layout of the piers within a group, can significantly reduce the overall lateral capacity. Groups of 2 or less do not need to have a group reduction. For pier groups of 3-by-3 or smaller a pier group efficiency of 75 percent of the sum of the individual piers may be used. For larger groups, we should be retained to pier layout and structural loads to evaluate what appropriate group efficiency reduction factors should be applied to the different group conditions.

8.3.1.3 Construction Considerations

The excavation of all drilled shafts should be observed by a Cornerstone representative to confirm the soil profile, [verify that the piers extend the minimum depth into suitable materials] and that the piers are constructed in accordance with our recommendations and project requirements. The drilled shafts should be straight, dry, and relatively free of loose material before reinforcing steel is installed and concrete is placed. If ground water cannot be removed from the excavations prior to concrete placement, drilling slurry or casing may be required to stabilize the shaft and the concrete should be placed using a tremie pipe, keeping the tremie

pipe below the surface of the concrete to avoid entrapment of water or drilling slurry in the concrete.

Due to the loose nature of some of the cleaner sand layers and the relatively shallow groundwater, the use of drilling slurry and/or casing of each drilled shaft may be required.

8.4 LIGHT POLE FOUNDATIONS

8.4.1 Minimum Diameter and Embedment

The proposed light poles may be supported on drilled, cast-in-place, straight-shaft friction piers. The piers should have a minimum diameter of 12 inches and extend to a depth of at least 5 feet below the surface. The upper 12 inches of the drilled pier should be neglected for vertical support. Adjacent piers centers should be spaced at least three diameters apart, otherwise, a reduction for group effects may be required.

8.4.2 Vertical Capacity

The vertical capacity of the piers may be designed based on an allowable skin friction of 500 pounds per square foot (psf) for combined dead plus live loads based on a factor of safety of 2.0; dead loads should not exceed two-thirds of the allowable capacities. The allowable skin friction may be increased by one-third for wind and seismic loads. Frictional resistance to uplift loads may be developed along the pier shafts based on an allowable frictional resistance of 400 psf; the structural engineer should apply an appropriate factor of safety to the ultimate uplift capacity.

8.4.3 Lateral Loading

Lateral loads exerted on the structures may be resisted by a passive resistance based on an ultimate equivalent fluid pressure of 450 pounds per cubic foot (pcf) acting against twice the projected area of piers. The upper 12 inches of soil should be neglected when determining lateral capacity due to the loose soil present at the site. The structural engineer should apply an appropriate factor of safety to the ultimate passive pressures.

CONSTRUCTION CONSIDERATIONS

The excavation of all drilled shafts should be observed by a Cornerstone representative to confirm the soil profile and that the piers are constructed in accordance with our recommendations and project requirements. The drilled shafts should be straight, dry, and relatively free of loose material before reinforcing steel is installed and concrete is placed. If groundwater cannot be removed from the excavations prior to concrete placement, drilling slurry or casing may be required to stabilize the shaft and the concrete should be placed using a tremie pipe, keeping the tremie pipe below the surface of the concrete to avoid entrapment of water or drilling slurry in the concrete.

SECTION 9: CONCRETE SLABS AND PEDESTRIAN PAVEMENTS

9.1 INTERIOR SLABS-ON-GRADE

As the Plasticity Index (PI) of the surficial soils ranges up to 33, the proposed slabs-on-grade should be supported on at least 18 inches of non-expansive fill (NEF) to reduce the potential for slab damage due to soil heave. The NEF layer should be constructed over subgrade prepared in accordance with the recommendations in the "Earthwork" section of this report. If moisture-sensitive floor coverings are planned, the recommendations in the "Interior Slabs Moisture Protection Considerations" section below may be incorporated in the project design if desired. If significant time elapses between initial subgrade preparation and slab-on-grade [NEF] construction, the subgrade should be proof-rolled to confirm subgrade stability, and if the soil has been allowed to dry out, the subgrade should be re-moisture conditioned to at least 3 percent over the optimum moisture content.

The NEF recommendation will reduce the potential for the expansive subgrade soil to impact the proposed slabs-on-grade; however, the structural engineer should determine the appropriate slab reinforcement for the loading requirements and considering the expansion potential of the underlying soils. For unreinforced concrete slabs, ACI 302.1R recommends limiting control joint spacing to 24 to 36 times the slab thickness in each direction, or a maximum of 18 feet.

9.2 INTERIOR SLABS MOISTURE PROTECTION CONSIDERATIONS

The following general guidelines for concrete slab-on-grade construction where floor coverings are planned are presented for the consideration by the developer, design team, and contractor. These guidelines are based on information obtained from a variety of sources, including the American Concrete Institute (ACI) and are intended to reduce the potential for moisture-related problems causing floor covering failures, and may be supplemented as necessary based on project-specific requirements. The application of these guidelines or not will not affect the geotechnical aspects of the slab-on-grade performance.

- Place a minimum 10-mil vapor retarder conforming to ASTM E 1745, Class C requirements or better directly below the concrete slab; the vapor retarder should extend to the slab edges and be sealed at all seams and penetrations in accordance with manufacturer's recommendations and ASTM E 1643 requirements. A 4-inch-thick capillary break, consisting of crushed rock should be placed below the vapor retarder and consolidated in place with vibratory equipment. The mineral aggregate shall be of such size that the percentage composition by dry weight as determined by laboratory sieves will conform to the following gradation:

Sieve Size	Percentage Passing Sieve
1"	100
¾"	90 – 100
No. 4	0 - 10

The capillary break rock may be considered as the upper 4 inches of the non-expansive fill previously recommended.

- The concrete water:cement ratio should be 0.45 or less. Mid-range plasticizers may be used to increase concrete workability and facilitate pumping and placement.
- Water should not be added after initial batching unless the slump is less than specified and/or the resulting water:cement ratio will not exceed 0.45.
- Where floor coverings are planned, all concrete surfaces should be properly cured.
- Water vapor emission levels and concrete pH should be determined in accordance with ASTM F1869 and F710 (latest versions) requirements and evaluated against the floor covering manufacturer's requirements prior to installation.

9.3 EXTERIOR FLATWORK

9.3.1 Pedestrian Concrete Flatwork

Exterior concrete flatwork subject to pedestrian and/or occasional light pick up loading should be at least 4 inches thick and supported on at least 8 inches of non-expansive fill (NEF) overlying subgrade prepared in accordance with the "Earthwork" recommendations of this report. As an alternative, the NEF may consist of at least 8 inches of Class 2 aggregate base overlying subgrade prepared in accordance with the "Earthwork" recommendations of this report. Flatwork that will be subject to heavier or frequent vehicular loading should be designed in accordance with the recommendations in the "Vehicular Pavements" section below. To help reduce the potential for uncontrolled shrinkage cracking, adequate expansion and control joints should be included. Consideration should be given to limiting the control joint spacing to a maximum of about 2 feet in each direction for each inch of concrete thickness. Flatwork should be isolated from adjacent foundations or retaining walls except where limited sections of structural slabs are included to help span irregularities in retaining wall backfill at the transitions between at-grade and on-structure flatwork.

At the District's option, if desired to reduce the potential for vertical offset or widening of concrete cracks, consideration should be given to using reinforcing steel, such as No. 3 rebar spaced at 18 inches on center each direction.

SECTION 10: VEHICULAR PAVEMENTS

10.1 ASPHALT CONCRETE

The following asphalt concrete pavement recommendations tabulated below are based on the Procedure 608 of the Caltrans Highway Design Manual, estimated traffic indices for various pavement-loading conditions, and on a design R-value of 5. The design R-value was chosen based on our experience in the vicinity of the site and engineering judgment considering the variable surface conditions.

Table 11: Asphalt Concrete Pavement Recommendations, Design R-value = 5

Design Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base* (inches)	Total Pavement Section Thickness (inches)
4.0	2.5	7.5	10.0
4.5	2.5	9.5	12.0
5.0	3.0	10.0	13.0
5.5	3.0	12.0	15.0
6.0	3.5	12.5	16.0
6.5	4.0	14.0	18.0

*Caltrans Class 2 aggregate base; minimum R-value of 78

Frequently, the full asphalt concrete section is not constructed prior to construction traffic loading. This can result in significant loss of asphalt concrete layer life, rutting, or other pavement failures. To improve the pavement life and reduce the potential for pavement distress through construction, we recommend the full design asphalt concrete section be constructed prior to construction traffic loading. Alternatively, a higher traffic index may be chosen for the areas where construction traffic will use the pavements.

Asphalt concrete pavements constructed on expansive subgrade where the adjacent areas will not be irrigated for several months after the pavements are constructed may experience longitudinal cracking parallel to the pavement edge. These cracks typically form within a few feet of the pavement edge and are due to seasonal wetting and drying of the adjacent soil. The cracking may also occur during construction where the adjacent grade is allowed to significantly dry during the summer, pulling moisture out of the pavement subgrade. Any cracks that form should be sealed with bituminous sealant prior to the start of winter rains. One alternative to reduce the potential for this type of cracking is to install a moisture barrier at least 24 inches deep behind the pavement curb.

10.2 PORTLAND CEMENT CONCRETE

The exterior Portland Cement Concrete (PCC) pavement recommendations tabulated below are based on methods presented in the Portland Cement Association (PCA) design manual (PCA, 1984). Recommendations for garage slabs-on-grade were provided in the “Concrete Slabs and Pedestrian Pavements” section above. We have provided a few pavement alternatives as an anticipated Average Daily Truck Traffic (ADTT) was not provided. An allowable ADTT should be chosen that is greater than what is expected for the development.

Table 12: PCC Pavement Recommendations, Design R-value = 5

Allowable ADTT	Minimum PCC Thickness (inches)
13	5.5
130	6.0

The PCC thicknesses above are based on a concrete compressive strength of at least 3,500 psi, supporting the PCC on at least 8 inches of Class 2 aggregate base compacted as recommended in the "Earthwork" section, and laterally restraining the PCC with curbs or concrete shoulders. Adequate expansion and control joints should be included. Consideration should be given to limiting the control joint spacing to a maximum of about 2 feet in each direction for each inch of concrete thickness. Due to the expansive surficial soils present, we recommend that the construction and expansion joints be dowelled.

10.2.1 Stress Pads for Trash Enclosures

Pads where trash containers will be stored, and where garbage trucks will park while emptying trash containers, should be constructed on Portland Cement Concrete. We recommend that the trash enclosure pads and stress (landing) pads where garbage trucks will store, pick up, and empty trash be increased to a minimum PCC thickness of 7 inches. The compressive strength, underlayment, and construction details should be consistent with the above recommendations for PCC pavements.

10.3 PAVEMENT CUTOFF

Surface water penetration into the pavement section can significantly reduce the pavement life, due to the native expansive clays. While quantifying the life reduction is difficult, a normal 20-year pavement design could be reduced to less than 10 years; therefore, increased long-term maintenance may be required.

It would be beneficial to include a pavement cut-off, such as deepened curbs, redwood-headers, or "Deep-Root Moisture Barriers" that are keyed at least 4 inches into the pavement subgrade. This will help limit the additional long-term maintenance.

SECTION 11: RETAINING WALLS

11.1 STATIC LATERAL EARTH PRESSURES

The structural design of any site retaining wall should include resistance to lateral earth pressures that develop from the soil behind the wall, any undrained water pressure, and surcharge loads acting behind the wall. Provided a drainage system is constructed behind the wall to prevent the build-up of hydrostatic pressures as discussed in the section below, we recommend that the walls with level backfill be designed for the following pressures:

Table 13: Recommended Lateral Earth Pressures

Wall Condition	Lateral Earth Pressure*	Additional Surcharge Loads
Unrestrained – Cantilever Wall	45 pcf	⅓ of vertical loads at top of wall
Restrained – Braced Wall	45 pcf + 8H** psf	½ of vertical loads at top of wall

* Lateral earth pressures are based on an equivalent fluid pressure for level backfill conditions
** H is the distance in feet between the bottom of footing and top of retained soil

Basement (e.g. orchestra pit walls) should be designed as restrained walls. If adequate drainage cannot be provided behind the wall, an additional equivalent fluid pressure of 40 pcf should be added to the values above for both restrained and unrestrained walls for the portion of the wall that will not have drainage. Damp proofing or waterproofing of the walls may be considered where moisture penetration and/or efflorescence are not desired.

11.2 SEISMIC LATERAL EARTH PRESSURES

The 2019 CBC states that lateral pressures from earthquakes should be considered in the design of basements and retaining walls. At this time, we understand that basement (e.g. orchestra pit) and site retaining walls are planned for the project.

11.2.1 Orchestra Pit Walls

We developed seismic earth pressures for the proposed orchestra pit walls using interim recommendations generally based on refinement of the Mononobe-Okabe method (Lew et al., SEAOC 2010). Because the walls are greater than 12 feet in height, and peak ground accelerations are greater than 0.40g, we checked the result of the seismic increment when added to the recommended active earth pressure against the recommended fixed wall earth pressures. Basement walls are not free to deflect and should therefore be designed for static conditions as a restrained wall, which is also a CBC requirement. Based on current recommendations for seismic earth pressures, it appears that active earth pressures plus a seismic increment exceed the restrained (i.e. at-rest), static wall earth pressures. Therefore, we recommend checking the walls for the seismic condition in accordance with the interim recommendations of the above referenced paper and the 2019 CBC.

The CBC prescribes basic load combinations for structures, components and foundations with the intention that their design strength equals or exceeds the effects of the factored loads. With respect to the load from lateral earth pressure and ground water pressure, the CBC prescribes the basic combinations shown in CBC equations 16-2 and 16-7 below.

$1.2(D + F) + 1.6(L + H) + 0.5(L_r \text{ or } S \text{ or } R)$ [Eq. 16-2]

In Eq. 16-2: H - should represent the total static lateral earth pressure, which for the basement wall will be restrained (use 45 pcf + 8H psf)

$0.9(D + F) + 1.0E + 1.6H$ [Eq. 16-7]

In Eq. 16-7: H - should represent the static “active” earth pressure component under seismic loading conditions (use 45 pcf)

E - should represent the seismic increment component in Eq. 16-7, a triangular load with a resultant force of $2.5H^2$, which should be applied one third of the height up from the base of the wall (and which can also be expressed as an equivalent fluid pressure equal to 5 pcf).

The interim recommendations in the SEAOC paper more appropriately split out "active" earth pressure (and not the restrained ["at-rest"] pressure) from our report and provide the total seismic increment so that different load factors can be applied in accordance with different risk levels.

11.2.2 Site Walls

We developed seismic earth pressures for the proposed retaining walls using interim recommendations generally based on refinement of the Mononobe-Okabe method (Lew et al., SEAOC 2010). Because the planned walls are greater than 6 feet in height, and peak ground accelerations are greater than 0.40g, we checked the result of the total seismic increment when added to the recommended active earth pressure against the recommended cantilever (unrestrained) wall earth pressures. Because the wall is unrestrained, or will act as an unrestrained wall, and will be designed for 45 pcf (equivalent fluid pressure), based on current recommendations for seismic earth pressures, it appears that active earth pressures plus a seismic increment do not exceed the cantilever wall earth pressures. Therefore, an additional seismic increment above the design earth pressures is not required as long as the walls are not greater than 8 feet in height and are designed for the unrestrained wall earth pressures recommended above in accordance with the CBC.

11.3 WALL DRAINAGE

Adequate drainage should be provided by a subdrain system behind all walls. This system should consist of a 4-inch minimum diameter perforated pipe placed near the base of the wall (perforations placed downward). The pipe should be bedded and backfilled with Class 2 Permeable Material per Caltrans Standard Specifications, latest edition. The permeable backfill should extend at least 12 inches out from the wall and to within 2 feet of outside finished grade. Alternatively, ½-inch to ¾-inch crushed rock may be used in place of the Class 2 Permeable Material provided the crushed rock and pipe are enclosed in filter fabric, such as Mirafi 140N or approved equivalent. The upper 2 feet of wall backfill should consist of compacted on-site soil. The subdrain outlet should be connected to a free-draining outlet or sump.

Miradrain, Geotech Drainage Panels, or equivalent drainage matting can be used for wall drainage as an alternative to the Class 2 Permeable Material or drain rock backfill. Horizontal strip drains connecting to the vertical drainage matting may be used in lieu of the perforated pipe and crushed rock section. The vertical drainage panel should be connected to the perforated pipe or horizontal drainage strip at the base of the wall, or to some other closed or through-wall system such as the TotalDrain system from AmerDrain. Sections of horizontal drainage strips should be connected with either the manufacturer’s connector pieces or by

pulling back the filter fabric, overlapping the panel dimples, and replacing the filter fabric over the connection. At corners, a corner guard, corner connection insert, or a section of crushed rock covered with filter fabric must be used to maintain the drainage path.

Drainage panels should terminate 18 to 24 inches from final exterior grade. The Miradrain panel filter fabric should be extended over the top of and behind the panel to protect it from intrusion of the adjacent soil.

11.4 BACKFILL

Where surface improvements will be located over the retaining wall backfill, backfill placed behind the walls should be compacted to at least 95 percent relative compaction using light compaction equipment. Where no surface improvements are planned, backfill should be compacted to at least 90 percent. If heavy compaction equipment is used, the walls should be temporarily braced.

11.5 FOUNDATIONS

Retaining walls may be supported on a continuous spread footing designed in accordance with the recommendations (including the lateral loading) presented in the “Foundations” section of this report.

SECTION 12: LIMITATIONS

This report, an instrument of professional service, has been prepared for the sole use of Milpitas Unified School District specifically to support the design of the Milpitas High School improvements project in Milpitas, California. The opinions, conclusions, and recommendations presented in this report have been formulated in accordance with accepted geotechnical engineering practices that exist in Northern California at the time this report was prepared. No warranty, expressed or implied, is made or should be inferred.

Recommendations in this report are based upon the soil and groundwater conditions encountered during our subsurface exploration. If variations or unsuitable conditions are encountered during construction, Cornerstone must be contacted to provide supplemental recommendations, as needed.

Milpitas Unified School District may have provided Cornerstone with plans, reports and other documents prepared by others. Milpitas Unified School District understands that Cornerstone reviewed and relied on the information presented in these documents and cannot be responsible for their accuracy.

Cornerstone prepared this report with the understanding that it is the responsibility of the owner or his representatives to see that the recommendations contained in this report are presented to other members of the design team and incorporated into the project plans and specifications, and that appropriate actions are taken to implement the geotechnical recommendations during construction.

Conclusions and recommendations presented in this report are valid as of the present time for the development as currently planned. Changes in the condition of the property or adjacent properties may occur with the passage of time, whether by natural processes or the acts of other persons. In addition, changes in applicable or appropriate standards may occur through legislation or the broadening of knowledge. Therefore, the conclusions and recommendations presented in this report may be invalidated, wholly or in part, by changes beyond Cornerstone's control. This report should be reviewed by Cornerstone after a period of three (3) years has elapsed from the date of this report. In addition, if the current project design is changed, then Cornerstone must review the proposed changes and provide supplemental recommendations, as needed.

An electronic transmission of this report may also have been issued. While Cornerstone has taken precautions to produce a complete and secure electronic transmission, please check the electronic transmission against the hard copy version for conformity.

Recommendations provided in this report are based on the assumption that Cornerstone will be retained to provide observation and testing services during construction to confirm that conditions are similar to that assumed for design, and to form an opinion as to whether the work has been performed in accordance with the project plans and specifications. If we are not retained for these services, Cornerstone cannot assume any responsibility for any potential claims that may arise during or after construction as a result of misuse or misinterpretation of Cornerstone's report by others. Furthermore, Cornerstone will cease to be the Geotechnical-Engineer-of-Record if we are not retained for these services.

SECTION 13: REFERENCES

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February 20, 1981, GS-VEZR-2 frames 83, 84 vertical black and white, 1:24,000 scale.

Additional vertical photos viewed through online sources include:

Date
1948
1956
1959
1966
1968
1979
1987
1998
2005
2014

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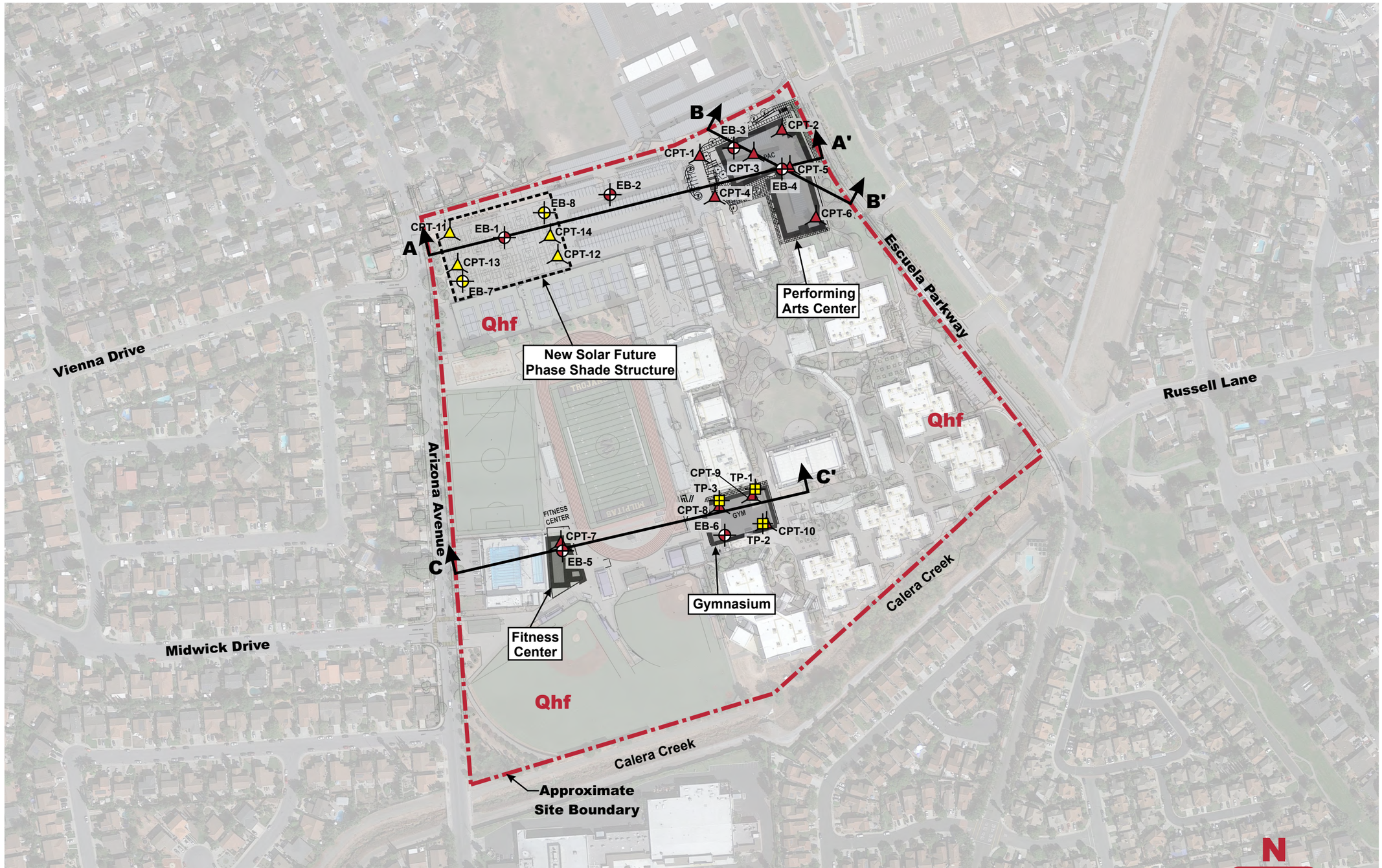
Vicinity Map

Milpitas High School – Performing Arts Center, Gymnasium, Fitness Center, and Solar-Parking Canopies
1285 Escuela Parkway
Milpitas, CA

Project Number	578-6-4
Figure Number	Figure 1
Date	June 2021
Drawn By	RRN



Geologic Units

Qhf Alluvial Fan Deposits (Holocene)

Legend

- Approximate location of exploratory boring (EB) (Cornerstone, current investigation)
- Approximate location of cone penetration test (CPT) (Cornerstone, current investigation)
- Approximate location of test pit (TP) (Cornerstone, current investigation)
- Approximate location of exploratory boring (EB) (Cornerstone, 2020)
- Approximate location of cone penetration test (CPT) (Cornerstone, 2020)
- A A' Approximate location of cross section

N

0 250 500

APPROXIMATE SCALE (FEET)

Base by Google Earth, dated 09/26/2020
Overlay by LPA, Site Plan/Materials Plan - 01, dated 06/24/2020

Project Number 578-6-4

Figure Number Figure 2

Date May 2021

Drawn By RRN

Site Plan and Geologic Map

Milpitas High School - Performing Arts Center, Gymnasium, & Fitness Center
1285 Escuela Parkway
Milpitas, CA

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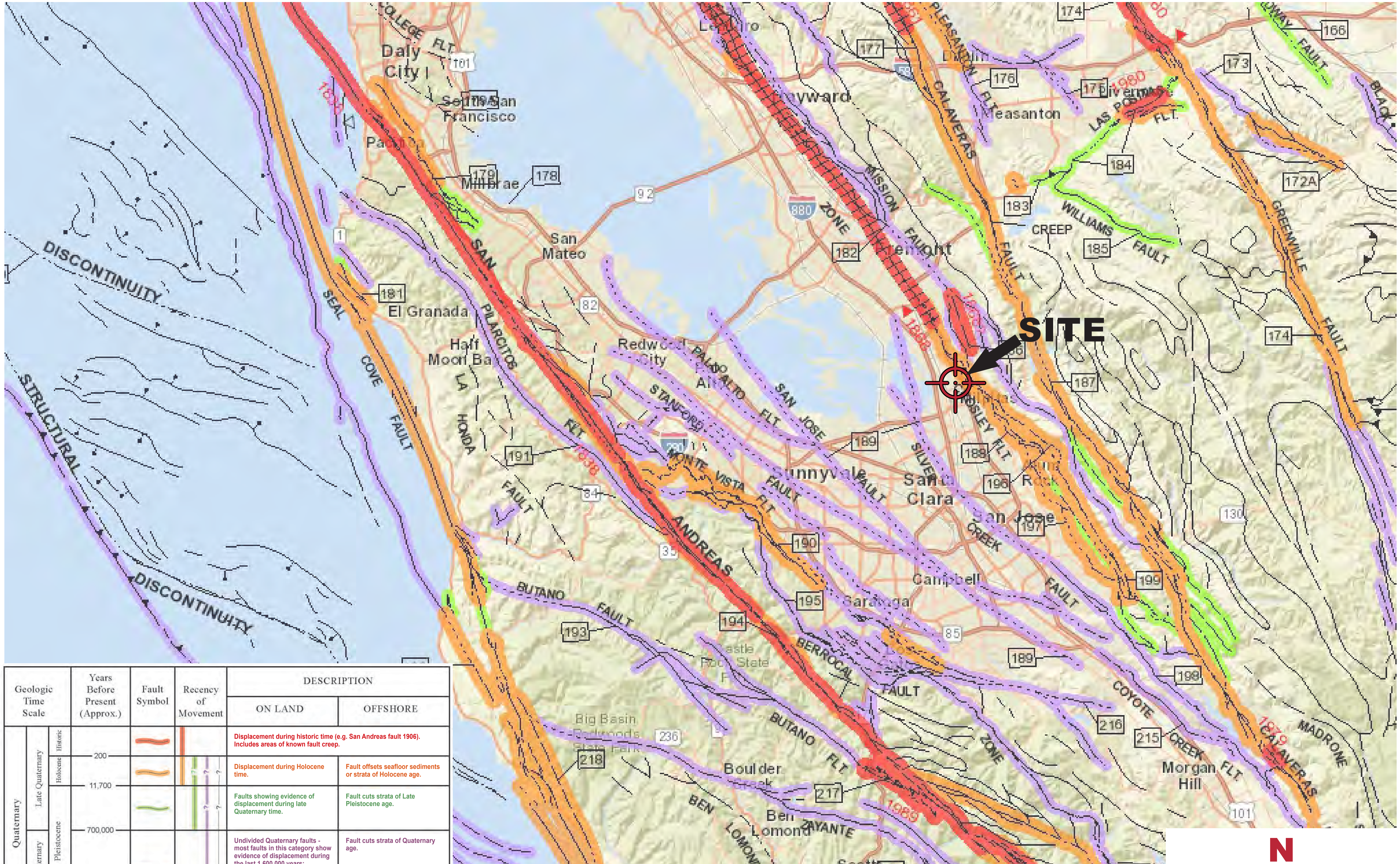


Geologic Time Scale			Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION: ON LAND	DESCRIPTION: OFFSHORE
Quaternary	Late Quaternary	Historic	200			Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
Quaternary	Late Quaternary	Holocene	11,700			Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
Quaternary	Late Quaternary	Pleistocene	700,000			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
Quaternary	Early Quaternary	Pleistocene	1,600,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Pilo-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary			4.5 billion (Age of Earth)			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.

Base by California Geological Survey - 2010 Fault Activity Map of California (Jennings and Bryant, 2010)

Project Number 578-6-4

Figure Number Figure 3

Date June 2021

Drawn By RRN

Regional Fault Map

Milpitas High School – Performing Arts Center, Gymnasium, Fitness Center, and Solar-Parking Canopies
1285 Escuela Parkway
Milpitas, CA

CORNERSTONE EARTH GROUP

Geologic Units

af	Artificial fill
Qhbm	Holocene alluvial fan deposits over Bay Mud
Qhfe	Holocene fine grained alluvial fan-estuarine complex deposits
Qhf	Holocene alluvial fan deposits
Qhff	Holocene alluvial fan deposits, fine grained facies
B	Bedrock

Based on Plate 1.1. Quaternary Geologic Map of the Milpitas 7.5-Minute Quadrangle, California, Knudsen and Others (2000)

Explanation

Contact - dashed where approximate, dotted where concealed

N

0 2000 4000

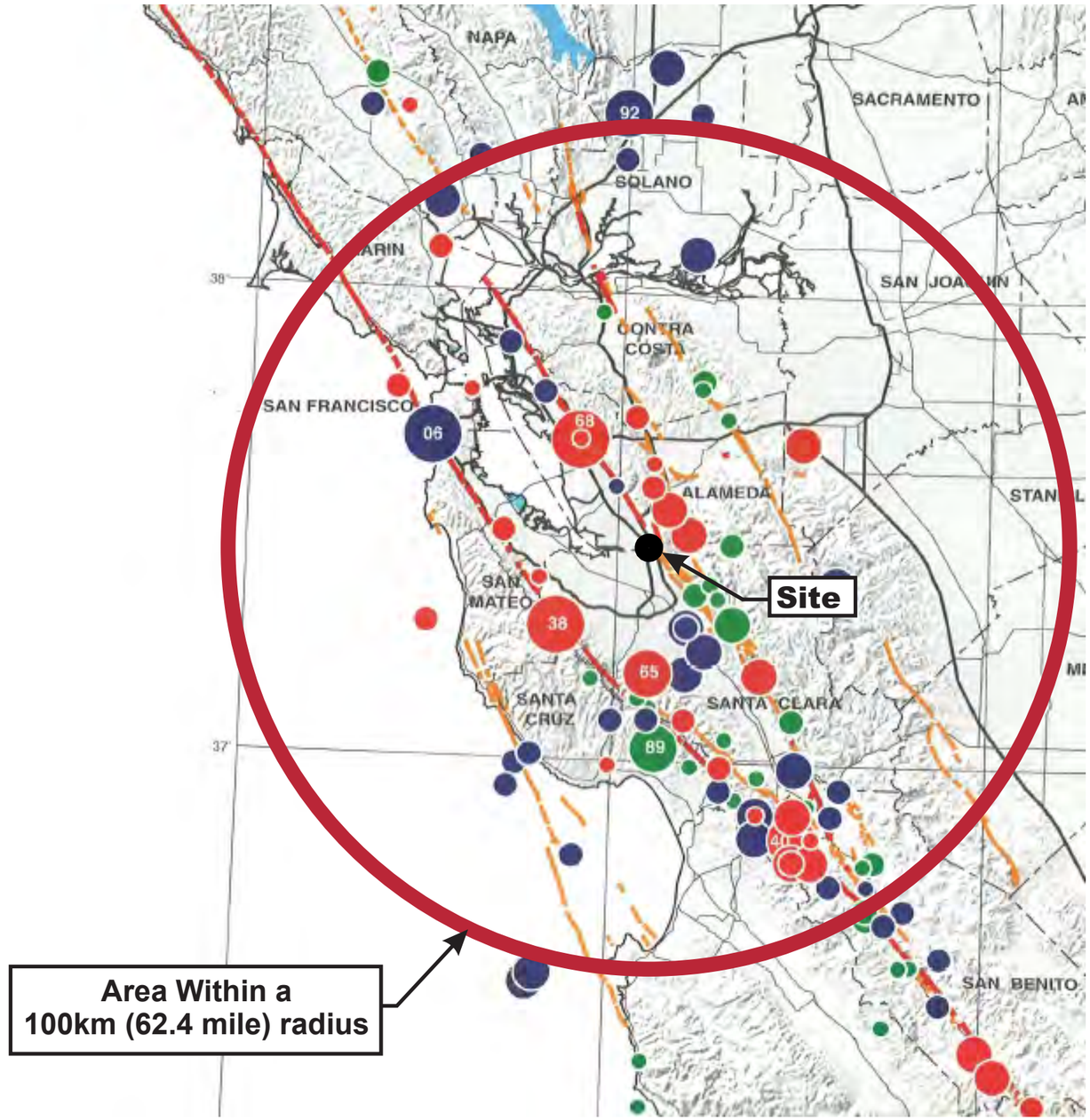
APPROXIMATE SCALE (FEET)

CORNERSTONE EARTH GROUP

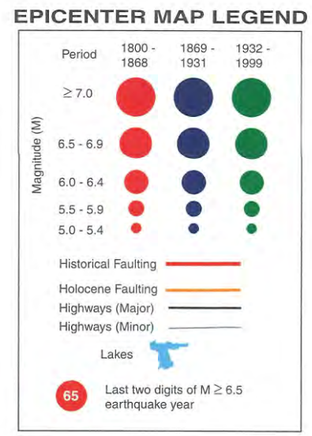
Vicinity Geologic Map

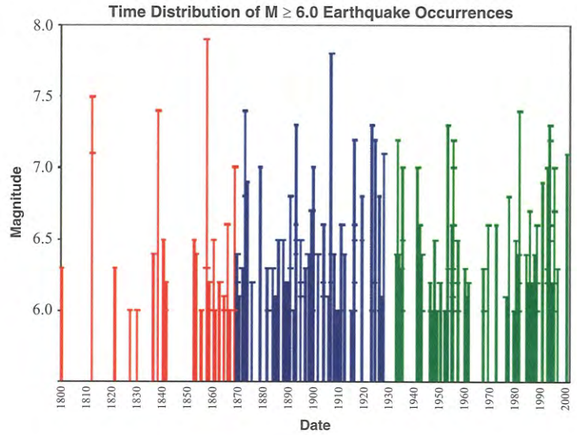
Milpitas High School – Performing Arts Center, Gymnasium, Fitness Center, and Solar-Parking Canopie
1285 Escuela Parkway
Milpitas, CA

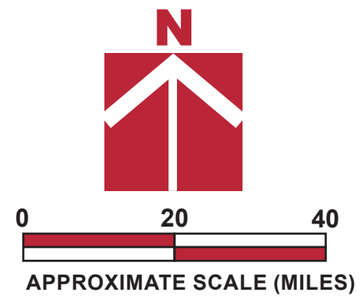
Project Number	578-6-4
Figure Number	Figure 4
Date	June 2021
Drawn By	RRN



From: T. Toppozada & Others (2000)





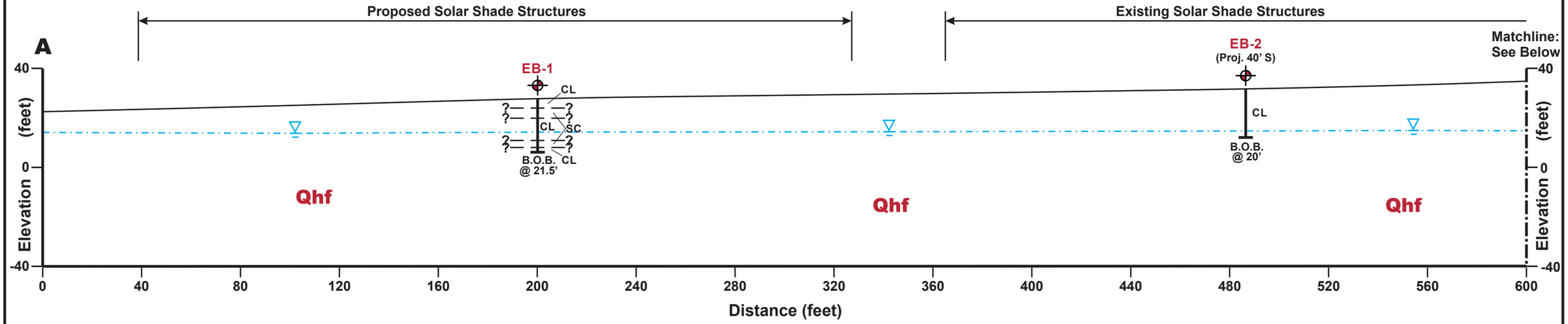


Historical Earthquakes Map

Milpitas High School – Performing Arts Center, Gymnasium, Fitness Center, and Solar-Parking Canopie
1285 Escuela Parkway
Milpitas, CA

Project Number 578-6-4
Figure Number Figure 5
Date June 2021
Drawn By RRN

CORNERSTONE EARTH GROUP



Section A-A'

(View Looking North)
1"=40' H:V

Geologic Units

Qhf Alluvial Fan Deposits (Holocene)

Symbols

CL	Lean Clay
SC	Clayey Sand
SP	Poorly Graded Sand
▽	Estimated ground water depth
⌖	Approximate location of exploratory boring (EB)
▲	Approximate location of cone penetration test (CPT)

Notes:
1) Surficial fills associated with existing pavements, landscaping or utilities are not shown.
2) The subsurface profile is conceptual and is based on limited subsurface data obtained from widely spaced borings/CPTs. Actual subsurface conditions may vary significantly between borings/CPTs.
3) See Figure 2 for location of cross section.

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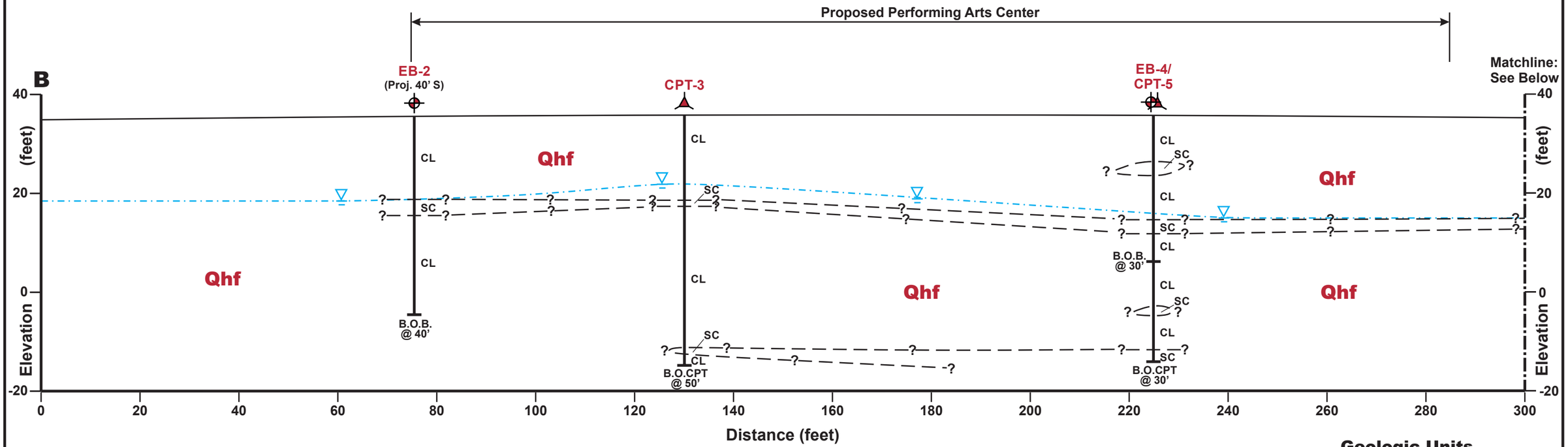
Geologic Cross Section A-A'

Milpitas High School - Performing Arts Center, Gymnasium, & Fitness Center
1285 Escuela Parkway
Milpitas, CA

Project Number	578-6-1
Figure Number	Figure 6
Date	July 2020
Drawn By	RRN



Section B-B'

(View Looking Northeast)
1"=20' H:V

Geologic Units

Qhf Alluvial Fan Deposits (Holocene)

Symbols

- **CL** Lean Clay
- **SC** Clayey Sand
- Approximate location of exploratory boring (EB)
- Approximate location of cone penetration test (CPT)
- Estimated ground water depth

Notes:
1) Surficial fills associated with existing pavements, landscaping or utilities are not shown.
2) The subsurface profile is conceptual and is based on limited subsurface data obtained from widely spaced borings/CPTs. Actual subsurface conditions may vary significantly between borings/CPTs.
3) See Figure 2 for location of cross section.

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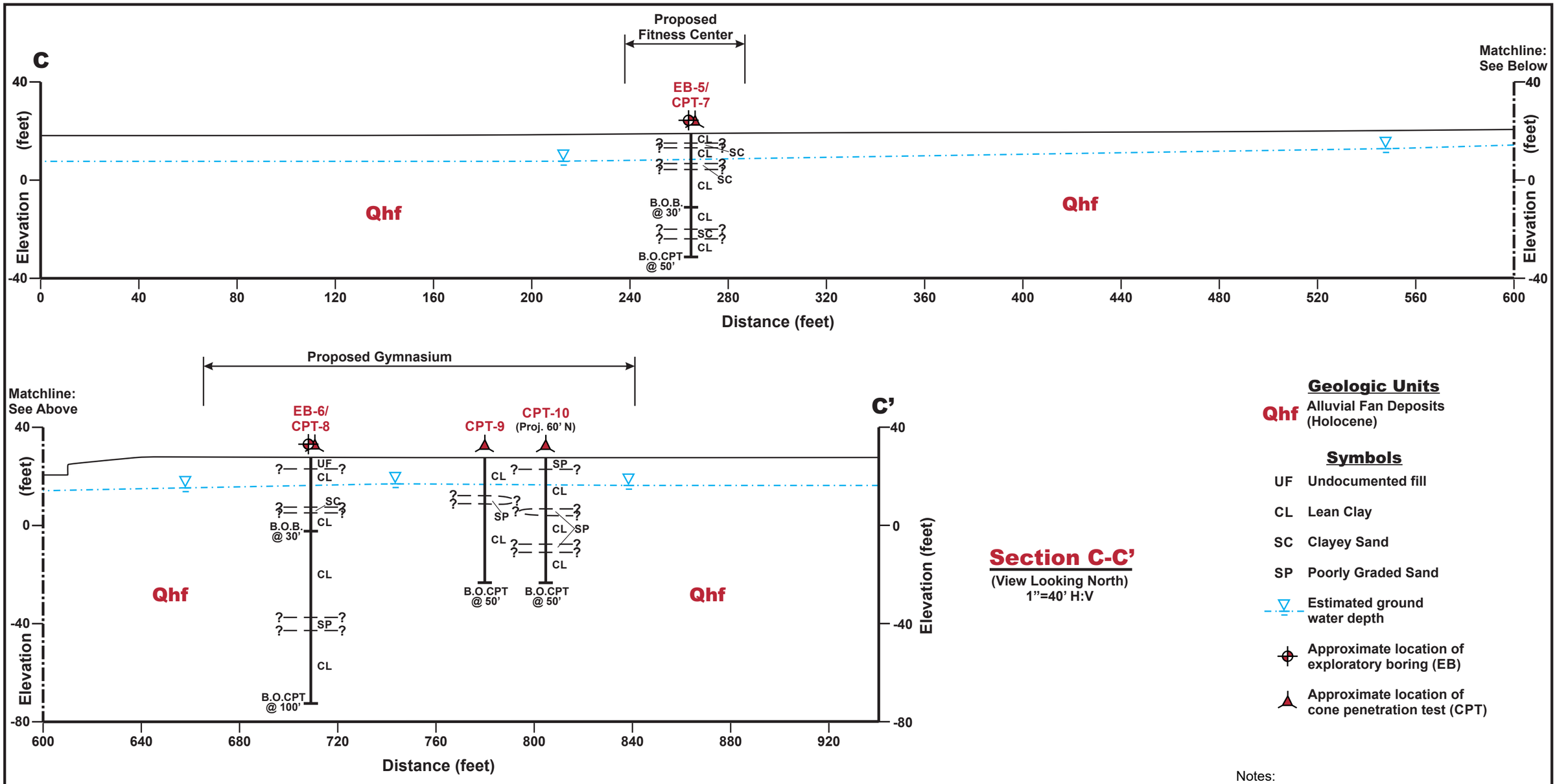
Geologic Cross Section B-B'

Milpitas High School - Performing Arts Center, Gymnasium, & Fitness Center
1285 Escuela Parkway
Milpitas, CA

Project Number	578-6-1
Figure Number	Figure 7
Date	July 2020
Drawn By	RRN



Geologic Units

Qhf Alluvial Fan Deposits (Holocene)

Symbols

- UF Undocumented fill
- CL Lean Clay
- SC Clayey Sand
- SP Poorly Graded Sand
- Estimated ground water depth
- Approximate location of exploratory boring (EB)
- Approximate location of cone penetration test (CPT)

Section C-C'

(View Looking North)
1"=40' H:V

Notes:
1) Surficial fills associated with existing pavements, landscaping or utilities are not shown.
2) The subsurface profile is conceptual and is based on limited subsurface data obtained from widely spaced borings/CPTs. Actual subsurface conditions may vary significantly between borings/CPTs.
3) See Figure 2 for location of cross section.

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Geologic Cross Section C-C'

Milpitas High School - Performing Arts Center, Gymnasium, & Fitness Center
1285 Escuela Parkway
Milpitas, CA

Project Number	578-6-1
Figure Number	Figure 8
Date	July 2020
Drawn By	RRN

CORNERSTONE EARTH GROUP

FIGURE 9A

CPT NO. 1

PROJECT/CPT DATA

Project Title	MHS Performing Arts & Gymnasium
Project No.	578-6-1
Project Manager	NSD

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	7.08	
PGA (Amax)	1.147	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	18
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	120
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.09	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.49	(Inches)
TOTAL SEISMIC SETTLEMENT	**0.6**	**INCHES**

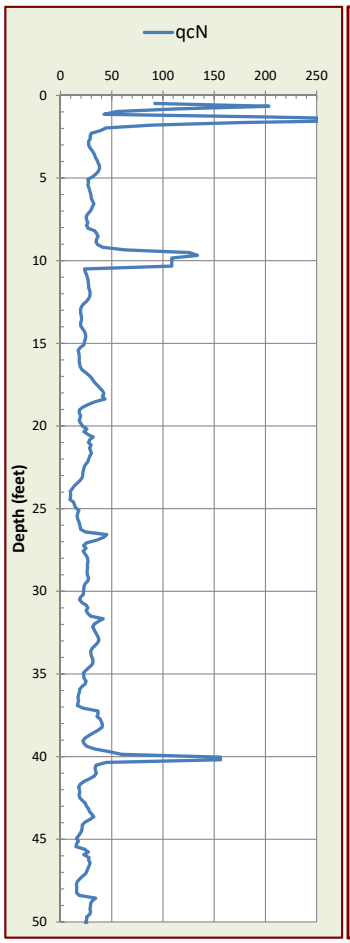
POTENTIAL LATERAL DISPLACEMENT

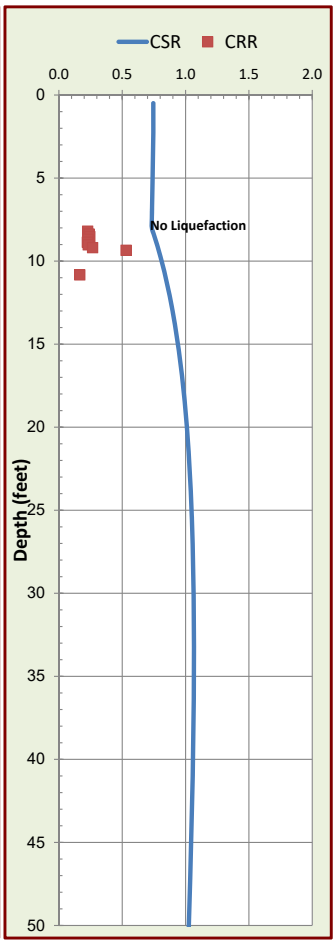
LDI[2]	0.32	L/H	137.5
LDI[1] Corrected for Distance	0.04	(4 < L/H < 40)	

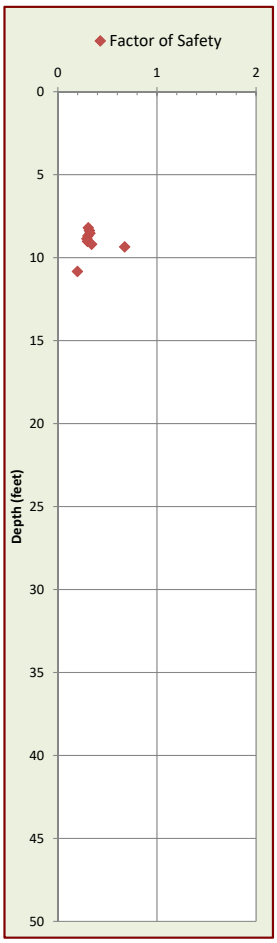
EXPECTED RANGE OF DISPLACEMENT

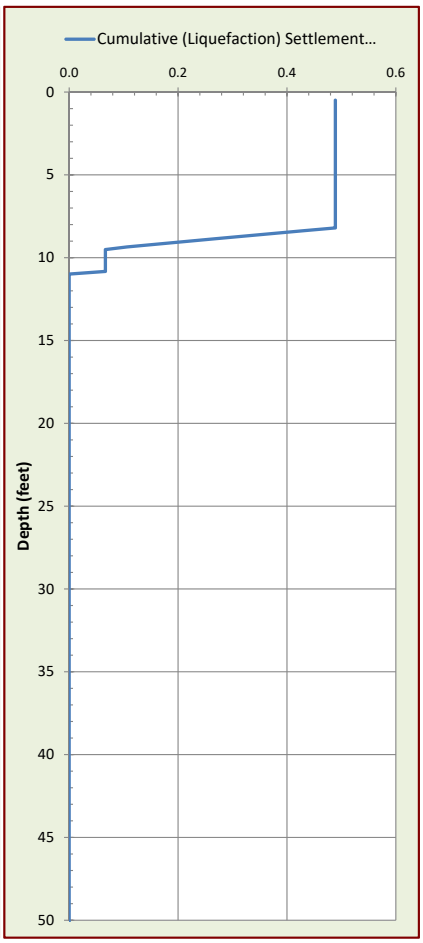
0.0 to 0.1 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 9B

CPT NO. 2

PROJECT/CPT DATA

Project Title	MHS Performing Arts & Gymnasium
Project No.	578-6-1
Project Manager	NSD

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	7.08	
PGA (Amax)	1.147	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	20.5
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	120
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.09	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.23	(Inches)
TOTAL SEISMIC SETTLEMENT	0.3	INCHES

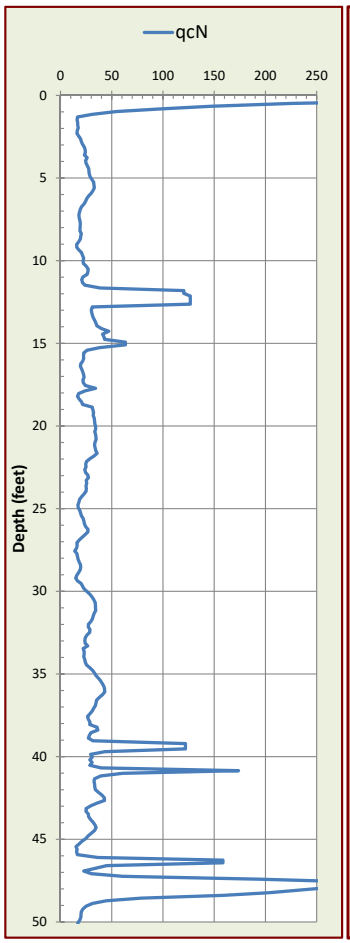
POTENTIAL LATERAL DISPLACEMENT

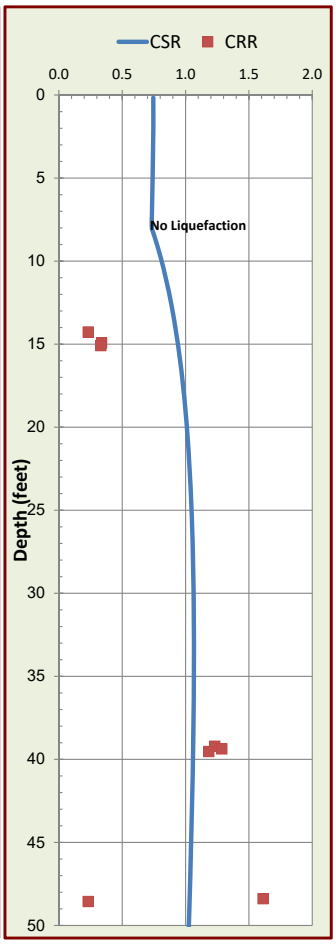
LDI[2]	0.08	L/H	131.3
LDI[1] Corrected for Distance	0.01	(4 < L/H < 40)	

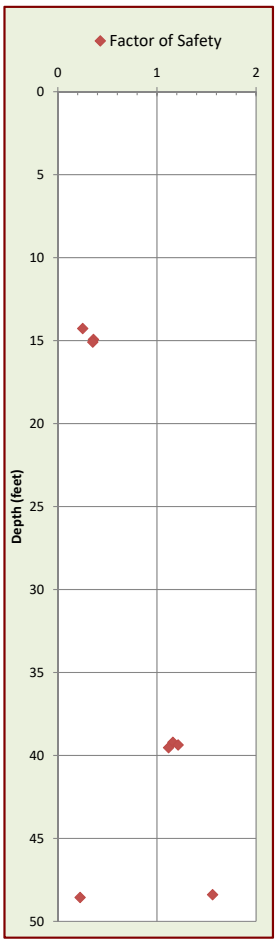
EXPECTED RANGE OF DISPLACEMENT

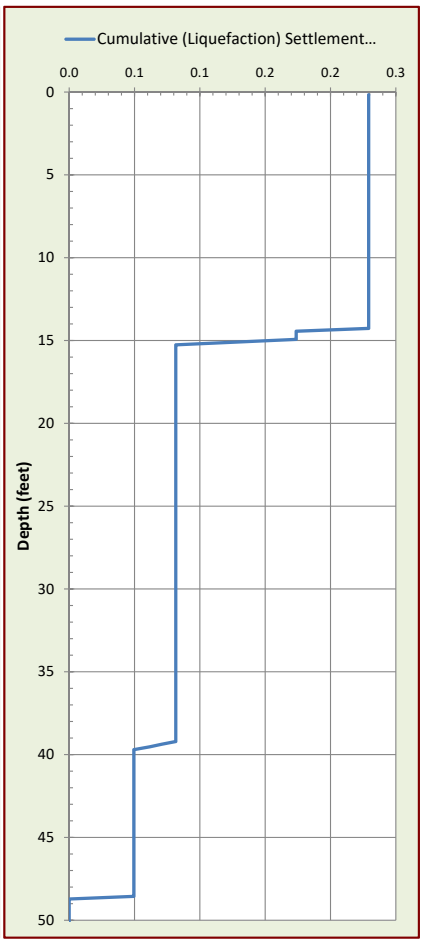
0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 9C

CPT NO. 3

PROJECT/CPT DATA

Project Title	MHS Performing Arts & Gymnasium
Project No.	578-6-1
Project Manager	NSD

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	7.08	
PGA (Amax)	1.147	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	18
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	120
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.01	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.53	(Inches)
TOTAL SEISMIC SETTLEMENT	**0.5**	**INCHES**

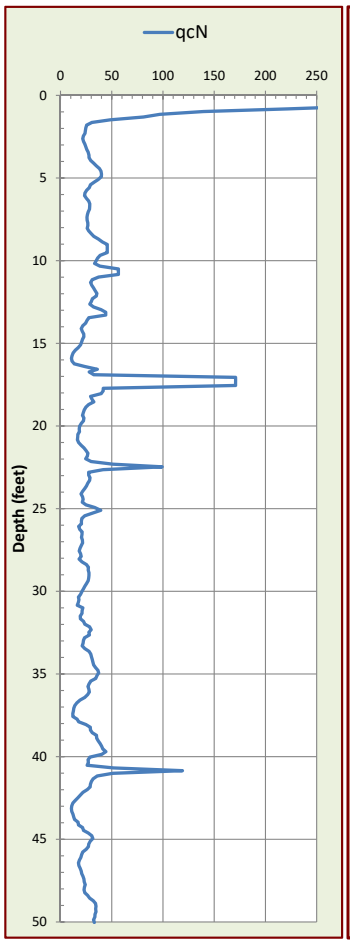
POTENTIAL LATERAL DISPLACEMENT

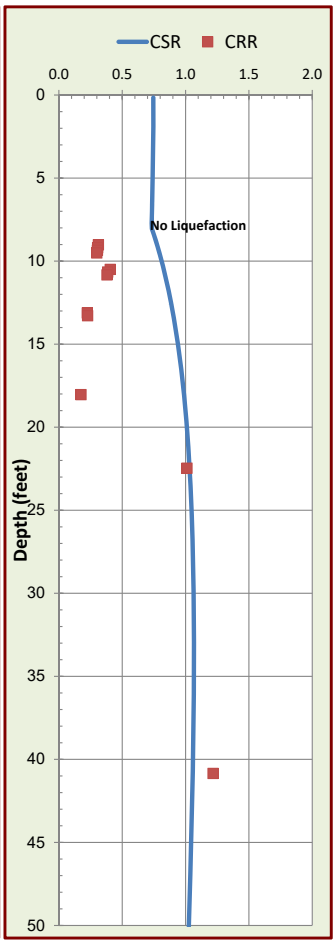
LDI[2]	0.24	L/H	131.3
LDI[1] Corrected for Distance	0.03	(4 < L/H < 40)	

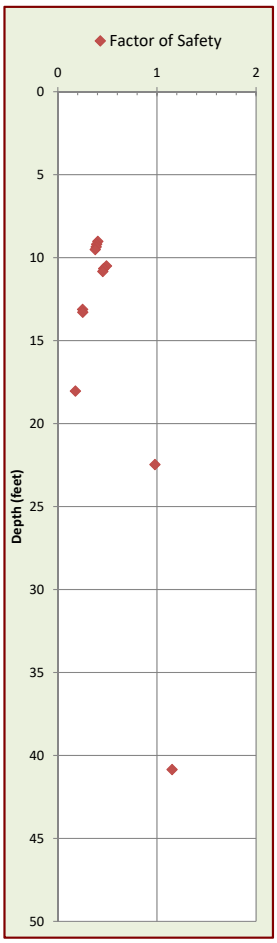
EXPECTED RANGE OF DISPLACEMENT

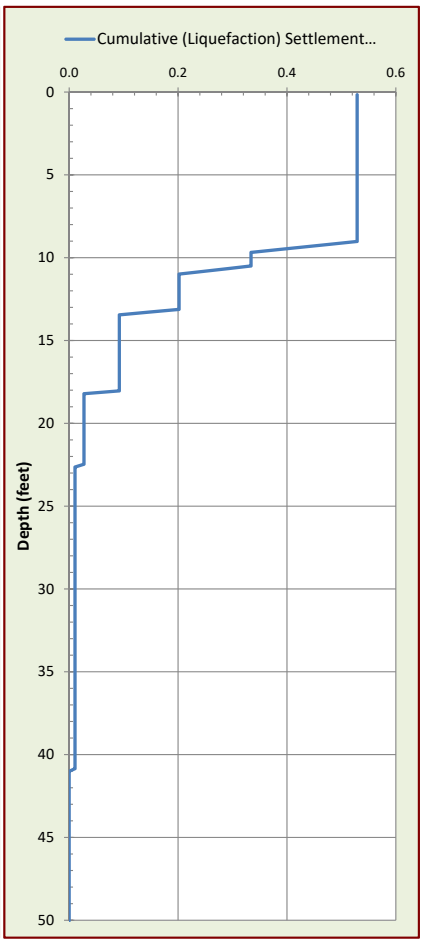
0.0 to 0.1 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 9D

CPT NO. 4

PROJECT/CPT DATA

Project Title	MHS Performing Arts & Gymnasium
Project No.	578-6-1
Project Manager	NSD

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	7.08	
PGA (Amax)	1.147	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	18
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	120
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.04	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.33	(Inches)
TOTAL SEISMIC SETTLEMENT	0.4	INCHES

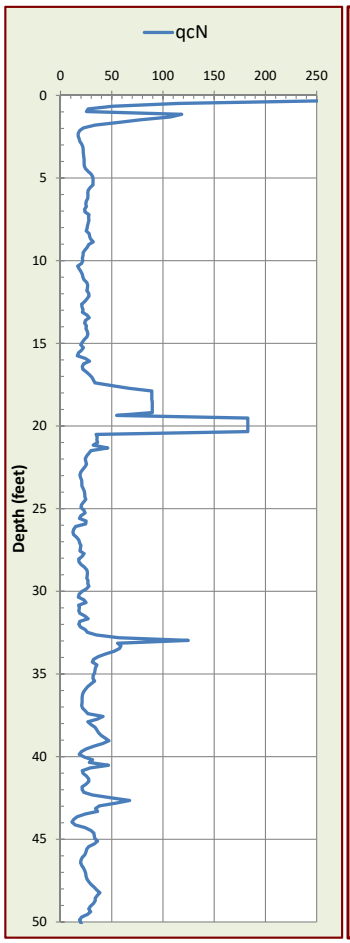
POTENTIAL LATERAL DISPLACEMENT

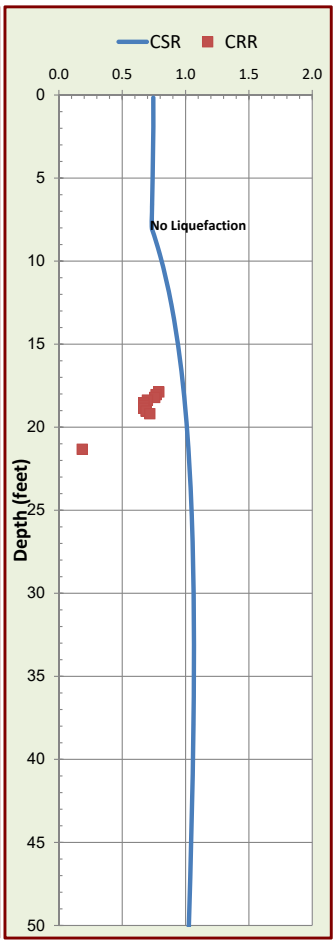
LDI[2]	0.00	L/H	118.8
LDI[1] Corrected for Distance	0.00	(4 < L/H < 40)	

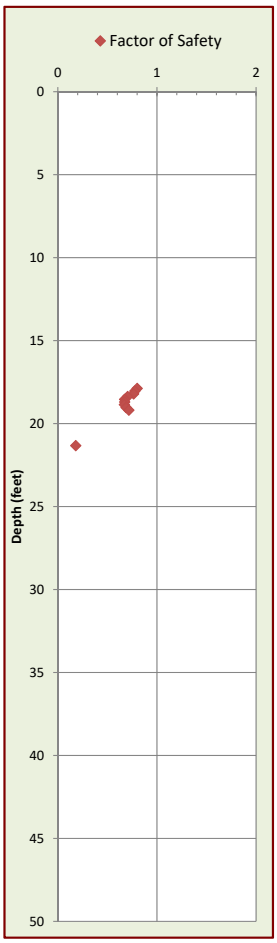
EXPECTED RANGE OF DISPLACEMENT

0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.







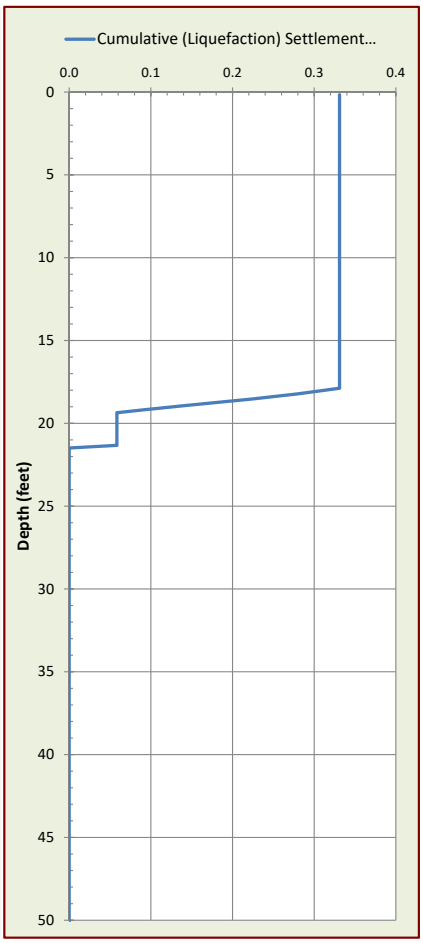


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FIGURE 9E

CPT NO. 5

PROJECT/CPT DATA

Project Title	MHS Performing Arts & Gymnasium
Project No.	578-6-1
Project Manager	NSD

SEISMIC PARAMETERS

Controlling Fault	Hayward
Earthquake Magnitude (Mw)	7.08
PGA (Amax)	1.147 (g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	20.5
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	120
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.04	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.17	(Inches)
TOTAL SEISMIC SETTLEMENT	**0.2**	**INCHES**

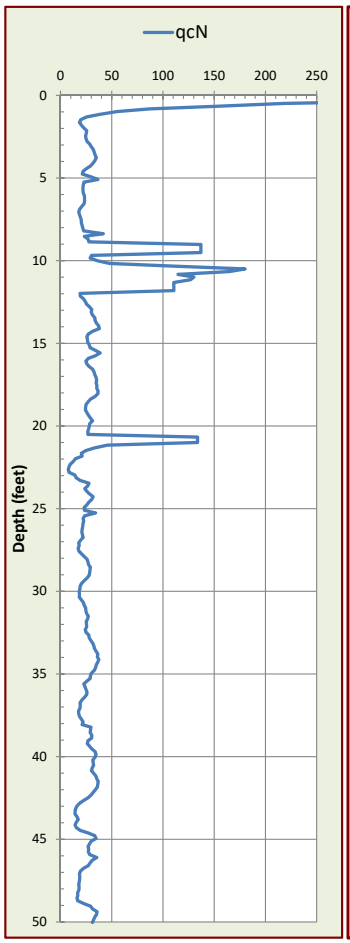
POTENTIAL LATERAL DISPLACEMENT

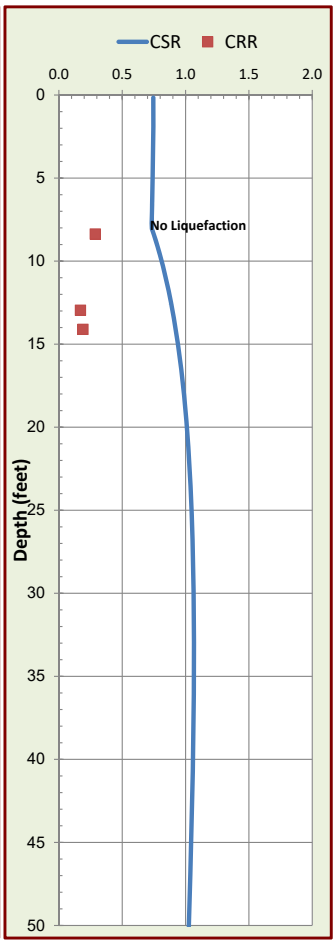
LDI[2]	0.13	L/H	115.0
LDI[1] Corrected for Distance	0.02	(4 < L/H < 40)	

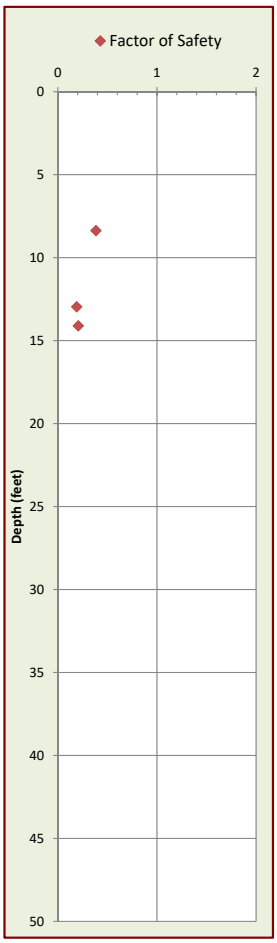
EXPECTED RANGE OF DISPLACEMENT

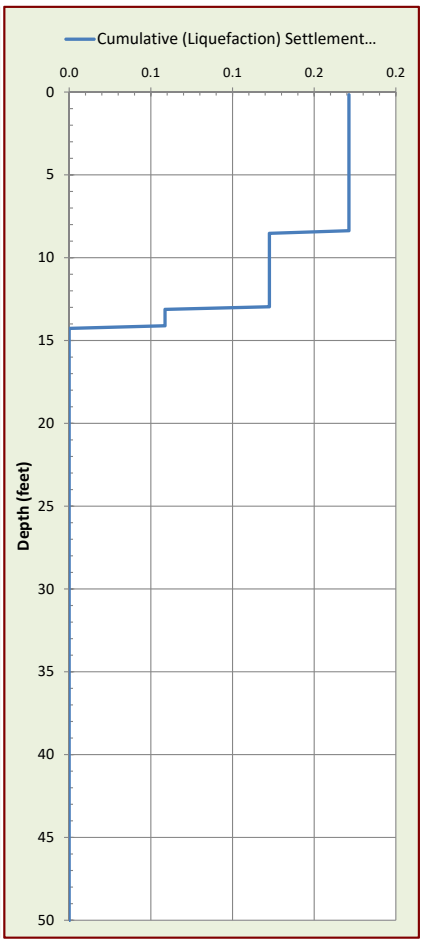
0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 9F

CPT NO. 6

PROJECT/CPT DATA

Project Title	MHS Performing Arts & Gymnasium
Project No.	578-6-1
Project Manager	NSD

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	7.08	
PGA (Amax)	1.147	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	20.5
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	120
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.03	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.29	(Inches)
TOTAL SEISMIC SETTLEMENT	**0.3**	**INCHES**

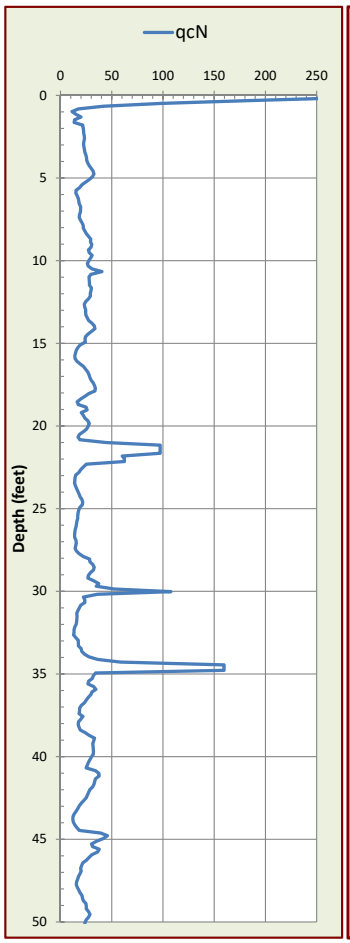
POTENTIAL LATERAL DISPLACEMENT

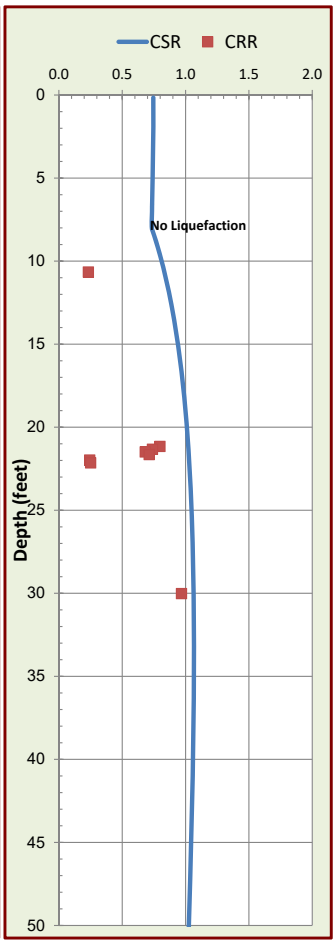
LDI[2]	0.04	L/H	100.0
LDI[1] Corrected for Distance	0.01	(4 < L/H < 40)	

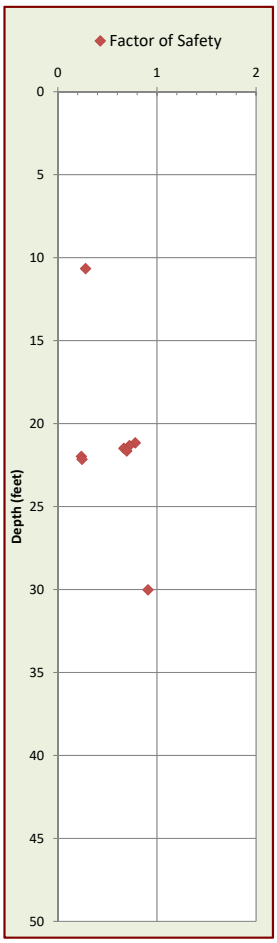
EXPECTED RANGE OF DISPLACEMENT

0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.







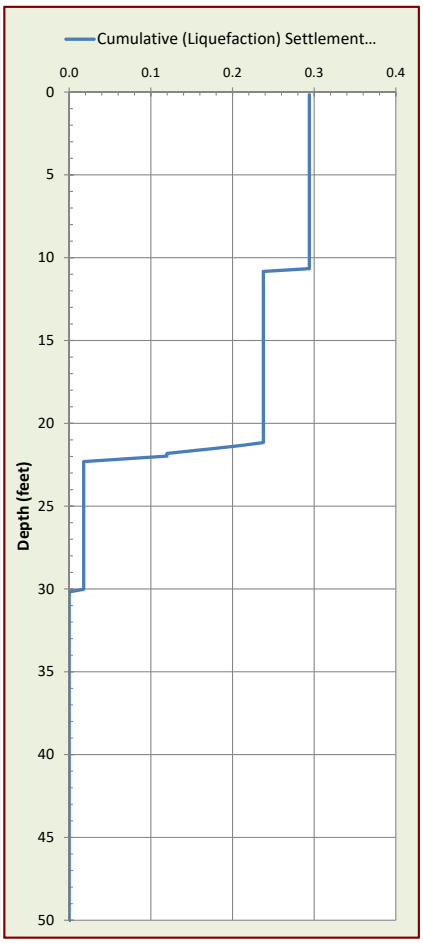


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FIGURE 9G

CPT NO. 7

PROJECT/CPT DATA

Project Title	MHS Performing Arts & Gymnasium
Project No.	578-6-1
Project Manager	NSD

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	7.08	
PGA (Amax)	1.147	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	11
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	120
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.15	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.27	(Inches)
TOTAL SEISMIC SETTLEMENT	**0.4**	**INCHES**

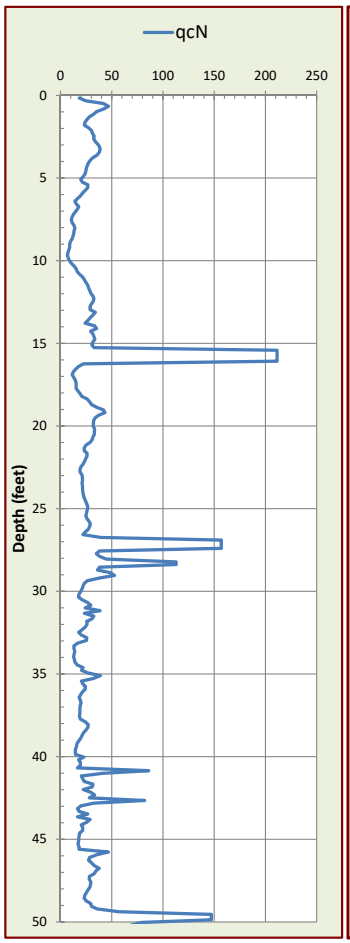
POTENTIAL LATERAL DISPLACEMENT

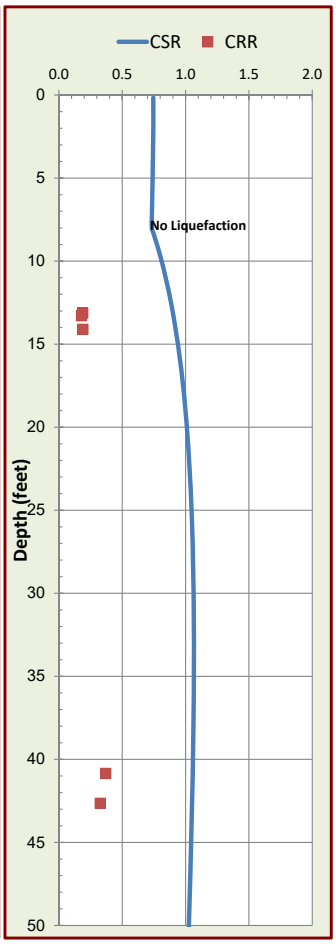
LDI[2]	0.14	L/H	68.8
LDI[1] Corrected for Distance	0.03	(4 < L/H < 40)	

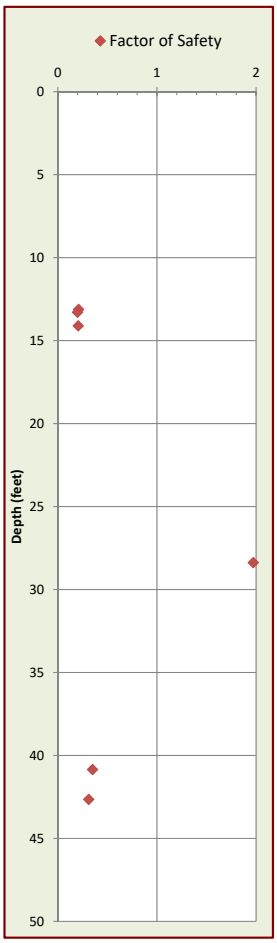
EXPECTED RANGE OF DISPLACEMENT

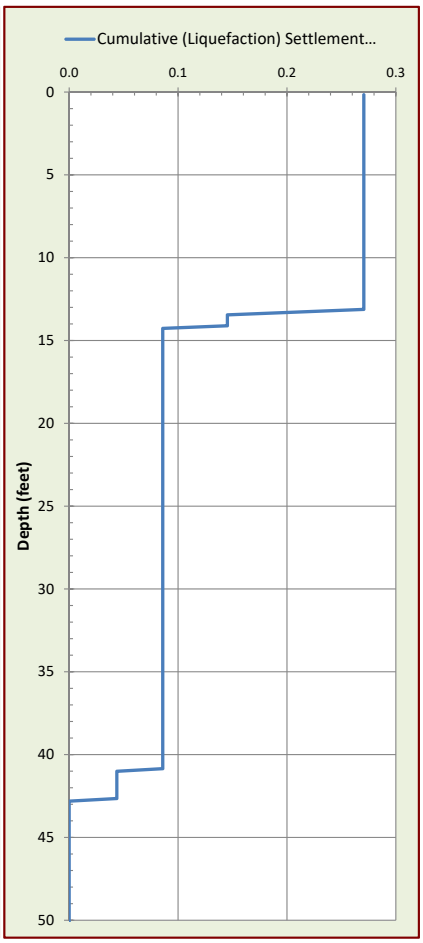
0.0 to 0.1 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 6H

CPT NO. 8

PROJECT/CPT DATA

Project Title	MHS Performing Arts & Gymnasium
Project No.	578-6-1
Project Manager	NSD

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	7.08	
PGA (Amax)	1.147	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	11
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	120
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.01	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.27	(Inches)
TOTAL SEISMIC SETTLEMENT	**0.3**	**INCHES**

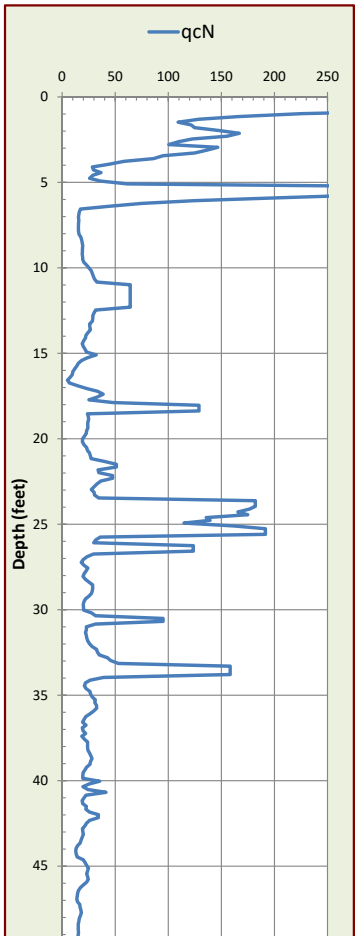
POTENTIAL LATERAL DISPLACEMENT

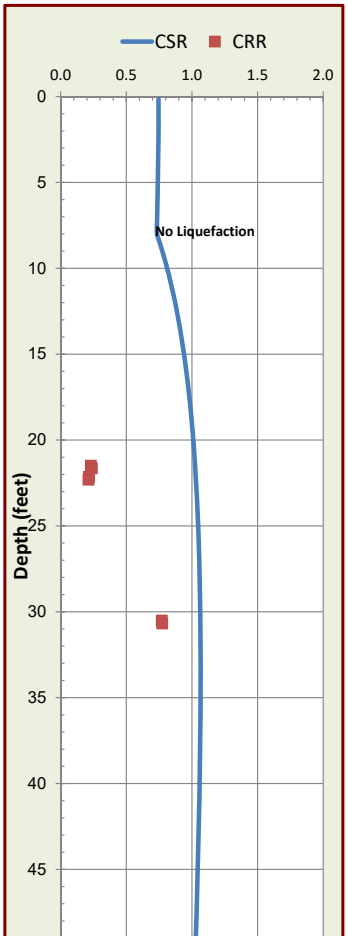
LDI[2]	0.00	L/H	61.3
LDI[1] Corrected for Distance	0.00	(4 < L/H < 40)	

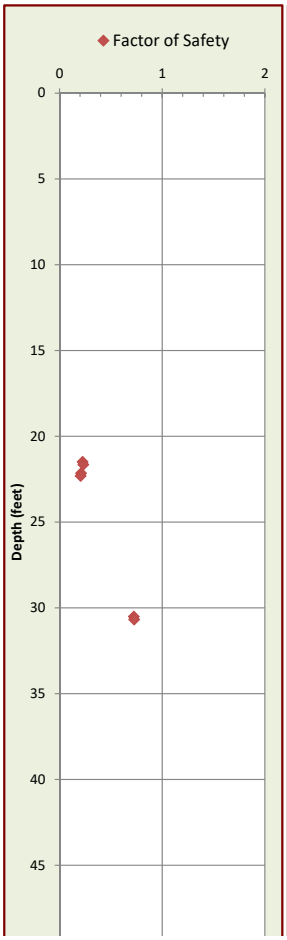
EXPECTED RANGE OF DISPLACEMENT

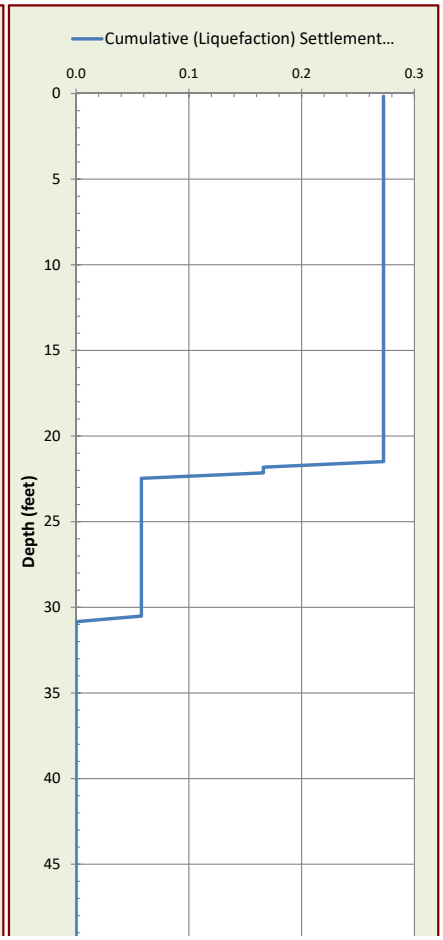
0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 9I

CPT NO. 9

PROJECT/CPT DATA

Project Title	MHS Performing Arts & Gymnasium
Project No.	578-6-1
Project Manager	NSD

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	7.08	
PGA (Amax)	1.147	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	11
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	120
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.07	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.45	(Inches)
TOTAL SEISMIC SETTLEMENT	0.5	INCHES

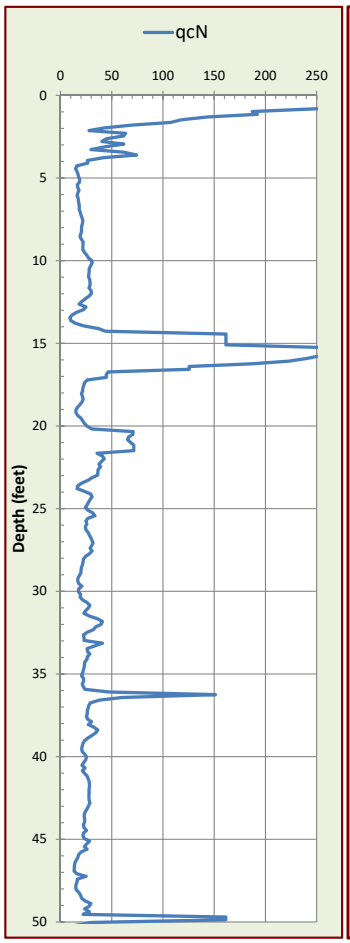
POTENTIAL LATERAL DISPLACEMENT

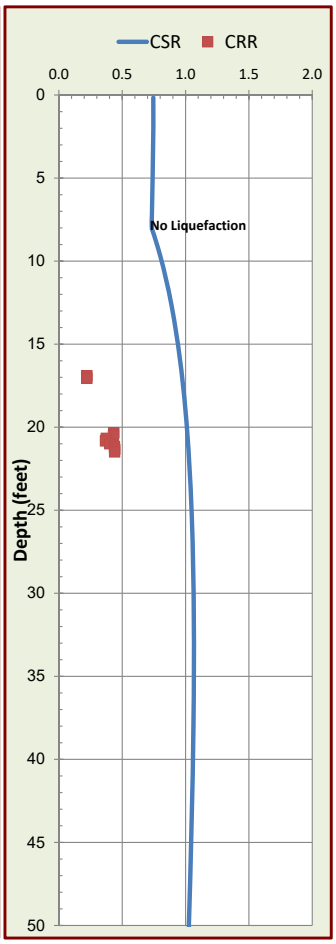
LDI[2]	0.00	L/H	52.5
LDI[1] Corrected for Distance	0.00	(4 < L/H < 40)	

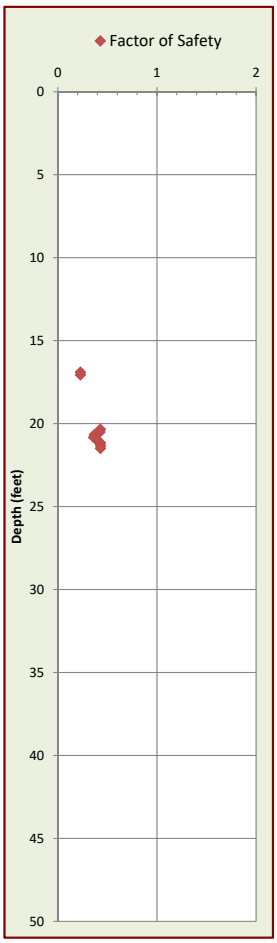
EXPECTED RANGE OF DISPLACEMENT

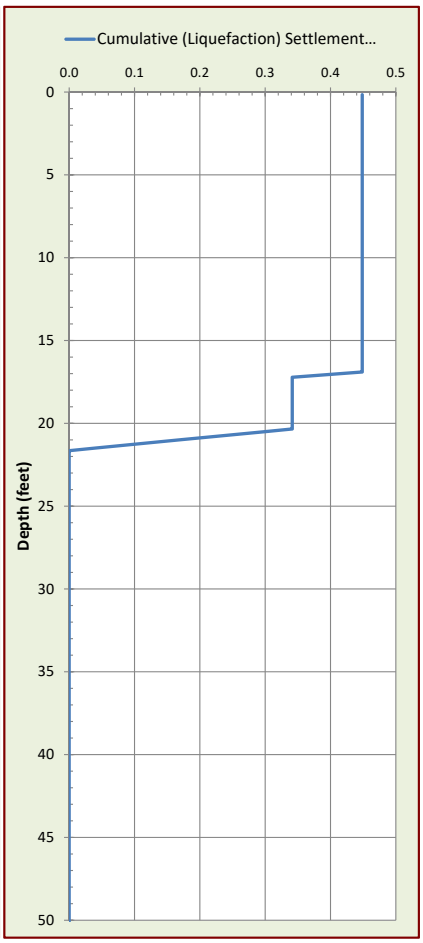
0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 9J

CPT NO. 10

PROJECT/CPT DATA

Project Title	MHS Performing Arts & Gymnasium
Project No.	578-6-1
Project Manager	NSD

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	7.08	
PGA (Amax)	1.147	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	11
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	120
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.04	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.84	(Inches)
TOTAL SEISMIC SETTLEMENT	**0.9**	**INCHES**

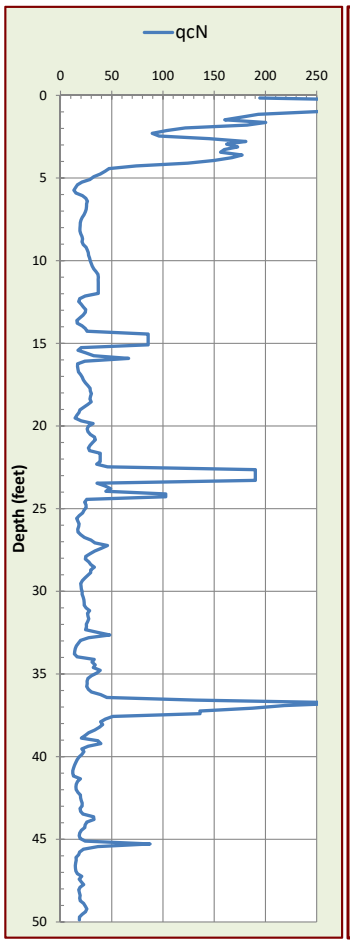
POTENTIAL LATERAL DISPLACEMENT

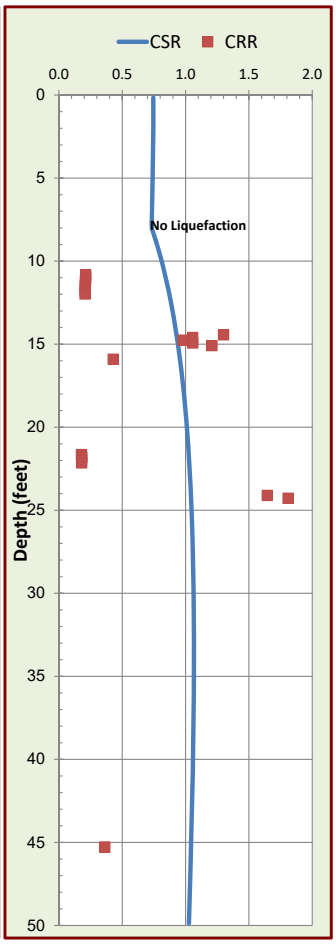
LDI[2]	0.36	L/H	42.5
LDI[1] Corrected for Distance	0.11	(4 < L/H < 40)	

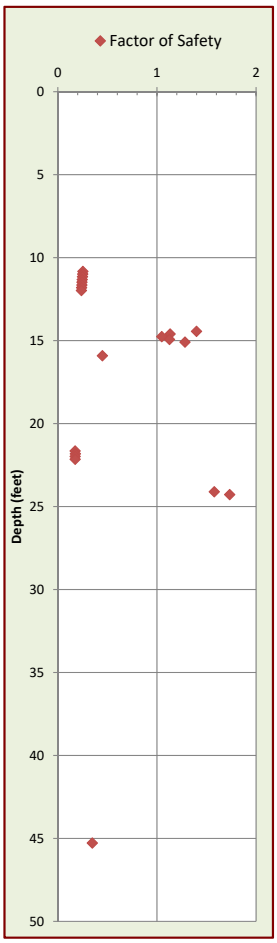
EXPECTED RANGE OF DISPLACEMENT

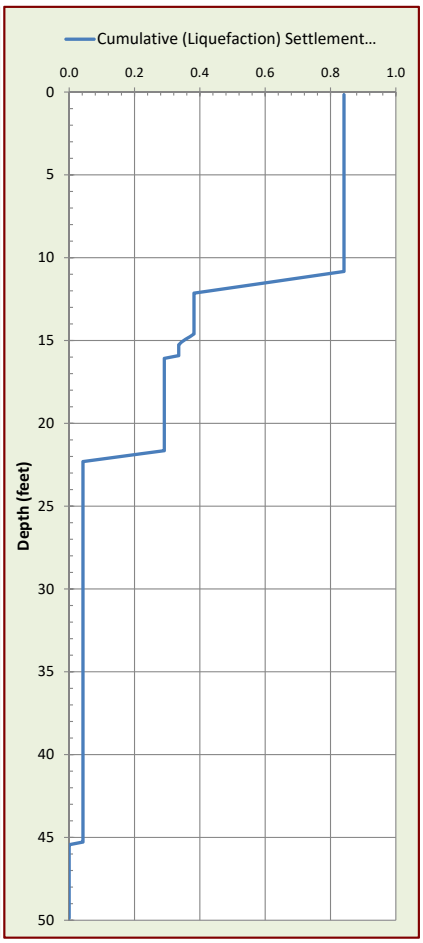
0.1 to 0.2 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 9K

CPT NO. 11

PROJECT/CPT DATA

Project Title	**MHS Performing Arts & Gymnasium**
Project No.	**578-6-4**
Project Manager	**NSD**

SEISMIC PARAMETERS

Controlling Fault	**Hayward**	
Earthquake Magnitude (Mw)	**7.08**	
PGA (Amax)	**1.147**	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	**12**
Design Water Depth (feet)	**8**
Ave. Unit Weight Above GW (pcf)	**120**
Ave. Unit Weight Below GW (pcf)	**120**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 **FEET**

0.09 **(Inches)**

LIQUEFACTION SETTLEMENT FROM 50 **FEET**

0.90 **(Inches)**

TOTAL SEISMIC SETTLEMENT 1.0 **INCHES**

POTENTIAL LATERAL DISPLACEMENT

LDI[2] 0.41 **L/H** 66.0

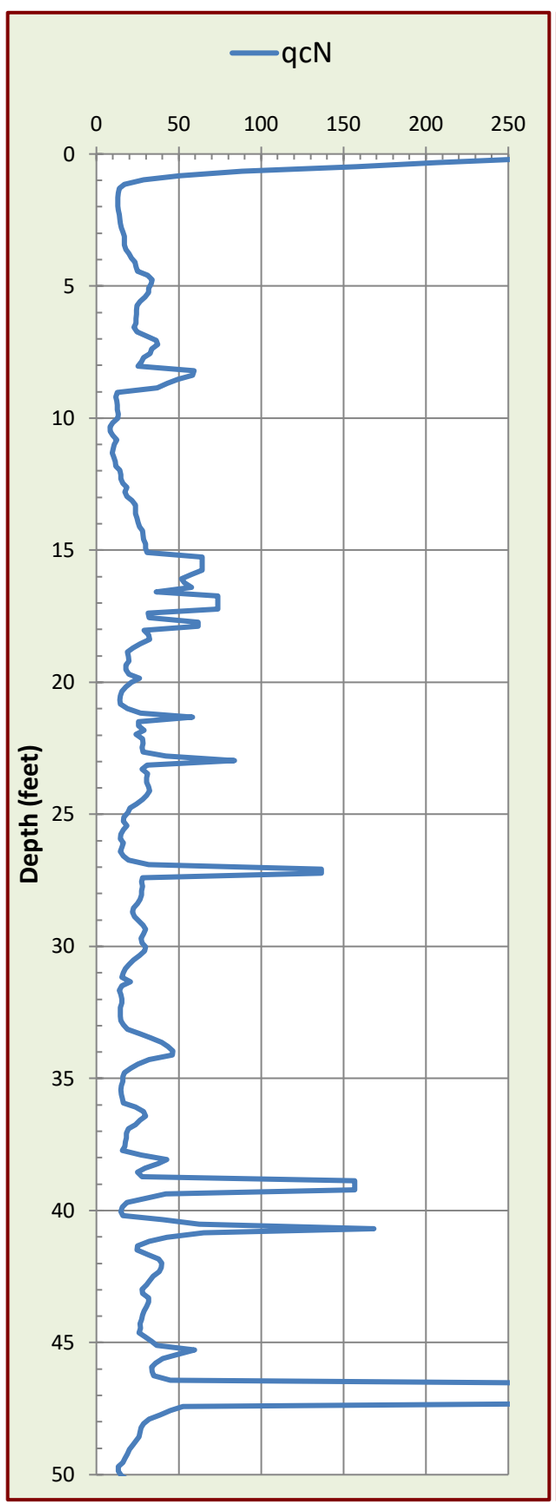
LDI[1] Corrected for Distance 0.09 (4 < L/H < 40)

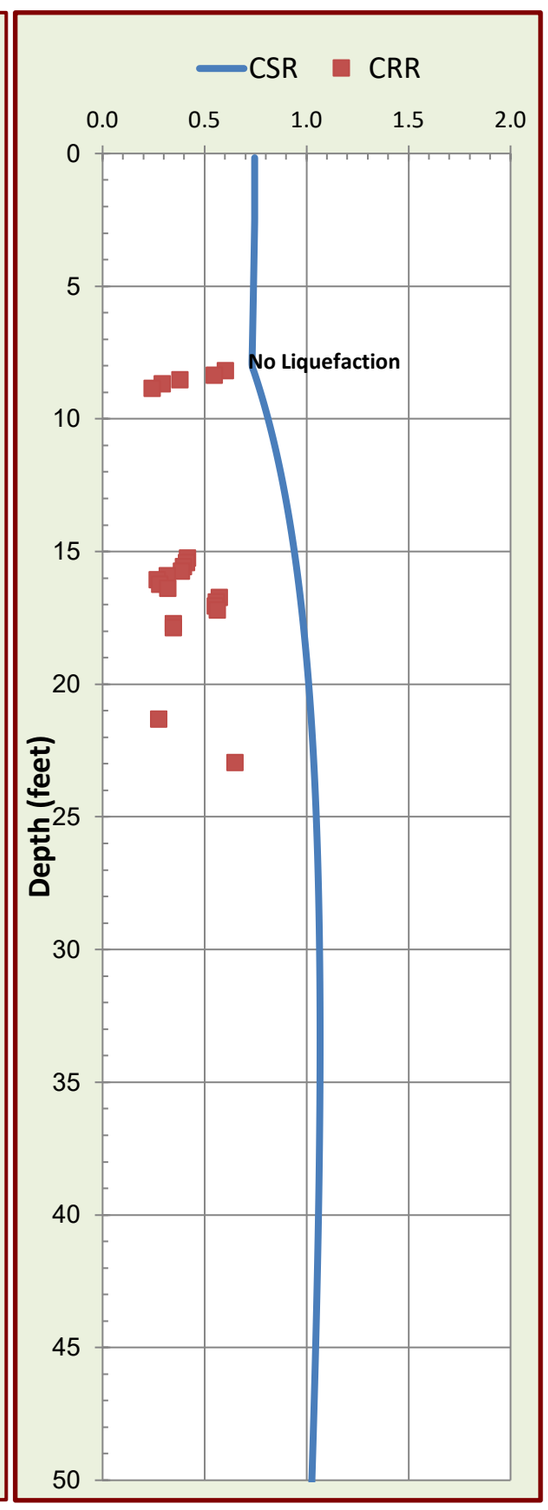
EXPECTED RANGE OF DISPLACEMENT

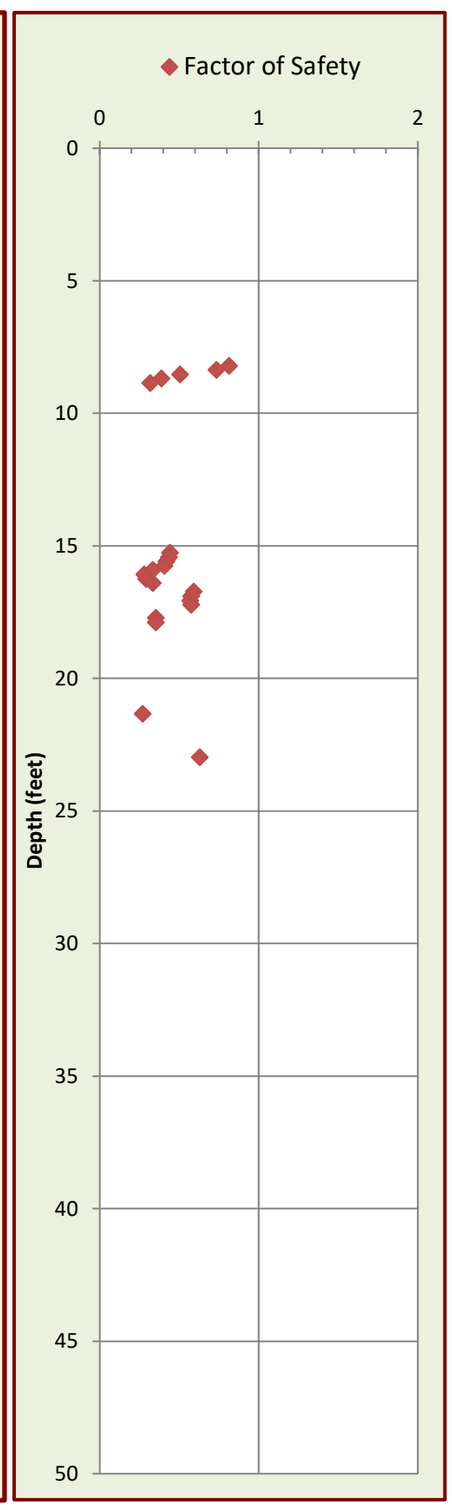
0.0 **to** **0.2** **feet**

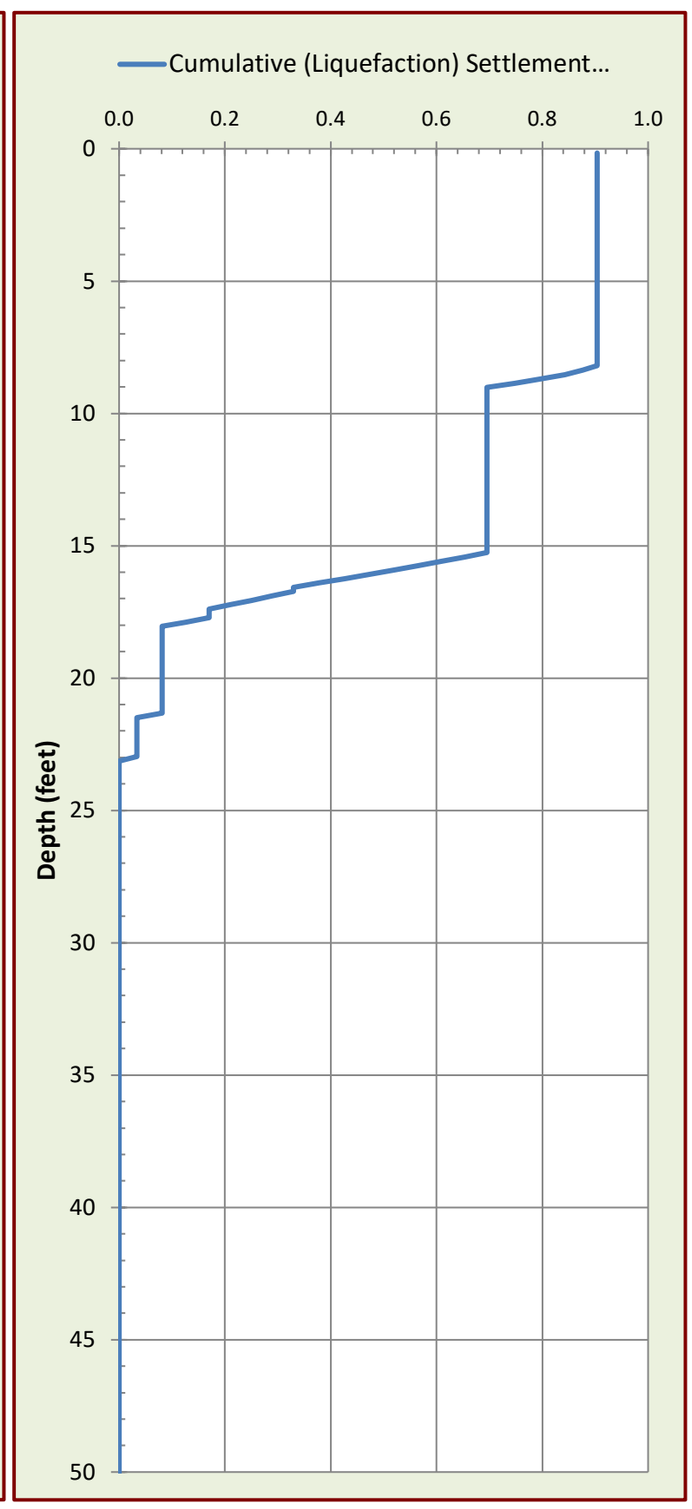
[1]Not Valid for L/H Values < 4 and > 40.

[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 9L

CPT NO. 12

PROJECT/CPT DATA

Project Title	**MHS Performing Arts & Gymnasium**
Project No.	**578-6-4**
Project Manager	**NSD**

SEISMIC PARAMETERS

Controlling Fault	**Hayward**	
Earthquake Magnitude (Mw)	**7.08**	
PGA (Amax)	**1.147**	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	**13**
Design Water Depth (feet)	**8**
Ave. Unit Weight Above GW (pcf)	**120**
Ave. Unit Weight Below GW (pcf)	**120**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 **FEET**

0.08 **(Inches)**

LIQUEFACTION SETTLEMENT FROM 50 **FEET**

0.75 **(Inches)**

TOTAL SEISMIC SETTLEMENT 0.8 **INCHES**

POTENTIAL LATERAL DISPLACEMENT

LDI[2] 0.38 **L/H** 61.2

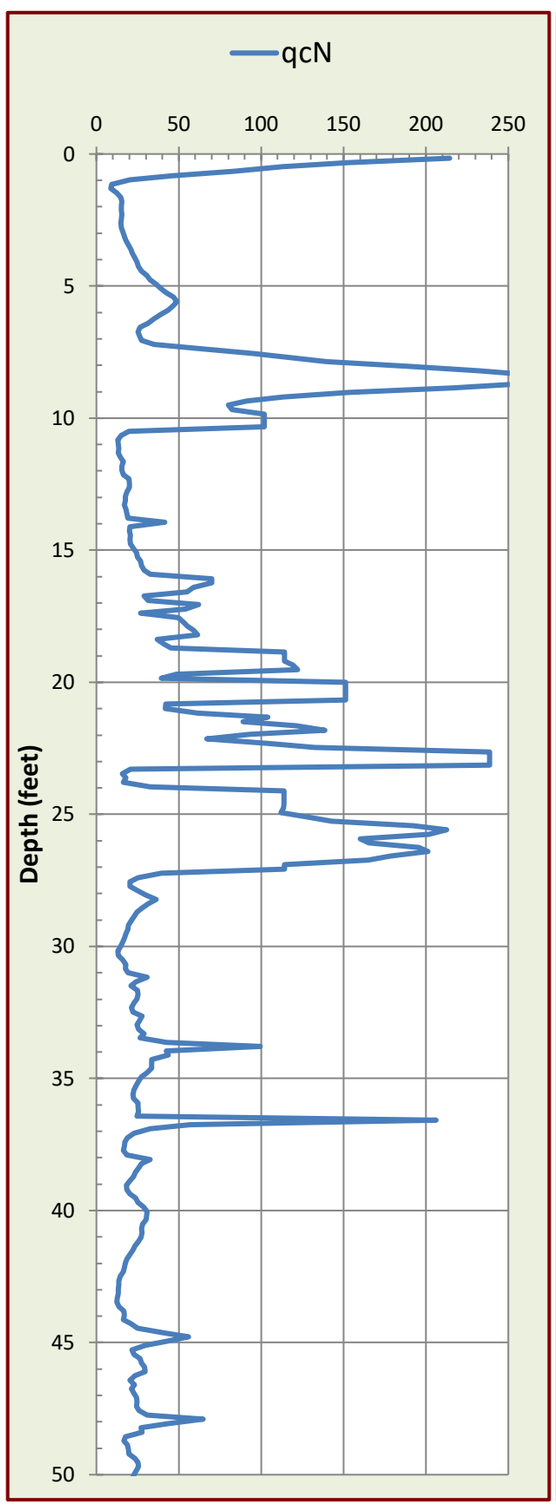
LDI[1]**Corrected for Distance** 0.09 (4 < L/H < 40)

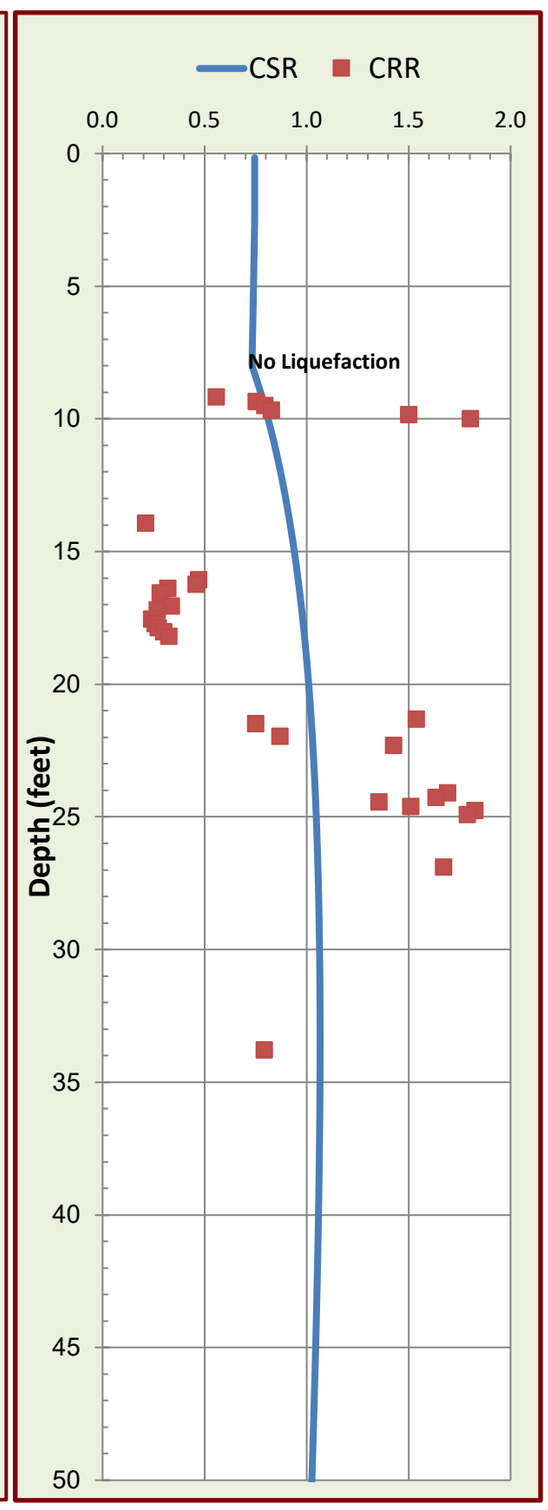
EXPECTED RANGE OF DISPLACEMENT

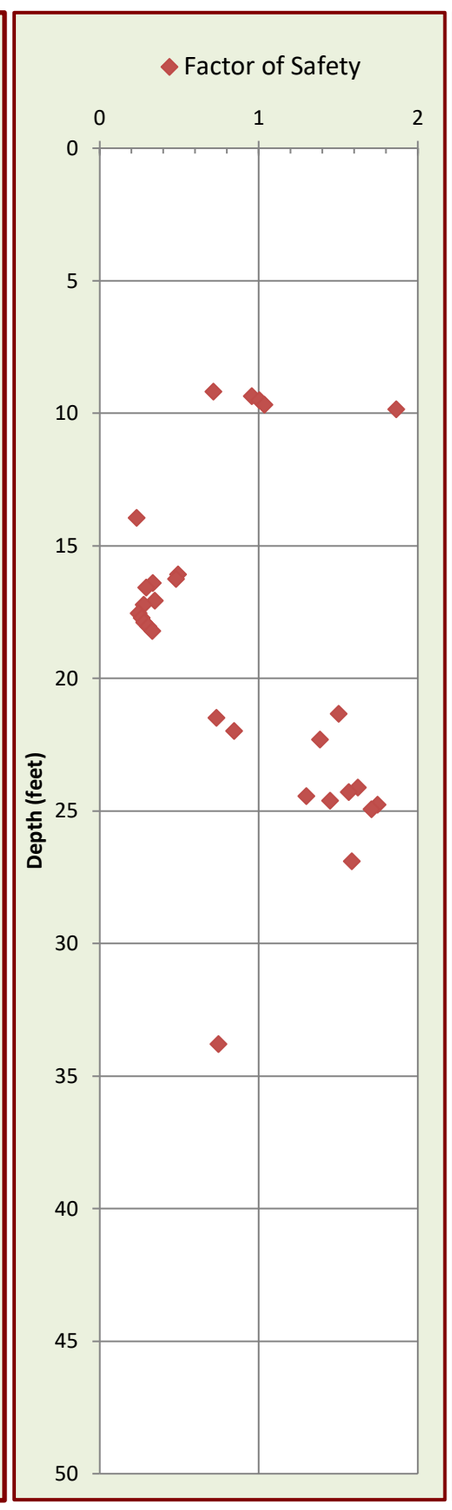
0.0 **to** **0.2** **feet**

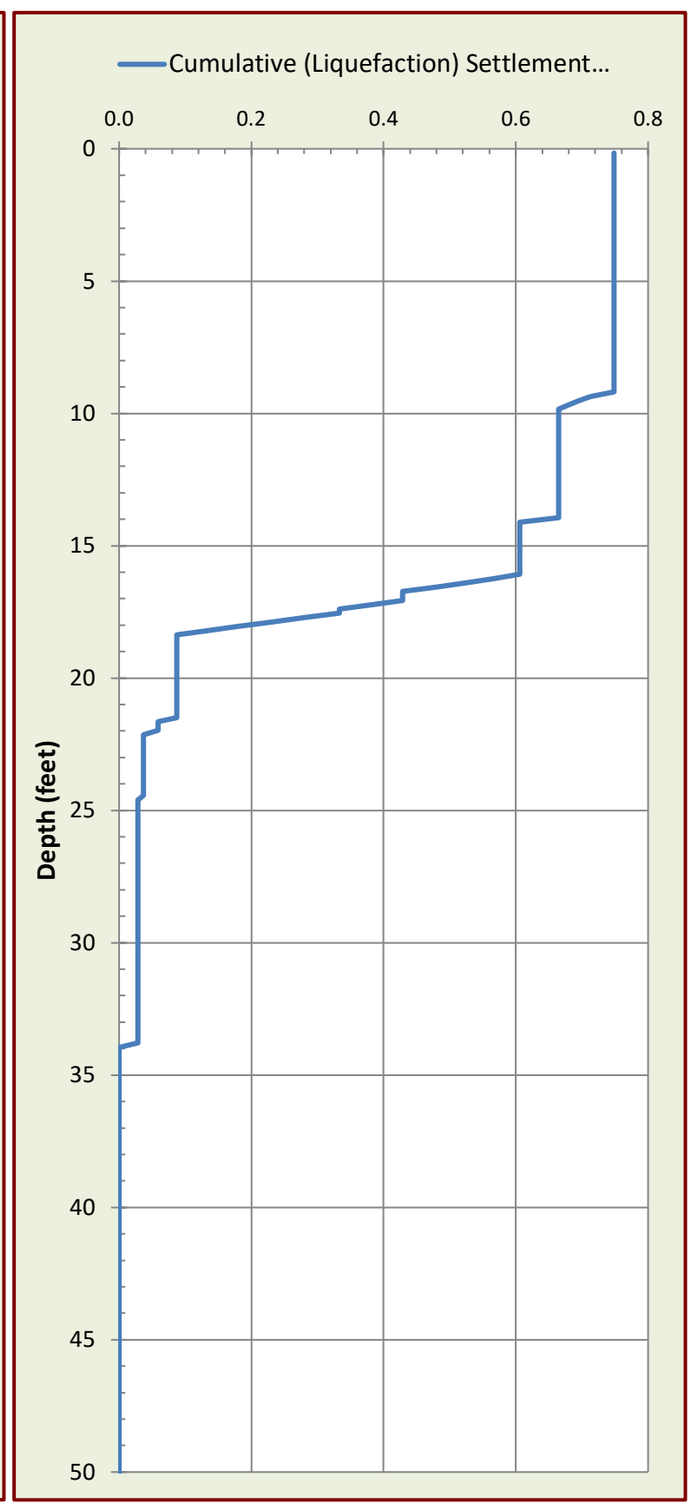
[1]Not Valid for L/H Values < 4 and > 40.

[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 9M

CPT NO. 13

PROJECT/CPT DATA

Project Title	**MHS Performing Arts & Gymnasium**
Project No.	**578-6-4**
Project Manager	**NSD**

SEISMIC PARAMETERS

Controlling Fault	**Hayward**	
Earthquake Magnitude (Mw)	**7.08**	
PGA (Amax)	**1.147**	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	**13**
Design Water Depth (feet)	**8**
Ave. Unit Weight Above GW (pcf)	**120**
Ave. Unit Weight Below GW (pcf)	**120**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 **FEET**

0.04 **(Inches)**

LIQUEFACTION SETTLEMENT FROM 50 **FEET**

1.11 **(Inches)**

TOTAL SEISMIC SETTLEMENT 1.1 **INCHES**

POTENTIAL LATERAL DISPLACEMENT

LDI[2] 0.43 **L/H** 70.7

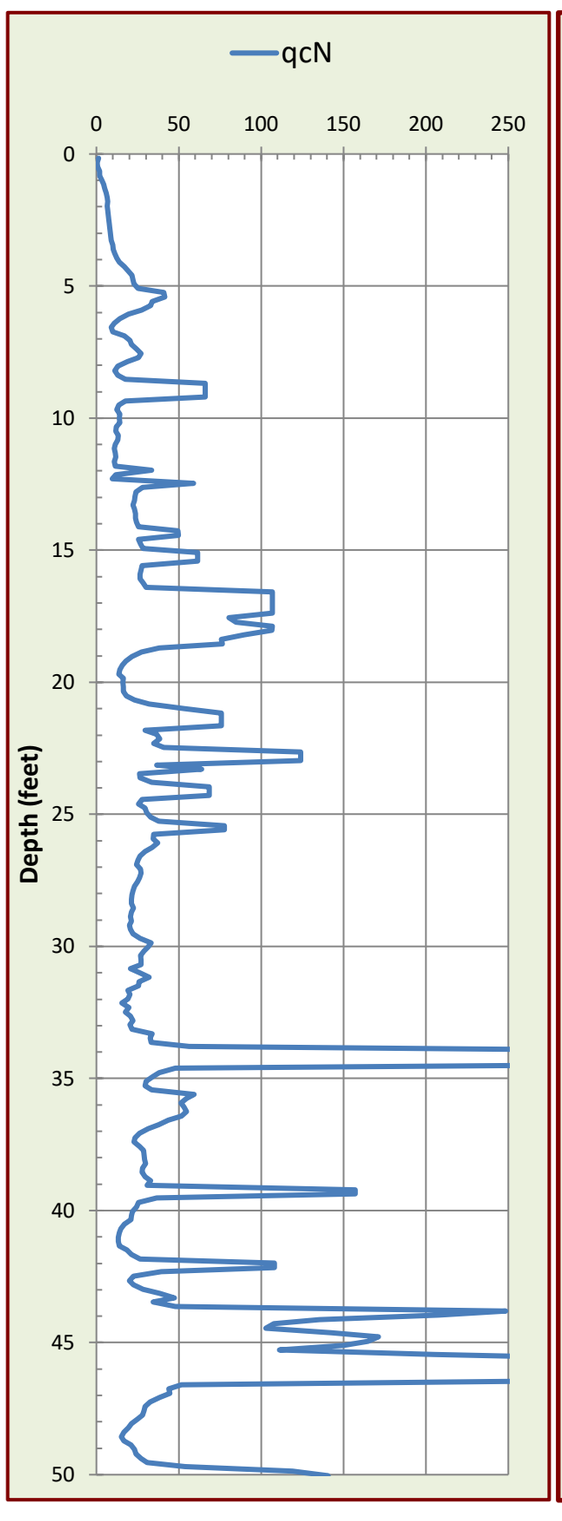
LDI[1] Corrected for Distance 0.08 (4 < L/H < 40)

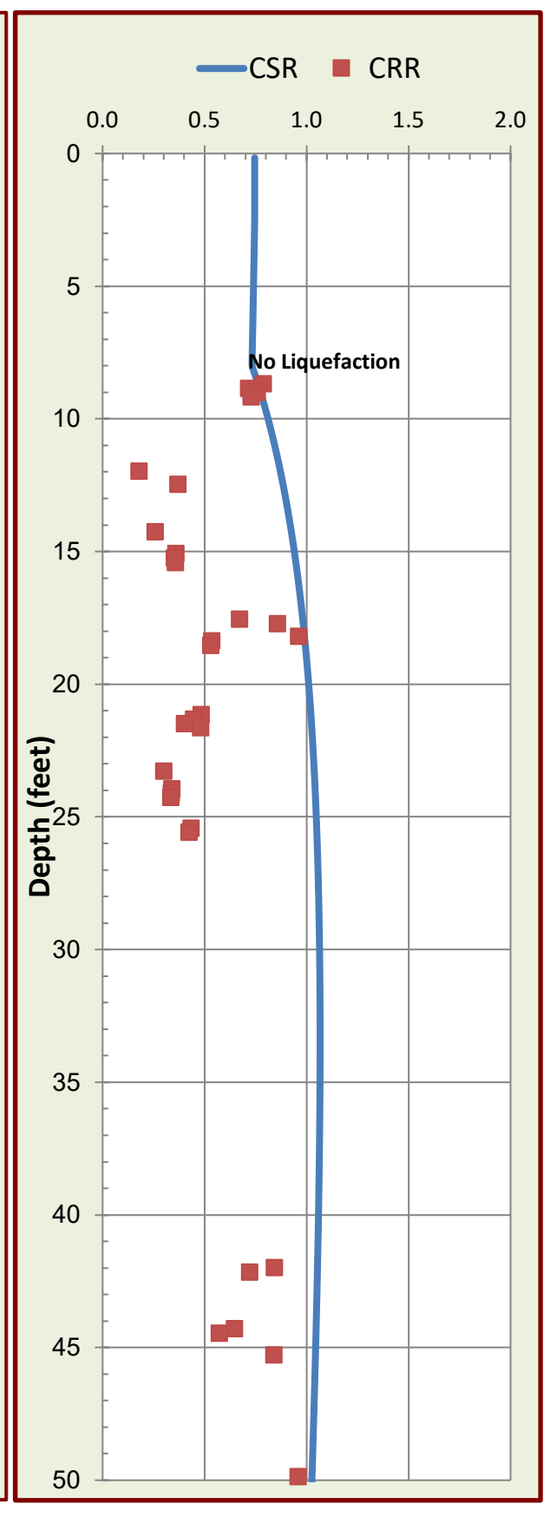
EXPECTED RANGE OF DISPLACEMENT

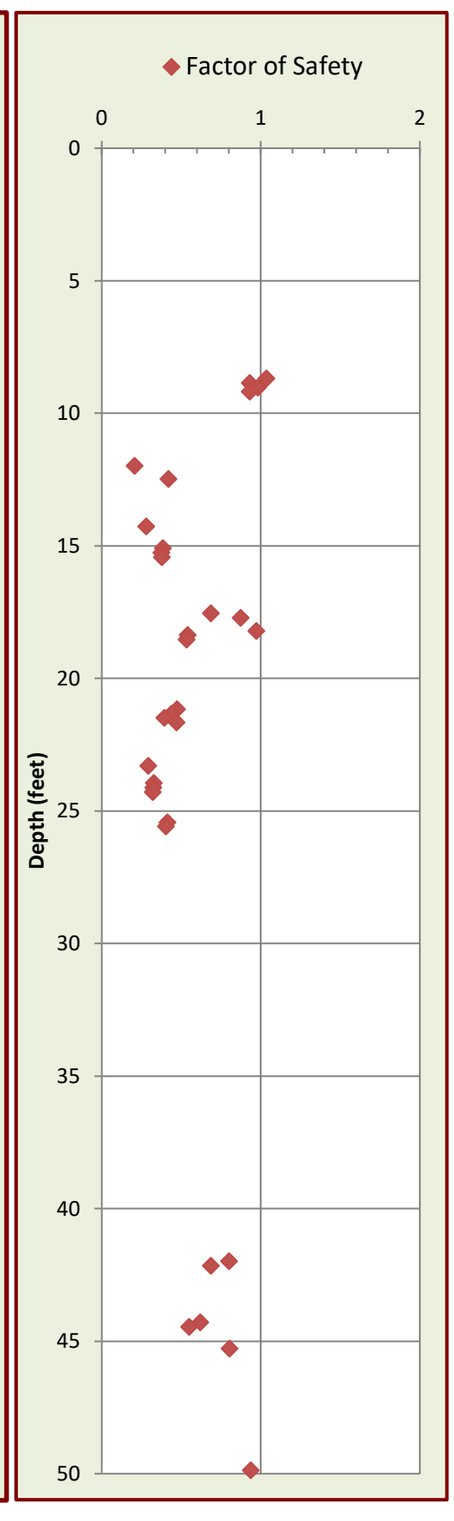
0.0 **to** **0.2** **feet**

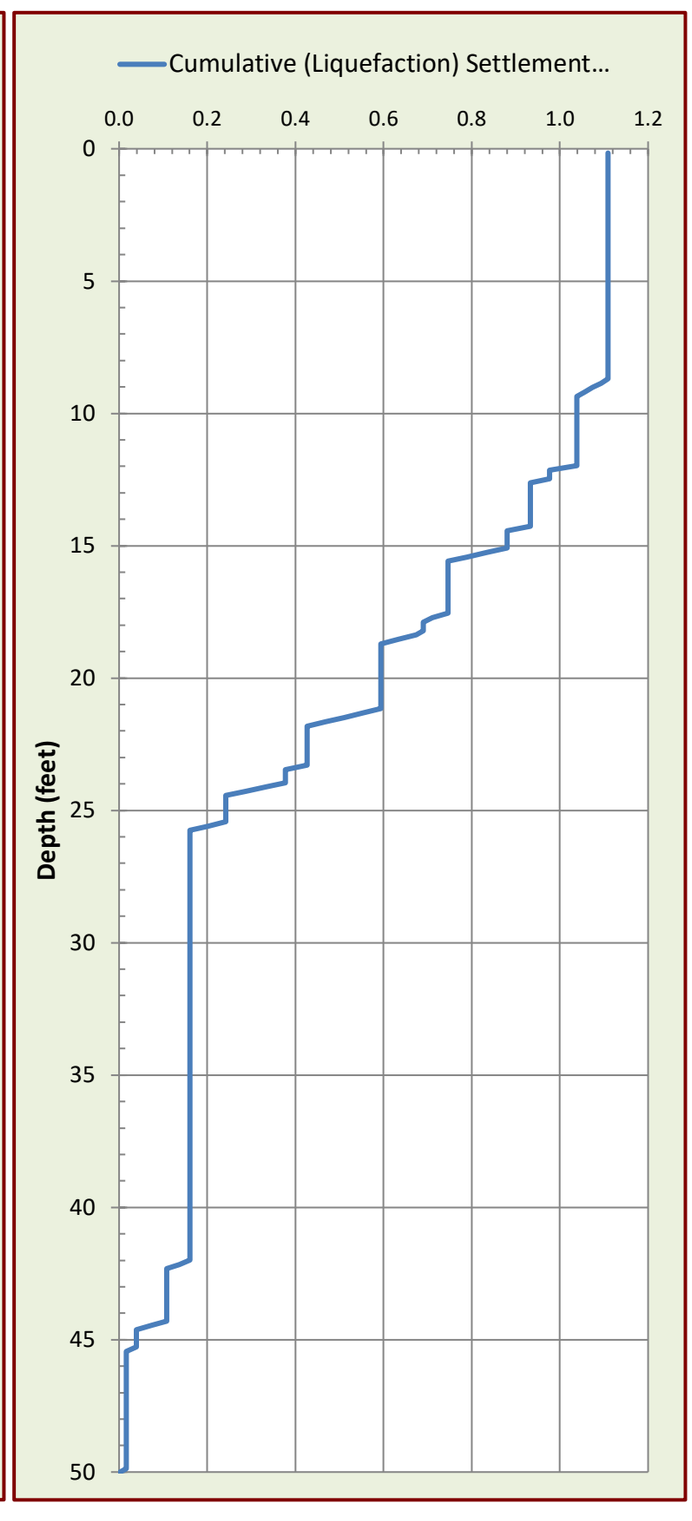
[1]Not Valid for L/H Values < 4 and > 40.

[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 9N

CPT NO. 14

PROJECT/CPT DATA

Project Title	**MHS Performing Arts & Gymnasium**
Project No.	**578-6-4**
Project Manager	**NSD**

SEISMIC PARAMETERS

Controlling Fault	**Hayward**	
Earthquake Magnitude (Mw)	**7.08**	
PGA (Amax)	**1.147**	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	**12**
Design Water Depth (feet)	**8**
Ave. Unit Weight Above GW (pcf)	**120**
Ave. Unit Weight Below GW (pcf)	**120**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 **FEET**

0.17 **(Inches)**

LIQUEFACTION SETTLEMENT FROM 50 **FEET**

0.85 **(Inches)**

TOTAL SEISMIC SETTLEMENT 1.0 **INCHES**

POTENTIAL LATERAL DISPLACEMENT

LDI[2] 0.47 **L/H** 61.1

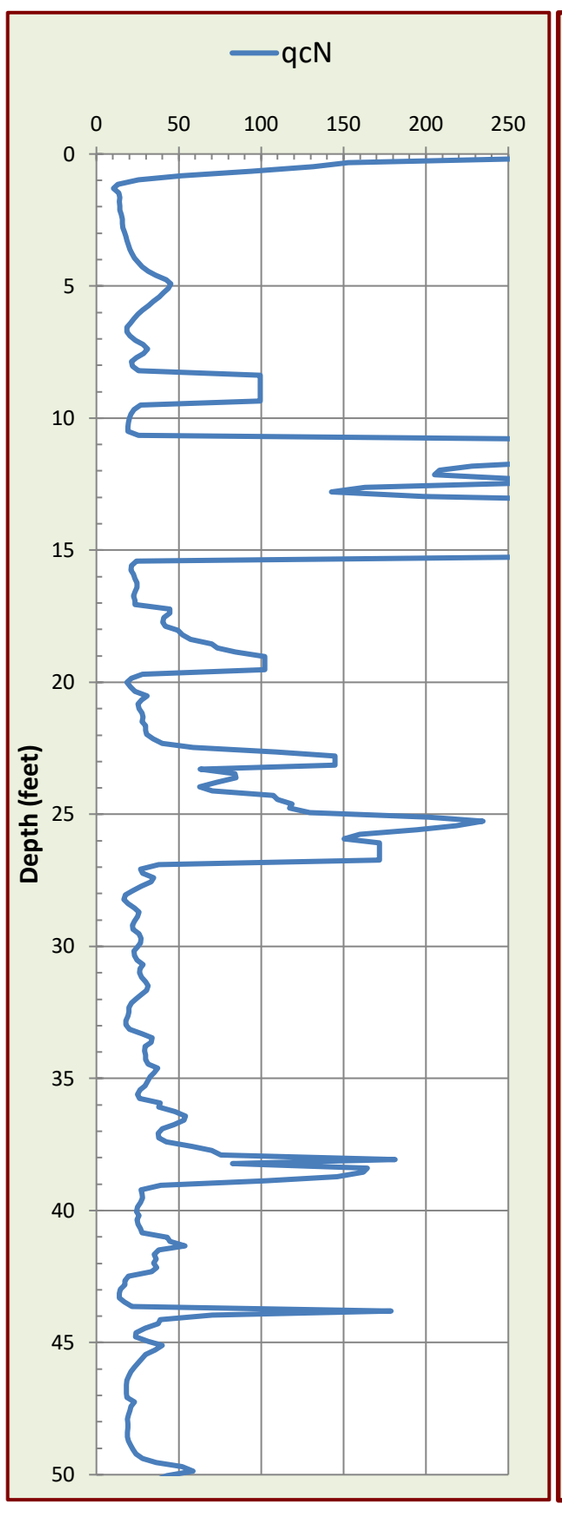
LDI[1] Corrected for Distance 0.10 (4 < L/H < 40)

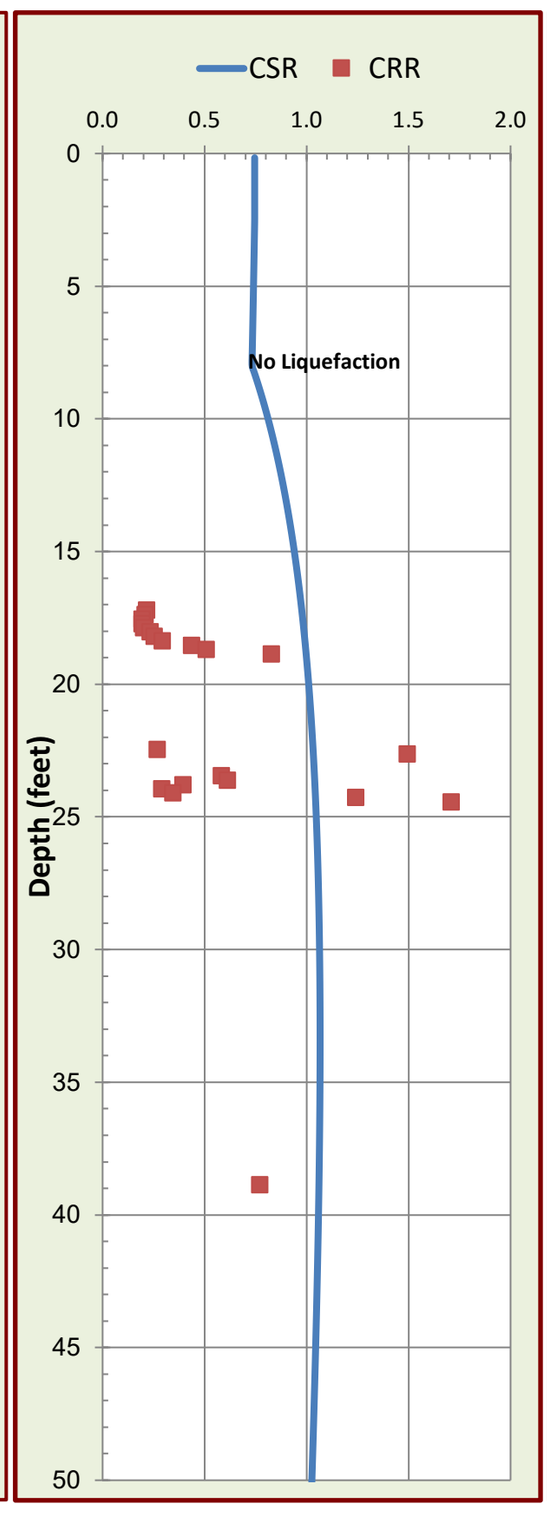
EXPECTED RANGE OF DISPLACEMENT

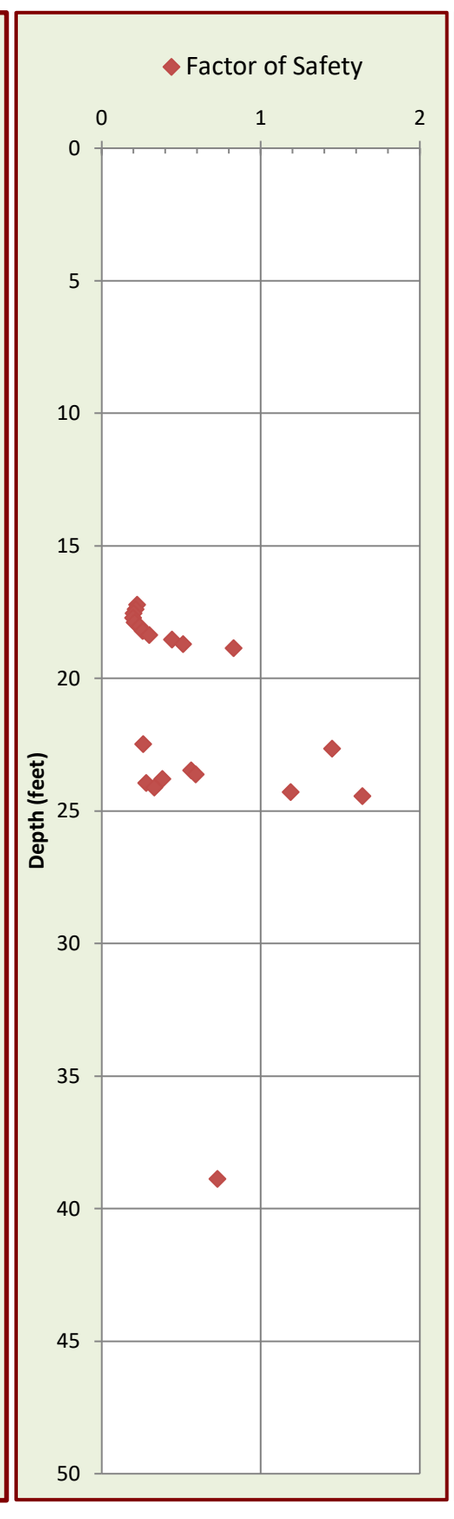
0.1 **to** **0.2** **feet**

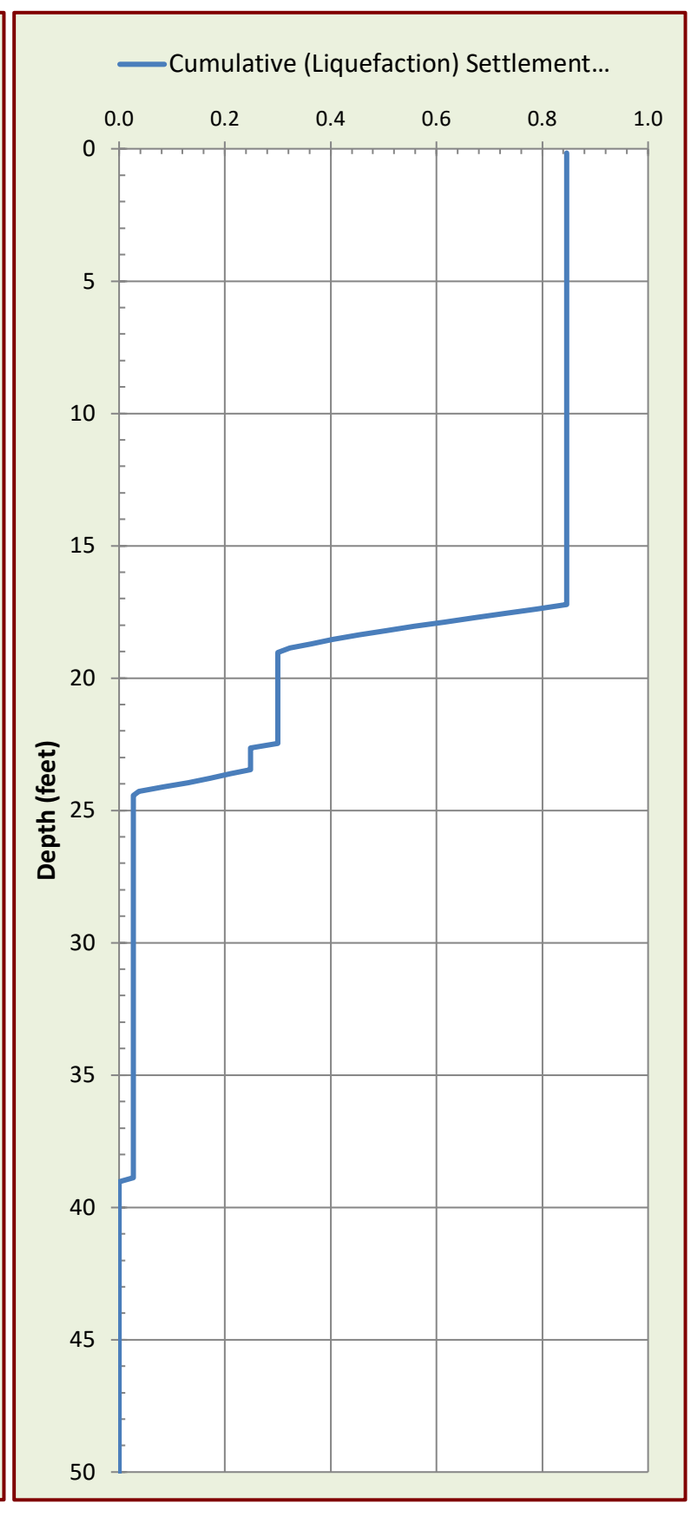
[1]Not Valid for L/H Values < 4 and > 40.

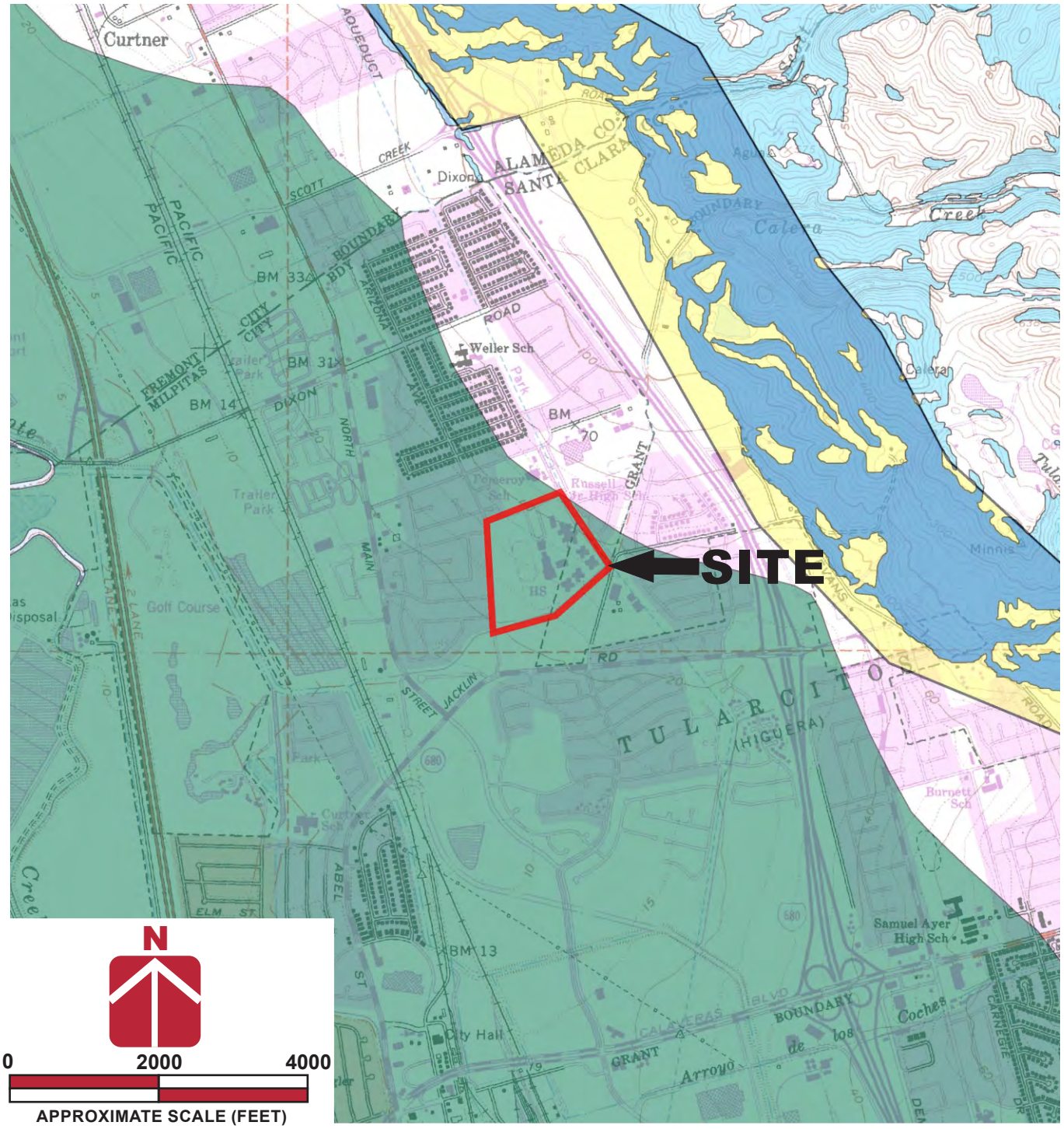
[2]LDI Values Only Summed to 2H Below Grade.











MAP EXPLANATION

EARTHQUAKE FAULT ZONES

Earthquake Fault Zones
Zone boundaries are delineated by straight-line segments; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.

SEISMIC HAZARD ZONES

Liquefaction Zones
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

OVERLAPPING EARTHQUAKE FAULT AND SEISMIC HAZARD ZONES

Overlap of Earthquake Fault Zone and Earthquake-Induced Landslide Zone
Areas that are covered by both Earthquake Fault Zone and Earthquake-Induced Landslide Zone.

Earthquake-Induced Landslide Zones
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

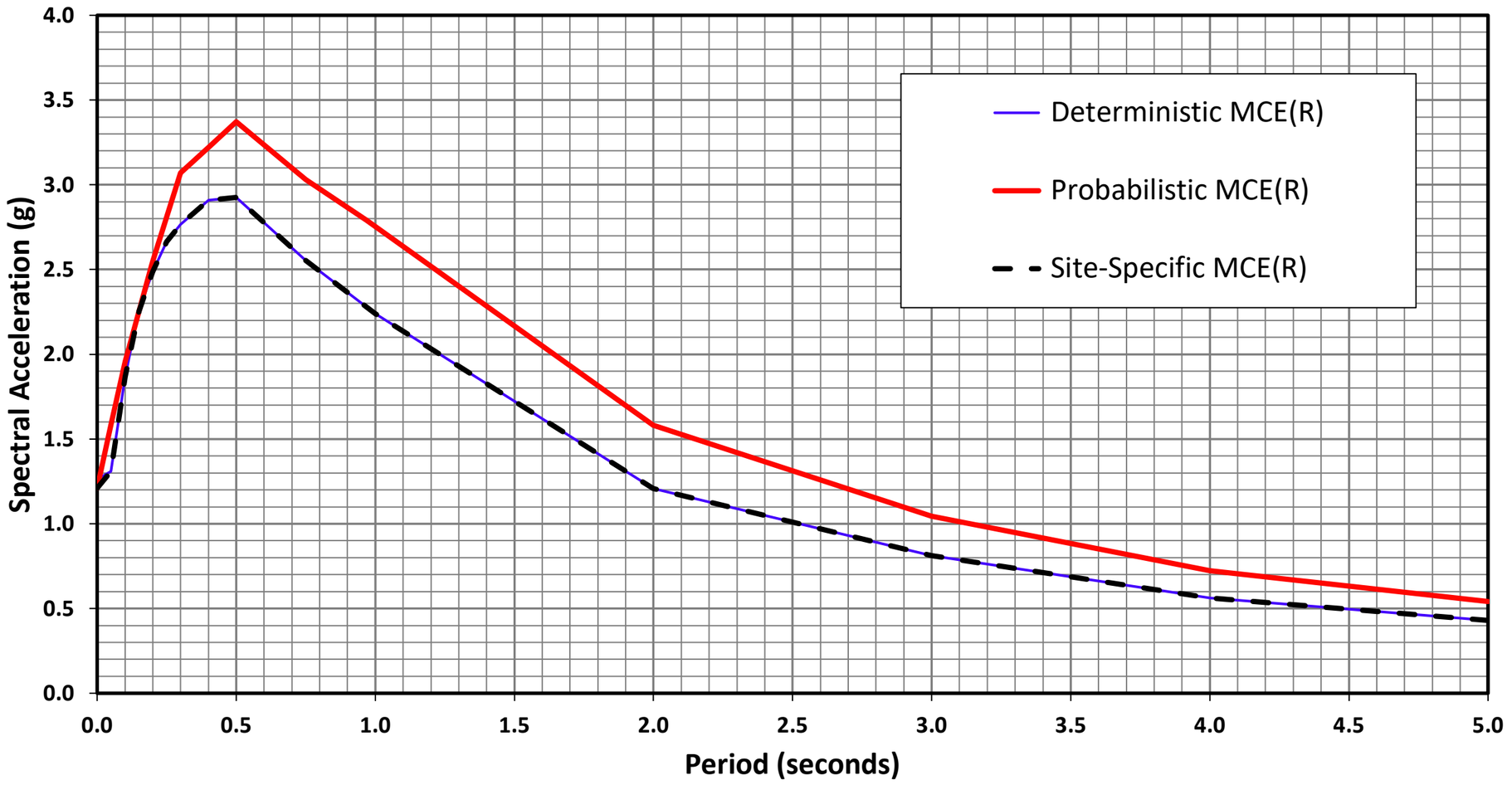
Base: USGS, State of California Seismic Hazard Zones, Milpitas 7.5-Minute Quadrangle, Santa Clara and Alameda Counties, California, Released: October 19, 2004

CORNERSTONE EARTH GROUP

Seismic Hazard Map

Milpitas High School - Performing Arts Center, Gymnasium, & Fitness Center
1285 Escuela Parkway
Milpitas, CA

Project Number	578-6-1
Figure Number	Figure 10
Date	July 2020
Drawn By	RRN



The Site-Specific Maximum Considered Earthquake (MCE_R) is defined as the lesser of the following at all periods:

- Deterministic MCE_R – maximum 84th percentile deterministic, or
- Probabilistic MCE_R – defined as the 2,475–year ground motion.

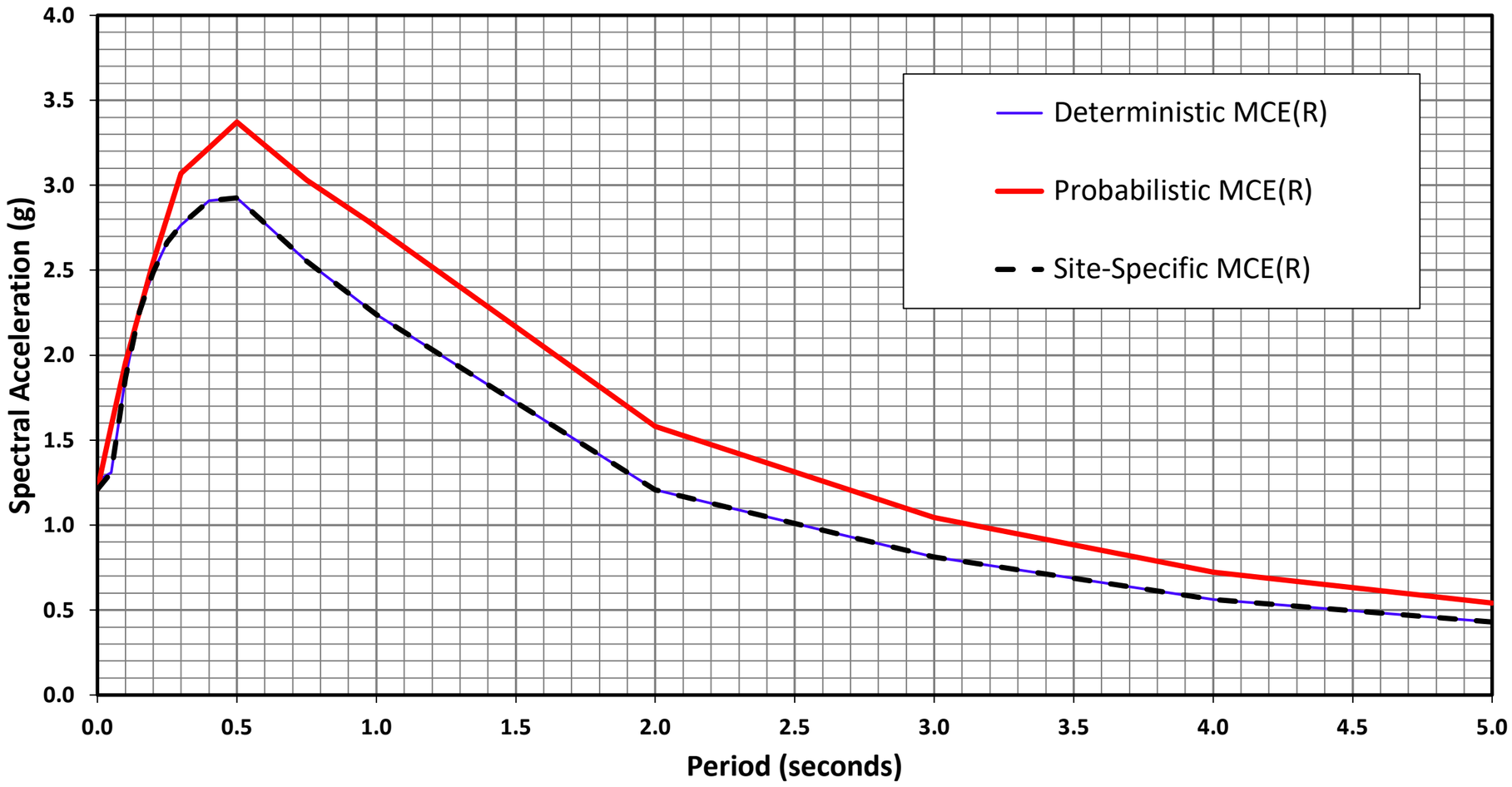
Site-Specific MCE_R	
Period (Seconds)	Spectral Acceleration (g)
0.00	1.211
0.05	1.310
0.10	1.868
0.15	2.254
0.19	2.462
0.20	2.489
0.25	2.665
0.30	2.767
0.40	2.909
0.50	2.925
0.75	2.554
0.97	2.279
1.00	2.239
2.00	1.207
3.00	0.812
4.00	0.562
5.00	0.430

References:

ASCE/SEI 7-16: Minimum Design Loads and Associated Criteria for Buildings and Other Strutures with Supplement No. 1.
2019 California Building Code, Title 24, Part 2, Volume 2

CORNERSTONE EARTH GROUP

MCE_R RESPONSE SPECTRA	FIGURE 11
Milpitas High School 1385 Esc Stanford, CA	PROJECT NO. 578-6-1
	May 28, 2020 | NSD



The Site-Specific Maximum Considered Earthquake (MCE_R) is defined as the lesser of the following at all periods:

- Deterministic MCE_R – maximum 84th percentile deterministic, or
- Probabilistic MCE_R – defined as the 2,475–year ground motion.

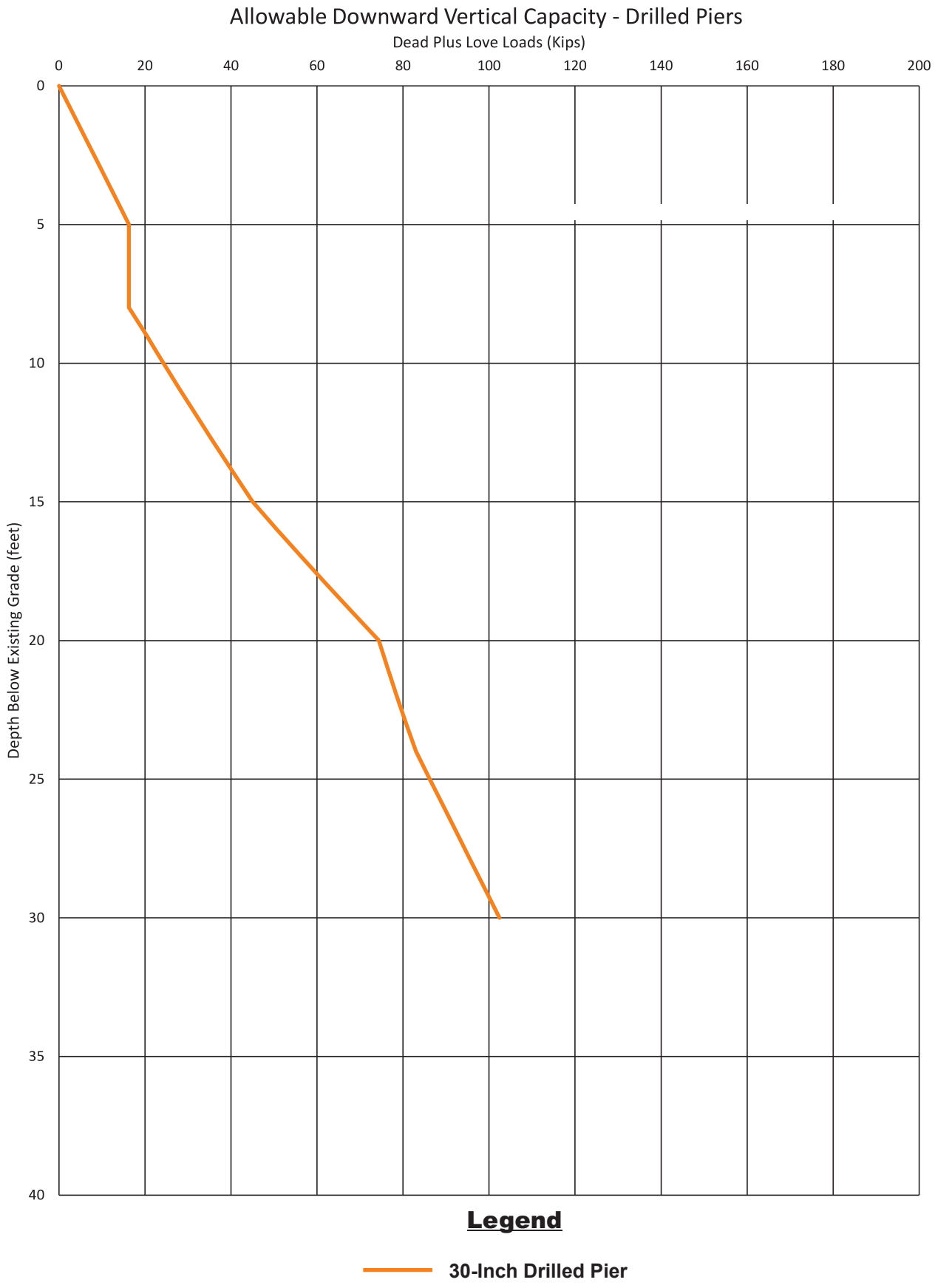
Site-Specific MCE_R	
Period (Seconds)	Spectral Acceleration (g)
0.00	1.211
0.05	1.310
0.10	1.868
0.15	2.254
0.19	2.462
0.20	2.489
0.25	2.665
0.30	2.767
0.40	2.909
0.50	2.925
0.75	2.554
0.97	2.279
1.00	2.239
2.00	1.207
3.00	0.812
4.00	0.562
5.00	0.430

References:

ASCE/SEI 7-16: Minimum Design Loads and Associated Criteria for Buildings and Other Strutures with Supplement No. 1.
2019 California Building Code, Title 24, Part 2, Volume 2

CORNERSTONE EARTH GROUP

MCE_R RESPONSE SPECTRA	FIGURE 12
Milpitas High School 1385 Esc Stanford, CA	PROJECT NO. 578-6-1
	May 28, 2020 | NSD



CORNERSTONE EARTH GROUP

Vertical Pile Capacity

Milpitas High School – Performing Arts Center, Gymnasium, Fitness Center, and Solar-Parking Canopies
1285 Escuela Parkway
Milpitas, CA

Project Number	578-6-4
Figure Number	Figure 13
Date	June 2021
Drawn By	RRN

APPENDIX A: FIELD INVESTIGATION

The field investigation consisted of a surface reconnaissance and a subsurface exploration program using track-mounted, hollow-stem, auger drilling equipment and 20-ton truck-mounted Cone Penetration Test equipment. Six 6.5-inch-diameter exploratory borings were drilled on May 19, 28, and 29, 2020 to depths of 20 to 40 feet and two 8-inch-diameter exploratory borings were drilled on April 29, 2021 to depths of 30 to 40 feet. 14 CPT soundings were also performed in accordance with ASTM D 5778-95 (revised, 2002) on May 26 and 27, 2020 and April 28, 2021 to depths ranging from 50½ to 101¾ feet. In addition, three relatively shallow test pits were excavated on May 20, 2021 to depths of 4¼ to 4¾ feet. The approximate locations of exploratory borings, CPTs, and test pits are shown on the Site Plan and Geologic Map, Figure 2. The soils encountered were continuously logged in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D2488). Boring, CPT, and test pit logs, as well as a key to the classification of the soil, are included as part of this appendix.

Boring, CPT, and test pit locations were approximated using existing site boundaries and other site features as references. Boring, CPT, and test pit elevations were based on interpolation of plan contours. The locations and elevations of the borings, CPTs, and test pits should be considered accurate only to the degree implied by the method used.

Representative soil samples were obtained from the borings and test pits at selected depths. All samples were returned to our laboratory for evaluation and appropriate testing. The standard penetration resistance blow counts were obtained by dropping a 140-pound hammer through a 30-inch free fall. The 2-inch O.D. split-spoon sampler was driven 18 inches and the number of blows was recorded for each 6 inches of penetration (ASTM D1586). 2.5-inch I.D. samples were obtained using a Modified California Sampler driven into the soil with the 140-pound hammer previously described. Relatively undisturbed samples were also obtained with 2.875-inch I.D. Shelby Tube sampler which were hydraulically pushed. Unless otherwise indicated, the blows per foot recorded on the boring log represent the accumulated number of blows required to drive the last 12 inches. The various samplers are denoted at the appropriate depth on the boring logs.

The CPT involved advancing an instrumented cone-tipped probe into the ground while simultaneously recording the resistance at the cone tip (q_c) and along the friction sleeve (f_s) at approximately 5-centimeter intervals. Based on the tip resistance and tip to sleeve ratio (R_f), the CPT classified the soil behavior type and estimated engineering properties of the soil, such as equivalent Standard Penetration Test (SPT) blow count, internal friction angle within sand layers, and undrained shear strength in silts and clays. A pressure transducer behind the tip of the CPT cone measured pore water pressure (u_2). Graphical logs of the CPT data is included as part of this appendix.

Field tests included an evaluation of the unconfined compressive strength of the soil samples using a pocket penetrometer device. The results of these tests are presented on the individual boring logs at the appropriate sample depths.

Attached boring, CPT, and test pit logs and related information depict subsurface conditions at the locations indicated and on the date designated on the logs. Subsurface conditions at other locations may differ from conditions occurring at these boring and CPT locations. The passage of time may result in altered subsurface conditions due to environmental changes. In addition, any stratification lines on the logs represent the approximate boundary between soil types and the transition may be gradual.

UNIFIED SOIL CLASSIFICATION (ASTM D-2487-10)

MATERIAL TYPES	CRITERIA FOR ASSIGNING SOIL GROUP NAMES			GROUP SYMBOL	SOIL GROUP NAMES & LEGEND
COARSE-GRAINED SOILS >50% RETAINED ON NO. 200 SIEVE	GRAVELS >50% OF COARSE FRACTION RETAINED ON NO 4. SIEVE	CLEAN GRAVELS <5% FINES	Cu>4 AND 1<Cc<3	GW	WELL-GRADED GRAVEL
			Cu>4 AND 1>Cc>3	GP	POORLY-GRADED GRAVEL
		GRAVELS WITH FINES >12% FINES	FINES CLASSIFY AS ML OR CL	GM	SILTY GRAVEL
			FINES CLASSIFY AS CL OR CH	GC	CLAYEY GRAVEL
	SANDS >50% OF COARSE FRACTION PASSES ON NO 4. SIEVE	CLEAN SANDS <5% FINES	Cu>6 AND 1<Cc<3	SW	WELL-GRADED SAND
			Cu>6 AND 1>Cc>3	SP	POORLY-GRADED SAND
		SANDS AND FINES >12% FINES	FINES CLASSIFY AS ML OR CL	SM	SILTY SAND
			FINES CLASSIFY AS CL OR CH	SC	CLAYEY SAND
FINE-GRAINED SOILS >50% PASSES NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT<50	INORGANIC	PI>7 AND PLOTS>"A" LINE	CL	LEAN CLAY
			PI>4 AND PLOTS<"A" LINE	ML	SILT
		ORGANIC	LL (oven dried)/LL (not dried)<0.75	OL	ORGANIC CLAY OR SILT
	SILTS AND CLAYS LIQUID LIMIT>50	INORGANIC	PI PLOTS >"A" LINE	CH	FAT CLAY
			PI PLOTS <"A" LINE	MH	ELASTIC SILT
		ORGANIC	LL (oven dried)/LL (not dried)<0.75	OH	ORGANIC CLAY OR SILT
HIGHLY ORGANIC SOILS		PRIMARILY ORGANIC MATTER, DARK IN COLOR, AND ORGANIC ODOR		PT	PEAT

OTHER MATERIAL SYMBOLS

- Poorly-Graded Sand with Clay
- Clayey Sand
- Sandy Silt
- Artificial/Undocumented Fill
- Poorly-Graded Gravelly Sand
- Topsoil
- Well-Graded Gravel with Clay
- Well-Graded Gravel with Silt
- Sand
- Silt
- Well Graded Gravelly Sand
- Gravelly Silt
- Asphalt
- Boulders and Cobble

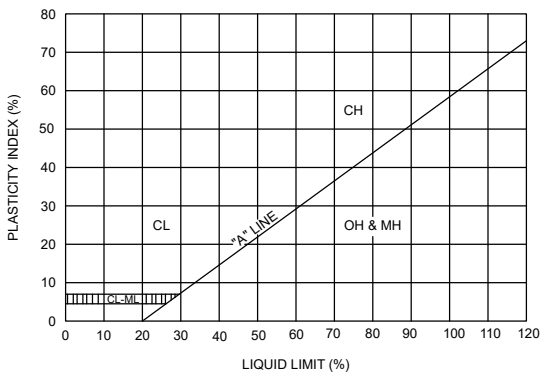
SAMPLER TYPES

- SPT
- Modified California (2.5" I.D.)
- Rock Core
- Shelby Tube
- No Recovery
- Grab Sample

ADDITIONAL TESTS

CA	-	CHEMICAL ANALYSIS (CORROSIVITY)	PI	-	PLASTICITY INDEX
CD	-	CONSOLIDATED DRAINED TRIAXIAL	SW	-	SWELL TEST
CN	-	CONSOLIDATION	TC	-	CYCLIC TRIAXIAL
CU	-	CONSOLIDATED UNDRAINED TRIAXIAL	TV	-	TORVANE SHEAR
DS	-	DIRECT SHEAR	UC	-	UNCONFINED COMPRESSION
PP	-	POCKET PENETROMETER (TSF)	(1.5)	-	(WITH SHEAR STRENGTH IN KSF)
(3.0)	-	(WITH SHEAR STRENGTH IN KSF)			
RV	-	R-VALUE	UU	-	UNCONSOLIDATED UNDRAINED TRIAXIAL
SA	-	SIEVE ANALYSIS: % PASSING #200 SIEVE			
▼	-	WATER LEVEL			

PLASTICITY CHART



PENETRATION RESISTANCE
(RECORDED AS BLOWS / FOOT)

SAND & GRAVEL		SILT & CLAY		
RELATIVE DENSITY	BLOWS/FOOT*	CONSISTENCY	BLOWS/FOOT*	STRENGTH** (KSF)
VERY LOOSE	0 - 4	VERY SOFT	0 - 2	0 - 0.25
LOOSE	4 - 10	SOFT	2 - 4	0.25 - 0.5
MEDIUM DENSE	10 - 30	MEDIUM STIFF	4 - 8	0.5-1.0
DENSE	30 - 50	STIFF	8 - 15	1.0 - 2.0
VERY DENSE	OVER 50	VERY STIFF	15 - 30	2.0 - 4.0
		HARD	OVER 30	OVER 4.0

* NUMBER OF BLOWS OF 140 LB HAMMER FALLING 30 INCHES TO DRIVE A 2 INCH O.D. (1-3/8 INCH I.D.) SPLIT-BARREL SAMPLER THE LAST 12 INCHES OF AN 18-INCH DRIVE (ASTM-1586 STANDARD PENETRATION TEST).

** UNDRAINED SHEAR STRENGTH IN KIPS/SQ. FT. AS DETERMINED BY LABORATORY TESTING OR APPROXIMATED BY THE STANDARD PENETRATION TEST, POCKET PENETROMETER, TORVANE, OR VISUAL OBSERVATION.

CORNERSTONE EARTH GROUP

LEGEND TO SOIL DESCRIPTIONS

Figure Number A-1

BORING NUMBER EB-1

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Performing Arts Ctr, Gym, & Fitness Ctr
PROJECT NUMBER 578-6-1
PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

DATE STARTED 5/19/20 **DATE COMPLETED** 5/19/20
GROUND ELEVATION 37 FT +/- **BORING DEPTH** 21.5 ft.
DRILLING CONTRACTOR Cuesta Geo **LATITUDE** 37.451808° **LONGITUDE** -121.903930°
DRILLING METHOD MPP Track Rig, 6½ inch HSA, Auto-Hammer **GROUND WATER LEVELS:**
LOGGED BY DL ▽ **AT TIME OF DRILLING** 18 ft.
NOTES Solar Shade Structures ▼ **AT END OF DRILLING** 14 ft.

This log is a part of a report by Cornerstone Earth Group, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE
37.0	0	3¾ inches asphalt concrete over 2 inches aggregate base						
36.8								
36.5		**Lean Clay (CL) [Qhf]** stiff, moist, dark brown, some fine sand, moderate plasticity	11	MC-1B	101	19		
			18	MC-2B	108	16		
32.5	5	**Clayey Sand with Gravel (SC) [Qhf]** medium dense, moist, brown, fine to coarse sand, fine subangular to subrounded gravel	24	MC-3B	110	9		
29.0		**Sandy Lean Clay (CL) [Qhf]** stiff, moist, brown with light brown mottles, fine to coarse sand, some fine subangular to subrounded gravel, low plasticity	13	MC-4B	109	15		
	10							
		becomes very stiff	14	MC-5C	116	14		
	15							
20.0		**Clayey Sand with Gravel (SC) [Qhf]** medium dense, moist, brown, fine to coarse sand, fine subangular to subrounded gravel	43	MC-6B	126	12		
	20							
16.0			10	SPT-7B		18		53
15.5		**Sandy Lean Clay (CL) [Qhf]** very stiff, moist, brown, fine sand, low plasticity						
		Bottom of Boring at 21.5 feet.						

UNDRAINED SHEAR STRENGTH, ksf
○ HAND PENETROMETER
△ TORVANE
● UNCONFINED COMPRESSION
▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL
1.0 2.0 3.0 4.0

BORING NUMBER EB-2

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Performing Arts Ctr, Gym, & Fitness Ctr
PROJECT NUMBER 578-6-1
PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

DATE STARTED 5/19/20 **DATE COMPLETED** 5/19/20
GROUND ELEVATION 40.3 FT +/- **BORING DEPTH** 20 ft.
DRILLING CONTRACTOR Cuesta Geo **LATITUDE** 37.452189° **LONGITUDE** -121.903224°
DRILLING METHOD MPP Track Rig, 6½ inch HSA, Auto-Hammer **GROUND WATER LEVELS:**
LOGGED BY DL ▽ **AT TIME OF DRILLING** 18 ft.
NOTES Solar Shade Structures ▼ **AT END OF DRILLING** 16 ft.

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ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE
40.3	0	2½ inches asphalt concrete over 6 inches aggregate base						
40.1								
39.6		**Lean Clay (CL) [Qhf]** very stiff, moist, dark brown, some fine sand, moderate plasticity	13	MC-1	102	17		
37.8		**Lean Clay with Sand (CL) [Qhf]** very stiff, moist, brown to light brown, fine sand, moderate plasticity	19	MC-2B	112	14		
	5		20	MC-3B	114	13		
32.3		**Sandy Lean Clay (CL) [Qhf]** very stiff, moist, brown, fine sand, low plasticity	14	MC-4B	110	15		
	10							
27.8		**Lean Clay with Sand (CL) [Qhf]** stiff, moist, brown to light brown, fine sand, moderate plasticity	16	MC-5B	112	16		
	15							
23.3		**Sandy Lean Clay (CL) [Qhf]** very stiff, moist, brown, fine to coarse sand, some fine subangular to subrounded gravel, low plasticity	23	MC-6B	119	14		
20.3	20	Bottom of Boring at 20.0 feet.						

UNDRAINED SHEAR STRENGTH, ksf
○ HAND PENETROMETER
△ TORVANE
● UNCONFINED COMPRESSION
▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL
1.0 2.0 3.0 4.0

BORING NUMBER EB-3

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Performing Arts Ctr, Gym, & Fitness Ctr
PROJECT NUMBER 578-6-1
PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

DATE STARTED 5/29/20 **DATE COMPLETED** 5/29/20
GROUND ELEVATION 44 FT +/- **BORING DEPTH** 40 ft.
DRILLING CONTRACTOR Cuesta Geo **LATITUDE** 37.452464° **LONGITUDE** -121.902230°
DRILLING METHOD MPP Track Rig, 6½ inch HSA, Auto-Hammer **GROUND WATER LEVELS:**
LOGGED BY JLC **AT TIME OF DRILLING** 18.5 ft.
NOTES Performing Arts Center **AT END OF DRILLING** 18 ft.

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ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
44.0	0	6 inches asphalt concrete over 3 inches aggragete base							
43.5									
43.3		**Lean Clay (CL) [Qhf]** hard, moist, dark brown, some fine sand, moderate plasticity Liquid Limit = 35, Plastic Limit = 14	18	MC-1B	117	15	21		>4.5
41.0		**Lean Clay with Sand (CL) [Qhf]** hard, moist, brown to light brown, fine sand, some fine subangular to subrounded gravel, moderate plasticity	25	MC-2B	116	14			>4.5
	5		11	MC-3B	117	16			
36.0		**Sandy Lean Clay (CL) [Qhf]** very stiff, moist, brown, fine to coarse sand, some fine subangular to subrounded gravel, low plasticity	16	MC-4B	121	12			
	10		10	MC-5B	117	10			
32.5		**Lean Clay with Sand (CL) [Qhf]** very stiff, moist, brown, fine sand, moderate plasticity	21	MC-6B	107	18			
			16	MC-7B	111	20			
	15	becomes stiff	14	MC-8B	111	19			
27.0		**Clayey Sand with Gravel (SC) [Qhf]** loose, moist, brown, fine to coarse sand, some fine subangular to subrounded gravel	18	MC-9B	123	13			
24.0	20	**Lean Clay with Sand (CL) [Qhf]** very stiff, moist, brown, fine sand, moderate plasticity	9	SPT					
21.0									

Continued Next Page

UNDRAINED SHEAR STRENGTH, ksf
○ HAND PENETROMETER
△ TORVANE
● UNCONFINED COMPRESSION
▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL
1.0 2.0 3.0 4.0

BORING NUMBER EB-3

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Performing Arts Ctr, Gym, & Fitness Ctr

PROJECT NUMBER 578-6-1

PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

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ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE
21.0		**Sandy Lean Clay (CL) [Qhf]** stiff, moist, brown, fine to coarse sand, some fine subangular to subrounded gravel, low plasticity	12	MC-11B	107	21		
	25		6	SPT				
18.0		**Lean Clay with Sand (CL) [Qhf]** very stiff, moist, brown, fine sand, moderate plasticity	25	MC-13B	111	18		
	30		30	MC-14B	119	18		
	35							
		becomes stiff	22	MC-15B	113	21		
4.0	40	Bottom of Boring at 40.0 feet.						
	45							

UNDRAINED SHEAR STRENGTH, ksf
- ○ HAND PENETROMETER
- △ TORVANE
- ● UNCONFINED COMPRESSION
- ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL

1.0 2.0 3.0 4.0

BORING NUMBER EB-4

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Performing Arts Ctr, Gym, & Fitness Ctr
PROJECT NUMBER 578-6-1
PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

DATE STARTED 5/29/20 **DATE COMPLETED** 5/29/20
GROUND ELEVATION 44.5 FT +/- **BORING DEPTH** 30 ft.
DRILLING CONTRACTOR Cuesta Geo **LATITUDE** 37.452317° **LONGITUDE** -121.901770°
DRILLING METHOD MPP Track Rig, 6½ inch HSA, Auto-Hammer **GROUND WATER LEVELS:**
LOGGED BY JLC ▽ **AT TIME OF DRILLING** 21 ft.
NOTES Performing Arts Center ▼ **AT END OF DRILLING** 20.5 ft.

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ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
44.5	0	4 inches asphalt concrete over 2 inches aggragete base							
44.2									
44.0		**Lean Clay (CL) [Qhf]** hard, moist, dark brown, some fine sand, moderate plasticity	16	MC-1B	112	17			>4.5
42.0		**Lean Clay with Sand (CL) [Qhf]** hard, moist, brown to light brown, fine sand, moderate plasticity	21	MC-2B	121	15			>4.5
	5		14	MC-3B	110	17			
36.5		**Sandy Lean Clay (CL) [Qhf]** very stiff, moist, brown, fine to coarse sand, some fine subangular to subrounded gravel, low plasticity	12	MC-4B	114	15			
	10		18	SPT					
34.0		**Clayey Sand (SC) [Qhf]** medium dense, moist, brown, fine to coarse sand	8	SPT-6		18		68	
32.5		**Sandy Lean Clay (CL) [Qhf]** very stiff, moist, brown, fine to coarse sand, some fine subangular to subrounded gravel, low plasticity	13	SPT-7		16			
30.0		**Lean Clay with Sand (CL) [Qhf]** stiff, moist, brown, fine sand, moderate plasticity	17	MC-8B	117	18			
	15		18	MC-9B	108	20			
24.5	20	**Sandy Lean Clay (CL) [Qhf]** stiff, moist, brown, fine to coarse sand, low plasticity	14	MC-10B	126	18			
23.0		**Clayey Sand (SC) [Qhf]** loose to medium dense, moist, brown, fine to coarse sand	8	SPT-11		18		30	
21.5									

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UNDRAINED SHEAR STRENGTH, ksf
○ HAND PENETROMETER
△ TORVANE
● UNCONFINED COMPRESSION
▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL
1.0 2.0 3.0 4.0

BORING NUMBER EB-4

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Performing Arts Ctr, Gym, & Fitness Ctr

PROJECT NUMBER 578-6-1

PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
21.5										
20.5			**Lean Clay with Sand (CL) [Qhf]** very stiff, moist, brown, fine sand, moderate plasticity	12	SPT-12B		17			
	25									
				22	MC-13B	112	19			○
14.5	30		Bottom of Boring at 30.0 feet.							
	35									
	40									
	45									

UNDRAINED SHEAR STRENGTH, ksf
○ HAND PENETROMETER
△ TORVANE
● UNCONFINED COMPRESSION
▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL
1.0 2.0 3.0 4.0

BORING NUMBER EB-5

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Performing Arts Ctr, Gym, & Fitness Ctr
PROJECT NUMBER 578-6-1
PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

DATE STARTED 5/28/20 **DATE COMPLETED** 5/28/20
GROUND ELEVATION 38.3 FT +/- **BORING DEPTH** 30 ft.
DRILLING CONTRACTOR Cuesta Geo **LATITUDE** 37.450017° **LONGITUDE** -121.902288°
DRILLING METHOD MPP Track Rig, 6½ inch HSA, Auto-Hammer **GROUND WATER LEVELS:**
LOGGED BY JLC **AT TIME OF DRILLING** 10.9 ft.
NOTES Gymnasium **AT END OF DRILLING** 11 ft.

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ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
38.3	0	**Lean Clay (CL) [Qhf]** very stiff, moist, dark brown, some fine sand, moderate plasticity Liquid Limit = 47, Plastic Limit = 14	16	MC-1B	104	14	33		>4.5
			19	MC-2B	123	13			>4.5
33.3	5	**Lean Clay with Sand (CL) [Qhf]** very stiff, moist, brown, fine sand, moderate plasticity	19	MC-3B	116	17			
30.3		**Sandy Lean Clay (CL) [Qhf]** stiff, moist, brown, fine to coarse sand, low plasticity	13	MC-4B	114	19			
29.1	10	**Clayey Sand (SC) [Qhf]** loose, moist, brown, fine to coarse sand	6	SPT-5B		20			
27.6		**Sandy Lean Clay (CL) [Qhf]** stiff, moist, brown, fine to coarse sand, low plasticity		ST-6	104	19			
25.3		**Clayey Sand (SC) [Qhf]** medium dense, moist, brown, fine to coarse sand, some fine subangular to subrounded gravel	27	MC-7B	112	16			
23.8	15	**Lean Clay with Sand (CL) [Qhf]** very stiff, moist, brown, fine sand, moderate plasticity	19	SPT					
		becomes stiff	16	MC-9B	112	18			
	20	becomes very stiff	25	MC-10B	117	17			
15.8									
15.3		*Continued Next Page*							

UNDRAINED SHEAR STRENGTH, ksf
○ HAND PENETROMETER
△ TORVANE
● UNCONFINED COMPRESSION
▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL
1.0 2.0 3.0 4.0

BORING NUMBER EB-5

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Performing Arts Ctr, Gym, & Fitness Ctr

PROJECT NUMBER 578-6-1

PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf (○ HAND PENETROMETER, △ TORVANE, ● UNCONFINED COMPRESSION, ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL; 1.0 2.0 3.0 4.0)
15.3			**Lean Clay (CL) [Qhf]** very stiff, moist, brown, some fine sand, moderate plasticity	19	MC-11B	108	22			○
	25									
11.3			**Sandy Lean Clay (CL) [Qhf]** medium stiff, moist, brown, fine to medium sand, low plasticity	16	MC-12B	112	24			○
8.3	30		Bottom of Boring at 30.0 feet.							
	35									
	40									
	45									

BORING NUMBER EB-6

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Performing Arts Ctr, Gym, & Fitness Ctr
PROJECT NUMBER 578-6-1
PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

DATE STARTED 5/28/20 **DATE COMPLETED** 5/28/20
GROUND ELEVATION 29.5 FT +/- **BORING DEPTH** 30 ft.
DRILLING CONTRACTOR Cuesta Geo
LATITUDE 37.449681° **LONGITUDE** -121.903664°
DRILLING METHOD MPP Track Rig, 6½ inch HSA, Auto-Hammer
GROUND WATER LEVELS:
LOGGED BY JLC
AT TIME OF DRILLING 10.9 ft.
NOTES Gymnasium
AT END OF DRILLING 11 ft.

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ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE
29.5	0							
29.2		2½ inches asphalt concrete over 6 inches aggragete base						
28.7		**Clayey Sand with Gravel (SC) [Fill]** medium dense, moist, brown, fine to coarse sand, fine subangular to subrounded gravel	24	MC-1B	128	9		
26.5		**Lean Clay with Sand (CL) [Fill]** very stiff, moist, brown and dark brown mottled, fine sand, moderate plasticity	15	MC-2B	109	17		
25.5	5	**Lean Clay (CL) [Qhf]** stiff, moist, dark brown, some fine sand, moderate plasticity	13	MC-3B	108	23		
		becomes very stiff	29	MC-4B	122	18		
19.5	10	**Lean Clay with Sand (CL) [Qhf]** very stiff, moist, brown with light brown mottles, fine sand, moderate plasticity	23	MC-5B	117	16		
			26	MC-6B	114	15		
			13	SPT				
15.0	15	**Sandy Lean Clay (CL) [Qhf]** stiff, moist, brown, fine to coarse sand, low plasticity	13	MC-8B	106	22		
			21	MC-9		18		
9.5	20	**Clayey Sand (SC) [Qhf]** medium dense, moist, brown, fine to coarse sand, some fine subangular to subrounded gravel	12	SPT-10		17		28
7.5			17	SPT-11		16		
6.5								

UNDRAINED SHEAR STRENGTH, ksf
○ HAND PENETROMETER
△ TORVANE
● UNCONFINED COMPRESSION
▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL
1.0 2.0 3.0 4.0

Continued Next Page

BORING NUMBER EB-6

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Performing Arts Ctr, Gym, & Fitness Ctr

PROJECT NUMBER 578-6-1

PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf (○ HAND PENETROMETER, △ TORVANE, ● UNCONFINED COMPRESSION, ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL; 1.0 2.0 3.0 4.0)
6.5			**Sandy Lean Clay (CL) [Qhf]** very stiff, moist, brown, fine to coarse sand, low plasticity							
5.0	25		**Lean Clay with Sand (CL) [Qhf]** very stiff, moist, brown, fine sand, moderate plasticity	15	MC-12B	108	20			○
				26	MC-13B	112	20			○
-0.5	30		Bottom of Boring at 30.0 feet.							
	35									
	40									
	45									

BORING NUMBER EB-7

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Solar Array Relocation
PROJECT NUMBER 578-6-4
PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

DATE STARTED 4/29/21 **DATE COMPLETED** 4/29/21
GROUND ELEVATION _____ **BORING DEPTH** 30 ft.
DRILLING CONTRACTOR Exploration Geoservices Inc. **LATITUDE** 37.451588° **LONGITUDE** -121.904511°
DRILLING METHOD Mobile B-53B, 8 inch Hollow-Stem Auger **GROUND WATER LEVELS:**
LOGGED BY JLC **AT TIME OF DRILLING** Not Encountered
NOTES _____ **AT END OF DRILLING** Not Encountered

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ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
	0	2 inches asphalt concrete over 4 inches aggregate base							
		Lean Clay with Sand (CL) [Qhf] hard, moist, dark brown to brown, fine to medium sand, moderate plasticity Liquid Limit = 44, Plastic Limit = 16	33	MC-1B	110	18	28		>4.5
			69	MC-2B	116	13			>4.5
	5	**Sandy Lean Clay (CL) [Qhf]** hard, moist, brown with light brown mottles, fine to coarse sand, low plasticity	36	MC-3B	113	15			>4.5
		becomes very stiff	26	MC-4B	114	16			2.0
	10								
			31	MC-5B	111	16			2.5
	15	**Clayey Sand with Gravel (SC) [Qhf]** medium dense, moist, brown, fine to coarse sand, fine subangular to subrounded gravel							
			43	MC					
	20	**Lean Clay with Sand (CL) [Qhf]** very stiff, moist, brown, fine to medium sand, moderate plasticity	35	SPT					3.0

Continued Next Page

UNDRAINED SHEAR STRENGTH, ksf
○ HAND PENETROMETER
△ TORVANE
● UNCONFINED COMPRESSION
▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL
1.0 2.0 3.0 4.0

BORING NUMBER EB-7

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Solar Array Relocation

PROJECT NUMBER 578-6-4

PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf (○ HAND PENETROMETER, △ TORVANE, ● UNCONFINED COMPRESSION, ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL; 1.0 2.0 3.0 4.0)
	25		**Sandy Lean Clay (CL) [Qhf]** very stiff, moist, brown, fine to coarse sand, low plasticity	51	MC-8B		16			○
	30		**Clayey Sand (SC) [Qhf]** dense, moist, brown, fine to coarse sand	56	MC					
			Bottom of Boring at 30.0 feet.							
	35									
	40									
	45									

BORING NUMBER EB-8

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Solar Array Relocation
PROJECT NUMBER 578-6-4
PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

DATE STARTED 4/29/21 **DATE COMPLETED** 4/29/21
GROUND ELEVATION _____ **BORING DEPTH** 40 ft.
DRILLING CONTRACTOR Exploration Geoservices Inc. **LATITUDE** 37.452026° **LONGITUDE** -121.903852°
DRILLING METHOD Mobile B-53B, 8 inch Hollow-Stem Auger **GROUND WATER LEVELS:**
LOGGED BY JLC ▽ **AT TIME OF DRILLING** 19 ft.
NOTES _____ ▼ **AT END OF DRILLING** 18 ft.

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ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE
	0	2½ inches asphalt concrete over 4 inches aggregate base / **Lean Clay (CL) [Qhf]** very stiff, moist, dark brown, some fine sand, moderate plasticity	38	MC-1B	105	23		
			42	MC-2B	113	17		
	5	**Clayey Sand (SC) [Qhf]** medium dense, moist, brown, fine to coarse sand, trace fine subangular to subrounded gravel	44	MC-3B	115	12		44
		Sandy Lean Clay (CL) [Qhf] very stiff, moist, brown, fine to medium sand, low plasticity	30	MC-4B	101	16		
	10							
		Lean Clay with Sand (CL) [Qhf] very stiff, moist, brown, fine to medium sand, moderate plasticity	29	MC				
	15							
		Sandy Lean Clay (CL) [Qhf] very stiff, moist, brown, fine to medium sand, low plasticity	54	MC-6B	120	16		
	20							

UNDRAINED SHEAR STRENGTH, ksf
○ HAND PENETROMETER
△ TORVANE
● UNCONFINED COMPRESSION
▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL
1.0 2.0 3.0 4.0

Continued Next Page

BORING NUMBER EB-8

CORNERSTONE EARTH GROUP

PROJECT NAME Milpitas HS- Solar Array Relocation

PROJECT NUMBER 578-6-4

PROJECT LOCATION 1285 Escuela Parkway, Milpitas, CA

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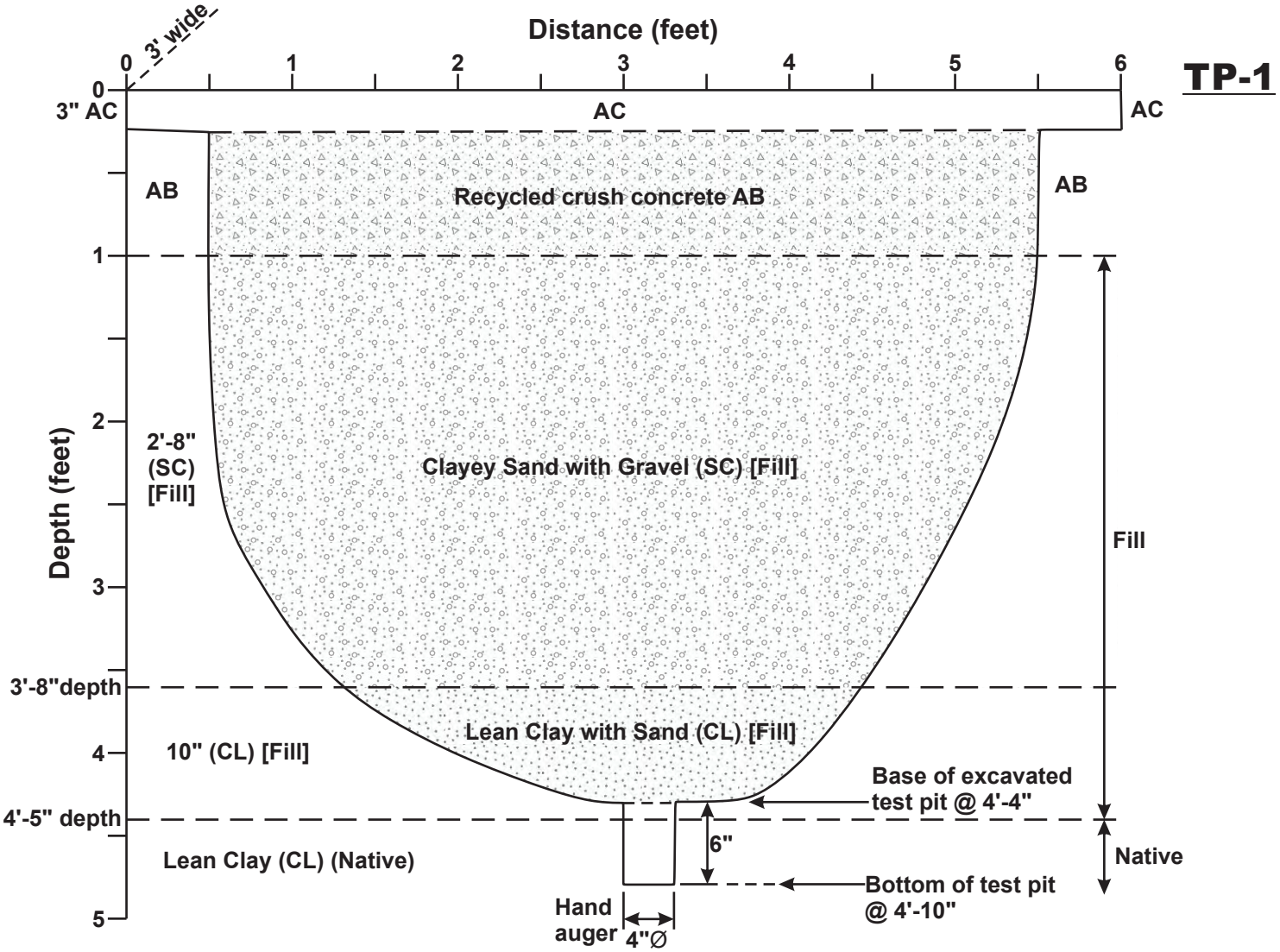
ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf (○ HAND PENETROMETER, △ TORVANE, ● UNCONFINED COMPRESSION, ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL) 1.0 2.0 3.0 4.0
	25		**Silty Sand (SM) [Qhf]** medium dense, moist, brown, fine to medium sand	35	MC					
				33	SPT					○
			Lean Clay with Sand (CL) [Qhf] very stiff, moist, brown, fine to medium sand, moderate plasticity							
	30		**Sandy Lean Clay (CL) [Qhf]** stiff, moist, brown with light brown mottles, fine to coarse sand, low plasticity	27	MC-9B	111	20			○
			Lean Clay with Sand (CL) [Qhf] hard, moist, brown, fine to medium sand, moderate plasticity	29	SPT					>4.5 ○
	35		**Sandy Lean Clay (CL) [Qhf]** very stiff, moist, brown with light brown mottles, fine to medium sand, low plasticity	40	MC-12B	114	18			○
	40		Bottom of Boring at 40.0 feet.							
	45									

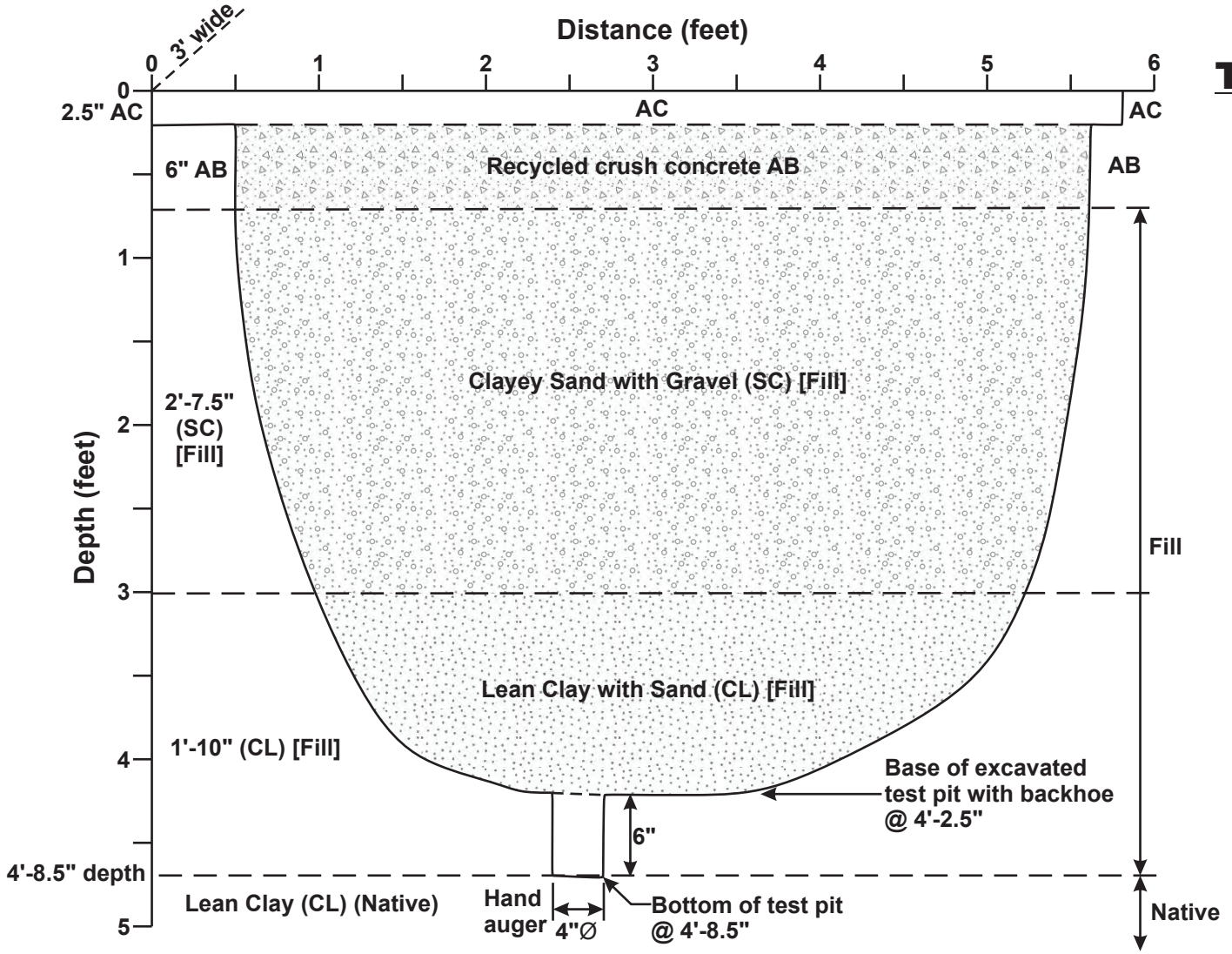


CORNERSTONE EARTH GROUP

Test Pit #1

Milpitas High School - Performing Arts Center, Gymnasium, & Fitness Center
1285 Escuela Parkway
Milpitas, CA

Project Number	578-6-4
Figure Number	Figure A-1
Date	May 2021
Drawn By	RRN

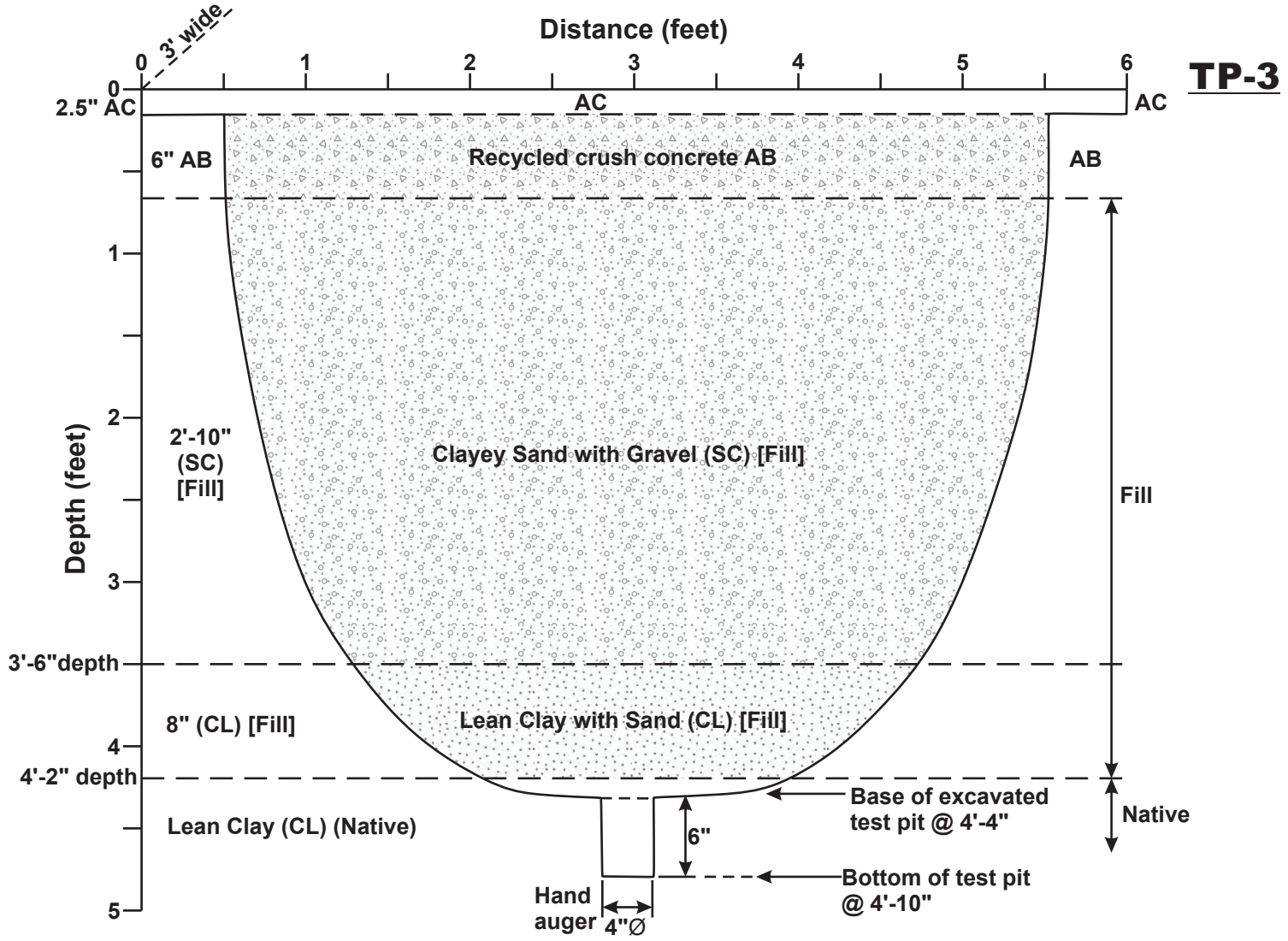


CORNERSTONE EARTH GROUP

Test Pit #2

Milpitas High School - Performing Arts Center, Gymnasium, & Fitness Center
1285 Escuela Parkway
Milpitas, CA

Project Number	578-6-4
Figure Number	Figure A-2
Date	May 2021
Drawn By	RRN



Scale: 1" = 1'

CORNERSTONE EARTH GROUP

Test Pit #3

Milpitas High School - Performing Arts Center, Gymnasium, & Fitness Center
1285 Escuela Parkway
Milpitas, CA

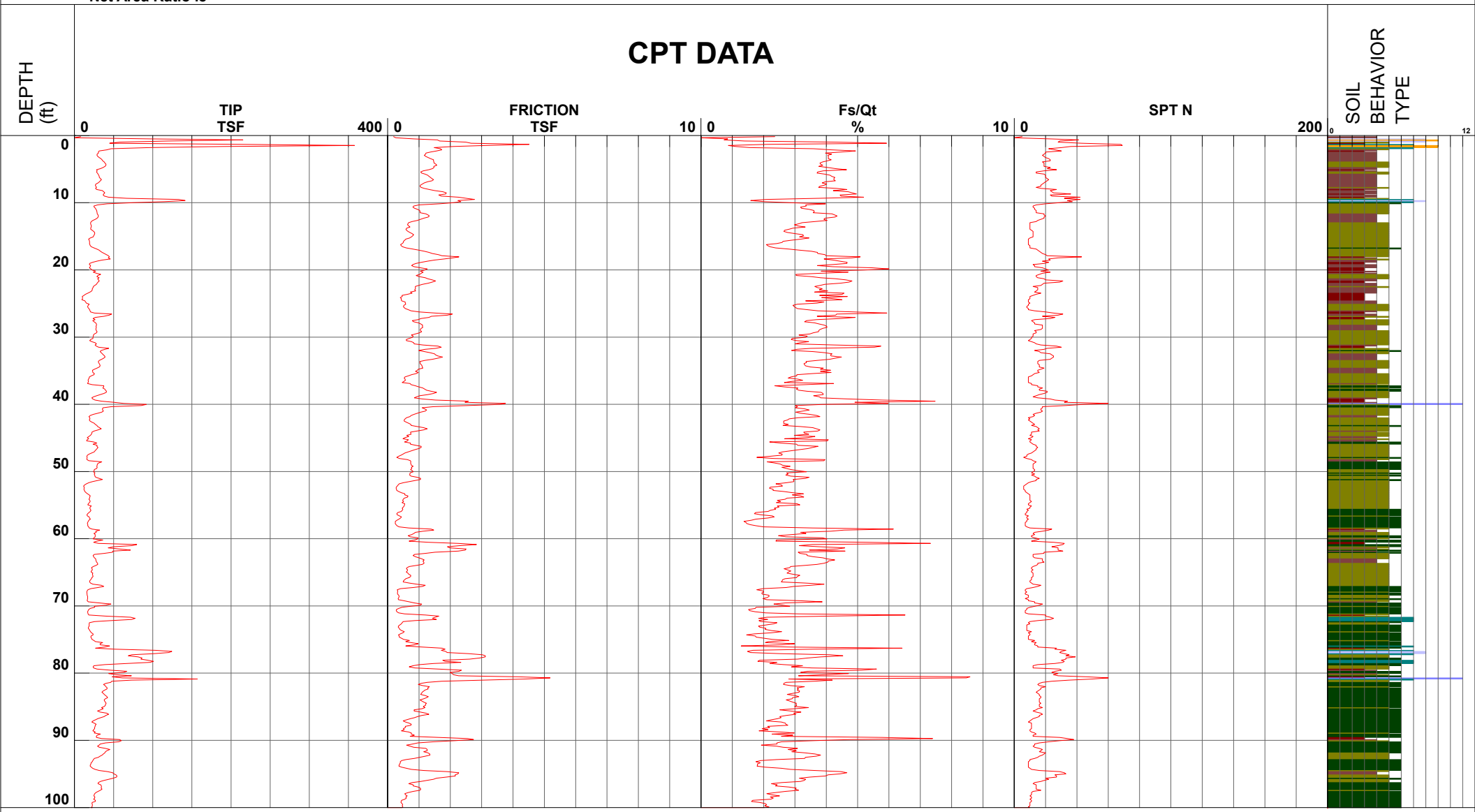
Project Number	578-6-4
Figure Number	Figure A-3
Date	May 2021
Drawn By	RRN

Cornerstone Earth Group

Project	Milpitas High School	Operator	JM-AJ	Filename	SDF(675).cpt
Job Number	578-6-1	Cone Number	DDG1489	GPS	
Hole Number	CPT-01	Date and Time	5/26/2020 7:16:05 AM	Maximum Depth	100.56 ft
EST GW Depth During Test		15.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

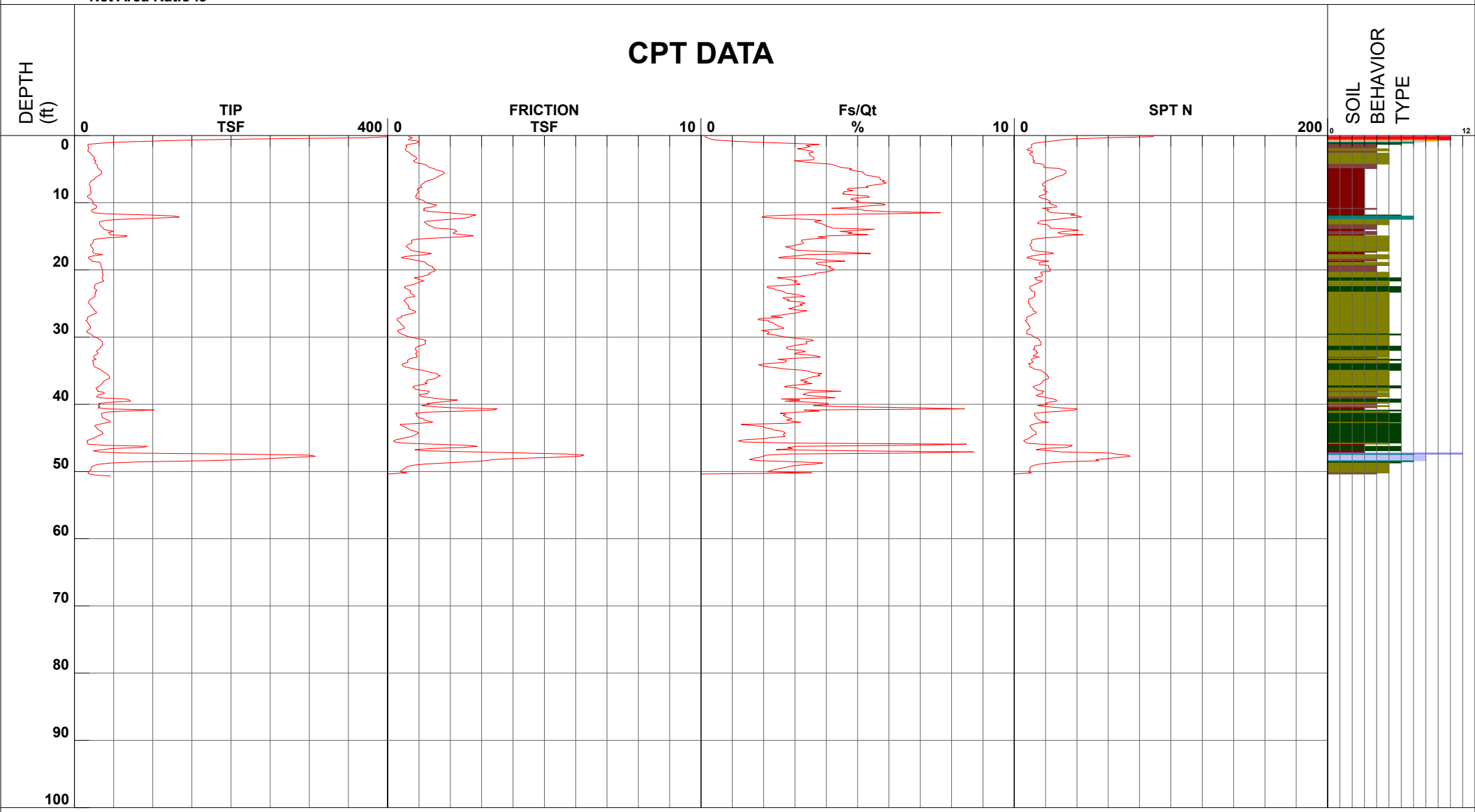
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School	Operator	JM-AJ	Filename	SDF(681).cpt
Job Number	578-6-1	Cone Number	DDG1489	GPS	
Hole Number	CPT-02	Date and Time	5/27/2020 7:14:29 AM	Maximum Depth	50.69 ft
EST GW Depth During Test		15.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

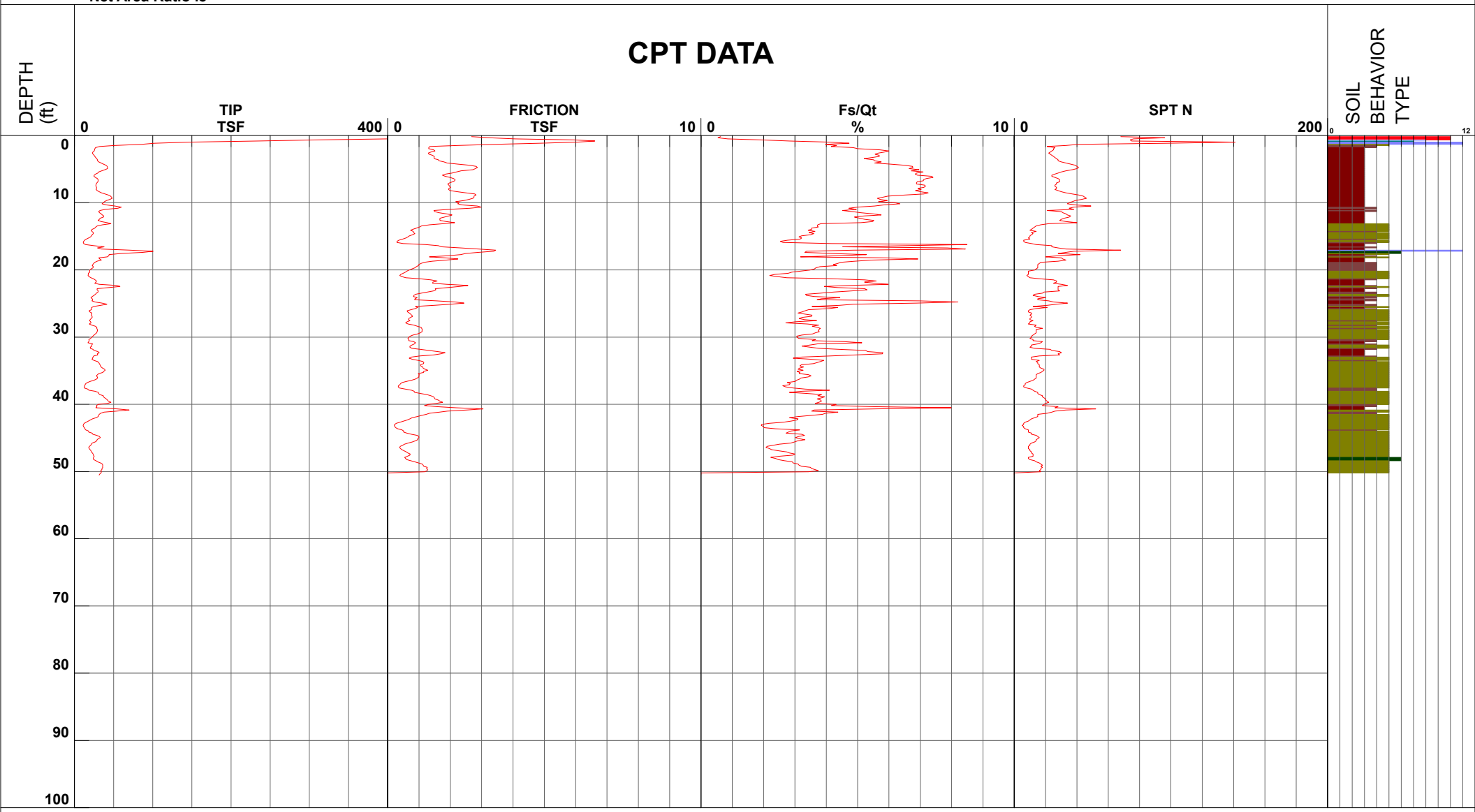
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School	Operator	JM-AJ	Filename	SDF(682).cpt
Job Number	578-6-1	Cone Number	DDG1489	GPS	
Hole Number	CPT-03	Date and Time	5/27/2020 10:13:51 AM	Maximum Depth	50.52 ft
EST GW Depth During Test		13.70 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

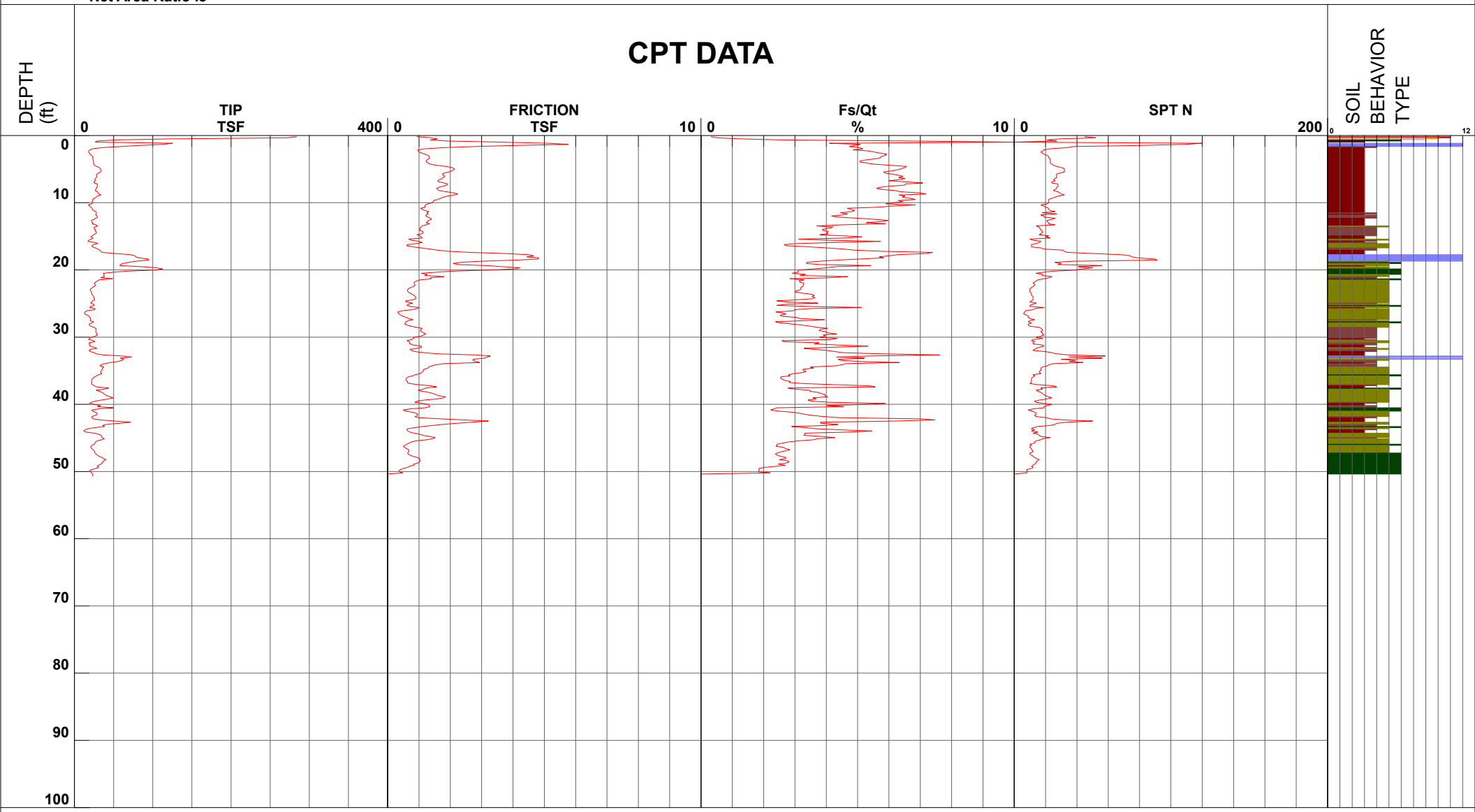
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School	Operator	JM-AJ	Filename	SDF(683).cpt
Job Number	578-6-1	Cone Number	DDG1489	GPS	
Hole Number	CPT-04	Date and Time	5/27/2020 10:57:43 AM	Maximum Depth	50.69 ft
EST GW Depth During Test		8.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

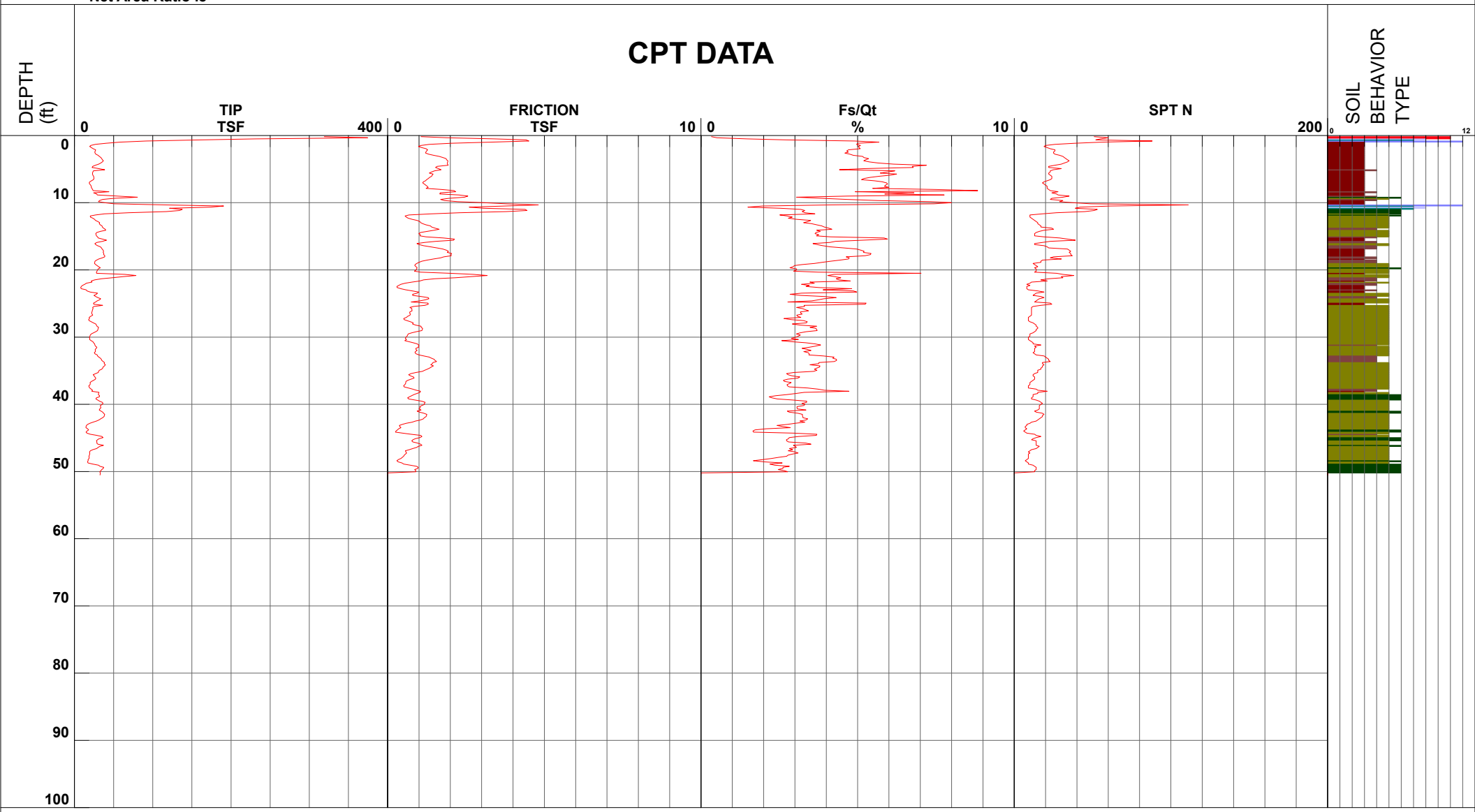
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School	Operator	JM-AJ	Filename	SDF(684).cpt
Job Number	578-6-1	Cone Number	DDG1489	GPS	
Hole Number	CPT-05	Date and Time	5/27/2020 12:16:38 PM	Maximum Depth	50.52 ft
EST GW Depth During Test		16.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

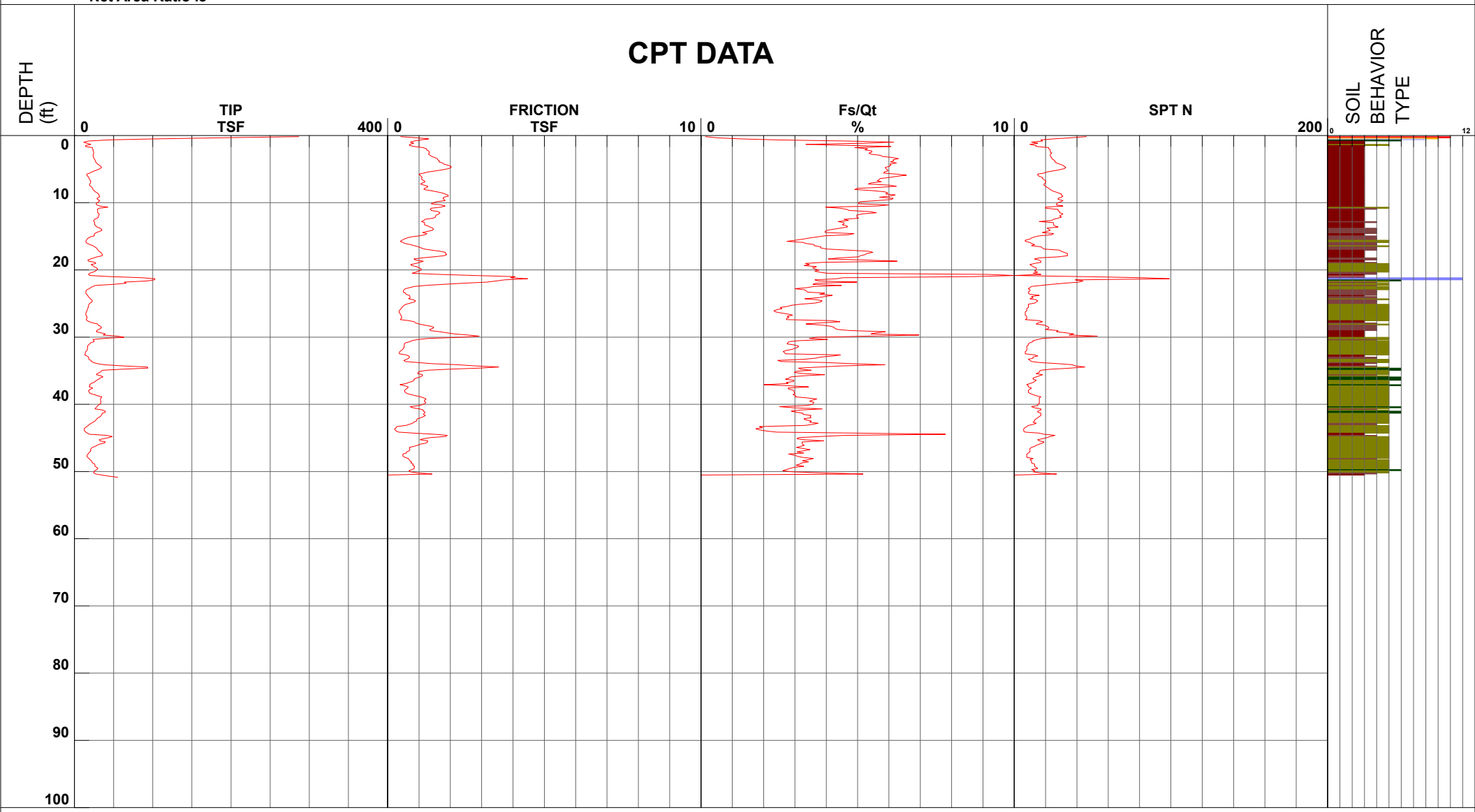
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School	Operator	JM-AJ	Filename	SDF(685).cpt
Job Number	578-6-1	Cone Number	DDG1489	GPS	
Hole Number	CPT-06	Date and Time	5/27/2020 12:49:21 PM	Maximum Depth	50.85 ft
EST GW Depth During Test		15.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

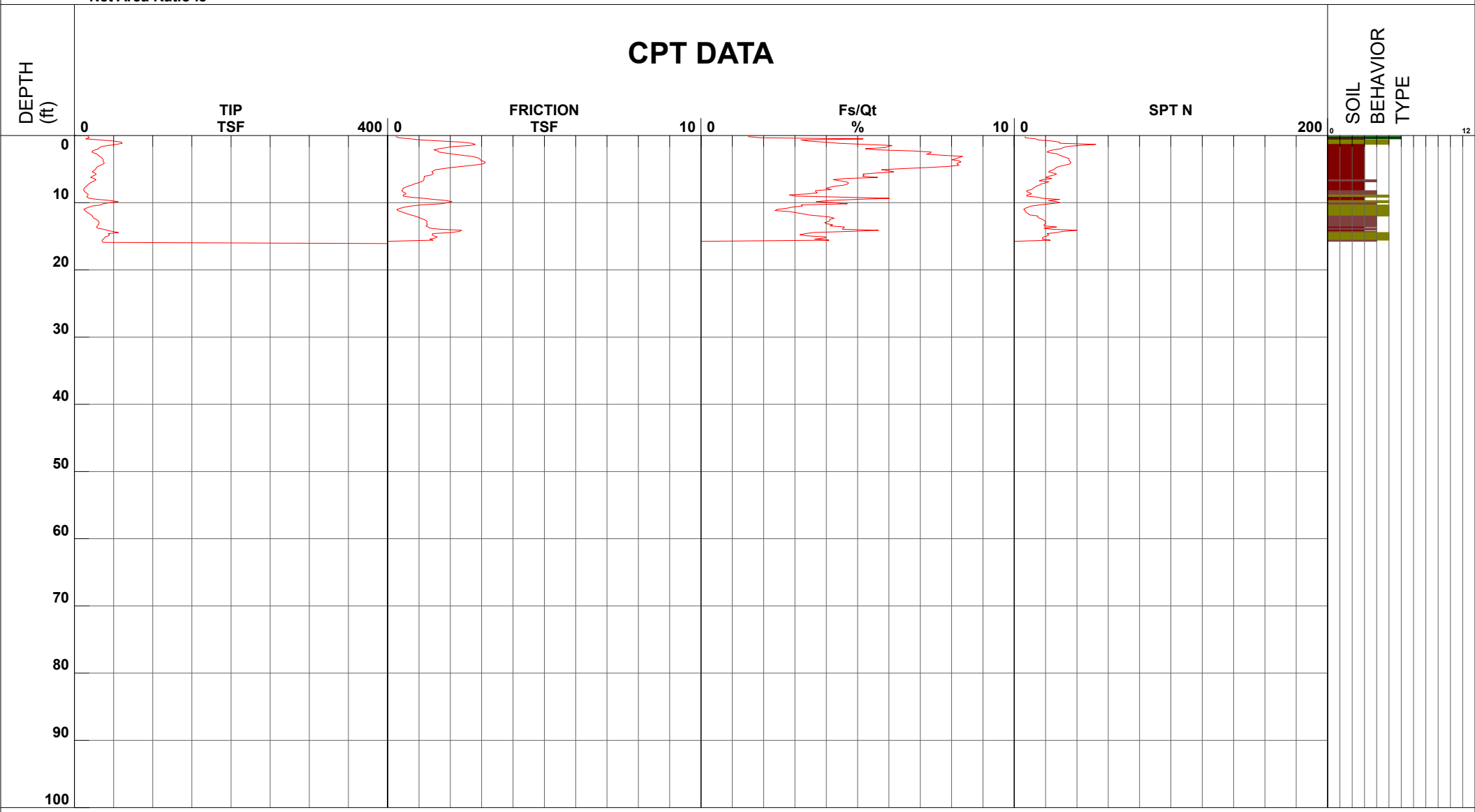
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School	Operator	JM-AJ	Filename	SDF(676).cpt
Job Number	578-6-1	Cone Number	DDG1489	GPS	
Hole Number	CPT-07	Date and Time	5/26/2020 10:15:12 AM	Maximum Depth	16.08 ft
EST GW Depth During Test		9.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

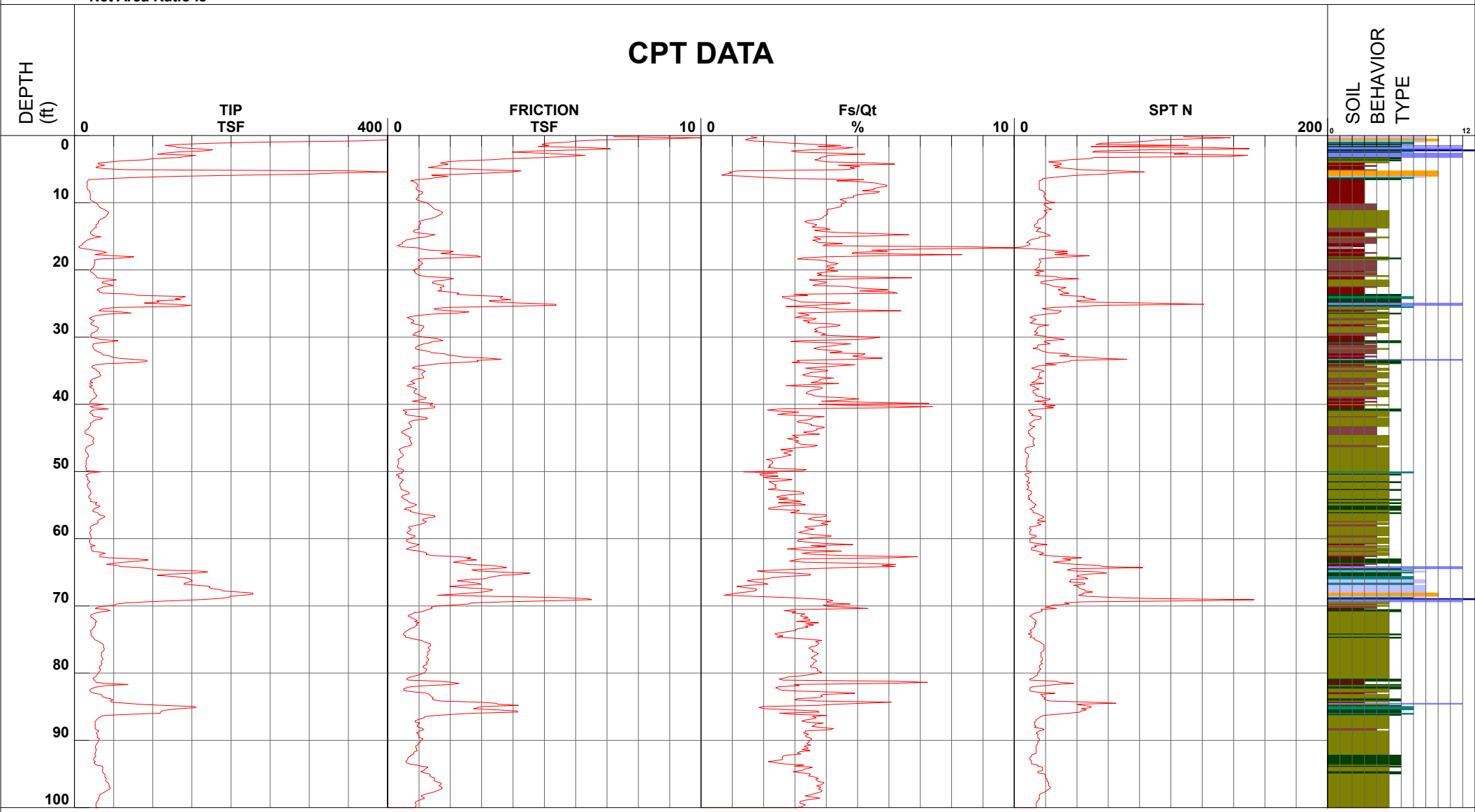
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School	Operator	JM-AJ	Filename	SDF(678).cpt
Job Number	578-6-1	Cone Number	DDG1489	GPS	
Hole Number	CPT-08	Date and Time	5/26/2020 11:29:38 AM	Maximum Depth	100.72 ft
EST GW Depth During Test		15.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

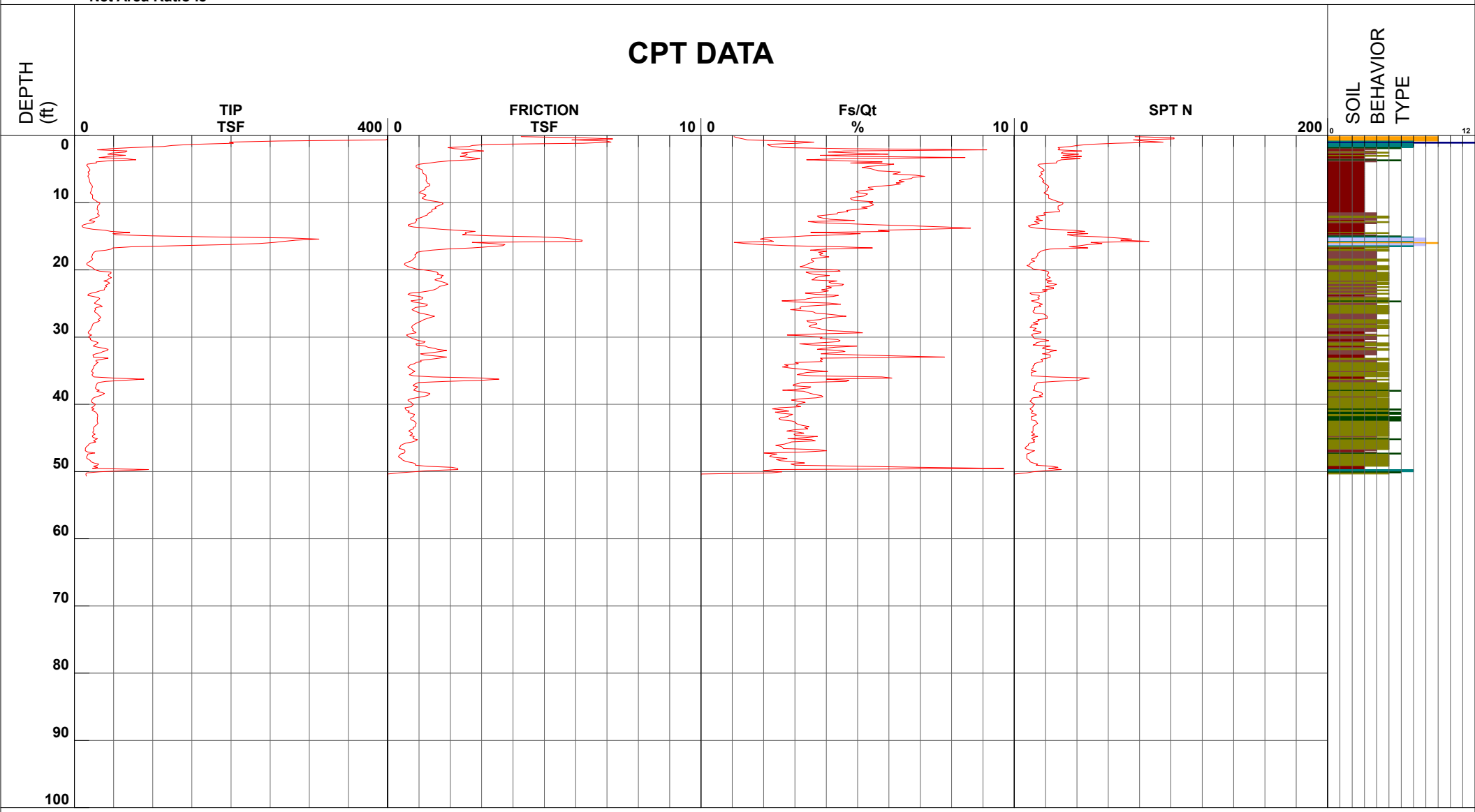
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School	Operator	JM-AJ	Filename	SDF(679).cpt
Job Number	578-6-1	Cone Number	DDG1489	GPS	
Hole Number	CPT-09	Date and Time	5/26/2020 1:09:11 PM	Maximum Depth	50.69 ft
EST GW Depth During Test		12.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

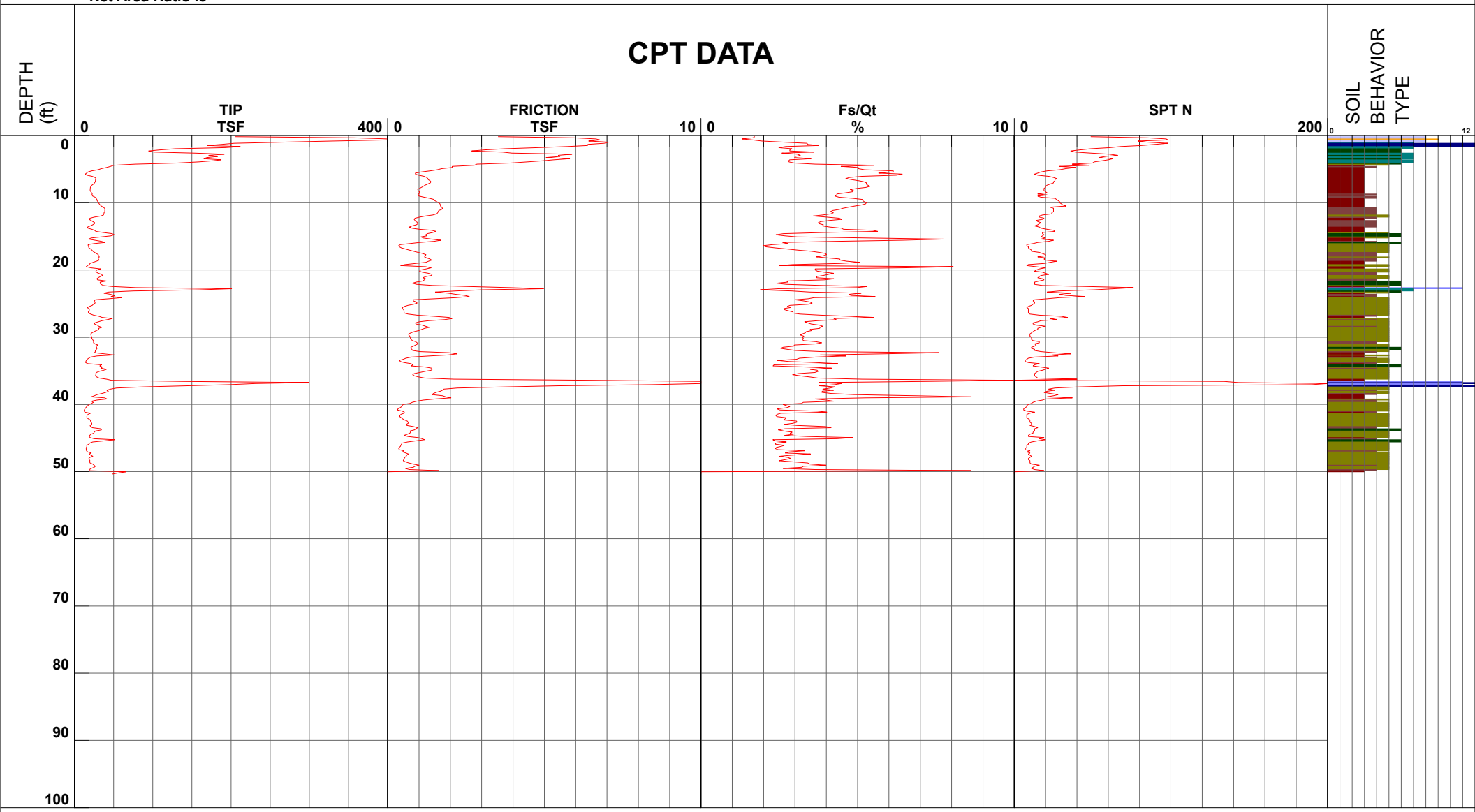
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School	Operator	JM-AJ	Filename	SDF(680).cpt
Job Number	578-6-1	Cone Number	DDG1489	GPS	
Hole Number	CPT-10	Date and Time	5/26/2020 2:12:05 PM	Maximum Depth	50.36 ft
EST GW Depth During Test		12.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

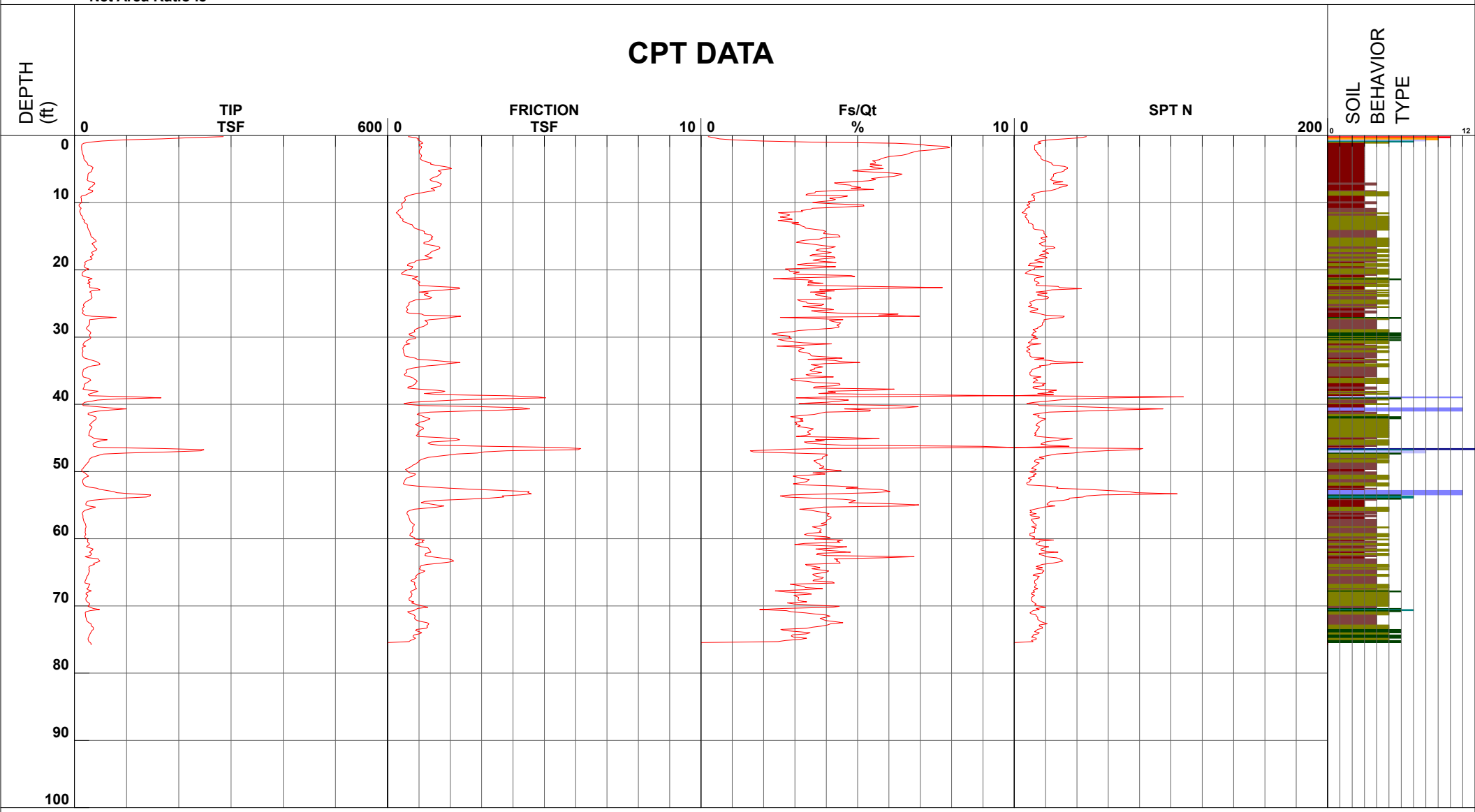
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School Canopy	Operator	JM-ZG	Filename	SDF(335).cpt
Job Number	578-6-4	Cone Number	DDG1596	GPS	
Hole Number	CPT-11	Date and Time	4/28/2021 11:45:48 AM	Maximum Depth	75.79 ft
EST GW Depth During Test		12.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

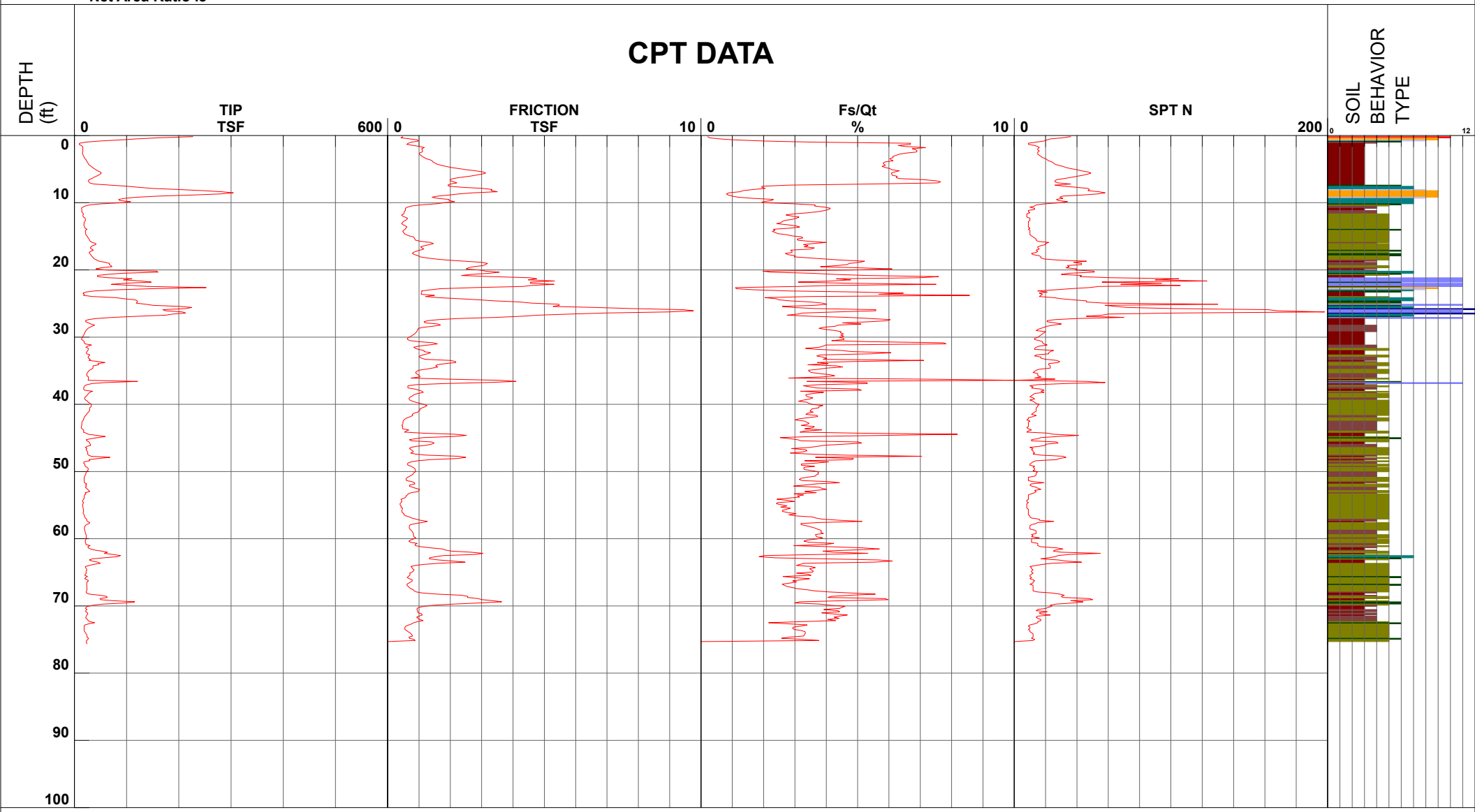
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School Canopy	Operator	JM-ZG	Filename	SDF(336).cpt
Job Number	578-6-4	Cone Number	DDG1596	GPS	
Hole Number	CPT-12	Date and Time	4/28/2021 12:40:23 PM	Maximum Depth	75.62 ft
EST GW Depth During Test		13.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

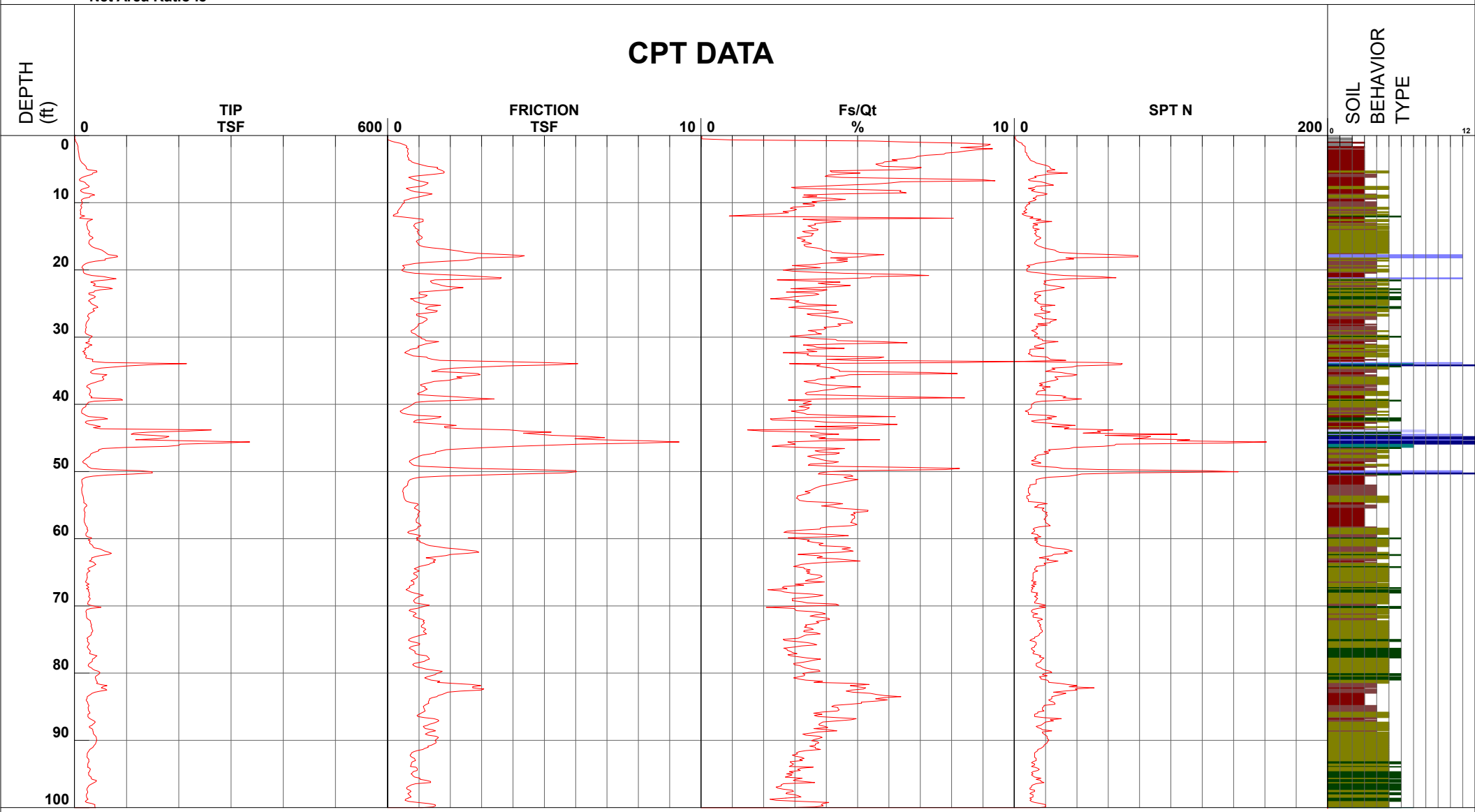
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School Canopy	Operator	JM-ZG	Filename	SDF(334).cpt
Job Number	578-6-4	Cone Number	DDG1596	GPS	
Hole Number	CPT-13	Date and Time	4/28/2021 9:36:02 AM	Maximum Depth	101.21 ft
EST GW Depth During Test		12.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

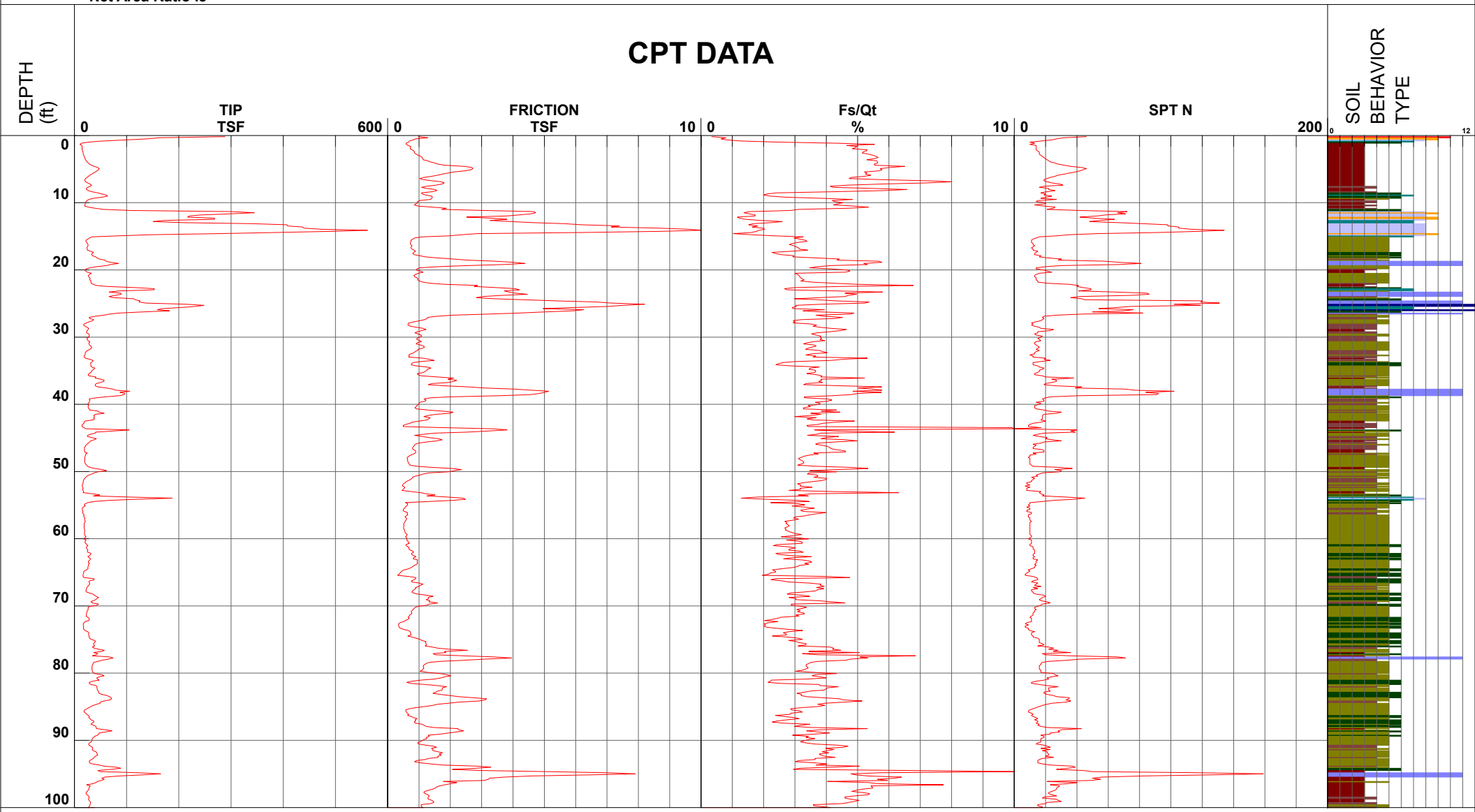
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Milpitas High School Canopy	Operator	JM-ZG	Filename	SDF(331).cpt
Job Number	578-6-4	Cone Number	DDG1596	GPS	
Hole Number	CPT-14	Date and Time	4/28/2021 7:34:02 AM	Maximum Depth	100.72 ft
EST GW Depth During Test		12.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

S*Soil behavior type and SPT based on data from UBC-1983

APPENDIX B: LABORATORY TEST PROGRAM

The laboratory testing program was performed to evaluate the physical and mechanical properties of the soils retrieved from the site to aid in verifying soil classification.

Moisture Content: The natural water content was determined (ASTM D2216) on 74 samples of the materials recovered from the borings. These water contents are recorded on the boring logs at the appropriate sample depths.

Dry Densities: In place dry density determinations (ASTM D2937) were performed on 64 samples to measure the unit weight of the subsurface soils. Results of these tests are shown on the boring logs at the appropriate sample depths.

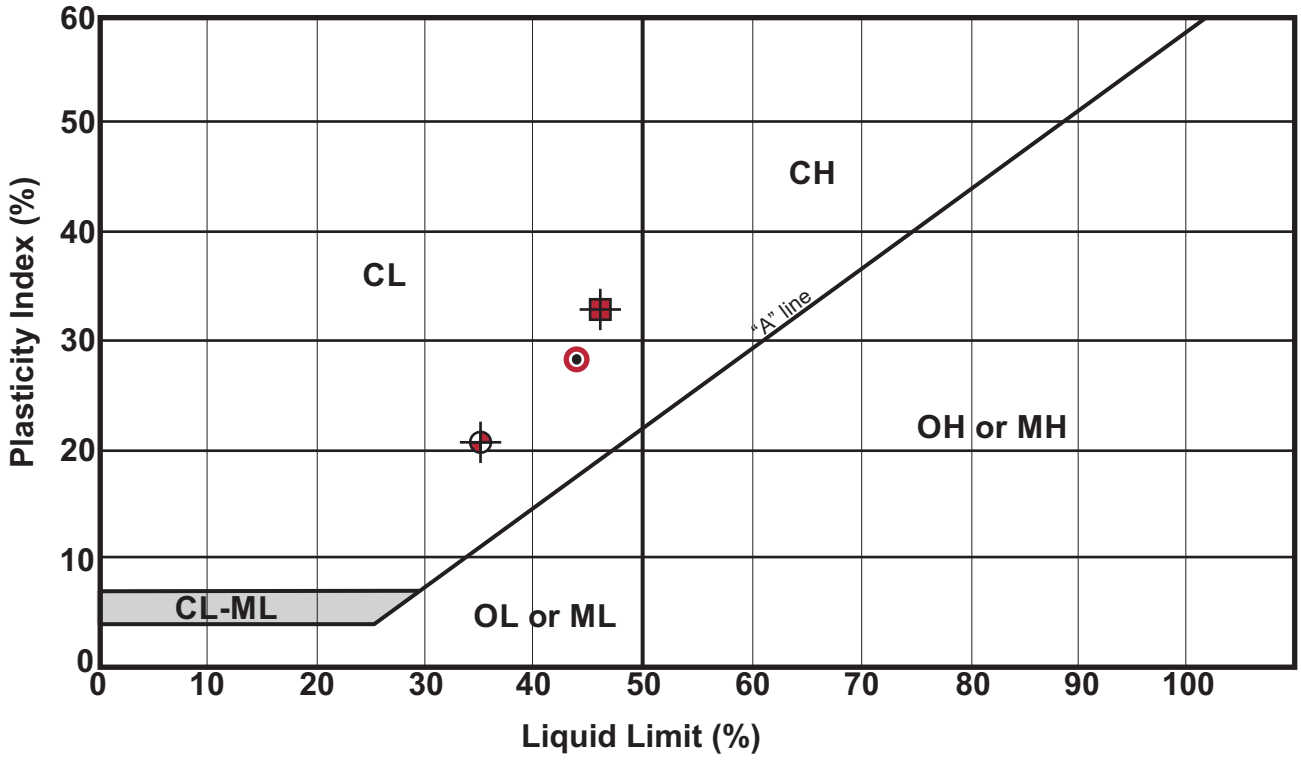
Washed Sieve Analyses: The percent soil fraction passing the No. 200 sieve (ASTM D1140) was determined on four samples of the subsurface soils to aid in the classification of these soils. Results of these tests are shown on the boring logs at the appropriate sample depths.

Plasticity Index: Three Plasticity Index determinations (ASTM D4318) were performed on samples of the subsurface soils to measure the range of water contents over which this material exhibits plasticity. The Plasticity Index was used to classify the soil in accordance with the Unified Soil Classification System and to evaluate the soil expansion potential. Results of these tests are shown on the boring logs at the appropriate sample depths.

Consolidation: One consolidation test (ASTM D2435) was performed on a relatively undisturbed sample of the subsurface clayey soils to assist in evaluating the compressibility property of this soil. Results of the consolidation test are presented graphically in this appendix.

Soil Corrosion: Three soluble sulfate determinations (ASTM D4327), three resistivity tests (ASTM G57), three chloride determinations (ASTM D4327), and three pH determinations (ASTM G51) were performed on samples of the subsurface soil. Results of these tests are attached in this appendix.

Plasticity Index (ASTM D4318) Testing Summary



Symbol	Boring No.	Depth (ft)	Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Passing No. 200 (%)	Group Name (USCS - ASTM D2487)
⊕	EB-3	2.0	15	35	14	21	—	Lean Clay (CL)
⊞	EB-5	2.0	14	47	14	33	—	Lean Clay (CL)
◉	EB-7	2.0	18	44	16	28	—	Lean Clay with Sand (CL)

CORNERSTONE EARTH GROUP

Plasticity Index Testing Summary

Milpitas High School
Solar Relocation
Milpitas, CA

Project Number: 578-6-4

Figure Number: Figure B1

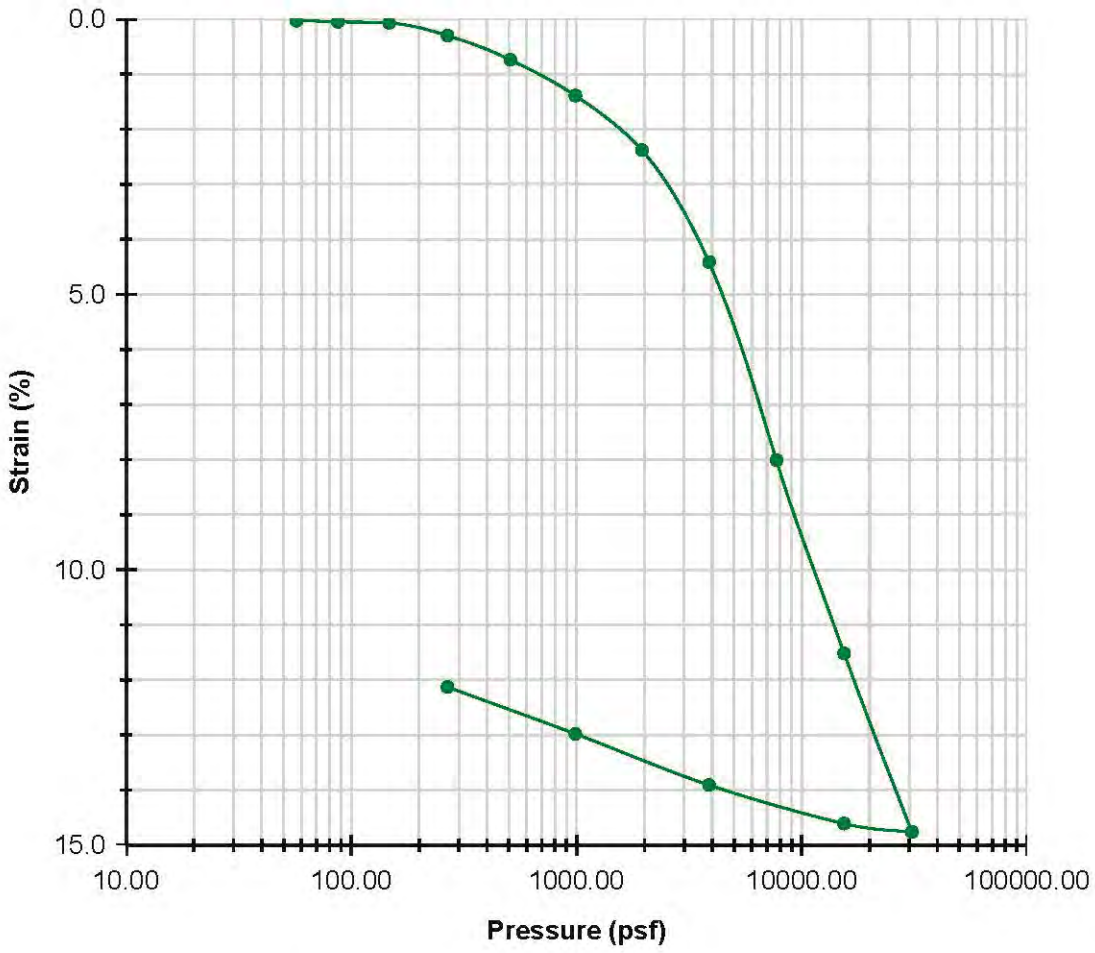
Date: May 2021

Drawn By: FLL

Consolidation Test ASTM D2435

Boring: EB-5 **Sample:** 6 **Depth:** 12.5'

Description: Sandy Lean Clay (CL)



	BEFORE	AFTER
Moisture (%)	18.7	15.6
Dry Density (pcf)	103.5	119.2
Saturation (%)	79.3	100.0
Void Ratio	0.64	0.43

(A) Stress Strain Curve

CORNERSTONE EARTH GROUP

Strain-Log Curve - EB-5 @ 12.4'

Milpitas High School
1285 Escuela Parkway
Milpitas, CA

Project Number: 578-6-1

Figure Number: Figure B2

Date: May 2020

Drawn By: FLL

Corrositivity Tests Summary

CORNERSTONE EARTH GROUP

Job Number	578-6-1	Date Tested	6/25/2020
Job Name	Milpitas HS	Tested By	F Leblo
Location	Milpitas, CA		

Sample I.D.			Soil Visual Description	Moisture Content	pH	Temp. at Testing	Resistivity (Ohm-cm)		Chloride	Sulfate
							Corrected to 15.5 C°		Dry Wt.	Dry Wt.
Boring	Sample No.	Depth, ft.		%		C°	As Received	Saturated	mg/kg	mg/kg
				ASTM D2216	ASTM G51		G57	ASTM G57	ASTM D4327	ASTM D4327
EB-3	2A	3.5	Brown Lean Clay with Sand (CL)	14.0	7.5	23.8	-	1,177	20	91
EB-5	2A	3.5	Dark brown Lean Clay (CL)	13.0	7.8	23.6	-	1,407	13	79
EB-6	2A	3.5	Dark brown Lean Clay (CL) [Fill]	17.0	7.6	23.9	-	910	54	147

Corrosivity Tests Summary

CORNERSTONE EARTH GROUP

Job Number	578-6-4	Date Tested	5/11,12/2021
Job Name	Milpitas HS Solar Array Relocation	Tested By	BBA, FL
Location	Milpitas, CA		

Sample I.D.			Soil Visual Description	Moisture Content %	pH	Temp. at Testing C°	Resistivity (Ohm-cm) Corrected to 15.5 C°		Chloride Dry Wt.	Sulfate Dry Wt.
Boring	Sample No.	Depth, ft.					As Received	Saturated	mg/kg	mg/kg
				ASTM D2216	ASTM G51		G57	ASTM G57	ASTM D4327	ASTM D4327
EB-7	2A	3.5	Dark Brown Lean Clay with Sand (CL) [Qhf]	13.4	7.2	24.1	-	1,652	12	72

CORNERSTONE EARTH GROUP

APPENDIX C: LIQUEFACTION SETTLEMENT CALCULATIONS

CORNERSTONE EARTH GROUP

CPT No. 1

PGA (A_{max}) 1.15

Total Settlement: 0.49 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.490	97.390	0.828	58.8	58.8	552.035	0.850	1.36		Unsaturated	0.0			92.05	1.70	156.49	156.49	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	215.240	1.587	79.2	79.2	1051.363	0.737	1.18		Unsaturated	0.0			203.44	1.70	345.85	345.85	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	119.830	1.662	98.4	98.4	525.003	1.388	1.56		Unsaturated	0.0			113.26	1.70	192.54	192.54	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	57.920	2.497	117.6	117.6	231.983	4.315	2.16		Unsaturated	35.7			54.74	1.70	93.07	153.71	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	44.970	2.664	138.0	138.0	166.184	5.932	2.35		Unsaturated	51.2			42.50	1.70	72.26	137.94	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	213.640	4.515	157.2	157.2	740.574	2.114	1.66		Unsaturated	0.0			201.93	1.70	343.28	343.28	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	359.520	3.121	177.6	177.6	1172.645	0.868	1.23		Unsaturated	0.0			339.81	1.70	577.68	577.68	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	189.850	2.094	196.8	196.8	588.092	1.104	1.44		Unsaturated	0.0			179.44	1.70	305.05	305.05	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	95.020	1.487	216.0	216.0	280.780	1.566	1.75		Unsaturated	2.6			89.81	1.70	152.68	152.68	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	46.920	1.685	236.4	236.4	132.346	3.599	2.23		Unsaturated	41.4			44.35	1.70	75.39	136.50	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	41.430	1.724	255.6	255.6	112.322	4.173	2.32		Unsaturated	48.9			39.16	1.70	66.57	129.72	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	31.650	1.560	276.0	276.0	82.470	4.951	2.47		Unsaturated	60.3			29.91	1.70	50.86	113.90	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	30.580	1.361	295.2	295.2	77.011	4.473	2.45		Unsaturated	59.1			28.90	1.70	49.14	111.35	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	30.720	1.220	314.4	314.4	74.942	3.992	2.42		Unsaturated	56.7			29.04	1.70	49.36	110.91	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	29.030	1.210	334.8	334.8	68.583	4.192	2.46		Unsaturated	60.0			27.44	1.70	46.65	108.44	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	28.840	1.168	354.0	354.0	66.236	4.073	2.46		Unsaturated	60.1			27.26	1.70	46.34	108.06	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	29.840	1.215	374.4	374.4	66.630	4.096	2.46		Unsaturated	60.1			28.20	1.70	47.95	110.12	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	31.770	1.292	393.6	393.6	69.193	4.092	2.45		Unsaturated	59.2			30.03	1.70	51.05	113.83	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	33.710	1.371	412.8	412.8	71.696	4.092	2.44		Unsaturated	58.3			31.86	1.70	54.17	117.57	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	35.240	1.466	433.2	433.2	73.162	4.187	2.44		Unsaturated	58.5			33.31	1.70	56.62	120.75	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	36.130	1.461	452.4	452.4	73.392	4.069	2.43		Unsaturated	57.7			34.15	1.70	58.05	122.32	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	37.940	1.476	472.8	472.8	75.390	3.915	2.41		Unsaturated	56.0			35.86	1.70	60.96	125.48	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	38.950	1.480	492.0	492.0	75.866	3.825	2.40		Unsaturated	55.3			36.81	1.70	62.59	127.29	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	40.290	1.537	512.4	512.4	76.894	3.840	2.40		Unsaturated	55.1			38.08	1.70	64.74	129.95	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	40.280	1.568	531.6	531.6	75.456	3.918	2.41		Unsaturated	56.0			38.07	1.70	64.72	130.28	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	39.030	1.471	550.8	550.8	71.796	3.796	2.42		Unsaturated	56.4			36.89	1.70	62.71	127.83	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	36.540	1.480	571.2	571.2	65.954	4.081	2.47		Unsaturated	60.2			34.54	1.70	58.71	123.95	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	33.300	1.432	590.4	590.4	59.058	4.338	2.52		Unsaturated	64.4			31.47	1.70	53.51	118.41	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	28.180	1.313	610.8	610.8	49.038	4.709	2.60		Unsaturated	70.8			26.64	1.70	45.28	109.26	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	28.990	1.135	630.0	630.0	49.671	3.960	2.54		Unsaturated	66.2			27.40	1.70	46.58	109.94	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	28.200	1.055	649.2	649.2	47.567	3.785	2.54		Unsaturated	66.1			26.65	1.70	45.31	108.29	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	29.180	1.085	669.6	669.6	48.466	3.761	2.53		Unsaturated	65.5			27.58	1.70	46.89	110.17	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	30.080	1.189	688.8	688.8	49.261	3.997	2.55		Unsaturated	66.6			28.43	1.70	48.30	112.25	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	30.880	1.275	709.2	709.2	49.837	4.178	2.56		Unsaturated	67.4			29.19	1.67	48.81	113.10	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	31.520	1.318	728.4	728.4	50.191	4.232	2.56		Unsaturated	67.6			29.79	1.65	49.15	113.57	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	31.810	1.363	747.6	747.6	49.988	4.336	2.57		Unsaturated	68.3			30.07	1.63	49.00	113.54	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	33.160	1.412	768.0	768.0	51.422	4.308	2.56		Unsaturated	67.5			31.34	1.60	50.29	115.01	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	34.480	1.465	787.2	787.2	52.822	4.298	2.55		Unsaturated	66.8			32.59	1.58	51.55	116.47	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	32.910	1.416	807.6	807.6	49.732	4.356	2.57		Unsaturated	68.5			31.11	1.57	48.90	113.46	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	31.920	1.271	826.8	826.8	47.640	4.034	2.56		Unsaturated	67.7			30.17	1.56	47.13	110.98	0.99	0.735	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	30.060	1.167	846.0	846.0	44.302	3.939	2.57		Unsaturated	68.9			28.41	1.56	44.20	107.46	0.99	0.735	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	27.480	1.108	866.4	866.4	47.763	4.095	2.56		Unsaturated	68.0			25.97	1.55	40.34	102.29	0.99	0.734	1.097	n.a.	n.a.	n.a.	0.00	0.00
7.380	26.480	1.047	885.6	885.6	45.280	4.022	2.57		Unsaturated	68.8			25.03	1.54	38.61	100.24	0.98	0.734	1.093	n.a.	n.a.	n.a.	0.00	0.00
7.550	27.130	1.034	906.0	906.0	45.659	3.876	2.56		Unsaturated	67.7			25.64	1.52	39.08	100.61	0.98	0.734	1.091	n.a.	n.a.	n.a.	0.00	0.00
7.710	28.240	1.064	925.2	925.2	39.705	3.831	2.60		Unsaturated	70.9			26.69	1.50	40.12	102.59	0.98	0.733	1.090	n.a.	n.a.	n.a.	0.00	0.00
7.870	26.890	1.164	944.4	944.4	43.920	4.405	2.61		Unsaturated	71.8			25.42	1.49	37.99	100.02	0.98	0.733	1.086	n.a.	n.a.	n.a.	0.00	0.00
8.040	28.330	1.324	964.8	964.8	45.610	4.756	2.62	plastic	Clay	72.8			26.78	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	35.520	1.504	984.0	984.0	48.550	4.293	2.57		Sand	68.8			33.57	1.43	48.17	112.56	0.98	0.741	1.090	0.156	0.227	0.31	0.03	0.06
8.370	37.410	1.763	1004.4	1004.4	50.633	4.775	2.59		Sand	70.4			35.36	1.42	50.04	115.32	0.98	0.749	1.089	0.162	0.238	0.32	0.03	0.05
8.530	38.790	1.872	1023.6	1023.6	52.019	4.891	2.59		Sand	70.4			36.66	1.40	51.31	116.95	0.98	0.755	1.088	0.165	0.245	0.32	0.03	0.05
8.690	37.270	1.853	1042.8	1042.8	57.000	5.042	2.58		Mixed	69.1			35.23	1.39	49.09	113.81	0.98	0.762	1.084	0.159	0.231	0.30	0.03	0.06
8.860	36.640	1.633	1063.2	1063.2	48.147	4.521	2.59		Sand	70.3			34.63	1.38	47.91	112.53	0.98	0.769	1.081	0.156	0.225	0.29	0.03	0.05
9.020	38.200	1.711	1082.4	1082.4	49.767	4.544	2.58		Sand	69.6			36.11	1.37	49.41	114.33	0.98	0.775	1.080	0.160	0.232	0.30	0.03	0.06
9.190	43.460	2.259	1102.8	1102.8	56.178	5.265	2.59		Sand	70.5			41.08	1.34	55.18	121.98	0.98	0.782	1.082	0.176	0.267	0.34	0.03	0.05
9.350	66.760	2.509	1122.0	1122.0	85.927	3.790	2.37		Sand	52.2			63.10	1.29	81.49	150.09	0.98	0.788	1.100	0.289	0.531	0.67	0.02	0.04
9.510	133.070	2.770	1141.2	1141.2	170.532	2.091	1.98		Sand	21.1			125.78	1.22	153.98	201.41	0.98	0.794	1.100	2.047	4.955	6.24	0.00	0.00
9.680	141.370	2.241	1161.6	1161.6	179.603	1.592	1.87		Sand	12.7			133.62	1.23	164.93	184.31	0.98	0.800	1.100	0.869	2.067	2.58	0.00	0.00
9.840	114.860	2.337	1180.8	1180.8	144.582	2.045	2.01		Sand	24.2			108.56	1.23	133.17	184.85	0.98	0.806	1.100	0.889	2.125	2.64	0.00	0.00
10.010	75.210	2.110	1201.2	1201.2	93.596	2.828	2.25		Sand	42.6	108.56		108.56	1.20	130.26	205.80	0.97	0.812	1.100	2.662	6.442	7.94	0.00	0.00
10.170	41.620	1.654	1220.4	1220.4	51.040	4.034	2.54		Sand	66.0	108.56		108.56	1.19	128.70	215.62	0.97	0.817	1.100	5.139	12.437	15.22	0.00	0.00
10.330	29.650	0.992	1239.6	1239.6	35.849	3.417	2.60		Sand	70.8	108.56		108.56	1.18	128.04	216.17	0.97	0.822	1.100	5.349	12.944	15.74	0.00	0.00
10.500	24.870	0.836	1260.0	1260.0	32.934	3.448	2.63	plastic	Clay	73.2			23.51	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	25.280	0.804	1279.2	1279.2	33.126	3.265	2.61	plastic	Clay	71.7			23.89	1.14	n.a.	n.a.	0.97	0.833	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	26.860	0.860	1299.6	1299.6	34.848	3.282	2.59		Mixed	70.6			25.39	1.29	32.62	92.85	0.97	0.838	1.049	0.129	0.166	0.20	0.03	0.07
10.990	27.580	0.955	1318.8	1318.8	35.427	3.546	2.61	plastic	Clay	71.9			26.07	1.13	n.a.	n.a.	0.97	0.843	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	28.390	1.022	1338.0	1338.0	36.113	3.687	2.62	plastic	Clay	72.4			26.83	1.13	n.a.	n.a.	0.97	0.848	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	28.600	1.034	1358.4	1358.4	35.990	3.702	2.62	plastic	Clay	72.6			27.03	1.12	n.a.	n.a.	0.97	0.853	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	1

PGA (A_{max})	1.15

Total Settlement:	0.49	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.480	29.010	1.038	1377.6	1377.6	36.149	3.666	2.62	plastic	Clay	72.2			27.42	1.12	n.a.	n.a.	0.97	0.858	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	29.170	1.219	1398.0	1398.0	40.731	4.283	2.62		Clay	73.0			27.57	1.12	n.a.	n.a.	0.97	0.863	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	30.220	1.290	1417.2	1417.2	41.647	4.371	2.62		Clay	72.9			28.56	1.11	n.a.	n.a.	0.97	0.867	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	30.580	1.328	1437.6	1437.6	41.543	4.446	2.63		Clay	73.4			28.90	1.11	n.a.	n.a.	0.97	0.872	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	30.180	1.289	1456.8	1456.8	40.433	4.376	2.63		Clay	73.7			28.53	1.10	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	29.050	1.150	1476.0	1476.0	38.363	4.063	2.63		Clay	73.2			27.46	1.10	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	26.710	1.048	1496.4	1496.4	34.699	4.036	2.66		Clay	75.5			25.25	1.10	n.a.	n.a.	0.97	0.885	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	23.570	0.948	1515.6	1515.6	30.103	4.157	2.71		Clay	79.8			22.28	1.09	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	21.500	0.782	1536.0	1536.0	26.995	3.771	2.72		Clay	80.4			20.32	1.09	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	20.670	0.668	1555.2	1555.2	25.582	3.358	2.70		Clay	79.2			19.54	1.08	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	20.680	0.648	1574.4	1574.4	25.270	3.257	2.70		Clay	78.8			19.55	1.08	n.a.	n.a.	0.96	0.900	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	21.200	0.633	1594.8	1594.8	25.586	3.101	2.68		Clay	77.4			20.04	1.08	n.a.	n.a.	0.96	0.904	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	21.820	0.674	1614.0	1614.0	26.038	3.209	2.68		Clay	77.7			20.62	1.07	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	21.470	0.714	1634.4	1634.4	25.273	3.457	2.71		Clay	80.1			20.29	1.07	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	20.760	0.610	1653.6	1653.6	24.109	3.058	2.70		Clay	78.7			19.62	1.07	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	20.800	0.583	1672.8	1672.8	23.868	2.922	2.69		Clay	77.9			19.66	1.06	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	22.670	0.605	1693.2	1693.2	25.778	2.771	2.65		Clay	74.7			21.43	1.06	n.a.	n.a.	0.96	0.922	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	24.530	0.649	1712.4	1712.4	27.650	2.740	2.62		Clay	72.6			23.19	1.06	n.a.	n.a.	0.96	0.926	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	25.770	0.711	1732.8	1732.8	28.744	2.855	2.62		Clay	72.4			24.36	1.05	n.a.	n.a.	0.96	0.929	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	26.070	0.782	1752.0	1752.0	28.760	3.102	2.64		Clay	74.3			24.64	1.05	n.a.	n.a.	0.96	0.932	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	25.520	0.830	1771.2	1771.2	27.817	3.368	2.68		Clay	77.0			24.12	1.05	n.a.	n.a.	0.96	0.935	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	24.520	0.801	1791.6	1791.6	26.372	3.390	2.69		Clay	78.6			23.18	1.04	n.a.	n.a.	0.96	0.939	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	24.100	0.757	1810.8	1810.8	25.618	3.265	2.69		Clay	78.5			22.78	1.04	n.a.	n.a.	0.95	0.942	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	20.370	0.701	1831.2	1831.2	21.248	3.604	2.78		Clay	85.7			19.25	1.04	n.a.	n.a.	0.95	0.945	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	18.190	0.580	1850.4	1850.4	18.661	3.361	2.81		Clay	87.7			17.19	1.04	n.a.	n.a.	0.95	0.948	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	18.900	0.545	1869.6	1869.6	19.218	3.033	2.77		Clay	84.6			17.86	1.03	n.a.	n.a.	0.95	0.950	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	19.310	0.505	1890.0	1890.0	19.434	2.751	2.74		Clay	82.3			18.25	1.03	n.a.	n.a.	0.95	0.953	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	19.390	0.501	1909.2	1909.2	19.312	2.719	2.74		Clay	82.2			18.33	1.03	n.a.	n.a.	0.95	0.956	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	19.320	0.467	1929.6	1929.6	19.025	2.543	2.73		Clay	81.2			18.26	1.02	n.a.	n.a.	0.95	0.959	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	19.760	0.412	1948.8	1948.8	19.279	2.194	2.69		Clay	77.8			18.68	1.02	n.a.	n.a.	0.95	0.962	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	20.290	0.431	1968.0	1968.0	19.620	2.235	2.68		Clay	77.7			19.18	1.02	n.a.	n.a.	0.95	0.964	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	21.830	0.482	1988.4	1988.4	20.957	2.312	2.67		Clay	76.6			20.63	1.02	n.a.	n.a.	0.95	0.967	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	25.080	0.596	2007.6	2007.6	23.985	2.475	2.64		Clay	74.2			23.71	1.01	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	28.640	0.797	2028.0	2028.0	27.245	2.886	2.64		Clay	74.1			27.07	1.01	n.a.	n.a.	0.95	0.972	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	31.640	0.992	2047.2	2047.2	29.911	3.239	2.64		Clay	74.2			29.91	1.01	n.a.	n.a.	0.95	0.974	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	33.360	1.174	2066.4	2066.4	31.288	3.631	2.66		Clay	75.7			31.53	1.01	n.a.	n.a.	0.95	0.977	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	35.570	1.319	2086.8	2086.8	33.090	3.819	2.66		Clay	75.4			33.62	1.00	n.a.	n.a.	0.94	0.979	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	38.270	1.422	2106.0	2106.0	35.344	3.822	2.63		Clay	73.8			36.17	1.00	n.a.	n.a.	0.94	0.981	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	40.900	1.614	2126.4	2126.4	37.469	4.050	2.63		Clay	73.7			38.66	1.00	n.a.	n.a.	0.94	0.983	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	43.440	1.733	2145.6	2145.6	39.492	4.089	2.62		Clay	72.6			41.06	1.00	n.a.	n.a.	0.94	0.986	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	44.820	2.273	2164.8	2162.3	40.455	5.196	2.69		Clay	77.9			42.36	0.99	n.a.	n.a.	0.94	0.988	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	43.350	2.083	2185.2	2172.1	38.909	4.929	2.68		Clay	77.6			40.97	0.99	n.a.	n.a.	0.94	0.990	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	45.920	1.801	2204.4	2181.3	41.093	4.019	2.60		Clay	71.2			43.40	0.99	n.a.	n.a.	0.94	0.992	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	35.300	1.486	2224.8	2191.1	31.206	4.347	2.71		Clay	80.0			33.36	0.99	n.a.	n.a.	0.94	0.994	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	28.650	1.269	2244.0	2200.3	25.022	4.611	2.80		Clay	87.0			27.08	0.99	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	23.090	1.073	2263.2	2209.5	19.876	4.888	2.89		Clay	94.3			21.82	0.99	n.a.	n.a.	0.94	0.998	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	19.480	0.904	2283.6	2219.3	16.526	4.930	2.95		Clay	99.4			18.41	0.99	n.a.	n.a.	0.94	1.000	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	19.280	0.806	2302.8	2228.5	16.269	4.443	2.93		Clay	97.5			18.22	0.99	n.a.	n.a.	0.94	1.002	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	20.720	0.767	2323.2	2238.3	17.476	3.922	2.87		Clay	92.8			19.58	0.99	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	20.180	0.844	2342.4	2247.6	16.915	4.440	2.92		Clay	96.4			19.07	0.98	n.a.	n.a.	0.93	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	19.270	1.050	2362.8	2257.3	16.026	5.803	3.01		Clay	100.0			18.21	0.98	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	21.080	1.260	2382.0	2266.6	17.550	6.333	3.01		Clay	100.0			19.92	0.98	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	22.830	1.181	2401.2	2275.8	19.008	5.460	2.94		Clay	98.0			21.58	0.98	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	27.210	1.040	2421.6	2285.6	22.751	4.001	2.79		Clay	86.2			25.72	0.98	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	24.200	1.131	2440.8	2294.8	20.028	4.923	2.89		Clay	94.3			22.87	0.98	n.a.	n.a.	0.93	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	28.300	1.072	2461.2	2304.6	23.492	3.960	2.78		Clay	85.1			26.75	0.98	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	33.710	1.018	2480.4	2313.8	28.066	3.136	2.65		Clay	75.2			31.86	0.98	n.a.	n.a.	0.93	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	30.090	0.911	2499.6	2323.0	24.830	3.157	2.69		Clay	78.6			28.44	0.98	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	28.810	1.009	2520.0	2332.8	23.620	3.664	2.75		Clay	83.2			27.23	0.97	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	31.650	1.201	2539.2	2342.0	25.944	3.954	2.74		Clay	82.5			29.91	0.97	n.a.	n.a.	0.93	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	29.960	1.280	2559.6	2351.8	24.390	4.464	2.80		Clay	86.9			28.32	0.97	n.a.	n.a.	0.93	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	30.980	1.424	2578.8	2361.0	25.151	4.796	2.81		Clay	87.8			29.28	0.97	n.a.	n.a.	0.93	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	31.960	1.532	2598.0	2370.2	25.872	4.995	2.81		Clay	88.0			30.21	0.97	n.a.	n.a.	0.92	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	30.210	1.420	2618.4	2380.0	24.286	4.913	2.83		Clay	89.3			28.55	0.97	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	29.220	1.291	2637.6	2389.2	23.356	4.628	2.82		Clay	88.9			27.62	0.97	n.a.	n.a.	0.92	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	28.310	1.112	2658.0	2399.0	22.493	4.120	2.80		Clay	87.2			26.76	0.97	n.a.	n.a.	0.92	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	26.190	0.987	2677.2	2408.3	20.639	3.972	2.82		Clay	88.6			24.75	0.97	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 1

PGA (A_{max}) 1.15

Total Settlement: 0.49 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.470	24.480	0.882	2696.4	2417.5	19.137	3.811	2.83		Clay	89.7			23.14	0.97	n.a.	n.a.	0.92	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	23.930	0.881	2716.8	2427.3	18.598	3.904	2.85		Clay	91.0			22.62	0.96	n.a.	n.a.	0.92	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	23.060	0.884	2736.0	2436.5	17.806	4.077	2.88		Clay	93.1			21.80	0.96	n.a.	n.a.	0.92	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	23.000	0.861	2756.4	2446.3	17.677	3.982	2.87		Clay	92.8			21.74	0.96	n.a.	n.a.	0.92	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	22.330	0.895	2775.6	2455.5	17.057	4.272	2.90		Clay	95.3			21.11	0.96	n.a.	n.a.	0.92	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	20.230	0.726	2794.8	2464.7	15.282	3.855	2.91		Clay	96.1			19.12	0.96	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	17.270	0.780	2815.2	2474.5	12.821	4.919	3.04		Clay	100.0			16.32	0.96	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	14.290	0.637	2834.4	2483.7	10.366	4.945	3.11		Clay	100.0			13.51	0.96	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	12.230	0.460	2854.8	2493.5	8.665	4.254	3.14		Clay	100.0			11.56	0.96	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	10.080	0.466	2874.0	2502.7	6.907	5.392	3.28		Clay	100.0			9.53	0.96	n.a.	n.a.	0.91	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	10.530	0.402	2893.2	2511.9	7.232	4.420	3.21		Clay	100.0			9.95	0.96	n.a.	n.a.	0.91	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	10.430	0.440	2913.6	2521.7	7.117	4.907	3.24		Clay	100.0			9.86	0.95	n.a.	n.a.	0.91	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	9.690	0.432	2932.8	2530.9	6.498	5.253	3.29		Clay	100.0			9.16	0.95	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	13.550	0.449	2953.2	2540.7	9.504	3.718	3.07		Clay	100.0			12.81	0.95	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	14.370	0.560	2972.4	2550.0	10.105	4.343	3.09		Clay	100.0			13.58	0.95	n.a.	n.a.	0.91	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	15.350	0.563	2991.6	2559.2	10.827	4.064	3.05		Clay	100.0			14.51	0.95	n.a.	n.a.	0.91	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	18.940	0.577	3012.0	2569.0	13.573	3.308	2.91		Clay	96.1			17.90	0.95	n.a.	n.a.	0.91	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	17.870	0.519	3031.2	2578.2	12.687	3.172	2.93		Clay	97.1			16.89	0.95	n.a.	n.a.	0.91	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	17.140	0.503	3051.6	2588.0	12.067	3.223	2.95		Clay	98.9			16.20	0.95	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	17.510	0.521	3070.8	2597.2	12.301	3.261	2.94		Clay	98.5			16.55	0.95	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	18.660	0.567	3090.0	2606.4	13.133	3.311	2.93		Clay	97.0			17.64	0.95	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	19.660	0.659	3110.4	2616.2	13.841	3.640	2.93		Clay	97.5			18.58	0.95	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	20.210	0.744	3129.6	2625.4	14.204	3.989	2.95		Clay	98.8			19.10	0.94	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	20.800	1.003	3150.0	2635.2	14.591	5.215	3.01		Clay	100.0			19.66	0.94	n.a.	n.a.	0.90	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	25.900	1.520	3169.2	2644.4	18.390	6.251	2.99		Clay	100.0			24.48	0.94	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	47.770	2.062	3188.4	2653.6	34.802	4.465	2.69		Clay	77.9			45.15	0.94	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	44.330	1.908	3208.8	2663.4	32.083	4.466	2.71		Clay	79.9			41.90	0.94	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	37.590	1.397	3228.0	2672.6	26.922	3.882	2.73		Clay	81.1			35.53	0.94	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	26.770	1.321	3248.4	2682.4	18.749	5.253	2.93		Clay	97.5			25.30	0.94	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	23.850	1.065	3267.6	2691.6	16.508	4.794	2.95		Clay	98.8			22.54	0.94	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	26.340	0.972	3288.0	2701.4	18.284	3.934	2.86		Clay	91.6			24.90	0.94	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	23.380	0.789	3307.2	2710.7	16.030	3.629	2.88		Clay	93.5			22.10	0.94	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	25.100	0.830	3326.4	2719.9	17.234	3.540	2.85		Clay	90.9			23.72	0.94	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	27.160	0.986	3346.8	2729.7	18.674	3.868	2.85		Clay	90.7			25.67	0.94	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	28.090	1.059	3366.0	2738.9	19.283	4.010	2.85		Clay	90.6			26.55	0.93	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	28.310	1.113	3386.4	2748.7	19.367	4.183	2.86		Clay	91.5			26.76	0.93	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	27.620	1.108	3405.6	2757.9	18.795	4.276	2.87		Clay	92.8			26.11	0.93	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	27.950	1.124	3424.8	2767.1	18.964	4.282	2.87		Clay	92.6			26.42	0.93	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	27.620	1.074	3445.2	2776.9	18.652	4.146	2.87		Clay	92.3			26.11	0.93	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	27.400	1.041	3464.4	2786.1	18.426	4.056	2.86		Clay	92.1			25.90	0.93	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	27.990	1.050	3484.8	2795.9	18.776	4.002	2.85		Clay	91.3			26.46	0.93	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	28.980	1.086	3504.0	2805.1	19.413	3.989	2.84		Clay	90.3			27.39	0.93	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	28.370	1.016	3523.2	2814.3	18.909	3.819	2.84		Clay	90.1			26.81	0.93	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	25.570	0.889	3543.6	2824.1	16.853	3.733	2.87		Clay	92.7			24.17	0.93	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	24.250	0.757	3562.8	2833.3	15.860	3.370	2.86		Clay	92.2			22.92	0.93	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	24.120	0.818	3583.2	2843.1	15.707	3.663	2.89		Clay	94.2			22.80	0.93	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	23.690	0.790	3602.4	2852.4	15.348	3.607	2.89		Clay	94.5			22.39	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	23.730	0.691	3621.6	2861.6	15.320	3.151	2.86		Clay	91.7			22.43	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	20.710	0.595	3642.0	2871.4	13.157	3.151	2.91		Clay	96.0			19.57	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	19.640	0.597	3661.2	2880.6	12.365	3.354	2.95		Clay	99.0			18.56	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	22.150	0.759	3681.6	2890.4	14.053	3.737	2.93		Clay	97.7			20.94	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	26.560	0.835	3700.8	2899.6	17.044	3.379	2.84		Clay	90.2			25.10	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	28.200	0.843	3720.0	2908.8	18.111	3.202	2.81		Clay	87.4			26.65	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	26.480	1.126	3740.4	2918.6	16.864	4.577	2.93		Clay	97.2			25.03	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	28.110	1.607	3759.6	2927.8	17.918	6.127	2.99		Clay	100.0			26.57	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	31.060	1.713	3780.0	2937.6	19.860	5.871	2.94		Clay	98.6			29.36	0.92	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	44.050	1.536	3799.2	2946.8	28.607	3.644	2.69		Clay	78.1			41.64	0.92	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	39.110	1.185	3818.4	2956.0	25.169	3.186	2.69		Clay	78.4			36.97	0.92	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	34.670	0.991	3838.8	2965.8	22.085	3.026	2.72		Clay	80.8			32.77	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	33.220	1.173	3858.0	2975.0	21.036	3.748	2.80		Clay	86.8			31.40	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	34.710	1.354	3878.4	2984.8	21.958	4.132	2.81		Clay	87.9			32.81	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	36.150	1.493	3897.6	2994.0	22.846	4.366	2.81		Clay	88.1			34.17	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	37.640	1.533	3916.8	3003.3	23.762	4.295	2.80		Clay	86.7			35.58	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	39.110	1.601	3937.2	3013.1	24.654	4.310	2.79		Clay	85.8			36.97	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	39.620	1.751	3956.4	3022.3	24.910	4.651	2.80		Clay	87.3			37.45	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	37.950	1.602	3976.8	3032.1	23.721	4.454	2.81		Clay	87.6			35.87	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	35.350	1.429	3996.0	3041.3	21.933	4.284	2.82		Clay	88.7			33.41	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 1

PGA (A_{max}) 1.15

Total Settlement: 0.49 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.460	32.470	1.182	4015.2	3050.5	19.972	3.879	2.82		Clay	89.0			30.69	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	31.210	1.025	4035.6	3060.3	19.078	3.512	2.81		Clay	88.0			29.50	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	31.400	1.037	4054.8	3069.5	19.138	3.530	2.81		Clay	88.0			29.68	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	32.240	1.038	4075.2	3079.3	19.616	3.437	2.80		Clay	86.8			30.47	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	33.310	1.077	4094.4	3088.5	20.245	3.445	2.79		Clay	86.0			31.48	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	33.590	1.097	4113.6	3097.7	20.359	3.480	2.79		Clay	86.1			31.75	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	32.390	1.107	4134.0	3107.5	19.516	3.649	2.82		Clay	88.2			30.61	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	29.430	1.123	4153.2	3116.7	17.553	4.106	2.88		Clay	93.7			27.82	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	26.220	0.976	4173.6	3126.5	15.438	4.046	2.92		Clay	96.8			24.78	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	23.580	0.952	4192.8	3135.7	13.702	4.431	2.99		Clay	100.0			22.29	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	24.010	0.887	4212.0	3145.0	13.930	4.049	2.96		Clay	99.6			22.69	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	24.340	0.980	4232.4	3154.8	14.089	4.410	2.98		Clay	100.0			23.01	0.90	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	26.380	0.909	4251.6	3164.0	15.332	3.748	2.90		Clay	95.4			24.93	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	25.420	0.763	4272.0	3173.8	14.673	3.277	2.88		Clay	93.7			24.03	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	22.090	0.661	4291.2	3183.0	12.532	3.316	2.94		Clay	98.4			20.88	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	19.750	0.552	4311.6	3192.8	11.021	3.135	2.97		Clay	100.0			18.67	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	19.530	0.527	4330.8	3202.0	10.846	3.037	2.97		Clay	100.0			18.46	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	18.580	0.556	4350.0	3211.2	10.217	3.387	3.02		Clay	100.0			17.56	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	18.020	0.564	4370.4	3221.0	9.832	3.562	3.05		Clay	100.0			17.03	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	18.640	0.520	4389.6	3230.2	10.182	3.164	3.00		Clay	100.0			17.62	0.89	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	18.070	0.465	4410.0	3240.0	9.793	2.930	3.00		Clay	100.0			17.08	0.89	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	17.440	0.715	4429.2	3249.2	9.372	4.695	3.13		Clay	100.0			16.48	0.89	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	23.430	0.748	4448.4	3258.4	13.016	3.527	2.94		Clay	98.6			22.15	0.89	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	38.610	0.884	4468.8	3268.2	22.260	2.429	2.66		Clay	75.9			36.49	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	38.810	0.992	4488.0	3277.4	22.314	2.712	2.69		Clay	78.2			36.68	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	37.700	1.122	4508.4	3287.2	21.566	3.167	2.74		Clay	82.4			35.63	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	41.030	1.182	4527.6	3296.4	23.520	3.048	2.70		Clay	79.3			38.78	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	42.140	1.243	4546.8	3305.7	24.120	3.117	2.70		Clay	79.1			39.83	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	43.370	1.388	4567.2	3315.5	24.785	3.378	2.71		Clay	80.1			40.99	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	42.940	1.560	4586.4	3324.7	24.452	3.837	2.75		Clay	83.4			40.59	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	39.150	1.462	4606.8	3334.5	22.100	3.968	2.80		Clay	86.8			37.00	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	34.200	1.285	4626.0	3343.7	19.073	4.029	2.85		Clay	91.0			32.33	0.89	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	29.620	1.025	4645.2	3352.9	16.283	3.755	2.88		Clay	93.8			28.00	0.89	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	25.340	0.924	4665.6	3362.7	13.684	4.014	2.96		Clay	99.9			23.95	0.88	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	23.100	0.850	4684.8	3371.9	12.312	4.096	3.00		Clay	100.0			21.83	0.88	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	24.280	1.101	4705.2	3381.7	12.968	5.019	3.04		Clay	100.0			22.95	0.88	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	27.030	1.527	4724.4	3390.9	14.549	6.191	3.06		Clay	100.0			25.55	0.88	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	34.990	2.578	4743.6	3400.1	19.186	7.903	3.04		Clay	100.0			33.07	0.88	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	50.440	2.466	4764.0	3409.9	28.187	5.132	2.79		Clay	86.5			47.67	0.88	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	62.930	3.763	4783.2	3419.1	35.412	6.216	2.78		Clay	85.6			59.48	0.88	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	91.750	3.572	4803.6	3428.9	66.341	3.998	2.46		Sand	59.5		1.8	156.10	0.86	134.91	221.26	0.83	1.058	0.855	7.870	14.806	13.99	0.00	0.00
40.190	85.280	2.571	4822.8	3438.1	61.447	3.103	2.40		Sand	55.0	86.72	1.8	156.10	0.86	134.60	218.86	0.83	1.058	0.854	6.536	12.284	11.61	0.00	0.00
40.350	47.240	1.456	4842.0	3447.4	26.002	3.250	2.69		Clay	78.0			44.65	0.88	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	36.600	1.103	4862.4	3457.2	19.767	3.227	2.78		Clay	85.2			34.59	0.88	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	35.690	1.184	4881.6	3466.4	19.184	3.559	2.81		Clay	88.2			33.73	0.88	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	36.140	1.246	4902.0	3476.2	19.383	3.699	2.82		Clay	88.7			34.16	0.88	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	36.960	1.196	4921.2	3485.4	19.797	3.467	2.80		Clay	86.7			34.93	0.88	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	35.000	1.058	4940.4	3494.6	18.617	3.251	2.80		Clay	87.0			33.08	0.88	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	29.940	0.949	4960.8	3504.4	15.672	3.455	2.88		Clay	93.0			28.30	0.88	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	24.230	0.841	4980.0	3513.6	12.375	3.869	2.99		Clay	100.0			22.90	0.87	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	20.390	0.751	5000.4	3523.4	10.155	4.198	3.08		Clay	100.0			19.27	0.87	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	18.620	0.706	5019.6	3532.6	9.121	4.381	3.12		Clay	100.0			17.60	0.87	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	19.490	0.603	5038.8	3541.8	9.583	3.551	3.05		Clay	100.0			18.42	0.87	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	19.900	0.559	5059.2	3551.6	9.782	3.218	3.02		Clay	100.0			18.81	0.87	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	19.070	0.527	5078.4	3560.8	9.285	3.186	3.04		Clay	100.0			18.02	0.87	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	19.960	0.525	5098.8	3570.6	9.752	3.018	3.01		Clay	100.0			18.87	0.87	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	22.510	0.593	5118.0	3579.8	11.146	2.974	2.96		Clay	99.5			21.28	0.87	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	25.560	0.673	5137.2	3589.1	12.812	2.928	2.90		Clay	95.2			24.16	0.87	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	26.670	0.741	5157.6	3598.8	13.388	3.076	2.90		Clay	95.0			25.21	0.87	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	28.730	0.749	5176.8	3608.1	14.491	2.866	2.85		Clay	91.3			27.16	0.87	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	29.850	0.944	5197.2	3617.9	15.065	3.463	2.89		Clay	94.2			28.21	0.87	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	32.220	1.146	5216.4	3627.1	16.328	3.870	2.89		Clay	94.3			30.45	0.87	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	34.380	1.261	5236.8	3636.9	17.466	3.969	2.88		Clay	93.1			32.50	0.87	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	30.330	1.147	5256.0	3646.1	15.195	4.141	2.93		Clay	97.8			28.67	0.87	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	25.340	0.940	5275.2	3655.3	12.422	4.142	3.00		Clay	100.0			23.95	0.87	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	22.440	0.731	5295.6	3665.1	10.800	3.695	3.02		Clay	100.0			21.21	0.87	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	22.370	0.734	5314.8	3674.3	10.730	3.722	3.03		Clay	100.0			21.14	0.86	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	1

PGA (A_{max})	1.15

Total Settlement:	0.49	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.460	21.930	0.750	5335.2	3684.1	10.457	3.892	3.05		Clay	100.0			20.73	0.86	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	20.620	0.609	5354.4	3693.3	9.716	3.395	3.04		Clay	100.0			19.49	0.86	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	18.670	0.674	5373.6	3702.5	8.634	4.216	3.13		Clay	100.0			17.65	0.86	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	16.530	0.556	5394.0	3712.3	7.452	4.022	3.17		Clay	100.0			15.62	0.86	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	18.510	0.489	5413.2	3721.5	8.493	3.093	3.06		Clay	100.0			17.50	0.86	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	16.500	0.661	5433.6	3731.3	7.388	4.797	3.22		Clay	100.0			15.60	0.86	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	15.860	0.630	5452.8	3740.5	7.022	4.796	3.24		Clay	100.0			14.99	0.86	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	24.860	0.540	5472.0	3749.8	11.800	2.440	2.89		Clay	94.0			23.50	0.86	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	28.700	0.727	5492.4	3759.6	13.807	2.802	2.87		Clay	92.2			27.13	0.86	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	24.050	0.725	5511.6	3768.8	11.300	3.402	2.98		Clay	100.0			22.73	0.86	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	29.380	0.896	5532.0	3778.6	14.087	3.366	2.91		Clay	95.4			27.77	0.86	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	29.030	1.069	5551.2	3787.8	13.863	4.072	2.96		Clay	99.9			27.44	0.86	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	30.560	1.071	5570.4	3797.0	14.630	3.856	2.93		Clay	97.2			28.88	0.86	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	29.640	0.991	5590.8	3806.8	14.104	3.693	2.93		Clay	97.3			28.02	0.86	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	28.350	0.868	5610.0	3816.0	13.388	3.398	2.93		Clay	97.0			26.80	0.86	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	27.170	0.760	5630.4	3825.8	12.732	3.119	2.92		Clay	96.7			25.68	0.86	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	25.940	0.657	5649.6	3835.0	12.055	2.840	2.92		Clay	96.3			24.52	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	22.700	0.547	5668.8	3844.2	10.335	2.753	2.96		Clay	100.0			21.46	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	19.600	0.493	5689.2	3854.0	8.695	2.941	3.04		Clay	100.0			18.53	0.85	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	17.180	0.430	5708.4	3863.2	7.416	3.001	3.10		Clay	100.0			16.24	0.85	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	16.420	0.350	5728.8	3873.0	7.000	2.578	3.09		Clay	100.0			15.52	0.85	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	16.870	0.291	5748.0	3882.2	7.210	2.076	3.03		Clay	100.0			15.95	0.85	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	16.600	0.374	5767.2	3891.5	7.049	2.724	3.10		Clay	100.0			15.69	0.85	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	16.550	0.629	5787.6	3901.2	7.001	4.608	3.23		Clay	100.0			15.64	0.85	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	19.320	0.728	5806.8	3910.5	8.396	4.431	3.16		Clay	100.0			18.26	0.85	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	36.320	0.739	5827.2	3920.3	17.043	2.213	2.73		Clay	81.5			34.33	0.85	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	32.830	0.730	5846.4	3929.5	15.222	2.441	2.80		Clay	86.7			31.03	0.85	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	31.090	0.742	5865.6	3938.7	14.298	2.634	2.84		Clay	90.0			29.39	0.85	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	30.960	0.756	5886.0	3948.5	14.191	2.699	2.85		Clay	90.7			29.26	0.85	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	30.390	0.812	5905.2	3957.7	13.865	2.961	2.88		Clay	93.2			28.72	0.85	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	31.050	0.754	5925.6	3967.5	14.159	2.685	2.85		Clay	90.6			29.35	0.85	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	30.120	0.774	5944.8	3976.7	13.653	2.849	2.87		Clay	92.9			28.47	0.85	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	26.950	0.730	5964.0	3985.9	12.026	3.047	2.94		Clay	97.8			25.47	0.85	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	26.970	0.788	5984.4	3995.7	12.002	3.288	2.96		Clay	99.4			25.49	0.85	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	25.810	0.815	6003.6	4004.9	11.390	3.574	2.99		Clay	100.0			24.40	0.85	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	27.970	0.717	6024.0	4014.7	12.433	2.874	2.91		Clay	95.7			26.44	0.84	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	27.140	0.706	6043.2	4023.9	11.987	2.928	2.93		Clay	97.1			25.65	0.84	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	27.870	0.702	6062.4	4033.2	12.317	2.825	2.91		Clay	95.6			26.34	0.84	n.a.	n.a.	0.77	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	28.090	0.750	6082.8	4042.9	12.391	2.995	2.92		Clay	96.6			26.55	0.84	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	29.140	0.937	6102.0	4052.2	12.877	3.592	2.95		Clay	99.3			27.54	0.84	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	33.780	1.052	6122.4	4062.0	15.125	3.425	2.89		Clay	93.8			31.93	0.84	n.a.	n.a.	0.77	1.022	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	37.500	1.048	6141.6	4071.2	16.914	3.044	2.82		Clay	88.2			35.44	0.84	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	29.880	0.859	6162.0	4081.0	13.134	3.205	2.92		Clay	96.4			28.24	0.84	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	24.010	0.686	6181.2	4090.2	10.229	3.279	3.01		Clay	100.0			22.69	0.84	n.a.	n.a.	0.77	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	19.130	0.498	6200.4	4099.4	7.821	3.107	3.09		Clay	100.0			18.08	0.84	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	16.070	0.365	6220.8	4109.2	6.308	2.813	3.15		Clay	100.0			15.19	0.84	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	13.820	0.333	6240.0	4118.4	5.196	3.114	3.24		Clay	100.0			13.06	0.84	n.a.	n.a.	0.76	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	12.660	0.306	6260.4	4128.2	4.617	3.207	3.29		Clay	100.0			11.97	0.84	n.a.	n.a.	0.76	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	13.220	0.273	6279.6	4137.4	4.873	2.705	3.24		Clay	100.0			12.50	0.84	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	13.290	0.270	6298.8	4146.6	4.891	2.661	3.23		Clay	100.0			12.56	0.84	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	13.170	0.280	6319.2	4156.4	4.817	2.799	3.25		Clay	100.0			12.45	0.84	n.a.	n.a.	0.76	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	13.830	0.292	6338.4	4165.6	5.118	2.737	3.22		Clay	100.0			13.07	0.84	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	14.690	0.358	6358.8	4175.4	5.513	3.110	3.22		Clay	100.0			13.88	0.84	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	16.250	0.433	6378.0	4184.6	6.242	3.318	3.19		Clay	100.0			15.36	0.84	n.a.	n.a.	0.76	1.013	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	18.200	0.550	6397.2	4193.9	7.154	3.664	3.17		Clay	100.0			17.20	0.83	n.a.	n.a.	0.76	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	20.300	0.548	6417.6	4203.6	8.132	3.206	3.09		Clay	100.0			19.19	0.83	n.a.	n.a.	0.76	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	21.850	0.648	6436.8	4212.9	8.845	3.476	3.08		Clay	100.0			20.65	0.83	n.a.	n.a.	0.76	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	20.950	0.639	6457.2	4222.7	8.393	3.608	3.11		Clay	100.0			19.80	0.83	n.a.	n.a.	0.76	1.010	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	20.900	0.531	6476.4	4231.9	8.347	3.005	3.06		Clay	100.0			19.75	0.83	n.a.	n.a.	0.75	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	20.290	0.499	6495.6	4241.1	8.037	2.929	3.07		Clay	100.0			19.18	0.83	n.a.	n.a.	0.75	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	21.450	0.479	6516.0	4250.9	8.559	2.633	3.02		Clay	100.0			20.27	0.83	n.a.	n.a.	0.75	1.008	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	21.940	0.509	6535.2	4260.1	8.766	2.725	3.02		Clay	100.0			20.74	0.83	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	20.820	0.460	6555.6	4269.9	8.217	2.619	3.04		Clay	100.0			19.68	0.83	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	19.240	0.543	6574.8	4279.1	7.456	3.405	3.13		Clay	100.0			18.19	0.83	n.a.	n.a.	0.75	1.006	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	18.680	0.539	6594.0	4288.3	7.174	3.505	3.15		Clay	100.0			17.66	0.83	n.a.	n.a.	0.75	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.120	22.960	0.526	6614.4	4298.1	9.145	2.675	3.00		Clay	100.0			21.70	0.83	n.a.	n.a.	0.75	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.280	21.540	0.498	6633.6	4307.3	8.461	2.734	3.03		Clay	100.0			20.36	0.83	n.a.	n.a.	0.75	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 2

PGA (A_{max}) 1.15

Total Settlement: 0.23 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	554.660	0.663	19.2	19.2	5503.524	0.120	0.40		Unsaturated	0.0			524.25	1.70	891.23	891.23	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	373.640	0.792	39.6	39.6	2581.398	0.212	0.55		Unsaturated	0.0			353.16	1.70	600.37	600.37	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	238.640	0.688	58.8	58.8	1352.923	0.288	0.76		Unsaturated	0.0			225.56	1.70	383.45	383.45	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	155.740	0.667	79.2	79.2	760.675	0.428	1.04		Unsaturated	0.0			147.20	1.70	250.24	250.24	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	103.560	0.956	98.4	98.4	453.691	0.924	1.44		Unsaturated	0.0			97.88	1.70	166.40	166.40	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	57.670	0.976	117.6	117.6	230.981	1.694	1.82		Unsaturated	8.9			54.51	1.70	92.66	97.36	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	32.770	0.915	138.0	138.0	121.030	2.798	2.17		Unsaturated	36.5			30.97	1.70	52.66	104.74	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	17.610	0.665	157.2	157.2	60.794	3.795	2.47		Unsaturated	60.3			16.64	1.70	28.30	85.01	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	17.090	0.572	177.6	177.6	55.466	3.367	2.46		Unsaturated	59.5			16.15	1.70	27.46	83.74	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	17.710	0.616	196.8	196.8	54.583	3.496	2.47		Unsaturated	60.8			16.74	1.70	28.46	85.35	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	17.800	0.603	216.0	216.0	52.339	3.407	2.48		Unsaturated	61.2			16.82	1.70	28.60	85.64	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	18.270	0.564	236.4	236.4	51.330	3.106	2.46		Unsaturated	59.4			17.27	1.70	29.36	86.15	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	17.290	0.571	255.6	255.6	46.673	3.326	2.51		Unsaturated	63.4			16.34	1.70	27.78	85.13	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	16.940	0.598	276.0	276.0	43.972	3.557	2.54		Unsaturated	66.6			16.01	1.70	27.22	85.09	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	18.680	0.670	295.2	295.2	46.897	3.615	2.53		Unsaturated	65.3			17.66	1.70	30.02	88.43	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	20.620	0.710	314.4	314.4	50.176	3.471	2.50		Unsaturated	62.7			19.49	1.70	33.13	91.82	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	21.530	0.748	334.8	334.8	50.761	3.502	2.50		Unsaturated	62.6			20.35	1.70	34.59	93.68	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	22.680	0.788	354.0	354.0	52.001	3.500	2.49		Unsaturated	62.0			21.44	1.70	36.44	95.90	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	24.460	0.869	374.4	374.4	54.541	3.580	2.48		Unsaturated	61.4			23.12	1.70	39.30	99.41	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	25.390	0.916	393.6	393.6	55.211	3.635	2.48		Unsaturated	61.5			24.00	1.70	40.80	101.35	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	25.680	0.929	412.8	412.8	54.512	3.647	2.49		Unsaturated	61.9			24.27	1.70	41.26	102.05	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	24.730	0.890	433.2	433.2	51.207	3.630	2.50		Unsaturated	63.3			23.37	1.70	39.74	100.45	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	27.470	0.821	452.4	452.4	55.690	3.014	2.42		Unsaturated	56.7			25.96	1.70	44.14	104.23	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	25.940	0.854	472.8	472.8	51.396	3.323	2.48		Unsaturated	61.0			24.52	1.70	41.68	102.36	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	26.330	0.960	492.0	492.0	51.129	3.680	2.51		Unsaturated	63.7			24.89	1.70	42.31	103.84	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	27.780	1.154	512.4	512.4	52.866	4.193	2.54		Unsaturated	66.1			26.26	1.70	44.64	107.42	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	29.100	1.247	531.6	531.6	54.374	4.324	2.54		Unsaturated	66.2			27.50	1.70	46.76	110.17	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	29.320	1.282	550.8	550.8	53.807	4.413	2.55		Unsaturated	67.0			27.71	1.70	47.11	110.80	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	29.720	1.334	571.2	571.2	53.547	4.531	2.56		Unsaturated	67.8			28.09	1.70	47.75	111.81	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	30.620	1.477	590.4	590.4	54.262	4.872	2.58		Unsaturated	69.3			28.94	1.70	49.20	114.01	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	32.430	1.540	610.8	610.8	56.515	4.794	2.56		Unsaturated	68.0			30.65	1.70	52.11	117.46	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	34.220	1.680	630.0	630.0	58.731	4.956	2.56		Unsaturated	67.9			32.34	1.70	54.98	121.16	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	34.490	1.787	649.2	649.2	58.300	5.231	2.58		Unsaturated	69.5			32.60	1.70	55.42	122.07	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	34.940	1.811	669.6	669.6	58.144	5.234	2.58		Unsaturated	69.6			33.02	1.68	55.57	122.29	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	33.730	1.768	688.8	688.8	69.226	5.294	2.54		Unsaturated	65.9			31.88	1.67	53.39	118.64	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	31.950	1.692	709.2	709.2	64.189	5.354	2.56		Unsaturated	67.9			30.20	1.67	50.28	115.10	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	29.290	1.617	728.4	728.4	57.677	5.589	2.61		Unsaturated	71.5			27.68	1.66	46.00	110.31	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	27.240	1.561	747.6	747.6	52.603	5.810	2.64		Unsaturated	74.6			25.75	1.65	42.60	106.50	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	25.950	1.488	768.0	768.0	49.123	5.822	2.67		Unsaturated	76.2			24.53	1.64	40.30	103.79	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	24.440	1.405	787.2	787.2	61.093	5.841	2.60		Unsaturated	71.3			23.10	1.64	37.83	99.72	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	21.840	1.286	807.6	807.6	53.086	5.997	2.65		Unsaturated	75.2			20.64	1.63	33.71	95.08	0.99	0.736	1.099	n.a.	n.a.	n.a.	0.00	0.00
6.890	20.420	1.189	826.8	826.8	48.395	5.941	2.68		Unsaturated	77.1			19.30	1.62	31.34	92.30	0.99	0.735	1.094	n.a.	n.a.	n.a.	0.00	0.00
7.050	19.680	1.169	846.0	846.0	45.525	6.072	2.70		Unsaturated	79.1			18.60	1.61	29.94	90.79	0.99	0.735	1.091	n.a.	n.a.	n.a.	0.00	0.00
7.220	19.000	1.104	866.4	866.4	42.860	5.947	2.71		Unsaturated	80.0			17.96	1.60	28.65	89.24	0.99	0.734	1.087	n.a.	n.a.	n.a.	0.00	0.00
7.380	19.210	1.058	885.6	885.6	42.383	5.639	2.70		Unsaturated	78.9			18.16	1.58	28.64	89.08	0.98	0.734	1.085	n.a.	n.a.	n.a.	0.00	0.00
7.550	19.890	1.055	906.0	906.0	42.907	5.428	2.68		Unsaturated	77.6			18.80	1.56	29.27	89.70	0.98	0.734	1.083	n.a.	n.a.	n.a.	0.00	0.00
7.710	20.450	1.096	925.2	925.2	43.207	5.485	2.68		Unsaturated	77.7			19.33	1.54	29.73	90.31	0.98	0.733	1.082	n.a.	n.a.	n.a.	0.00	0.00
7.870	20.400	0.967	944.4	944.4	42.202	4.851	2.65		Unsaturated	75.2			19.28	1.52	29.39	89.48	0.98	0.733	1.079	n.a.	n.a.	n.a.	0.00	0.00
8.040	20.130	0.944	964.8	964.8	40.729	4.803	2.66		Clay	75.8			19.03	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	20.100	0.979	984.0	984.0	39.854	4.993	2.68		Clay	77.3			19.00	1.22	n.a.	n.a.	0.98	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	21.490	0.983	1004.4	1004.4	41.792	4.684	2.64		Clay	74.6			20.31	1.22	n.a.	n.a.	0.98	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	20.880	0.958	1023.6	1023.6	39.797	4.703	2.66		Clay	75.8			19.74	1.21	n.a.	n.a.	0.98	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	20.460	0.927	1042.8	1042.8	38.241	4.650	2.67		Clay	76.5			19.34	1.21	n.a.	n.a.	0.98	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	18.690	0.921	1063.2	1063.2	34.158	5.071	2.73		Clay	81.4			17.67	1.20	n.a.	n.a.	0.98	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	16.660	0.891	1082.4	1082.4	29.783	5.529	2.80		Clay	86.9			15.75	1.19	n.a.	n.a.	0.98	0.775	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	16.760	0.907	1102.8	1102.8	29.395	5.595	2.81		Clay	87.6			15.84	1.19	n.a.	n.a.	0.98	0.782	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	18.870	0.916	1122.0	1122.0	32.636	5.004	2.74		Clay	82.2			17.84	1.18	n.a.	n.a.	0.98	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	21.670	1.040	1141.2	1141.2	36.978	4.928	2.70		Clay	78.8			20.48	1.18	n.a.	n.a.	0.98	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	22.670	1.143	1161.6	1161.6	38.032	5.176	2.70		Clay	79.3			21.43	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	23.900	1.189	1180.8	1180.8	39.481	5.099	2.69		Clay	78.0			22.59	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	23.270	1.200	1201.2	1201.2	37.745	5.291	2.71		Clay	80.1			21.99	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	23.660	1.377	1220.4	1220.4	37.774	5.975	2.75		Clay	83.1			22.36	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	26.500	1.562	1239.6	1239.6	41.756	6.036	2.72		Clay	81.0			25.05	1.15	n.a.	n.a.	0.97	0.822	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	28.450	1.491	1260.0	1260.0	44.159	5.359	2.67		Clay	76.6			26.89	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	28.380	1.407	1279.2	1279.2	43.371	5.073	2.66		Clay	75.7			26.82	1.14	n.a.	n.a.	0.97	0.833	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	27.490	1.149	1299.6	1299.6	41.305	4.282	2.62		Clay	72.6			25.98	1.14	n.a.	n.a.	0.97	0.838	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	23.000	1.177	1318.8	1318.8	33.880	5.268	2.74		Clay	82.6			21.74	1.13	n.a.	n.a.	0.97	0.843	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 2

PGA (A_{max}) 1.15

Total Settlement: 0.23 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	21.920	1.139	1338.0	1338.0	31.765	5.358	2.77		Clay	84.6			20.72	1.13	n.a.	n.a.	0.97	0.848	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	22.660	1.367	1358.4	1358.4	32.363	6.220	2.81		Clay	87.8			21.42	1.12	n.a.	n.a.	0.97	0.853	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	25.070	1.920	1377.6	1377.6	35.397	7.873	2.86		Clay	91.6			23.70	1.12	n.a.	n.a.	0.97	0.858	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	40.750	2.351	1398.0	1398.0	57.298	5.870	2.62		Clay	72.9			38.52	1.12	n.a.	n.a.	0.97	0.863	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	93.720	2.818	1417.2	1417.2	107.422	3.030	2.23		Sand	41.3	120.36		120.36	1.13	136.47	212.43	0.97	0.867	1.100	4.106	9.936	11.46	0.00	0.00
11.980	127.340	2.680	1437.6	1437.6	145.198	2.116	2.02		Sand	25.0			120.36	1.14	137.32	191.43	0.97	0.872	1.092	1.205	2.895	3.32	0.00	0.00
12.140	134.010	2.600	1456.8	1456.8	151.825	1.951	1.99		Sand	21.8			126.66	1.14	143.84	191.70	0.97	0.876	1.089	1.221	2.925	3.34	0.00	0.00
12.300	101.560	2.433	1476.0	1476.0	114.100	2.413	2.14		Sand	33.9	126.66		126.66	1.12	141.86	211.42	0.97	0.880	1.100	3.832	9.273	10.54	0.00	0.00
12.470	57.980	1.963	1496.4	1496.4	64.326	3.430	2.42		Sand	56.4	126.66		126.66	1.11	140.31	226.80	0.97	0.885	1.100	12.399	30.004	33.92	0.00	0.00
12.630	39.660	1.526	1515.6	1515.6	43.446	3.922	2.58		Sand	69.2	126.66		126.66	1.10	139.57	230.62	0.96	0.889	1.100	17.356	42.001	47.27	0.00	0.00
12.800	32.810	1.187	1536.0	1536.0	37.898	3.703	2.60	plastic	Clay	71.3			31.01	1.09	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	31.840	1.184	1555.2	1555.2	36.422	3.811	2.62	plastic	Clay	72.9			30.09	1.08	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	32.180	1.238	1574.4	1574.4	39.879	3.944	2.61		Clay	71.5			30.42	1.08	n.a.	n.a.	0.96	0.900	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	32.810	1.293	1594.8	1594.8	40.146	4.039	2.61		Clay	71.9			31.01	1.08	n.a.	n.a.	0.96	0.904	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	33.810	1.351	1614.0	1614.0	40.896	4.094	2.61		Clay	71.8			31.96	1.07	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	35.380	1.460	1634.4	1634.4	42.294	4.223	2.61		Clay	71.7			33.44	1.07	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	36.580	1.533	1653.6	1653.6	43.243	4.287	2.61		Clay	71.5			34.57	1.07	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	37.540	2.078	1672.8	1672.8	43.883	5.663	2.69		Clay	78.2			35.48	1.06	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	42.330	2.166	1693.2	1693.2	49.000	5.222	2.63		Clay	73.5			40.01	1.06	n.a.	n.a.	0.96	0.922	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	49.810	2.211	1712.4	1712.4	51.435	4.516	2.57		Sand	68.6			47.08	1.10	51.91	117.36	0.96	0.926	1.026	0.166	0.232	0.25	0.03	0.06
14.440	43.490	2.098	1732.8	1732.8	49.196	4.922	2.61		Clay	71.9			41.11	1.05	n.a.	n.a.	0.96	0.929	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	44.740	2.099	1752.0	1752.0	47.316	4.784	2.61	plastic	Clay	72.1			42.29	1.05	n.a.	n.a.	0.96	0.932	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	45.640	2.428	1771.2	1771.2	50.536	5.426	2.63		Clay	73.8			43.14	1.05	n.a.	n.a.	0.96	0.935	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	67.000	2.737	1791.6	1791.6	67.902	4.141	2.46		Sand	59.9			63.33	1.07	68.00	135.75	0.96	0.939	1.024	0.217	0.337	0.36	0.02	0.04
15.090	63.270	2.363	1810.8	1810.8	63.720	3.789	2.45		Sand	59.1	63.33		63.33	1.07	67.70	135.12	0.95	0.942	1.022	0.215	0.332	0.35	0.02	0.05
15.260	40.380	1.609	1831.2	1831.2	41.273	4.076	2.61	plastic	Clay	71.4			38.17	1.04	n.a.	n.a.	0.95	0.945	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	27.330	0.949	1850.4	1850.4	28.540	3.594	2.69		Clay	77.8			25.83	1.04	n.a.	n.a.	0.95	0.948	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	24.000	0.768	1869.6	1869.6	24.674	3.331	2.71		Clay	79.9			22.68	1.03	n.a.	n.a.	0.95	0.950	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	23.780	0.763	1890.0	1890.0	24.164	3.343	2.72		Clay	80.6			22.48	1.03	n.a.	n.a.	0.95	0.953	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	23.940	0.782	1909.2	1909.2	24.079	3.401	2.73		Clay	81.1			22.63	1.03	n.a.	n.a.	0.95	0.956	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	22.890	0.746	1929.6	1929.6	22.725	3.403	2.75		Clay	82.6			21.64	1.02	n.a.	n.a.	0.95	0.959	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	20.850	0.645	1948.8	1948.8	20.398	3.246	2.77		Clay	84.5			19.71	1.02	n.a.	n.a.	0.95	0.962	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	20.560	0.609	1968.0	1968.0	19.894	3.112	2.77		Clay	84.3			19.43	1.02	n.a.	n.a.	0.95	0.964	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	21.950	0.592	1988.4	1988.4	21.078	2.824	2.72		Clay	80.6			20.75	1.02	n.a.	n.a.	0.95	0.967	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	22.960	0.661	2007.6	2007.6	21.873	3.010	2.72		Clay	81.0			21.70	1.01	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	23.900	0.700	2028.0	2028.0	22.570	3.056	2.72		Clay	80.4			22.59	1.01	n.a.	n.a.	0.95	0.972	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	24.340	0.740	2047.2	2047.2	22.779	3.175	2.73		Clay	81.0			23.01	1.01	n.a.	n.a.	0.95	0.974	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	23.130	0.872	2066.4	2066.4	21.387	3.947	2.81		Clay	87.5			21.86	1.01	n.a.	n.a.	0.95	0.977	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	23.610	1.114	2086.8	2086.8	21.628	4.935	2.87		Clay	92.3			22.32	1.00	n.a.	n.a.	0.94	0.979	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	25.660	1.390	2106.0	2106.0	23.368	5.648	2.88		Clay	93.5			24.25	1.00	n.a.	n.a.	0.94	0.981	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	36.130	1.221	2126.4	2126.4	32.982	3.481	2.63		Clay	73.3			34.15	1.00	n.a.	n.a.	0.94	0.983	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	25.080	0.780	2145.6	2145.6	22.378	3.248	2.74		Clay	82.0			23.71	1.00	n.a.	n.a.	0.94	0.986	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	18.640	0.486	2164.8	2164.8	16.221	2.770	2.81		Clay	87.4			17.62	0.99	n.a.	n.a.	0.94	0.988	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	17.560	0.436	2185.2	2185.2	15.072	2.645	2.82		Clay	88.6			16.60	0.99	n.a.	n.a.	0.94	0.990	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	19.240	0.695	2204.4	2204.4	16.456	3.833	2.89		Clay	93.9			18.19	0.99	n.a.	n.a.	0.94	0.992	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	21.710	0.868	2224.8	2224.8	18.516	4.216	2.87		Clay	92.8			20.52	0.99	n.a.	n.a.	0.94	0.994	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	22.860	1.050	2244.0	2244.0	19.374	4.829	2.90		Clay	94.7			21.61	0.98	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	32.750	1.213	2263.2	2263.2	27.941	3.837	2.71		Clay	79.9			30.95	0.98	n.a.	n.a.	0.94	0.998	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	33.480	1.226	2283.6	2283.6	28.322	3.792	2.70		Clay	79.3			31.64	0.98	n.a.	n.a.	0.94	1.000	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	34.120	1.281	2302.8	2302.8	28.633	3.885	2.71		Clay	79.5			32.25	0.98	n.a.	n.a.	0.94	1.002	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	33.760	1.338	2323.2	2323.2	28.063	4.104	2.73		Clay	81.3			31.91	0.98	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	34.820	1.438	2342.4	2342.4	28.730	4.273	2.73		Clay	81.7			32.91	0.97	n.a.	n.a.	0.93	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	35.160	1.437	2362.8	2362.8	28.761	4.229	2.73		Clay	81.4			33.23	0.97	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	35.410	1.498	2382.0	2382.0	28.731	4.377	2.74		Clay	82.2			33.47	0.97	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	36.130	1.527	2401.2	2401.2	29.093	4.372	2.74		Clay	81.9			34.15	0.97	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	36.300	1.491	2421.6	2421.6	28.980	4.249	2.73		Clay	81.3			34.31	0.97	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	35.370	1.401	2440.8	2440.8	27.982	4.103	2.73		Clay	81.4			33.43	0.96	n.a.	n.a.	0.93	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	36.190	1.316	2461.2	2460.6	28.416	3.764	2.70		Clay	79.0			34.21	0.96	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	36.670	1.334	2480.4	2469.8	28.691	3.766	2.70		Clay	78.8			34.66	0.96	n.a.	n.a.	0.93	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	36.660	1.198	2499.6	2479.0	28.568	3.383	2.67		Clay	76.4			34.65	0.96	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	35.540	1.107	2520.0	2488.8	27.547	3.228	2.67		Clay	76.3			33.59	0.96	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	35.180	0.853	2539.2	2498.0	27.150	2.516	2.60		Clay	71.2			33.25	0.96	n.a.	n.a.	0.93	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	35.750	0.944	2559.6	2507.8	27.490	2.738	2.62		Clay	72.7			33.79	0.96	n.a.	n.a.	0.93	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	36.420	1.041	2578.8	2517.0	27.914	2.963	2.64		Clay	74.0			34.42	0.96	n.a.	n.a.	0.93	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	37.790	1.155	2598.0	2526.2	28.890	3.166	2.65		Clay	74.6			35.72	0.95	n.a.	n.a.	0.92	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	34.570	1.027	2618.4	2536.0	26.231	3.089	2.67		Clay	76.6			32.67	0.95	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	30.280	0.927	2637.6	2545.2	22.757	3.202	2.73		Clay	81.2			28.62	0.95	n.a.	n.a.	0.92	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	2

PGA (A_{max})	1.15

Total Settlement:	0.23	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	26.810	0.845	2658.0	2555.0	19.946	3.316	2.78		Clay	85.6			25.34	0.95	n.a.	n.a.	0.92	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	26.050	0.681	2677.2	2564.3	19.274	2.756	2.74		Clay	82.5			24.62	0.95	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	26.380	0.556	2696.4	2573.5	19.454	2.220	2.69		Clay	77.8			24.93	0.95	n.a.	n.a.	0.92	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	25.060	0.529	2716.8	2583.3	18.350	2.231	2.71		Clay	79.6			23.69	0.95	n.a.	n.a.	0.92	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	25.780	0.599	2736.0	2592.5	18.833	2.455	2.72		Clay	80.8			24.37	0.95	n.a.	n.a.	0.92	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	28.240	0.666	2756.4	2602.3	20.645	2.477	2.69		Clay	78.4			26.69	0.95	n.a.	n.a.	0.92	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	28.800	0.738	2775.6	2611.5	20.994	2.692	2.71		Clay	79.7			27.22	0.95	n.a.	n.a.	0.92	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	26.580	0.707	2794.8	2620.7	19.218	2.809	2.75		Clay	83.0			25.12	0.95	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	27.050	0.727	2815.2	2630.5	19.496	2.836	2.75		Clay	82.8			25.57	0.94	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	26.340	0.785	2834.4	2639.7	18.883	3.148	2.79		Clay	85.9			24.90	0.94	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	26.660	0.848	2854.8	2649.5	19.047	3.362	2.80		Clay	87.1			25.20	0.94	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	26.360	0.872	2874.0	2658.7	18.748	3.499	2.82		Clay	88.4			24.91	0.94	n.a.	n.a.	0.91	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	24.360	0.633	2893.2	2667.9	17.177	2.763	2.78		Clay	85.8			23.02	0.94	n.a.	n.a.	0.91	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	21.790	0.574	2913.6	2677.7	15.187	2.825	2.83		Clay	89.7			20.60	0.94	n.a.	n.a.	0.91	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	19.710	0.551	2932.8	2686.9	13.579	3.022	2.89		Clay	94.2			18.63	0.94	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	18.980	0.520	2953.2	2696.7	12.981	2.973	2.90		Clay	95.2			17.94	0.94	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	17.980	0.565	2972.4	2706.0	12.191	3.423	2.96		Clay	99.8			16.99	0.94	n.a.	n.a.	0.91	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	18.230	0.601	2991.6	2715.2	12.326	3.590	2.97		Clay	100.0			17.23	0.94	n.a.	n.a.	0.91	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	19.850	0.623	3012.0	2725.0	13.464	3.393	2.92		Clay	96.8			18.76	0.94	n.a.	n.a.	0.91	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	20.720	0.667	3031.2	2734.2	14.048	3.473	2.91		Clay	96.1			19.58	0.93	n.a.	n.a.	0.91	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	21.550	0.650	3051.6	2744.0	14.595	3.246	2.88		Clay	93.7			20.37	0.93	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	23.340	0.692	3070.8	2753.2	15.840	3.175	2.85		Clay	90.9			22.06	0.93	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	24.170	0.674	3090.0	2762.4	16.381	2.979	2.82		Clay	88.7			22.84	0.93	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	24.700	0.734	3110.4	2772.2	16.698	3.172	2.83		Clay	89.5			23.35	0.93	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	25.860	0.868	3129.6	2781.4	17.470	3.573	2.85		Clay	90.8			24.44	0.93	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	28.370	0.896	3150.0	2791.2	19.200	3.345	2.80		Clay	86.8			26.81	0.93	n.a.	n.a.	0.90	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	28.220	0.850	3169.2	2800.4	19.022	3.189	2.79		Clay	86.0			26.67	0.93	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	25.450	0.701	3188.4	2809.6	16.981	2.939	2.80		Clay	87.4			24.05	0.93	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	22.150	0.553	3208.8	2819.4	14.574	2.691	2.84		Clay	89.9			20.94	0.93	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	19.260	0.430	3228.0	2828.6	12.477	2.437	2.87		Clay	92.3			18.20	0.93	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	16.920	0.439	3248.4	2838.4	10.778	2.868	2.96		Clay	99.7			15.99	0.93	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	17.210	0.319	3267.6	2847.6	10.940	2.051	2.87		Clay	92.9			16.27	0.92	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	16.440	0.297	3288.0	2857.4	10.356	2.004	2.89		Clay	94.1			15.54	0.92	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	14.690	0.314	3307.2	2866.7	9.095	2.409	2.98		Clay	100.0			13.88	0.92	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	16.890	0.361	3326.4	2875.9	10.589	2.370	2.92		Clay	96.5			15.96	0.92	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	17.490	0.401	3346.8	2885.7	10.962	2.532	2.92		Clay	96.8			16.53	0.92	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	18.110	0.419	3366.0	2894.9	11.349	2.552	2.91		Clay	96.0			17.12	0.92	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	19.180	0.460	3386.4	2904.7	12.040	2.628	2.90		Clay	94.8			18.13	0.92	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	20.540	0.504	3405.6	2913.9	12.929	2.677	2.88		Clay	93.2			19.41	0.92	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	20.870	0.541	3424.8	2923.1	13.108	2.826	2.89		Clay	93.8			19.73	0.92	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	20.240	0.530	3445.2	2932.9	12.627	2.862	2.90		Clay	95.2			19.13	0.92	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	18.650	0.433	3464.4	2942.1	11.500	2.556	2.91		Clay	95.6			17.63	0.92	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	16.720	0.320	3484.8	2951.9	10.148	2.134	2.91		Clay	95.8			15.80	0.92	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	15.680	0.335	3504.0	2961.1	9.407	2.405	2.97		Clay	100.0			14.82	0.92	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	17.380	0.372	3523.2	2970.3	10.516	2.379	2.92		Clay	96.8			16.43	0.91	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	21.320	0.445	3543.6	2980.1	13.119	2.277	2.83		Clay	89.6			20.15	0.91	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	22.740	0.531	3562.8	2989.3	14.022	2.532	2.83		Clay	89.7			21.49	0.91	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	24.430	0.617	3583.2	2999.1	15.097	2.725	2.83		Clay	89.1			23.09	0.91	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	27.450	0.749	3602.4	3008.4	17.052	2.920	2.80		Clay	87.1			25.95	0.91	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	30.360	0.916	3621.6	3017.6	18.922	3.207	2.79		Clay	86.3			28.70	0.91	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	32.700	1.137	3642.0	3027.4	20.400	3.681	2.80		Clay	87.2			30.91	0.91	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	34.430	1.222	3661.2	3036.6	21.471	3.748	2.79		Clay	86.3			32.54	0.91	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	35.820	1.187	3681.6	3046.4	22.308	3.493	2.76		Clay	83.7			33.86	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	36.060	1.208	3700.8	3055.6	22.392	3.530	2.76		Clay	83.8			34.08	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	36.110	1.205	3720.0	3064.8	22.351	3.518	2.76		Clay	83.8			34.13	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	36.310	1.111	3740.4	3074.6	22.403	3.225	2.74		Clay	81.8			34.32	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	34.750	1.000	3759.6	3083.8	21.318	3.042	2.74		Clay	81.9			32.84	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	33.700	0.910	3780.0	3093.6	20.565	2.861	2.73		Clay	81.5			31.85	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	32.990	0.898	3799.2	3102.8	20.040	2.887	2.74		Clay	82.5			31.18	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	31.460	0.877	3818.4	3112.0	18.991	2.967	2.77		Clay	84.5			29.74	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	28.840	0.918	3838.8	3121.8	17.247	3.408	2.84		Clay	90.1			27.26	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	28.690	0.949	3858.0	3131.0	17.094	3.547	2.85		Clay	91.2			27.12	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	30.440	0.926	3878.4	3140.8	18.149	3.248	2.81		Clay	87.7			28.77	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	30.150	0.887	3897.6	3150.0	17.905	3.145	2.80		Clay	87.4			28.50	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	27.350	0.938	3916.8	3159.3	16.074	3.692	2.88		Clay	93.7			25.85	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	25.570	0.929	3937.2	3169.1	14.895	3.935	2.93		Clay	97.2			24.17	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	25.130	0.944	3956.4	3178.3	14.569	4.078	2.94		Clay	98.6			23.75	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 2

PGA (A_{max}) 1.15

Total Settlement: 0.23 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	25.450	0.770	3976.8	3188.1	14.718	3.281	2.88		Clay	93.7			24.05	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	28.050	0.681	3996.0	3197.3	16.296	2.613	2.79		Clay	86.1			26.51	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	23.440	0.629	4015.2	3206.5	13.368	2.936	2.89		Clay	94.1			22.16	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	24.340	0.652	4035.6	3216.3	13.881	2.921	2.87		Clay	92.9			23.01	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	24.410	0.632	4054.8	3225.5	13.879	2.822	2.87		Clay	92.2			23.07	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	24.010	0.491	4075.2	3235.3	13.583	2.235	2.82		Clay	88.2			22.69	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	25.050	0.451	4094.4	3244.5	14.180	1.959	2.77		Clay	84.4			23.68	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	25.540	0.493	4113.6	3253.7	14.435	2.101	2.78		Clay	85.2			24.14	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	26.820	0.567	4134.0	3263.5	15.170	2.291	2.78		Clay	85.5			25.35	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	30.050	0.736	4153.2	3272.7	17.095	2.630	2.77		Clay	84.9			28.40	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	33.100	0.906	4173.6	3282.5	18.896	2.922	2.77		Clay	84.3			31.29	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	35.070	1.123	4192.8	3291.7	20.034	3.406	2.79		Clay	86.0			33.15	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	36.720	1.255	4212.0	3301.0	20.972	3.625	2.79		Clay	86.2			34.71	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	39.390	1.375	4232.4	3310.8	22.517	3.689	2.77		Clay	84.7			37.23	0.89	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	41.520	1.580	4251.6	3320.0	23.732	4.010	2.78		Clay	85.2			39.24	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	43.400	1.596	4272.0	3329.8	24.785	3.868	2.75		Clay	83.2			41.02	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	44.810	1.681	4291.2	3339.0	25.555	3.941	2.75		Clay	82.8			42.35	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	45.510	1.586	4311.6	3348.8	25.893	3.658	2.72		Clay	80.8			43.02	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	45.630	1.544	4330.8	3358.0	25.887	3.551	2.71		Clay	80.1			43.13	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	43.400	1.427	4350.0	3367.2	24.486	3.462	2.73		Clay	81.0			41.02	0.88	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	39.970	1.252	4370.4	3377.0	22.378	3.314	2.74		Clay	82.4			37.78	0.88	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	37.280	1.248	4389.6	3386.2	20.722	3.556	2.79		Clay	86.1			35.24	0.88	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	36.660	1.190	4410.0	3396.0	20.292	3.454	2.79		Clay	86.0			34.65	0.88	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	36.000	1.267	4429.2	3405.2	19.843	3.749	2.82		Clay	88.4			34.03	0.88	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	34.320	1.083	4448.4	3414.4	18.800	3.374	2.81		Clay	87.5			32.44	0.88	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	32.720	0.896	4468.8	3424.2	17.806	2.939	2.79		Clay	86.1			30.93	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	30.430	0.801	4488.0	3433.4	16.419	2.843	2.81		Clay	87.6			28.76	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	27.910	0.845	4508.4	3443.2	14.902	3.293	2.88		Clay	93.4			26.38	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	28.620	0.882	4527.6	3452.4	15.268	3.345	2.88		Clay	93.1			27.05	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	30.310	1.053	4546.8	3461.7	16.198	3.754	2.89		Clay	93.9			28.65	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	30.190	1.326	4567.2	3471.5	16.078	4.750	2.95		Clay	99.3			28.53	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	37.730	1.306	4586.4	3480.7	20.362	3.685	2.80		Clay	87.3			35.66	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	38.560	1.278	4606.8	3490.5	20.775	3.525	2.78		Clay	85.8			36.45	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	31.430	1.016	4626.0	3499.7	16.640	3.489	2.86		Clay	91.6			29.71	0.88	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	29.800	1.030	4645.2	3508.9	15.662	3.750	2.90		Clay	94.8			28.17	0.88	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	28.770	1.125	4665.6	3518.7	15.027	4.253	2.95		Clay	98.6			27.19	0.87	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	33.340	1.410	4684.8	3527.9	17.573	4.549	2.91		Clay	95.9			31.51	0.87	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	64.990	1.667	4705.2	3537.7	45.787	2.661	2.45		Sand	58.6	67.74	1.8	121.93	0.83	101.33	177.95	0.83	1.060	0.893	0.670	1.231	1.16	0.01	0.01
39.370	70.430	2.226	4724.4	3546.9	49.692	3.270	2.48		Sand	61.5	67.74	1.8	121.93	0.83	101.31	178.94	0.83	1.060	0.892	0.696	1.287	1.21	0.00	0.01
39.530	71.670	1.936	4743.6	3556.1	50.525	2.793	2.43		Sand	57.3		1.8	121.93	0.83	101.08	177.11	0.83	1.059	0.893	0.649	1.184	1.12	0.01	0.01
39.700	45.890	1.613	4764.0	3565.9	24.402	3.707	2.75		Clay	82.6			43.37	0.87	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	31.100	1.264	4783.2	3575.1	16.060	4.403	2.93		Clay	97.6			29.40	0.87	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	32.730	1.334	4803.6	3584.9	16.920	4.398	2.91		Clay	96.2			30.94	0.87	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	30.290	1.089	4822.8	3594.1	15.513	3.907	2.91		Clay	95.9			28.63	0.87	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	32.640	1.451	4842.0	3603.4	16.773	4.803	2.94		Clay	98.4			30.85	0.87	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	30.240	2.066	4862.4	3613.2	15.393	7.429	3.10		Clay	100.0			28.58	0.87	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	41.750	3.498	4881.6	3622.4	21.704	8.899	3.04		Clay	100.0			39.46	0.87	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	102.090	3.355	4902.0	3632.2	71.882	3.367	2.38		Sand	53.3		1.8	173.69	0.86	148.97	236.28	0.82	1.056	0.838	29.574	54.517	51.60	0.00	0.00
41.010	64.100	2.417	4921.2	3641.4	33.855	3.920	2.66		Clay	75.5			60.59	0.87	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	41.420	1.275	4940.4	3650.6	21.339	3.274	2.76		Clay	83.5			39.15	0.87	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	35.040	0.887	4960.8	3660.4	17.790	2.725	2.77		Clay	84.5			33.12	0.87	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	34.580	0.940	4980.0	3669.6	17.490	2.928	2.79		Clay	86.5			32.68	0.86	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	35.190	0.922	5000.4	3679.4	17.769	2.821	2.78		Clay	85.3			33.26	0.86	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	35.340	0.950	5019.6	3688.6	17.801	2.893	2.78		Clay	85.8			33.40	0.86	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	35.960	1.001	5038.8	3697.8	18.087	2.993	2.79		Clay	86.0			33.99	0.86	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	39.180	1.135	5059.2	3707.6	19.770	3.097	2.77		Clay	84.3			37.03	0.86	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	42.650	1.161	5078.4	3716.8	21.583	2.895	2.72		Clay	80.5			40.31	0.86	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	45.270	1.298	5098.8	3726.6	22.927	3.038	2.71		Clay	79.9			42.79	0.86	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	45.360	1.445	5118.0	3735.8	22.914	3.376	2.74		Clay	82.2			42.87	0.86	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	37.660	1.028	5137.2	3745.1	18.740	2.929	2.77		Clay	84.6			35.60	0.86	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	31.050	0.397	5157.6	3754.8	15.165	1.395	2.67		Clay	76.2			29.35	0.86	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	26.410	0.431	5176.8	3764.1	12.657	1.810	2.79		Clay	86.3			24.96	0.86	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	26.270	0.524	5197.2	3773.9	12.545	2.215	2.84		Clay	90.3			24.83	0.86	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	28.690	0.581	5216.4	3783.1	13.789	2.226	2.81		Clay	87.7			27.12	0.86	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	29.110	0.651	5236.8	3792.9	13.969	2.457	2.83		Clay	89.2			27.51	0.86	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	31.010	0.714	5256.0	3802.1	14.930	2.517	2.81		Clay	87.8			29.31	0.86	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	33.470	0.857	5275.2	3811.3	16.179	2.779	2.81		Clay	87.6			31.64	0.86	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 2

PGA (A_{max}) 1.15

Total Settlement: 0.23 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	35.620	0.946	5295.6	3821.1	17.258	2.869	2.79		Clay	86.4			33.67	0.86	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	36.740	0.985	5314.8	3830.3	17.796	2.890	2.78		Clay	85.7			34.73	0.86	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	35.260	0.924	5335.2	3840.1	16.975	2.836	2.80		Clay	86.7			33.33	0.85	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	32.030	0.844	5354.4	3849.3	15.251	2.877	2.84		Clay	89.9			30.27	0.85	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	28.780	0.771	5373.6	3858.5	13.525	2.956	2.89		Clay	93.9			27.20	0.85	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	26.210	0.580	5394.0	3868.3	12.157	2.468	2.88		Clay	93.3			24.77	0.85	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	22.330	0.443	5413.2	3877.5	10.122	2.258	2.92		Clay	96.9			21.11	0.85	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	19.170	0.270	5433.6	3887.3	8.465	1.642	2.92		Clay	96.6			18.12	0.85	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	15.990	0.190	5452.8	3896.5	6.808	1.435	2.97		Clay	100.0			15.11	0.85	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	17.090	0.228	5472.0	3905.8	7.350	1.586	2.97		Clay	100.0			16.15	0.85	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	16.590	0.478	5492.4	3915.6	7.071	3.452	3.16		Clay	100.0			15.68	0.85	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	17.450	1.473	5511.6	3924.8	7.488	10.027	3.42		Clay	100.0			16.49	0.85	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	38.410	2.545	5532.0	3934.6	18.118	7.140	3.03		Clay	100.0			36.30	0.85	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	93.170	2.859	5551.2	3943.8	62.583	3.162	2.40		Sand	55.0		1.8	158.51	0.82	130.55	213.72	0.80	1.040	0.813	4.489	8.032	7.72	0.00	0.00
46.420	86.310	2.393	5570.4	3953.0	57.760	2.865	2.39		Sand	54.5	88.06	1.8	158.51	0.82	130.41	213.32	0.79	1.040	0.813	4.366	7.804	7.51	0.00	0.00
46.590	47.680	1.396	5590.8	3962.8	22.653	3.111	2.72		Clay	80.7			45.07	0.85	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	36.180	0.873	5610.0	3972.0	16.805	2.617	2.78		Clay	85.3			34.20	0.85	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	23.980	1.135	5630.4	3981.8	10.631	5.364	3.13		Clay	100.0			22.67	0.85	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	31.730	2.768	5649.6	3991.0	14.485	9.575	3.19		Clay	100.0			29.99	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	64.180	4.364	5668.8	4000.2	30.671	7.114	2.87		Clay	92.5			60.66	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	203.990	5.714	5689.2	4010.0	138.105	2.841	2.14		Sand	34.0			192.81	0.83	160.55	234.34	0.79	1.036	0.808	24.522	43.602	42.09	0.00	0.00
47.570	300.050	6.256	5708.4	4019.2	203.818	2.105	1.93		Sand	17.5			283.60	0.84	239.44	285.30	0.79	1.035	0.808	25626.280	45526.835	43968.70	0.00	0.00
47.740	307.550	6.149	5728.8	4029.0	208.701	2.018	1.91		Sand	15.8			290.69	0.84	245.27	284.37	0.79	1.035	0.807	21603.478	38345.357	37055.58	0.00	0.00
47.900	281.450	5.245	5748.0	4038.2	190.599	1.883	1.91		Sand	15.8			266.02	0.84	224.32	261.58	0.79	1.034	0.806	573.056	1016.289	982.67	0.00	0.00
48.060	249.210	4.123	5767.2	4047.5	168.342	1.674	1.91		Sand	15.4			235.55	0.83	194.57	227.43	0.79	1.034	0.805	13.093	23.201	22.45	0.00	0.00
48.230	215.280	3.335	5787.6	4057.2	144.972	1.570	1.93		Sand	17.3			203.48	0.81	164.35	201.07	0.78	1.033	0.827	2.008	3.652	3.54	0.00	0.00
48.390	168.250	3.147	5806.8	4066.5	112.735	1.903	2.06		Sand	28.1			159.03	0.80	126.45	184.37	0.78	1.032	0.855	0.871	1.612	1.56	0.00	0.00
48.560	83.350	2.586	5827.2	4076.3	54.776	3.215	2.45		Sand	58.6			78.78	0.74	58.64	123.38	0.78	1.032	0.916	0.179	0.232	0.22	0.03	0.05
48.720	47.290	1.843	5846.4	4085.5	21.719	4.154	2.82		Clay	88.3			44.70	0.84	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	32.850	1.193	5865.6	4094.7	14.613	3.989	2.94		Clay	98.0			31.05	0.84	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	26.270	0.815	5886.0	4104.5	11.367	3.494	2.99		Clay	100.0			24.83	0.84	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	23.220	0.663	5905.2	4113.7	9.854	3.269	3.02		Clay	100.0			21.95	0.84	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	21.480	0.585	5925.6	4123.5	8.981	3.159	3.05		Clay	100.0			20.30	0.84	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	21.120	0.535	5944.8	4132.7	8.782	2.947	3.04		Clay	100.0			19.96	0.84	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	21.090	0.499	5964.0	4141.9	8.744	2.753	3.02		Clay	100.0			19.93	0.84	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	20.030	0.449	5984.4	4151.7	8.208	2.633	3.04		Clay	100.0			18.93	0.84	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	18.230	0.388	6003.6	4160.9	7.320	2.550	3.07		Clay	100.0			17.23	0.84	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	17.370	0.617	6024.0	4170.7	6.885	4.295	3.22		Clay	100.0			16.42	0.84	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 3

PGA (A_{max}) 1.15

Total Settlement: 0.53 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	426.830	2.678	19.2	19.2	4235.130	0.627	1.03		Unsaturated	0.0			403.43	1.70	685.83	685.83	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	601.870	3.252	39.6	39.6	4158.273	0.540	0.96		Unsaturated	0.0			568.88	1.70	967.09	967.09	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	477.030	4.065	58.8	58.8	2704.596	0.852	1.15		Unsaturated	0.0			450.88	1.70	766.49	766.49	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	310.900	5.942	79.2	79.2	1518.710	1.911	1.53		Unsaturated	0.0			293.86	1.70	499.56	499.56	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	234.390	6.610	98.4	98.4	1027.123	2.821	1.73		Unsaturated	1.6			221.54	1.70	376.62	376.62	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	147.590	6.058	117.6	117.6	591.497	4.106	1.96		Unsaturated	19.9			139.50	1.70	237.15	292.50	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	102.520	4.850	138.0	138.0	379.183	4.734	2.09		Unsaturated	30.5			96.90	1.70	164.73	234.31	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	85.750	3.407	157.2	157.2	297.086	3.977	2.07		Unsaturated	29.0			81.05	1.70	137.78	199.39	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	51.360	2.222	177.6	177.6	167.272	4.333	2.24		Unsaturated	41.9			48.54	1.70	82.53	145.74	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	32.360	1.345	196.8	196.8	99.987	4.170	2.36		Unsaturated	51.4			30.59	1.70	52.00	112.36	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	27.020	1.312	216.0	216.0	79.614	4.874	2.47		Unsaturated	60.6			25.54	1.70	43.42	104.47	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	26.150	1.311	236.4	236.4	73.613	5.035	2.50		Unsaturated	63.2			24.72	1.70	42.02	103.36	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	25.690	1.467	255.6	255.6	69.517	5.737	2.56		Unsaturated	68.0			24.28	1.70	41.28	103.50	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	25.310	1.511	276.0	276.0	65.877	6.003	2.59		Unsaturated	70.4			23.92	1.70	40.67	103.21	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	23.590	1.378	295.2	295.2	87.962	5.880	2.51		Unsaturated	63.6			22.30	1.70	37.90	98.16	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	22.980	1.299	314.4	314.4	81.942	5.690	2.51		Unsaturated	64.2			21.72	1.70	36.92	97.05	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	23.820	1.321	334.8	334.8	81.265	5.584	2.51		Unsaturated	63.8			22.51	1.70	38.27	98.70	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	25.150	1.430	354.0	354.0	82.517	5.725	2.51		Unsaturated	64.2			23.77	1.70	40.41	101.53	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	26.170	1.490	374.4	374.4	82.552	5.734	2.52		Unsaturated	64.2			24.74	1.70	42.05	103.65	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	27.120	1.479	393.6	393.6	59.003	5.494	2.59		Unsaturated	70.5			25.63	1.70	43.58	106.99	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	28.570	1.487	412.8	412.8	60.697	5.243	2.57		Unsaturated	68.6			27.00	1.70	45.91	109.61	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	29.360	1.619	433.2	433.2	60.879	5.555	2.59		Unsaturated	70.1			27.75	1.70	47.18	111.55	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	29.480	1.633	452.4	452.4	59.799	5.583	2.60		Unsaturated	70.6			27.86	1.70	47.37	111.91	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	31.160	1.794	472.8	472.8	61.833	5.801	2.60		Unsaturated	70.9			29.45	1.70	50.07	115.45	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	34.150	1.896	492.0	492.0	66.457	5.593	2.57		Unsaturated	68.3			32.28	1.70	54.87	121.10	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	37.120	2.245	512.4	512.4	70.806	6.090	2.58		Unsaturated	69.2			35.09	1.70	59.64	127.46	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	40.200	2.612	531.6	531.6	75.305	6.540	2.58		Unsaturated	69.8			38.00	1.70	64.59	133.98	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	41.830	2.824	550.8	550.8	76.983	6.796	2.59		Unsaturated	70.4			39.54	1.70	67.21	137.49	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	42.300	2.862	571.2	571.2	76.432	6.812	2.59		Unsaturated	70.6			39.98	1.70	67.97	138.52	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	42.140	2.801	590.4	590.4	74.876	6.694	2.59		Unsaturated	70.6			39.83	1.70	67.71	138.18	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	38.990	2.718	610.8	610.8	87.254	7.025	2.57		Unsaturated	68.7			36.85	1.70	62.65	131.22	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	34.820	2.342	630.0	630.0	76.159	6.788	2.59		Unsaturated	70.6			32.91	1.70	55.95	122.99	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	30.920	2.197	649.2	649.2	66.125	7.181	2.65		Unsaturated	75.1			29.22	1.70	49.68	115.76	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	29.750	2.052	669.6	669.6	62.212	6.977	2.66		Unsaturated	75.7			28.12	1.70	47.80	113.42	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	27.020	1.853	688.8	688.8	55.313	6.947	2.69		Unsaturated	78.2			25.54	1.70	43.42	108.15	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	25.250	1.750	709.2	709.2	70.207	7.029	2.63		Unsaturated	73.3			23.87	1.70	40.57	103.63	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	24.860	1.835	728.4	728.4	67.259	7.493	2.66		Unsaturated	75.9			23.50	1.69	39.69	102.96	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	26.770	1.989	747.6	747.6	70.616	7.535	2.65		Unsaturated	75.0			25.30	1.66	41.94	105.72	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	29.170	2.104	768.0	768.0	74.964	7.309	2.62		Unsaturated	72.9			27.57	1.62	44.79	109.03	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	30.180	2.151	787.2	787.2	75.677	7.222	2.62		Unsaturated	72.4			28.53	1.60	45.70	110.10	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	30.090	2.141	807.6	807.6	73.517	7.211	2.62		Unsaturated	73.0			28.44	1.58	45.07	109.40	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	29.910	2.071	826.8	826.8	71.351	7.021	2.62		Unsaturated	72.9			28.27	1.57	44.38	108.49	0.99	0.735	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	28.620	1.974	846.0	846.0	66.660	7.000	2.64		Unsaturated	74.3			27.05	1.56	42.21	105.93	0.99	0.735	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	27.790	1.918	866.4	866.4	63.151	7.012	2.66		Unsaturated	75.5			26.27	1.55	40.65	104.12	0.99	0.734	1.098	n.a.	n.a.	n.a.	0.00	0.00
7.380	27.330	1.954	885.6	885.6	60.721	7.266	2.68		Unsaturated	77.3			25.83	1.53	39.63	103.10	0.98	0.734	1.095	n.a.	n.a.	n.a.	0.00	0.00
7.550	27.480	1.972	906.0	906.0	59.662	7.298	2.69		Unsaturated	77.8			25.97	1.52	39.42	102.90	0.98	0.734	1.092	n.a.	n.a.	n.a.	0.00	0.00
7.710	28.190	2.012	925.2	925.2	59.938	7.255	2.68		Unsaturated	77.6			26.64	1.50	39.97	103.58	0.98	0.733	1.090	n.a.	n.a.	n.a.	0.00	0.00
7.870	28.240	1.960	944.4	944.4	58.805	7.057	2.68		Unsaturated	77.2			26.69	1.49	39.67	103.14	0.98	0.733	1.088	n.a.	n.a.	n.a.	0.00	0.00
8.040	27.590	1.944	964.8	964.8	56.193	7.173	2.70		Clay	78.7			26.08	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	29.100	1.997	984.0	984.0	58.146	6.981	2.68		Clay	77.2			27.50	1.22	n.a.	n.a.	0.98	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	31.720	2.228	1004.4	1004.4	62.162	7.135	2.67		Clay	76.3			29.98	1.22	n.a.	n.a.	0.98	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	34.370	2.497	1023.6	1023.6	66.155	7.375	2.66		Clay	75.9			32.49	1.21	n.a.	n.a.	0.98	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	39.030	2.783	1042.8	1042.8	73.856	7.226	2.62		Clay	72.9			36.89	1.21	n.a.	n.a.	0.98	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	43.050	2.821	1063.2	1063.2	65.061	6.634	2.63	plastic	Clay	73.3			40.69	1.20	n.a.	n.a.	0.98	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	46.070	2.755	1082.4	1082.4	68.800	6.051	2.58		Mixed	69.6	45.6		45.60	1.34	61.19	129.56	0.98	0.775	1.090	0.196	0.313	0.40	0.02	0.05
9.190	47.430	2.755	1102.8	1102.8	69.920	5.877	2.57		Mixed	68.5	45.6		45.60	1.33	60.75	128.73	0.98	0.782	1.087	0.194	0.306	0.39	0.02	0.05
9.350	48.250	2.720	1122.0	1122.0	61.900	5.704	2.59		Sand	70.4			45.60	1.32	60.31	128.59	0.98	0.788	1.085	0.193	0.305	0.39	0.02	0.05
9.510	45.270	2.592	1141.2	1141.2	65.091	5.799	2.58		Mixed	69.7	45.6		45.60	1.31	59.90	127.91	0.98	0.794	1.082	0.191	0.300	0.38	0.02	0.05
9.680	40.880	2.432	1161.6	1161.6	57.960	6.035	2.63	plastic	Clay	73.4			38.64	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	38.390	2.176	1180.8	1180.8	53.745	5.757	2.64	plastic	Clay	73.9			36.29	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	36.810	2.283	1201.2	1201.2	60.289	6.305	2.63		Clay	73.7			34.79	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	35.230	2.237	1220.4	1220.4	56.735	6.460	2.66		Clay	75.7			33.30	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	40.590	2.372	1239.6	1239.6	54.931	5.935	2.64	plastic	Clay	74.2			38.36	1.15	n.a.	n.a.	0.97	0.822	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	51.570	2.859	1260.0	1260.0	62.394	5.612	2.59		Sand	69.8	56.51		56.51	1.24	70.19	141.20	0.97	0.828	1.077	0.240	0.406	0.49	0.02	0.04
10.660	59.790	2.983	1279.2	1279.2	71.905	5.043	2.51		Sand	63.8			56.51	1.24	69.86	139.28	0.97	0.833	1.073	0.231	0.385	0.46	0.02	0.05
10.830	55.510	2.622	1299.6	1299.6	66.164	4.779	2.52		Sand	64.2	56.51		56.51	1.23	69.42	138.84	0.97	0.838	1.071	0.229	0.380	0.45	0.02	0.04
10.990	39.350	1.953	1318.8	1318.8	50.916	5.047	2.61	plastic	Clay	71.7			37.19	1.13	n.a.	n.a.	0.97	0.843	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	3

PGA (A_{max})	1.15

Total Settlement:	0.53	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	32.740	1.478	1338.0	1338.0	41.780	4.609	2.64	plastic	Clay	74.2			30.95	1.13	n.a.	n.a.	0.97	0.848	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	31.050	1.501	1358.4	1358.4	44.716	4.943	2.64		Clay	74.3			29.35	1.12	n.a.	n.a.	0.97	0.853	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	32.160	1.641	1377.6	1377.6	45.690	5.216	2.65		Clay	75.1			30.40	1.12	n.a.	n.a.	0.97	0.858	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	34.130	1.875	1398.0	1398.0	47.827	5.608	2.66		Clay	75.9			32.26	1.12	n.a.	n.a.	0.97	0.863	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	35.720	2.053	1417.2	1417.2	49.409	5.865	2.67		Clay	76.3			33.76	1.11	n.a.	n.a.	0.97	0.867	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	37.520	1.950	1437.6	1437.6	51.198	5.299	2.62		Clay	72.8			35.46	1.11	n.a.	n.a.	0.97	0.872	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	36.930	1.809	1456.8	1456.8	49.700	4.998	2.61		Clay	72.0			34.91	1.10	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	33.000	1.671	1476.0	1476.0	43.715	5.180	2.66		Clay	76.0			31.19	1.10	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	31.830	1.663	1496.4	1496.4	41.542	5.350	2.69		Clay	78.0			30.09	1.10	n.a.	n.a.	0.97	0.885	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	30.270	1.670	1515.6	1515.6	38.945	5.660	2.72		Clay	81.0			28.61	1.09	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	34.080	1.867	1536.0	1536.0	43.375	5.603	2.69		Clay	78.2			32.21	1.09	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	41.820	2.133	1555.2	1555.2	52.781	5.197	2.61		Clay	71.6			39.53	1.08	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	46.680	1.785	1574.4	1574.4	50.287	3.890	2.53		Sand	65.4			44.12	1.15	50.65	115.00	0.96	0.900	1.035	0.161	0.225	0.25	0.03	0.06
13.290	36.060	1.344	1594.8	1594.8	40.625	3.812	2.59		Mixed	70.2	44.12		44.12	1.14	50.32	115.64	0.96	0.904	1.034	0.162	0.227	0.25	0.03	0.05
13.450	29.260	1.085	1614.0	1614.0	35.258	3.812	2.63		Clay	73.8			27.66	1.07	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	27.250	1.018	1634.4	1634.4	32.346	3.851	2.67		Clay	76.2			25.76	1.07	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	25.950	0.914	1653.6	1653.6	30.386	3.639	2.67		Clay	76.5			24.53	1.07	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	22.930	0.807	1672.8	1672.8	26.415	3.654	2.72		Clay	80.2			21.67	1.06	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	21.410	0.730	1693.2	1693.2	24.289	3.552	2.73		Clay	81.8			20.24	1.06	n.a.	n.a.	0.96	0.922	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	22.480	0.817	1712.4	1712.4	25.256	3.778	2.74		Clay	82.2			21.25	1.06	n.a.	n.a.	0.96	0.926	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	24.000	0.826	1732.8	1732.8	26.701	3.571	2.71		Clay	79.4			22.68	1.05	n.a.	n.a.	0.96	0.929	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	24.120	0.867	1752.0	1752.0	26.534	3.730	2.72		Clay	80.6			22.80	1.05	n.a.	n.a.	0.96	0.932	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	22.730	0.793	1771.2	1771.2	24.666	3.630	2.74		Clay	81.9			21.48	1.05	n.a.	n.a.	0.96	0.935	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	21.710	0.695	1791.6	1791.6	23.235	3.340	2.73		Clay	81.6			20.52	1.04	n.a.	n.a.	0.96	0.939	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	20.730	0.647	1810.8	1810.8	21.896	3.264	2.75		Clay	82.7			19.59	1.04	n.a.	n.a.	0.95	0.942	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	18.270	0.586	1831.2	1831.2	18.954	3.375	2.80		Clay	87.3			17.27	1.04	n.a.	n.a.	0.95	0.945	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	15.220	0.481	1850.4	1850.4	15.450	3.361	2.87		Clay	92.8			14.39	1.04	n.a.	n.a.	0.95	0.948	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	13.040	0.359	1869.6	1869.6	12.950	2.969	2.90		Clay	95.2			12.33	1.03	n.a.	n.a.	0.95	0.950	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	11.900	0.301	1890.0	1890.0	11.593	2.749	2.92		Clay	96.8			11.25	1.03	n.a.	n.a.	0.95	0.953	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	11.290	0.294	1909.2	1909.2	10.827	2.848	2.96		Clay	99.5			10.67	1.03	n.a.	n.a.	0.95	0.956	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	11.910	0.495	1929.6	1929.6	11.345	4.524	3.06		Clay	100.0			11.26	1.02	n.a.	n.a.	0.95	0.959	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	14.200	1.203	1948.8	1948.8	13.573	9.096	3.20		Clay	100.0			13.42	1.02	n.a.	n.a.	0.95	0.962	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	24.840	1.618	1968.0	1968.0	24.244	6.782	2.93		Clay	97.0			23.48	1.02	n.a.	n.a.	0.95	0.964	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	37.990	1.718	1988.4	1988.4	37.212	4.642	2.68		Clay	77.2			35.91	1.02	n.a.	n.a.	0.95	0.967	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	29.660	2.332	2007.6	2007.6	28.548	8.139	2.93		Clay	97.6			28.03	1.01	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	34.360	2.899	2028.0	2028.0	32.886	8.694	2.91		Clay	95.9			32.48	1.01	n.a.	n.a.	0.95	0.972	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	70.730	3.446	2047.2	2047.2	66.983	4.943	2.52		Sand	64.9	94.93	1.8	170.87	1.01	172.37	271.41	0.95	0.974	1.010	2422.537	5382.431	5525.00	0.00	0.00
17.220	100.440	3.383	2066.4	2066.4	95.078	3.403	2.30		Sand	47.1		1.8	170.88	1.01	171.95	261.49	0.95	0.977	1.007	565.729	1253.460	1283.60	0.00	0.00
17.390	86.990	2.881	2086.8	2086.8	81.801	3.352	2.34		Sand	50.1	94.93	1.8	170.87	1.00	171.50	263.01	0.94	0.979	1.004	698.900	1543.989	1577.21	0.00	0.00
17.550	59.320	2.483	2106.0	2106.0	55.203	4.262	2.53		Sand	65.5	94.93	1.8	170.87	1.00	171.09	270.00	0.94	0.981	1.001	1948.352	4292.466	4374.84	0.00	0.00
17.720	44.190	2.333	2126.4	2126.4	40.563	5.410	2.70		Clay	78.9			41.77	1.00	n.a.	n.a.	0.94	0.983	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	43.970	1.930	2145.6	2145.6	39.986	4.499	2.65		Clay	74.6			41.56	1.00	n.a.	n.a.	0.94	0.986	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	42.000	1.335	2164.8	2162.3	38.258	3.263	2.56		Sand	68.0			39.70	0.99	39.27	100.92	0.94	0.988	0.998	0.139	0.175	0.18	0.03	0.06
18.210	31.080	1.840	2185.2	2172.1	27.611	6.136	2.85		Clay	91.4			29.38	0.99	n.a.	n.a.	0.94	0.990	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	32.380	2.241	2204.4	2181.3	28.678	7.165	2.89		Clay	94.3			30.60	0.99	n.a.	n.a.	0.94	0.992	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	34.370	1.867	2224.8	2191.1	30.357	5.615	2.80		Clay	86.8			32.49	0.99	n.a.	n.a.	0.94	0.994	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	29.040	1.426	2244.0	2200.3	25.376	5.109	2.83		Clay	89.1			27.45	0.99	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	26.170	1.165	2263.2	2209.5	22.664	4.652	2.83		Clay	89.8			24.74	0.99	n.a.	n.a.	0.94	0.998	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	24.490	1.068	2283.6	2219.3	21.041	4.574	2.85		Clay	91.3			23.15	0.99	n.a.	n.a.	0.94	1.000	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	23.540	0.994	2302.8	2228.5	20.093	4.441	2.86		Clay	91.8			22.25	0.99	n.a.	n.a.	0.94	1.002	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	22.710	0.983	2323.2	2238.3	19.254	4.561	2.88		Clay	93.6			21.47	0.99	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	24.150	0.916	2342.4	2247.6	20.448	3.987	2.82		Clay	89.0			22.83	0.98	n.a.	n.a.	0.93	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	23.680	0.868	2362.8	2257.3	19.934	3.858	2.82		Clay	88.9			22.38	0.98	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	21.380	0.774	2382.0	2266.6	17.815	3.836	2.86		Clay	91.8			20.21	0.98	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	19.730	0.685	2401.2	2275.8	16.284	3.697	2.88		Clay	93.4			18.65	0.98	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	19.340	0.613	2421.6	2285.6	15.864	3.382	2.87		Clay	92.2			18.28	0.98	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	19.600	0.568	2440.8	2294.8	16.019	3.088	2.84		Clay	90.1			18.53	0.98	n.a.	n.a.	0.93	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	17.880	0.498	2461.2	2304.6	14.449	2.989	2.87		Clay	92.2			16.90	0.98	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	17.770	0.419	2480.4	2313.8	14.288	2.536	2.83		Clay	89.2			16.80	0.98	n.a.	n.a.	0.93	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	17.440	0.382	2499.6	2323.0	13.939	2.362	2.82		Clay	88.5			16.48	0.98	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	18.680	0.455	2520.0	2332.8	14.935	2.614	2.82		Clay	88.6			17.66	0.97	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	21.160	0.580	2539.2	2342.0	16.986	2.914	2.80		Clay	87.2			20.00	0.97	n.a.	n.a.	0.93	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	24.320	1.019	2559.6	2351.8	19.594	4.423	2.87		Clay	92.4			22.99	0.97	n.a.	n.a.	0.93	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	26.410	1.378	2578.8	2361.0	21.279	5.485	2.90		Clay	95.2			24.96	0.97	n.a.	n.a.	0.93	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	28.260	1.579	2598.0	2370.2	22.750	5.855	2.90		Clay	95.1			26.71	0.97	n.a.	n.a.	0.92	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	27.740	1.446	2618.4	2380.0	22.210	5.470	2.89		Clay	94.1			26.22	0.97	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	26.020	1.436	2637.6	2389.2	20.677	5.815	2.93		Clay	97.3			24.59	0.97	n.a.	n.a.	0.92	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 3

PGA (A_{max}) 1.15

Total Settlement: 0.53 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	31.660	1.891	2658.0	2399.0	25.286	6.235	2.89		Clay	93.9			29.92	0.97	n.a.	n.a.	0.92	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	53.940	2.564	2677.2	2408.3	43.684	4.874	2.64		Clay	74.5			50.98	0.97	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	58.300	2.294	2696.4	2417.5	50.362	4.028	2.54		Sand	66.3		1.8	99.19	0.95	94.42	171.56	0.92	1.032	0.974	0.531	1.011	0.98	0.01	0.02
22.640	43.920	1.917	2716.8	2427.3	35.070	4.503	2.69		Clay	77.9			41.51	0.96	n.a.	n.a.	0.92	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	29.040	1.518	2736.0	2436.5	22.715	5.485	2.88		Clay	93.6			27.45	0.96	n.a.	n.a.	0.92	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	29.090	1.541	2756.4	2446.3	22.656	5.559	2.89		Clay	93.9			27.50	0.96	n.a.	n.a.	0.92	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	30.450	1.462	2775.6	2455.5	23.671	5.030	2.84		Clay	90.5			28.78	0.96	n.a.	n.a.	0.92	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	30.060	1.273	2794.8	2464.7	23.258	4.441	2.81		Clay	88.0			28.41	0.96	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	28.180	1.072	2815.2	2474.5	21.639	4.006	2.81		Clay	87.6			26.64	0.96	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	26.870	0.896	2834.4	2483.7	20.496	3.520	2.79		Clay	86.1			25.40	0.96	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	24.950	0.838	2854.8	2493.5	18.867	3.563	2.82		Clay	88.6			23.58	0.96	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	22.840	0.824	2874.0	2502.7	17.104	3.849	2.87		Clay	93.0			21.59	0.96	n.a.	n.a.	0.91	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	21.240	0.941	2893.2	2511.9	15.759	4.752	2.96		Clay	99.8			20.08	0.96	n.a.	n.a.	0.91	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	22.710	0.873	2913.6	2521.7	16.856	4.106	2.90		Clay	94.8			21.47	0.95	n.a.	n.a.	0.91	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	23.330	0.863	2932.8	2530.9	17.277	3.948	2.88		Clay	93.2			22.05	0.95	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	22.490	1.566	2953.2	2540.7	16.541	7.453	3.07		Clay	100.0			21.26	0.95	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	26.310	2.155	2972.4	2550.0	19.470	8.680	3.07		Clay	100.0			24.87	0.95	n.a.	n.a.	0.91	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	35.380	2.435	2991.6	2559.2	26.481	7.185	2.92		Clay	96.3			33.44	0.95	n.a.	n.a.	0.91	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	41.530	2.018	3012.0	2569.0	31.160	5.041	2.76		Clay	83.6			39.25	0.95	n.a.	n.a.	0.91	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	33.520	1.481	3031.2	2578.2	24.827	4.628	2.80		Clay	87.3			31.68	0.95	n.a.	n.a.	0.91	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	25.060	0.887	3051.6	2588.0	18.187	3.769	2.85		Clay	90.8			23.69	0.95	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	22.050	0.960	3070.8	2597.2	15.798	4.682	2.96		Clay	99.4			20.84	0.95	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	21.580	0.882	3090.0	2606.4	15.374	4.403	2.95		Clay	98.8			20.40	0.95	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	21.640	0.742	3110.4	2616.2	15.354	3.692	2.90		Clay	95.0			20.45	0.95	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	18.750	0.621	3129.6	2625.4	13.091	3.615	2.95		Clay	98.9			17.72	0.94	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	19.820	0.638	3150.0	2635.2	13.847	3.498	2.92		Clay	96.7			18.73	0.94	n.a.	n.a.	0.90	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	22.330	0.690	3169.2	2644.4	15.690	3.327	2.86		Clay	92.2			21.11	0.94	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	22.140	0.731	3188.4	2653.6	15.485	3.556	2.89		Clay	94.0			20.93	0.94	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	21.690	0.767	3208.8	2663.4	15.083	3.820	2.92		Clay	96.2			20.50	0.94	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	22.590	0.796	3228.0	2672.6	15.697	3.794	2.90		Clay	95.0			21.35	0.94	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	22.790	0.735	3248.4	2682.4	15.781	3.471	2.87		Clay	92.9			21.54	0.94	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	21.460	0.671	3267.6	2691.6	14.732	3.384	2.89		Clay	94.3			20.28	0.94	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	20.120	0.663	3288.0	2701.4	13.679	3.588	2.93		Clay	97.6			19.02	0.94	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	19.350	0.713	3307.2	2710.7	13.057	4.027	2.98		Clay	100.0			18.29	0.94	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	20.690	0.624	3326.4	2719.9	13.991	3.279	2.90		Clay	95.1			19.56	0.94	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	21.300	0.575	3346.8	2729.7	14.380	2.930	2.86		Clay	92.0			20.13	0.94	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	19.210	0.650	3366.0	2738.9	12.799	3.708	2.96		Clay	100.0			18.16	0.93	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	22.220	0.832	3386.4	2748.7	14.936	4.053	2.93		Clay	97.8			21.00	0.93	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	26.740	0.948	3405.6	2757.9	18.157	3.787	2.85		Clay	91.0			25.27	0.93	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	28.740	1.066	3424.8	2767.1	19.535	3.943	2.84		Clay	89.9			27.16	0.93	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	28.620	1.087	3445.2	2776.9	19.372	4.041	2.85		Clay	90.7			27.05	0.93	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	29.350	1.104	3464.4	2786.1	19.825	3.996	2.84		Clay	89.8			27.74	0.93	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	29.380	1.095	3484.8	2795.9	19.770	3.963	2.83		Clay	89.7			27.77	0.93	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	29.090	1.096	3504.0	2805.1	19.492	4.008	2.84		Clay	90.4			27.50	0.93	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	28.540	1.039	3523.2	2814.3	19.030	3.881	2.84		Clay	90.3			26.98	0.93	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	26.870	0.954	3543.6	2824.1	17.774	3.803	2.86		Clay	91.7			25.40	0.93	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	25.160	0.808	3562.8	2833.3	16.502	3.456	2.86		Clay	91.6			23.78	0.93	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	23.620	0.720	3583.2	2843.1	15.355	3.299	2.87		Clay	92.6			22.33	0.93	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	22.030	0.673	3602.4	2852.4	14.184	3.326	2.90		Clay	95.0			20.82	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	20.710	0.644	3621.6	2861.6	13.209	3.408	2.93		Clay	97.5			19.57	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	18.540	0.675	3642.0	2871.4	11.645	4.036	3.02		Clay	100.0			17.52	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	19.020	0.672	3661.2	2880.6	11.935	3.912	3.00		Clay	100.0			17.98	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	18.340	0.836	3681.6	2890.4	11.417	5.068	3.09		Clay	100.0			17.33	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	17.290	0.885	3700.8	2899.6	10.650	5.729	3.14		Clay	100.0			16.34	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	23.070	0.857	3720.0	2908.8	14.583	4.040	2.94		Clay	98.3			21.81	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	22.300	0.777	3740.4	2918.6	14.000	3.802	2.94		Clay	98.2			21.08	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	22.230	0.715	3759.6	2927.8	13.901	3.511	2.92		Clay	96.7			21.01	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	20.370	0.708	3780.0	2937.6	12.582	3.833	2.98		Clay	100.0			19.25	0.92	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	20.560	0.772	3799.2	2946.8	12.665	4.137	3.00		Clay	100.0			19.43	0.92	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	23.800	1.048	3818.4	2956.0	14.811	4.788	2.98		Clay	100.0			22.50	0.92	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	25.130	1.315	3838.8	2965.8	15.652	5.667	3.01		Clay	100.0			23.75	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	30.060	1.596	3858.0	2975.0	18.911	5.674	2.95		Clay	99.1			28.41	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	31.650	1.834	3878.4	2984.8	19.908	6.172	2.96		Clay	99.7			29.91	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	29.300	1.694	3897.6	2994.0	18.270	6.193	2.99		Clay	100.0			27.69	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	29.820	1.472	3916.8	3003.3	18.554	5.282	2.94		Clay	97.9			28.19	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	24.850	1.027	3937.2	3013.1	15.188	4.487	2.96		Clay	99.5			23.49	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	23.710	0.762	3956.4	3022.3	14.381	3.507	2.91		Clay	95.7			22.41	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 3

PGA (A_{max}) 1.15

Total Settlement: 0.53 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	23.310	0.686	3976.8	3032.1	14.064	3.216	2.89		Clay	94.5			22.03	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	22.430	0.789	3996.0	3041.3	13.436	3.860	2.96		Clay	99.6			21.20	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	24.990	0.978	4015.2	3050.5	15.068	4.257	2.94		Clay	98.6			23.62	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	29.470	1.122	4035.6	3060.3	17.941	4.087	2.87		Clay	93.0			27.85	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	31.210	1.156	4054.8	3069.5	19.015	3.962	2.85		Clay	90.8			29.50	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	31.960	1.144	4075.2	3079.3	19.435	3.823	2.83		Clay	89.4			30.21	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	32.780	1.048	4094.4	3088.5	19.901	3.408	2.79		Clay	86.2			30.98	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	33.440	1.054	4113.6	3097.7	20.262	3.358	2.78		Clay	85.4			31.61	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	34.200	1.116	4134.0	3107.5	20.681	3.474	2.78		Clay	85.6			32.33	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	36.130	1.133	4153.2	3116.7	21.852	3.328	2.75		Clay	83.2			34.15	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	38.630	1.193	4173.6	3126.5	23.376	3.265	2.72		Clay	80.9			36.51	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	39.370	1.280	4192.8	3135.7	23.773	3.435	2.73		Clay	81.6			37.21	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	37.620	1.151	4212.0	3145.0	22.585	3.240	2.73		Clay	81.7			35.56	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	36.340	1.144	4232.4	3154.8	21.697	3.343	2.76		Clay	83.5			34.35	0.90	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	31.250	0.978	4251.6	3164.0	18.410	3.358	2.81		Clay	88.0			29.54	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	29.470	1.008	4272.0	3173.8	17.225	3.688	2.86		Clay	91.8			27.85	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	28.340	0.991	4291.2	3183.0	16.459	3.785	2.88		Clay	93.6			26.79	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	29.320	0.999	4311.6	3192.8	17.016	3.677	2.86		Clay	92.1			27.71	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	29.760	0.944	4330.8	3202.0	17.236	3.420	2.84		Clay	90.2			28.13	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	28.030	0.877	4350.0	3211.2	16.103	3.392	2.86		Clay	91.9			26.49	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	24.970	0.757	4370.4	3221.0	14.148	3.322	2.90		Clay	95.0			23.60	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	20.150	0.604	4389.6	3230.2	11.117	3.364	2.99		Clay	100.0			19.05	0.89	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	16.870	0.463	4410.0	3240.0	9.052	3.156	3.04		Clay	100.0			15.95	0.89	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	14.750	0.417	4429.2	3249.2	7.716	3.330	3.12		Clay	100.0			13.94	0.89	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	13.750	0.386	4448.4	3258.4	7.074	3.347	3.15		Clay	100.0			13.00	0.89	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	13.300	0.345	4468.8	3268.2	6.772	3.119	3.15		Clay	100.0			12.57	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	12.670	0.340	4488.0	3277.4	6.362	3.261	3.18		Clay	100.0			11.98	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	12.760	0.373	4508.4	3287.2	6.392	3.554	3.20		Clay	100.0			12.06	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	17.110	0.566	4527.6	3296.4	9.007	3.815	3.09		Clay	100.0			16.17	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	18.740	0.763	4546.8	3305.7	9.963	4.634	3.11		Clay	100.0			17.71	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	26.290	0.844	4567.2	3315.5	14.482	3.517	2.91		Clay	95.6			24.85	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	30.690	0.862	4586.4	3324.7	17.082	3.035	2.81		Clay	87.9			29.01	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	30.960	1.043	4606.8	3334.5	17.188	3.640	2.86		Clay	91.6			29.26	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	32.710	1.251	4626.0	3343.7	18.182	4.114	2.87		Clay	92.8			30.92	0.89	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	37.100	1.377	4645.2	3352.9	20.745	3.959	2.82		Clay	88.4			35.07	0.89	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	37.330	1.465	4665.6	3362.7	20.815	4.187	2.83		Clay	89.6			35.28	0.88	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	38.900	1.488	4684.8	3371.9	21.684	4.070	2.81		Clay	87.9			36.77	0.88	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	40.940	1.510	4705.2	3381.7	22.821	3.914	2.78		Clay	85.6			38.70	0.88	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	42.440	1.613	4724.4	3390.9	23.638	4.023	2.78		Clay	85.3			40.11	0.88	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	43.650	1.668	4743.6	3400.1	24.280	4.040	2.77		Clay	84.7			41.26	0.88	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	46.840	1.753	4764.0	3409.9	26.076	3.943	2.74		Clay	82.3			44.27	0.88	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	42.600	1.545	4783.2	3419.1	23.520	3.843	2.77		Clay	84.4			40.26	0.88	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	30.340	1.301	4803.6	3428.9	16.296	4.655	2.94		Clay	98.5			28.68	0.88	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	28.460	1.177	4822.8	3438.1	15.153	4.519	2.96		Clay	99.7			26.90	0.88	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	28.760	1.575	4842.0	3447.4	15.281	5.978	3.04		Clay	100.0			27.18	0.88	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	27.520	2.186	4862.4	3457.2	14.514	8.711	3.16		Clay	100.0			26.01	0.88	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	54.670	3.043	4881.6	3466.4	30.135	5.825	2.81		Clay	87.9			51.67	0.88	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	69.940	2.522	4902.0	3476.2	49.769	3.736	2.52		Sand	64.7		1.8	118.99	0.84	99.49	177.62	0.82	1.056	0.897	0.662	1.218	1.15	0.01	0.01
41.010	53.910	1.905	4921.2	3485.4	29.523	3.703	2.68		Clay	77.6			50.95	0.88	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	37.870	1.653	4940.4	3494.6	20.260	4.671	2.87		Clay	92.8			35.79	0.88	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	33.650	1.336	4960.8	3504.4	17.789	4.287	2.89		Clay	94.3			31.81	0.88	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	31.880	1.231	4980.0	3513.6	16.729	4.190	2.91		Clay	95.4			30.13	0.87	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	30.880	1.072	5000.4	3523.4	16.109	3.779	2.89		Clay	94.2			29.19	0.87	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	30.590	0.940	5019.6	3532.6	15.898	3.346	2.86		Clay	91.9			28.91	0.87	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	27.660	0.779	5038.8	3541.8	14.196	3.098	2.88		Clay	93.5			26.14	0.87	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	23.170	0.714	5059.2	3551.6	11.623	3.461	2.98		Clay	100.0			21.90	0.87	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	20.580	0.627	5078.4	3560.8	10.133	3.477	3.03		Clay	100.0			19.45	0.87	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	17.880	0.513	5098.8	3570.6	8.587	3.343	3.08		Clay	100.0			16.90	0.87	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	15.240	0.400	5118.0	3579.8	7.085	3.150	3.13		Clay	100.0			14.40	0.87	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	12.720	0.276	5137.2	3589.1	5.657	2.719	3.18		Clay	100.0			12.02	0.87	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	11.580	0.222	5157.6	3598.8	5.002	2.471	3.21		Clay	100.0			10.95	0.87	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	11.260	0.215	5176.8	3608.1	4.807	2.476	3.22		Clay	100.0			10.64	0.87	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	11.620	0.229	5197.2	3617.9	4.987	2.543	3.21		Clay	100.0			10.98	0.87	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	12.790	0.256	5216.4	3627.1	5.614	2.513	3.17		Clay	100.0			12.09	0.87	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	13.600	0.321	5236.8	3636.9	6.039	2.919	3.17		Clay	100.0			12.85	0.87	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	14.540	0.454	5256.0	3646.1	6.534	3.813	3.21		Clay	100.0			13.74	0.87	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	18.050	0.515	5275.2	3655.3	8.433	3.341	3.08		Clay	100.0			17.06	0.87	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 3

PGA (A_{max}) 1.15

Total Settlement: 0.53 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	18.610	0.516	5295.6	3665.1	8.710	3.230	3.06		Clay	100.0			17.59	0.87	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	22.750	0.614	5314.8	3674.3	10.937	3.053	2.97		Clay	100.0			21.50	0.86	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	23.750	0.756	5335.2	3684.1	11.445	3.584	2.99		Clay	100.0			22.45	0.86	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	28.690	0.941	5354.4	3693.3	14.086	3.616	2.92		Clay	96.9			27.12	0.86	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	32.230	0.997	5373.6	3702.5	15.958	3.374	2.86		Clay	92.0			30.46	0.86	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	33.390	1.000	5394.0	3712.3	16.536	3.257	2.84		Clay	90.3			31.56	0.86	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	30.790	0.959	5413.2	3721.5	15.092	3.413	2.89		Clay	93.8			29.10	0.86	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	29.220	0.961	5433.6	3731.3	14.206	3.626	2.92		Clay	96.7			27.62	0.86	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	28.790	0.882	5452.8	3740.5	13.936	3.383	2.91		Clay	95.8			27.21	0.86	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	26.590	0.787	5472.0	3749.8	12.723	3.298	2.94		Clay	97.8			25.13	0.86	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	22.950	0.651	5492.4	3759.6	10.748	3.221	2.99		Clay	100.0			21.69	0.86	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	21.830	0.539	5511.6	3768.8	10.122	2.826	2.98		Clay	100.0			20.63	0.86	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	20.970	0.477	5532.0	3778.6	9.635	2.619	2.98		Clay	100.0			19.82	0.86	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	19.470	0.407	5551.2	3787.8	8.815	2.436	2.99		Clay	100.0			18.40	0.86	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	18.540	0.380	5570.4	3797.0	8.299	2.413	3.01		Clay	100.0			17.52	0.86	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	18.980	0.409	5590.8	3806.8	8.503	2.530	3.01		Clay	100.0			17.94	0.86	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	20.270	0.451	5610.0	3816.0	9.154	2.584	2.99		Clay	100.0			19.16	0.86	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	21.390	0.524	5630.4	3825.8	9.710	2.819	2.99		Clay	100.0			20.22	0.86	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	21.930	0.593	5649.6	3835.0	9.964	3.104	3.01		Clay	100.0			20.73	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	23.190	0.649	5668.8	3844.2	10.590	3.189	2.99		Clay	100.0			21.92	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	24.210	0.719	5689.2	3854.0	11.087	3.365	2.99		Clay	100.0			22.88	0.85	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	24.490	0.711	5708.4	3863.2	11.201	3.285	2.98		Clay	100.0			23.15	0.85	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	25.520	0.630	5728.8	3873.0	11.699	2.781	2.92		Clay	96.8			24.12	0.85	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	24.690	0.543	5748.0	3882.2	11.239	2.488	2.91		Clay	95.7			23.34	0.85	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	24.320	0.572	5767.2	3891.5	11.017	2.670	2.93		Clay	97.7			22.99	0.85	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	25.100	0.611	5787.6	3901.2	11.384	2.750	2.93		Clay	97.3			23.72	0.85	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	27.950	0.736	5806.8	3910.5	12.810	2.938	2.90		Clay	95.3			26.42	0.85	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	30.110	0.866	5827.2	3920.3	13.875	3.184	2.90		Clay	94.7			28.46	0.85	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	33.840	0.983	5846.4	3929.5	15.736	3.180	2.85		Clay	91.2			31.98	0.85	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	36.130	1.106	5865.6	3938.7	16.857	3.333	2.84		Clay	90.3			34.15	0.85	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	36.650	1.134	5886.0	3948.5	17.073	3.363	2.84		Clay	90.1			34.64	0.85	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	36.290	1.152	5905.2	3957.7	16.847	3.456	2.85		Clay	91.0			34.30	0.85	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	36.660	1.266	5925.6	3967.5	16.987	3.756	2.87		Clay	92.6			34.65	0.85	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	35.600	1.239	5944.8	3976.7	16.409	3.798	2.88		Clay	93.8			33.65	0.85	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	35.460	1.275	5964.0	3985.9	16.296	3.927	2.90		Clay	94.7			33.52	0.85	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	34.130	1.261	5984.4	3995.7	15.586	4.049	2.92		Clay	96.6			32.26	0.85	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	34.920	1.183	6003.6	4004.9	15.939	3.707	2.89		Clay	94.1			33.01	0.85	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 4

PGA (A_{max}) 1.15

Total Settlement: 0.33 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	283.500	0.930	19.2	19.2	2812.936	0.328	0.74		Unsaturated	0.0			267.96	1.70	455.53	455.53	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	272.390	1.387	39.6	39.6	1881.846	0.509	0.95		Unsaturated	0.0			257.46	1.70	437.68	437.68	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	121.830	1.576	58.8	58.8	690.610	1.294	1.47		Unsaturated	0.0			115.15	1.70	195.76	195.76	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	53.810	1.366	79.2	79.2	262.696	2.540	1.93		Unsaturated	17.8			50.86	1.70	86.46	116.16	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	28.600	1.913	98.4	98.4	125.139	6.701	2.46		Unsaturated	60.1			27.03	1.70	45.95	107.58	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	26.840	3.594	117.6	117.6	191.390	13.420	2.63		Unsaturated	73.5			25.37	1.70	43.13	106.98	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	125.110	5.127	138.0	138.0	462.791	4.100	2.00		Unsaturated	23.1			118.25	1.70	201.03	261.30	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	113.470	5.761	157.2	157.2	393.211	5.080	2.12		Unsaturated	32.2			107.25	1.70	182.32	258.31	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	82.250	4.019	177.6	177.6	268.051	4.891	2.18		Unsaturated	37.0			77.74	1.70	132.16	203.08	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	59.690	2.825	196.8	196.8	184.691	4.741	2.25		Unsaturated	42.7			56.42	1.70	95.91	162.95	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	35.670	1.804	216.0	216.0	105.204	5.074	2.41		Unsaturated	55.7			33.71	1.70	57.31	120.72	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	23.640	1.221	236.4	236.4	66.515	5.190	2.54		Unsaturated	66.3			22.34	1.70	37.98	98.89	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	19.830	0.964	255.6	255.6	53.580	4.892	2.58		Unsaturated	69.7			18.74	1.70	31.86	91.71	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	18.300	0.979	276.0	276.0	71.434	5.388	2.53		Unsaturated	65.7			17.30	1.70	29.40	87.72	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	18.190	1.008	295.2	295.2	67.700	5.587	2.56		Unsaturated	67.9			17.19	1.70	29.23	87.94	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	19.140	1.092	314.4	314.4	68.155	5.752	2.57		Unsaturated	68.5			18.09	1.70	30.75	90.04	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	20.030	1.187	334.8	334.8	68.244	5.975	2.58		Unsaturated	69.5			18.93	1.70	32.18	92.08	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	21.920	1.289	354.0	354.0	71.844	5.929	2.56		Unsaturated	68.1			20.72	1.70	35.22	95.73	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	23.060	1.326	374.4	374.4	72.671	5.799	2.55		Unsaturated	67.3			21.80	1.70	37.05	97.91	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	23.400	1.341	393.6	393.6	71.184	5.781	2.56		Unsaturated	67.7			22.12	1.70	37.60	98.69	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	23.490	1.317	412.8	412.8	69.089	5.654	2.56		Unsaturated	67.7			22.20	1.70	37.74	98.89	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	23.770	1.257	433.2	433.2	67.569	5.337	2.55		Unsaturated	66.7			22.47	1.70	38.19	99.25	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	24.200	1.230	452.4	452.4	66.719	5.131	2.54		Unsaturated	65.9			22.87	1.70	38.88	99.97	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	24.370	1.233	472.8	472.8	65.121	5.107	2.54		Unsaturated	66.3			23.03	1.70	39.16	100.42	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	24.370	1.287	492.0	492.0	63.307	5.335	2.56		Unsaturated	68.1			23.03	1.70	39.16	100.80	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	24.610	1.359	512.4	512.4	62.118	5.579	2.58		Unsaturated	69.7			23.26	1.70	39.54	101.63	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	25.730	1.548	531.6	531.6	63.299	6.078	2.61		Unsaturated	71.6			24.32	1.70	41.34	104.32	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	28.320	1.855	550.8	550.8	68.003	6.614	2.62		Unsaturated	72.3			26.77	1.70	45.50	109.83	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	31.520	2.049	571.2	571.2	73.834	6.560	2.59		Unsaturated	70.3			29.79	1.70	50.65	116.08	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	33.220	2.128	590.4	590.4	76.049	6.464	2.58		Unsaturated	69.3			31.40	1.70	53.38	119.39	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	33.610	2.112	610.8	610.8	75.119	6.342	2.58		Unsaturated	69.0			31.77	1.70	54.00	120.14	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	33.500	2.041	630.0	630.0	73.245	6.149	2.57		Unsaturated	68.7			31.66	1.70	53.83	119.85	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	33.570	1.957	649.2	649.2	71.853	5.887	2.56		Unsaturated	68.0			31.73	1.70	53.94	119.82	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	30.620	1.800	669.6	669.6	64.052	5.943	2.60		Unsaturated	70.7			28.94	1.70	49.20	114.30	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	28.560	1.741	688.8	688.8	58.506	6.169	2.63		Unsaturated	73.8			26.99	1.70	45.89	110.60	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	28.180	1.777	709.2	709.2	56.530	6.386	2.66		Unsaturated	75.4			26.64	1.69	44.89	109.61	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	28.320	1.824	728.4	728.4	55.743	6.525	2.67		Unsaturated	76.3			26.77	1.67	44.57	109.34	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	28.100	1.774	747.6	747.6	54.287	6.399	2.67		Unsaturated	76.4			26.56	1.65	43.77	108.32	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	26.640	1.737	768.0	768.0	68.375	6.614	2.61		Unsaturated	72.2			25.18	1.64	41.31	104.39	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	26.130	1.647	787.2	787.2	65.387	6.398	2.62		Unsaturated	72.3			24.70	1.63	40.16	102.91	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	26.670	1.603	807.6	807.6	65.048	6.102	2.60		Unsaturated	71.1			25.21	1.61	40.47	103.09	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	24.890	1.625	826.8	826.8	59.208	6.637	2.66		Unsaturated	75.4			23.53	1.60	37.56	100.11	0.99	0.735	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	25.300	1.790	846.0	846.0	58.811	7.196	2.68		Unsaturated	77.8			23.91	1.58	37.70	100.67	0.99	0.735	1.098	n.a.	n.a.	n.a.	0.00	0.00
7.220	29.400	1.918	866.4	866.4	66.867	6.620	2.62		Unsaturated	72.7			27.79	1.54	42.82	106.43	0.99	0.734	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.380	28.980	1.884	885.6	885.6	64.447	6.602	2.63		Unsaturated	73.4			27.39	1.53	41.85	105.31	0.98	0.734	1.097	n.a.	n.a.	n.a.	0.00	0.00
7.550	29.340	1.762	906.0	906.0	63.768	6.098	2.61		Unsaturated	71.5			27.73	1.51	41.92	105.05	0.98	0.734	1.094	n.a.	n.a.	n.a.	0.00	0.00
7.710	28.610	1.630	925.2	925.2	60.846	5.790	2.60		Unsaturated	71.2			27.04	1.50	40.59	103.27	0.98	0.733	1.090	n.a.	n.a.	n.a.	0.00	0.00
7.870	27.920	1.564	944.4	944.4	58.127	5.697	2.61		Unsaturated	71.8			26.39	1.49	39.32	101.74	0.98	0.733	1.087	n.a.	n.a.	n.a.	0.00	0.00
8.040	27.430	1.589	964.8	964.8	55.862	5.895	2.63		Clay	73.6			25.93	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	26.510	1.647	984.0	984.0	52.882	6.329	2.67		Clay	76.7			25.06	1.22	n.a.	n.a.	0.98	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	29.630	1.884	1004.4	1004.4	58.000	6.467	2.65		Clay	75.2			28.01	1.22	n.a.	n.a.	0.98	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	30.030	2.094	1023.6	1023.6	57.675	7.095	2.69		Clay	77.8			28.38	1.21	n.a.	n.a.	0.98	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	31.090	2.234	1042.8	1042.8	58.628	7.309	2.69		Clay	78.2			29.39	1.21	n.a.	n.a.	0.98	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	33.790	2.137	1063.2	1063.2	62.563	6.426	2.63		Clay	73.4			31.94	1.20	n.a.	n.a.	0.98	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	29.170	1.900	1082.4	1082.4	52.899	6.638	2.69		Clay	78.0			27.57	1.19	n.a.	n.a.	0.98	0.775	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	27.610	1.775	1102.8	1102.8	49.073	6.559	2.70		Clay	79.4			26.10	1.19	n.a.	n.a.	0.98	0.782	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	25.310	1.691	1122.0	1122.0	44.116	6.832	2.75		Clay	82.9			23.92	1.18	n.a.	n.a.	0.98	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	23.400	1.603	1141.2	1141.2	40.009	7.022	2.79		Clay	85.8			22.12	1.18	n.a.	n.a.	0.98	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	23.300	1.469	1161.6	1161.6	39.117	6.465	2.77		Clay	84.3			22.02	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	22.550	1.453	1180.8	1180.8	37.194	6.617	2.79		Clay	86.0			21.31	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	23.030	1.417	1201.2	1201.2	37.345	6.317	2.77		Clay	84.8			21.77	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	21.760	1.287	1220.4	1220.4	34.660	6.084	2.78		Clay	85.6			20.57	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	17.680	1.211	1239.6	1239.6	27.525	7.097	2.90		Clay	95.0			16.71	1.15	n.a.	n.a.	0.97	0.822	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	19.350	1.183	1260.0	1260.0	29.714	6.319	2.84		Clay	90.3			18.29	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	21.060	1.198	1279.2	1279.2	31.927	5.869	2.80		Clay	86.7			19.91	1.14	n.a.	n.a.	0.97	0.833	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	22.570	1.056	1299.6	1299.6	33.734	4.816	2.72		Clay	80.5			21.33	1.14	n.a.	n.a.	0.97	0.838	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	23.100	1.106	1318.8	1318.8	34.032	4.926	2.72		Clay	80.8			21.83	1.13	n.a.	n.a.	0.97	0.843	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 4

PGA (A_{max}) 1.15

Total Settlement: 0.33 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	24.250	1.188	1338.0	1338.0	35.248	5.037	2.72		Clay	80.5			22.92	1.13	n.a.	n.a.	0.97	0.848	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	27.120	1.306	1358.4	1358.4	38.929	4.941	2.68		Clay	77.6			25.63	1.12	n.a.	n.a.	0.97	0.853	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	28.070	1.250	1377.6	1377.6	39.752	4.564	2.65		Clay	75.1			26.53	1.12	n.a.	n.a.	0.97	0.858	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	27.800	1.298	1398.0	1398.0	38.771	4.789	2.67		Clay	76.9			26.28	1.12	n.a.	n.a.	0.97	0.863	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	27.170	1.223	1417.2	1417.2	37.343	4.623	2.67		Clay	77.0			25.68	1.11	n.a.	n.a.	0.97	0.867	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	29.160	1.215	1437.6	1437.6	39.568	4.273	2.63		Clay	73.6			27.56	1.11	n.a.	n.a.	0.97	0.872	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	29.460	1.281	1456.8	1456.8	39.445	4.459	2.65		Clay	74.7			27.84	1.10	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	27.470	1.373	1476.0	1476.0	36.222	5.138	2.72		Clay	80.3			25.96	1.10	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	25.040	1.392	1496.4	1496.4	32.467	5.732	2.78		Clay	85.7			23.67	1.10	n.a.	n.a.	0.97	0.885	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	21.860	1.305	1515.6	1515.6	27.847	6.183	2.85		Clay	91.3			20.66	1.09	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	22.180	1.272	1536.0	1536.0	27.880	5.942	2.84		Clay	90.3			20.96	1.09	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	23.250	1.227	1555.2	1555.2	28.900	5.458	2.80		Clay	87.4			21.98	1.08	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	22.590	1.330	1574.4	1574.4	27.697	6.101	2.85		Clay	91.1			21.35	1.08	n.a.	n.a.	0.96	0.900	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	27.300	1.233	1594.8	1594.8	33.236	4.652	2.71		Clay	80.0			25.80	1.08	n.a.	n.a.	0.96	0.904	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	29.620	1.095	1614.0	1614.0	35.704	3.801	2.63		Clay	73.4			28.00	1.07	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	25.660	1.078	1634.4	1634.4	30.400	4.340	2.72		Clay	80.6			24.25	1.07	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	24.930	1.023	1653.6	1653.6	29.152	4.245	2.73		Clay	81.2			23.56	1.07	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	26.740	1.037	1672.8	1672.8	30.970	4.005	2.69		Clay	78.2			25.27	1.06	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	26.260	1.016	1693.2	1693.2	30.018	3.999	2.70		Clay	79.0			24.82	1.06	n.a.	n.a.	0.96	0.922	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	27.550	1.118	1712.4	1712.4	31.177	4.189	2.70		Clay	79.1			26.04	1.06	n.a.	n.a.	0.96	0.926	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	28.250	1.135	1732.8	1732.8	31.606	4.143	2.69		Clay	78.5			26.70	1.05	n.a.	n.a.	0.96	0.929	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	27.380	1.105	1752.0	1752.0	30.256	4.170	2.71		Clay	79.8			25.88	1.05	n.a.	n.a.	0.96	0.932	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	24.690	0.936	1771.2	1771.2	26.879	3.931	2.73		Clay	81.5			23.34	1.05	n.a.	n.a.	0.96	0.935	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	22.600	1.030	1791.6	1791.6	24.229	4.747	2.82		Clay	88.5			21.36	1.04	n.a.	n.a.	0.96	0.939	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	20.860	1.068	1810.8	1810.8	22.040	5.354	2.88		Clay	93.8			19.72	1.04	n.a.	n.a.	0.95	0.942	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	23.640	1.095	1831.2	1831.2	24.819	4.820	2.82		Clay	88.3			22.34	1.04	n.a.	n.a.	0.95	0.945	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	21.600	0.672	1850.4	1850.4	22.346	3.250	2.74		Clay	82.0			20.42	1.04	n.a.	n.a.	0.95	0.948	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	18.510	0.751	1869.6	1869.6	18.801	4.275	2.87		Clay	92.7			17.50	1.03	n.a.	n.a.	0.95	0.950	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	17.340	0.990	1890.0	1890.0	17.349	6.041	3.00		Clay	100.0			16.39	1.03	n.a.	n.a.	0.95	0.953	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	25.530	1.099	1909.2	1909.2	25.744	4.473	2.78		Clay	85.6			24.13	1.03	n.a.	n.a.	0.95	0.956	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	29.930	0.919	1929.6	1929.6	30.022	3.171	2.63		Clay	73.6			28.29	1.02	n.a.	n.a.	0.95	0.959	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	23.920	0.634	1948.8	1948.8	23.548	2.764	2.68		Clay	77.1			22.61	1.02	n.a.	n.a.	0.95	0.962	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	22.520	0.608	1968.0	1968.0	21.886	2.825	2.71		Clay	79.6			21.29	1.02	n.a.	n.a.	0.95	0.964	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	23.130	0.794	1988.4	1988.4	22.265	3.588	2.77		Clay	84.3			21.86	1.02	n.a.	n.a.	0.95	0.967	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	26.680	1.068	2007.6	2007.6	25.579	4.158	2.76		Clay	84.0			25.22	1.01	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	29.920	1.355	2028.0	2028.0	28.507	4.689	2.76		Clay	84.1			28.28	1.01	n.a.	n.a.	0.95	0.972	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	32.470	1.590	2047.2	2047.2	30.721	5.056	2.76		Clay	84.0			30.69	1.01	n.a.	n.a.	0.95	0.974	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	33.920	1.946	2066.4	2066.4	31.830	5.916	2.80		Clay	87.0			32.06	1.01	n.a.	n.a.	0.95	0.977	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	35.550	2.621	2086.8	2086.8	33.071	7.596	2.87		Clay	92.3			33.60	1.00	n.a.	n.a.	0.94	0.979	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	52.280	3.750	2106.0	2106.0	48.649	7.319	2.74		Clay	82.4			49.41	1.00	n.a.	n.a.	0.94	0.981	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	70.930	4.467	2126.4	2126.4	65.714	6.394	2.61		Clay	72.1			67.04	1.00	n.a.	n.a.	0.94	0.983	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	77.550	4.652	2145.6	2145.6	71.784	6.083	2.57		Sand	68.9	89.08		89.08	0.99	88.61	164.76	0.94	0.986	0.997	0.426	0.789	0.80	0.01	0.02
18.040	78.040	4.445	2164.8	2162.3	71.956	5.776	2.56		Sand	67.4	89.08		89.08	0.99	88.35	164.05	0.94	0.988	0.996	0.417	0.767	0.78	0.01	0.03
18.210	82.560	4.818	2185.2	2172.1	76.001	5.914	2.55		Sand	66.9	89.08		89.08	0.99	88.20	163.70	0.94	0.990	0.995	0.413	0.757	0.76	0.01	0.03
18.370	94.250	4.808	2204.4	2181.3	86.713	5.161	2.47		Sand	60.3			89.08	0.99	88.05	161.55	0.94	0.992	0.995	0.388	0.699	0.70	0.02	0.03
18.540	94.740	4.122	2224.8	2191.1	86.965	4.403	2.41		Sand	55.9			89.55	0.99	88.35	160.36	0.94	0.994	0.994	0.375	0.670	0.67	0.02	0.03
18.700	78.570	2.975	2244.0	2200.3	71.786	3.842	2.42		Sand	56.7	89.55		89.55	0.99	88.21	160.47	0.94	0.996	0.993	0.376	0.672	0.67	0.02	0.03
18.860	69.100	2.339	2263.2	2209.5	62.868	3.441	2.42		Sand	57.0	89.55		89.55	0.98	88.07	160.40	0.94	0.998	0.992	0.375	0.670	0.67	0.02	0.03
19.030	61.900	2.089	2283.6	2219.3	56.075	3.437	2.46		Sand	59.7	89.55		89.55	0.98	87.92	161.19	0.94	1.000	0.992	0.384	0.688	0.69	0.02	0.03
19.190	58.850	2.240	2302.8	2228.5	53.141	3.883	2.51		Sand	64.1	89.55		89.55	0.98	87.79	162.39	0.94	1.002	0.991	0.397	0.718	0.72	0.02	0.03
19.360	57.960	3.149	2323.2	2238.3	50.751	5.543	2.64		Clay	74.2			54.78	0.99	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	85.900	3.660	2342.4	2247.6	77.705	4.320	2.44		Sand	57.9	106.29	1.72	182.82	0.98	179.93	278.12	0.93	1.005	0.982	7211.725	15578.717	15495.57	0.00	0.00
19.690	104.910	4.233	2362.8	2257.3	94.923	4.080	2.36		Sand	52.0	106.29	1.72	182.82	0.98	179.73	274.59	0.93	1.007	0.981	4014.528	8660.636	8598.81	0.00	0.00
19.850	112.460	4.037	2382.0	2266.6	101.616	3.628	2.30		Sand	47.3		1.72	182.83	0.98	179.54	271.20	0.93	1.009	0.979	2347.271	5057.511	5013.04	0.00	0.00
20.010	103.080	3.228	2401.2	2275.8	92.853	3.169	2.28		Sand	45.7	106.29	1.72	182.82	0.98	179.34	269.75	0.93	1.011	0.978	1877.308	4039.885	3997.83	0.00	0.00
20.180	66.440	2.059	2421.6	2285.6	59.322	3.156	2.42		Sand	56.2	106.29	1.72	182.82	0.98	179.14	276.25	0.93	1.012	0.977	5273.552	11333.509	11196.53	0.00	0.00
20.340	50.490	1.568	2440.8	2294.8	44.718	3.182	2.51		Sand	63.5	106.29	1.72	182.82	0.98	178.95	279.31	0.93	1.014	0.976	8832.962	18959.659	18701.31	0.00	0.00
20.510	36.790	1.075	2461.2	2304.6	30.860	3.023	2.61		Clay	71.8			34.77	0.98	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	37.870	1.260	2480.4	2313.8	31.662	3.440	2.64		Clay	74.1			35.79	0.98	n.a.	n.a.	0.93	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	37.560	1.190	2499.6	2323.0	31.261	3.278	2.63		Clay	73.3			35.50	0.98	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	38.310	1.795	2520.0	2332.8	31.764	4.844	2.74		Clay	82.1			36.21	0.97	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	33.820	1.371	2539.2	2342.0	27.797	4.211	2.74		Clay	82.2			31.97	0.97	n.a.	n.a.	0.93	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	48.730	1.384	2559.6	2351.8	42.541	2.916	2.50		Sand	62.7			46.06	0.95	43.75	105.44	0.93	1.023	0.988	0.145	0.185	0.18	0.03	0.06
21.490	31.430	1.033	2578.8	2361.0	25.532	3.428	2.71		Clay	79.7			29.71	0.97	n.a.	n.a.	0.93	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	29.330	0.922	2598.0	2370.2	23.652	3.287	2.72		Clay	80.8			27.72	0.97	n.a.	n.a.	0.92	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	27.000	0.853	2618.4	2380.0	21.589	3.318	2.76		Clay	83.4			25.52	0.97	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	25.600	0.842	2637.6	2389.2	20.325	3.468	2.79		Clay	86.0			24.20	0.97	n.a.	n.a.	0.92	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 4

PGA (A_{max}) 1.15

Total Settlement: 0.33 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	26.130	0.856	2658.0	2399.0	20.676	3.450	2.78		Clay	85.5			24.70	0.97	n.a.	n.a.	0.92	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	26.870	0.877	2677.2	2408.3	21.203	3.435	2.77		Clay	84.7			25.40	0.97	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	25.260	0.822	2696.4	2417.5	19.782	3.436	2.79		Clay	86.6			23.88	0.97	n.a.	n.a.	0.92	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	22.790	0.726	2716.8	2427.3	17.659	3.389	2.83		Clay	89.3			21.54	0.96	n.a.	n.a.	0.92	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	20.880	0.664	2736.0	2436.5	16.017	3.402	2.86		Clay	92.1			19.74	0.96	n.a.	n.a.	0.92	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	20.040	0.636	2756.4	2446.3	15.257	3.408	2.88		Clay	93.5			18.94	0.96	n.a.	n.a.	0.92	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	20.760	0.629	2775.6	2455.5	15.779	3.247	2.86		Clay	91.5			19.62	0.96	n.a.	n.a.	0.92	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	21.870	0.659	2794.8	2464.7	16.613	3.218	2.84		Clay	89.9			20.67	0.96	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	22.010	0.714	2815.2	2474.5	16.652	3.466	2.86		Clay	91.4			20.80	0.96	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	22.070	0.780	2834.4	2483.7	16.631	3.777	2.88		Clay	93.3			20.86	0.96	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	23.390	0.846	2854.8	2493.5	17.616	3.852	2.86		Clay	92.2			22.11	0.96	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	24.600	0.872	2874.0	2502.7	18.510	3.765	2.84		Clay	90.3			23.25	0.96	n.a.	n.a.	0.91	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	25.040	0.909	2893.2	2511.9	18.785	3.852	2.84		Clay	90.5			23.67	0.96	n.a.	n.a.	0.91	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	25.140	0.894	2913.6	2521.7	18.783	3.775	2.84		Clay	90.0			23.76	0.95	n.a.	n.a.	0.91	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	26.070	0.802	2932.8	2530.9	19.442	3.260	2.79		Clay	85.9			24.64	0.95	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	23.690	0.574	2953.2	2540.7	17.486	2.586	2.76		Clay	83.9			22.39	0.95	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	21.640	0.591	2972.4	2550.0	15.807	2.933	2.83		Clay	89.3			20.45	0.95	n.a.	n.a.	0.91	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	21.170	0.790	2991.6	2559.2	15.375	4.016	2.92		Clay	96.8			20.01	0.95	n.a.	n.a.	0.91	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	24.210	0.668	3012.0	2569.0	17.676	2.941	2.79		Clay	86.3			22.88	0.95	n.a.	n.a.	0.91	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	25.360	0.614	3031.2	2578.2	18.497	2.575	2.74		Clay	82.3			23.97	0.95	n.a.	n.a.	0.91	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	20.950	0.729	3051.6	2588.0	15.011	3.752	2.91		Clay	96.0			19.80	0.95	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	19.600	1.005	3070.8	2597.2	13.911	5.562	3.05		Clay	100.0			18.53	0.95	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	26.440	0.922	3090.0	2606.4	19.103	3.702	2.83		Clay	89.1			24.99	0.95	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	26.020	0.779	3110.4	2616.2	18.703	3.184	2.79		Clay	86.4			24.59	0.95	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	15.630	0.462	3129.6	2625.4	10.715	3.283	2.99		Clay	100.0			14.77	0.94	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	13.620	0.326	3150.0	2635.2	9.142	2.706	3.00		Clay	100.0			12.87	0.94	n.a.	n.a.	0.90	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	12.860	0.335	3169.2	2644.4	8.528	2.974	3.05		Clay	100.0			12.16	0.94	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	13.480	0.366	3188.4	2653.6	8.958	3.077	3.04		Clay	100.0			12.74	0.94	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	16.820	0.426	3208.8	2663.4	11.426	2.798	2.93		Clay	97.6			15.90	0.94	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	18.960	0.488	3228.0	2672.6	12.980	2.815	2.89		Clay	94.1			17.92	0.94	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	19.720	0.601	3248.4	2682.4	13.492	3.321	2.92		Clay	96.3			18.64	0.94	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	21.050	0.663	3267.6	2691.6	14.427	3.413	2.90		Clay	95.0			19.90	0.94	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	20.530	0.809	3288.0	2701.4	13.982	4.284	2.97		Clay	100.0			19.40	0.94	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	20.090	0.665	3307.2	2710.7	13.603	3.607	2.94		Clay	97.8			18.99	0.94	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	24.330	0.579	3326.4	2719.9	16.668	2.555	2.78		Clay	85.0			23.00	0.94	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	22.250	0.562	3346.8	2729.7	15.076	2.729	2.83		Clay	89.2			21.03	0.94	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	18.810	0.543	3366.0	2738.9	12.507	3.172	2.93		Clay	97.5			17.78	0.93	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	19.110	0.617	3386.4	2748.7	12.673	3.544	2.96		Clay	99.4			18.06	0.93	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	21.250	0.742	3405.6	2757.9	14.175	3.798	2.93		Clay	97.8			20.09	0.93	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	24.760	0.920	3424.8	2767.1	16.658	3.992	2.89		Clay	94.5			23.40	0.93	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	27.240	1.097	3445.2	2776.9	18.378	4.298	2.88		Clay	93.5			25.75	0.93	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	27.820	1.057	3464.4	2786.1	18.727	4.053	2.86		Clay	91.7			26.29	0.93	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	27.630	1.040	3484.8	2795.9	18.518	4.017	2.86		Clay	91.8			26.12	0.93	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	27.140	1.079	3504.0	2805.1	18.101	4.251	2.88		Clay	93.6			25.65	0.93	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	28.340	1.140	3523.2	2814.3	18.888	4.290	2.87		Clay	92.7			26.79	0.93	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	28.180	1.218	3543.6	2824.1	18.702	4.614	2.90		Clay	94.6			26.64	0.93	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	29.330	1.144	3562.8	2833.3	19.446	4.154	2.85		Clay	91.2			27.72	0.93	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	26.620	1.054	3583.2	2843.1	17.466	4.245	2.89		Clay	94.6			25.16	0.93	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	21.880	0.829	3602.4	2852.4	14.079	4.126	2.96		Clay	99.8			20.68	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	19.170	0.830	3621.6	2861.6	12.133	4.781	3.05		Clay	100.0			18.12	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	18.370	0.757	3642.0	2871.4	11.527	4.576	3.06		Clay	100.0			17.36	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	24.000	0.620	3661.2	2880.6	15.392	2.796	2.83		Clay	89.1			22.68	0.92	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	26.320	0.694	3681.6	2890.4	16.938	2.834	2.80		Clay	86.7			24.88	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	18.730	0.703	3700.8	2899.6	11.643	4.164	3.03		Clay	100.0			17.70	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	19.510	0.706	3720.0	2908.8	12.136	4.001	3.00		Clay	100.0			18.44	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	18.860	0.815	3740.4	2918.6	11.642	4.798	3.06		Clay	100.0			17.83	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	19.990	1.064	3759.6	2927.8	12.371	5.873	3.10		Clay	100.0			18.89	0.92	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	25.420	1.088	3780.0	2937.6	16.020	4.622	2.95		Clay	98.8			24.03	0.92	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	28.490	0.937	3799.2	2946.8	18.047	3.522	2.83		Clay	89.6			26.93	0.92	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	19.870	0.713	3818.4	2956.0	12.152	3.971	3.00		Clay	100.0			18.78	0.92	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	18.910	0.760	3838.8	2965.8	11.458	4.471	3.05		Clay	100.0			17.87	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	20.460	0.872	3858.0	2975.0	12.458	4.708	3.04		Clay	100.0			19.34	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	25.530	1.157	3878.4	2984.8	15.807	4.904	2.97		Clay	100.0			24.13	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	27.760	1.592	3897.6	2994.0	17.242	6.168	3.00		Clay	100.0			26.24	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	36.990	2.812	3916.8	3003.3	23.329	8.026	2.99		Clay	100.0			34.96	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	60.090	3.278	3937.2	3013.1	38.580	5.639	2.73		Clay	81.1			56.80	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	73.280	3.173	3956.4	3022.3	56.390	4.450	2.54		Sand	66.1		1.8	124.67	0.89	110.44	192.13	0.87	1.066	0.914	1.247	2.508	2.35	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 4

PGA (A_{max}) 1.15

Total Settlement: 0.33 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	58.920	3.070	3976.8	3032.1	37.553	5.392	2.72		Clay	80.6			55.69	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	62.400	2.729	3996.0	3041.3	39.721	4.519	2.65		Clay	74.9			58.98	0.91	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	60.930	2.723	4015.2	3050.5	38.631	4.622	2.66		Clay	76.1			57.59	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	55.220	2.803	4035.6	3060.3	34.769	5.268	2.74		Clay	81.9			52.19	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	46.400	2.935	4054.8	3069.5	28.912	6.613	2.86		Clay	92.1			43.86	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	38.680	1.785	4075.2	3079.3	23.799	4.872	2.83		Clay	89.6			36.56	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	34.020	1.527	4094.4	3088.5	20.704	4.777	2.87		Clay	92.7			32.16	0.91	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	32.820	1.403	4113.6	3097.7	19.862	4.561	2.87		Clay	92.8			31.02	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	37.580	1.307	4134.0	3107.5	22.856	3.679	2.76		Clay	84.2			35.52	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	36.170	1.293	4153.2	3116.7	21.878	3.792	2.79		Clay	86.0			34.19	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	35.570	1.154	4173.6	3126.5	21.419	3.447	2.77		Clay	84.5			33.62	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	35.230	1.145	4192.8	3135.7	21.133	3.455	2.77		Clay	84.9			33.30	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	33.670	1.124	4212.0	3145.0	20.073	3.560	2.80		Clay	86.9			31.82	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	33.510	1.088	4232.4	3154.8	19.903	3.466	2.79		Clay	86.6			31.67	0.90	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	35.170	1.038	4251.6	3164.0	20.888	3.141	2.75		Clay	83.1			33.24	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	31.420	0.877	4272.0	3173.8	18.454	2.994	2.78		Clay	85.5			29.70	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	28.170	0.796	4291.2	3183.0	16.352	3.058	2.83		Clay	89.3			26.63	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	25.740	0.654	4311.6	3192.8	14.774	2.772	2.84		Clay	90.1			24.33	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	23.730	0.599	4330.8	3202.0	13.470	2.779	2.87		Clay	92.7			22.43	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	22.700	0.589	4350.0	3211.2	12.783	2.867	2.90		Clay	94.9			21.46	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	22.330	0.590	4370.4	3221.0	12.508	2.927	2.91		Clay	95.9			21.11	0.90	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	22.320	0.632	4389.6	3230.2	12.461	3.141	2.93		Clay	97.4			21.10	0.89	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	22.280	0.623	4410.0	3240.0	12.392	3.103	2.93		Clay	97.3			21.06	0.89	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	21.840	0.707	4429.2	3249.2	12.080	3.600	2.98		Clay	100.0			20.64	0.89	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	22.820	0.962	4448.4	3258.4	12.642	4.669	3.03		Clay	100.0			21.57	0.89	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	25.790	1.379	4468.8	3268.2	14.415	5.853	3.05		Clay	100.0			24.38	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	28.200	1.561	4488.0	3277.4	15.839	6.014	3.03		Clay	100.0			26.65	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	43.870	1.215	4508.4	3287.2	25.320	2.919	2.67		Clay	76.3			41.47	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	37.960	1.132	4527.6	3296.4	21.657	3.172	2.74		Clay	82.4			35.88	0.89	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	28.200	0.976	4546.8	3305.7	15.686	3.765	2.90		Clay	94.8			26.65	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	31.500	1.089	4567.2	3315.5	17.624	3.726	2.86		Clay	91.4			29.77	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	35.630	1.319	4586.4	3324.7	20.054	3.955	2.83		Clay	89.3			33.68	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	37.600	1.435	4606.8	3334.5	21.171	4.065	2.82		Clay	88.5			35.54	0.89	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	39.220	1.544	4626.0	3343.7	22.076	4.183	2.81		Clay	88.0			37.07	0.89	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	41.900	1.645	4645.2	3352.9	23.608	4.155	2.79		Clay	86.1			39.60	0.89	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	46.140	1.851	4665.6	3362.7	26.055	4.225	2.76		Clay	83.9			43.61	0.88	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	49.970	1.773	4684.8	3371.9	28.250	3.722	2.70		Clay	78.9			47.23	0.88	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	43.330	1.587	4705.2	3381.7	24.235	3.874	2.76		Clay	83.8			40.95	0.88	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	34.380	1.167	4724.4	3390.9	18.884	3.646	2.83		Clay	89.1			32.50	0.88	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	26.740	0.937	4743.6	3400.1	14.334	3.846	2.93		Clay	97.8			25.27	0.88	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	21.510	0.878	4764.0	3409.9	11.219	4.588	3.07		Clay	100.0			20.33	0.88	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	19.380	1.132	4783.2	3419.1	9.937	6.661	3.21		Clay	100.0			18.32	0.88	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	24.780	1.294	4803.6	3428.9	13.053	5.781	3.08		Clay	100.0			23.42	0.88	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	33.070	1.329	4822.8	3438.1	17.834	4.335	2.89		Clay	94.5			31.26	0.88	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	29.850	1.353	4842.0	3447.4	15.913	4.932	2.97		Clay	100.0			28.21	0.88	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	49.490	1.196	4862.4	3457.2	27.224	2.542	2.60		Clay	71.3			46.78	0.88	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	30.800	0.718	4881.6	3466.4	16.362	2.531	2.78		Clay	85.4			29.11	0.88	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	22.480	0.500	4902.0	3476.2	11.524	2.497	2.90		Clay	95.1			21.25	0.88	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	23.260	0.576	4921.2	3485.4	11.935	2.770	2.91		Clay	96.1			21.98	0.88	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	26.710	0.769	4940.4	3494.6	13.873	3.171	2.90		Clay	94.6			25.25	0.88	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	29.050	0.919	4960.8	3504.4	15.164	3.458	2.89		Clay	93.9			27.46	0.88	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	29.220	0.965	4980.0	3513.6	15.215	3.611	2.90		Clay	94.8			27.62	0.87	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	26.290	0.939	5000.4	3523.4	13.504	3.947	2.96		Clay	99.9			24.85	0.87	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	22.280	0.873	5019.6	3532.6	11.193	4.416	3.06		Clay	100.0			21.06	0.87	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	22.380	0.996	5038.8	3541.8	11.215	5.012	3.09		Clay	100.0			21.15	0.87	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	24.080	1.685	5059.2	3551.6	12.136	7.818	3.19		Clay	100.0			22.76	0.87	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	32.970	2.461	5078.4	3560.8	17.092	8.088	3.09		Clay	100.0			31.16	0.87	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	52.260	3.217	5098.8	3570.6	27.844	6.471	2.87		Clay	92.5			49.40	0.87	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	71.310	2.722	5118.0	3579.8	38.410	3.959	2.62		Clay	72.5			67.40	0.87	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	57.290	2.193	5137.2	3589.1	30.493	4.008	2.70		Clay	78.7			54.15	0.87	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	40.090	1.751	5157.6	3598.8	20.846	4.669	2.86		Clay	92.0			37.89	0.87	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	36.190	1.446	5176.8	3608.1	18.626	4.302	2.88		Clay	93.1			34.21	0.87	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	38.270	1.108	5197.2	3617.9	19.720	3.107	2.77		Clay	84.5			36.17	0.87	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	25.540	0.858	5216.4	3627.1	12.645	3.740	2.97		Clay	100.0			24.14	0.87	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	17.040	0.630	5236.8	3636.9	7.931	4.368	3.17		Clay	100.0			16.11	0.87	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	13.560	0.614	5256.0	3646.1	5.997	5.617	3.34		Clay	100.0			12.82	0.87	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	11.800	0.646	5275.2	3655.3	5.013	7.046	3.46		Clay	100.0			11.15	0.87	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 4

PGA (A_{max}) 1.15

Total Settlement: 0.33 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	15.150	0.711	5295.6	3665.1	6.822	5.684	3.29		Clay	100.0			14.32	0.87	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	25.300	0.841	5314.8	3674.3	12.325	3.713	2.98		Clay	100.0			23.91	0.86	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	31.220	1.035	5335.2	3684.1	15.500	3.626	2.89		Clay	94.4			29.51	0.86	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	34.430	1.130	5354.4	3693.3	17.195	3.558	2.85		Clay	91.1			32.54	0.86	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	34.850	1.355	5373.6	3702.5	17.374	4.213	2.89		Clay	94.5			32.94	0.86	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	35.420	1.512	5394.0	3712.3	17.629	4.622	2.92		Clay	96.2			33.48	0.86	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	38.220	1.413	5413.2	3721.5	19.085	3.980	2.85		Clay	90.8			36.12	0.86	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	34.800	1.254	5433.6	3731.3	17.197	3.908	2.88		Clay	93.1			32.89	0.86	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	29.140	0.904	5452.8	3740.5	14.123	3.423	2.91		Clay	95.7			27.54	0.86	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	27.020	0.755	5472.0	3749.8	12.952	3.110	2.91		Clay	96.1			25.54	0.86	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	26.290	0.686	5492.4	3759.6	12.525	2.912	2.91		Clay	95.7			24.85	0.86	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	25.190	0.611	5511.6	3768.8	11.905	2.722	2.91		Clay	95.8			23.81	0.86	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	22.420	0.543	5532.0	3778.6	10.403	2.764	2.96		Clay	100.0			21.19	0.86	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	21.120	0.505	5551.2	3787.8	9.686	2.753	2.99		Clay	100.0			19.96	0.86	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	20.780	0.550	5570.4	3797.0	9.478	3.056	3.02		Clay	100.0			19.64	0.86	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	22.030	0.591	5590.8	3806.8	10.105	3.073	3.00		Clay	100.0			20.82	0.86	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	23.830	0.674	5610.0	3816.0	11.019	3.203	2.98		Clay	100.0			22.52	0.86	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	25.250	0.682	5630.4	3825.8	11.728	3.039	2.94		Clay	98.5			23.87	0.86	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	26.100	0.665	5649.6	3835.0	12.138	2.858	2.92		Clay	96.3			24.67	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	26.370	0.638	5668.8	3844.2	12.245	2.710	2.90		Clay	94.9			24.92	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	27.360	0.650	5689.2	3854.0	12.722	2.650	2.88		Clay	93.4			25.86	0.85	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	29.300	0.711	5708.4	3863.2	13.691	2.688	2.86		Clay	91.6			27.69	0.85	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	31.620	0.800	5728.8	3873.0	14.849	2.782	2.84		Clay	90.0			29.89	0.85	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	34.810	0.940	5748.0	3882.2	16.452	2.943	2.82		Clay	88.3			32.90	0.85	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	37.290	1.006	5767.2	3891.5	17.683	2.924	2.79		Clay	86.2			35.25	0.85	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	40.620	1.019	5787.6	3901.2	19.341	2.701	2.74		Clay	82.0			38.39	0.85	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	38.030	1.044	5806.8	3910.5	17.965	2.972	2.79		Clay	86.1			35.95	0.85	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	35.920	1.006	5827.2	3920.3	16.839	3.046	2.82		Clay	88.4			33.95	0.85	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	35.820	0.974	5846.4	3929.5	16.744	2.960	2.81		Clay	87.9			33.86	0.85	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	34.010	0.836	5865.6	3938.7	15.780	2.689	2.81		Clay	87.6			32.15	0.85	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	30.920	0.828	5886.0	3948.5	14.171	2.961	2.87		Clay	92.6			29.22	0.85	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	29.150	0.697	5905.2	3957.7	13.239	2.662	2.87		Clay	92.4			27.55	0.85	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	31.070	0.635	5925.6	3967.5	14.169	2.258	2.80		Clay	87.2			29.37	0.85	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	27.930	0.514	5944.8	3976.7	12.552	2.059	2.82		Clay	88.9			26.40	0.85	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	21.910	0.405	5964.0	3985.9	9.497	2.141	2.94		Clay	97.8			20.71	0.85	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	19.690	0.361	5984.4	3995.7	8.358	2.163	2.98		Clay	100.0			18.61	0.85	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	20.800	0.381	6003.6	4004.9	8.888	2.140	2.96		Clay	99.8			19.66	0.85	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	22.050	0.485	6024.0	4014.7	9.484	2.548	2.98		Clay	100.0			20.84	0.84	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 5

PGA (A_{max}) 1.15

Total Settlement: 0.17 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	319.030	1.066	19.2	19.2	3165.483	0.334	0.74		Unsaturated	0.0			301.54	1.70	512.62	512.62	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	374.400	1.906	39.6	39.6	2586.649	0.509	0.93		Unsaturated	0.0			353.88	1.70	601.59	601.59	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	231.190	3.416	58.8	58.8	1310.682	1.478	1.43		Unsaturated	0.0			218.52	1.70	371.48	371.48	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	161.830	4.418	79.2	79.2	790.428	2.731	1.75		Unsaturated	3.2			152.96	1.70	260.03	260.03	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	91.840	4.506	98.4	98.4	402.322	4.909	2.10		Unsaturated	30.8			86.81	1.70	147.57	214.07	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	58.400	3.317	117.6	117.6	233.907	5.685	2.26		Unsaturated	43.9			55.20	1.70	93.84	161.18	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	40.650	2.038	138.0	138.0	150.195	5.022	2.32		Unsaturated	48.3			38.42	1.70	65.32	127.81	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	26.710	1.330	157.2	157.2	92.351	4.993	2.44		Unsaturated	58.0			25.25	1.70	42.92	103.10	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	20.770	1.061	177.6	177.6	67.472	5.128	2.53		Unsaturated	65.7			19.63	1.70	33.37	92.82	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	19.570	0.985	196.8	196.8	60.348	5.059	2.56		Unsaturated	67.8			18.50	1.70	31.45	90.79	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	21.580	1.092	216.0	216.0	63.521	5.085	2.55		Unsaturated	66.8			20.40	1.70	34.67	94.74	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	24.040	1.223	236.4	236.4	67.646	5.113	2.53		Unsaturated	65.5			22.72	1.70	38.63	99.55	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	27.040	1.274	255.6	255.6	73.188	4.735	2.48		Unsaturated	61.7			25.56	1.70	43.45	104.81	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	26.630	1.241	276.0	276.0	69.332	4.686	2.50		Unsaturated	62.7			25.17	1.70	42.79	104.21	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	25.890	1.219	295.2	295.2	65.142	4.737	2.52		Unsaturated	64.4			24.47	1.70	41.60	103.10	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	26.330	1.211	314.4	314.4	64.177	4.627	2.51		Unsaturated	64.1			24.89	1.70	42.31	103.95	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	27.450	1.307	334.8	334.8	64.828	4.791	2.52		Unsaturated	64.8			25.95	1.70	44.11	106.42	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	30.140	1.467	354.0	354.0	69.240	4.897	2.51		Unsaturated	63.9			28.49	1.70	48.43	111.75	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	31.880	1.647	374.4	374.4	71.214	5.196	2.52		Unsaturated	64.8			30.13	1.70	51.22	115.58	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	33.890	1.764	393.6	393.6	73.839	5.236	2.51		Unsaturated	64.2			32.03	1.70	54.45	119.59	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	34.810	1.865	412.8	412.8	74.050	5.388	2.52		Unsaturated	64.9			32.90	1.70	55.93	121.67	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	35.740	1.880	433.2	433.2	74.207	5.292	2.52		Unsaturated	64.4			33.78	1.70	57.43	123.45	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	36.930	1.920	452.4	452.4	75.028	5.232	2.51		Unsaturated	63.8			34.91	1.70	59.34	125.77	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	35.610	1.916	472.8	472.8	70.731	5.415	2.54		Unsaturated	66.1			33.66	1.70	57.22	123.60	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	33.570	1.902	492.0	492.0	65.320	5.709	2.58		Unsaturated	69.2			31.73	1.70	53.94	120.11	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	31.040	1.911	512.4	512.4	78.518	6.208	2.56		Unsaturated	67.5			29.34	1.70	49.88	114.47	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	26.780	1.930	531.6	531.6	65.909	7.280	2.66		Unsaturated	75.6			25.31	1.70	43.03	107.22	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	23.340	1.579	550.8	550.8	55.928	6.845	2.68		Unsaturated	77.5			22.06	1.70	37.50	100.37	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	22.500	1.529	571.2	571.2	52.512	6.882	2.70		Unsaturated	79.1			21.27	1.70	36.15	98.86	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	31.080	1.623	590.4	590.4	71.106	5.273	2.53		Unsaturated	65.2			29.38	1.70	49.94	114.03	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	38.580	1.704	610.8	610.8	67.334	4.453	2.49		Unsaturated	62.0			36.47	1.70	61.99	128.67	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	24.220	1.499	630.0	630.0	52.763	6.270	2.67		Unsaturated	76.5			22.89	1.70	38.92	102.04	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	23.530	1.404	649.2	649.2	50.153	6.052	2.67		Unsaturated	76.8			22.24	1.70	37.81	100.64	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	23.180	1.327	669.6	669.6	48.317	5.810	2.67		Unsaturated	76.6			21.91	1.70	37.25	99.88	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	23.210	1.451	688.8	688.8	66.393	6.346	2.61		Unsaturated	71.7			21.94	1.70	37.29	99.10	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	23.500	1.420	709.2	709.2	65.272	6.133	2.60		Unsaturated	71.2			22.21	1.70	37.76	99.60	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	24.620	1.399	728.4	728.4	48.365	5.766	2.67		Unsaturated	76.3			23.27	1.69	39.35	102.57	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	24.770	1.337	747.6	747.6	47.767	5.480	2.65		Unsaturated	75.3			23.41	1.67	39.12	102.11	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	24.910	1.296	768.0	768.0	47.125	5.284	2.65		Unsaturated	74.7			23.54	1.65	38.86	101.67	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	24.240	1.243	787.2	787.2	45.034	5.214	2.66		Unsaturated	75.4			22.91	1.64	37.49	100.02	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	21.850	1.211	807.6	807.6	53.111	5.647	2.63		Unsaturated	73.6			20.65	1.63	33.75	94.86	0.99	0.736	1.098	n.a.	n.a.	n.a.	0.00	0.00
6.890	19.710	1.142	826.8	826.8	46.678	5.918	2.69		Unsaturated	77.8			18.63	1.63	30.33	91.11	0.99	0.735	1.093	n.a.	n.a.	n.a.	0.00	0.00
7.050	18.860	1.119	846.0	846.0	43.586	6.071	2.71		Unsaturated	80.1			17.83	1.61	28.78	89.43	0.99	0.735	1.090	n.a.	n.a.	n.a.	0.00	0.00
7.220	19.570	1.167	866.4	866.4	44.175	6.099	2.71		Unsaturated	79.9			18.50	1.59	29.44	90.26	0.99	0.734	1.088	n.a.	n.a.	n.a.	0.00	0.00
7.380	20.610	1.216	885.6	885.6	45.545	6.030	2.70		Unsaturated	78.9			19.48	1.57	30.57	91.58	0.98	0.734	1.087	n.a.	n.a.	n.a.	0.00	0.00
7.550	21.490	1.261	906.0	906.0	46.439	5.996	2.69		Unsaturated	78.3			20.31	1.55	31.44	92.62	0.98	0.734	1.085	n.a.	n.a.	n.a.	0.00	0.00
7.710	21.530	1.293	925.2	925.2	45.541	6.139	2.70		Unsaturated	79.4			20.35	1.53	31.17	92.43	0.98	0.733	1.083	n.a.	n.a.	n.a.	0.00	0.00
7.870	22.290	1.224	944.4	944.4	46.205	5.610	2.67		Unsaturated	76.7			21.07	1.51	31.90	92.97	0.98	0.733	1.081	n.a.	n.a.	n.a.	0.00	0.00
8.040	23.000	1.730	964.8	964.8	46.678	7.682	2.77		Clay	84.6			21.74	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	23.940	2.119	984.0	984.0	47.659	9.035	2.82		Clay	88.5			22.63	1.22	n.a.	n.a.	0.98	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	44.140	2.173	1004.4	1004.4	59.866	4.980	2.56		Sand	67.6			41.72	1.39	58.20	125.24	0.98	0.749	1.097	0.184	0.288	0.38	0.03	0.05
8.530	24.630	1.676	1023.6	1023.6	47.124	6.948	2.73		Clay	81.8			23.28	1.21	n.a.	n.a.	0.98	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	28.410	1.666	1042.8	1042.8	53.488	5.972	2.65		Clay	74.9			26.85	1.21	n.a.	n.a.	0.98	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	29.290	2.275	1063.2	1063.2	54.098	7.911	2.74		Clay	82.1			27.68	1.20	n.a.	n.a.	0.98	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	54.710	2.559	1082.4	1082.4	71.586	4.724	2.49		Sand	62.2	76.11	1.8	137.00	1.19	163.50	258.96	0.98	0.775	1.100	401.770	972.284	1254.29	0.00	0.00
9.190	80.520	2.453	1102.8	1102.8	104.699	3.067	2.24		Sand	42.2		1.8	136.99	1.19	163.53	246.95	0.98	0.782	1.100	91.435	221.274	283.05	0.00	0.00
9.350	50.590	1.955	1122.0	1122.0	64.938	3.908	2.46		Sand	59.5	76.11	1.8	137.00	1.18	161.96	255.84	0.98	0.788	1.100	267.473	647.284	821.61	0.00	0.00
9.510	36.200	1.691	1141.2	1141.2	51.884	4.747	2.58		Mixed	69.7	76.11	1.8	137.00	1.18	161.24	258.73	0.98	0.794	1.100	389.800	943.317	1188.40	0.00	0.00
9.680	32.090	1.810	1161.6	1161.6	54.251	5.744	2.63		Clay	73.6			30.33	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	30.620	2.240	1180.8	1180.8	50.863	7.458	2.74		Clay	81.9			28.94	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	38.300	3.062	1201.2	1201.2	62.770	8.123	2.71		Clay	79.6			36.20	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	50.780	3.779	1220.4	1220.4	82.219	7.532	2.61		Clay	71.8			48.00	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	116.070	4.810	1239.6	1239.6	142.569	4.167	2.26		Sand	44.0			109.71	1.19	130.22	206.79	0.97	0.822	1.100	2.831	6.852	8.33	0.00	0.00
10.500	190.520	3.748	1260.0	1260.0	232.589	1.974	1.87		Sand	13.0			180.08	1.16	209.15	232.41	0.97	0.828	1.100	20.452	49.493	59.78	0.00	0.00
10.660	174.080	2.603	1279.2	1279.2	210.840	1.501	1.81		Sand	7.5			164.54	1.18	194.53	197.58	0.97	0.833	1.100	1.653	4.001	4.80	0.00	0.00
10.830	121.350	3.068	1299.6	1299.6	145.571	2.542	2.09		Sand	29.8			114.70	1.18	134.92	197.30	0.97	0.838	1.100	1.628	3.941	4.70	0.00	0.00
10.990	137.700	4.385	1318.8	1318.8	164.071	3.200	2.13		Sand	33.7			130.15	1.15	150.15	221.22	0.97	0.843	1.100	7.843	18.981	22.51	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 5

PGA (A_{max}) 1.15

Total Settlement: 0.17 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	134.300	4.448	1338.0	1338.0	158.837	3.329	2.16		Sand	35.4			126.94	1.15	146.04	218.40	0.97	0.848	1.100	6.310	15.271	18.00	0.00	0.00
11.320	116.990	3.780	1358.4	1358.4	137.208	3.250	2.19		Sand	37.8			110.58	1.16	128.05	198.84	0.97	0.853	1.100	1.771	4.286	5.02	0.00	0.00
11.480	69.370	2.303	1377.6	1377.6	80.454	3.353	2.34		Sand	50.5	110.58		110.58	1.15	126.89	206.79	0.97	0.858	1.100	2.833	6.855	7.99	0.00	0.00
11.650	38.350	1.395	1398.0	1398.0	43.782	3.705	2.56		Sand	67.7	110.58		110.58	1.14	125.91	212.53	0.97	0.863	1.100	4.133	10.001	11.59	0.00	0.00
11.810	27.020	0.681	1417.2	1417.2	30.388	2.587	2.57		Sand	68.8	110.58		110.58	1.13	125.39	212.19	0.97	0.867	1.100	4.038	9.772	11.27	0.00	0.00
11.980	20.210	0.556	1437.6	1437.6	27.116	2.854	2.64		Clay	74.0			19.10	1.11	n.a.	n.a.	0.97	0.872	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	20.400	0.594	1456.8	1456.8	27.007	3.020	2.65		Clay	75.3			19.28	1.10	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	23.610	0.658	1476.0	1476.0	27.818	2.877	2.63	plastic	Clay	73.5			22.32	1.10	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	25.640	0.782	1496.4	1496.4	29.985	3.142	2.63	plastic	Clay	73.5			24.23	1.10	n.a.	n.a.	0.97	0.885	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	26.950	0.943	1515.6	1515.6	34.563	3.601	2.62		Clay	72.9			25.47	1.09	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	30.040	1.024	1536.0	1536.0	34.622	3.499	2.62	plastic	Clay	72.2			28.39	1.09	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	32.270	1.056	1555.2	1555.2	36.926	3.354	2.58		Mixed	69.6			30.50	1.17	35.64	96.56	0.96	0.897	1.032	0.133	0.171	0.19	0.03	0.06
13.120	31.770	1.120	1574.4	1574.4	36.018	3.615	2.61	plastic	Clay	72.0			30.03	1.08	n.a.	n.a.	0.96	0.900	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	33.020	1.218	1594.8	1594.8	37.123	3.779	2.62	plastic	Clay	72.3			31.21	1.08	n.a.	n.a.	0.96	0.904	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	35.390	1.363	1614.0	1614.0	39.510	3.942	2.61	plastic	Clay	71.7			33.45	1.07	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	35.710	1.403	1634.4	1634.4	39.515	4.022	2.61	plastic	Clay	72.2			33.75	1.07	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	37.110	1.512	1653.6	1653.6	40.755	4.167	2.62	plastic	Clay	72.3			35.08	1.07	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	39.380	1.644	1672.8	1672.8	42.945	4.264	2.61	plastic	Clay	71.6			37.22	1.06	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	40.050	1.478	1693.2	1693.2	41.423	3.771	2.58		Sand	69.5			37.85	1.11	42.20	105.00	0.96	0.922	1.025	0.144	0.190	0.21	0.03	0.06
14.270	33.140	1.262	1712.4	1712.4	37.706	3.908	2.62		Clay	72.7			31.32	1.06	n.a.	n.a.	0.96	0.926	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	28.610	1.050	1732.8	1732.8	32.022	3.783	2.66		Clay	76.0			27.04	1.05	n.a.	n.a.	0.96	0.929	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	27.290	0.992	1752.0	1752.0	30.153	3.754	2.68		Clay	77.4			25.79	1.05	n.a.	n.a.	0.96	0.932	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	27.790	1.042	1771.2	1771.2	30.380	3.873	2.69		Clay	77.9			26.27	1.05	n.a.	n.a.	0.96	0.935	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	28.090	1.033	1791.6	1791.6	30.357	3.799	2.68		Clay	77.5			26.55	1.04	n.a.	n.a.	0.96	0.939	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	29.690	1.227	1810.8	1810.8	31.792	4.263	2.70		Clay	79.0			28.06	1.04	n.a.	n.a.	0.95	0.942	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	30.480	1.778	1831.2	1831.2	32.290	6.014	2.80		Clay	87.0			28.81	1.04	n.a.	n.a.	0.95	0.945	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	35.830	2.132	1850.4	1850.4	37.727	6.107	2.76		Clay	83.7			33.87	1.04	n.a.	n.a.	0.95	0.948	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	40.940	2.105	1869.6	1869.6	42.795	5.262	2.67		Clay	76.9			38.70	1.03	n.a.	n.a.	0.95	0.950	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	35.960	1.545	1890.0	1890.0	37.053	4.411	2.66		Clay	76.0			33.99	1.03	n.a.	n.a.	0.95	0.953	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	28.730	1.181	1909.2	1909.2	29.096	4.251	2.73		Clay	81.2			27.16	1.03	n.a.	n.a.	0.95	0.956	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	26.170	0.935	1929.6	1929.6	26.125	3.708	2.72		Clay	80.9			24.74	1.02	n.a.	n.a.	0.95	0.959	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	27.140	1.006	1948.8	1948.8	26.853	3.844	2.72		Clay	81.0			25.65	1.02	n.a.	n.a.	0.95	0.962	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	29.480	1.144	1968.0	1968.0	28.959	4.014	2.71		Clay	80.0			27.86	1.02	n.a.	n.a.	0.95	0.964	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	33.160	1.362	1988.4	1988.4	32.353	4.235	2.69		Clay	78.4			31.34	1.02	n.a.	n.a.	0.95	0.967	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	34.620	1.576	2007.6	2007.6	33.489	4.688	2.71		Clay	80.0			32.72	1.01	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	35.480	1.761	2028.0	2028.0	33.990	5.110	2.73		Clay	81.8			33.53	1.01	n.a.	n.a.	0.95	0.972	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	36.720	1.871	2047.2	2047.2	34.873	5.243	2.73		Clay	81.8			34.71	1.01	n.a.	n.a.	0.95	0.974	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	37.280	1.938	2066.4	2066.4	35.082	5.348	2.74		Clay	82.1			35.24	1.01	n.a.	n.a.	0.95	0.977	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	36.800	1.906	2086.8	2086.8	34.269	5.330	2.74		Clay	82.6			34.78	1.00	n.a.	n.a.	0.94	0.979	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	37.610	2.040	2106.0	2106.0	34.717	5.580	2.76		Clay	83.4			35.55	1.00	n.a.	n.a.	0.94	0.981	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	37.380	2.020	2126.4	2126.4	34.158	5.562	2.76		Clay	83.7			35.33	1.00	n.a.	n.a.	0.94	0.983	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	38.770	2.028	2145.6	2145.6	35.139	5.379	2.74		Clay	82.2			36.64	1.00	n.a.	n.a.	0.94	0.986	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	38.640	1.791	2164.8	2164.8	34.698	4.768	2.71		Clay	79.6			36.52	0.99	n.a.	n.a.	0.94	0.988	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	35.740	1.690	2185.2	2185.2	31.711	4.879	2.74		Clay	82.3			33.78	0.99	n.a.	n.a.	0.94	0.990	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	31.160	1.464	2204.4	2204.4	27.271	4.872	2.79		Clay	86.1			29.45	0.99	n.a.	n.a.	0.94	0.992	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	28.430	1.260	2224.8	2224.8	24.557	4.613	2.81		Clay	87.5			26.87	0.99	n.a.	n.a.	0.94	0.994	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	26.360	1.090	2244.0	2244.0	22.494	4.320	2.82		Clay	88.3			24.91	0.98	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	25.930	1.001	2263.2	2263.2	21.914	4.038	2.81		Clay	87.4			24.51	0.98	n.a.	n.a.	0.94	0.998	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	25.740	0.931	2283.6	2283.6	21.543	3.785	2.79		Clay	86.4			24.33	0.98	n.a.	n.a.	0.94	1.000	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	27.180	0.875	2302.8	2302.8	22.606	3.362	2.74		Clay	82.5			25.69	0.98	n.a.	n.a.	0.94	1.002	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	29.000	0.864	2323.2	2323.2	23.966	3.105	2.70		Clay	79.2			27.41	0.98	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	30.890	0.907	2342.4	2342.4	25.375	3.053	2.68		Clay	77.3			29.20	0.97	n.a.	n.a.	0.93	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	33.110	0.938	2362.8	2362.8	27.026	2.939	2.65		Clay	74.7			31.29	0.97	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	30.220	0.922	2382.0	2382.0	24.374	3.175	2.70		Clay	79.2			28.56	0.97	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	29.630	0.902	2401.2	2401.2	23.679	3.172	2.71		Clay	80.0			28.01	0.97	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	29.000	0.856	2421.6	2421.6	22.951	3.080	2.71		Clay	80.2			27.41	0.97	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	28.150	1.051	2440.8	2440.8	22.066	3.903	2.79		Clay	86.5			26.61	0.96	n.a.	n.a.	0.93	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	28.330	1.987	2461.2	2460.6	22.027	7.330	2.98		Clay	100.0			26.78	0.96	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	64.550	2.742	2480.4	2469.8	55.388	4.332	2.54		Sand	65.8	74.28	1.8	133.70	0.95	127.42	213.91	0.93	1.017	0.954	4.550	9.546	9.39	0.00	0.00
20.830	78.590	3.176	2499.6	2479.0	67.536	4.106	2.46		Sand	59.8		1.8	133.71	0.95	127.21	211.52	0.93	1.018	0.953	3.858	8.085	7.94	0.00	0.00
21.000	62.390	2.664	2520.0	2488.8	53.276	4.357	2.55		Sand	66.9	74.28	1.8	133.70	0.95	127.11	213.85	0.93	1.020	0.951	4.532	9.485	9.30	0.00	0.00
21.160	48.420	2.162	2539.2	2498.0	37.750	4.585	2.67		Clay	76.5			45.77	0.96	n.a.	n.a.	0.93	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	34.780	1.500	2559.6	2507.8	26.717	4.477	2.77		Clay	84.6			32.87	0.96	n.a.	n.a.	0.93	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	26.040	1.148	2578.8	2517.0	19.667	4.639	2.88		Clay	93.4			24.61	0.96	n.a.	n.a.	0.93	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	21.540	1.026	2598.0	2526.2	16.025	5.068	2.97		Clay	100.0			20.36	0.95	n.a.	n.a.	0.92	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	22.370	0.777	2618.4	2536.0	16.609	3.690	2.87		Clay	92.8			21.14	0.95	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	15.360	0.556	2637.6	2545.2	11.033	3.959	3.03		Clay	100.0			14.52	0.95	n.a.	n.a.	0.92	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 5

PGA (A_{max}) 1.15

Total Settlement: 0.17 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	13.070	0.419	2658.0	2555.0	9.190	3.565	3.07		Clay	100.0			12.35	0.95	n.a.	n.a.	0.92	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	10.220	0.353	2677.2	2564.3	6.927	3.975	3.20		Clay	100.0			9.66	0.95	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	8.760	0.293	2696.4	2573.5	5.760	3.953	3.26		Clay	100.0			8.28	0.95	n.a.	n.a.	0.92	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	8.040	0.303	2716.8	2583.3	5.173	4.532	3.33		Clay	100.0			7.60	0.95	n.a.	n.a.	0.92	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	8.720	0.418	2736.0	2592.5	5.672	5.688	3.36		Clay	100.0			8.24	0.95	n.a.	n.a.	0.92	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	14.850	0.578	2756.4	2602.3	10.354	4.290	3.08		Clay	100.0			14.04	0.95	n.a.	n.a.	0.92	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	16.180	0.786	2775.6	2611.5	11.329	5.316	3.10		Clay	100.0			15.29	0.95	n.a.	n.a.	0.92	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	20.060	0.996	2794.8	2620.7	14.242	5.337	3.03		Clay	100.0			18.96	0.95	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	29.370	0.942	2815.2	2630.5	21.260	3.369	2.76		Clay	84.2			27.76	0.94	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	28.140	0.799	2834.4	2639.7	20.247	2.990	2.75		Clay	82.9			26.60	0.94	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	25.060	0.795	2854.8	2649.5	17.839	3.364	2.82		Clay	88.9			23.69	0.94	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	27.100	1.066	2874.0	2658.7	19.305	4.155	2.86		Clay	91.4			25.61	0.94	n.a.	n.a.	0.91	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	30.040	1.294	2893.2	2667.9	21.435	4.525	2.84		Clay	90.6			28.39	0.94	n.a.	n.a.	0.91	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	33.600	1.315	2913.6	2677.7	24.008	4.092	2.78		Clay	85.3			31.76	0.94	n.a.	n.a.	0.91	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	32.270	1.211	2932.8	2686.9	22.928	3.932	2.78		Clay	85.6			30.50	0.94	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	29.190	1.031	2953.2	2696.7	20.553	3.721	2.80		Clay	87.3			27.59	0.94	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	27.220	0.753	2972.4	2706.0	19.020	2.926	2.76		Clay	84.2			25.73	0.94	n.a.	n.a.	0.91	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	24.440	1.286	2991.6	2715.2	16.901	5.603	2.98		Clay	100.0			23.10	0.94	n.a.	n.a.	0.91	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	24.740	1.295	3012.0	2725.0	17.053	5.575	2.98		Clay	100.0			23.38	0.94	n.a.	n.a.	0.91	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	36.200	1.190	3031.2	2734.2	25.371	3.430	2.71		Clay	79.9			34.22	0.93	n.a.	n.a.	0.91	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	25.000	0.825	3051.6	2744.0	17.110	3.514	2.85		Clay	91.0			23.63	0.93	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	23.350	0.711	3070.8	2753.2	15.847	3.260	2.86		Clay	91.5			22.07	0.93	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	23.900	0.772	3090.0	2762.4	16.185	3.453	2.86		Clay	92.1			22.59	0.93	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	23.190	0.771	3110.4	2772.2	15.608	3.565	2.89		Clay	93.8			21.92	0.93	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	22.890	0.783	3129.6	2781.4	15.334	3.672	2.90		Clay	94.9			21.64	0.93	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	22.350	0.708	3150.0	2791.2	14.886	3.407	2.89		Clay	94.1			21.12	0.93	n.a.	n.a.	0.90	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	22.080	0.701	3169.2	2800.4	14.637	3.421	2.90		Clay	94.7			20.87	0.93	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	22.600	0.728	3188.4	2809.6	14.953	3.464	2.89		Clay	94.4			21.36	0.93	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	23.420	0.714	3208.8	2819.4	15.475	3.274	2.87		Clay	92.2			22.14	0.93	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	20.840	0.641	3228.0	2828.6	13.594	3.336	2.92		Clay	96.2			19.70	0.93	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	18.810	0.598	3248.4	2838.4	12.109	3.478	2.97		Clay	100.0			17.78	0.93	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	19.310	0.510	3267.6	2847.6	12.415	2.886	2.91		Clay	95.8			18.25	0.92	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	18.190	0.525	3288.0	2857.4	11.581	3.175	2.96		Clay	99.7			17.19	0.92	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	18.880	0.617	3307.2	2866.7	12.018	3.582	2.98		Clay	100.0			17.84	0.92	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	21.530	0.728	3326.4	2875.9	13.816	3.665	2.93		Clay	97.7			20.35	0.92	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	24.370	0.817	3346.8	2885.7	15.731	3.601	2.89		Clay	93.8			23.03	0.92	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	27.300	0.794	3366.0	2894.9	17.698	3.100	2.80		Clay	87.4			25.80	0.92	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	28.300	0.895	3386.4	2904.7	18.320	3.363	2.81		Clay	88.2			26.75	0.92	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	28.910	1.065	3405.6	2913.9	18.674	3.913	2.85		Clay	91.0			27.33	0.92	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	30.820	1.071	3424.8	2923.1	19.916	3.678	2.81		Clay	87.9			29.13	0.92	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	30.470	1.114	3445.2	2932.9	19.603	3.874	2.83		Clay	89.4			28.80	0.92	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	30.080	1.108	3464.4	2942.1	19.270	3.908	2.84		Clay	90.1			28.43	0.92	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	29.520	1.091	3484.8	2951.9	18.820	3.929	2.85		Clay	90.8			27.90	0.92	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	27.320	0.915	3504.0	2961.1	17.269	3.578	2.85		Clay	91.1			25.82	0.92	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	24.400	0.770	3523.2	2970.3	15.243	3.401	2.88		Clay	93.5			23.06	0.91	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	21.610	0.657	3543.6	2980.1	13.314	3.310	2.92		Clay	96.6			20.43	0.91	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	20.260	0.640	3562.8	2989.3	12.363	3.462	2.96		Clay	99.6			19.15	0.91	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	19.980	0.619	3583.2	2999.1	12.129	3.401	2.96		Clay	99.8			18.88	0.91	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	19.290	0.579	3602.4	3008.4	11.627	3.312	2.97		Clay	100.0			18.23	0.91	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	19.590	0.562	3621.6	3017.6	11.784	3.162	2.95		Clay	99.1			18.52	0.91	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	19.410	0.601	3642.0	3027.4	11.620	3.419	2.98		Clay	100.0			18.35	0.91	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	21.400	0.550	3661.2	3036.6	12.889	2.810	2.89		Clay	94.2			20.23	0.91	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	23.590	0.676	3681.6	3046.4	14.279	3.108	2.88		Clay	93.4			22.30	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	24.480	0.816	3700.8	3055.6	14.812	3.606	2.91		Clay	95.5			23.14	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	25.910	0.941	3720.0	3064.8	15.694	3.911	2.91		Clay	95.6			24.49	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	26.190	0.997	3740.4	3074.6	15.820	4.100	2.92		Clay	96.5			24.75	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	26.900	0.981	3759.6	3083.8	16.227	3.920	2.90		Clay	94.8			25.43	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	28.700	0.991	3780.0	3093.6	17.333	3.695	2.86		Clay	91.7			27.13	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	28.040	0.902	3799.2	3102.8	16.849	3.449	2.85		Clay	91.0			26.50	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	26.590	0.899	3818.4	3112.0	15.862	3.644	2.89		Clay	93.8			25.13	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	26.810	0.938	3838.8	3121.8	15.946	3.770	2.89		Clay	94.4			25.34	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	26.980	0.882	3858.0	3131.0	16.002	3.522	2.87		Clay	92.9			25.50	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	25.590	0.873	3878.4	3140.8	15.060	3.690	2.91		Clay	95.5			24.19	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	26.400	0.909	3897.6	3150.0	15.524	3.716	2.90		Clay	94.8			24.95	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	29.170	1.002	3916.8	3159.3	17.227	3.681	2.86		Clay	91.8			27.57	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	29.600	1.151	3937.2	3169.1	17.438	4.165	2.89		Clay	94.2			27.98	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	31.290	1.323	3956.4	3178.3	18.445	4.514	2.89		Clay	94.5			29.57	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 5

PGA (A_{max}) 1.15

Total Settlement: 0.17 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	33.270	1.396	3976.8	3188.1	19.624	4.462	2.87		Clay	92.6			31.45	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	34.420	1.484	3996.0	3197.3	20.281	4.577	2.87		Clay	92.3			32.53	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	35.060	1.513	4015.2	3206.5	20.616	4.578	2.86		Clay	91.9			33.14	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	36.750	1.559	4035.6	3216.3	21.598	4.489	2.84		Clay	90.2			34.74	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	38.510	1.446	4054.8	3225.5	22.621	3.964	2.79		Clay	86.2			36.40	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	38.060	1.426	4075.2	3235.3	22.268	3.958	2.79		Clay	86.5			35.97	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	39.600	1.375	4094.4	3244.5	23.149	3.661	2.76		Clay	83.7			37.43	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	38.510	1.459	4113.6	3253.7	22.407	4.001	2.80		Clay	86.6			36.40	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	36.890	1.393	4134.0	3263.5	21.341	3.999	2.81		Clay	87.9			34.87	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	36.290	1.337	4153.2	3272.7	20.908	3.908	2.81		Clay	87.9			34.30	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	34.920	1.260	4173.6	3282.5	20.005	3.836	2.82		Clay	88.7			33.01	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	32.090	1.184	4192.8	3291.7	18.224	3.946	2.86		Clay	91.8			30.33	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	30.880	1.107	4212.0	3301.0	17.434	3.848	2.87		Clay	92.4			29.19	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	30.670	0.906	4232.4	3310.8	17.249	3.172	2.82		Clay	88.6			28.99	0.89	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	27.270	0.743	4251.6	3320.0	15.147	2.955	2.85		Clay	90.7			25.78	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	24.080	0.667	4272.0	3329.8	13.181	3.041	2.90		Clay	95.2			22.76	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	25.200	0.729	4291.2	3339.0	13.809	3.163	2.90		Clay	94.7			23.82	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	26.260	0.824	4311.6	3348.8	14.396	3.417	2.90		Clay	95.1			24.82	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	27.390	0.844	4330.8	3358.0	15.024	3.346	2.88		Clay	93.5			25.89	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	27.010	0.745	4350.0	3367.2	14.751	3.000	2.86		Clay	91.7			25.53	0.88	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	24.610	0.645	4370.4	3377.0	13.281	2.875	2.89		Clay	93.8			23.26	0.88	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	21.980	0.582	4389.6	3386.2	11.686	2.944	2.94		Clay	97.9			20.78	0.88	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	20.110	0.575	4410.0	3396.0	10.545	3.212	2.99		Clay	100.0			19.01	0.88	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	20.420	0.573	4429.2	3405.2	10.693	3.148	2.98		Clay	100.0			19.30	0.88	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	20.070	0.547	4448.4	3414.4	10.453	3.067	2.99		Clay	100.0			18.97	0.88	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	18.580	0.509	4468.8	3424.2	9.547	3.116	3.02		Clay	100.0			17.56	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	18.780	0.526	4488.0	3433.4	9.632	3.179	3.02		Clay	100.0			17.75	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	19.570	0.662	4508.4	3443.2	10.058	3.825	3.06		Clay	100.0			18.50	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	21.530	0.799	4527.6	3452.4	11.161	4.146	3.04		Clay	100.0			20.35	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	23.290	0.913	4546.8	3461.7	12.142	4.346	3.02		Clay	100.0			22.01	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	22.300	1.047	4567.2	3471.5	11.532	5.231	3.09		Clay	100.0			21.08	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	31.510	1.033	4586.4	3480.7	16.788	3.536	2.86		Clay	91.6			29.78	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	30.930	0.933	4606.8	3490.5	16.403	3.260	2.84		Clay	90.5			29.23	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	30.700	0.837	4626.0	3499.7	16.223	2.950	2.82		Clay	88.7			29.02	0.88	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	32.320	0.766	4645.2	3508.9	17.098	2.555	2.77		Clay	84.3			30.55	0.88	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	32.100	0.695	4665.6	3518.7	16.919	2.335	2.75		Clay	82.8			30.34	0.87	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	28.330	0.638	4684.8	3527.9	14.733	2.456	2.81		Clay	87.7			26.78	0.87	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	27.680	0.669	4705.2	3537.7	14.319	2.640	2.84		Clay	90.0			26.16	0.87	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	30.020	0.879	4724.4	3546.9	15.595	3.177	2.85		Clay	91.4			28.37	0.87	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	32.380	1.085	4743.6	3556.1	16.877	3.615	2.86		Clay	92.0			30.60	0.87	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	35.720	1.198	4764.0	3565.9	18.698	3.595	2.83		Clay	89.1			33.76	0.87	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	36.690	1.175	4783.2	3575.1	19.187	3.425	2.80		Clay	87.3			34.68	0.87	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	35.690	1.178	4803.6	3584.9	18.571	3.538	2.82		Clay	88.9			33.73	0.87	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	33.420	1.089	4822.8	3594.1	17.255	3.512	2.85		Clay	90.7			31.59	0.87	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	33.680	1.026	4842.0	3603.4	17.350	3.282	2.83		Clay	89.1			31.83	0.87	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	34.150	1.038	4862.4	3613.2	17.557	3.273	2.82		Clay	88.8			32.28	0.87	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	32.730	1.001	4881.6	3622.4	16.723	3.304	2.84		Clay	90.3			30.94	0.87	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	31.970	1.064	4902.0	3632.2	16.254	3.603	2.87		Clay	92.9			30.22	0.87	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	34.260	0.938	4921.2	3641.4	17.466	2.949	2.80		Clay	86.7			32.38	0.87	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	36.440	1.020	4940.4	3650.6	18.611	3.003	2.78		Clay	85.3			34.44	0.87	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	37.470	1.152	4960.8	3660.4	19.118	3.292	2.79		Clay	86.5			35.42	0.87	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	38.910	1.250	4980.0	3669.6	19.850	3.433	2.79		Clay	86.4			36.78	0.86	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	38.540	1.239	5000.4	3679.4	19.590	3.437	2.80		Clay	86.8			36.43	0.86	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	38.070	1.229	5019.6	3688.6	19.281	3.455	2.80		Clay	87.4			35.98	0.86	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	36.150	1.167	5038.8	3697.8	18.189	3.471	2.83		Clay	89.1			34.17	0.86	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	33.780	1.141	5059.2	3707.6	16.857	3.652	2.87		Clay	92.2			31.93	0.86	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	31.640	1.053	5078.4	3716.8	15.659	3.618	2.89		Clay	94.0			29.91	0.86	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	28.340	0.888	5098.8	3726.6	13.841	3.445	2.92		Clay	96.4			26.79	0.86	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	23.830	0.781	5118.0	3735.8	11.388	3.674	3.00		Clay	100.0			22.52	0.86	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	19.930	0.592	5137.2	3745.1	9.272	3.408	3.06		Clay	100.0			18.84	0.86	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	17.070	0.464	5157.6	3754.8	7.719	3.203	3.11		Clay	100.0			16.13	0.86	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	15.680	0.376	5176.8	3764.1	6.956	2.871	3.12		Clay	100.0			14.82	0.86	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	15.040	0.387	5197.2	3773.9	6.593	3.114	3.16		Clay	100.0			14.22	0.86	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	14.980	0.422	5216.4	3783.1	6.541	3.409	3.18		Clay	100.0			14.16	0.86	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	17.070	0.352	5236.8	3792.9	7.620	2.434	3.05		Clay	100.0			16.13	0.86	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	18.300	0.312	5256.0	3802.1	8.244	1.990	2.97		Clay	100.0			17.30	0.86	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	16.400	0.269	5275.2	3811.3	7.222	1.954	3.02		Clay	100.0			15.50	0.86	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 5

PGA (A_{max}) 1.15

Total Settlement: 0.17 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	15.030	0.249	5295.6	3821.1	6.481	2.010	3.06		Clay	100.0			14.21	0.86	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	16.240	0.475	5314.8	3830.3	7.092	3.494	3.16		Clay	100.0			15.35	0.86	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	20.400	0.746	5335.2	3840.1	9.235	4.209	3.11		Clay	100.0			19.28	0.85	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	28.820	1.053	5354.4	3849.3	13.583	4.026	2.97		Clay	100.0			27.24	0.85	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	35.380	1.094	5373.6	3858.5	16.946	3.347	2.84		Clay	90.2			33.44	0.85	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	36.800	1.029	5394.0	3868.3	17.632	3.018	2.80		Clay	86.9			34.78	0.85	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	31.750	0.879	5413.2	3877.5	14.980	3.026	2.86		Clay	91.5			30.01	0.85	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	29.910	0.807	5433.6	3887.3	13.991	2.969	2.88		Clay	93.0			28.27	0.85	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	28.440	0.770	5452.8	3896.5	13.198	2.995	2.90		Clay	94.8			26.88	0.85	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	29.080	0.804	5472.0	3905.8	13.490	3.053	2.90		Clay	94.6			27.49	0.85	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	28.770	0.953	5492.4	3915.6	13.293	3.661	2.95		Clay	98.8			27.19	0.85	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	30.270	1.052	5511.6	3924.8	14.021	3.824	2.94		Clay	98.2			28.61	0.85	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	37.430	1.095	5532.0	3934.6	17.620	3.159	2.81		Clay	87.9			35.38	0.85	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	32.920	0.983	5551.2	3943.8	15.287	3.262	2.87		Clay	92.5			31.12	0.85	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	30.660	0.924	5570.4	3953.0	14.103	3.316	2.90		Clay	95.1			28.98	0.85	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	28.720	0.803	5590.8	3962.8	13.084	3.096	2.91		Clay	95.8			27.15	0.85	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	23.780	0.688	5610.0	3972.0	10.561	3.280	3.00		Clay	100.0			22.48	0.85	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	20.680	0.569	5630.4	3981.8	8.973	3.183	3.05		Clay	100.0			19.55	0.85	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	19.550	0.578	5649.6	3991.0	8.381	3.456	3.09		Clay	100.0			18.48	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	19.840	0.607	5668.8	4000.2	8.502	3.566	3.10		Clay	100.0			18.75	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	19.730	0.570	5689.2	4010.0	8.422	3.377	3.09		Clay	100.0			18.65	0.84	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	19.400	0.531	5708.4	4019.2	8.233	3.212	3.08		Clay	100.0			18.34	0.84	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	18.850	0.508	5728.8	4029.0	7.935	3.178	3.09		Clay	100.0			17.82	0.84	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	19.180	0.467	5748.0	4038.2	8.076	2.865	3.06		Clay	100.0			18.13	0.84	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	18.980	0.421	5767.2	4047.5	7.954	2.613	3.05		Clay	100.0			17.94	0.84	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	17.710	0.342	5787.6	4057.2	7.304	2.311	3.05		Clay	100.0			16.74	0.84	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	17.840	0.293	5806.8	4066.5	7.346	1.964	3.01		Clay	100.0			16.86	0.84	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	17.020	0.337	5827.2	4076.3	6.921	2.389	3.08		Clay	100.0			16.09	0.84	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	17.820	0.454	5846.4	4085.5	7.293	3.048	3.11		Clay	100.0			16.84	0.84	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	23.730	0.516	5865.6	4094.7	10.158	2.479	2.94		Clay	98.6			22.43	0.84	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	31.120	0.723	5886.0	4104.5	13.730	2.566	2.84		Clay	90.6			29.41	0.84	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	33.070	0.923	5905.2	4113.7	14.643	3.063	2.87		Clay	92.4			31.26	0.84	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	37.750	0.977	5925.6	4123.5	16.873	2.808	2.80		Clay	86.6			35.68	0.84	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	37.230	0.963	5944.8	4132.7	16.579	2.812	2.80		Clay	87.1			35.19	0.84	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	35.390	0.862	5964.0	4141.9	15.649	2.659	2.81		Clay	87.6			33.45	0.84	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	34.190	0.899	5984.4	4151.7	15.029	2.881	2.84		Clay	90.4			32.32	0.84	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	32.950	0.899	6003.6	4160.9	14.395	3.003	2.87		Clay	92.5			31.14	0.84	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 6

PGA (A_{max}) 1.15

Total Settlement: 0.29 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	286.570	0.412	19.2	19.2	2843.398	0.144	0.38		Unsaturated	0.0			270.86	1.70	460.46	460.46	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	188.170	0.935	39.6	39.6	1299.958	0.497	0.98		Unsaturated	0.0			177.85	1.70	302.35	302.35	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	103.780	1.305	58.8	58.8	588.267	1.257	1.49		Unsaturated	0.0			98.09	1.70	166.75	166.75	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	44.070	1.066	79.2	79.2	215.111	2.421	1.97		Unsaturated	20.3			41.65	1.70	70.81	104.53	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	18.440	0.847	98.4	98.4	80.607	4.604	2.45		Unsaturated	58.8			17.43	1.70	29.63	86.33	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	11.870	0.728	117.6	117.6	84.408	6.167	2.53		Unsaturated	65.8			11.22	1.70	19.07	74.43	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	15.990	0.830	138.0	138.0	58.925	5.213	2.58		Unsaturated	69.2			15.11	1.70	25.69	83.64	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	21.110	0.706	157.2	157.2	72.931	3.355	2.37		Unsaturated	52.8			19.95	1.70	33.92	89.95	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	14.500	0.694	177.6	177.6	77.173	4.816	2.47		Unsaturated	61.0			13.71	1.70	23.30	78.79	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	14.120	0.853	196.8	196.8	69.880	6.083	2.58		Unsaturated	69.4			13.35	1.70	22.69	79.81	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	22.920	1.123	216.0	216.0	67.485	4.922	2.52		Unsaturated	64.6			21.66	1.70	36.83	97.01	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	23.400	1.241	236.4	236.4	65.836	5.329	2.55		Unsaturated	67.2			22.12	1.70	37.60	98.60	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	23.820	1.244	255.6	255.6	64.431	5.250	2.55		Unsaturated	67.3			22.51	1.70	38.27	99.49	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	23.970	1.304	276.0	276.0	62.370	5.470	2.58		Unsaturated	69.1			22.66	1.70	38.52	100.18	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	24.520	1.336	295.2	295.2	61.675	5.480	2.58		Unsaturated	69.4			23.18	1.70	39.40	101.38	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	24.720	1.323	314.4	314.4	60.229	5.387	2.58		Unsaturated	69.5			23.36	1.70	39.72	101.81	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	24.100	1.305	334.8	334.8	82.227	5.451	2.50		Unsaturated	62.9			22.78	1.70	38.72	99.06	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	23.780	1.358	354.0	354.0	77.990	5.754	2.53		Unsaturated	65.5			22.48	1.70	38.21	99.02	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	24.210	1.400	374.4	374.4	76.324	5.828	2.54		Unsaturated	66.4			22.88	1.70	38.90	100.09	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	24.700	1.507	393.6	393.6	75.173	6.149	2.56		Unsaturated	68.1			23.35	1.70	39.69	101.49	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	25.140	1.581	412.8	412.8	73.985	6.339	2.58		Unsaturated	69.3			23.76	1.70	40.40	102.64	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	26.170	1.602	433.2	433.2	74.454	6.173	2.57		Unsaturated	68.5			24.74	1.70	42.05	104.60	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	26.830	1.648	452.4	452.4	74.038	6.193	2.57		Unsaturated	68.7			25.36	1.70	43.11	106.01	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	27.130	1.639	472.8	472.8	72.569	6.095	2.57		Unsaturated	68.7			25.64	1.70	43.59	106.63	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	28.260	1.759	492.0	492.0	73.515	6.280	2.58		Unsaturated	69.2			26.71	1.70	45.41	109.09	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	29.780	1.792	512.4	512.4	75.305	6.070	2.56		Unsaturated	67.8			28.15	1.70	47.85	111.93	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	31.860	1.929	531.6	531.6	78.537	6.104	2.55		Unsaturated	67.0			30.11	1.70	51.19	116.07	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	33.700	2.020	550.8	550.8	81.049	6.043	2.54		Unsaturated	66.1			31.85	1.70	54.15	119.65	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	34.520	2.026	571.2	571.2	80.926	5.917	2.53		Unsaturated	65.5			32.63	1.70	55.47	121.22	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	32.990	1.943	590.4	590.4	75.518	5.942	2.55		Unsaturated	67.1			31.18	1.70	53.01	118.43	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	29.810	1.771	610.8	610.8	66.548	6.001	2.59		Unsaturated	70.2			28.18	1.70	47.90	112.50	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	25.860	1.542	630.0	630.0	56.382	6.038	2.64		Unsaturated	74.0			24.44	1.70	41.55	105.03	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	22.120	1.293	649.2	649.2	47.106	5.932	2.68		Unsaturated	77.7			20.91	1.70	35.54	97.85	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	19.750	1.150	669.6	669.6	57.990	5.922	2.62		Unsaturated	72.9			18.67	1.70	31.73	92.12	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	16.090	1.000	688.8	688.8	45.719	6.352	2.71		Unsaturated	80.2			15.21	1.70	25.85	85.63	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	15.820	1.036	709.2	709.2	43.614	6.696	2.75		Unsaturated	82.6			14.95	1.70	25.42	85.40	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	17.130	1.069	728.4	728.4	46.035	6.377	2.71		Unsaturated	80.1			16.19	1.70	27.52	87.80	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	18.300	1.103	747.6	747.6	47.957	6.153	2.69		Unsaturated	78.2			17.30	1.70	29.40	89.97	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	18.870	1.078	768.0	768.0	48.141	5.829	2.67		Unsaturated	76.7			17.84	1.69	30.19	90.76	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	19.320	1.097	787.2	787.2	48.085	5.793	2.67		Unsaturated	76.6			18.26	1.67	30.49	91.13	0.99	0.736	1.098	n.a.	n.a.	n.a.	0.00	0.00
6.730	20.780	1.167	807.6	807.6	50.461	5.727	2.65		Unsaturated	75.2			19.64	1.64	32.22	93.14	0.99	0.736	1.097	n.a.	n.a.	n.a.	0.00	0.00
6.890	20.700	1.190	826.8	826.8	49.073	5.865	2.67		Unsaturated	76.4			19.57	1.62	31.74	92.72	0.99	0.735	1.094	n.a.	n.a.	n.a.	0.00	0.00
7.050	20.570	1.117	846.0	846.0	47.629	5.542	2.66		Unsaturated	75.7			19.44	1.61	31.22	91.93	0.99	0.735	1.091	n.a.	n.a.	n.a.	0.00	0.00
7.220	19.630	1.048	866.4	866.4	44.314	5.457	2.67		Unsaturated	77.0			18.55	1.59	29.55	89.97	0.99	0.734	1.088	n.a.	n.a.	n.a.	0.00	0.00
7.380	19.330	1.159	885.6	885.6	42.654	6.134	2.72		Unsaturated	80.9			18.27	1.58	28.79	89.55	0.98	0.734	1.085	n.a.	n.a.	n.a.	0.00	0.00
7.550	20.580	1.282	906.0	906.0	44.430	6.370	2.72		Unsaturated	80.9			19.45	1.55	30.18	91.36	0.98	0.734	1.084	n.a.	n.a.	n.a.	0.00	0.00
7.710	22.210	1.262	925.2	925.2	47.011	5.804	2.68		Unsaturated	77.2			20.99	1.53	32.10	93.31	0.98	0.733	1.083	n.a.	n.a.	n.a.	0.00	0.00
7.870	23.470	1.170	944.4	944.4	48.704	5.087	2.62		Unsaturated	73.0			22.18	1.51	33.50	94.42	0.98	0.733	1.082	n.a.	n.a.	n.a.	0.00	0.00
8.040	23.620	1.159	964.8	964.8	47.964	5.007	2.62		Clay	72.9			22.33	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	25.060	1.364	984.0	984.0	49.935	5.553	2.65		Clay	74.6			23.69	1.22	n.a.	n.a.	0.98	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	26.710	1.561	1004.4	1004.4	52.186	5.956	2.66		Clay	75.4			25.25	1.22	n.a.	n.a.	0.98	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	28.950	1.722	1023.6	1023.6	55.565	6.056	2.64		Clay	74.4			27.36	1.21	n.a.	n.a.	0.98	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	31.130	1.834	1042.8	1042.8	58.705	5.993	2.62		Clay	72.9			29.42	1.21	n.a.	n.a.	0.98	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	30.980	1.918	1063.2	1063.2	57.277	6.300	2.65		Clay	74.8			29.28	1.20	n.a.	n.a.	0.98	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	32.300	1.942	1082.4	1082.4	58.682	6.113	2.63		Clay	73.5			30.53	1.19	n.a.	n.a.	0.98	0.775	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	31.500	1.794	1102.8	1102.8	56.127	5.795	2.63		Clay	73.0			29.77	1.19	n.a.	n.a.	0.98	0.782	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	28.850	1.767	1122.0	1122.0	50.426	6.245	2.68		Clay	77.5			27.27	1.18	n.a.	n.a.	0.98	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	29.580	1.795	1141.2	1141.2	50.840	6.189	2.68		Clay	77.0			27.96	1.18	n.a.	n.a.	0.98	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	32.610	1.838	1161.6	1161.6	55.147	5.738	2.63		Clay	73.2			30.82	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	30.970	1.575	1180.8	1180.8	51.456	5.185	2.61		Clay	72.2			29.27	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	29.170	1.460	1201.2	1201.2	47.568	5.111	2.63		Clay	73.6			27.57	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	27.760	1.393	1220.4	1220.4	44.493	5.132	2.65		Clay	75.3			26.24	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	28.590	1.706	1239.6	1239.6	45.128	6.100	2.71		Clay	79.4			27.02	1.15	n.a.	n.a.	0.97	0.822	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	32.600	1.830	1260.0	1260.0	50.746	5.724	2.65		Clay	75.0			30.81	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	42.770	1.698	1279.2	1279.2	51.215	4.029	2.54		Sand	65.9			40.43	1.26	51.09	115.67	0.97	0.833	1.061	0.162	0.233	0.28	0.03	0.06
10.830	31.320	1.386	1299.6	1299.6	40.778	4.520	2.64	plastic	Clay	74.3			29.60	1.14	n.a.	n.a.	0.97	0.838	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	29.420	1.365	1318.8	1318.8	43.616	4.747	2.64		Clay	73.9			27.81	1.13	n.a.	n.a.	0.97	0.843	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 6

PGA (A_{max}) 1.15

Total Settlement: 0.29 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	29.630	1.396	1338.0	1338.0	43.290	4.819	2.64		Clay	74.4			28.01	1.13	n.a.	n.a.	0.97	0.848	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	29.860	1.605	1358.4	1358.4	42.963	5.498	2.69		Clay	77.9			28.22	1.12	n.a.	n.a.	0.97	0.853	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	29.900	1.667	1377.6	1377.6	42.409	5.707	2.70		Clay	79.2			28.26	1.12	n.a.	n.a.	0.97	0.858	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	31.900	1.644	1398.0	1398.0	44.637	5.268	2.66		Clay	75.9			30.15	1.12	n.a.	n.a.	0.97	0.863	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	31.500	1.561	1417.2	1417.2	43.454	5.070	2.66		Clay	75.6			29.77	1.11	n.a.	n.a.	0.97	0.867	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	30.750	1.525	1437.6	1437.6	41.780	5.078	2.67		Clay	76.6			29.06	1.11	n.a.	n.a.	0.97	0.872	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	30.840	1.530	1456.8	1456.8	41.339	5.080	2.67		Clay	76.8			29.15	1.10	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	28.990	1.452	1476.0	1476.0	38.282	5.141	2.70		Clay	79.0			27.40	1.10	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	26.100	1.188	1496.4	1496.4	33.884	4.685	2.71		Clay	79.7			24.67	1.10	n.a.	n.a.	0.97	0.885	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	24.590	1.153	1515.6	1515.6	31.449	4.836	2.74		Clay	82.3			23.24	1.09	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	24.920	1.086	1536.0	1536.0	31.448	4.496	2.72		Clay	80.6			23.55	1.09	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	25.930	1.179	1555.2	1555.2	32.346	4.687	2.72		Clay	80.9			24.51	1.08	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	25.910	1.176	1574.4	1574.4	31.914	4.682	2.73		Clay	81.2			24.49	1.08	n.a.	n.a.	0.96	0.900	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	26.160	1.177	1594.8	1594.8	31.807	4.640	2.73		Clay	81.1			24.73	1.08	n.a.	n.a.	0.96	0.904	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	27.570	1.279	1614.0	1614.0	33.164	4.779	2.72		Clay	80.7			26.06	1.07	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	29.050	1.352	1634.4	1634.4	34.548	4.790	2.71		Clay	79.8			27.46	1.07	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	32.450	1.436	1653.6	1653.6	38.248	4.541	2.66		Clay	76.0			30.67	1.07	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	34.850	1.466	1672.8	1672.8	40.667	4.309	2.63		Clay	73.2			32.94	1.06	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	35.510	1.428	1693.2	1693.2	40.944	4.120	2.61		Clay	71.9			33.56	1.06	n.a.	n.a.	0.96	0.922	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	32.260	1.273	1712.4	1712.4	36.678	4.055	2.64		Clay	74.2			30.49	1.06	n.a.	n.a.	0.96	0.926	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	28.400	1.121	1732.8	1732.8	31.779	4.070	2.69		Clay	78.0			26.84	1.05	n.a.	n.a.	0.96	0.929	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	25.790	1.254	1752.0	1752.0	28.441	5.032	2.79		Clay	85.8			24.38	1.05	n.a.	n.a.	0.96	0.932	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	25.300	1.184	1771.2	1771.2	27.568	4.849	2.78		Clay	85.7			23.91	1.05	n.a.	n.a.	0.96	0.935	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	25.710	1.008	1791.6	1791.6	27.701	4.062	2.73		Clay	81.4			24.30	1.04	n.a.	n.a.	0.96	0.939	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	20.350	0.754	1810.8	1810.8	21.476	3.879	2.80		Clay	87.0			19.23	1.04	n.a.	n.a.	0.95	0.942	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	17.910	0.616	1831.2	1831.2	18.561	3.623	2.83		Clay	89.4			16.93	1.04	n.a.	n.a.	0.95	0.945	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	16.280	0.526	1850.4	1850.4	16.596	3.428	2.85		Clay	91.3			15.39	1.04	n.a.	n.a.	0.95	0.948	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	15.500	0.465	1869.6	1869.6	15.581	3.190	2.86		Clay	91.5			14.65	1.03	n.a.	n.a.	0.95	0.950	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	14.780	0.402	1890.0	1890.0	14.640	2.906	2.85		Clay	91.3			13.97	1.03	n.a.	n.a.	0.95	0.953	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	14.990	0.483	1909.2	1909.2	14.703	3.444	2.90		Clay	94.7			14.17	1.03	n.a.	n.a.	0.95	0.956	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	16.820	0.562	1929.6	1929.6	16.434	3.543	2.87		Clay	92.3			15.90	1.02	n.a.	n.a.	0.95	0.959	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	20.170	0.723	1948.8	1948.8	19.700	3.765	2.82		Clay	88.7			19.06	1.02	n.a.	n.a.	0.95	0.962	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	23.730	0.852	1968.0	1968.0	23.116	3.747	2.77		Clay	84.3			22.43	1.02	n.a.	n.a.	0.95	0.964	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	25.960	0.986	1988.4	1988.4	25.111	3.949	2.75		Clay	83.3			24.54	1.02	n.a.	n.a.	0.95	0.967	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	28.100	1.068	2007.6	2007.6	26.994	3.940	2.73		Clay	81.4			26.56	1.01	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	29.400	1.175	2028.0	2028.0	27.994	4.140	2.73		Clay	81.6			27.79	1.01	n.a.	n.a.	0.95	0.972	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	30.290	1.415	2047.2	2047.2	28.592	4.836	2.77		Clay	84.7			28.63	1.01	n.a.	n.a.	0.95	0.974	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	31.470	1.676	2066.4	2066.4	29.459	5.507	2.80		Clay	87.1			29.74	1.01	n.a.	n.a.	0.95	0.977	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	33.770	1.845	2086.8	2086.8	31.365	5.636	2.79		Clay	86.1			31.92	1.00	n.a.	n.a.	0.94	0.979	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	35.060	1.845	2106.0	2106.0	32.295	5.426	2.77		Clay	84.5			33.14	1.00	n.a.	n.a.	0.94	0.981	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	36.020	1.880	2126.4	2126.4	32.879	5.378	2.76		Clay	83.8			34.05	1.00	n.a.	n.a.	0.94	0.983	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	35.570	1.798	2145.6	2145.6	32.156	5.212	2.76		Clay	83.6			33.62	1.00	n.a.	n.a.	0.94	0.986	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	29.150	1.459	2164.8	2164.8	25.931	5.198	2.82		Clay	88.9			27.55	0.99	n.a.	n.a.	0.94	0.988	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	25.090	1.101	2185.2	2185.2	21.964	4.587	2.84		Clay	90.3			23.71	0.99	n.a.	n.a.	0.94	0.990	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	20.810	0.841	2204.4	2204.4	17.880	4.265	2.89		Clay	94.0			19.67	0.99	n.a.	n.a.	0.94	0.992	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	17.220	0.905	2224.8	2224.8	14.480	5.620	3.04		Clay	100.0			16.28	0.99	n.a.	n.a.	0.94	0.994	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	18.260	1.133	2244.0	2244.0	15.275	6.612	3.06		Clay	100.0			17.26	0.98	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	26.420	1.026	2263.2	2263.2	22.347	4.056	2.80		Clay	87.0			24.97	0.98	n.a.	n.a.	0.94	0.998	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	27.420	0.908	2283.6	2283.6	23.015	3.454	2.75		Clay	82.6			25.92	0.98	n.a.	n.a.	0.94	1.000	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	21.520	0.738	2302.8	2302.8	17.690	3.625	2.85		Clay	90.7			20.34	0.98	n.a.	n.a.	0.94	1.002	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	23.590	0.772	2323.2	2323.2	19.308	3.440	2.80		Clay	87.2			22.30	0.98	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	25.160	0.920	2342.4	2342.4	20.482	3.836	2.81		Clay	88.0			23.78	0.97	n.a.	n.a.	0.93	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	28.300	1.003	2362.8	2362.8	22.955	3.699	2.77		Clay	84.2			26.75	0.97	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	29.700	1.071	2382.0	2382.0	23.937	3.758	2.76		Clay	83.5			28.07	0.97	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	28.590	1.071	2401.2	2401.2	22.813	3.910	2.78		Clay	85.6			27.02	0.97	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	27.010	0.975	2421.6	2421.6	21.308	3.778	2.80		Clay	86.7			25.53	0.97	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	23.730	0.891	2440.8	2440.8	18.444	3.959	2.86		Clay	91.6			22.43	0.96	n.a.	n.a.	0.93	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	19.510	0.778	2461.2	2460.6	14.858	4.254	2.95		Clay	99.0			18.44	0.96	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	18.120	1.643	2480.4	2469.8	13.669	9.735	3.21		Clay	100.0			17.13	0.96	n.a.	n.a.	0.93	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	19.970	2.776	2499.6	2479.0	15.103	14.830	3.31		Clay	100.0			18.88	0.96	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	46.900	4.066	2520.0	2488.8	36.676	8.908	2.89		Clay	94.0			44.33	0.96	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	86.870	3.922	2539.2	2498.0	74.465	4.581	2.47		Sand	60.5	97.24		97.24	0.94	91.32	165.80	0.93	1.021	0.969	0.440	0.798	0.78	0.01	0.03
21.330	102.880	4.464	2559.6	2507.8	88.210	4.394	2.41		Sand	55.6			97.24	0.94	91.14	163.77	0.93	1.023	0.969	0.414	0.739	0.72	0.01	0.03
21.490	102.220	3.719	2578.8	2517.0	87.468	3.685	2.35		Sand	51.1	97.24		97.24	0.94	90.96	161.58	0.93	1.024	0.969	0.388	0.682	0.67	0.02	0.03
21.650	92.570	3.463	2598.0	2526.2	78.953	3.795	2.39		Sand	54.2	97.24		97.24	0.93	90.86	162.84	0.92	1.026	0.968	0.403	0.713	0.70	0.02	0.03
21.820	63.760	3.172	2618.4	2536.0	49.251	5.078	2.62		Clay	72.7			60.26	0.95	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	65.960	2.432	2637.6	2545.2	55.708	3.762	2.49		Sand	62.1			62.34	0.92	57.36	122.76	0.92	1.028	0.976	0.178	0.244	0.24	0.03	0.05

CORNERSTONE EARTH GROUP

CPT No. 6

PGA (A_{max}) 1.15

Total Settlement: 0.29 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	49.960	1.785	2658.0	2555.0	41.830	3.671	2.57		Sand	68.6	62.34		62.34	0.92	57.28	124.27	0.92	1.030	0.976	0.181	0.251	0.24	0.03	0.05
22.310	26.690	1.197	2677.2	2564.3	19.773	4.721	2.88		Clay	93.7			25.23	0.95	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	23.750	0.852	2696.4	2573.5	17.410	3.805	2.87		Clay	92.2			22.45	0.95	n.a.	n.a.	0.92	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	20.870	0.709	2716.8	2583.3	15.106	3.631	2.90		Clay	95.1			19.73	0.95	n.a.	n.a.	0.92	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	19.100	0.572	2736.0	2592.5	13.680	3.226	2.90		Clay	95.4			18.05	0.95	n.a.	n.a.	0.92	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	15.730	0.519	2756.4	2602.3	11.030	3.616	3.01		Clay	100.0			14.87	0.95	n.a.	n.a.	0.92	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	14.950	0.501	2775.6	2611.5	10.387	3.695	3.04		Clay	100.0			14.13	0.95	n.a.	n.a.	0.92	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	14.750	0.499	2794.8	2620.7	10.190	3.739	3.05		Clay	100.0			13.94	0.95	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	14.530	0.572	2815.2	2630.5	9.977	4.357	3.09		Clay	100.0			13.73	0.94	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	15.460	0.585	2834.4	2639.7	10.640	4.163	3.06		Clay	100.0			14.61	0.94	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	16.640	0.696	2854.8	2649.5	11.483	4.573	3.06		Clay	100.0			15.73	0.94	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	17.860	0.706	2874.0	2658.7	12.354	4.299	3.02		Clay	100.0			16.88	0.94	n.a.	n.a.	0.91	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	19.130	0.717	2893.2	2667.9	13.256	4.057	2.98		Clay	100.0			18.08	0.94	n.a.	n.a.	0.91	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	20.210	0.669	2913.6	2677.7	14.007	3.566	2.92		Clay	96.8			19.10	0.94	n.a.	n.a.	0.91	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	22.060	0.817	2932.8	2686.9	15.329	3.966	2.92		Clay	96.6			20.85	0.94	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	22.950	0.885	2953.2	2696.7	15.925	4.120	2.92		Clay	96.4			21.69	0.94	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	22.440	0.853	2972.4	2706.0	15.487	4.071	2.92		Clay	96.9			21.21	0.94	n.a.	n.a.	0.91	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	19.880	0.721	2991.6	2715.2	13.542	3.922	2.96		Clay	99.7			18.79	0.94	n.a.	n.a.	0.91	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	18.730	0.594	3012.0	2725.0	12.642	3.448	2.95		Clay	98.9			17.70	0.94	n.a.	n.a.	0.91	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	18.160	0.521	3031.2	2734.2	12.175	3.131	2.94		Clay	98.0			17.16	0.93	n.a.	n.a.	0.91	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	17.780	0.488	3051.6	2744.0	11.847	3.003	2.94		Clay	97.9			16.81	0.93	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	17.770	0.447	3070.8	2753.2	11.793	2.755	2.92		Clay	96.4			16.80	0.93	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	16.970	0.437	3090.0	2762.4	11.168	2.835	2.94		Clay	98.5			16.04	0.93	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	16.500	0.399	3110.4	2772.2	10.782	2.668	2.94		Clay	98.3			15.60	0.93	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	16.040	0.371	3129.6	2781.4	10.409	2.566	2.94		Clay	98.6			15.16	0.93	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	15.210	0.362	3150.0	2791.2	9.770	2.653	2.98		Clay	100.0			14.38	0.93	n.a.	n.a.	0.90	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	14.830	0.380	3169.2	2800.4	9.460	2.867	3.01		Clay	100.0			14.02	0.93	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	14.520	0.401	3188.4	2809.6	9.201	3.100	3.03		Clay	100.0			13.72	0.93	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	14.630	0.426	3208.8	2819.4	9.240	3.270	3.05		Clay	100.0			13.83	0.93	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	15.850	0.434	3228.0	2828.6	10.066	3.049	3.00		Clay	100.0			14.98	0.93	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	16.310	0.456	3248.4	2838.4	10.348	3.104	2.99		Clay	100.0			15.42	0.93	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	15.740	0.427	3267.6	2847.6	9.907	3.030	3.00		Clay	100.0			14.88	0.92	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	15.070	0.409	3288.0	2857.4	9.397	3.046	3.02		Clay	100.0			14.24	0.92	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	16.350	0.678	3307.2	2866.7	10.253	4.613	3.10		Clay	100.0			15.45	0.92	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	19.130	0.845	3326.4	2875.9	12.147	4.835	3.05		Clay	100.0			18.08	0.92	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	23.340	0.890	3346.8	2885.7	15.017	4.110	2.94		Clay	97.9			22.06	0.92	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	29.930	0.999	3366.0	2894.9	19.515	3.537	2.81		Clay	87.6			28.29	0.92	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	30.450	1.170	3386.4	2904.7	19.800	4.068	2.84		Clay	90.3			28.78	0.92	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	33.400	1.372	3405.6	2913.9	21.756	4.328	2.83		Clay	89.2			31.57	0.92	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	34.780	1.471	3424.8	2923.1	22.625	4.447	2.82		Clay	88.8			32.87	0.92	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	34.030	1.445	3445.2	2932.9	22.031	4.471	2.83		Clay	89.6			32.16	0.92	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	30.960	1.340	3464.4	2942.1	19.869	4.585	2.87		Clay	92.9			29.26	0.92	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	28.760	1.363	3484.8	2951.9	18.305	5.044	2.93		Clay	97.2			27.18	0.92	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	28.250	1.650	3504.0	2961.1	17.897	6.228	3.00		Clay	100.0			26.70	0.92	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	34.110	1.894	3523.2	2970.3	21.781	5.855	2.91		Clay	96.2			32.24	0.91	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	39.460	2.134	3543.6	2980.1	25.293	5.661	2.86		Clay	91.6			37.30	0.91	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	36.960	2.561	3562.8	2989.3	23.536	7.281	2.96		Clay	99.5			34.93	0.91	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	55.230	2.919	3583.2	2999.1	35.636	5.462	2.74		Clay	82.2			52.20	0.91	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	63.330	2.331	3602.4	3008.4	48.774	3.788	2.53		Sand	65.5		1.8	107.74	0.88	94.61	171.59	0.88	1.064	0.931	0.531	0.968	0.91	0.01	0.02
30.180	37.970	1.314	3621.6	3017.6	23.966	3.633	2.75		Clay	82.7			35.89	0.91	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	23.690	0.955	3642.0	3027.4	14.448	4.369	2.97		Clay	100.0			22.39	0.91	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	25.050	0.784	3661.2	3036.6	15.293	3.376	2.88		Clay	93.2			23.68	0.91	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	25.100	0.705	3681.6	3046.4	15.270	3.031	2.85		Clay	91.0			23.72	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	20.850	0.576	3700.8	3055.6	12.436	3.033	2.92		Clay	96.8			19.71	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	19.450	0.532	3720.0	3064.8	11.479	3.023	2.95		Clay	99.0			18.38	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	17.970	0.535	3740.4	3074.6	10.473	3.321	3.01		Clay	100.0			16.98	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	16.830	0.522	3759.6	3083.8	9.696	3.490	3.05		Clay	100.0			15.91	0.91	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	17.030	0.525	3780.0	3093.6	9.788	3.468	3.04		Clay	100.0			16.10	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	16.890	0.503	3799.2	3102.8	9.662	3.356	3.04		Clay	100.0			15.96	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	16.650	0.482	3818.4	3112.0	9.473	3.267	3.04		Clay	100.0			15.74	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	16.230	0.438	3838.8	3121.8	9.168	3.063	3.03		Clay	100.0			15.34	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	14.750	0.385	3858.0	3131.0	8.190	3.002	3.07		Clay	100.0			13.94	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	13.980	0.371	3878.4	3140.8	7.667	3.080	3.10		Clay	100.0			13.21	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	13.980	0.375	3897.6	3150.0	7.639	3.114	3.10		Clay	100.0			13.21	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	13.460	0.595	3916.8	3159.3	7.281	5.171	3.25		Clay	100.0			12.72	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	15.900	0.670	3937.2	3169.1	8.792	4.809	3.16		Clay	100.0			15.03	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	18.330	0.698	3956.4	3178.3	10.290	4.268	3.08		Clay	100.0			17.33	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	1.15

Total Settlement:	0.29	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	18.430	0.672	3976.8	3188.1	10.314	4.085	3.06		Clay	100.0			17.42	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	18.470	0.602	3996.0	3197.3	10.304	3.657	3.04		Clay	100.0			17.46	0.90	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	21.240	0.518	4015.2	3206.5	11.996	2.694	2.91		Clay	95.4			20.08	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	21.980	0.560	4035.6	3216.3	12.413	2.803	2.90		Clay	95.2			20.78	0.90	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	24.490	0.967	4054.8	3225.5	13.928	4.306	2.97		Clay	100.0			23.15	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	29.270	1.397	4075.2	3235.3	16.835	5.128	2.96		Clay	99.8			27.67	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	38.410	2.248	4094.4	3244.5	22.415	6.182	2.92		Clay	96.7			36.30	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	61.820	2.786	4113.6	3253.7	36.735	4.662	2.68		Clay	77.6			58.43	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	93.300	3.544	4134.0	3263.5	69.435	3.885	2.43		Sand	57.7	88.67	1.8	159.61	0.88	140.49	227.64	0.86	1.066	0.870	13.333	25.520	23.94	0.00	0.00
34.610	93.810	2.922	4153.2	3272.7	69.718	3.185	2.37		Sand	52.6		1.8	159.60	0.88	140.15	224.71	0.86	1.066	0.869	10.403	19.893	18.66	0.00	0.00
34.780	60.590	1.933	4173.6	3282.5	44.396	3.305	2.52		Sand	64.5	88.67	1.8	159.61	0.88	140.44	230.23	0.86	1.066	0.868	16.762	32.019	30.04	0.00	0.00
34.940	36.230	1.271	4192.8	3291.7	20.739	3.722	2.80		Clay	87.0			34.24	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	33.900	1.024	4212.0	3301.0	19.263	3.219	2.79		Clay	85.9			32.04	0.89	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	32.810	0.973	4232.4	3310.8	18.542	3.169	2.79		Clay	86.6			31.01	0.89	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	29.130	0.956	4251.6	3320.0	16.268	3.539	2.87		Clay	92.5			27.53	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	28.320	1.113	4272.0	3329.8	15.727	4.249	2.93		Clay	97.4			26.77	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	34.210	1.108	4291.2	3339.0	19.206	3.457	2.81		Clay	87.5			32.33	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	36.530	1.042	4311.6	3348.8	20.529	3.032	2.75		Clay	82.8			34.53	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	32.450	0.909	4330.8	3358.0	18.037	3.000	2.79		Clay	86.2			30.67	0.89	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	31.280	0.840	4350.0	3367.2	17.287	2.887	2.79		Clay	86.5			29.57	0.88	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	28.580	0.844	4370.4	3377.0	15.632	3.196	2.86		Clay	91.4			27.01	0.88	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	26.630	0.784	4389.6	3386.2	14.432	3.208	2.88		Clay	93.7			25.17	0.88	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	24.610	0.666	4410.0	3396.0	13.195	2.972	2.90		Clay	94.7			23.26	0.88	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	21.360	0.590	4429.2	3405.2	11.245	3.083	2.96		Clay	99.9			20.19	0.88	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	19.730	0.395	4448.4	3414.4	10.254	2.258	2.92		Clay	96.6			18.65	0.88	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	19.620	0.543	4468.8	3424.2	10.154	3.122	3.00		Clay	100.0			18.54	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	19.170	0.653	4488.0	3433.4	9.859	3.858	3.07		Clay	100.0			18.12	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	23.170	0.641	4508.4	3443.2	12.149	3.065	2.93		Clay	97.6			21.90	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	21.030	0.585	4527.6	3452.4	10.871	3.115	2.98		Clay	100.0			19.88	0.88	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	18.570	0.545	4546.8	3461.7	9.415	3.341	3.04		Clay	100.0			17.55	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	18.270	0.538	4567.2	3471.5	9.210	3.363	3.05		Clay	100.0			17.27	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	19.120	0.565	4586.4	3480.7	9.669	3.360	3.04		Clay	100.0			18.07	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	20.500	0.610	4606.8	3490.5	10.426	3.351	3.01		Clay	100.0			19.38	0.88	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	25.560	0.746	4626.0	3499.7	13.285	3.209	2.91		Clay	96.1			24.16	0.88	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	29.520	0.886	4645.2	3508.9	15.502	3.258	2.86		Clay	92.1			27.90	0.88	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	35.130	1.051	4665.6	3518.7	18.642	3.204	2.80		Clay	86.7			33.20	0.87	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	34.340	1.145	4684.8	3527.9	18.140	3.577	2.83		Clay	89.8			32.46	0.87	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	33.330	1.223	4705.2	3537.7	17.513	3.949	2.87		Clay	92.9			31.50	0.87	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	33.580	1.190	4724.4	3546.9	17.603	3.813	2.86		Clay	92.0			31.74	0.87	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	33.850	1.165	4743.6	3556.1	17.704	3.702	2.85		Clay	91.2			31.99	0.87	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	34.030	1.216	4764.0	3565.9	17.750	3.844	2.86		Clay	91.9			32.16	0.87	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	33.750	1.203	4783.2	3575.1	17.542	3.838	2.87		Clay	92.2			31.90	0.87	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	31.780	1.121	4803.6	3584.9	16.390	3.815	2.89		Clay	93.9			30.04	0.87	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	30.320	1.014	4822.8	3594.1	15.530	3.632	2.89		Clay	94.3			28.66	0.87	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	28.820	0.717	4842.0	3603.4	14.652	2.714	2.84		Clay	89.9			27.24	0.87	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	27.620	0.806	4862.4	3613.2	13.943	3.201	2.90		Clay	94.7			26.11	0.87	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	26.540	1.017	4881.6	3622.4	13.306	4.222	2.98		Clay	100.0			25.09	0.87	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	36.080	1.136	4902.0	3632.2	18.517	3.377	2.81		Clay	88.0			34.10	0.87	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	39.590	1.134	4921.2	3641.4	20.393	3.055	2.75		Clay	83.2			37.42	0.87	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	39.870	1.194	4940.4	3650.6	20.490	3.193	2.76		Clay	84.0			37.68	0.87	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	36.110	1.166	4960.8	3660.4	18.375	3.468	2.82		Clay	88.8			34.13	0.87	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	35.290	1.140	4980.0	3669.6	17.877	3.476	2.83		Clay	89.5			33.36	0.86	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	34.550	1.203	5000.4	3679.4	17.421	3.753	2.86		Clay	91.9			32.66	0.86	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	33.180	1.147	5019.6	3688.6	16.630	3.739	2.88		Clay	93.1			31.36	0.86	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	30.360	1.058	5038.8	3697.8	15.058	3.798	2.91		Clay	96.1			28.70	0.86	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	29.000	0.945	5059.2	3707.6	14.279	3.569	2.92		Clay	96.3			27.41	0.86	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	27.830	0.924	5078.4	3716.8	13.609	3.652	2.94		Clay	98.1			26.30	0.86	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	26.490	0.923	5098.8	3726.6	12.848	3.857	2.97		Clay	100.0			25.04	0.86	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	24.080	0.827	5118.0	3735.8	11.521	3.844	3.01		Clay	100.0			22.76	0.86	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	21.490	0.794	5137.2	3745.1	10.105	4.197	3.08		Clay	100.0			20.31	0.86	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	19.360	0.680	5157.6	3754.8	8.938	4.052	3.11		Clay	100.0			18.30	0.86	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	17.890	0.587	5176.8	3764.1	8.130	3.837	3.13		Clay	100.0			16.91	0.86	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	16.000	0.294	5197.2	3773.9	7.102	2.197	3.05		Clay	100.0			15.12	0.86	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	14.090	0.273	5216.4	3783.1	6.070	2.375	3.12		Clay	100.0			13.32	0.86	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	12.860	0.222	5236.8	3792.9	5.400	2.164	3.15		Clay	100.0			12.16	0.86	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	12.720	0.234	5256.0	3802.1	5.309	2.314	3.17		Clay	100.0			12.02	0.86	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	13.240	0.272	5275.2	3811.3	5.564	2.565	3.17		Clay	100.0			12.51	0.86	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	1.15

Total Settlement:	0.29	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	14.790	0.352	5295.6	3821.1	6.355	2.896	3.15		Clay	100.0			13.98	0.86	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	16.820	0.838	5314.8	3830.3	7.395	5.916	3.28		Clay	100.0			15.90	0.86	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	19.410	1.495	5335.2	3840.1	8.720	8.928	3.33		Clay	100.0			18.35	0.85	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	41.470	1.898	5354.4	3849.3	20.156	4.892	2.89		Clay	94.0			39.20	0.85	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	48.440	1.839	5373.6	3858.5	23.715	4.020	2.78		Clay	85.2			45.78	0.85	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	44.370	1.375	5394.0	3868.3	21.546	3.299	2.75		Clay	83.4			41.94	0.85	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	37.440	1.136	5413.2	3877.5	17.915	3.270	2.81		Clay	88.2			35.39	0.85	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	32.040	1.039	5433.6	3887.3	15.087	3.542	2.89		Clay	94.6			30.28	0.85	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	33.060	1.279	5452.8	3896.5	15.569	4.217	2.93		Clay	97.5			31.25	0.85	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	39.980	1.276	5472.0	3905.8	19.071	3.426	2.81		Clay	87.5			37.79	0.85	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	38.230	1.222	5492.4	3915.6	18.125	3.444	2.82		Clay	89.0			36.13	0.85	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	32.470	1.037	5511.6	3924.8	15.142	3.490	2.89		Clay	94.2			30.69	0.85	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	29.400	0.955	5532.0	3934.6	13.538	3.586	2.94		Clay	97.8			27.79	0.85	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	26.850	0.844	5551.2	3943.8	12.209	3.505	2.97		Clay	100.0			25.38	0.85	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	23.130	0.694	5570.4	3953.0	10.293	3.413	3.02		Clay	100.0			21.86	0.85	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	21.790	0.701	5590.8	3962.8	9.586	3.692	3.06		Clay	100.0			20.60	0.85	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	20.820	0.712	5610.0	3972.0	9.071	3.949	3.10		Clay	100.0			19.68	0.85	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	21.330	0.687	5630.4	3981.8	9.300	3.708	3.08		Clay	100.0			20.16	0.85	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	20.120	0.606	5649.6	3991.0	8.667	3.503	3.09		Clay	100.0			19.02	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	18.660	0.600	5668.8	4000.2	7.912	3.789	3.14		Clay	100.0			17.64	0.85	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	17.700	0.486	5689.2	4010.0	7.409	3.274	3.13		Clay	100.0			16.73	0.84	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	16.600	0.483	5708.4	4019.2	6.840	3.511	3.17		Clay	100.0			15.69	0.84	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	16.300	0.491	5728.8	4029.0	6.669	3.655	3.19		Clay	100.0			15.41	0.84	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	17.280	0.548	5748.0	4038.2	7.135	3.802	3.18		Clay	100.0			16.33	0.84	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	18.760	0.659	5767.2	4047.5	7.845	4.152	3.16		Clay	100.0			17.73	0.84	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	20.150	0.680	5787.6	4057.2	8.506	3.939	3.12		Clay	100.0			19.05	0.84	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	22.130	0.706	5806.8	4066.5	9.456	3.672	3.07		Clay	100.0			20.92	0.84	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	22.730	0.766	5827.2	4076.3	9.723	3.864	3.07		Clay	100.0			21.48	0.84	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	23.610	0.746	5846.4	4085.5	10.127	3.606	3.04		Clay	100.0			22.32	0.84	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	26.250	0.815	5865.6	4094.7	11.389	3.494	2.99		Clay	100.0			24.81	0.84	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	26.650	0.797	5886.0	4104.5	11.552	3.360	2.97		Clay	100.0			25.19	0.84	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	26.640	0.859	5905.2	4113.7	11.516	3.628	2.99		Clay	100.0			25.18	0.84	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	29.040	0.847	5925.6	4123.5	12.648	3.248	2.93		Clay	97.7			27.45	0.84	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	30.390	0.850	5944.8	4132.7	13.269	3.102	2.90		Clay	95.4			28.72	0.84	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	29.080	0.780	5964.0	4141.9	12.602	2.988	2.91		Clay	96.1			27.49	0.84	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	26.570	0.682	5984.4	4151.7	11.358	2.891	2.94		Clay	98.4			25.11	0.84	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	25.310	0.717	6003.6	4160.9	10.723	3.215	2.99		Clay	100.0			23.92	0.84	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	25.060	0.954	6024.0	4170.7	10.573	4.326	3.07		Clay	100.0			23.69	0.84	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	27.830	1.414	6043.2	4179.9	11.870	5.700	3.11		Clay	100.0			26.30	0.84	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 7

PGA (A_{max}) 1.15

Total Settlement: 0.27 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	19.420	0.791	19.2	19.2	192.600	4.077	2.18		Unsaturated	37.5			18.36	1.70	31.20	79.03	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	25.980	1.201	39.6	39.6	179.363	4.626	2.24		Unsaturated	42.5			24.56	1.70	41.74	95.22	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	44.140	1.792	58.8	58.8	250.107	4.063	2.12		Unsaturated	32.6			41.72	1.70	70.92	123.51	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	49.490	1.963	79.2	79.2	241.590	3.969	2.12		Unsaturated	32.5			46.78	1.70	79.52	133.86	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	44.790	2.062	98.4	98.4	196.100	4.608	2.22		Unsaturated	40.7			42.33	1.70	71.97	131.76	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	37.380	2.030	117.6	117.6	149.632	5.440	2.35		Unsaturated	50.6			35.33	1.70	60.06	122.26	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	33.950	1.435	138.0	138.0	125.397	4.234	2.30		Unsaturated	47.0			32.09	1.70	54.55	113.65	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	29.680	1.261	157.2	157.2	102.650	4.260	2.36		Unsaturated	51.4			28.05	1.70	47.69	106.91	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	27.130	1.048	177.6	177.6	88.222	3.876	2.37		Unsaturated	52.2			25.64	1.70	43.59	102.01	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	25.160	1.140	196.8	196.8	77.673	4.550	2.45		Unsaturated	59.3			23.78	1.70	40.43	100.29	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	24.690	1.439	216.0	216.0	72.721	5.852	2.56		Unsaturated	67.5			23.34	1.70	39.67	101.34	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	29.120	1.727	236.4	236.4	82.011	5.955	2.53		Unsaturated	65.4			27.52	1.70	46.79	110.03	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	32.060	2.050	255.6	255.6	86.840	6.420	2.54		Unsaturated	66.3			30.30	1.70	51.51	116.31	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	33.010	2.224	276.0	276.0	86.029	6.764	2.56		Unsaturated	67.9			31.20	1.70	53.04	118.65	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	34.680	2.376	295.2	295.2	87.386	6.880	2.56		Unsaturated	68.1			32.78	1.70	55.72	122.15	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	34.270	2.641	314.4	314.4	122.477	7.743	2.52		Unsaturated	64.7			32.39	1.70	55.07	120.50	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	35.870	2.807	334.8	334.8	122.666	7.862	2.53		Unsaturated	65.1			33.90	1.70	57.64	123.91	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	38.440	2.925	354.0	354.0	88.420	7.643	2.60		Unsaturated	70.8			36.33	1.70	61.77	130.54	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	40.360	3.084	374.4	374.4	90.269	7.678	2.59		Unsaturated	70.5			38.15	1.70	64.85	134.46	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	40.890	3.257	393.6	393.6	124.841	8.003	2.53		Unsaturated	65.3			38.65	1.70	65.70	134.34	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	40.040	3.158	412.8	412.8	118.197	7.928	2.54		Unsaturated	66.1			37.84	1.70	64.34	132.77	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	37.850	2.914	433.2	433.2	107.961	7.743	2.55		Unsaturated	67.1			35.78	1.70	60.82	128.50	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	33.470	2.543	452.4	452.4	92.517	7.649	2.59		Unsaturated	69.9			31.64	1.70	53.78	120.03	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	30.570	2.091	472.8	472.8	81.851	6.892	2.58		Unsaturated	69.5			28.89	1.70	49.12	113.94	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	28.730	1.749	492.0	492.0	74.748	6.141	2.57		Unsaturated	68.2			27.16	1.70	46.16	109.86	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	27.470	1.492	512.4	512.4	69.413	5.483	2.55		Unsaturated	66.8			25.96	1.70	44.14	106.93	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	26.560	1.423	531.6	531.6	65.362	5.410	2.56		Unsaturated	67.8			25.10	1.70	42.68	105.27	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	26.180	1.369	550.8	550.8	62.814	5.286	2.56		Unsaturated	68.1			24.74	1.70	42.07	104.54	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	25.270	1.261	571.2	571.2	59.060	5.048	2.57		Unsaturated	68.3			23.88	1.70	40.60	102.70	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	23.230	1.130	590.4	590.4	52.975	4.928	2.59		Unsaturated	70.2			21.96	1.70	37.33	98.85	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	20.870	1.010	610.8	610.8	46.384	4.912	2.63		Unsaturated	73.2			19.73	1.70	33.53	94.51	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	22.570	1.069	630.0	630.0	49.121	4.804	2.60		Unsaturated	71.3			21.33	1.70	36.27	97.70	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	28.170	1.162	649.2	649.2	47.516	4.172	2.57		Unsaturated	68.6			26.63	1.70	45.26	108.77	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	28.140	1.251	669.6	669.6	46.719	4.500	2.60		Unsaturated	70.9			26.60	1.70	45.22	109.18	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	25.630	1.176	688.8	688.8	52.430	4.650	2.57		Unsaturated	68.9			24.22	1.70	41.18	103.58	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	22.880	0.965	709.2	709.2	45.762	4.285	2.59		Unsaturated	70.1			21.63	1.70	36.76	98.12	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	20.780	0.891	728.4	728.4	40.708	4.365	2.63		Unsaturated	73.5			19.64	1.70	33.39	94.36	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	17.820	0.828	747.6	747.6	46.673	4.744	2.62		Unsaturated	72.2			16.84	1.70	28.63	87.99	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	14.870	0.768	768.0	768.0	37.724	5.304	2.71		Unsaturated	80.1			14.05	1.70	23.89	83.08	0.99	0.736	1.094	n.a.	n.a.	n.a.	0.00	0.00
6.560	16.170	0.768	787.2	787.2	40.082	4.867	2.67		Unsaturated	76.5			15.28	1.69	25.89	85.15	0.99	0.736	1.094	n.a.	n.a.	n.a.	0.00	0.00
6.730	18.800	0.778	807.6	807.6	34.124	4.229	2.68		Unsaturated	77.1			17.77	1.65	29.37	89.75	0.99	0.736	1.095	n.a.	n.a.	n.a.	0.00	0.00
6.890	17.470	0.750	826.8	826.8	41.259	4.398	2.63		Unsaturated	73.3			16.51	1.65	27.18	86.30	0.99	0.735	1.090	n.a.	n.a.	n.a.	0.00	0.00
7.050	15.290	0.643	846.0	846.0	35.147	4.327	2.67		Unsaturated	76.9			14.45	1.64	23.71	82.38	0.99	0.735	1.085	n.a.	n.a.	n.a.	0.00	0.00
7.220	13.120	0.537	866.4	866.4	29.286	4.235	2.72		Unsaturated	81.0			12.40	1.63	20.27	78.49	0.99	0.734	1.080	n.a.	n.a.	n.a.	0.00	0.00
7.380	11.830	0.449	885.6	885.6	25.716	3.947	2.75		Unsaturated	82.7			11.18	1.62	18.16	75.97	0.98	0.734	1.077	n.a.	n.a.	n.a.	0.00	0.00
7.550	11.170	0.448	906.0	906.0	23.658	4.181	2.79		Unsaturated	86.2			10.56	1.61	16.98	74.84	0.98	0.734	1.074	n.a.	n.a.	n.a.	0.00	0.00
7.710	12.120	0.454	925.2	925.2	25.200	3.898	2.75		Unsaturated	82.9			11.46	1.59	18.16	75.99	0.98	0.733	1.073	n.a.	n.a.	n.a.	0.00	0.00
7.870	13.970	0.538	944.4	944.4	28.585	3.983	2.71		Unsaturated	80.2			13.20	1.56	20.57	78.77	0.98	0.733	1.073	n.a.	n.a.	n.a.	0.00	0.00
8.040	14.780	0.486	964.8	964.8	29.638	3.402	2.66		Clay	75.6			13.97	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	13.960	0.481	984.0	984.0	27.374	3.571	2.70		Clay	78.8			13.19	1.22	n.a.	n.a.	0.98	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	13.620	0.443	1004.4	1004.4	26.121	3.375	2.70		Clay	78.7			12.87	1.22	n.a.	n.a.	0.98	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	12.850	0.400	1023.6	1023.6	24.107	3.244	2.71		Clay	80.0			12.15	1.21	n.a.	n.a.	0.98	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	11.900	0.345	1042.8	1042.8	21.823	3.029	2.73		Clay	81.2			11.25	1.21	n.a.	n.a.	0.98	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	10.160	0.270	1063.2	1063.2	18.112	2.800	2.77		Clay	84.6			9.60	1.20	n.a.	n.a.	0.98	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	9.420	0.272	1082.4	1082.4	16.406	3.059	2.83		Clay	89.2			8.90	1.19	n.a.	n.a.	0.98	0.775	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	9.460	0.284	1102.8	1102.8	16.156	3.191	2.84		Clay	90.5			8.94	1.19	n.a.	n.a.	0.98	0.782	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	8.580	0.237	1122.0	1122.0	14.294	2.958	2.87		Clay	92.3			8.11	1.18	n.a.	n.a.	0.98	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	7.730	0.192	1141.2	1141.2	12.547	2.680	2.89		Clay	94.0			7.31	1.18	n.a.	n.a.	0.98	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	7.150	0.178	1161.6	1161.6	11.311	2.713	2.93		Clay	97.2			6.76	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	8.000	0.160	1180.8	1180.8	12.550	2.159	2.84		Clay	89.8			7.56	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	9.360	0.189	1201.2	1201.2	14.584	2.160	2.78		Clay	85.5			8.85	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	11.360	0.240	1220.4	1220.4	17.617	2.234	2.72		Clay	80.8			10.74	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	14.100	0.269	1239.6	1239.6	21.749	1.996	2.62		Clay	72.5			13.33	1.15	n.a.	n.a.	0.97	0.822	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	16.270	0.288	1260.0	1260.0	21.250	1.841	2.61	plastic	Clay	71.6			15.38	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	17.200	0.366	1279.2	1279.2	22.263	2.210	2.64	plastic	Clay	73.9			16.26	1.14	n.a.	n.a.	0.97	0.833	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	19.890	0.466	1299.6	1299.6	25.581	2.419	2.61	plastic	Clay	72.0			18.80	1.14	n.a.	n.a.	0.97	0.838	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	22.860	0.596	1318.8	1318.8	29.216	2.686	2.60	plastic	Clay	70.7			21.61	1.13	n.a.	n.a.	0.97	0.843	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 7

PGA (A_{max}) 1.15

Total Settlement: 0.27 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	24.620	0.739	1338.0	1328.6	31.356	3.086	2.61	plastic	Clay	71.9			23.27	1.13	n.a.	n.a.	0.97	0.848	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	26.340	0.829	1358.4	1338.4	33.422	3.230	2.60	plastic	Clay	71.3			24.90	1.13	n.a.	n.a.	0.97	0.853	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	28.010	0.924	1377.6	1347.6	35.414	3.382	2.60	plastic	Clay	70.8			26.47	1.13	n.a.	n.a.	0.97	0.858	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	29.000	1.085	1398.0	1357.4	36.498	3.832	2.63	plastic	Clay	73.0			27.41	1.12	n.a.	n.a.	0.97	0.863	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	30.140	1.184	1417.2	1366.7	37.777	4.024	2.63	plastic	Clay	73.3			28.49	1.12	n.a.	n.a.	0.97	0.867	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	31.370	1.273	1437.6	1376.4	39.146	4.152	2.63	plastic	Clay	73.2			29.65	1.12	n.a.	n.a.	0.97	0.872	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	33.520	1.355	1456.8	1385.7	41.685	4.133	2.61	plastic	Clay	71.5			31.68	1.12	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	34.520	1.365	1476.0	1394.9	42.745	4.041	2.59	plastic	Clay	70.4			32.63	1.12	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	33.670	1.332	1496.4	1404.7	41.453	4.047	2.60	plastic	Clay	71.2			31.82	1.11	n.a.	n.a.	0.97	0.885	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	31.780	1.235	1515.6	1413.9	38.883	3.979	2.62	plastic	Clay	72.3			30.04	1.11	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	30.410	1.226	1536.0	1423.7	41.641	4.136	2.61		Clay	71.6			28.74	1.11	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	30.590	1.318	1555.2	1432.9	41.611	4.421	2.63		Clay	73.2			28.91	1.11	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	35.910	1.230	1574.4	1442.1	40.213	3.502	2.57		Sand	68.4			33.94	1.21	40.97	103.20	0.96	0.900	1.042	0.142	0.189	0.21	0.03	0.06
13.290	33.480	1.192	1594.8	1451.9	40.210	3.648	2.58		Mixed	69.4			31.64	1.21	38.18	99.80	0.96	0.904	1.040	0.137	0.180	0.20	0.03	0.06
13.450	30.690	1.174	1614.0	1461.1	36.603	3.927	2.63	plastic	Clay	73.5			29.01	1.10	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	28.150	1.363	1634.4	1470.9	37.164	4.987	2.70		Clay	79.0			26.61	1.10	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	25.370	1.685	1653.6	1480.1	33.164	6.866	2.83		Clay	89.7			23.98	1.10	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	35.170	1.461	1672.8	1489.3	41.495	4.256	2.62	plastic	Clay	72.4			33.24	1.10	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	37.150	1.266	1693.2	1499.1	40.766	3.488	2.56		Sand	68.0			35.11	1.18	41.57	103.88	0.96	0.922	1.038	0.143	0.190	0.21	0.03	0.06
14.270	31.090	1.074	1712.4	1508.4	36.217	3.553	2.61	plastic	Clay	71.4			29.39	1.09	n.a.	n.a.	0.96	0.926	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	33.570	1.406	1732.8	1518.1	43.084	4.298	2.61		Clay	71.7			31.73	1.09	n.a.	n.a.	0.96	0.929	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	34.600	1.485	1752.0	1527.4	44.160	4.404	2.61		Clay	71.7			32.70	1.09	n.a.	n.a.	0.96	0.932	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	35.400	1.458	1771.2	1536.6	40.812	4.223	2.62	plastic	Clay	72.6			33.46	1.09	n.a.	n.a.	0.96	0.935	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	33.300	1.346	1791.6	1546.4	41.910	4.153	2.61		Clay	71.5			31.47	1.09	n.a.	n.a.	0.96	0.939	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	32.320	1.628	1810.8	1555.6	40.389	5.183	2.69		Clay	77.9			30.55	1.08	n.a.	n.a.	0.95	0.942	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	34.610	2.220	1831.2	1565.4	43.050	6.589	2.74		Clay	82.5			32.71	1.08	n.a.	n.a.	0.95	0.945	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	223.640	2.500	1850.4	1574.6	244.027	1.123	1.67		Sand	0.0			211.38	1.09	230.37	230.37	0.95	0.948	1.089	16.974	40.653	42.90	0.00	0.00
15.580	95.980	2.359	1869.6	1583.8	103.837	2.482	2.17		Sand	36.8	211.38		211.38	1.08	228.17	321.09	0.95	0.950	1.087	#########	########	##########	0.00	0.00
15.750	69.130	2.183	1890.0	1593.6	74.263	3.201	2.35		Sand	51.2	211.38		211.38	1.08	227.80	335.02	0.95	0.953	1.085	#########	########	##########	0.00	0.00
15.910	49.210	1.742	1909.2	1602.8	52.405	3.610	2.49		Sand	62.6	211.38		211.38	1.08	227.45	341.22	0.95	0.956	1.083	#########	########	##########	0.00	0.00
16.080	31.440	0.796	1929.6	1612.6	32.995	2.611	2.55		Sand	66.8	211.38		211.38	1.07	227.09	342.59	0.95	0.959	1.082	#########	########	##########	0.00	0.00
16.240	23.660	0.554	1948.8	1621.8	25.830	2.442	2.61	plastic	Clay	71.9			22.36	1.07	n.a.	n.a.	0.95	0.962	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	18.650	0.448	1968.0	1631.0	21.662	2.538	2.68		Clay	77.6			17.63	1.07	n.a.	n.a.	0.95	0.964	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	15.530	0.398	1988.4	1640.8	17.718	2.735	2.77		Clay	84.7			14.68	1.07	n.a.	n.a.	0.95	0.967	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	13.130	0.359	2007.6	1650.0	14.698	2.957	2.86		Clay	91.5			12.41	1.07	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	12.070	0.367	2028.0	1659.8	13.322	3.319	2.92		Clay	96.7			11.41	1.07	n.a.	n.a.	0.95	0.972	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	13.620	0.375	2047.2	1669.1	15.094	2.975	2.85		Clay	90.9			12.87	1.06	n.a.	n.a.	0.95	0.974	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	15.200	0.373	2066.4	1678.3	16.883	2.631	2.78		Clay	85.3			14.37	1.06	n.a.	n.a.	0.95	0.977	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	16.090	0.351	2086.8	1688.1	17.827	2.331	2.73		Clay	81.3			15.21	1.06	n.a.	n.a.	0.94	0.979	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	16.140	0.369	2106.0	1697.3	17.778	2.448	2.74		Clay	82.3			15.26	1.06	n.a.	n.a.	0.94	0.981	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	16.050	0.417	2126.4	1707.1	17.558	2.779	2.78		Clay	85.3			15.17	1.06	n.a.	n.a.	0.94	0.983	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	17.980	0.367	2145.6	1716.3	19.702	2.173	2.68		Clay	77.0			16.99	1.06	n.a.	n.a.	0.94	0.986	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	20.160	0.499	2164.8	1725.5	22.112	2.618	2.68		Clay	77.7			19.05	1.06	n.a.	n.a.	0.94	0.988	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	22.080	0.607	2185.2	1735.3	24.189	2.893	2.68		Clay	77.4			20.87	1.05	n.a.	n.a.	0.94	0.990	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	27.620	0.682	2204.4	1744.5	28.691	2.570	2.59	plastic	Clay	70.2			26.11	1.05	n.a.	n.a.	0.94	0.992	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	30.090	0.750	2224.8	1754.3	30.080	2.589	2.58	plastic	Clay	69.1			28.44	1.05	n.a.	n.a.	0.94	0.994	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	32.060	0.886	2244.0	1763.5	32.031	2.863	2.58	plastic	Clay	69.6			30.30	1.05	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	36.910	1.230	2263.2	1772.7	36.946	3.438	2.59	plastic	Clay	70.1			34.89	1.05	n.a.	n.a.	0.94	0.998	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	44.320	1.454	2283.6	1782.5	44.465	3.368	2.52	plastic	Clay	65.0			41.89	1.05	n.a.	n.a.	0.94	1.000	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	45.860	1.443	2302.8	1791.7	45.922	3.228	2.50	plastic	Clay	63.1			43.35	1.04	n.a.	n.a.	0.94	1.002	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	39.080	1.261	2323.2	1801.5	38.842	3.325	2.56	plastic	Clay	68.1			36.94	1.04	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	35.580	1.101	2342.4	1810.8	35.157	3.201	2.58	plastic	Clay	69.7			33.63	1.04	n.a.	n.a.	0.93	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	34.150	1.038	2362.8	1820.5	33.595	3.148	2.59	plastic	Clay	70.5			32.28	1.04	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	33.980	1.012	2382.0	1829.8	33.328	3.087	2.59	plastic	Clay	70.3			32.12	1.04	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	33.790	1.051	2401.2	1839.0	33.982	3.226	2.60	plastic	Clay	70.8			31.94	1.04	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	35.210	1.031	2421.6	1848.8	34.380	3.033	2.58	plastic	Clay	69.1			33.28	1.04	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	34.970	1.046	2440.8	1858.0	34.042	3.098	2.59	plastic	Clay	69.8			33.05	1.03	n.a.	n.a.	0.93	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	34.920	0.988	2461.2	1867.8	33.892	2.931	2.57	plastic	Clay	68.7			33.01	1.03	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	33.350	0.935	2480.4	1877.0	32.224	2.913	2.59	plastic	Clay	69.9			31.52	1.03	n.a.	n.a.	0.93	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	32.710	0.872	2499.6	1886.2	31.495	2.770	2.58	plastic	Clay	69.3			30.92	1.03	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	30.400	0.754	2520.0	1896.0	29.097	2.588	2.59	plastic	Clay	69.9			28.73	1.03	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	26.320	0.493	2539.2	1905.2	24.953	1.967	2.57	plastic	Clay	68.3			24.88	1.03	n.a.	n.a.	0.93	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	24.460	0.577	2559.6	1915.0	24.209	2.491	2.64		Clay	74.1			23.12	1.03	n.a.	n.a.	0.93	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	24.500	0.680	2578.8	1924.2	24.125	2.928	2.68		Clay	77.7			23.16	1.03	n.a.	n.a.	0.93	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	27.360	0.793	2598.0	1933.4	26.958	3.042	2.66		Clay	75.6			25.86	1.02	n.a.	n.a.	0.92	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	27.380	0.857	2618.4	1943.2	26.832	3.287	2.68		Clay	77.4			25.88	1.02	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	25.980	0.892	2637.6	1952.4	25.262	3.615	2.73		Clay	81.2			24.56	1.02	n.a.	n.a.	0.92	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 7

PGA (A_{max}) 1.15

Total Settlement: 0.27 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	24.790	0.827	2658.0	1962.2	23.912	3.525	2.74		Clay	82.0			23.43	1.02	n.a.	n.a.	0.92	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	23.240	0.758	2677.2	1971.5	22.219	3.460	2.76		Clay	83.6			21.97	1.02	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	21.060	0.648	2696.4	1980.7	19.904	3.285	2.78		Clay	85.4			19.91	1.02	n.a.	n.a.	0.92	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	20.060	0.586	2716.8	1990.5	18.791	3.131	2.79		Clay	85.9			18.96	1.02	n.a.	n.a.	0.92	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	20.320	0.585	2736.0	1999.7	18.955	3.085	2.78		Clay	85.4			19.21	1.02	n.a.	n.a.	0.92	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	22.300	0.618	2756.4	2009.5	20.823	2.955	2.74		Clay	81.9			21.08	1.01	n.a.	n.a.	0.92	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	22.630	0.665	2775.6	2018.7	21.046	3.130	2.75		Clay	82.8			21.39	1.01	n.a.	n.a.	0.92	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	22.720	0.682	2794.8	2027.9	21.029	3.198	2.75		Clay	83.3			21.47	1.01	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	22.240	0.697	2815.2	2037.7	20.447	3.346	2.78		Clay	85.1			21.02	1.01	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	22.650	0.712	2834.4	2046.9	20.746	3.355	2.77		Clay	84.7			21.41	1.01	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	22.780	0.700	2854.8	2056.7	20.764	3.276	2.77		Clay	84.2			21.53	1.01	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	22.960	0.752	2874.0	2065.9	20.836	3.494	2.78		Clay	85.5			21.70	1.01	n.a.	n.a.	0.91	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	23.460	0.794	2893.2	2075.1	21.216	3.606	2.78		Clay	85.7			22.17	1.01	n.a.	n.a.	0.91	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	24.070	0.884	2913.6	2084.9	21.692	3.910	2.80		Clay	87.0			22.75	1.00	n.a.	n.a.	0.91	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	25.170	0.965	2932.8	2094.1	22.638	4.070	2.80		Clay	86.7			23.79	1.00	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	26.370	1.053	2953.2	2103.9	23.664	4.231	2.79		Clay	86.5			24.92	1.00	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	27.590	1.074	2972.4	2113.2	24.706	4.113	2.77		Clay	84.7			26.08	1.00	n.a.	n.a.	0.91	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	28.200	1.063	2991.6	2122.4	25.165	3.981	2.76		Clay	83.5			26.65	1.00	n.a.	n.a.	0.91	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	27.490	0.958	3012.0	2132.2	24.373	3.685	2.74		Clay	82.5			25.98	1.00	n.a.	n.a.	0.91	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	26.810	0.872	3031.2	2141.4	23.624	3.445	2.74		Clay	81.9			25.34	1.00	n.a.	n.a.	0.91	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	26.170	0.858	3051.6	2151.2	22.912	3.482	2.75		Clay	82.9			24.74	1.00	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	27.220	0.858	3070.8	2160.4	23.778	3.341	2.72		Clay	81.0			25.73	0.99	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	29.210	0.868	3090.0	2169.6	25.502	3.136	2.68		Clay	77.7			27.61	0.99	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	30.820	0.893	3110.4	2179.4	26.856	3.052	2.66		Clay	75.7			29.13	0.99	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	30.110	0.876	3129.6	2188.6	26.085	3.068	2.67		Clay	76.6			28.46	0.99	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	28.690	0.819	3150.0	2198.4	24.668	3.020	2.68		Clay	77.8			27.12	0.99	n.a.	n.a.	0.90	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	25.520	0.905	3169.2	2207.6	21.684	3.779	2.79		Clay	86.2			24.12	0.99	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	23.150	3.875	3188.4	2216.8	19.447	17.977	3.30		Clay	100.0			21.88	0.99	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	41.550	5.116	3208.8	2226.6	35.880	12.808	3.01		Clay	100.0			39.27	0.99	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	157.650	4.623	3228.0	2235.8	143.475	2.963	2.14		Sand	34.3	156.92		156.92	0.98	154.39	227.26	0.90	1.056	0.983	12.897	27.905	26.43	0.00	0.00
27.070	166.020	3.237	3248.4	2245.6	150.832	1.969	1.99		Sand	22.2			156.92	0.98	153.93	204.33	0.90	1.056	0.984	2.433	5.266	4.99	0.00	0.00
27.230	103.140	2.596	3267.6	2254.8	92.941	2.557	2.21		Sand	40.2	156.92		156.92	0.98	154.08	233.35	0.90	1.057	0.981	22.331	48.192	45.60	0.00	0.00
27.400	71.000	2.114	3288.0	2264.6	63.366	3.047	2.38		Sand	53.8	156.92		156.92	0.98	154.00	242.95	0.90	1.057	0.980	58.696	126.500	119.64	0.00	0.00
27.560	40.200	1.968	3307.2	2273.9	33.904	5.104	2.73		Clay	81.8			38.00	0.98	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	36.960	2.130	3326.4	2283.1	30.920	6.034	2.81		Clay	88.2			34.93	0.98	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	40.400	2.205	3346.8	2292.9	33.780	5.693	2.77		Clay	84.6			38.19	0.98	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	47.240	2.360	3366.0	2302.1	39.579	5.181	2.69		Clay	78.4			44.65	0.98	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	62.600	2.216	3386.4	2311.9	55.075	3.638	2.48		Sand	61.6	62.67	1.8	112.81	0.97	109.42	189.37	0.89	1.060	0.979	1.092	2.352	2.22	0.00	0.00
28.380	66.300	1.951	3405.6	2321.1	58.296	3.020	2.41		Sand	55.6		1.8	112.80	0.97	109.23	186.83	0.89	1.060	0.979	0.971	2.090	1.97	0.00	0.00
28.540	40.310	1.803	3424.8	2330.3	33.127	4.672	2.72		Clay	80.2			38.10	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	38.250	2.140	3445.2	2340.1	31.219	5.859	2.80		Clay	87.2			36.15	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	51.390	2.558	3464.4	2349.3	42.274	5.150	2.67		Clay	76.6			48.57	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	55.740	2.513	3484.8	2359.1	45.778	4.653	2.61		Clay	72.2			52.68	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	39.960	1.668	3504.0	2368.3	32.266	4.365	2.70		Clay	79.2			37.77	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	27.740	1.018	3523.2	2377.5	21.853	3.917	2.80		Clay	86.8			26.22	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	24.370	0.759	3543.6	2387.3	18.932	3.357	2.80		Clay	87.2			23.03	0.97	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	23.160	0.710	3562.8	2396.5	17.841	3.323	2.82		Clay	88.6			21.89	0.97	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	22.270	0.712	3583.2	2406.3	17.020	3.479	2.85		Clay	90.9			21.05	0.97	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	20.700	0.715	3602.4	2415.6	15.648	3.781	2.90		Clay	95.0			19.57	0.97	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	19.030	0.760	3621.6	2424.8	14.203	4.416	2.97		Clay	100.0			17.99	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	18.560	0.836	3642.0	2434.6	13.751	4.996	3.02		Clay	100.0			17.54	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	22.260	1.206	3661.2	2443.8	16.720	5.902	3.00		Clay	100.0			21.04	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	27.900	1.318	3681.6	2453.6	21.242	5.058	2.88		Clay	93.4			26.37	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	31.270	1.581	3700.8	2462.8	23.891	5.373	2.86		Clay	91.8			29.56	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	25.490	1.559	3720.0	2472.0	19.118	6.595	2.99		Clay	100.0			24.09	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	40.770	1.472	3740.4	2481.8	31.348	3.783	2.67		Clay	76.6			38.53	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	24.750	1.345	3759.6	2491.0	18.362	5.881	2.97		Clay	100.0			23.39	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	34.340	1.051	3780.0	2500.8	25.952	3.238	2.69		Clay	78.0			32.46	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	32.580	1.002	3799.2	2510.0	24.446	3.267	2.71		Clay	79.8			30.79	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	27.050	0.916	3818.4	2519.2	19.959	3.643	2.81		Clay	87.6			25.57	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	27.410	0.936	3838.8	2529.0	20.158	3.672	2.81		Clay	87.5			25.91	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	25.710	1.028	3858.0	2538.2	18.738	4.321	2.88		Clay	93.1			24.30	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	22.370	1.071	3878.4	2548.0	16.037	5.240	2.98		Clay	100.0			21.14	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	18.790	1.292	3897.6	2557.2	13.171	7.670	3.16		Clay	100.0			17.76	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	21.500	1.122	3916.8	2566.5	15.228	5.743	3.02		Clay	100.0			20.32	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	27.120	0.913	3937.2	2576.3	19.526	3.631	2.81		Clay	88.1			25.63	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	26.850	0.628	3956.4	2585.5	19.240	2.524	2.72		Clay	80.8			25.38	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 7

PGA (A_{max}) 1.15

Total Settlement: 0.27 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	17.460	0.397	3976.8	2595.3	11.923	2.567	2.90		Clay	94.6			16.50	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	13.850	0.328	3996.0	2604.5	9.101	2.766	3.01		Clay	100.0			13.09	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	13.880	0.324	4015.2	2613.7	9.085	2.726	3.01		Clay	100.0			13.12	0.95	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	14.660	0.321	4035.6	2623.5	9.638	2.539	2.97		Clay	100.0			13.86	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	14.030	0.322	4054.8	2632.7	9.118	2.683	3.00		Clay	100.0			13.26	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	13.530	0.272	4075.2	2642.5	8.698	2.369	2.99		Clay	100.0			12.79	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	14.270	0.750	4094.4	2651.7	9.219	6.139	3.21		Clay	100.0			13.49	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	14.880	0.811	4113.6	2660.9	9.638	6.322	3.20		Clay	100.0			14.06	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	17.210	0.613	4134.0	2670.7	11.340	4.047	3.03		Clay	100.0			16.27	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	23.200	0.682	4153.2	2679.9	15.764	3.228	2.86		Clay	91.4			21.93	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	21.800	1.118	4173.6	2689.7	14.658	5.669	3.03		Clay	100.0			20.60	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	28.360	1.181	4192.8	2698.9	19.462	4.497	2.87		Clay	93.0			26.81	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	41.160	1.147	4212.0	2708.2	28.842	2.936	2.62		Clay	73.0			38.90	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	33.880	0.928	4232.4	2718.0	23.373	2.922	2.69		Clay	78.5			32.02	0.94	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	21.620	0.766	4251.6	2727.2	14.296	3.927	2.94		Clay	98.3			20.43	0.94	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	23.060	0.766	4272.0	2737.0	15.290	3.659	2.90		Clay	94.9			21.80	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	25.750	0.826	4291.2	2746.2	17.191	3.499	2.85		Clay	90.8			24.34	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	25.360	0.844	4311.6	2756.0	16.839	3.638	2.86		Clay	92.2			23.97	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	22.610	0.715	4330.8	2765.2	14.787	3.496	2.90		Clay	94.9			21.37	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	20.830	0.611	4350.0	2774.4	13.448	3.276	2.91		Clay	96.1			19.69	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	19.300	0.568	4370.4	2784.2	12.294	3.317	2.95		Clay	98.9			18.24	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	20.410	0.563	4389.6	2793.4	13.042	3.091	2.91		Clay	95.8			19.29	0.93	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	21.220	0.529	4410.0	2803.2	13.567	2.783	2.87		Clay	92.6			20.06	0.93	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	20.400	0.496	4429.2	2812.4	12.932	2.728	2.88		Clay	93.5			19.28	0.93	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	19.960	0.476	4448.4	2821.6	12.571	2.682	2.89		Clay	94.0			18.87	0.93	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	20.100	0.508	4468.8	2831.4	12.620	2.843	2.90		Clay	95.1			19.00	0.93	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	19.910	0.574	4488.0	2840.6	12.438	3.247	2.94		Clay	98.2			18.82	0.93	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	19.580	0.614	4508.4	2850.4	12.157	3.541	2.97		Clay	100.0			18.51	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	20.570	0.673	4527.6	2859.6	12.803	3.676	2.96		Clay	99.9			19.44	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	25.490	0.723	4546.8	2868.9	16.185	3.115	2.84		Clay	89.9			24.09	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	28.600	0.848	4567.2	2878.7	18.284	3.223	2.80		Clay	87.3			27.03	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	28.360	0.907	4586.4	2887.9	18.053	3.480	2.83		Clay	89.3			26.81	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	26.330	0.882	4606.8	2897.7	16.583	3.670	2.87		Clay	92.8			24.89	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	23.790	0.795	4626.0	2906.9	14.777	3.699	2.91		Clay	96.1			22.49	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	22.290	0.693	4645.2	2916.1	13.695	3.473	2.92		Clay	96.9			21.07	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	20.990	0.620	4665.6	2925.9	12.753	3.324	2.94		Clay	97.9			19.84	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	18.920	0.517	4684.8	2935.1	11.296	3.116	2.96		Clay	100.0			17.88	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	17.010	0.439	4705.2	2944.9	9.954	2.994	3.00		Clay	100.0			16.08	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	16.620	0.377	4724.4	2954.1	9.653	2.642	2.98		Clay	100.0			15.71	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	15.570	0.329	4743.6	2963.3	8.908	2.495	2.99		Clay	100.0			14.72	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	15.210	0.379	4764.0	2973.1	8.629	2.952	3.05		Clay	100.0			14.38	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	15.450	0.399	4783.2	2982.3	8.757	3.052	3.05		Clay	100.0			14.60	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	23.970	0.458	4803.6	2992.1	14.417	2.122	2.78		Clay	85.5			22.66	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	18.640	0.439	4822.8	3001.3	10.814	2.706	2.94		Clay	98.5			17.62	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	20.580	0.588	4842.0	3010.6	12.064	3.238	2.95		Clay	98.9			19.45	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	20.550	0.841	4862.4	3020.4	11.998	4.639	3.05		Clay	100.0			19.42	0.91	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	17.540	0.950	4881.6	3029.6	9.968	6.290	3.19		Clay	100.0			16.58	0.91	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	50.580	0.972	4902.0	3039.4	37.957	2.020	2.43		Sand	57.3		1.8	86.05	0.86	74.03	142.61	0.82	1.056	0.946	0.246	0.370	0.35	0.02	0.04
41.010	43.590	1.037	4921.2	3048.6	26.983	2.521	2.61		Clay	71.4			41.20	0.91	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	21.540	0.805	4940.4	3057.8	12.473	4.223	3.01		Clay	100.0			20.36	0.91	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	22.940	0.858	4960.8	3067.6	13.339	4.192	2.98		Clay	100.0			21.68	0.91	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	24.480	0.763	4980.0	3076.8	14.294	3.472	2.91		Clay	95.7			23.14	0.91	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	33.540	0.745	5000.4	3086.6	20.113	2.399	2.69		Clay	78.5			31.70	0.91	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	32.790	0.811	5019.6	3095.8	19.562	2.677	2.73		Clay	81.5			30.99	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	23.510	1.176	5038.8	3105.0	13.520	5.601	3.06		Clay	100.0			22.22	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	31.410	1.295	5059.2	3114.8	18.544	4.484	2.89		Clay	94.2			29.69	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	35.180	1.392	5078.4	3124.0	20.897	4.266	2.84		Clay	89.9			33.25	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	29.820	1.138	5098.8	3133.8	17.404	4.171	2.89		Clay	94.3			28.19	0.90	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	48.230	1.013	5118.0	3143.0	35.419	2.218	2.48		Sand	61.3		1.8	82.05	0.85	69.39	137.94	0.81	1.052	0.943	0.226	0.328	0.31	0.02	0.04
42.810	34.500	0.837	5137.2	3152.3	20.259	2.622	2.71		Clay	80.1			32.61	0.90	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	20.960	0.667	5157.6	3162.0	11.626	3.630	2.99		Clay	100.0			19.81	0.90	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	17.550	0.559	5176.8	3171.3	9.436	3.739	3.07		Clay	100.0			16.59	0.90	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	18.990	0.521	5197.2	3181.1	10.306	3.181	3.00		Clay	100.0			17.95	0.90	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	28.050	0.532	5216.4	3190.3	15.950	2.091	2.74		Clay	82.3			26.51	0.90	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	17.580	0.535	5236.8	3200.1	9.351	3.575	3.06		Clay	100.0			16.62	0.90	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	30.570	0.521	5256.0	3209.3	17.413	1.866	2.68		Clay	77.5			28.89	0.90	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	27.270	0.633	5275.2	3218.5	15.307	2.570	2.81		Clay	87.5			25.78	0.90	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 7

PGA (A_{max}) 1.15

Total Settlement: 0.27 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	21.460	0.656	5295.6	3228.3	11.655	3.486	2.98		Clay	100.0			20.28	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	22.890	0.572	5314.8	3237.5	12.499	2.829	2.90		Clay	95.2			21.64	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	22.840	0.491	5335.2	3247.3	12.424	2.436	2.87		Clay	92.4			21.59	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	19.790	0.419	5354.4	3256.5	10.510	2.451	2.93		Clay	97.4			18.71	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	19.280	0.426	5373.6	3265.7	10.162	2.567	2.95		Clay	99.3			18.22	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	18.790	0.470	5394.0	3275.5	9.826	2.919	3.00		Clay	100.0			17.76	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	18.670	0.487	5413.2	3284.7	9.720	3.048	3.01		Clay	100.0			17.65	0.89	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	18.120	0.464	5433.6	3294.5	9.351	3.012	3.02		Clay	100.0			17.13	0.89	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	18.990	1.025	5452.8	3303.7	9.846	6.300	3.20		Clay	100.0			17.95	0.89	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	19.170	1.484	5472.0	3313.0	9.921	9.029	3.29		Clay	100.0			18.12	0.89	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	49.410	1.589	5492.4	3322.8	28.087	3.406	2.68		Clay	77.0			46.70	0.89	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	37.650	1.199	5511.6	3332.0	20.945	3.437	2.78		Clay	85.0			35.59	0.89	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	29.980	0.892	5532.0	3341.8	16.287	3.279	2.85		Clay	90.9			28.34	0.89	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	28.850	0.705	5551.2	3351.0	15.562	2.702	2.81		Clay	88.1			27.27	0.89	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	32.020	0.762	5570.4	3360.2	17.401	2.606	2.77		Clay	84.2			30.26	0.89	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	34.750	0.986	5590.8	3370.0	18.964	3.086	2.78		Clay	85.4			32.84	0.88	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	39.850	1.217	5610.0	3379.2	21.925	3.285	2.75		Clay	82.8			37.67	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	36.470	1.323	5630.4	3389.0	19.861	3.931	2.83		Clay	89.4			34.47	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	34.810	1.107	5649.6	3398.2	18.825	3.460	2.81		Clay	88.1			32.90	0.88	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	29.940	1.094	5668.8	3407.4	15.910	4.036	2.91		Clay	96.0			28.30	0.88	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	29.650	1.180	5689.2	3417.2	15.688	4.402	2.94		Clay	98.2			28.02	0.88	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	31.290	1.231	5708.4	3426.4	16.598	4.329	2.92		Clay	96.4			29.57	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	30.920	1.222	5728.8	3436.2	16.329	4.355	2.92		Clay	96.9			29.22	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	30.280	1.139	5748.0	3445.4	15.909	4.154	2.92		Clay	96.6			28.62	0.88	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	28.420	1.025	5767.2	3454.7	14.784	4.014	2.94		Clay	97.8			26.86	0.88	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	26.700	0.901	5787.6	3464.4	13.743	3.784	2.94		Clay	98.6			25.24	0.88	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	25.050	0.818	5806.8	3473.7	12.751	3.693	2.96		Clay	100.0			23.68	0.88	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	24.430	0.833	5827.2	3483.5	12.353	3.872	2.99		Clay	100.0			23.09	0.88	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	26.280	0.876	5846.4	3492.7	13.375	3.751	2.95		Clay	99.1			24.84	0.88	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	31.180	0.900	5865.6	3501.9	16.133	3.184	2.84		Clay	90.5			29.47	0.88	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	31.900	1.421	5886.0	3511.7	16.492	4.908	2.95		Clay	99.3			30.15	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	37.690	2.141	5905.2	3520.9	19.732	6.164	2.96		Clay	99.9			35.62	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	60.130	2.336	5925.6	3530.7	32.383	4.086	2.68		Clay	77.6			56.83	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	82.310	2.740	5944.8	3539.9	57.977	3.453	2.45		Sand	59.0	81.81	1.8	147.26	0.85	125.00	208.38	0.78	1.028	0.850	3.133	5.863	5.70	0.00	0.00
49.700	84.940	3.380	5964.0	3549.1	59.814	4.124	2.50		Sand	62.8	81.81	1.8	147.26	0.85	125.01	209.79	0.78	1.027	0.847	3.436	6.402	6.23	0.00	0.00
49.870	86.560	3.282	5984.4	3558.9	60.905	3.928	2.48		Sand	61.1		1.8	147.27	0.85	124.84	208.97	0.78	1.027	0.848	3.256	6.073	5.92	0.00	0.00
50.030	83.420	3.556	6003.6	3568.1	45.076	4.422	2.60		Clay	71.3			78.85	0.87	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	72.390	3.310	6024.0	3577.9	38.781	4.771	2.67		Clay	76.8			68.42	0.87	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 8

PGA (A_{max}) 1.15

Total Settlement: 0.27 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	451.190	7.218	19.2	19.2	4476.842	1.600	1.44		Unsaturated	0.0			426.46	1.70	724.97	724.97	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	577.320	10.366	39.6	39.6	3988.653	1.796	1.48		Unsaturated	0.0			545.67	1.70	927.64	927.64	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	593.510	8.822	58.8	58.8	3365.038	1.486	1.39		Unsaturated	0.0			560.97	1.70	953.66	953.66	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	475.630	6.784	79.2	79.2	2323.500	1.426	1.38		Unsaturated	0.0			449.56	1.70	764.24	764.24	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	360.130	6.063	98.4	98.4	1578.246	1.684	1.47		Unsaturated	0.0			340.39	1.70	578.66	578.66	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	239.330	5.746	117.6	117.6	959.310	2.401	1.67		Unsaturated	0.0			226.21	1.70	384.56	384.56	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	176.020	5.067	138.0	138.0	651.215	2.879	1.80		Unsaturated	7.2			166.37	1.70	282.83	285.94	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	135.800	4.931	157.2	157.2	470.646	3.633	1.95		Unsaturated	19.1			128.36	1.70	218.20	267.77	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	115.640	5.151	177.6	177.6	376.986	4.457	2.07		Unsaturated	28.7			109.30	1.70	185.81	256.44	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	128.710	4.803	196.8	196.8	398.602	3.734	1.99		Unsaturated	22.4			121.65	1.70	206.81	265.78	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	131.970	6.412	216.0	216.0	390.090	4.863	2.10		Unsaturated	31.0			124.74	1.70	212.05	292.16	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	156.760	7.108	236.4	236.4	442.951	4.538	2.05		Unsaturated	27.0			148.17	1.70	251.88	331.24	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	176.530	6.157	255.6	255.6	479.729	3.490	1.93		Unsaturated	17.5			166.85	1.70	283.65	334.54	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	164.270	4.744	276.0	276.0	429.547	2.890	1.88		Unsaturated	13.2			155.26	1.70	263.95	291.89	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	129.720	3.967	295.2	295.2	327.889	3.062	1.95		Unsaturated	19.4			122.61	1.68	206.16	255.35	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	116.220	4.838	314.4	314.4	284.593	4.169	2.10		Unsaturated	31.1			109.85	1.65	181.66	255.73	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	106.330	5.565	334.8	334.8	252.262	5.242	2.21		Unsaturated	40.1			100.50	1.65	165.63	247.66	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	155.040	6.300	354.0	354.0	357.864	4.068	2.05		Unsaturated	26.7			146.54	1.60	234.87	310.36	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	143.790	5.759	374.4	374.4	322.676	4.010	2.06		Unsaturated	27.9			135.91	1.58	214.63	289.10	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	132.090	5.016	393.6	393.6	289.046	3.803	2.06		Unsaturated	28.1			124.85	1.56	194.58	265.63	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	100.560	3.834	412.8	412.8	214.751	3.820	2.13		Unsaturated	33.5			95.05	1.62	154.28	226.04	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	91.270	3.315	433.2	433.2	190.206	3.641	2.14		Unsaturated	34.4			86.27	1.64	141.90	212.08	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	61.660	2.345	452.4	452.4	125.579	3.816	2.26		Unsaturated	44.1			58.28	1.70	99.08	167.90	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	46.640	1.882	472.8	472.8	92.787	4.056	2.37		Unsaturated	52.3			44.08	1.70	74.94	141.83	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	30.140	1.683	492.0	492.0	78.448	5.630	2.52		Unsaturated	64.8			28.49	1.70	48.43	111.99	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	31.180	1.928	512.4	512.4	78.875	6.234	2.56		Unsaturated	67.5			29.47	1.70	50.10	114.77	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	38.660	1.697	531.6	531.6	72.401	4.420	2.46		Unsaturated	60.1			36.54	1.70	62.12	128.29	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	30.420	1.541	550.8	550.8	55.845	5.111	2.59		Unsaturated	69.9			28.75	1.70	48.88	113.71	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	27.390	1.303	571.2	571.2	64.071	4.808	2.53		Unsaturated	65.1			25.89	1.70	44.01	106.39	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	37.830	1.855	590.4	590.4	67.163	4.942	2.52		Unsaturated	64.8			35.76	1.70	60.79	127.88	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	65.100	2.992	610.8	610.8	113.989	4.617	2.36		Unsaturated	51.4			61.53	1.59	97.63	170.20	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	349.810	4.252	630.0	630.0	605.401	1.217	1.48		Unsaturated	0.0			330.63	1.38	455.16	455.16	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	432.220	3.949	649.2	649.2	736.990	0.914	1.33		Unsaturated	0.0			408.53	1.37	557.95	557.95	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	330.870	3.214	669.6	669.6	555.370	0.972	1.41		Unsaturated	0.0			312.73	1.35	423.65	423.65	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	300.930	2.376	688.8	688.8	497.959	0.791	1.36		Unsaturated	0.0			284.43	1.34	382.45	382.45	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	212.240	1.404	709.2	709.2	345.930	0.663	1.40		Unsaturated	0.0			200.60	1.33	267.66	267.66	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	132.260	1.935	728.4	728.4	212.480	1.467	1.80		Unsaturated	6.7			125.01	1.46	181.97	183.58	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	79.690	1.594	747.6	747.6	126.124	2.010	2.05		Unsaturated	26.9			75.32	1.48	111.81	164.85	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	46.390	1.346	768.0	768.0	72.178	2.926	2.33		Unsaturated	49.6			43.85	1.55	68.10	131.96	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	18.290	0.951	787.2	787.2	45.468	5.313	2.66		Unsaturated	75.7			17.29	1.68	29.01	89.06	0.99	0.736	1.097	n.a.	n.a.	n.a.	0.00	0.00
6.730	17.080	0.738	807.6	807.6	41.298	4.427	2.63		Unsaturated	73.4			16.14	1.67	26.92	85.99	0.99	0.736	1.092	n.a.	n.a.	n.a.	0.00	0.00
6.890	16.580	0.840	826.8	826.8	39.106	5.194	2.70		Unsaturated	78.7			15.67	1.65	25.84	85.42	0.99	0.735	1.089	n.a.	n.a.	n.a.	0.00	0.00
7.050	16.240	0.900	846.0	846.0	37.392	5.687	2.74		Unsaturated	82.1			15.35	1.63	25.04	84.84	0.99	0.735	1.087	n.a.	n.a.	n.a.	0.00	0.00
7.220	16.590	0.948	866.4	866.4	37.296	5.864	2.75		Unsaturated	82.9			15.68	1.61	25.24	85.20	0.99	0.734	1.085	n.a.	n.a.	n.a.	0.00	0.00
7.380	16.300	0.965	885.6	885.6	35.811	6.083	2.77		Unsaturated	84.8			15.41	1.59	24.54	84.54	0.98	0.734	1.082	n.a.	n.a.	n.a.	0.00	0.00
7.550	16.200	0.961	906.0	906.0	34.762	6.103	2.78		Unsaturated	85.6			15.31	1.58	24.12	84.08	0.98	0.734	1.080	n.a.	n.a.	n.a.	0.00	0.00
7.710	16.190	0.921	925.2	925.2	33.998	5.855	2.78		Unsaturated	85.1			15.30	1.56	23.86	83.68	0.98	0.733	1.077	n.a.	n.a.	n.a.	0.00	0.00
7.870	16.320	0.901	944.4	944.4	33.562	5.683	2.77		Unsaturated	84.7			15.43	1.54	23.79	83.54	0.98	0.733	1.075	n.a.	n.a.	n.a.	0.00	0.00
8.040	16.860	0.931	964.8	964.8	33.950	5.687	2.77		Clay	84.4			15.94	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	18.620	0.958	984.0	984.0	36.846	5.286	2.72		Clay	80.6			17.60	1.22	n.a.	n.a.	0.98	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	19.480	1.109	1004.4	1004.4	37.789	5.843	2.74		Clay	82.5			18.41	1.22	n.a.	n.a.	0.98	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	19.990	1.121	1023.6	1023.6	38.058	5.754	2.74		Clay	82.0			18.89	1.21	n.a.	n.a.	0.98	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	20.500	1.069	1042.8	1042.8	38.317	5.349	2.71		Clay	80.0			19.38	1.21	n.a.	n.a.	0.98	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	20.250	1.005	1063.2	1063.2	37.093	5.095	2.71		Clay	79.5			19.14	1.20	n.a.	n.a.	0.98	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	20.170	0.980	1082.4	1082.4	36.269	4.990	2.71		Clay	79.6			19.06	1.19	n.a.	n.a.	0.98	0.775	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	20.010	0.975	1102.8	1102.8	35.289	5.012	2.72		Clay	80.4			18.91	1.19	n.a.	n.a.	0.98	0.782	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	20.420	0.943	1122.0	1122.0	35.399	4.749	2.70		Clay	79.0			19.30	1.18	n.a.	n.a.	0.98	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	20.480	0.908	1141.2	1141.2	34.892	4.561	2.69		Clay	78.3			19.36	1.18	n.a.	n.a.	0.98	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	21.650	0.981	1161.6	1161.6	36.276	4.654	2.69		Clay	77.9			20.46	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	24.350	1.122	1180.8	1180.8	40.243	4.724	2.66		Clay	75.7			23.02	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	26.780	1.241	1201.2	1201.2	43.589	4.739	2.64		Clay	73.8			25.31	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	29.060	1.304	1220.4	1220.4	46.624	4.584	2.60		Clay	71.4			27.47	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	30.100	1.343	1239.6	1239.6	40.514	4.554	2.65	plastic	Clay	74.6			28.45	1.15	n.a.	n.a.	0.97	0.822	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	31.100	1.397	1260.0	1260.0	41.399	4.586	2.64	plastic	Clay	74.3			29.40	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	32.240	1.421	1279.2	1279.2	42.483	4.498	2.63	plastic	Clay	73.1			30.47	1.14	n.a.	n.a.	0.97	0.833	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	34.570	1.467	1299.6	1299.6	45.099	4.324	2.60	plastic	Clay	70.7			32.67	1.14	n.a.	n.a.	0.97	0.838	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	37.690	1.521	1318.8	1318.8	44.335	4.108	2.59	plastic	Clay	69.9	41.37	1.55	64.12	1.13	n.a.	n.a.	0.97	0.843	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	1.15

Total Settlement:	0.27	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	40.320	1.632	1338.0	1328.6	47.296	4.116	2.57	plastic	Clay	68.3	41.37	1.55	64.12	1.13	n.a.	n.a.	0.97	0.848	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	42.760	1.719	1358.4	1338.4	50.010	4.085	2.55	plastic	Clay	66.8	41.37	1.55	64.12	1.13	n.a.	n.a.	0.97	0.853	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	43.770	1.757	1377.6	1347.6	51.024	4.079	2.54	plastic	Clay	66.3		1.55	64.12	1.13	n.a.	n.a.	0.97	0.858	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	42.730	1.727	1398.0	1357.4	49.600	4.108	2.55	plastic	Clay	67.1	41.37	1.55	64.12	1.12	n.a.	n.a.	0.97	0.863	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	41.600	1.660	1417.2	1366.7	48.092	4.058	2.56	plastic	Clay	67.6	41.37	1.55	64.12	1.12	n.a.	n.a.	0.97	0.867	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	40.500	1.593	1437.6	1376.4	46.620	4.005	2.56	plastic	Clay	68.0	41.37	1.55	64.12	1.12	n.a.	n.a.	0.97	0.872	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	39.110	1.527	1456.8	1385.7	44.830	3.980	2.57	plastic	Clay	68.8	41.37	1.55	64.12	1.12	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	36.570	1.412	1476.0	1394.9	41.713	3.940	2.59	plastic	Clay	70.3	41.37	1.55	64.12	1.12	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	33.410	1.265	1496.4	1404.7	41.126	3.872	2.59	plastic	Clay	70.3			31.58	1.11	n.a.	n.a.	0.97	0.885	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	31.800	1.088	1515.6	1413.9	38.908	3.506	2.58	plastic	Clay	69.3			30.06	1.11	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	30.590	1.011	1536.0	1423.7	37.198	3.388	2.58	plastic	Clay	69.6			28.91	1.11	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	30.530	1.035	1555.2	1432.9	36.944	3.480	2.59	plastic	Clay	70.4			28.86	1.11	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	30.100	1.067	1574.4	1442.1	36.235	3.639	2.61	plastic	Clay	72.0			28.45	1.11	n.a.	n.a.	0.96	0.900	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	27.370	1.010	1594.8	1451.9	36.604	3.800	2.62		Clay	72.7			25.87	1.10	n.a.	n.a.	0.96	0.904	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	27.550	1.002	1614.0	1461.1	36.606	3.745	2.62		Clay	72.4			26.04	1.10	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	28.120	0.997	1634.4	1470.9	37.124	3.651	2.61		Clay	71.4			26.58	1.10	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	25.890	1.025	1653.6	1480.1	33.866	4.091	2.67		Clay	76.5			24.47	1.10	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	23.780	0.978	1672.8	1489.3	30.810	4.260	2.71		Clay	79.8			22.48	1.10	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	23.200	0.840	1693.2	1499.1	29.822	3.758	2.68		Clay	77.7			21.93	1.10	n.a.	n.a.	0.96	0.922	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	21.440	0.824	1712.4	1508.4	27.293	4.004	2.73		Clay	81.5			20.26	1.09	n.a.	n.a.	0.96	0.926	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	20.030	0.872	1732.8	1518.1	25.246	4.548	2.79		Clay	86.5			18.93	1.09	n.a.	n.a.	0.96	0.929	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	21.110	1.181	1752.0	1527.4	26.495	5.838	2.85		Clay	91.2			19.95	1.09	n.a.	n.a.	0.96	0.932	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	22.840	1.512	1771.2	1536.6	28.576	6.885	2.88		Clay	93.4			21.59	1.09	n.a.	n.a.	0.96	0.935	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	24.240	1.340	1791.6	1546.4	30.192	5.742	2.81		Clay	87.5			22.91	1.09	n.a.	n.a.	0.96	0.939	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	33.910	1.223	1810.8	1555.6	38.692	3.704	2.60	plastic	Clay	70.7			32.05	1.08	n.a.	n.a.	0.95	0.942	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	25.160	0.929	1831.2	1565.4	30.976	3.830	2.68		Clay	77.2			23.78	1.08	n.a.	n.a.	0.95	0.945	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	19.350	0.739	1850.4	1574.6	23.403	4.009	2.78		Clay	85.5			18.29	1.08	n.a.	n.a.	0.95	0.948	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	16.180	0.575	1869.6	1583.8	19.251	3.774	2.83		Clay	89.3			15.29	1.08	n.a.	n.a.	0.95	0.950	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	14.530	0.538	1890.0	1593.6	17.049	3.962	2.88		Clay	93.7			13.73	1.08	n.a.	n.a.	0.95	0.953	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	12.480	0.465	1909.2	1602.8	14.381	4.036	2.95		Clay	98.7			11.80	1.08	n.a.	n.a.	0.95	0.956	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	10.600	0.479	1929.6	1612.6	11.950	4.972	3.07		Clay	100.0			10.02	1.07	n.a.	n.a.	0.95	0.959	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	10.140	0.403	1948.8	1621.8	11.303	4.393	3.05		Clay	100.0			9.58	1.07	n.a.	n.a.	0.95	0.962	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	8.020	0.313	1968.0	1631.0	8.628	4.446	3.15		Clay	100.0			7.58	1.07	n.a.	n.a.	0.95	0.964	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	5.330	0.453	1988.4	1640.8	5.285	10.455	3.54		Clay	100.0			5.04	1.07	n.a.	n.a.	0.95	0.967	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	7.060	0.968	2007.6	1650.0	7.341	15.990	3.56		Clay	100.0			6.67	1.07	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	15.440	1.062	2028.0	1659.8	17.382	7.360	3.05		Clay	100.0			14.59	1.07	n.a.	n.a.	0.95	0.972	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	24.530	1.337	2047.2	1669.1	28.167	5.687	2.83		Clay	89.0			23.19	1.06	n.a.	n.a.	0.95	0.974	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	35.200	2.095	2066.4	1678.3	40.717	6.132	2.74		Clay	82.0			33.27	1.06	n.a.	n.a.	0.95	0.977	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	40.820	1.990	2086.8	1688.1	47.127	5.002	2.63		Clay	73.3			38.58	1.06	n.a.	n.a.	0.94	0.979	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	35.280	1.703	2106.0	1697.3	40.332	4.975	2.67		Clay	76.9			33.35	1.06	n.a.	n.a.	0.94	0.981	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	26.720	2.225	2126.4	1707.1	30.059	8.673	2.94		Clay	98.0			25.26	1.06	n.a.	n.a.	0.94	0.983	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	50.440	2.857	2145.6	1716.3	57.528	5.788	2.62		Clay	72.5			47.67	1.06	n.a.	n.a.	0.94	0.986	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	75.740	2.966	2164.8	1725.5	78.143	3.973	2.41		Sand	55.6		1.8	128.86	1.06	137.02	222.25	0.94	0.988	1.061	8.512	19.873	20.12	0.00	0.00
18.210	62.120	2.024	2185.2	1735.3	63.696	3.316	2.41		Sand	55.7	71.59	1.8	128.86	1.06	136.80	222.03	0.94	0.990	1.060	8.365	19.498	19.70	0.00	0.00
18.370	33.260	1.025	2204.4	1744.5	33.475	3.188	2.60		Sand	70.9	71.59	1.8	128.86	1.06	136.42	227.04	0.94	0.992	1.058	12.658	29.461	29.70	0.00	0.00
18.540	25.240	0.961	2224.8	1754.3	27.507	3.985	2.73		Clay	81.2			23.86	1.05	n.a.	n.a.	0.94	0.994	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	26.020	1.049	2244.0	1763.5	28.237	4.213	2.73		Clay	81.8			24.59	1.05	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	26.420	1.077	2263.2	1772.7	28.530	4.257	2.73		Clay	81.8			24.97	1.05	n.a.	n.a.	0.94	0.998	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	25.590	1.117	2283.6	1782.5	27.431	4.567	2.77		Clay	84.4			24.19	1.05	n.a.	n.a.	0.94	1.000	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	25.460	1.084	2302.8	1791.7	27.134	4.461	2.76		Clay	84.2			24.06	1.04	n.a.	n.a.	0.94	1.002	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	25.630	1.032	2323.2	1801.5	27.164	4.219	2.75		Clay	82.8			24.22	1.04	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	24.440	0.979	2342.4	1810.8	25.701	4.208	2.76		Clay	84.2			23.10	1.04	n.a.	n.a.	0.93	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	23.990	1.017	2362.8	1820.5	25.057	4.458	2.79		Clay	86.2			22.67	1.04	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	22.190	0.902	2382.0	1829.8	22.953	4.297	2.81		Clay	87.6			20.97	1.04	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	20.290	0.811	2401.2	1839.0	20.761	4.246	2.84		Clay	90.0			19.18	1.04	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	20.190	0.878	2421.6	1848.8	20.532	4.625	2.87		Clay	92.2			19.08	1.04	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	21.650	0.850	2440.8	1858.0	21.991	4.161	2.81		Clay	88.0			20.46	1.03	n.a.	n.a.	0.93	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	24.350	0.900	2461.2	1867.8	24.756	3.892	2.75		Clay	83.4			23.02	1.03	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	25.100	0.961	2480.4	1877.0	25.423	4.028	2.76		Clay	83.5			23.72	1.03	n.a.	n.a.	0.93	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	27.270	1.009	2499.6	1886.2	27.590	3.877	2.72		Clay	80.5			25.78	1.03	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	28.130	1.280	2520.0	1896.0	28.344	4.764	2.77		Clay	84.6			26.59	1.03	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	28.870	1.935	2539.2	1905.2	28.974	7.012	2.88		Clay	93.5			27.29	1.03	n.a.	n.a.	0.93	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	42.540	2.100	2559.6	1915.0	43.091	5.089	2.66		Clay	75.9			40.21	1.03	n.a.	n.a.	0.93	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	54.000	1.860	2578.8	1924.2	52.245	3.528	2.49		Sand	62.1			51.04	1.04	53.33	117.58	0.93	1.024	1.012	0.166	0.230	0.22	0.03	0.05
21.650	41.150	1.531	2598.0	1933.4	40.122	3.841	2.60		Mixed	70.7	51.04		51.04	1.04	53.19	119.45	0.92	1.026	1.011	0.170	0.238	0.23	0.03	0.05
21.820	35.840	1.426	2618.4	1943.2	35.540	4.131	2.66		Clay	75.5			33.88	1.02	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	36.540	1.434	2637.6	1952.4	36.079	4.071	2.65		Clay	74.8			34.54	1.02	n.a.	n.a.	0.92	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	1.15

Total Settlement:	0.27	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	43.570	1.596	2658.0	1962.2	41.460	3.778	2.58		Sand	69.5	47.49		47.49	1.04	49.20	114.04	0.92	1.030	1.009	0.159	0.216	0.21	0.03	0.05
22.310	50.240	1.785	2677.2	1971.5	47.885	3.651	2.53		Sand	65.1			47.49	1.03	49.09	112.91	0.92	1.031	1.008	0.157	0.212	0.21	0.03	0.05
22.470	38.640	1.799	2696.4	1980.7	37.656	4.825	2.69		Clay	77.8			36.52	1.02	n.a.	n.a.	0.92	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	34.680	1.673	2716.8	1990.5	33.481	5.021	2.73		Clay	81.7			32.78	1.02	n.a.	n.a.	0.92	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	31.910	1.707	2736.0	1999.7	30.547	5.590	2.79		Clay	86.6			30.16	1.02	n.a.	n.a.	0.92	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	29.100	1.725	2756.4	2009.5	27.591	6.221	2.86		Clay	91.7			27.50	1.01	n.a.	n.a.	0.92	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	31.800	1.603	2775.6	2018.7	30.131	5.271	2.78		Clay	85.5			30.06	1.01	n.a.	n.a.	0.92	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	32.310	1.966	2794.8	2027.9	30.487	6.361	2.84		Clay	89.8			30.54	1.01	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	36.360	2.274	2815.2	2037.7	34.306	6.506	2.81		Clay	87.5			34.37	1.01	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	74.690	2.214	2834.4	2046.9	70.415	3.022	2.35		Sand	51.0	133.82	1.36	182.00	1.01	183.60	278.89	0.92	1.040	1.010	8211.617	18245.465	17547.60	0.00	0.00
23.790	80.180	2.730	2854.8	2056.7	75.501	3.467	2.37		Sand	52.9	133.82	1.36	182.00	1.01	183.37	279.74	0.91	1.041	1.009	9505.655	21090.757	20263.68	0.00	0.00
23.950	141.580	3.668	2874.0	2065.9	134.056	2.617	2.12		Sand	32.4		1.36	181.99	1.01	183.15	259.60	0.91	1.042	1.007	437.832	970.152	931.25	0.00	0.00
24.110	137.350	3.594	2893.2	2075.1	129.712	2.645	2.13		Sand	33.4		1.36	176.56	1.01	177.47	254.20	0.91	1.043	1.006	217.264	480.776	461.08	0.00	0.00
24.280	128.820	3.640	2913.6	2084.9	121.275	2.858	2.18		Sand	37.0		1.36	165.59	1.00	166.26	245.08	0.91	1.044	1.004	74.140	163.832	156.97	0.00	0.00
24.440	135.980	3.941	2932.8	2094.1	127.801	2.930	2.17		Sand	36.5		1.36	174.79	1.00	175.27	255.60	0.91	1.045	1.003	259.260	572.148	547.73	0.00	0.00
24.610	105.600	3.242	2953.2	2103.9	98.697	3.113	2.26		Sand	43.9		1.36	135.74	1.00	135.98	213.95	0.91	1.045	1.002	4.563	10.057	9.62	0.00	0.00
24.770	108.390	3.464	2972.4	2113.2	101.111	3.240	2.27		Sand	44.4		1.36	139.33	1.00	139.39	218.60	0.91	1.046	1.000	6.406	14.099	13.47	0.00	0.00
24.930	89.310	4.249	2991.6	2122.4	82.876	4.839	2.46		Sand	59.5		1.36	114.80	1.00	114.69	195.38	0.91	1.047	0.999	1.471	3.234	3.09	0.00	0.00
25.100	126.270	5.353	3012.0	2132.2	117.477	4.290	2.32		Sand	48.8		1.36	162.31	1.00	161.98	250.09	0.91	1.048	0.998	131.577	288.809	275.58	0.00	0.00
25.260	148.970	5.378	3031.2	2141.4	138.543	3.647	2.22		Sand	40.8		1.36	191.49	1.00	190.89	279.73	0.91	1.049	0.996	9485.609	20793.708	19826.21	0.00	0.00
25.430	132.080	3.593	3051.6	2151.2	122.384	2.752	2.16		Sand	35.8	140.8	1.36	191.49	1.00	190.66	273.58	0.91	1.050	0.995	3415.165	7476.208	7122.87	0.00	0.00
25.590	52.790	1.930	3070.8	2160.4	47.945	3.766	2.54		Sand	65.8	140.8	1.36	191.49	0.99	190.44	295.02	0.91	1.050	0.994	##########	########	354311.59	0.00	0.00
25.750	38.030	1.483	3090.0	2169.6	33.633	4.064	2.67		Clay	76.5			35.95	0.99	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	33.430	1.536	3110.4	2179.4	29.251	4.820	2.76		Clay	84.1			31.60	0.99	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	31.510	2.004	3129.6	2188.6	27.365	6.693	2.88		Clay	93.7			29.78	0.99	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	59.810	2.591	3150.0	2198.4	54.001	4.449	2.55		Sand	67.1	68.62	1.8	123.52	0.99	122.02	207.35	0.90	1.053	0.989	2.934	6.384	6.06	0.00	0.00
26.410	72.600	2.246	3169.2	2207.6	65.715	3.163	2.39		Sand	53.8		1.8	123.52	0.99	121.82	202.05	0.90	1.054	0.989	2.125	4.621	4.39	0.00	0.00
26.570	43.460	1.440	3188.4	2216.8	38.660	3.440	2.57		Sand	69.0	68.62	1.8	123.52	0.99	121.69	207.48	0.90	1.054	0.987	2.958	6.421	6.09	0.00	0.00
26.740	31.150	1.076	3208.8	2226.6	26.538	3.641	2.71		Clay	80.0			29.44	0.99	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	24.780	0.789	3228.0	2235.8	20.722	3.406	2.78		Clay	85.1			23.42	0.99	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	20.860	0.623	3248.4	2245.6	17.132	3.237	2.83		Clay	89.2			19.72	0.98	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	19.110	0.699	3267.6	2254.8	15.501	3.998	2.92		Clay	96.5			18.06	0.98	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	21.700	0.780	3288.0	2264.6	17.712	3.889	2.87		Clay	92.2			20.51	0.98	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	25.590	0.831	3307.2	2273.9	21.054	3.472	2.78		Clay	85.1			24.19	0.98	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	24.030	0.827	3326.4	2283.1	19.594	3.697	2.82		Clay	88.4			22.71	0.98	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	21.890	0.742	3346.8	2292.9	17.634	3.668	2.85		Clay	91.1			20.69	0.98	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	20.830	0.866	3366.0	2302.1	16.635	4.523	2.93		Clay	97.3			19.69	0.98	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	23.140	1.023	3386.4	2311.9	18.554	4.770	2.91		Clay	95.6			21.87	0.98	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	26.630	1.153	3405.6	2321.1	21.479	4.627	2.85		Clay	91.0			25.17	0.98	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	30.280	1.155	3424.8	2330.3	24.518	4.041	2.77		Clay	84.5			28.62	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	30.410	1.119	3445.2	2340.1	24.518	3.899	2.76		Clay	83.7			28.74	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	30.120	1.084	3464.4	2349.3	24.167	3.820	2.76		Clay	83.6			28.47	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	29.300	1.084	3484.8	2359.1	23.363	3.935	2.78		Clay	85.1			27.69	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	26.770	0.967	3504.0	2368.3	21.127	3.867	2.81		Clay	87.4			25.30	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	23.410	0.892	3523.2	2377.5	18.211	4.121	2.87		Clay	92.8			22.13	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	21.740	0.857	3543.6	2387.3	16.728	4.292	2.91		Clay	96.0			20.55	0.97	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	20.990	0.799	3562.8	2396.5	16.030	4.161	2.92		Clay	96.4			19.84	0.97	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	21.240	0.990	3583.2	2406.3	16.164	5.092	2.97		Clay	100.0			20.08	0.97	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	21.450	1.217	3602.4	2415.6	16.269	6.193	3.02		Clay	100.0			20.27	0.97	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	29.090	1.565	3621.6	2424.8	22.500	5.735	2.90		Clay	94.9			27.50	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	33.310	1.659	3642.0	2434.6	25.868	5.269	2.83		Clay	89.3			31.48	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	55.870	1.760	3661.2	2443.8	47.528	3.257	2.49		Sand	62.5		1.8	95.05	0.95	89.99	164.75	0.88	1.064	0.974	0.426	0.770	0.72	0.01	0.03
30.680	49.450	1.411	3681.6	2453.6	41.789	2.965	2.51		Sand	63.5	52.81	1.8	95.06	0.95	89.86	164.89	0.88	1.065	0.973	0.428	0.774	0.73	0.01	0.03
30.840	33.140	1.360	3700.8	2462.8	25.410	4.346	2.78		Clay	85.2			31.32	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	24.150	1.149	3720.0	2472.0	18.034	5.156	2.94		Clay	98.1			22.83	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	24.160	1.044	3740.4	2481.8	17.963	4.683	2.91		Clay	96.0			22.84	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	23.260	0.956	3759.6	2491.0	17.166	4.471	2.91		Clay	96.2			21.98	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	24.060	0.895	3780.0	2500.8	17.730	4.038	2.88		Clay	93.0			22.74	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	24.560	0.879	3799.2	2510.0	18.056	3.880	2.86		Clay	91.7			23.21	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	25.520	0.942	3818.4	2519.2	18.744	3.990	2.85		Clay	91.3			24.12	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	27.290	1.145	3838.8	2529.0	20.064	4.512	2.87		Clay	92.3			25.79	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	29.790	1.331	3858.0	2538.2	21.953	4.778	2.85		Clay	91.2			28.16	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	34.310	1.403	3878.4	2548.0	25.408	4.335	2.78		Clay	85.2			32.43	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	35.180	1.830	3897.6	2557.2	25.990	5.507	2.84		Clay	90.3			33.25	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	37.020	1.901	3916.8	2566.5	27.323	5.421	2.82		Clay	88.6			34.99	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	45.270	2.178	3937.2	2576.3	33.616	5.030	2.73		Clay	81.6			42.79	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	48.270	2.438	3956.4	2585.5	35.809	5.266	2.73		Clay	81.2			45.62	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 8

PGA (A_{max}) 1.15

Total Settlement: 0.27 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	55.990	3.217	3976.8	2595.3	41.615	5.958	2.72		Clay	80.7			52.92	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	74.650	3.629	3996.0	2604.5	61.896	4.995	2.55		Sand	66.9	87.96	1.8	158.33	0.94	149.49	242.68	0.87	1.066	0.938	57.051	117.691	110.37	0.00	0.00
33.460	93.060	2.849	4015.2	2613.7	77.435	3.129	2.33		Sand	49.6		1.8	158.33	0.94	149.03	234.27	0.86	1.066	0.937	24.366	50.208	47.09	0.00	0.00
33.630	92.260	2.894	4035.6	2623.5	76.602	3.207	2.34		Sand	50.5	87.96	1.8	158.33	0.94	148.88	234.63	0.86	1.066	0.936	25.205	51.874	48.65	0.00	0.00
33.790	77.990	2.265	4054.8	2632.7	64.368	2.982	2.37		Sand	52.8	87.96	1.8	158.33	0.94	148.78	235.82	0.86	1.066	0.934	28.269	58.116	54.50	0.00	0.00
33.960	41.200	1.624	4075.2	2642.5	29.640	4.147	2.71		Clay	80.2			38.94	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	27.790	1.363	4094.4	2651.7	19.416	5.294	2.92		Clay	96.8			26.27	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	23.140	1.003	4113.6	2660.9	15.847	4.756	2.96		Clay	99.7			21.87	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	22.160	0.863	4134.0	2670.7	15.047	4.295	2.95		Clay	98.8			20.95	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	23.780	0.790	4153.2	2679.9	16.197	3.638	2.88		Clay	93.2			22.48	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	27.700	0.995	4173.6	2689.7	19.045	3.883	2.84		Clay	90.3			26.18	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	28.340	1.138	4192.8	2698.9	19.447	4.335	2.86		Clay	92.2			26.79	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	29.990	1.198	4212.0	2708.2	20.593	4.297	2.84		Clay	90.5			28.35	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	33.030	1.132	4232.4	2718.0	22.748	3.663	2.77		Clay	84.2			31.22	0.94	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	32.510	1.095	4251.6	2727.2	22.283	3.602	2.77		Clay	84.4			30.73	0.94	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	34.270	1.090	4272.0	2737.0	23.482	3.393	2.73		Clay	81.7			32.39	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	34.350	1.122	4291.2	2746.2	23.454	3.482	2.74		Clay	82.3			32.47	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	31.230	1.149	4311.6	2756.0	21.099	3.950	2.81		Clay	87.9			29.52	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	27.670	1.152	4330.8	2765.2	18.447	4.515	2.89		Clay	94.5			26.15	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	23.630	0.882	4350.0	2774.4	15.466	4.111	2.93		Clay	97.1			22.33	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	21.760	0.809	4370.4	2784.2	14.061	4.131	2.96		Clay	99.8			20.57	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	20.450	0.742	4389.6	2793.4	13.070	4.064	2.98		Clay	100.0			19.33	0.93	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	23.720	0.818	4410.0	2803.2	15.350	3.801	2.91		Clay	95.6			22.42	0.93	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	20.100	0.866	4429.2	2812.4	12.719	4.840	3.04		Clay	100.0			19.00	0.93	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	20.780	0.680	4448.4	2821.6	13.153	3.666	2.95		Clay	99.1			19.64	0.93	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	23.370	0.623	4468.8	2831.4	14.929	2.949	2.85		Clay	91.1			22.09	0.93	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	19.620	0.726	4488.0	2840.6	12.234	4.178	3.01		Clay	100.0			18.54	0.93	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	22.170	0.840	4508.4	2850.4	13.974	4.215	2.97		Clay	100.0			20.95	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	25.290	0.933	4527.6	2859.6	16.104	4.051	2.91		Clay	95.7			23.90	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	25.300	0.878	4546.8	2868.9	16.053	3.811	2.89		Clay	94.5			23.91	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	25.330	0.847	4567.2	2878.7	16.012	3.673	2.88		Clay	93.7			23.94	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	25.760	0.842	4586.4	2887.9	16.252	3.588	2.87		Clay	92.8			24.35	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	27.370	0.887	4606.8	2897.7	17.301	3.539	2.85		Clay	90.8			25.87	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	28.670	0.986	4626.0	2906.9	18.134	3.741	2.85		Clay	90.8			27.10	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	29.740	1.036	4645.2	2916.1	18.804	3.779	2.84		Clay	90.0			28.11	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	28.210	1.076	4665.6	2925.9	17.688	4.158	2.88		Clay	93.8			26.66	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	27.750	1.229	4684.8	2935.1	17.313	4.836	2.93		Clay	97.7			26.23	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	24.350	1.201	4705.2	2944.9	14.939	5.458	3.02		Clay	100.0			23.02	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	22.690	1.014	4724.4	2954.1	13.762	4.990	3.02		Clay	100.0			21.45	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	20.890	0.776	4743.6	2963.3	12.498	4.189	3.00		Clay	100.0			19.74	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	20.580	1.059	4764.0	2973.1	12.242	5.818	3.10		Clay	100.0			19.45	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	20.520	1.438	4783.2	2982.3	12.157	7.930	3.19		Clay	100.0			19.40	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	37.370	1.378	4803.6	2992.1	23.373	3.941	2.78		Clay	85.2			35.32	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	27.000	1.355	4822.8	3001.3	16.385	5.512	2.99		Clay	100.0			25.52	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	20.710	1.506	4842.0	3010.6	12.150	8.233	3.20		Clay	100.0			19.57	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	25.740	1.492	4862.4	3020.4	15.434	6.402	3.05		Clay	100.0			24.33	0.91	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	43.640	1.104	4881.6	3029.6	27.198	2.681	2.62		Clay	72.5			41.25	0.91	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	23.700	0.501	4902.0	3039.4	13.983	2.357	2.82		Clay	88.4			22.40	0.91	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	21.720	0.535	4921.2	3048.6	12.635	2.775	2.89		Clay	94.5			20.53	0.91	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	19.960	0.613	4940.4	3057.8	11.439	3.504	2.99		Clay	100.0			18.87	0.91	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	20.530	0.554	4960.8	3067.6	11.768	3.067	2.94		Clay	98.5			19.40	0.91	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	24.130	0.575	4980.0	3076.8	14.067	2.655	2.84		Clay	90.6			22.81	0.91	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	23.650	0.712	5000.4	3086.6	13.704	3.368	2.91		Clay	96.2			22.35	0.91	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	27.020	1.023	5019.6	3095.8	15.834	4.174	2.92		Clay	96.8			25.54	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	36.140	1.260	5038.8	3105.0	21.656	3.748	2.79		Clay	86.0			34.16	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	35.980	1.258	5059.2	3114.8	21.478	3.762	2.79		Clay	86.4			34.01	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	27.280	0.914	5078.4	3124.0	15.839	3.695	2.89		Clay	94.2			25.78	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	24.280	0.744	5098.8	3133.8	13.868	3.424	2.92		Clay	96.2			22.95	0.90	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	22.580	0.690	5118.0	3143.0	12.740	3.447	2.95		Clay	98.7			21.34	0.90	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	20.250	0.671	5137.2	3152.3	11.218	3.796	3.02		Clay	100.0			19.14	0.90	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	20.640	0.722	5157.6	3162.0	11.424	3.998	3.02		Clay	100.0			19.51	0.90	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	21.110	0.733	5176.8	3171.3	11.681	3.955	3.01		Clay	100.0			19.95	0.90	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	19.980	0.761	5197.2	3181.1	10.928	4.377	3.06		Clay	100.0			18.88	0.90	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	18.920	0.738	5216.4	3190.3	10.226	4.522	3.09		Clay	100.0			17.88	0.90	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	18.000	0.657	5236.8	3200.1	9.613	4.270	3.10		Clay	100.0			17.01	0.90	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	15.410	0.563	5256.0	3209.3	7.966	4.408	3.17		Clay	100.0			14.57	0.90	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	13.870	0.489	5275.2	3218.5	6.980	4.352	3.22		Clay	100.0			13.11	0.90	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 8

PGA (A_{max}) 1.15

Total Settlement: 0.27 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	13.550	0.436	5295.6	3228.3	6.754	4.001	3.21		Clay	100.0			12.81	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	14.010	0.467	5314.8	3237.5	7.013	4.115	3.20		Clay	100.0			13.24	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	14.960	0.555	5335.2	3247.3	7.571	4.516	3.20		Clay	100.0			14.14	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	20.900	0.597	5354.4	3256.5	11.192	3.274	2.98		Clay	100.0			19.75	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	22.760	0.670	5373.6	3265.7	12.293	3.336	2.95		Clay	99.0			21.51	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	24.370	0.737	5394.0	3275.5	13.233	3.400	2.93		Clay	97.4			23.03	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	26.170	0.690	5413.2	3284.7	14.286	2.940	2.87		Clay	92.2			24.74	0.89	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	25.360	0.709	5433.6	3294.5	13.746	3.131	2.89		Clay	94.6			23.97	0.89	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	24.460	0.724	5452.8	3303.7	13.157	3.331	2.93		Clay	97.1			23.12	0.89	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	25.300	0.728	5472.0	3313.0	13.622	3.225	2.91		Clay	95.5			23.91	0.89	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	26.020	0.773	5492.4	3322.8	14.009	3.322	2.90		Clay	95.3			24.59	0.89	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	24.510	0.745	5511.6	3332.0	13.058	3.426	2.94		Clay	97.9			23.17	0.89	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	21.060	0.752	5532.0	3341.8	10.949	4.109	3.04		Clay	100.0			19.91	0.89	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	18.130	0.630	5551.2	3351.0	9.164	4.105	3.11		Clay	100.0			17.14	0.89	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	16.250	0.490	5570.4	3360.2	8.014	3.638	3.12		Clay	100.0			15.36	0.89	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	15.390	0.415	5590.8	3370.0	7.475	3.294	3.12		Clay	100.0			14.55	0.88	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	15.030	0.361	5610.0	3379.2	7.235	2.951	3.11		Clay	100.0			14.21	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	14.590	0.404	5630.4	3389.0	6.949	3.428	3.16		Clay	100.0			13.79	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	15.240	0.400	5649.6	3398.2	7.307	3.218	3.13		Clay	100.0			14.40	0.88	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	17.520	0.445	5668.8	3407.4	8.620	3.027	3.05		Clay	100.0			16.56	0.88	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	17.880	0.474	5689.2	3417.2	8.800	3.155	3.06		Clay	100.0			16.90	0.88	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	18.690	0.514	5708.4	3426.4	9.243	3.244	3.04		Clay	100.0			17.67	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	19.070	0.484	5728.8	3436.2	9.432	2.985	3.02		Clay	100.0			18.02	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	18.140	0.442	5748.0	3445.4	8.862	2.893	3.03		Clay	100.0			17.15	0.88	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	17.090	0.368	5767.2	3454.7	8.224	2.588	3.03		Clay	100.0			16.15	0.88	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	16.660	0.323	5787.6	3464.4	7.947	2.349	3.02		Clay	100.0			15.75	0.88	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	16.050	0.337	5806.8	3473.7	7.569	2.566	3.06		Clay	100.0			15.17	0.88	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	16.030	0.338	5827.2	3483.5	7.531	2.580	3.06		Clay	100.0			15.15	0.88	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	16.020	0.344	5846.4	3492.7	7.500	2.624	3.07		Clay	100.0			15.14	0.88	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	16.270	0.340	5865.6	3501.9	7.617	2.552	3.06		Clay	100.0			15.38	0.88	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	15.950	0.324	5886.0	3511.7	7.408	2.487	3.06		Clay	100.0			15.08	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	15.340	0.316	5905.2	3520.9	7.037	2.548	3.09		Clay	100.0			14.50	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	16.100	0.319	5925.6	3530.7	7.442	2.427	3.05		Clay	100.0			15.22	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	16.880	0.381	5944.8	3539.9	7.858	2.740	3.06		Clay	100.0			15.95	0.87	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	15.700	0.492	5964.0	3549.1	7.167	3.865	3.18		Clay	100.0			14.84	0.87	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	16.520	0.508	5984.4	3558.9	7.602	3.752	3.15		Clay	100.0			15.61	0.87	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	34.040	0.453	6003.6	3568.1	17.397	1.460	2.62		Clay	72.9			32.17	0.87	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	20.360	0.473	6024.0	3577.9	9.697	2.729	2.98		Clay	100.0			19.24	0.87	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	18.270	0.330	6043.2	3587.1	8.502	2.164	2.98		Clay	100.0			17.27	0.87	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	15.580	0.278	6062.4	3596.4	6.979	2.213	3.06		Clay	100.0			14.73	0.87	n.a.	n.a.	0.77	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	16.340	0.377	6082.8	3606.1	7.376	2.832	3.09		Clay	100.0			15.44	0.87	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	17.970	0.333	6102.0	3615.4	8.253	2.233	3.00		Clay	100.0			16.98	0.87	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	18.470	0.391	6122.4	3625.2	8.501	2.536	3.02		Clay	100.0			17.46	0.87	n.a.	n.a.	0.77	1.022	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	18.130	0.492	6141.6	3634.4	8.287	3.266	3.09		Clay	100.0			17.14	0.87	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	19.510	0.493	6162.0	3644.2	9.017	3.003	3.03		Clay	100.0			18.44	0.87	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	21.080	0.433	6181.2	3653.4	9.848	2.405	2.95		Clay	98.9			19.92	0.87	n.a.	n.a.	0.77	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	20.050	0.425	6200.4	3662.6	9.256	2.506	2.98		Clay	100.0			18.95	0.87	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	18.160	0.390	6220.8	3672.4	8.196	2.592	3.03		Clay	100.0			17.16	0.86	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	17.720	0.392	6240.0	3681.6	7.931	2.682	3.05		Clay	100.0			16.75	0.86	n.a.	n.a.	0.76	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	18.210	0.393	6260.4	3691.4	8.170	2.609	3.04		Clay	100.0			17.21	0.86	n.a.	n.a.	0.76	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	18.740	0.412	6279.6	3700.6	8.431	2.643	3.03		Clay	100.0			17.71	0.86	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	19.340	0.428	6298.8	3709.8	8.729	2.643	3.02		Clay	100.0			18.28	0.86	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	21.340	0.421	6319.2	3719.6	9.775	2.318	2.94		Clay	98.5			20.17	0.86	n.a.	n.a.	0.76	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	21.800	0.533	6338.4	3728.8	9.993	2.862	2.99		Clay	100.0			20.60	0.86	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	22.270	0.640	6358.8	3738.6	10.213	3.353	3.02		Clay	100.0			21.05	0.86	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	22.350	0.685	6378.0	3747.8	10.225	3.572	3.03		Clay	100.0			21.12	0.86	n.a.	n.a.	0.76	1.013	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	22.400	0.697	6397.2	3757.1	10.222	3.629	3.04		Clay	100.0			21.17	0.86	n.a.	n.a.	0.76	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	20.980	0.546	6417.6	3766.8	9.436	3.074	3.02		Clay	100.0			19.83	0.86	n.a.	n.a.	0.76	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	19.630	0.467	6436.8	3776.1	8.692	2.848	3.03		Clay	100.0			18.55	0.86	n.a.	n.a.	0.76	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	19.600	0.439	6457.2	3785.9	8.649	2.679	3.02		Clay	100.0			18.53	0.86	n.a.	n.a.	0.76	1.010	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	20.870	0.518	6476.4	3795.1	9.292	2.938	3.02		Clay	100.0			19.73	0.86	n.a.	n.a.	0.75	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	23.270	0.523	6495.6	3804.3	10.526	2.611	2.94		Clay	98.6			21.99	0.86	n.a.	n.a.	0.75	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	23.060	0.626	6516.0	3814.1	10.384	3.160	3.00		Clay	100.0			21.80	0.86	n.a.	n.a.	0.75	1.008	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	23.010	0.652	6535.2	3823.3	10.327	3.302	3.01		Clay	100.0			21.75	0.86	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	30.520	0.711	6555.6	3833.1	14.214	2.608	2.84		Clay	89.9			28.85	0.85	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	27.550	0.848	6574.8	3842.3	12.629	3.496	2.95		Clay	99.2			26.04	0.85	n.a.	n.a.	0.75	1.006	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	29.020	0.921	6594.0	3851.5	13.357	3.581	2.94		Clay	98.2			27.43	0.85	n.a.	n.a.	0.75	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 9

PGA (A_{max}) 1.15

Total Settlement: 0.45 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	404.450	4.261	19.2	19.2	4013.064	1.053	1.25		Unsaturated	0.0			382.28	1.70	649.87	649.87	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	530.680	6.176	39.6	39.6	3666.410	1.164	1.29		Unsaturated	0.0			501.59	1.70	852.70	852.70	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	535.000	7.184	58.8	58.8	3033.286	1.343	1.35		Unsaturated	0.0			505.67	1.70	859.64	859.64	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	397.840	5.878	79.2	79.2	1943.456	1.478	1.40		Unsaturated	0.0			376.03	1.70	639.25	639.25	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	260.930	6.985	98.4	98.4	1143.449	2.678	1.70		Unsaturated	0.0			246.63	1.70	419.26	419.26	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	198.010	7.132	117.6	117.6	793.646	3.603	1.87		Unsaturated	12.3			187.16	1.70	318.16	344.18	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	203.180	6.248	138.0	138.0	751.737	3.076	1.81		Unsaturated	7.7			192.04	1.70	326.47	331.06	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	151.580	3.213	157.2	157.2	525.367	2.121	1.72		Unsaturated	0.5			143.27	1.70	243.56	243.56	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	124.610	2.706	177.6	177.6	406.251	2.173	1.78		Unsaturated	5.3			117.78	1.70	200.22	200.59	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	113.600	2.594	196.8	196.8	351.772	2.285	1.83		Unsaturated	9.3			107.37	1.70	182.53	190.33	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	73.680	1.925	216.0	216.0	217.650	2.616	1.99		Unsaturated	22.3			69.64	1.70	118.39	163.46	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	45.100	2.145	236.4	236.4	127.199	4.769	2.34		Unsaturated	50.1			42.63	1.70	72.47	137.70	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	29.490	2.690	255.6	255.6	121.863	9.160	2.58		Unsaturated	69.7			27.87	1.70	47.38	111.75	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	67.190	3.064	276.0	276.0	175.481	4.570	2.24		Unsaturated	42.5			63.51	1.70	107.96	177.91	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	65.090	2.644	295.2	295.2	164.340	4.071	2.22		Unsaturated	40.5			61.52	1.70	104.59	172.12	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	47.720	2.356	314.4	314.4	116.627	4.954	2.37		Unsaturated	52.9			45.10	1.70	76.68	144.29	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	42.680	2.547	334.8	334.8	101.018	5.990	2.48		Unsaturated	61.2			40.34	1.70	68.58	136.89	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	65.250	2.483	354.0	354.0	150.374	3.816	2.22		Unsaturated	40.4			61.67	1.70	104.84	172.39	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	45.350	2.313	374.4	374.4	101.481	5.121	2.42		Unsaturated	56.7			42.86	1.70	72.87	140.91	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	31.510	2.657	393.6	393.6	96.065	8.484	2.61		Unsaturated	72.1			29.78	1.70	50.63	116.41	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	65.480	2.948	412.8	412.8	139.682	4.516	2.30		Unsaturated	46.6			61.89	1.70	105.21	177.20	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	78.470	2.643	433.2	433.2	163.467	3.377	2.15		Unsaturated	35.3			74.17	1.70	126.09	193.73	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	44.360	1.997	452.4	452.4	90.216	4.525	2.41		Unsaturated	55.9			41.93	1.70	71.28	138.57	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	27.730	1.605	472.8	472.8	74.188	5.838	2.55		Unsaturated	67.0			26.21	1.70	44.56	107.52	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	28.050	1.340	492.0	492.0	54.500	4.818	2.57		Unsaturated	68.9			26.51	1.70	45.07	108.60	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	16.750	1.032	512.4	512.4	64.379	6.259	2.61		Unsaturated	72.0			15.83	1.70	26.91	85.74	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	15.560	0.916	531.6	531.6	57.540	5.986	2.63		Unsaturated	73.3			14.71	1.70	25.00	83.49	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	16.920	0.908	550.8	550.8	40.360	5.452	2.70		Unsaturated	79.2			15.99	1.70	27.19	87.23	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	17.980	0.926	571.2	571.2	41.827	5.230	2.68		Unsaturated	77.3			16.99	1.70	28.89	89.16	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	18.700	1.014	590.4	590.4	42.511	5.509	2.69		Unsaturated	78.2			17.67	1.70	30.05	90.80	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	19.820	1.098	610.8	610.8	44.015	5.627	2.69		Unsaturated	77.9			18.73	1.70	31.85	93.09	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	19.550	1.104	630.0	630.0	42.455	5.741	2.70		Unsaturated	79.3			18.48	1.70	31.41	92.73	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	17.410	1.111	649.2	649.2	52.635	6.504	2.68		Unsaturated	77.5			16.46	1.70	27.97	88.01	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	17.840	1.123	669.6	669.6	52.286	6.416	2.68		Unsaturated	77.3			16.86	1.70	28.67	88.87	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	19.020	1.169	688.8	688.8	54.226	6.257	2.66		Unsaturated	75.8			17.98	1.70	30.56	91.10	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	17.830	1.224	709.2	709.2	49.282	7.006	2.72		Unsaturated	81.0			16.85	1.70	28.65	89.38	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	17.120	1.226	728.4	728.4	46.007	7.316	2.76		Unsaturated	83.7			16.18	1.70	27.51	88.26	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	18.220	1.236	747.6	747.6	47.743	6.923	2.73		Unsaturated	81.4			17.22	1.70	29.28	90.25	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	18.510	1.246	768.0	768.0	47.203	6.875	2.73		Unsaturated	81.5			17.50	1.69	29.62	90.71	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	19.070	1.230	787.2	787.2	47.450	6.586	2.72		Unsaturated	80.2			18.02	1.67	30.10	91.16	0.99	0.736	1.098	n.a.	n.a.	n.a.	0.00	0.00
6.730	19.390	1.229	807.6	807.6	47.019	6.472	2.71		Unsaturated	80.0			18.33	1.65	30.19	91.25	0.99	0.736	1.096	n.a.	n.a.	n.a.	0.00	0.00
6.890	19.240	1.251	826.8	826.8	45.541	6.643	2.73		Unsaturated	81.4			18.19	1.63	29.63	90.72	0.99	0.735	1.093	n.a.	n.a.	n.a.	0.00	0.00
7.050	20.260	1.264	846.0	846.0	46.896	6.372	2.71		Unsaturated	79.6			19.15	1.61	30.75	91.92	0.99	0.735	1.091	n.a.	n.a.	n.a.	0.00	0.00
7.220	21.030	1.341	866.4	866.4	47.546	6.510	2.71		Unsaturated	79.9			19.88	1.58	31.46	92.89	0.99	0.734	1.090	n.a.	n.a.	n.a.	0.00	0.00
7.380	22.020	1.346	885.6	885.6	48.729	6.239	2.69		Unsaturated	78.2			20.81	1.56	32.50	93.99	0.98	0.734	1.088	n.a.	n.a.	n.a.	0.00	0.00
7.550	23.030	1.312	906.0	906.0	49.839	5.811	2.66		Unsaturated	75.8			21.77	1.54	33.54	94.96	0.98	0.734	1.087	n.a.	n.a.	n.a.	0.00	0.00
7.710	22.780	1.218	925.2	925.2	48.243	5.456	2.65		Unsaturated	75.0			21.53	1.53	32.88	93.97	0.98	0.733	1.084	n.a.	n.a.	n.a.	0.00	0.00
7.870	22.080	1.191	944.4	944.4	45.760	5.514	2.67		Unsaturated	76.5			20.87	1.52	31.62	92.58	0.98	0.733	1.081	n.a.	n.a.	n.a.	0.00	0.00
8.040	21.630	1.190	964.8	964.8	43.838	5.625	2.69		Clay	78.0			20.44	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	21.790	1.113	984.0	984.0	43.289	5.223	2.67		Clay	76.4			20.60	1.22	n.a.	n.a.	0.98	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	21.000	1.043	1004.4	1004.4	40.816	5.087	2.68		Clay	77.2			19.85	1.22	n.a.	n.a.	0.98	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	20.190	1.017	1023.6	1023.6	38.449	5.169	2.70		Clay	79.0			19.08	1.21	n.a.	n.a.	0.98	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	21.310	1.133	1042.8	1042.8	39.871	5.451	2.71		Clay	79.5			20.14	1.21	n.a.	n.a.	0.98	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	23.310	1.225	1063.2	1063.2	42.849	5.379	2.68		Clay	77.4			22.03	1.20	n.a.	n.a.	0.98	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	23.290	1.211	1082.4	1082.4	42.034	5.321	2.68		Clay	77.6			22.01	1.19	n.a.	n.a.	0.98	0.775	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	23.070	1.128	1102.8	1102.8	40.839	5.011	2.67		Clay	76.8			21.81	1.19	n.a.	n.a.	0.98	0.782	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	23.160	1.103	1122.0	1122.0	40.283	4.881	2.67		Clay	76.5			21.89	1.18	n.a.	n.a.	0.98	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	24.850	1.190	1141.2	1141.2	42.551	4.903	2.65		Clay	75.3			23.49	1.18	n.a.	n.a.	0.98	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	27.310	1.338	1161.6	1161.6	46.021	5.006	2.64		Clay	73.9			25.81	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	28.930	1.582	1180.8	1180.8	48.001	5.581	2.66		Clay	75.7			27.34	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	32.510	1.736	1201.2	1201.2	53.129	5.441	2.62		Clay	72.7			30.73	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	32.430	1.770	1220.4	1220.4	52.147	5.561	2.63		Clay	73.7			30.65	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	30.880	1.698	1239.6	1239.6	48.823	5.613	2.66		Clay	75.4			29.19	1.15	n.a.	n.a.	0.97	0.822	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	29.560	1.592	1260.0	1260.0	45.921	5.503	2.67		Clay	76.4			27.94	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	29.580	1.513	1279.2	1279.2	45.248	5.229	2.66		Clay	75.4			27.96	1.14	n.a.	n.a.	0.97	0.833	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	29.160	1.544	1299.6	1299.6	43.875	5.415	2.68		Clay	77.0			27.56	1.14	n.a.	n.a.	0.97	0.838	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	29.030	1.429	1318.8	1318.8	43.025	5.036	2.66		Clay	75.7			27.44	1.13	n.a.	n.a.	0.97	0.843	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 9

PGA (A_{max}) 1.15

Total Settlement: 0.45 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	30.230	1.404	1338.0	1328.6	44.498	4.748	2.63		Clay	73.4			28.57	1.13	n.a.	n.a.	0.97	0.848	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	30.410	1.420	1358.4	1338.4	44.426	4.777	2.63		Clay	73.6			28.74	1.13	n.a.	n.a.	0.97	0.853	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	30.530	1.327	1377.6	1347.6	44.286	4.446	2.61		Clay	71.9			28.86	1.13	n.a.	n.a.	0.97	0.858	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	29.410	1.276	1398.0	1357.4	42.302	4.443	2.62		Clay	72.9			27.80	1.12	n.a.	n.a.	0.97	0.863	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	31.590	1.268	1417.2	1366.7	39.638	4.105	2.62	plastic	Clay	72.6			29.86	1.12	n.a.	n.a.	0.97	0.867	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	31.890	1.180	1437.6	1376.4	39.810	3.784	2.59	plastic	Clay	70.5			30.14	1.12	n.a.	n.a.	0.97	0.872	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	29.610	1.106	1456.8	1385.7	36.714	3.829	2.62	plastic	Clay	72.9			27.99	1.12	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	25.740	1.001	1476.0	1394.9	35.848	4.002	2.64		Clay	74.5			24.33	1.12	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	21.950	0.904	1496.4	1404.7	30.188	4.263	2.72		Clay	80.4			20.75	1.11	n.a.	n.a.	0.97	0.885	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	19.130	0.932	1515.6	1413.9	25.988	5.071	2.82		Clay	88.3			18.08	1.11	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	26.280	0.895	1536.0	1423.7	35.840	3.509	2.60		Clay	71.4			24.84	1.11	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	23.800	0.884	1555.2	1432.9	32.134	3.841	2.67		Clay	76.3			22.50	1.11	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	16.710	0.772	1574.4	1442.1	22.083	4.850	2.86		Clay	91.4			15.79	1.11	n.a.	n.a.	0.96	0.900	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	11.840	0.660	1594.8	1451.9	15.211	5.980	3.04		Clay	100.0			11.19	1.10	n.a.	n.a.	0.96	0.904	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	9.640	0.653	1614.0	1461.1	12.091	7.393	3.17		Clay	100.0			9.11	1.10	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	10.650	0.830	1634.4	1470.9	13.370	8.440	3.18		Clay	100.0			10.07	1.10	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	15.040	1.287	1653.6	1480.1	19.205	9.057	3.09		Clay	100.0			14.22	1.10	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	23.810	1.709	1672.8	1489.3	30.851	7.438	2.88		Clay	93.4			22.50	1.10	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	39.330	2.221	1693.2	1499.1	51.341	5.772	2.65		Clay	75.0			37.17	1.10	n.a.	n.a.	0.96	0.922	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	46.470	2.790	1712.4	1508.4	60.482	6.116	2.62		Clay	72.8			43.92	1.09	n.a.	n.a.	0.96	0.926	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	70.790	2.479	1732.8	1518.1	78.026	3.545	2.37		Sand	52.7	161.47		161.47	1.09	176.25	270.60	0.96	0.929	1.100	2137.832	5171.727	5566.41	0.00	0.00
14.600	49.200	2.506	1752.0	1527.4	57.382	5.185	2.58		Mixed	69.6	161.47		161.47	1.09	175.97	277.73	0.96	0.932	1.098	6753.901	16311.692	17496.71	0.00	0.00
14.760	53.100	2.391	1771.2	1536.6	57.914	4.578	2.54		Sand	66.2	161.47		161.47	1.09	175.69	276.18	0.96	0.935	1.096	5214.412	12572.890	13441.36	0.00	0.00
14.930	98.700	3.316	1791.6	1546.4	108.137	3.391	2.26		Sand	44.1	161.47		161.47	1.09	175.40	263.48	0.96	0.939	1.094	746.695	1797.286	1914.79	0.00	0.00
15.090	170.840	4.845	1810.8	1555.6	187.330	2.851	2.06		Sand	27.7			161.47	1.09	175.83	242.53	0.95	0.942	1.092	56.137	134.900	143.26	0.00	0.00
15.260	275.330	5.595	1831.2	1565.4	301.557	2.039	1.82		Sand	8.8			260.24	1.08	281.77	289.53	0.95	0.945	1.090	56834.796	########	144315.50	0.00	0.00
15.420	312.410	5.906	1850.4	1574.6	341.291	1.896	1.77		Sand	4.3			295.28	1.08	319.23	319.31	0.95	0.948	1.089	##########	########	##########	0.00	0.00
15.580	282.600	6.205	1869.6	1583.8	307.719	2.203	1.85		Sand	10.7			267.11	1.08	288.32	304.47	0.95	0.950	1.087	##########	########	3326288.51	0.00	0.00
15.750	268.070	6.203	1890.0	1593.6	290.936	2.322	1.88		Sand	13.3			253.37	1.08	273.05	301.72	0.95	0.953	1.085	##########	########	1784889.61	0.00	0.00
15.910	254.810	2.699	1909.2	1602.8	275.687	1.063	1.62		Sand	0.0			240.84	1.08	259.15	259.15	0.95	0.956	1.083	412.247	982.519	1027.61	0.00	0.00
16.080	235.520	3.365	1929.6	1612.6	253.953	1.435	1.74		Sand	2.3			222.61	1.08	240.18	240.18	0.95	0.959	1.082	43.809	104.234	108.70	0.00	0.00
16.240	197.330	3.744	1948.8	1621.8	211.989	1.907	1.89		Sand	13.9			186.51	1.08	201.64	228.63	0.95	0.962	1.080	14.537	34.534	35.91	0.00	0.00
16.400	132.940	3.670	1968.0	1631.0	142.059	2.781	2.12		Sand	32.8			125.65	1.09	136.73	203.75	0.95	0.964	1.072	2.349	5.538	5.74	0.00	0.00
16.570	72.700	3.210	1988.4	1640.8	76.965	4.477	2.45		Sand	59.1	125.65		125.65	1.08	135.66	222.04	0.95	0.967	1.076	8.373	19.825	20.51	0.00	0.00
16.730	49.080	2.688	2007.6	1650.0	58.272	5.591	2.60		Clay	71.3			46.39	1.07	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	47.230	1.877	2028.0	1659.8	49.321	4.062	2.55		Sand	67.0			44.64	1.12	50.01	114.54	0.95	0.972	1.029	0.160	0.222	0.23	0.03	0.05
17.060	40.450	1.415	2047.2	1669.1	41.959	3.588	2.56		Sand	67.9	44.64		44.64	1.12	49.88	114.58	0.95	0.974	1.028	0.160	0.222	0.23	0.03	0.05
17.220	27.390	1.099	2066.4	1678.3	31.409	4.169	2.70		Clay	78.8			25.89	1.06	n.a.	n.a.	0.95	0.977	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	24.740	0.928	2086.8	1688.1	28.075	3.916	2.72		Clay	80.2			23.38	1.06	n.a.	n.a.	0.94	0.979	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	24.010	0.935	2106.0	1697.3	27.052	4.071	2.74		Clay	82.1			22.69	1.06	n.a.	n.a.	0.94	0.981	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	23.010	0.872	2126.4	1707.1	25.713	3.972	2.75		Clay	82.8			21.75	1.06	n.a.	n.a.	0.94	0.983	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	22.820	0.878	2145.6	1716.3	25.342	4.035	2.76		Clay	83.6			21.57	1.06	n.a.	n.a.	0.94	0.986	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	21.690	0.885	2164.8	1725.5	23.886	4.295	2.79		Clay	86.6			20.50	1.06	n.a.	n.a.	0.94	0.988	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	22.610	0.856	2185.2	1735.3	24.800	3.979	2.76		Clay	83.8			21.37	1.05	n.a.	n.a.	0.94	0.990	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	23.390	0.823	2204.4	1744.5	25.552	3.694	2.73		Clay	81.3			22.11	1.05	n.a.	n.a.	0.94	0.992	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	22.270	0.784	2224.8	1754.3	24.121	3.707	2.75		Clay	82.9			21.05	1.05	n.a.	n.a.	0.94	0.994	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	20.160	0.725	2244.0	1763.5	21.591	3.808	2.79		Clay	86.5			19.05	1.05	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	17.680	0.627	2263.2	1772.7	18.670	3.789	2.84		Clay	90.3			16.71	1.05	n.a.	n.a.	0.94	0.998	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	15.860	0.547	2283.6	1782.5	16.514	3.714	2.88		Clay	93.1			14.99	1.05	n.a.	n.a.	0.94	1.000	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	15.880	0.534	2302.8	1791.7	16.441	3.623	2.87		Clay	92.7			15.01	1.04	n.a.	n.a.	0.94	1.002	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	17.690	0.584	2323.2	1801.5	18.349	3.535	2.83		Clay	89.2			16.72	1.04	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	21.020	0.664	2342.4	1810.8	21.923	3.346	2.75		Clay	83.2			19.87	1.04	n.a.	n.a.	0.93	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	22.980	0.781	2362.8	1820.5	23.947	3.585	2.74		Clay	82.4			21.72	1.04	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	24.810	0.900	2382.0	1829.8	25.817	3.810	2.73		Clay	81.8			23.45	1.04	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	27.370	1.194	2401.2	1839.0	28.461	4.561	2.76		Clay	83.5			25.87	1.04	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	32.260	1.432	2421.6	1848.8	33.589	4.612	2.71		Clay	79.6			30.49	1.04	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	46.840	1.569	2440.8	1858.0	46.015	3.439	2.52		Sand	64.6		1.6	70.84	1.05	74.72	145.74	0.93	1.014	1.020	0.263	0.434	0.43	0.02	0.04
20.510	46.710	1.613	2461.2	1867.8	45.754	3.546	2.53		Sand	65.5		1.6	70.64	1.05	74.35	145.52	0.93	1.015	1.019	0.262	0.431	0.42	0.02	0.04
20.670	43.820	1.584	2480.4	1877.0	42.731	3.721	2.57		Sand	68.4		1.6	66.27	1.05	69.69	140.22	0.93	1.017	1.018	0.235	0.374	0.37	0.02	0.04
20.830	43.280	1.774	2499.6	1886.2	43.055	4.221	2.60		Mixed	71.3		1.6	65.45	1.05	68.70	139.60	0.93	1.018	1.017	0.233	0.368	0.36	0.02	0.05
21.000	45.310	1.711	2520.0	1896.0	43.984	3.883	2.57		Sand	68.7		1.6	68.52	1.05	71.72	142.92	0.93	1.020	1.017	0.248	0.401	0.39	0.02	0.04
21.160	47.290	1.725	2539.2	1905.2	45.841	3.747	2.55		Sand	66.8		1.6	71.52	1.04	74.66	146.24	0.93	1.021	1.016	0.266	0.439	0.43	0.02	0.04
21.330	43.700	1.578	2559.6	1915.0	42.146	3.719	2.57		Sand	68.7	44.7	1.6	71.52	1.04	74.50	146.51	0.93	1.023	1.015	0.267	0.442	0.43	0.02	0.04
21.490	42.580	1.506	2578.8	1924.2	40.926	3.647	2.57		Sand	69.0	44.7	1.6	71.52	1.04	74.36	146.39	0.93	1.024	1.015	0.266	0.440	0.43	0.02	0.04
21.650	37.740	1.635	2598.0	1933.4	37.696	4.486	2.66		Clay	76.0			35.67	1.02	n.a.	n.a.	0.92	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	43.350	1.767	2618.4	1943.2	43.269	4.204	2.60		Clay	71.0			40.97	1.02	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	45.110	1.874	2637.6	1952.4	43.788	4.279	2.60	plastic	Clay	71.2			42.64	1.02	n.a.	n.a.	0.92	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	1.15

Total Settlement:	0.45	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	42.210	1.919	2658.0	1962.2	41.668	4.693	2.65		Clay	74.7			39.90	1.02	n.a.	n.a.	0.92	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	39.680	1.786	2677.2	1971.5	38.897	4.658	2.66		Clay	76.2			37.50	1.02	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	41.420	1.656	2696.4	1980.7	40.463	4.133	2.62		Clay	72.3			39.15	1.02	n.a.	n.a.	0.92	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	38.780	1.612	2716.8	1990.5	37.601	4.308	2.65		Clay	75.1			36.65	1.02	n.a.	n.a.	0.92	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	38.590	1.564	2736.0	1999.7	37.228	4.201	2.65		Clay	74.7			36.47	1.02	n.a.	n.a.	0.92	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	38.340	1.475	2756.4	2009.5	36.788	3.990	2.63		Clay	73.8			36.24	1.01	n.a.	n.a.	0.92	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	32.450	1.318	2775.6	2018.7	30.775	4.244	2.71		Clay	79.8			30.67	1.01	n.a.	n.a.	0.92	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	28.220	1.087	2794.8	2027.9	26.454	4.052	2.74		Clay	82.6			26.67	1.01	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	21.730	0.722	2815.2	2037.7	19.946	3.554	2.80		Clay	87.1			20.54	1.01	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	17.780	0.649	2834.4	2046.9	15.988	3.968	2.91		Clay	95.5			16.81	1.01	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	17.160	0.751	2854.8	2056.7	15.299	4.774	2.97		Clay	100.0			16.22	1.01	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	24.450	1.028	2874.0	2065.9	22.279	4.467	2.83		Clay	89.3			23.11	1.01	n.a.	n.a.	0.91	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	31.070	1.123	2893.2	2075.1	28.551	3.792	2.70		Clay	79.1			29.37	1.01	n.a.	n.a.	0.91	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	32.570	1.100	2913.6	2084.9	29.846	3.535	2.67		Clay	76.3			30.78	1.00	n.a.	n.a.	0.91	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	30.660	1.009	2932.8	2094.1	27.881	3.457	2.68		Clay	77.5			28.98	1.00	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	28.870	0.745	2953.2	2103.9	26.040	2.719	2.64		Clay	74.0			27.29	1.00	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	27.480	0.824	2972.4	2113.2	24.602	3.171	2.70		Clay	78.9			25.97	1.00	n.a.	n.a.	0.91	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	25.610	1.048	2991.6	2122.4	22.724	4.345	2.81		Clay	88.1			24.21	1.00	n.a.	n.a.	0.91	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	28.340	1.260	3012.0	2132.2	25.171	4.694	2.80		Clay	87.3			26.79	1.00	n.a.	n.a.	0.91	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	33.330	1.262	3031.2	2141.4	29.714	3.965	2.70		Clay	79.1			31.50	1.00	n.a.	n.a.	0.91	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	35.580	1.148	3051.6	2151.2	31.661	3.371	2.63		Clay	73.7			33.63	1.00	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	28.130	0.886	3070.8	2160.4	24.620	3.332	2.71		Clay	80.0			26.59	0.99	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	26.250	0.835	3090.0	2169.6	22.774	3.381	2.74		Clay	82.4			24.81	0.99	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	27.190	0.774	3110.4	2179.4	23.525	3.021	2.70		Clay	79.1			25.70	0.99	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	25.710	0.850	3129.6	2188.6	22.064	3.520	2.76		Clay	84.1			24.30	0.99	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	26.040	0.932	3150.0	2198.4	22.257	3.810	2.78		Clay	85.7			24.61	0.99	n.a.	n.a.	0.90	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	28.120	1.025	3169.2	2207.6	24.040	3.864	2.76		Clay	84.0			26.58	0.99	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	29.610	1.187	3188.4	2216.8	25.276	4.238	2.77		Clay	84.8			27.99	0.99	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	31.110	1.352	3208.8	2226.6	26.503	4.584	2.78		Clay	85.4			29.40	0.99	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	32.440	1.499	3228.0	2235.8	27.574	4.861	2.78		Clay	85.8			30.66	0.99	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	33.550	1.373	3248.4	2245.6	28.434	4.299	2.74		Clay	82.1			31.71	0.98	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	32.230	1.257	3267.6	2254.8	27.138	4.107	2.74		Clay	82.2			30.46	0.98	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	30.590	1.157	3288.0	2264.6	25.563	3.996	2.75		Clay	83.1			28.91	0.98	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	32.600	1.099	3307.2	2273.9	27.219	3.550	2.70		Clay	78.8			30.81	0.98	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	30.020	1.022	3326.4	2283.1	24.841	3.603	2.73		Clay	81.5			28.37	0.98	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	25.760	0.940	3346.8	2292.9	21.010	3.902	2.81		Clay	87.8			24.35	0.98	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	23.690	0.874	3366.0	2302.1	19.119	3.971	2.85		Clay	90.7			22.39	0.98	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	23.310	0.821	3386.4	2311.9	18.701	3.796	2.84		Clay	90.3			22.03	0.98	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	22.690	0.781	3405.6	2321.1	18.084	3.720	2.85		Clay	90.7			21.45	0.98	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	21.680	0.762	3424.8	2330.3	17.137	3.818	2.87		Clay	92.7			20.49	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	21.230	0.794	3445.2	2340.1	16.672	4.069	2.90		Clay	94.9			20.07	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	21.020	0.814	3464.4	2349.3	16.420	4.222	2.91		Clay	96.1			19.87	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	19.560	0.796	3484.8	2359.1	15.105	4.468	2.96		Clay	99.6			18.49	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	18.010	0.871	3504.0	2368.3	13.730	5.356	3.04		Clay	100.0			17.02	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	17.700	0.909	3523.2	2377.5	13.407	5.701	3.06		Clay	100.0			16.73	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	18.860	0.694	3543.6	2387.3	14.316	4.061	2.95		Clay	99.0			17.83	0.97	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	22.020	0.604	3562.8	2396.5	16.890	2.984	2.81		Clay	87.9			20.81	0.97	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	18.740	0.650	3583.2	2406.3	14.086	3.836	2.94		Clay	98.2			17.71	0.97	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	18.390	0.709	3602.4	2415.6	13.735	4.272	2.98		Clay	100.0			17.38	0.97	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	20.740	0.786	3621.6	2424.8	15.613	4.152	2.93		Clay	97.1			19.60	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	20.300	0.882	3642.0	2434.6	15.181	4.771	2.97		Clay	100.0			19.19	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	22.620	1.001	3661.2	2443.8	17.014	4.815	2.94		Clay	98.1			21.38	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	27.360	1.196	3681.6	2453.6	20.802	4.688	2.86		Clay	92.2			25.86	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	30.250	1.153	3700.8	2462.8	23.063	4.059	2.79		Clay	86.2			28.59	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	28.870	0.907	3720.0	2472.0	21.853	3.356	2.75		Clay	83.4			27.29	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	25.930	0.918	3740.4	2481.8	19.389	3.816	2.83		Clay	89.4			24.51	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	24.210	1.201	3759.6	2491.0	17.929	5.378	2.95		Clay	99.2			22.88	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	30.070	1.283	3780.0	2500.8	22.537	4.554	2.83		Clay	89.4			28.42	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	38.290	1.490	3799.2	2510.0	28.996	4.095	2.72		Clay	80.4			36.19	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	43.190	1.599	3818.4	2519.2	32.773	3.873	2.66		Clay	76.0			40.82	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	42.150	1.883	3838.8	2529.0	31.815	4.680	2.73		Clay	81.3			39.84	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	36.460	1.673	3858.0	2538.2	27.209	4.846	2.79		Clay	86.0			34.46	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	33.770	1.404	3878.4	2548.0	24.985	4.410	2.79		Clay	86.0			31.92	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	27.510	1.050	3897.6	2557.2	19.991	4.108	2.84		Clay	90.2			26.00	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	23.600	1.174	3916.8	2566.5	16.865	5.422	2.97		Clay	100.0			22.31	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	24.280	1.512	3937.2	2576.3	17.321	6.776	3.03		Clay	100.0			22.95	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	24.310	1.882	3956.4	2585.5	17.275	8.426	3.10		Clay	100.0			22.98	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 9

PGA (A_{max}) 1.15

Total Settlement: 0.45 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	43.290	1.646	3976.8	2595.3	31.828	3.985	2.68		Clay	77.4			40.92	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	35.340	1.369	3996.0	2604.5	25.604	4.105	2.76		Clay	83.7			33.40	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	27.540	1.045	4015.2	2613.7	19.537	4.092	2.85		Clay	90.7			26.03	0.95	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	27.810	1.072	4035.6	2623.5	19.663	4.157	2.85		Clay	90.9			26.29	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	30.320	0.910	4054.8	2632.7	21.493	3.217	2.75		Clay	82.9			28.66	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	27.770	0.860	4075.2	2642.5	19.476	3.342	2.79		Clay	86.4			26.25	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	27.260	0.723	4094.4	2651.7	19.016	2.868	2.76		Clay	83.8			25.77	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	25.080	0.694	4113.6	2660.9	17.305	3.013	2.80		Clay	87.4			23.71	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	24.670	0.638	4134.0	2670.7	16.927	2.821	2.80		Clay	86.6			23.32	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	24.350	0.694	4153.2	2679.9	16.622	3.114	2.83		Clay	89.2			23.02	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	23.540	0.757	4173.6	2689.7	15.952	3.529	2.87		Clay	93.0			22.25	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	22.810	0.796	4192.8	2698.9	15.349	3.841	2.91		Clay	95.9			21.56	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	21.740	0.874	4212.0	2708.2	14.500	4.452	2.97		Clay	100.0			20.55	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	23.740	0.801	4232.4	2718.0	15.912	3.703	2.89		Clay	94.1			22.44	0.94	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	23.890	0.759	4251.6	2727.2	15.961	3.487	2.87		Clay	92.7			22.58	0.94	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	22.470	0.686	4272.0	2737.0	14.859	3.372	2.89		Clay	94.0			21.24	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	23.410	0.827	4291.2	2746.2	15.487	3.888	2.91		Clay	95.9			22.13	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	25.260	1.451	4311.6	2756.0	16.767	6.282	3.02		Clay	100.0			23.88	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	50.350	3.058	4330.8	2765.2	34.851	6.347	2.79		Clay	86.5			47.59	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	88.860	3.553	4350.0	2774.4	71.554	4.098	2.44		Sand	58.4		1.8	151.18	0.92	139.55	226.74	0.85	1.065	0.919	12.337	24.935	23.42	0.00	0.00
36.420	63.740	3.010	4370.4	2784.2	44.217	4.890	2.64		Clay	74.3			60.25	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	40.190	1.861	4389.6	2793.4	27.203	4.899	2.79		Clay	86.3			37.99	0.93	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	30.730	0.985	4410.0	2803.2	20.352	3.455	2.79		Clay	85.9			29.05	0.93	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	29.150	0.904	4429.2	2812.4	19.155	3.356	2.80		Clay	86.9			27.55	0.93	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	28.490	0.837	4448.4	2821.6	18.617	3.188	2.79		Clay	86.6			26.93	0.93	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	27.640	0.812	4468.8	2831.4	17.945	3.195	2.81		Clay	87.6			26.12	0.93	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	27.550	0.962	4488.0	2840.6	17.817	3.802	2.86		Clay	91.6			26.04	0.93	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	26.870	0.919	4508.4	2850.4	17.272	3.735	2.86		Clay	92.0			25.40	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	27.950	0.860	4527.6	2859.6	17.965	3.347	2.82		Clay	88.6			26.42	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	32.040	0.832	4546.8	2868.9	20.751	2.794	2.72		Clay	80.8			30.28	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	28.740	0.938	4567.2	2878.7	18.381	3.545	2.83		Clay	89.2			27.16	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	34.530	1.165	4586.4	2887.9	22.326	3.614	2.77		Clay	84.4			32.64	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	38.530	1.344	4606.8	2897.7	25.004	3.710	2.74		Clay	82.0			36.42	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	36.560	1.327	4626.0	2906.9	23.563	3.876	2.77		Clay	84.6			34.56	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	32.600	1.250	4645.2	2916.1	20.766	4.130	2.83		Clay	89.3			30.81	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	28.190	1.091	4665.6	2925.9	17.675	4.220	2.89		Clay	94.1			26.64	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	24.700	0.902	4684.8	2935.1	15.235	4.033	2.93		Clay	97.1			23.35	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	23.120	0.719	4705.2	2944.9	14.104	3.462	2.91		Clay	96.0			21.85	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	22.430	0.644	4724.4	2954.1	13.586	3.208	2.91		Clay	95.4			21.20	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	21.840	0.673	4743.6	2963.3	13.139	3.459	2.94		Clay	97.9			20.64	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	22.470	0.742	4764.0	2973.1	13.513	3.696	2.94		Clay	98.5			21.24	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	25.140	0.787	4783.2	2982.3	15.255	3.460	2.88		Clay	93.8			23.76	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	26.870	0.825	4803.6	2992.1	16.355	3.370	2.85		Clay	91.3			25.40	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	25.910	0.784	4822.8	3001.3	15.659	3.336	2.87		Clay	92.3			24.49	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	24.120	0.763	4842.0	3010.6	14.415	3.518	2.91		Clay	95.7			22.80	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	22.170	0.552	4862.4	3020.4	13.071	2.794	2.88		Clay	93.7			20.95	0.91	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	25.270	0.572	4881.6	3029.6	15.071	2.505	2.81		Clay	87.5			23.88	0.91	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	22.620	0.592	4902.0	3039.4	13.272	2.934	2.89		Clay	94.3			21.38	0.91	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	24.820	0.689	4921.2	3048.6	14.669	3.083	2.87		Clay	92.5			23.46	0.91	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	27.420	0.646	4940.4	3057.8	16.319	2.588	2.79		Clay	85.9			25.92	0.91	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	28.590	0.728	4960.8	3067.6	17.023	2.788	2.79		Clay	86.2			27.02	0.91	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	29.550	0.860	4980.0	3076.8	17.590	3.177	2.81		Clay	88.1			27.93	0.91	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	29.910	0.842	5000.4	3086.6	17.761	3.071	2.80		Clay	87.1			28.27	0.91	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	29.870	0.819	5019.6	3095.8	17.676	2.993	2.80		Clay	86.7			28.23	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	29.390	0.741	5038.8	3105.0	17.308	2.757	2.78		Clay	85.5			27.78	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	29.560	0.730	5059.2	3114.8	17.356	2.701	2.78		Clay	85.0			27.94	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	29.360	0.750	5078.4	3124.0	17.171	2.798	2.79		Clay	86.1			27.75	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	29.360	0.848	5098.8	3133.8	17.110	3.164	2.82		Clay	88.7			27.75	0.90	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	29.600	0.889	5118.0	3143.0	17.207	3.286	2.83		Clay	89.4			27.98	0.90	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	30.330	0.912	5137.2	3152.3	17.614	3.285	2.82		Clay	88.7			28.67	0.90	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	28.960	0.892	5157.6	3162.0	16.686	3.382	2.85		Clay	90.8			27.37	0.90	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	27.580	0.887	5176.8	3171.3	15.761	3.548	2.88		Clay	93.4			26.07	0.90	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	25.780	0.881	5197.2	3181.1	14.575	3.802	2.93		Clay	97.1			24.37	0.90	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	24.660	0.809	5216.4	3190.3	13.824	3.669	2.93		Clay	97.7			23.31	0.90	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	24.390	0.825	5236.8	3200.1	13.607	3.788	2.95		Clay	98.9			23.05	0.90	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	25.040	0.733	5256.0	3209.3	13.967	3.269	2.90		Clay	95.0			23.67	0.90	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	24.730	0.671	5275.2	3218.5	13.728	3.038	2.89		Clay	94.0			23.37	0.90	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 9

PGA (A_{max}) 1.15

Total Settlement: 0.45 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	23.700	0.726	5295.6	3228.3	13.042	3.447	2.94		Clay	98.1			22.40	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	24.210	0.787	5314.8	3237.5	13.314	3.651	2.95		Clay	98.7			22.88	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	26.810	0.788	5335.2	3247.3	14.869	3.265	2.88		Clay	93.3			25.34	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	23.820	0.708	5354.4	3256.5	12.985	3.347	2.93		Clay	97.6			22.51	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	23.110	0.849	5373.6	3265.7	12.508	4.158	3.00		Clay	100.0			21.84	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	24.450	0.805	5394.0	3275.5	13.282	3.699	2.95		Clay	99.0			23.11	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	29.890	0.821	5413.2	3284.7	16.551	3.018	2.82		Clay	88.7			28.25	0.89	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	27.090	0.948	5433.6	3294.5	14.796	3.890	2.93		Clay	97.1			25.60	0.89	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	24.590	0.890	5452.8	3303.7	13.236	4.073	2.98		Clay	100.0			23.24	0.89	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	27.420	0.786	5472.0	3313.0	14.901	3.185	2.87		Clay	92.7			25.92	0.89	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	21.240	0.585	5492.4	3322.8	11.132	3.163	2.97		Clay	100.0			20.08	0.89	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	18.700	0.490	5511.6	3332.0	9.570	3.073	3.02		Clay	100.0			17.67	0.89	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	17.910	0.421	5532.0	3341.8	9.063	2.781	3.01		Clay	100.0			16.93	0.89	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	16.240	0.407	5551.2	3351.0	8.036	3.023	3.08		Clay	100.0			15.35	0.89	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	14.890	0.382	5570.4	3360.2	7.205	3.158	3.13		Clay	100.0			14.07	0.89	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	14.310	0.369	5590.8	3370.0	6.834	3.207	3.15		Clay	100.0			13.53	0.88	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	14.210	0.525	5610.0	3379.2	6.750	4.601	3.24		Clay	100.0			13.43	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	14.030	0.553	5630.4	3389.0	6.618	4.927	3.27		Clay	100.0			13.26	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	16.770	0.554	5649.6	3398.2	8.207	3.972	3.14		Clay	100.0			15.85	0.88	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	26.420	0.527	5668.8	3407.4	13.844	2.234	2.81		Clay	87.6			24.97	0.88	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	17.280	0.414	5689.2	3417.2	8.449	2.867	3.05		Clay	100.0			16.33	0.88	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	17.090	0.381	5708.4	3426.4	8.309	2.674	3.04		Clay	100.0			16.15	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	16.000	0.346	5728.8	3436.2	7.645	2.630	3.06		Clay	100.0			15.12	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	15.740	0.363	5748.0	3445.4	7.468	2.820	3.09		Clay	100.0			14.88	0.88	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	16.240	0.440	5767.2	3454.7	7.732	3.297	3.11		Clay	100.0			15.35	0.88	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	19.150	0.455	5787.6	3464.4	9.385	2.798	3.00		Clay	100.0			18.10	0.88	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	20.750	0.523	5806.8	3473.7	10.275	2.931	2.98		Clay	100.0			19.61	0.88	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	21.720	0.635	5827.2	3483.5	10.798	3.378	3.00		Clay	100.0			20.53	0.88	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	25.150	0.821	5846.4	3492.7	12.728	3.694	2.96		Clay	100.0			23.77	0.88	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	31.360	0.891	5865.6	3501.9	16.235	3.136	2.84		Clay	90.0			29.64	0.88	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	29.710	0.883	5886.0	3511.7	15.245	3.300	2.87		Clay	92.8			28.08	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	24.920	1.270	5905.2	3520.9	12.478	5.781	3.09		Clay	100.0			23.55	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	29.680	2.044	5925.6	3530.7	15.134	7.651	3.11		Clay	100.0			28.05	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	23.390	2.239	5944.8	3539.9	11.536	10.964	3.30		Clay	100.0			22.11	0.87	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	94.810	2.240	5964.0	3549.1	67.017	2.439	2.30		Sand	46.9		1.8	161.30	0.85	137.69	218.24	0.78	1.027	0.845	6.236	11.592	11.28	0.00	0.00
49.870	64.050	1.267	5984.4	3558.9	44.499	2.075	2.38		Sand	53.7	89.61	1.8	161.30	0.86	137.95	222.49	0.78	1.027	0.844	8.680	16.117	15.70	0.00	0.00
50.030	32.500	0.839	6003.6	3568.1	16.534	2.843	2.81		Clay	87.4			30.72	0.87	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	15.730	0.352	6024.0	3577.9	7.109	2.768	3.10		Clay	100.0			14.87	0.87	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 10

PGA (A_{max}) 1.15

Total Settlement: 0.84 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	205.800	3.530	19.2	19.2	2041.957	1.715	1.46		Unsaturated	0.0			194.52	1.70	330.68	330.68	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	357.010	5.937	39.6	39.6	2466.499	1.663	1.44		Unsaturated	0.0			337.44	1.70	573.65	573.65	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	508.590	6.647	58.8	58.8	2883.542	1.307	1.34		Unsaturated	0.0			480.71	1.70	817.21	817.21	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	409.890	6.771	79.2	79.2	2002.327	1.652	1.45		Unsaturated	0.0			387.42	1.70	658.61	658.61	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	329.710	6.417	98.4	98.4	1444.914	1.947	1.54		Unsaturated	0.0			311.64	1.70	529.78	529.78	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	266.650	7.048	117.6	117.6	1068.844	2.644	1.70		Unsaturated	0.0			252.03	1.70	428.45	428.45	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	204.170	6.910	138.0	138.0	755.401	3.386	1.85		Unsaturated	10.8			192.98	1.70	328.06	346.12	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	187.790	6.389	157.2	157.2	650.933	3.404	1.87		Unsaturated	12.7			177.50	1.70	301.74	329.06	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	169.640	6.376	177.6	177.6	553.161	3.761	1.94		Unsaturated	18.0			160.34	1.70	272.58	324.25	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	211.820	5.744	196.8	196.8	656.183	2.713	1.78		Unsaturated	5.2			200.21	1.70	340.35	340.76	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	192.500	4.781	216.0	216.0	569.157	2.485	1.77		Unsaturated	4.3			181.95	1.70	309.31	309.38	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	128.770	3.735	236.4	236.4	363.801	2.903	1.91		Unsaturated	16.0			121.71	1.70	206.91	243.25	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	109.590	3.107	255.6	255.6	297.684	2.838	1.95		Unsaturated	18.8			103.58	1.70	176.09	219.40	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	94.760	2.683	276.0	276.0	247.634	2.836	1.99		Unsaturated	22.1			89.57	1.70	152.26	202.15	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	101.710	3.664	295.2	295.2	257.008	3.607	2.07		Unsaturated	28.5			96.13	1.70	163.43	229.31	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	153.510	3.965	314.4	314.4	376.030	2.586	1.86		Unsaturated	11.9			145.09	1.65	239.94	260.21	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	191.320	5.884	334.8	334.8	454.213	3.078	1.89		Unsaturated	14.3			180.83	1.63	294.12	330.02	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	171.570	5.444	354.0	354.0	396.062	3.176	1.93		Unsaturated	17.4			162.16	1.60	259.91	307.74	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	182.830	5.498	374.4	374.4	410.399	3.010	1.90		Unsaturated	15.2			172.81	1.58	272.90	311.50	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	169.220	5.056	393.6	393.6	370.417	2.991	1.92		Unsaturated	16.6			159.94	1.56	249.28	292.49	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	165.310	5.807	412.8	412.8	353.312	3.517	1.99		Unsaturated	22.4			156.25	1.54	240.47	304.74	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	187.440	5.302	433.2	433.2	391.100	2.832	1.89		Unsaturated	14.1			177.16	1.52	269.22	301.86	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	176.950	4.954	452.4	452.4	361.248	2.803	1.90		Unsaturated	15.1			167.25	1.50	251.26	287.37	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	158.410	4.448	472.8	472.8	316.277	2.812	1.93		Unsaturated	17.4			149.73	1.48	222.33	266.09	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	131.470	3.918	492.0	492.0	257.219	2.986	2.00		Unsaturated	22.9			124.26	1.50	185.89	243.18	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	78.110	2.848	512.4	512.4	149.537	3.658	2.20		Unsaturated	39.3			73.83	1.63	120.02	190.31	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	50.140	2.767	531.6	531.6	94.049	5.547	2.47		Unsaturated	60.5			47.39	1.70	80.57	152.05	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	46.110	2.061	550.8	550.8	84.912	4.496	2.43		Unsaturated	57.0			43.58	1.70	74.09	142.58	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	40.990	2.058	571.2	571.2	74.049	5.055	2.50		Unsaturated	63.2			38.74	1.70	65.86	133.98	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	34.380	1.725	590.4	590.4	60.990	5.061	2.56		Unsaturated	67.6			32.50	1.70	55.24	121.42	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	30.390	1.586	610.8	610.8	67.856	5.270	2.54		Unsaturated	66.3			28.72	1.70	48.83	112.85	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	22.070	1.355	630.0	630.0	48.017	6.230	2.69		Unsaturated	78.5			20.86	1.70	35.46	97.88	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	17.480	1.072	649.2	649.2	52.851	6.251	2.67		Unsaturated	76.4			16.52	1.70	28.09	87.98	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	15.540	0.881	669.6	669.6	45.416	5.796	2.69		Unsaturated	77.9			14.69	1.70	24.97	84.17	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	13.820	0.888	688.8	688.8	39.128	6.593	2.77		Unsaturated	84.7			13.06	1.70	22.21	81.48	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	15.900	0.991	709.2	709.2	43.839	6.376	2.73		Unsaturated	81.2			15.03	1.70	25.55	85.38	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	22.670	1.163	728.4	728.4	44.477	5.213	2.66		Unsaturated	75.7			21.43	1.70	36.43	98.69	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	26.200	1.243	747.6	747.6	50.567	4.814	2.60		Unsaturated	70.7			24.76	1.66	41.21	103.96	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	27.750	1.283	768.0	768.0	52.582	4.688	2.58		Unsaturated	69.1			26.23	1.64	42.90	105.83	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	26.940	1.299	787.2	787.2	50.133	4.894	2.60		Unsaturated	71.3			25.46	1.62	41.30	104.20	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	26.850	1.356	807.6	807.6	49.057	5.126	2.62		Unsaturated	73.0			25.38	1.60	40.69	103.72	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	26.550	1.382	826.8	826.8	47.692	5.286	2.64		Unsaturated	74.4			25.09	1.59	39.84	102.89	0.99	0.735	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	25.640	1.357	846.0	846.0	45.280	5.381	2.66		Unsaturated	76.1			24.23	1.58	38.18	101.03	0.99	0.735	1.098	n.a.	n.a.	n.a.	0.00	0.00
7.220	24.310	1.282	866.4	866.4	55.117	5.368	2.61		Unsaturated	71.5			22.98	1.57	36.03	97.43	0.99	0.734	1.093	n.a.	n.a.	n.a.	0.00	0.00
7.380	22.440	1.196	885.6	885.6	49.678	5.436	2.64		Unsaturated	74.2			21.21	1.56	33.11	94.14	0.98	0.734	1.088	n.a.	n.a.	n.a.	0.00	0.00
7.550	21.140	1.142	906.0	906.0	45.667	5.519	2.67		Unsaturated	76.6			19.98	1.55	30.98	91.76	0.98	0.734	1.085	n.a.	n.a.	n.a.	0.00	0.00
7.710	20.410	1.077	925.2	925.2	43.120	5.398	2.68		Unsaturated	77.4			19.29	1.54	29.68	90.19	0.98	0.733	1.081	n.a.	n.a.	n.a.	0.00	0.00
7.870	20.330	1.016	944.4	944.4	42.054	5.118	2.67		Unsaturated	76.6			19.22	1.52	29.28	89.57	0.98	0.733	1.079	n.a.	n.a.	n.a.	0.00	0.00
8.040	20.090	0.959	964.8	964.8	40.646	4.892	2.67		Clay	76.3			18.99	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	20.030	0.976	984.0	984.0	39.711	4.994	2.68		Clay	77.4			18.93	1.22	n.a.	n.a.	0.98	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	20.870	1.011	1004.4	1004.4	40.557	4.965	2.67		Clay	76.7			19.73	1.22	n.a.	n.a.	0.98	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	22.100	1.019	1023.6	1023.6	42.181	4.721	2.64		Clay	74.5			20.89	1.21	n.a.	n.a.	0.98	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	22.760	0.988	1042.8	1042.8	42.652	4.444	2.62		Clay	72.8			21.51	1.21	n.a.	n.a.	0.98	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	22.200	0.962	1063.2	1063.2	40.761	4.441	2.64		Clay	73.8			20.98	1.20	n.a.	n.a.	0.98	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	23.410	1.003	1082.4	1082.4	42.256	4.386	2.62		Clay	72.7			22.13	1.19	n.a.	n.a.	0.98	0.775	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	26.400	1.163	1102.8	1102.8	38.554	4.498	2.66	plastic	Clay	75.5			24.95	1.19	n.a.	n.a.	0.98	0.782	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	27.640	1.342	1122.0	1122.0	48.269	4.954	2.62		Clay	72.5			26.12	1.18	n.a.	n.a.	0.98	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	28.660	1.478	1141.2	1141.2	49.228	5.261	2.63		Clay	73.6			27.09	1.18	n.a.	n.a.	0.98	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	29.010	1.499	1161.6	1161.6	48.948	5.274	2.63		Clay	73.8			27.42	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	29.990	1.564	1180.8	1180.8	49.796	5.319	2.63		Clay	73.6			28.35	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	30.710	1.621	1201.2	1201.2	50.132	5.385	2.63		Clay	73.7			29.03	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	31.720	1.668	1220.4	1220.4	50.983	5.361	2.63		Clay	73.2			29.98	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	32.780	1.681	1239.6	1239.6	51.888	5.227	2.61		Clay	72.2			30.98	1.15	n.a.	n.a.	0.97	0.822	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	34.370	1.685	1260.0	1260.0	45.842	4.995	2.64	plastic	Clay	73.9			32.49	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	36.650	1.726	1279.2	1279.2	48.411	4.793	2.61	plastic	Clay	71.6			34.64	1.14	n.a.	n.a.	0.97	0.833	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	38.700	1.750	1299.6	1299.6	50.590	4.600	2.58		Mixed	69.5			36.58	1.26	46.14	110.10	0.97	0.838	1.056	0.152	0.212	0.25	0.03	0.06
10.990	39.060	1.725	1318.8	1318.8	50.535	4.492	2.57		Mixed	68.9			36.92	1.25	46.25	110.12	0.97	0.843	1.054	0.152	0.212	0.25	0.03	0.06

CORNERSTONE EARTH GROUP

CPT No. 10

PGA (A_{max}) 1.15

Total Settlement: 0.84 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	38.880	1.631	1338.0	1328.6	45.578	4.269	2.59		Sand	70.1			36.75	1.25	45.88	109.89	0.97	0.848	1.053	0.152	0.211	0.25	0.03	0.06
11.320	38.980	1.610	1358.4	1338.4	45.518	4.203	2.58		Sand	69.8			36.84	1.24	45.84	109.77	0.97	0.853	1.053	0.152	0.210	0.25	0.03	0.06
11.480	37.860	1.597	1377.6	1347.6	48.181	4.297	2.57		Mixed	69.0	36.84		36.84	1.24	45.71	109.42	0.97	0.858	1.052	0.151	0.209	0.24	0.03	0.06
11.650	37.780	1.564	1398.0	1357.4	43.759	4.219	2.60		Sand	70.8	36.84		36.84	1.24	45.54	109.59	0.97	0.863	1.051	0.151	0.209	0.24	0.03	0.06
11.810	37.100	1.441	1417.2	1366.7	42.800	3.959	2.59		Sand	69.8	36.84		36.84	1.23	45.41	109.22	0.97	0.867	1.050	0.151	0.208	0.24	0.03	0.06
11.980	33.860	1.211	1437.6	1376.4	38.838	3.653	2.59		Sand	70.3	36.84		36.84	1.23	45.26	109.12	0.97	0.872	1.049	0.151	0.207	0.24	0.03	0.06
12.140	25.450	1.021	1456.8	1385.7	35.682	4.128	2.65		Clay	75.4			24.05	1.12	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	19.810	0.875	1476.0	1394.9	27.346	4.588	2.77		Clay	84.6			18.72	1.12	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	18.780	0.845	1496.4	1404.7	25.674	4.685	2.80		Clay	86.7			17.75	1.11	n.a.	n.a.	0.97	0.885	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	21.300	0.874	1515.6	1413.9	29.058	4.256	2.73		Clay	81.3			20.13	1.11	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	23.500	0.899	1536.0	1423.7	31.934	3.955	2.68		Clay	77.2			22.21	1.11	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	26.000	0.973	1555.2	1432.9	35.205	3.857	2.64		Clay	74.1			24.57	1.11	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	25.640	0.967	1574.4	1442.1	34.467	3.890	2.65		Clay	74.8			24.23	1.11	n.a.	n.a.	0.96	0.900	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	23.420	0.915	1594.8	1451.9	31.163	4.042	2.69		Clay	78.3			22.14	1.10	n.a.	n.a.	0.96	0.904	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	20.210	0.783	1614.0	1461.1	26.559	4.034	2.74		Clay	82.4			19.10	1.10	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	16.900	0.695	1634.4	1470.9	21.868	4.319	2.82		Clay	89.0			15.97	1.10	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	17.240	0.772	1653.6	1480.1	22.178	4.703	2.84		Clay	90.6			16.29	1.10	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	22.280	1.013	1672.8	1489.3	28.796	4.723	2.76		Clay	84.0			21.06	1.10	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	25.700	1.409	1693.2	1499.1	33.157	5.670	2.77		Clay	84.9			24.29	1.10	n.a.	n.a.	0.96	0.922	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	27.470	1.548	1712.4	1508.4	35.289	5.816	2.76		Clay	84.0			25.96	1.09	n.a.	n.a.	0.96	0.926	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	36.890	1.442	1732.8	1518.1	42.958	4.004	2.59		Mixed	70.0	48.05	1.78	85.53	1.13	96.52	175.26	0.96	0.929	1.067	0.605	1.300	1.40	0.00	0.00
14.600	48.190	1.270	1752.0	1527.4	52.637	2.683	2.40		Sand	55.3	48.05	1.78	85.53	1.13	96.53	170.51	0.96	0.932	1.063	0.512	1.056	1.13	0.01	0.01
14.760	50.840	1.216	1771.2	1536.6	55.408	2.434	2.36		Sand	51.6		1.78	85.53	1.13	96.40	168.75	0.96	0.935	1.061	0.483	0.981	1.05	0.01	0.01
14.930	46.370	1.244	1791.6	1546.4	50.278	2.736	2.42		Sand	56.9	48.05	1.78	85.53	1.12	96.08	170.59	0.96	0.939	1.061	0.514	1.057	1.13	0.01	0.01
15.090	34.550	1.060	1810.8	1555.6	37.089	3.150	2.56		Sand	68.0	48.05	1.78	85.53	1.12	95.73	173.72	0.95	0.942	1.061	0.572	1.208	1.28	0.00	0.01
15.260	21.360	1.142	1831.2	1565.4	26.121	5.586	2.84		Clay	90.5			20.19	1.08	n.a.	n.a.	0.95	0.945	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	18.090	1.398	1850.4	1574.6	21.802	8.143	3.01		Clay	100.0			17.10	1.08	n.a.	n.a.	0.95	0.948	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	26.290	1.690	1869.6	1583.8	32.018	6.663	2.83		Clay	89.8			24.85	1.08	n.a.	n.a.	0.95	0.950	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	34.360	1.484	1890.0	1593.6	41.936	4.442	2.63		Clay	73.2			32.48	1.08	n.a.	n.a.	0.95	0.953	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	39.060	1.020	1909.2	1602.8	41.383	2.675	2.48		Sand	61.4		1.8	66.45	1.12	74.52	144.55	0.95	0.956	1.042	0.256	0.430	0.45	0.02	0.04
16.080	25.210	0.703	1929.6	1612.6	30.070	2.901	2.61		Clay	71.6			23.83	1.07	n.a.	n.a.	0.95	0.959	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	17.640	0.404	1948.8	1621.8	20.552	2.427	2.69		Clay	78.1			16.67	1.07	n.a.	n.a.	0.95	0.962	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	17.570	0.347	1968.0	1631.0	20.338	2.092	2.65		Clay	75.4			16.61	1.07	n.a.	n.a.	0.95	0.964	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	18.050	0.374	1988.4	1640.8	20.789	2.192	2.66		Clay	75.7			17.06	1.07	n.a.	n.a.	0.95	0.967	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	18.600	0.443	2007.6	1650.0	21.328	2.516	2.69		Clay	77.8			17.58	1.07	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	20.860	0.575	2028.0	1659.8	23.913	2.895	2.68		Clay	77.7			19.72	1.07	n.a.	n.a.	0.95	0.972	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	22.520	0.697	2047.2	1669.1	25.759	3.242	2.69		Clay	78.2			21.29	1.06	n.a.	n.a.	0.95	0.974	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	23.640	0.832	2066.4	1678.3	26.941	3.681	2.71		Clay	79.9			22.34	1.06	n.a.	n.a.	0.95	0.977	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	25.730	0.969	2086.8	1688.1	29.248	3.926	2.70		Clay	79.2			24.32	1.06	n.a.	n.a.	0.94	0.979	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	28.180	1.120	2106.0	1697.3	31.965	4.129	2.69		Clay	78.2			26.64	1.06	n.a.	n.a.	0.94	0.981	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	30.540	1.223	2126.4	1707.1	34.535	4.148	2.67		Clay	76.3			28.87	1.06	n.a.	n.a.	0.94	0.983	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	30.790	1.200	2145.6	1716.3	34.630	4.037	2.66		Clay	75.6			29.10	1.06	n.a.	n.a.	0.94	0.986	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	31.900	1.176	2164.8	1725.5	35.720	3.814	2.63		Clay	73.5			30.15	1.06	n.a.	n.a.	0.94	0.988	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	30.920	1.245	2185.2	1735.3	34.377	4.172	2.67		Clay	76.6			29.22	1.05	n.a.	n.a.	0.94	0.990	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	30.420	1.345	2204.4	1744.5	33.611	4.589	2.71		Clay	79.4			28.75	1.05	n.a.	n.a.	0.94	0.992	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	31.620	1.403	2224.8	1754.3	34.780	4.600	2.70		Clay	78.6			29.89	1.05	n.a.	n.a.	0.94	0.994	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	28.110	1.305	2244.0	1763.5	30.607	4.836	2.75		Clay	83.0			26.57	1.05	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	24.080	1.218	2263.2	1772.7	25.890	5.308	2.83		Clay	89.5			22.76	1.05	n.a.	n.a.	0.94	0.998	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	20.030	0.884	2283.6	1782.5	21.193	4.681	2.86		Clay	91.7			18.93	1.05	n.a.	n.a.	0.94	1.000	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	19.040	0.556	2302.8	1791.7	19.968	3.109	2.76		Clay	84.1			18.00	1.04	n.a.	n.a.	0.94	1.002	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	16.770	0.417	2323.2	1801.5	17.328	2.671	2.77		Clay	84.8			15.85	1.04	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	15.110	1.214	2342.4	1810.8	15.396	8.707	3.14		Clay	100.0			14.28	1.04	n.a.	n.a.	0.93	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	21.360	1.384	2362.8	1820.5	22.168	6.859	2.96		Clay	99.5			20.19	1.04	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	33.640	1.224	2382.0	1829.8	35.468	3.771	2.63		Clay	73.4			31.80	1.04	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	28.700	1.042	2401.2	1839.0	29.907	3.789	2.69		Clay	77.8			27.13	1.04	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	27.560	1.017	2421.6	1848.8	28.505	3.860	2.71		Clay	79.5			26.05	1.04	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	28.290	1.104	2440.8	1858.0	29.139	4.078	2.72		Clay	80.2			26.74	1.03	n.a.	n.a.	0.93	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	30.790	1.295	2461.2	1867.8	31.652	4.381	2.71		Clay	79.8			29.10	1.03	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	35.070	1.419	2480.4	1877.0	36.047	4.195	2.66		Clay	75.5			33.15	1.03	n.a.	n.a.	0.93	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	35.940	1.393	2499.6	1886.2	36.783	4.014	2.64		Clay	73.9			33.97	1.03	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	33.140	1.212	2520.0	1896.0	33.629	3.800	2.65		Clay	74.9			31.32	1.03	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	30.650	1.127	2539.2	1905.2	30.842	3.836	2.68		Clay	77.3			28.97	1.03	n.a.	n.a.	0.93	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	28.820	1.214	2559.6	1915.0	28.762	4.408	2.74		Clay	82.4			27.24	1.03	n.a.	n.a.	0.93	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	29.930	1.169	2578.8	1924.2	29.768	4.083	2.71		Clay	79.7			28.29	1.03	n.a.	n.a.	0.93	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	40.990	1.117	2598.0	1933.4	39.246	2.815	2.51		Sand	63.9			38.74	1.05	40.51	101.59	0.92	1.026	1.010	0.139	0.179	0.17	0.03	0.06
21.820	33.120	0.910	2618.4	1943.2	31.375	2.859	2.59		Sand	70.1	38.74		38.74	1.04	40.40	102.81	0.92	1.027	1.009	0.141	0.182	0.18	0.03	0.06
21.980	33.000	0.790	2637.6	1952.4	31.173	2.492	2.55		Sand	67.3	38.74		38.74	1.04	40.31	102.10	0.92	1.028	1.009	0.140	0.180	0.17	0.03	0.06

CORNERSTONE EARTH GROUP

CPT No. 10

PGA (A_{max}) 1.15

Total Settlement: 0.84 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	34.360	0.927	2658.0	1962.2	32.420	2.806	2.57		Sand	68.9	38.74		38.74	1.04	40.21	102.31	0.92	1.030	1.008	0.140	0.180	0.18	0.03	0.06
22.310	37.380	1.433	2677.2	1971.5	36.563	3.977	2.64		Clay	73.9			35.33	1.02	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	48.530	2.552	2696.4	1980.7	47.642	5.408	2.65		Clay	75.0			45.87	1.02	n.a.	n.a.	0.92	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	79.070	3.904	2716.8	1990.5	75.732	5.024	2.49		Sand	62.5	190.11		190.11	1.02	193.20	297.23	0.92	1.033	1.018	#########	########	584950.28	0.00	0.00
22.800	201.140	4.973	2736.0	1999.7	194.235	2.489	2.00		Sand	23.2			190.11	1.02	192.99	252.07	0.92	1.034	1.017	167.005	373.644	361.24	0.00	0.00
22.970	159.500	3.019	2756.4	2009.5	153.364	1.909	1.98		Sand	21.0	190.11		190.11	1.01	192.81	245.64	0.92	1.036	1.015	78.871	176.206	170.16	0.00	0.00
23.130	75.470	2.186	2775.6	2018.7	71.689	2.950	2.34		Sand	50.0	190.11		190.11	1.01	192.49	289.45	0.92	1.037	1.014	56009.518	########	120548.76	0.00	0.00
23.290	43.870	1.523	2794.8	2027.9	41.007	3.585	2.57		Sand	68.5	190.11		190.11	1.01	192.25	298.35	0.92	1.038	1.013	#########	########	735275.01	0.00	0.00
23.460	37.740	1.929	2815.2	2037.7	35.660	5.308	2.73		Clay	81.5			35.67	1.01	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	45.660	2.164	2834.4	2046.9	43.229	4.892	2.65		Clay	74.8			43.16	1.01	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	51.710	2.471	2854.8	2056.7	48.896	4.914	2.61		Clay	72.0			48.88	1.01	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	46.870	2.606	2874.0	2065.9	43.983	5.737	2.69		Clay	78.4			44.30	1.01	n.a.	n.a.	0.91	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	60.340	2.177	2893.2	2075.1	56.210	3.697	2.48		Sand	61.5		1.8	102.66	1.01	103.37	181.58	0.91	1.043	1.004	0.774	1.646	1.58	0.00	0.00
24.280	43.760	1.496	2913.6	2084.9	40.281	3.537	2.57		Sand	68.6	57.03	1.8	102.65	1.01	103.19	183.50	0.91	1.044	1.003	0.839	1.809	1.73	0.00	0.00
24.440	27.060	0.814	2932.8	2094.1	24.443	3.179	2.70		Clay	79.2			25.58	1.00	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	24.930	0.815	2953.2	2103.9	22.295	3.474	2.76		Clay	83.6			23.56	1.00	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	26.320	0.915	2972.4	2113.2	23.504	3.684	2.76		Clay	83.5			24.88	1.00	n.a.	n.a.	0.91	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	26.460	0.938	2991.6	2122.4	23.525	3.756	2.76		Clay	83.9			25.01	1.00	n.a.	n.a.	0.91	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	24.260	0.831	3012.0	2132.2	21.344	3.653	2.79		Clay	85.9			22.93	1.00	n.a.	n.a.	0.91	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	22.810	0.647	3031.2	2141.4	19.889	3.039	2.76		Clay	83.8			21.56	1.00	n.a.	n.a.	0.91	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	19.200	0.528	3051.6	2151.2	16.432	2.987	2.82		Clay	88.6			18.15	1.00	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	16.690	0.477	3070.8	2160.4	14.030	3.148	2.89		Clay	94.1			15.78	0.99	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	17.830	0.471	3090.0	2169.6	15.012	2.890	2.84		Clay	90.5			16.85	0.99	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	19.210	0.512	3110.4	2179.4	16.202	2.899	2.82		Clay	88.4			18.16	0.99	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	18.810	0.524	3129.6	2188.6	15.759	3.037	2.84		Clay	90.2			17.78	0.99	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	17.810	0.522	3150.0	2198.4	14.770	3.217	2.88		Clay	93.2			16.83	0.99	n.a.	n.a.	0.90	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	18.060	0.529	3169.2	2207.6	14.926	3.209	2.87		Clay	92.8			17.07	0.99	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	20.710	0.652	3188.4	2216.8	17.246	3.411	2.84		Clay	90.1			19.57	0.99	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	24.620	0.940	3208.8	2226.6	20.673	4.084	2.83		Clay	89.2			23.27	0.99	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	31.510	1.488	3228.0	2235.8	26.743	4.978	2.80		Clay	87.1			29.78	0.99	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	35.460	1.955	3248.4	2245.6	30.135	5.778	2.81		Clay	87.7			33.52	0.98	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	48.470	2.053	3267.6	2254.8	41.543	4.384	2.63		Clay	73.1			45.81	0.98	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	42.080	1.812	3288.0	2264.6	35.711	4.482	2.68		Clay	77.3			39.77	0.98	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	35.440	1.320	3307.2	2273.9	29.717	3.905	2.70		Clay	78.7			33.50	0.98	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	30.690	1.014	3326.4	2283.1	25.428	3.493	2.72		Clay	80.2			29.01	0.98	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	26.090	0.887	3346.8	2292.9	21.298	3.633	2.78		Clay	85.8			24.66	0.98	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	25.700	0.901	3366.0	2302.1	20.865	3.753	2.80		Clay	87.1			24.29	0.98	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	29.200	1.100	3386.4	2311.9	23.796	3.998	2.78		Clay	85.0			27.60	0.98	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	31.250	1.210	3405.6	2321.1	25.460	4.096	2.76		Clay	83.8			29.54	0.98	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	34.890	1.325	3424.8	2330.3	28.475	3.993	2.72		Clay	80.3			32.98	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	31.190	1.179	3445.2	2340.1	25.185	4.002	2.76		Clay	83.6			29.48	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	31.100	1.082	3464.4	2349.3	25.001	3.684	2.74		Clay	81.9			29.40	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	28.040	0.988	3484.8	2359.1	22.295	3.758	2.78		Clay	85.3			26.50	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	25.160	0.842	3504.0	2368.3	19.768	3.597	2.81		Clay	87.6			23.78	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	22.490	0.747	3523.2	2377.5	17.437	3.605	2.85		Clay	91.0			21.26	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	20.870	0.673	3543.6	2387.3	16.000	3.524	2.87		Clay	92.9			19.73	0.97	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	21.220	0.673	3562.8	2396.5	16.222	3.461	2.86		Clay	92.1			20.06	0.97	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	21.540	0.706	3583.2	2406.3	16.414	3.574	2.87		Clay	92.5			20.36	0.97	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	22.350	0.722	3602.4	2415.6	17.014	3.513	2.85		Clay	91.1			21.12	0.97	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	22.320	0.728	3621.6	2424.8	16.916	3.548	2.86		Clay	91.5			21.10	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	23.390	0.753	3642.0	2434.6	17.719	3.489	2.84		Clay	89.9			22.11	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	24.160	0.792	3661.2	2443.8	18.275	3.546	2.83		Clay	89.4			22.84	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	24.440	0.893	3681.6	2453.6	18.421	3.952	2.86		Clay	91.5			23.10	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	24.500	0.941	3700.8	2462.8	18.393	4.155	2.87		Clay	92.7			23.16	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	26.370	0.963	3720.0	2472.0	19.830	3.927	2.83		Clay	89.4			24.92	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	30.060	0.894	3740.4	2481.8	22.717	3.171	2.73		Clay	81.1			28.41	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	27.910	0.824	3759.6	2491.0	20.899	3.166	2.75		Clay	83.3			26.38	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	28.350	0.741	3780.0	2500.8	21.161	2.802	2.72		Clay	80.3			26.80	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	29.150	0.740	3799.2	2510.0	21.713	2.714	2.70		Clay	78.9			27.55	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	28.120	0.774	3818.4	2519.2	20.809	2.953	2.74		Clay	81.9			26.58	0.96	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	26.690	0.800	3838.8	2529.0	19.589	3.231	2.78		Clay	85.5			25.23	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	26.790	1.023	3858.0	2538.2	19.589	4.114	2.85		Clay	90.8			25.32	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	25.910	1.960	3878.4	2548.0	18.815	8.175	3.06		Clay	100.0			24.49	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	38.060	2.215	3897.6	2557.2	28.242	6.133	2.85		Clay	90.8			35.97	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	50.870	1.935	3916.8	2566.5	38.116	3.956	2.62		Clay	72.7			48.08	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	28.930	1.336	3937.2	2576.3	20.931	4.956	2.88		Clay	93.3			27.34	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	20.730	0.757	3956.4	2585.5	14.506	4.036	2.94		Clay	98.5			19.59	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 10

PGA (A_{max}) 1.15

Total Settlement: 0.84 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	18.460	0.579	3976.8	2595.3	12.694	3.515	2.95		Clay	99.2			17.45	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	16.410	0.499	3996.0	2604.5	11.067	3.459	3.00		Clay	100.0			15.51	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	15.280	0.372	4015.2	2613.7	10.156	2.804	2.97		Clay	100.0			14.44	0.95	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	14.650	0.411	4035.6	2623.5	9.630	3.255	3.03		Clay	100.0			13.85	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	14.360	0.522	4054.8	2632.7	9.369	4.231	3.11		Clay	100.0			13.57	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	17.090	0.743	4075.2	2642.5	11.393	4.933	3.08		Clay	100.0			16.15	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	34.770	0.809	4094.4	2651.7	24.681	2.471	2.63		Clay	73.4			32.86	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	32.570	0.747	4113.6	2660.9	22.934	2.447	2.65		Clay	75.2			30.78	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	35.820	1.202	4134.0	2670.7	25.276	3.562	2.72		Clay	80.8			33.86	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	33.910	1.407	4153.2	2679.9	23.757	4.419	2.80		Clay	87.4			32.05	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	40.980	1.422	4173.6	2689.7	28.920	3.656	2.69		Clay	77.9			38.73	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	37.580	1.384	4192.8	2698.9	26.294	3.900	2.74		Clay	81.8			35.52	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	32.130	1.193	4212.0	2708.2	22.173	3.974	2.80		Clay	86.7			30.37	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	28.290	1.021	4232.4	2718.0	19.260	3.902	2.84		Clay	90.1			26.74	0.94	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	27.440	0.846	4251.6	2727.2	18.564	3.341	2.81		Clay	87.7			25.94	0.94	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	27.530	0.798	4272.0	2737.0	18.556	3.142	2.79		Clay	86.4			26.02	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	27.090	0.851	4291.2	2746.2	18.167	3.410	2.82		Clay	88.7			25.60	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	28.750	0.992	4311.6	2756.0	19.299	3.731	2.83		Clay	89.0			27.17	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	31.960	1.183	4330.8	2765.2	21.550	3.971	2.81		Clay	87.5			30.21	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	41.500	2.118	4350.0	2774.4	28.348	5.385	2.81		Clay	87.5			39.22	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	47.840	6.562	4370.4	2784.2	32.796	14.372	3.08		Clay	100.0			45.22	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	139.640	10.007	4389.6	2793.4	113.067	7.280	2.52		Sand	64.5			131.98	0.91	120.65	204.77	0.85	1.064	0.923	2.499	5.073	4.77	0.00	0.00
36.750	299.290	11.259	4410.0	2803.2	243.964	3.790	2.10		Sand	30.9			282.88	0.93	262.65	353.21	0.85	1.064	0.916	#########	########	##########	0.00	0.00
36.910	231.220	10.360	4429.2	2812.4	187.749	4.524	2.22		Sand	41.0			218.54	0.93	202.74	294.63	0.85	1.064	0.915	#########	########	297088.17	0.00	0.00
37.070	198.160	8.440	4448.4	2821.6	160.375	4.308	2.24		Sand	42.6			187.30	0.93	173.60	259.88	0.84	1.064	0.914	454.276	913.123	858.44	0.00	0.00
37.240	144.000	5.452	4468.8	2831.4	115.835	3.845	2.29		Sand	46.0			136.11	0.91	123.65	200.00	0.84	1.063	0.923	1.890	3.839	3.61	0.00	0.00
37.400	88.590	3.791	4488.0	2840.6	70.438	4.390	2.47		Sand	60.6	136.11		136.11	0.91	123.88	207.56	0.84	1.063	0.915	2.973	5.986	5.63	0.00	0.00
37.570	53.950	2.226	4508.4	2850.4	36.272	4.305	2.66		Clay	76.0			50.99	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	46.210	1.793	4527.6	2859.6	30.735	4.080	2.70		Clay	78.9			43.68	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	41.440	1.751	4546.8	2868.9	27.305	4.471	2.76		Clay	84.0			39.17	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	43.510	1.682	4567.2	2878.7	28.643	4.080	2.72		Clay	80.7			41.12	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	40.160	1.546	4586.4	2887.9	26.225	4.082	2.75		Clay	83.0			37.96	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	35.290	1.463	4606.8	2897.7	22.768	4.435	2.82		Clay	88.5			33.36	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	29.140	1.418	4626.0	2906.9	18.458	5.286	2.94		Clay	98.1			27.54	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	25.660	1.752	4645.2	2916.1	16.006	7.505	3.09		Clay	100.0			24.25	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	21.550	1.854	4665.6	2925.9	13.136	9.649	3.22		Clay	100.0			20.37	0.92	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	38.620	2.021	4684.8	2935.1	24.720	5.571	2.86		Clay	91.8			36.50	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	41.610	1.515	4705.2	2944.9	26.661	3.858	2.73		Clay	81.2			39.33	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	28.550	1.139	4724.4	2954.1	17.730	4.351	2.90		Clay	94.7			26.98	0.92	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	22.040	0.931	4743.6	2963.3	13.274	4.731	3.02		Clay	100.0			20.83	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	24.170	0.788	4764.0	2973.1	14.657	3.615	2.91		Clay	95.8			22.84	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	22.170	0.710	4783.2	2982.3	13.264	3.590	2.94		Clay	98.4			20.95	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	18.970	0.496	4803.6	2992.1	11.075	2.991	2.96		Clay	99.8			17.93	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	17.160	0.463	4822.8	3001.3	9.828	3.141	3.01		Clay	100.0			16.22	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	15.800	0.446	4842.0	3010.6	8.888	3.331	3.06		Clay	100.0			14.93	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	14.460	0.391	4862.4	3020.4	7.965	3.252	3.10		Clay	100.0			13.67	0.91	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	13.530	0.326	4881.6	3029.6	7.321	2.940	3.10		Clay	100.0			12.79	0.91	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	12.670	0.317	4902.0	3039.4	6.724	3.105	3.15		Clay	100.0			11.98	0.91	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	12.670	0.468	4921.2	3048.6	6.698	4.581	3.24		Clay	100.0			11.98	0.91	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	13.380	0.534	4940.4	3057.8	7.136	4.893	3.24		Clay	100.0			12.65	0.91	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	20.530	0.521	4960.8	3067.6	11.768	2.884	2.93		Clay	97.3			19.40	0.91	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	17.620	0.425	4980.0	3076.8	9.835	2.811	2.99		Clay	100.0			16.65	0.91	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	16.270	0.386	5000.4	3086.6	8.922	2.802	3.02		Clay	100.0			15.38	0.91	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	15.890	0.383	5019.6	3095.8	8.644	2.859	3.04		Clay	100.0			15.02	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	16.140	0.435	5038.8	3105.0	8.773	3.192	3.06		Clay	100.0			15.26	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	17.930	0.478	5059.2	3114.8	9.888	3.105	3.01		Clay	100.0			16.95	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	20.520	0.537	5078.4	3124.0	11.511	2.987	2.95		Clay	98.6			19.40	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	20.700	0.627	5098.8	3133.8	11.584	3.457	2.98		Clay	100.0			19.57	0.90	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	21.400	0.651	5118.0	3143.0	11.989	3.456	2.97		Clay	100.0			20.23	0.90	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	22.370	0.653	5137.2	3152.3	12.563	3.296	2.94		Clay	98.2			21.14	0.90	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	22.310	0.591	5157.6	3162.0	12.480	2.996	2.92		Clay	96.4			21.09	0.90	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	20.160	0.613	5176.8	3171.3	11.082	3.490	3.00		Clay	100.0			19.05	0.90	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	20.770	0.820	5197.2	3181.1	11.425	4.513	3.05		Clay	100.0			19.63	0.90	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	23.100	0.953	5216.4	3190.3	12.846	4.652	3.02		Clay	100.0			21.83	0.90	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	34.180	0.911	5236.8	3200.1	19.726	2.888	2.75		Clay	82.9			32.31	0.90	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	34.580	0.850	5256.0	3209.3	19.912	2.661	2.72		Clay	80.9			32.68	0.90	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	27.180	0.714	5275.2	3218.5	15.251	2.908	2.84		Clay	90.2			25.69	0.90	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 10

PGA (A_{max}) 1.15

Total Settlement: 0.84 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	25.440	0.733	5295.6	3228.3	14.120	3.217	2.89		Clay	94.4			24.05	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	25.040	0.707	5314.8	3237.5	13.827	3.159	2.90		Clay	94.6			23.67	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	21.450	0.626	5335.2	3247.3	11.568	3.335	2.97		Clay	100.0			20.27	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	19.810	0.523	5354.4	3256.5	10.522	3.054	2.98		Clay	100.0			18.72	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	19.320	0.646	5373.6	3265.7	10.187	3.886	3.06		Clay	100.0			18.26	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	20.300	0.969	5394.0	3275.5	10.748	5.504	3.13		Clay	100.0			19.19	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	25.600	1.099	5413.2	3284.7	13.939	4.800	3.00		Clay	100.0			24.20	0.89	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	51.340	1.172	5433.6	3294.5	36.831	2.411	2.49		Sand	62.1		1.8	87.35	0.83	72.65	142.36	0.80	1.044	0.934	0.245	0.363	0.35	0.02	0.04
45.440	38.640	0.908	5452.8	3303.7	21.741	2.529	2.68		Clay	77.4			36.52	0.89	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	23.590	0.637	5472.0	3313.0	12.589	3.053	2.92		Clay	96.6			22.30	0.89	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	19.730	0.464	5492.4	3322.8	10.223	2.734	2.97		Clay	100.0			18.65	0.89	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	18.740	0.439	5511.6	3332.0	9.594	2.746	2.99		Clay	100.0			17.71	0.89	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	16.000	0.418	5532.0	3341.8	7.920	3.159	3.09		Clay	100.0			15.12	0.89	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	16.220	0.409	5551.2	3351.0	8.024	3.041	3.08		Clay	100.0			15.33	0.89	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	15.680	0.370	5570.4	3360.2	7.675	2.871	3.08		Clay	100.0			14.82	0.89	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	15.260	0.355	5590.8	3370.0	7.397	2.844	3.09		Clay	100.0			14.42	0.88	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	15.440	0.371	5610.0	3379.2	7.478	2.939	3.10		Clay	100.0			14.59	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	15.840	0.513	5630.4	3389.0	7.687	3.935	3.16		Clay	100.0			14.97	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	17.380	0.480	5649.6	3398.2	8.566	3.296	3.08		Clay	100.0			16.43	0.88	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	21.880	0.579	5668.8	3407.4	11.179	3.042	2.96		Clay	99.8			20.68	0.88	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	19.350	0.662	5689.2	3417.2	9.660	4.010	3.08		Clay	100.0			18.29	0.88	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	21.390	0.609	5708.4	3426.4	10.819	3.286	2.99		Clay	100.0			20.22	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	23.920	0.590	5728.8	3436.2	12.255	2.803	2.91		Clay	95.6			22.61	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	20.220	0.547	5748.0	3445.4	10.069	3.155	3.01		Clay	100.0			19.11	0.88	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	18.840	0.528	5767.2	3454.7	9.238	3.310	3.05		Clay	100.0			17.81	0.88	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	19.510	0.513	5787.6	3464.4	9.592	3.089	3.02		Clay	100.0			18.44	0.88	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	20.290	0.493	5806.8	3473.7	10.011	2.837	2.98		Clay	100.0			19.18	0.88	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	19.840	0.571	5827.2	3483.5	9.718	3.370	3.04		Clay	100.0			18.75	0.88	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	20.450	0.679	5846.4	3492.7	10.036	3.873	3.06		Clay	100.0			19.33	0.88	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	23.900	0.814	5865.6	3501.9	11.975	3.880	3.00		Clay	100.0			22.59	0.88	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	25.680	1.002	5886.0	3511.7	12.949	4.409	3.01		Clay	100.0			24.27	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	27.190	0.870	5905.2	3520.9	13.768	3.591	2.93		Clay	97.4			25.70	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	25.840	0.815	5925.6	3530.7	12.959	3.562	2.95		Clay	98.9			24.42	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	22.320	0.571	5944.8	3539.9	10.931	2.951	2.96		Clay	99.9			21.10	0.87	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	19.600	0.696	5964.0	3549.1	9.365	4.189	3.10		Clay	100.0			18.53	0.87	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	19.490	1.634	5984.4	3558.9	9.271	9.901	3.34		Clay	100.0			18.42	0.87	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 11

PGA (A_{max}) 1.15

Total Settlement: 0.90 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	285.140	0.659	19.2	19.2	2829.209	0.231	0.58		Unsaturated	0.0			269.51	1.70	458.16	458.16	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	217.920	0.906	39.6	39.6	1505.505	0.416	0.89		Unsaturated	0.0			205.97	1.70	350.16	350.16	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	167.020	0.985	58.8	58.8	946.838	0.590	1.11		Unsaturated	0.0			157.86	1.70	268.37	268.37	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	93.380	0.960	79.2	79.2	456.015	1.028	1.48		Unsaturated	0.0			88.26	1.70	150.04	150.04	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	53.160	1.031	98.4	98.4	232.786	1.941	1.87		Unsaturated	12.5			50.25	1.70	85.42	99.70	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	30.420	1.086	117.6	117.6	121.727	3.578	2.25		Unsaturated	43.0			28.75	1.70	48.88	104.43	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	18.070	1.121	138.0	138.0	115.016	6.226	2.46		Unsaturated	59.7			17.08	1.70	29.03	85.80	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	14.550	1.012	157.2	157.2	84.405	6.994	2.58		Unsaturated	69.2			13.75	1.70	23.38	80.66	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	13.960	1.010	177.6	177.6	74.281	7.283	2.63		Unsaturated	73.0			13.19	1.70	22.43	80.11	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	13.780	1.080	196.8	196.8	68.186	7.892	2.68		Unsaturated	77.1			13.02	1.70	22.14	80.37	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	13.710	1.086	216.0	216.0	63.513	7.981	2.70		Unsaturated	78.9			12.96	1.70	22.03	80.49	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	13.890	1.050	236.4	236.4	60.369	7.623	2.70		Unsaturated	78.7			13.13	1.70	22.32	80.84	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	13.910	1.024	255.6	255.6	57.201	7.432	2.70		Unsaturated	79.2			13.15	1.70	22.35	80.95	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	14.650	1.015	276.0	276.0	57.078	6.991	2.68		Unsaturated	77.6			13.85	1.70	23.54	82.27	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	14.880	1.007	295.2	295.2	55.280	6.833	2.68		Unsaturated	77.7			14.06	1.70	23.91	82.76	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	15.250	1.015	314.4	314.4	54.189	6.724	2.68		Unsaturated	77.8			14.41	1.70	24.50	83.54	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	15.980	1.050	334.8	334.8	54.329	6.637	2.68		Unsaturated	77.4			15.10	1.70	25.68	85.00	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	16.910	1.081	354.0	354.0	55.290	6.462	2.67		Unsaturated	76.3			15.98	1.70	27.17	86.77	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	17.880	1.076	374.4	374.4	56.213	6.082	2.64		Unsaturated	74.3			16.90	1.70	28.73	88.47	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	18.040	1.058	393.6	393.6	54.741	5.930	2.64		Unsaturated	74.2			17.05	1.70	28.99	88.80	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	18.070	1.038	412.8	412.8	53.006	5.812	2.64		Unsaturated	74.4			17.08	1.70	29.03	88.89	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	18.890	1.073	433.2	433.2	53.569	5.745	2.64		Unsaturated	73.9			17.85	1.70	30.35	90.51	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	20.750	1.134	452.4	452.4	57.117	5.527	2.61		Unsaturated	71.4			19.61	1.70	33.34	93.94	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	22.460	1.245	472.8	472.8	59.967	5.603	2.60		Unsaturated	70.7			21.23	1.70	36.09	97.35	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	24.810	1.381	492.0	492.0	64.461	5.620	2.58		Unsaturated	69.1			23.45	1.70	39.86	101.92	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	25.440	1.371	512.4	512.4	64.235	5.446	2.57		Unsaturated	68.4			24.05	1.70	40.88	103.07	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	26.540	1.532	531.6	531.6	65.312	5.831	2.58		Unsaturated	69.8			25.09	1.70	42.64	105.64	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	32.920	1.773	550.8	550.8	60.476	5.431	2.58		Unsaturated	69.6			31.12	1.70	52.90	118.85	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	35.940	1.983	571.2	571.2	64.862	5.561	2.57		Unsaturated	68.7			33.97	1.70	57.75	124.90	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	35.000	2.037	590.4	590.4	80.161	5.868	2.53		Unsaturated	65.5			33.08	1.70	56.24	122.20	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	33.640	1.737	610.8	610.8	58.643	5.210	2.58		Unsaturated	69.3			31.80	1.70	54.05	120.26	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	33.380	1.615	630.0	630.0	57.276	4.885	2.56		Unsaturated	68.1			31.55	1.70	53.64	119.47	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	31.390	1.699	649.2	649.2	67.141	5.468	2.56		Unsaturated	67.5			29.67	1.70	50.44	115.20	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	27.860	1.703	669.6	669.6	58.215	6.185	2.64		Unsaturated	73.9			26.33	1.70	44.77	109.18	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	26.120	1.676	688.8	688.8	53.446	6.503	2.68		Unsaturated	77.2			24.69	1.70	41.97	106.11	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	25.860	1.632	709.2	709.2	51.817	6.400	2.68		Unsaturated	77.5			24.44	1.70	41.55	105.62	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	25.630	1.578	728.4	728.4	50.379	6.245	2.68		Unsaturated	77.5			24.22	1.68	40.77	104.60	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	25.490	1.464	747.6	747.6	49.177	5.830	2.67		Unsaturated	76.2			24.09	1.67	40.13	103.57	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	25.550	1.390	768.0	768.0	48.354	5.523	2.65		Unsaturated	75.2			24.15	1.65	39.75	102.91	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	24.170	1.345	787.2	787.2	44.902	5.657	2.68		Unsaturated	77.6			22.84	1.64	37.37	100.21	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	26.130	1.395	807.6	807.6	47.721	5.422	2.65		Unsaturated	75.1			24.70	1.61	39.67	102.78	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	31.930	1.551	826.8	826.8	57.509	4.921	2.57		Unsaturated	68.2			30.18	1.56	47.14	111.11	0.99	0.735	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	38.530	1.642	846.0	846.0	56.963	4.309	2.53		Unsaturated	65.0			36.42	1.52	55.27	120.85	0.99	0.735	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	39.240	1.721	866.4	866.4	57.322	4.434	2.53		Unsaturated	65.6			37.09	1.50	55.63	121.45	0.99	0.734	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.380	35.480	1.689	885.6	885.6	51.190	4.821	2.59		Unsaturated	70.4			33.53	1.50	50.29	115.65	0.98	0.734	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.550	34.620	1.669	906.0	906.0	58.478	4.884	2.56		Unsaturated	67.6			32.72	1.49	48.77	113.09	0.98	0.734	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.710	30.160	1.536	925.2	925.2	50.087	5.171	2.62		Unsaturated	72.7			28.51	1.49	42.57	106.12	0.98	0.733	1.092	n.a.	n.a.	n.a.	0.00	0.00
7.870	28.860	1.382	944.4	944.4	47.195	4.868	2.62		Unsaturated	72.6			27.28	1.49	40.52	103.44	0.98	0.733	1.088	n.a.	n.a.	n.a.	0.00	0.00
8.040	26.730	1.472	964.8	964.8	54.410	5.608	2.62		Clay	72.9			25.26	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	35.260	1.499	984.0	984.0	48.190	4.313	2.58		Sand	69.0		1.78	59.32	1.35	80.36	154.16	0.98	0.741	1.100	0.319	0.602	0.81	0.01	0.03
8.370	34.670	1.267	1004.4	1004.4	46.874	3.709	2.54		Sand	66.0		1.78	58.33	1.35	78.66	151.19	0.98	0.749	1.100	0.297	0.549	0.73	0.02	0.03
8.530	29.470	1.072	1023.6	1023.6	39.353	3.702	2.59		Sand	70.3		1.78	49.58	1.36	67.46	137.79	0.98	0.755	1.100	0.225	0.381	0.50	0.02	0.04
8.690	25.610	0.869	1042.8	1042.8	38.914	3.465	2.57		Mixed	69.0		1.78	43.09	1.37	59.00	126.59	0.98	0.762	1.093	0.187	0.295	0.39	0.03	0.05
8.860	21.940	0.734	1063.2	1063.2	32.759	3.429	2.63		Mixed	73.2		1.78	36.91	1.38	50.76	116.80	0.98	0.769	1.084	0.164	0.243	0.32	0.03	0.05
9.020	13.520	0.632	1082.4	1082.4	23.982	4.869	2.83		Clay	89.4			12.78	1.19	n.a.	n.a.	0.98	0.775	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	12.360	0.553	1102.8	1102.8	21.416	4.679	2.85		Clay	91.4			11.68	1.19	n.a.	n.a.	0.98	0.782	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	13.160	0.540	1122.0	1122.0	22.458	4.282	2.81		Clay	88.1			12.44	1.18	n.a.	n.a.	0.98	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	13.280	0.569	1141.2	1141.2	22.274	4.478	2.83		Clay	89.3			12.55	1.18	n.a.	n.a.	0.98	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	13.470	0.563	1161.6	1161.6	22.192	4.369	2.82		Clay	88.9			12.73	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	13.920	0.524	1180.8	1180.8	22.577	3.930	2.79		Clay	86.0			13.16	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	13.710	0.488	1201.2	1201.2	21.827	3.721	2.78		Clay	85.7			12.96	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	10.580	0.445	1220.4	1220.4	16.339	4.463	2.93		Clay	97.5			10.00	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	8.770	0.452	1239.6	1239.6	13.150	5.546	3.06		Clay	100.0			8.29	1.15	n.a.	n.a.	0.97	0.822	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	8.980	0.464	1260.0	1260.0	13.254	5.560	3.06		Clay	100.0			8.49	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	10.600	0.474	1279.2	1279.2	15.573	4.758	2.96		Clay	100.0			10.02	1.14	n.a.	n.a.	0.97	0.833	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	13.060	0.463	1299.6	1299.6	19.098	3.734	2.83		Clay	89.3			12.34	1.14	n.a.	n.a.	0.97	0.838	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	11.490	0.398	1318.8	1318.8	16.425	3.676	2.88		Clay	93.1			10.86	1.13	n.a.	n.a.	0.97	0.843	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 11

PGA (A_{max}) 1.15

Total Settlement: 0.90 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	10.720	0.341	1338.0	1338.0	15.024	3.393	2.89		Clay	93.8			10.13	1.13	n.a.	n.a.	0.97	0.848	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	10.110	0.326	1358.4	1358.4	13.885	3.451	2.92		Clay	96.3			9.56	1.12	n.a.	n.a.	0.97	0.853	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	11.080	0.272	1377.6	1377.6	15.086	2.621	2.82		Clay	88.4			10.47	1.12	n.a.	n.a.	0.97	0.858	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	11.980	0.322	1398.0	1398.0	16.139	2.853	2.81		Clay	88.2			11.32	1.12	n.a.	n.a.	0.97	0.863	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	12.520	0.352	1417.2	1417.2	16.669	2.980	2.82		Clay	88.2			11.83	1.11	n.a.	n.a.	0.97	0.867	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	14.880	0.404	1437.6	1437.6	19.701	2.853	2.75		Clay	82.7			14.06	1.11	n.a.	n.a.	0.97	0.872	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	15.620	0.394	1456.8	1448.1	20.568	2.643	2.71		Clay	79.9			14.76	1.11	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	15.660	0.438	1476.0	1457.3	20.479	2.933	2.74		Clay	82.2			14.80	1.10	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	17.040	0.494	1496.4	1467.1	22.210	3.031	2.72		Clay	80.7			16.11	1.10	n.a.	n.a.	0.97	0.885	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	19.460	0.477	1515.6	1476.3	25.337	2.548	2.63		Clay	73.4			18.39	1.10	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	18.380	0.493	1536.0	1486.1	23.703	2.799	2.68		Clay	77.2			17.37	1.10	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	19.650	0.608	1555.2	1495.3	25.242	3.223	2.70		Clay	78.6			18.57	1.10	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	22.760	0.656	1574.4	1504.5	29.209	2.986	2.63		Clay	73.0			21.51	1.09	n.a.	n.a.	0.96	0.900	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	25.020	0.788	1594.8	1514.3	31.992	3.252	2.62		Clay	72.6			23.65	1.09	n.a.	n.a.	0.96	0.904	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	25.060	0.799	1614.0	1523.5	31.838	3.296	2.62		Clay	73.0			23.69	1.09	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	25.120	0.828	1634.4	1533.3	31.700	3.408	2.64		Clay	73.9			23.74	1.09	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	25.990	0.863	1653.6	1542.5	32.626	3.429	2.63		Clay	73.3			24.57	1.09	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	26.780	0.964	1672.8	1551.7	33.438	3.717	2.64		Clay	74.5			25.31	1.09	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	27.720	1.070	1693.2	1561.5	34.419	3.980	2.66		Clay	75.4			26.20	1.08	n.a.	n.a.	0.96	0.922	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	29.470	1.168	1712.4	1570.8	36.433	4.081	2.64		Clay	74.6			27.85	1.08	n.a.	n.a.	0.96	0.926	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	30.060	1.174	1732.8	1580.5	36.941	4.022	2.64		Clay	73.9			28.41	1.08	n.a.	n.a.	0.96	0.929	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	30.240	1.178	1752.0	1589.8	36.941	4.013	2.64		Clay	73.8			28.58	1.08	n.a.	n.a.	0.96	0.932	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	31.450	1.366	1771.2	1599.0	38.230	4.469	2.66		Clay	75.6			29.73	1.08	n.a.	n.a.	0.96	0.935	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	31.730	1.395	1791.6	1608.8	38.333	4.525	2.66		Clay	75.8			29.99	1.07	n.a.	n.a.	0.96	0.939	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	32.710	1.445	1810.8	1618.0	39.314	4.543	2.65		Clay	75.3			30.92	1.07	n.a.	n.a.	0.95	0.942	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	35.830	1.387	1831.2	1627.8	39.652	3.973	2.61		Mixed	71.8	39.91	1.61	64.26	1.11	71.63	143.51	0.95	0.945	1.040	0.251	0.417	0.44	0.02	0.04
15.420	37.980	1.428	1850.4	1637.0	39.819	3.854	2.60		Sand	71.0	39.91	1.61	64.26	1.11	71.47	143.13	0.95	0.948	1.039	0.249	0.412	0.43	0.02	0.04
15.580	40.960	1.358	1869.6	1646.2	42.891	3.393	2.54		Sand	66.0	39.91	1.61	64.26	1.11	71.35	141.79	0.95	0.950	1.037	0.243	0.397	0.42	0.02	0.05
15.750	42.220	1.306	1890.0	1656.0	44.099	3.165	2.51		Sand	63.7		1.61	64.25	1.11	71.19	140.95	0.95	0.953	1.036	0.239	0.388	0.41	0.02	0.04
15.910	38.170	1.158	1909.2	1665.2	39.651	3.111	2.54		Sand	66.0		1.61	58.08	1.11	64.43	132.87	0.95	0.956	1.033	0.207	0.319	0.33	0.02	0.05
16.080	34.000	1.153	1929.6	1675.0	36.774	3.490	2.60		Mixed	70.6		1.61	51.74	1.11	57.44	124.92	0.95	0.959	1.030	0.183	0.269	0.28	0.03	0.05
16.240	35.150	1.276	1948.8	1684.2	37.898	3.734	2.61		Mixed	71.4		1.61	53.49	1.11	59.18	127.34	0.95	0.962	1.030	0.190	0.282	0.29	0.02	0.05
16.400	38.030	1.480	1968.0	1693.4	40.924	3.994	2.60		Mixed	71.2		1.61	57.87	1.10	63.72	133.15	0.95	0.964	1.031	0.208	0.320	0.33	0.02	0.05
16.570	38.450	1.640	1988.4	1703.2	43.982	4.378	2.61		Clay	71.6			36.34	1.06	n.a.	n.a.	0.95	0.967	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	40.560	1.671	2007.6	1712.4	43.357	4.224	2.60		Mixed	71.1	41.02	1.8	73.84	1.09	80.29	154.55	0.95	0.969	1.035	0.322	0.574	0.59	0.02	0.04
16.900	43.400	1.639	2028.0	1722.2	44.407	3.866	2.57		Sand	68.3		1.8	73.84	1.09	80.13	153.69	0.95	0.972	1.034	0.315	0.558	0.57	0.02	0.04
17.060	41.930	1.531	2047.2	1731.5	42.742	3.743	2.57		Sand	68.5	41.02	1.8	73.84	1.08	79.96	153.51	0.95	0.974	1.033	0.314	0.554	0.57	0.02	0.04
17.220	37.510	1.431	2066.4	1740.7	39.527	3.922	2.61		Mixed	71.6	41.02	1.8	73.84	1.08	79.78	154.00	0.95	0.977	1.032	0.317	0.562	0.58	0.02	0.04
17.390	33.200	1.372	2086.8	1750.5	36.741	4.266	2.66		Clay	75.4			31.38	1.05	n.a.	n.a.	0.94	0.979	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	33.960	1.347	2106.0	1759.7	37.401	4.093	2.64		Clay	74.0			32.10	1.05	n.a.	n.a.	0.94	0.981	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	36.290	1.283	2126.4	1769.5	37.736	3.641	2.60		Mixed	71.0		1.8	61.74	1.08	66.62	136.86	0.94	0.983	1.026	0.221	0.347	0.35	0.02	0.04
17.880	34.370	1.186	2145.6	1778.7	35.540	3.563	2.61		Mixed	72.0	34.3	1.8	61.74	1.08	66.48	136.88	0.94	0.986	1.025	0.221	0.347	0.35	0.02	0.04
18.040	30.570	1.291	2164.8	1787.9	32.986	4.378	2.70		Clay	78.8			28.89	1.05	n.a.	n.a.	0.94	0.988	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	33.650	1.430	2185.2	1797.7	36.221	4.393	2.67		Clay	76.5			31.81	1.04	n.a.	n.a.	0.94	0.990	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	34.130	1.303	2204.4	1806.9	36.557	3.946	2.63		Clay	73.7			32.26	1.04	n.a.	n.a.	0.94	0.992	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	27.870	0.989	2224.8	1816.7	29.457	3.697	2.68		Clay	77.7			26.34	1.04	n.a.	n.a.	0.94	0.994	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	23.370	0.885	2244.0	1825.9	24.369	3.977	2.77		Clay	84.3			22.09	1.04	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	19.950	0.852	2263.2	1835.1	20.509	4.527	2.86		Clay	91.8			18.86	1.04	n.a.	n.a.	0.94	0.998	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	20.640	0.694	2283.6	1844.9	21.137	3.561	2.78		Clay	85.6			19.51	1.04	n.a.	n.a.	0.94	1.000	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	20.890	0.637	2302.8	1854.1	21.291	3.227	2.75		Clay	83.2			19.74	1.04	n.a.	n.a.	0.94	1.002	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	18.770	0.631	2323.2	1863.9	18.894	3.584	2.82		Clay	88.7			17.74	1.03	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	18.840	0.801	2342.4	1873.2	18.865	4.535	2.89		Clay	94.0			17.81	1.03	n.a.	n.a.	0.93	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	20.990	0.785	2362.8	1882.9	21.040	3.963	2.81		Clay	88.1			19.84	1.03	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	27.680	0.741	2382.0	1892.2	27.999	2.798	2.62		Clay	72.7			26.16	1.03	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	22.400	0.623	2401.2	1901.4	22.299	2.938	2.71		Clay	79.9			21.17	1.03	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	18.970	0.531	2421.6	1911.2	18.585	2.992	2.78		Clay	85.3			17.93	1.03	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	16.300	0.505	2440.8	1920.4	15.705	3.346	2.87		Clay	92.3			15.41	1.03	n.a.	n.a.	0.93	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	15.200	0.443	2461.2	1930.2	14.475	3.171	2.88		Clay	93.4			14.37	1.02	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	15.000	0.460	2480.4	1939.4	14.190	3.339	2.90		Clay	95.1			14.18	1.02	n.a.	n.a.	0.93	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	15.240	0.721	2499.6	1948.6	14.359	5.153	3.01		Clay	100.0			14.40	1.02	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	19.920	0.967	2520.0	1958.4	19.056	5.183	2.92		Clay	96.8			18.83	1.02	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	28.420	0.876	2539.2	1967.6	27.597	3.225	2.67		Clay	76.2			26.86	1.02	n.a.	n.a.	0.93	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	34.340	0.789	2559.6	1977.4	32.324	2.386	2.53		Sand	65.3		1.8	58.42	1.03	60.20	127.26	0.93	1.023	1.009	0.189	0.276	0.27	0.02	0.05
21.490	27.060	0.915	2578.8	1986.6	25.944	3.549	2.71		Clay	80.0			25.58	1.02	n.a.	n.a.	0.93	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	27.010	0.956	2598.0	1995.8	25.765	3.717	2.73		Clay	81.3			25.53	1.02	n.a.	n.a.	0.92	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	30.480	1.030	2618.4	2005.6	29.089	3.531	2.67		Clay	76.9			28.81	1.01	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	25.460	0.979	2637.6	2014.8	23.963	4.054	2.78		Clay	85.2			24.06	1.01	n.a.	n.a.	0.92	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 11

PGA (A_{max}) 1.15

Total Settlement: 0.90 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	29.500	0.997	2658.0	2024.6	27.828	3.541	2.69		Clay	78.1			27.88	1.01	n.a.	n.a.	0.92	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	30.080	1.012	2677.2	2033.9	28.263	3.521	2.68		Clay	77.6			28.43	1.01	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	29.160	1.565	2696.4	2043.1	27.225	5.626	2.83		Clay	89.6			27.56	1.01	n.a.	n.a.	0.92	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	29.890	2.277	2716.8	2052.9	27.797	7.979	2.93		Clay	97.7			28.25	1.01	n.a.	n.a.	0.92	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	44.650	2.296	2736.0	2062.1	41.979	5.305	2.68		Clay	77.6			42.20	1.01	n.a.	n.a.	0.92	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	49.310	1.859	2756.4	2071.9	45.784	3.879	2.56		Sand	67.7		1.8	83.89	1.01	84.58	159.26	0.92	1.036	1.004	0.364	0.651	0.63	0.02	0.03
23.130	32.680	1.385	2775.6	2081.1	30.073	4.427	2.73		Clay	81.4			30.89	1.00	n.a.	n.a.	0.92	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	29.210	1.015	2794.8	2090.3	26.611	3.649	2.71		Clay	80.0			27.61	1.00	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	32.830	1.295	2815.2	2100.1	29.925	4.122	2.71		Clay	79.8			31.03	1.00	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	32.240	1.169	2834.4	2109.3	29.225	3.794	2.69		Clay	78.5			30.47	1.00	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	32.130	1.185	2854.8	2119.1	28.977	3.860	2.70		Clay	79.1			30.37	1.00	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	33.530	1.324	2874.0	2128.3	30.158	4.126	2.71		Clay	79.6			31.69	1.00	n.a.	n.a.	0.91	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	34.150	1.407	2893.2	2137.5	30.599	4.303	2.72		Clay	80.2			32.28	1.00	n.a.	n.a.	0.91	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	32.360	1.334	2913.6	2147.3	28.783	4.316	2.74		Clay	81.9			30.59	1.00	n.a.	n.a.	0.91	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	29.550	0.903	2932.8	2156.5	26.045	3.214	2.68		Clay	77.7			27.93	1.00	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	25.890	0.810	2953.2	2166.3	22.539	3.319	2.74		Clay	82.3			24.47	0.99	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	21.580	0.719	2972.4	2175.6	18.472	3.576	2.83		Clay	89.3			20.40	0.99	n.a.	n.a.	0.91	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	20.150	0.676	2991.6	2184.8	17.077	3.624	2.86		Clay	91.7			19.05	0.99	n.a.	n.a.	0.91	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	17.770	0.689	3012.0	2194.6	14.822	4.233	2.95		Clay	98.9			16.80	0.99	n.a.	n.a.	0.91	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	17.380	0.661	3031.2	2203.8	14.397	4.168	2.95		Clay	99.4			16.43	0.99	n.a.	n.a.	0.91	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	19.440	0.625	3051.6	2213.6	16.186	3.488	2.87		Clay	92.3			18.37	0.99	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	17.220	0.601	3070.8	2222.8	14.113	3.829	2.94		Clay	98.1			16.28	0.99	n.a.	n.a.	0.91	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	15.550	0.623	3090.0	2232.0	12.549	4.451	3.02		Clay	100.0			14.70	0.99	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	15.420	0.644	3110.4	2241.8	12.369	4.648	3.04		Clay	100.0			14.57	0.98	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	17.360	0.605	3129.6	2251.0	14.034	3.830	2.94		Clay	98.2			16.41	0.98	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	16.350	0.603	3150.0	2260.8	13.071	4.083	2.98		Clay	100.0			15.45	0.98	n.a.	n.a.	0.90	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	15.440	0.665	3169.2	2270.0	12.207	4.800	3.05		Clay	100.0			14.59	0.98	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	17.440	1.084	3188.4	2279.2	13.905	6.838	3.10		Clay	100.0			16.48	0.98	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	20.680	1.159	3208.8	2289.0	16.667	6.078	3.01		Clay	100.0			19.55	0.98	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	33.680	2.333	3228.0	2298.2	27.905	7.276	2.90		Clay	95.3			31.83	0.98	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	80.170	2.027	3248.4	2308.0	71.084	2.580	2.30		Sand	46.8		1.8	136.40	0.97	132.73	211.94	0.90	1.056	0.974	3.969	8.505	8.05	0.00	0.00
27.230	50.350	1.807	3267.6	2317.2	44.001	3.709	2.56		Sand	67.5	75.78	1.8	136.40	0.97	132.71	221.26	0.90	1.057	0.973	7.870	16.843	15.94	0.00	0.00
27.400	29.720	1.346	3288.0	2327.0	24.130	4.794	2.82		Clay	88.9			28.09	0.98	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	28.990	1.187	3307.2	2336.3	23.402	4.342	2.80		Clay	87.3			27.40	0.97	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	29.510	1.250	3326.4	2345.5	23.745	4.489	2.81		Clay	87.7			27.89	0.97	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	28.870	1.285	3346.8	2355.3	23.094	4.726	2.83		Clay	89.6			27.29	0.97	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	28.930	1.276	3366.0	2364.5	23.047	4.684	2.83		Clay	89.5			27.34	0.97	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	28.020	1.212	3386.4	2374.3	22.177	4.603	2.84		Clay	90.1			26.48	0.97	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	26.330	1.156	3405.6	2383.5	20.665	4.694	2.87		Clay	92.4			24.89	0.97	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	23.720	1.040	3424.8	2392.7	18.396	4.725	2.91		Clay	95.6			22.42	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	23.000	0.955	3445.2	2402.5	17.713	4.487	2.91		Clay	95.4			21.74	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	24.340	0.879	3464.4	2411.7	18.748	3.888	2.85		Clay	90.7			23.01	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	27.240	0.847	3484.8	2421.5	21.059	3.320	2.76		Clay	84.1			25.75	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	30.080	0.872	3504.0	2430.7	23.308	3.079	2.71		Clay	79.7			28.43	0.96	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	31.620	0.792	3523.2	2439.9	24.475	2.651	2.65		Clay	75.2			29.89	0.96	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	30.280	0.680	3543.6	2449.7	23.275	2.386	2.64		Clay	74.3			28.62	0.96	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	28.770	0.700	3562.8	2458.9	21.951	2.594	2.68		Clay	77.7			27.19	0.96	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	29.340	0.829	3583.2	2468.7	22.318	3.010	2.72		Clay	80.4			27.73	0.96	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	31.640	0.884	3602.4	2478.0	24.083	2.961	2.69		Clay	78.0			29.91	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	31.010	0.891	3621.6	2487.2	23.480	3.053	2.70		Clay	79.3			29.31	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	27.740	0.682	3642.0	2497.0	20.760	2.630	2.71		Clay	79.5			26.22	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	23.750	0.626	3661.2	2506.2	17.492	2.857	2.79		Clay	86.0			22.45	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	20.720	0.590	3681.6	2516.0	15.008	3.125	2.86		Clay	92.1			19.58	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	18.450	0.597	3700.8	2525.2	13.147	3.593	2.95		Clay	98.7			17.44	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	17.240	0.713	3720.0	2534.4	12.137	4.638	3.04		Clay	100.0			16.29	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	16.430	0.551	3740.4	2544.2	11.446	3.786	3.01		Clay	100.0			15.53	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	21.820	0.526	3759.6	2553.4	15.618	2.636	2.81		Clay	87.5			20.62	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	16.170	0.505	3780.0	2563.2	11.142	3.536	3.00		Clay	100.0			15.28	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	14.860	0.485	3799.2	2572.4	10.076	3.744	3.05		Clay	100.0			14.05	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	15.750	0.495	3818.4	2581.6	10.723	3.573	3.02		Clay	100.0			14.89	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	16.410	0.507	3838.8	2591.4	11.184	3.500	3.00		Clay	100.0			15.51	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	16.410	0.510	3858.0	2600.6	11.136	3.519	3.00		Clay	100.0			15.51	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	15.290	0.508	3878.4	2610.4	10.229	3.802	3.05		Clay	100.0			14.45	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	15.360	0.529	3897.6	2619.6	10.239	3.944	3.06		Clay	100.0			14.52	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	15.490	0.537	3916.8	2628.9	10.295	3.970	3.06		Clay	100.0			14.64	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	15.770	0.553	3937.2	2638.7	10.461	4.005	3.05		Clay	100.0			14.91	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	17.330	0.701	3956.4	2647.9	11.596	4.568	3.05		Clay	100.0			16.38	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 11

PGA (A_{max}) 1.15

Total Settlement: 0.90 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	19.740	0.882	3976.8	2657.7	13.359	4.969	3.03		Clay	100.0			18.66	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	27.900	0.947	3996.0	2666.9	19.425	3.655	2.82		Clay	88.4			26.37	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	34.930	1.481	4015.2	2676.1	24.605	4.499	2.80		Clay	86.9			33.02	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	42.100	1.861	4035.6	2685.9	29.847	4.644	2.75		Clay	82.7			39.79	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	45.750	2.310	4054.8	2695.1	32.446	5.284	2.76		Clay	83.7			43.24	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	48.970	1.928	4075.2	2704.9	34.702	4.109	2.66		Clay	76.0			46.29	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	48.690	1.708	4094.4	2714.1	34.371	3.663	2.63		Clay	73.5			46.02	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	33.950	1.263	4113.6	2723.3	23.422	3.961	2.78		Clay	85.2			32.09	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	26.630	1.029	4134.0	2733.1	17.974	4.188	2.88		Clay	93.5			25.17	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	22.290	0.800	4153.2	2742.3	14.742	3.956	2.93		Clay	97.6			21.07	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	18.050	0.648	4173.6	2752.1	11.601	4.056	3.02		Clay	100.0			17.06	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	16.940	0.582	4192.8	2761.3	10.751	3.919	3.04		Clay	100.0			16.01	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	16.970	0.598	4212.0	2770.6	10.730	4.022	3.05		Clay	100.0			16.04	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	15.950	0.606	4232.4	2780.4	9.951	4.381	3.09		Clay	100.0			15.08	0.93	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	15.770	0.559	4251.6	2789.6	9.782	4.096	3.08		Clay	100.0			14.91	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	16.020	0.530	4272.0	2799.4	9.919	3.817	3.06		Clay	100.0			15.14	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	16.500	0.568	4291.2	2808.6	10.222	3.956	3.06		Clay	100.0			15.60	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	17.430	0.727	4311.6	2818.4	10.839	4.757	3.09		Clay	100.0			16.47	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	25.020	0.820	4330.8	2827.6	16.165	3.589	2.87		Clay	93.0			23.65	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	30.180	0.857	4350.0	2836.8	19.744	3.061	2.76		Clay	84.1			28.53	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	31.650	0.921	4370.4	2846.6	20.702	3.126	2.75		Clay	83.3			29.91	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	28.060	0.938	4389.6	2855.8	18.114	3.626	2.84		Clay	90.1			26.52	0.92	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	25.050	0.900	4410.0	2865.6	15.944	3.940	2.90		Clay	95.4			23.68	0.92	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	20.690	0.902	4429.2	2874.8	12.853	4.884	3.04		Clay	100.0			19.56	0.92	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	19.140	0.838	4448.4	2884.0	11.731	4.955	3.07		Clay	100.0			18.09	0.92	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	19.370	0.815	4468.8	2893.8	11.843	4.757	3.06		Clay	100.0			18.31	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	18.620	0.666	4488.0	2903.0	11.282	4.064	3.03		Clay	100.0			17.60	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	18.120	0.640	4508.4	2912.8	10.894	4.031	3.04		Clay	100.0			17.13	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	16.570	1.003	4527.6	2922.0	9.792	7.011	3.23		Clay	100.0			15.66	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	28.660	1.557	4546.8	2931.3	18.004	5.901	2.98		Clay	100.0			27.09	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	45.310	1.829	4567.2	2941.1	29.259	4.250	2.73		Clay	81.1			42.83	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	39.590	1.701	4586.4	2950.3	25.284	4.560	2.79		Clay	86.5			37.42	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	31.230	1.175	4606.8	2960.1	19.545	4.063	2.84		Clay	90.6			29.52	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	26.480	1.599	4626.0	2969.3	16.278	6.617	3.04		Clay	100.0			25.03	0.91	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	29.190	3.774	4645.2	2978.5	18.041	14.045	3.24		Clay	100.0			27.59	0.91	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	112.550	4.781	4665.6	2988.3	87.662	4.338	2.40		Sand	55.4	156.81		156.81	0.90	141.68	228.07	0.84	1.061	0.896	13.842	27.299	25.74	0.00	0.00
39.040	165.910	5.039	4684.8	2997.5	129.894	3.081	2.18		Sand	37.5			156.81	0.90	140.71	214.16	0.83	1.060	0.896	4.632	9.127	8.61	0.00	0.00
39.210	80.060	3.288	4705.2	3007.3	61.609	4.232	2.50		Sand	62.7	156.81		156.81	0.90	141.60	231.07	0.83	1.060	0.895	18.078	35.578	33.56	0.00	0.00
39.370	44.540	2.099	4724.4	3016.5	27.965	4.977	2.79		Clay	86.0			42.10	0.91	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	32.740	1.443	4743.6	3025.7	20.073	4.752	2.88		Clay	93.4			30.95	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	19.580	0.781	4764.0	3035.5	11.331	4.541	3.06		Clay	100.0			18.51	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	16.770	0.524	4783.2	3044.7	9.445	3.642	3.07		Clay	100.0			15.85	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	15.620	0.673	4803.6	3054.5	8.655	5.089	3.18		Clay	100.0			14.76	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	17.060	1.058	4822.8	3063.7	9.563	7.223	3.24		Clay	100.0			16.12	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	42.640	2.954	4842.0	3073.0	26.176	7.344	2.93		Clay	97.1			40.30	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	65.880	4.286	4862.4	3082.8	41.164	6.754	2.76		Clay	84.2			62.27	0.91	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	99.000	4.535	4881.6	3092.0	75.500	4.696	2.47		Sand	60.8		1.8	168.43	0.90	151.69	243.27	0.83	1.057	0.886	60.774	118.489	112.12	0.00	0.00
40.850	68.900	3.727	4902.0	3101.8	42.846	5.609	2.69		Clay	78.5			65.12	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	45.120	2.429	4921.2	3111.0	27.425	5.694	2.83		Clay	89.7			42.65	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	33.970	1.348	4940.4	3120.2	20.191	4.280	2.85		Clay	90.9			32.11	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	26.430	1.002	4960.8	3130.0	15.303	4.183	2.93		Clay	97.8			24.98	0.90	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	26.040	0.940	4980.0	3139.2	15.004	3.992	2.93		Clay	97.3			24.61	0.90	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	32.920	1.064	5000.4	3149.0	19.320	3.496	2.81		Clay	87.6			31.12	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	40.060	1.143	5019.6	3158.2	23.779	3.045	2.70		Clay	78.9			37.86	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	42.010	1.255	5038.8	3167.4	24.935	3.177	2.70		Clay	78.6			39.71	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	41.700	1.353	5059.2	3177.2	24.657	3.454	2.72		Clay	80.8			39.41	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	40.280	1.270	5078.4	3186.4	23.688	3.365	2.73		Clay	81.3			38.07	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	36.440	1.187	5098.8	3196.2	21.207	3.501	2.78		Clay	85.1			34.44	0.90	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	34.090	1.017	5118.0	3205.4	19.673	3.227	2.78		Clay	85.3			32.22	0.90	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	32.120	0.980	5137.2	3214.7	18.385	3.317	2.81		Clay	87.8			30.36	0.90	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	29.440	0.886	5157.6	3224.4	16.661	3.299	2.84		Clay	90.4			27.83	0.89	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	29.720	0.939	5176.8	3233.7	16.781	3.462	2.85		Clay	91.2			28.09	0.89	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	33.450	1.029	5197.2	3243.5	19.024	3.335	2.80		Clay	87.0			31.62	0.89	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	33.600	1.129	5216.4	3252.7	19.056	3.642	2.82		Clay	88.8			31.76	0.89	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	32.070	1.146	5236.8	3262.5	18.055	3.891	2.86		Clay	91.7			30.31	0.89	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	30.510	1.074	5256.0	3271.7	17.044	3.851	2.88		Clay	93.1			28.84	0.89	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	29.720	1.018	5275.2	3280.9	16.509	3.760	2.88		Clay	93.4			28.09	0.89	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 11

PGA (A_{max}) 1.15

Total Settlement: 0.90 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	28.930	0.982	5295.6	3290.7	15.974	3.736	2.89		Clay	94.2			27.34	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	27.940	0.962	5314.8	3299.9	15.323	3.804	2.91		Clay	95.7			26.41	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	28.220	0.984	5335.2	3309.7	15.441	3.850	2.91		Clay	95.7			26.67	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	27.330	0.911	5354.4	3318.9	14.856	3.696	2.91		Clay	95.9			25.83	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	31.400	0.953	5373.6	3328.1	17.255	3.317	2.83		Clay	89.5			29.68	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	35.610	1.674	5394.0	3337.9	19.721	5.085	2.91		Clay	95.4			33.66	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	38.710	2.198	5413.2	3347.1	21.513	6.104	2.93		Clay	97.5			36.59	0.89	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	63.020	2.298	5433.6	3356.9	35.928	3.811	2.63		Clay	73.3			59.57	0.89	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	51.930	2.040	5452.8	3366.1	29.234	4.145	2.72		Clay	80.5			49.08	0.88	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	42.660	1.405	5472.0	3375.4	23.656	3.519	2.74		Clay	82.3			40.32	0.88	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	38.000	1.286	5492.4	3385.2	20.828	3.647	2.79		Clay	86.5			35.92	0.88	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	35.570	1.361	5511.6	3394.4	19.334	4.149	2.85		Clay	91.3			33.62	0.88	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	35.910	1.663	5532.0	3404.2	19.473	5.016	2.91		Clay	95.5			33.94	0.88	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	36.670	3.262	5551.2	3413.4	19.860	9.625	3.09		Clay	100.0			34.66	0.88	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	47.370	5.480	5570.4	3422.6	26.053	12.291	3.09		Clay	100.0			44.77	0.88	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	170.200	6.165	5590.8	3432.4	124.234	3.683	2.25		Sand	43.4	234.68	1.78	417.73	0.88	367.68	503.27	0.79	1.039	0.855	#########	########	#########	0.00	0.00
46.750	248.290	6.074	5610.0	3441.6	181.935	2.474	2.02		Sand	24.3		1.78	417.73	0.88	367.42	459.19	0.79	1.038	0.854	#########	########	#########	0.00	0.00
46.920	242.040	3.803	5630.4	3451.4	177.044	1.590	1.87		Sand	12.9	234.68	1.78	417.73	0.88	367.15	399.93	0.79	1.038	0.853	#########	########	#########	0.00	0.00
47.080	183.590	3.077	5649.6	3460.6	133.601	1.702	1.98		Sand	21.2	234.68	1.78	417.73	0.88	366.89	445.75	0.79	1.037	0.852	#########	########	#########	0.00	0.00
47.240	99.660	2.872	5668.8	3469.8	71.468	2.966	2.34		Sand	50.2	234.68	1.78	417.73	0.88	366.63	509.91	0.79	1.037	0.852	#########	########	#########	0.00	0.00
47.410	55.520	2.202	5689.2	3479.6	30.277	4.180	2.71		Clay	79.8			52.48	0.88	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	47.500	1.913	5708.4	3488.8	25.594	4.284	2.77		Clay	84.7			44.90	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	40.700	1.595	5728.8	3498.6	21.629	4.214	2.82		Clay	88.7			38.47	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	33.740	1.302	5748.0	3507.8	17.598	4.217	2.89		Clay	94.2			31.89	0.88	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	30.340	1.173	5767.2	3517.1	15.613	4.271	2.93		Clay	97.7			28.68	0.87	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	28.770	1.071	5787.6	3526.8	14.674	4.140	2.95		Clay	98.7			27.19	0.87	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	27.990	1.005	5806.8	3536.1	14.189	4.005	2.95		Clay	98.9			26.46	0.87	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	27.200	0.988	5827.2	3545.9	13.698	4.069	2.97		Clay	100.0			25.71	0.87	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	25.290	0.933	5846.4	3555.1	12.583	4.170	3.00		Clay	100.0			23.90	0.87	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	23.540	0.890	5865.6	3564.3	11.563	4.319	3.04		Clay	100.0			22.25	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	21.240	0.803	5886.0	3574.1	10.239	4.389	3.09		Clay	100.0			20.08	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	19.750	0.771	5905.2	3583.3	9.375	4.589	3.13		Clay	100.0			18.67	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	18.150	0.706	5925.6	3593.1	8.454	4.647	3.17		Clay	100.0			17.16	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	16.890	0.635	5944.8	3602.3	7.727	4.565	3.19		Clay	100.0			15.96	0.87	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	14.220	0.572	5964.0	3611.5	6.223	5.088	3.30		Clay	100.0			13.44	0.87	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	13.950	0.621	5984.4	3621.3	6.052	5.665	3.33		Clay	100.0			13.19	0.87	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	16.110	0.648	6003.6	3630.5	7.221	4.942	3.24		Clay	100.0			15.23	0.87	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	20.230	0.720	6024.0	3640.3	9.460	4.179	3.10		Clay	100.0			19.12	0.87	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	22.470	0.887	6043.2	3649.5	10.658	4.559	3.08		Clay	100.0			21.24	0.87	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	24.820	0.861	6062.4	3658.8	11.911	3.950	3.01		Clay	100.0			23.46	0.87	n.a.	n.a.	0.77	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	27.210	0.799	6082.8	3668.5	13.176	3.306	2.92		Clay	96.9			25.72	0.86	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	21.880	0.674	6102.0	3677.8	10.239	3.579	3.03		Clay	100.0			20.68	0.86	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	18.670	0.593	6122.4	3687.6	8.466	3.797	3.11		Clay	100.0			17.65	0.86	n.a.	n.a.	0.77	1.022	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	16.450	0.565	6141.6	3696.8	7.238	4.224	3.20		Clay	100.0			15.55	0.86	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	15.890	0.540	6162.0	3706.6	6.912	4.213	3.21		Clay	100.0			15.02	0.86	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	15.990	0.535	6181.2	3715.8	6.943	4.148	3.21		Clay	100.0			15.11	0.86	n.a.	n.a.	0.77	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	16.220	0.516	6200.4	3725.0	7.044	3.929	3.19		Clay	100.0			15.33	0.86	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	17.170	0.504	6220.8	3734.8	7.529	3.581	3.14		Clay	100.0			16.23	0.86	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	18.110	0.603	6240.0	3744.0	8.007	4.019	3.15		Clay	100.0			17.12	0.86	n.a.	n.a.	0.76	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	21.460	0.932	6260.4	3753.8	9.766	5.084	3.14		Clay	100.0			20.28	0.86	n.a.	n.a.	0.76	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	29.170	1.455	6279.6	3763.0	13.835	5.589	3.05		Clay	100.0			27.57	0.86	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	42.710	1.973	6298.8	3772.2	20.975	4.986	2.88		Clay	93.4			40.37	0.86	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	48.450	2.747	6319.2	3782.0	23.950	6.065	2.90		Clay	94.6			45.79	0.86	n.a.	n.a.	0.76	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	61.880	3.645	6338.4	3791.2	30.972	6.209	2.82		Clay	88.8			58.49	0.86	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	74.780	4.511	6358.8	3801.0	37.674	6.301	2.77		Clay	84.5			70.68	0.86	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	81.150	4.477	6378.0	3810.2	40.922	5.742	2.71		Clay	80.2			76.70	0.86	n.a.	n.a.	0.76	1.013	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	108.250	4.585	6397.2	3819.5	73.905	4.364	2.45		Sand	59.3			102.32	0.79	80.78	151.93	0.76	1.012	0.904	0.302	0.461	0.46	0.02	0.00
53.480	146.060	4.238	6417.6	3829.2	100.369	2.967	2.24		Sand	42.2			138.05	0.81	111.95	182.67	0.76	1.012	0.871	0.810	1.506	1.49	0.00	0.00
53.640	144.450	3.657	6436.8	3838.5	99.112	2.589	2.20		Sand	39.0			136.53	0.81	110.16	177.81	0.76	1.011	0.877	0.666	1.200	1.19	0.01	0.00
53.810	137.870	3.707	6457.2	3848.3	94.367	2.753	2.23		Sand	41.7			130.31	0.80	104.62	173.13	0.76	1.010	0.882	0.561	0.979	0.97	0.01	0.00
53.970	91.300	3.247	6476.4	3857.5	61.646	3.687	2.45		Sand	59.2			86.29	0.77	66.61	133.75	0.75	1.009	0.916	0.210	0.288	0.29	0.02	0.00
54.130	54.840	2.482	6495.6	3866.7	26.685	4.811	2.79		Clay	86.4			51.83	0.85	n.a.	n.a.	0.75	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	32.080	1.583	6516.0	3876.5	14.870	5.491	3.02		Clay	100.0			30.32	0.85	n.a.	n.a.	0.75	1.008	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	24.430	1.182	6535.2	3885.7	10.892	5.587	3.13		Clay	100.0			23.09	0.85	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	22.730	1.073	6555.6	3895.5	9.987	5.514	3.15		Clay	100.0			21.48	0.85	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	21.810	1.314	6574.8	3904.7	9.487	7.094	3.24		Clay	100.0			20.61	0.85	n.a.	n.a.	0.75	1.006	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	22.060	1.533	6594.0	3913.9	9.588	8.170	3.28		Clay	100.0			20.85	0.85	n.a.	n.a.	0.75	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	12

PGA (A_{max})	1.15

Total Settlement:	0.75	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	226.830	0.485	19.2	19.2	2250.628	0.214	0.56		Unsaturated	0.0			214.40	1.70	364.47	364.47	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	161.670	0.426	39.6	39.6	1116.865	0.263	0.77		Unsaturated	0.0			152.81	1.70	259.77	259.77	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	119.350	0.710	58.8	58.8	676.548	0.595	1.18		Unsaturated	0.0			112.81	1.70	191.77	191.77	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	88.790	0.952	79.2	79.2	433.591	1.072	1.50		Unsaturated	0.0			83.92	1.70	142.67	142.67	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	48.920	0.981	98.4	98.4	214.202	2.008	1.90		Unsaturated	15.1			46.24	1.70	78.60	100.23	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	21.500	0.767	117.6	117.6	85.964	3.578	2.35		Unsaturated	50.7			20.32	1.70	34.55	89.97	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	9.820	0.655	138.0	138.0	62.303	6.716	2.65		Unsaturated	74.6			9.28	1.70	15.78	71.75	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	9.200	0.612	157.2	157.2	53.201	6.712	2.69		Unsaturated	78.1			8.70	1.70	14.78	70.97	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	13.130	0.824	177.6	177.6	69.837	6.315	2.59		Unsaturated	70.5			12.41	1.70	21.10	77.94	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	15.800	1.027	196.8	196.8	78.253	6.543	2.57		Unsaturated	69.0			14.93	1.70	25.39	83.21	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	16.340	1.168	216.0	216.0	75.793	7.193	2.62		Unsaturated	72.3			15.44	1.70	26.26	84.93	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	16.140	1.085	236.4	236.4	70.232	6.773	2.62		Unsaturated	72.2			15.26	1.70	25.93	84.51	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	16.050	1.098	255.6	255.6	66.082	6.897	2.64		Unsaturated	74.1			15.17	1.70	25.79	84.63	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	16.230	1.117	276.0	276.0	63.292	6.941	2.65		Unsaturated	75.2			15.34	1.70	26.08	85.18	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	15.970	1.094	295.2	295.2	59.370	6.917	2.67		Unsaturated	76.5			15.09	1.70	25.66	84.85	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	15.600	1.018	314.4	314.4	55.445	6.589	2.67		Unsaturated	76.7			14.74	1.70	25.07	84.11	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	16.000	1.009	334.8	334.8	54.397	6.372	2.67		Unsaturated	76.3			15.12	1.70	25.71	84.87	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	17.060	1.057	354.0	354.0	55.786	6.262	2.65		Unsaturated	75.2			16.12	1.70	27.41	86.92	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	18.010	1.100	374.4	374.4	56.626	6.170	2.64		Unsaturated	74.5			17.02	1.70	28.94	88.78	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	19.040	1.164	393.6	393.6	57.808	6.176	2.64		Unsaturated	74.1			18.00	1.70	30.59	90.85	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	20.440	1.226	412.8	412.8	60.039	6.060	2.62		Unsaturated	72.7			19.32	1.70	32.84	93.53	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	22.300	1.348	433.2	433.2	63.352	6.104	2.61		Unsaturated	71.7			21.08	1.70	35.83	97.21	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	23.230	1.419	452.4	452.4	64.019	6.168	2.61		Unsaturated	71.7			21.96	1.70	37.33	99.15	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	24.670	1.445	472.8	472.8	65.931	5.914	2.59		Unsaturated	70.0			23.32	1.70	39.64	101.80	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	25.990	1.507	492.0	492.0	67.558	5.853	2.58		Unsaturated	69.2			24.57	1.70	41.76	104.37	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	27.050	1.573	512.4	512.4	68.341	5.870	2.57		Unsaturated	69.0			25.57	1.70	43.46	106.53	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	29.000	1.701	531.6	531.6	71.427	5.920	2.57		Unsaturated	68.2			27.41	1.70	46.60	110.42	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	32.280	1.860	550.8	550.8	77.605	5.810	2.54		Unsaturated	65.9			30.51	1.70	51.87	116.68	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	34.520	2.025	571.2	571.2	80.926	5.914	2.53		Unsaturated	65.5			32.63	1.70	55.47	121.21	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	37.940	2.278	590.4	590.4	67.360	6.051	2.59		Unsaturated	70.1			35.86	1.70	60.96	129.36	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	41.350	2.513	610.8	610.8	72.207	6.122	2.57		Unsaturated	68.9			39.08	1.70	66.43	136.15	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	44.540	2.812	630.0	630.0	76.607	6.357	2.57		Unsaturated	68.7			42.10	1.66	69.95	140.63	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	49.420	3.048	649.2	649.2	83.777	6.208	2.54		Unsaturated	66.1			46.71	1.62	75.62	147.30	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	51.560	3.128	669.6	669.6	86.069	6.106	2.53		Unsaturated	65.1			48.73	1.59	77.57	149.54	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	49.540	3.011	688.8	688.8	81.499	6.120	2.54		Unsaturated	66.3			46.82	1.59	74.24	145.57	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	46.170	2.814	709.2	709.2	74.800	6.141	2.57		Unsaturated	68.2			43.64	1.58	69.14	139.49	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	41.560	2.599	728.4	728.4	82.143	6.308	2.55		Unsaturated	66.9			39.28	1.59	62.58	130.72	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	37.180	2.312	747.6	747.6	72.066	6.280	2.58		Unsaturated	69.6			35.14	1.60	56.17	123.08	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	33.160	2.090	768.0	768.0	62.976	6.376	2.62		Unsaturated	73.0			31.34	1.60	50.19	116.02	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	28.050	1.989	787.2	787.2	70.265	7.190	2.64		Unsaturated	73.9			26.51	1.61	42.78	106.59	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	26.690	1.999	807.6	807.6	65.097	7.604	2.68		Unsaturated	77.0			25.23	1.60	40.41	104.07	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	27.630	2.111	826.8	826.8	65.836	7.757	2.68		Unsaturated	77.3			26.12	1.58	41.26	105.22	0.99	0.735	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	29.140	2.201	846.0	846.0	67.889	7.663	2.67		Unsaturated	76.4			27.54	1.56	42.87	107.15	0.99	0.735	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	37.120	2.011	866.4	866.4	64.786	5.483	2.57		Unsaturated	68.3			35.09	1.51	52.89	118.55	0.99	0.734	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.380	68.900	1.922	885.6	885.6	100.017	2.807	2.22		Unsaturated	40.9			65.12	1.41	91.70	156.42	0.98	0.734	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.550	101.080	1.969	906.0	906.0	145.353	1.956	2.00		Unsaturated	22.9			95.54	1.36	129.68	177.92	0.98	0.734	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.710	124.460	2.413	925.2	925.2	177.242	1.946	1.94		Unsaturated	18.3			117.64	1.32	155.41	194.71	0.98	0.733	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.870	147.680	3.021	944.4	944.4	208.269	2.052	1.92		Unsaturated	16.3			139.58	1.29	179.38	214.29	0.98	0.733	1.100	n.a.	n.a.	n.a.	0.00	0.00
8.040	198.700	3.335	964.8	964.8	277.457	1.682	1.77		Sand	4.9			187.81	1.25	235.00	235.19	0.98	0.734	1.100	26.597	64.364	87.67	0.00	0.00
8.200	245.060	3.300	984.0	984.0	338.980	1.349	1.65		Sand	0.0			231.63	1.22	283.47	283.47	0.98	0.741	1.100	18359.317	44429.547	59942.97	0.00	0.00
8.370	282.070	3.502	1004.4	1004.4	386.280	1.244	1.58		Sand	0.0			266.61	1.22	324.52	324.52	0.98	0.749	1.100	##########	########	##########	0.00	0.00
8.530	304.620	2.701	1023.6	1023.6	413.271	0.888	1.45		Sand	0.0			287.92	1.21	348.72	348.72	0.98	0.755	1.100	##########	########	##########	0.00	0.00
8.690	277.910	2.260	1042.8	1042.8	373.474	0.815	1.44		Sand	0.0			262.67	1.21	316.59	316.59	0.98	0.762	1.100	##########	########	##########	0.00	0.00
8.860	229.580	1.980	1063.2	1063.2	305.416	0.865	1.52		Sand	0.0			216.99	1.20	260.20	260.20	0.98	0.769	1.100	474.501	1148.292	1493.57	0.00	0.00
9.020	161.960	1.609	1082.4	1082.4	213.320	0.997	1.67		Sand	0.0			153.08	1.26	192.26	192.26	0.98	0.775	1.100	1.255	3.037	3.92	0.00	0.00
9.190	120.210	1.417	1102.8	1102.8	156.663	1.185	1.82		Sand	8.3			113.62	1.30	147.49	151.79	0.98	0.782	1.100	0.301	0.559	0.72	0.02	0.03
9.350	96.530	1.580	1122.0	1122.0	124.568	1.646	1.99		Sand	22.1			91.24	1.28	116.55	160.84	0.98	0.788	1.100	0.380	0.754	0.96	0.01	0.02
9.510	84.750	1.956	1141.2	1141.2	108.342	2.323	2.14		Sand	34.1			80.10	1.27	101.50	162.40	0.98	0.794	1.100	0.397	0.798	1.00	0.01	0.02
9.680	86.970	1.954	1161.6	1161.6	110.206	2.262	2.13		Sand	33.0			82.20	1.26	103.36	163.44	0.98	0.800	1.100	0.410	0.829	1.04	0.01	0.01
9.840	107.890	2.135	1180.8	1180.8	135.763	1.990	2.02		Sand	24.9			101.98	1.23	125.84	177.76	0.98	0.806	1.100	0.665	1.502	1.86	0.00	0.00
10.010	94.160	1.822	1201.2	1201.2	117.369	1.947	2.06		Sand	27.7	101.98		101.98	1.22	124.67	181.61	0.97	0.812	1.100	0.775	1.805	2.22	0.00	0.00
10.170	52.480	1.547	1220.4	1220.4	64.556	2.983	2.37		Sand	52.8	101.98		101.98	1.20	122.09	201.89	0.97	0.817	1.100	2.106	5.096	6.24	0.00	0.00
10.330	29.120	1.059	1239.6	1239.6	39.168	3.714	2.59		Mixed	70.5	101.98		101.98	1.19	121.03	207.04	0.97	0.822	1.100	2.877	6.962	8.47	0.00	0.00
10.500	20.960	0.758	1260.0	1260.0	32.270	3.729	2.66		Clay	75.5			19.81	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	16.040	0.629	1279.2	1279.2	24.078	4.083	2.78		Clay	85.2			15.16	1.14	n.a.	n.a.	0.97	0.833	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	13.730	0.564	1299.6	1299.6	20.130	4.312	2.85		Clay	91.1			12.98	1.14	n.a.	n.a.	0.97	0.838	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	14.000	0.569	1318.8	1318.8	20.231	4.261	2.85		Clay	90.7			13.23	1.13	n.a.	n.a.	0.97	0.843	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 12

PGA (A_{max}) 1.15

Total Settlement: 0.75 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	14.350	0.563	1338.0	1338.0	20.450	4.117	2.83		Clay	89.7			13.56	1.13	n.a.	n.a.	0.97	0.848	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	14.050	0.525	1358.4	1358.4	19.686	3.929	2.83		Clay	89.6			13.28	1.12	n.a.	n.a.	0.97	0.853	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	15.460	0.527	1377.6	1377.6	21.445	3.569	2.78		Clay	85.2			14.61	1.12	n.a.	n.a.	0.97	0.858	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	17.340	0.514	1398.0	1398.0	23.807	3.088	2.70		Clay	79.2			16.39	1.12	n.a.	n.a.	0.97	0.863	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	16.470	0.445	1417.2	1417.2	22.243	2.823	2.70		Clay	79.1			15.57	1.11	n.a.	n.a.	0.97	0.867	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	16.340	0.469	1437.6	1437.6	21.732	3.002	2.73		Clay	81.1			15.44	1.11	n.a.	n.a.	0.97	0.872	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	17.460	0.543	1456.8	1456.8	22.970	3.247	2.73		Clay	81.3			16.50	1.10	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	20.790	0.632	1476.0	1476.0	27.171	3.150	2.66		Clay	76.1			19.65	1.10	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	21.160	0.615	1496.4	1496.4	27.281	3.013	2.65		Clay	75.0			20.00	1.10	n.a.	n.a.	0.97	0.885	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	21.300	0.567	1515.6	1515.6	27.108	2.760	2.63		Clay	73.3			20.13	1.09	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	19.510	0.503	1536.0	1536.0	24.404	2.682	2.66		Clay	75.5			18.44	1.09	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	18.510	0.470	1555.2	1555.2	22.804	2.653	2.68		Clay	77.1			17.50	1.08	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	18.600	0.446	1574.4	1566.9	22.736	2.506	2.66		Clay	76.0			17.58	1.08	n.a.	n.a.	0.96	0.900	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	18.090	0.498	1594.8	1576.7	21.935	2.880	2.71		Clay	79.9			17.10	1.08	n.a.	n.a.	0.96	0.904	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	18.770	0.568	1614.0	1585.9	22.653	3.159	2.73		Clay	81.1			17.74	1.08	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	19.680	0.615	1634.4	1595.7	23.642	3.260	2.72		Clay	80.6			18.60	1.08	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	20.380	0.579	1653.6	1604.9	24.366	2.960	2.68		Clay	77.7			19.26	1.08	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	24.360	0.560	1672.8	1614.1	26.873	2.380	2.59		Mixed	70.3		1.8	41.44	1.14	47.11	111.51	0.96	0.919	1.032	0.155	0.212	0.23	0.03	0.06
14.110	21.540	0.506	1693.2	1623.9	25.485	2.443	2.62		Clay	72.3			20.36	1.07	n.a.	n.a.	0.96	0.922	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	21.250	0.481	1712.4	1633.2	24.975	2.359	2.61		Clay	72.1			20.09	1.07	n.a.	n.a.	0.96	0.926	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	21.740	0.513	1732.8	1642.9	25.410	2.456	2.62		Clay	72.5			20.55	1.07	n.a.	n.a.	0.96	0.929	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	21.650	0.527	1752.0	1652.2	25.148	2.535	2.63		Clay	73.5			20.46	1.07	n.a.	n.a.	0.96	0.932	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	21.840	0.594	1771.2	1661.4	25.225	2.835	2.66		Clay	75.8			20.64	1.07	n.a.	n.a.	0.96	0.935	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	23.790	0.685	1791.6	1671.2	27.399	2.992	2.65		Clay	74.8			22.49	1.06	n.a.	n.a.	0.96	0.939	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	25.730	0.821	1810.8	1680.4	29.546	3.305	2.65		Clay	75.0			24.32	1.06	n.a.	n.a.	0.95	0.942	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	26.330	0.850	1831.2	1690.2	30.073	3.344	2.65		Clay	74.8			24.89	1.06	n.a.	n.a.	0.95	0.945	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	28.370	0.867	1850.4	1699.4	32.300	3.157	2.61		Clay	71.6			26.81	1.06	n.a.	n.a.	0.95	0.948	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	29.000	0.891	1869.6	1708.6	32.852	3.173	2.60		Clay	71.3			27.41	1.06	n.a.	n.a.	0.95	0.950	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	30.700	1.053	1890.0	1718.4	34.631	3.540	2.62		Clay	72.5			29.02	1.06	n.a.	n.a.	0.95	0.953	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	34.430	1.366	1909.2	1727.6	38.753	4.082	2.63		Clay	73.0			32.54	1.05	n.a.	n.a.	0.95	0.956	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	41.170	1.460	1929.6	1737.4	41.938	3.632	2.57		Sand	68.2		1.8	70.04	1.08	75.88	148.19	0.95	0.959	1.031	0.277	0.471	0.49	0.02	0.04
16.240	41.130	1.340	1948.8	1746.6	41.775	3.337	2.54		Sand	66.3		1.8	69.98	1.08	75.67	147.42	0.95	0.962	1.030	0.272	0.460	0.48	0.02	0.04
16.400	34.750	1.180	1968.0	1755.8	36.368	3.494	2.60		Mixed	70.9		1.8	59.12	1.08	64.08	133.56	0.95	0.964	1.026	0.209	0.321	0.33	0.02	0.05
16.570	32.230	1.052	1988.4	1765.6	33.512	3.369	2.61		Mixed	72.2		1.8	54.83	1.08	59.40	127.78	0.95	0.967	1.024	0.191	0.283	0.29	0.02	0.05
16.730	30.620	1.097	2007.6	1774.8	33.373	3.703	2.64		Clay	74.5			28.94	1.05	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	33.310	1.156	2028.0	1784.6	36.193	3.579	2.61		Clay	71.6			31.48	1.05	n.a.	n.a.	0.95	0.972	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	36.480	1.035	2047.2	1793.9	36.398	2.918	2.55		Sand	66.7		1.8	62.06	1.07	66.60	135.85	0.95	0.974	1.023	0.217	0.338	0.35	0.02	0.04
17.220	31.690	0.913	2066.4	1803.1	32.411	2.978	2.59		Mixed	70.2		1.8	53.91	1.07	57.91	125.44	0.95	0.977	1.021	0.184	0.269	0.28	0.03	0.05
17.390	28.440	0.818	2086.8	1812.9	30.225	2.987	2.61		Clay	72.1			26.88	1.04	n.a.	n.a.	0.94	0.979	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	29.650	0.790	2106.0	1822.1	30.012	2.763	2.59		Mixed	70.6		1.78	49.88	1.07	53.41	119.71	0.94	0.981	1.019	0.171	0.240	0.25	0.03	0.05
17.720	31.450	0.862	2126.4	1831.9	30.868	2.838	2.59		Sand	70.4		1.78	52.91	1.07	56.46	123.61	0.94	0.983	1.018	0.180	0.259	0.26	0.03	0.05
17.880	32.860	0.977	2145.6	1841.1	33.119	3.073	2.59		Mixed	70.4		1.78	55.28	1.06	58.81	126.63	0.94	0.986	1.018	0.188	0.275	0.28	0.03	0.05
18.040	35.040	1.031	2164.8	1850.3	34.323	3.035	2.58		Sand	69.1		1.78	58.95	1.06	62.50	131.14	0.94	0.988	1.018	0.201	0.302	0.31	0.02	0.05
18.210	36.490	1.232	2185.2	1860.1	36.616	3.481	2.60		Mixed	70.7		1.78	61.39	1.06	64.89	134.55	0.94	0.990	1.018	0.213	0.326	0.33	0.02	0.05
18.370	38.910	1.520	2204.4	1869.3	40.451	4.020	2.61		Clay	71.6			36.78	1.03	n.a.	n.a.	0.94	0.992	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	43.300	1.914	2224.8	1879.1	44.902	4.537	2.61		Clay	72.0			40.93	1.03	n.a.	n.a.	0.94	0.994	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	47.640	2.454	2244.0	1888.3	49.269	5.276	2.63		Clay	73.6			45.03	1.03	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	60.040	2.998	2263.2	1897.5	58.797	5.090	2.57		Sand	68.6	64.15	1.78	114.19	1.04	118.31	203.00	0.94	0.998	1.030	2.248	5.091	5.10	0.00	0.00
19.030	67.870	3.184	2283.6	1907.3	66.431	4.772	2.51		Sand	64.1		1.78	114.19	1.03	118.14	201.42	0.94	1.000	1.028	2.049	4.632	4.63	0.00	0.00
19.190	67.810	3.121	2302.8	1916.5	66.202	4.682	2.51		Sand	63.7		1.78	114.08	1.03	117.85	200.91	0.94	1.002	1.026	1.990	4.494	4.49	0.00	0.00
19.360	70.920	3.046	2323.2	1926.3	69.104	4.367	2.47		Sand	60.9		1.78	119.32	1.03	122.97	206.49	0.94	1.004	1.027	2.780	6.279	6.26	0.00	0.00
19.520	72.590	2.740	2342.4	1935.6	70.580	3.836	2.43		Sand	57.0		1.78	122.13	1.03	125.64	208.38	0.93	1.005	1.026	3.134	7.074	7.04	0.00	0.00
19.690	51.210	2.572	2362.8	1945.3	51.434	5.142	2.61		Clay	72.0			48.40	1.02	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	41.470	2.504	2382.0	1954.6	41.215	6.217	2.74		Clay	82.0			39.20	1.02	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	61.490	2.930	2401.2	1963.8	59.152	4.861	2.55		Sand	67.3	151.36		151.36	1.02	154.43	249.17	0.93	1.011	1.022	118.055	265.538	262.77	0.00	0.00
20.180	158.270	3.127	2421.6	1973.6	153.713	1.991	1.99		Sand	22.1	151.36		151.36	1.02	154.80	205.01	0.93	1.012	1.019	2.536	5.688	5.62	0.00	0.00
20.340	160.140	3.561	2440.8	1982.8	155.171	2.241	2.03		Sand	25.0			151.36	1.02	154.49	211.69	0.93	1.014	1.020	3.902	8.752	8.63	0.00	0.00
20.510	91.920	3.248	2461.2	1992.6	88.333	3.582	2.34		Sand	50.1	151.36		151.36	1.02	153.92	240.75	0.93	1.015	1.018	46.497	104.138	102.55	0.00	0.00
20.670	62.700	2.678	2480.4	2001.8	59.725	4.357	2.52		Sand	64.2	151.36		151.36	1.02	153.66	247.11	0.93	1.017	1.017	93.057	208.133	204.66	0.00	0.00
20.830	44.490	2.358	2499.6	2011.0	43.004	5.453	2.68		Clay	77.7			42.05	1.01	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	44.140	3.346	2520.0	2020.8	42.439	7.803	2.80		Clay	87.2			41.72	1.01	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	65.020	4.530	2539.2	2030.0	62.808	7.106	2.66		Clay	76.0			61.46	1.01	n.a.	n.a.	0.93	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	109.990	4.756	2559.6	2039.8	104.652	4.375	2.36		Sand	51.7			103.96	1.01	105.33	180.12	0.93	1.023	1.008	0.730	1.538	1.50	0.00	0.00
21.490	94.080	4.490	2578.8	2049.0	89.126	4.839	2.44		Sand	57.9			88.92	1.01	90.02	163.25	0.93	1.024	1.006	0.407	0.752	0.73	0.01	0.03
21.650	128.280	5.326	2598.0	2058.2	121.692	4.194	2.30		Sand	47.4			121.25	1.01	122.36	199.25	0.92	1.026	1.007	1.811	4.014	3.91	0.00	0.00
21.820	146.880	4.561	2618.4	2068.0	139.177	3.133	2.17		Sand	36.5			138.83	1.01	139.83	212.00	0.92	1.027	1.007	3.985	8.826	8.59	0.00	0.00
21.980	98.260	4.555	2637.6	2077.2	92.478	4.699	2.42		Sand	56.4			92.87	1.01	93.52	167.12	0.92	1.028	1.003	0.458	0.870	0.85	0.01	0.02

CORNERSTONE EARTH GROUP

CPT No. 12

PGA (A_{max}) 1.15

Total Settlement: 0.75 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	70.810	5.310	2658.0	2087.0	66.583	7.643	2.67		Clay	76.7			66.93	1.00	n.a.	n.a.	0.92	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	110.180	4.587	2677.2	2096.3	103.358	4.214	2.35		Sand	51.0			104.14	1.00	104.49	178.68	0.92	1.031	1.002	0.689	1.428	1.39	0.00	0.00
22.470	140.240	4.324	2696.4	2105.5	131.605	3.113	2.18		Sand	37.5			132.55	1.00	132.77	204.37	0.92	1.032	1.001	2.439	5.373	5.21	0.00	0.00
22.640	252.310	2.787	2716.8	2115.3	237.236	1.111	1.67		Sand	0.0			238.48	1.00	238.50	238.50	0.92	1.033	1.000	36.910	81.209	78.60	0.00	0.00
22.800	149.440	1.683	2736.0	2124.5	139.675	1.136	1.84		Sand	10.1	238.48		238.48	1.00	238.22	250.33	0.92	1.034	0.999	135.474	297.685	287.80	0.00	0.00
22.970	79.920	1.363	2756.4	2134.3	73.918	1.735	2.17		Sand	36.3	238.48		238.48	1.00	237.94	332.40	0.92	1.036	0.997	##########	########	##########	0.00	0.00
23.130	39.150	1.082	2775.6	2143.5	35.462	2.865	2.55		Sand	67.0	238.48		238.48	1.00	237.67	356.31	0.92	1.037	0.996	##########	########	##########	0.00	0.00
23.290	21.820	1.093	2794.8	2152.7	18.974	5.352	2.93		Clay	97.6			20.62	1.00	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	16.580	1.072	2815.2	2162.5	14.032	7.065	3.11		Clay	100.0			15.67	0.99	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	18.840	1.069	2834.4	2171.7	16.045	6.136	3.03		Clay	100.0			17.81	0.99	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	17.380	1.491	2854.8	2181.5	14.625	9.348	3.18		Clay	100.0			16.43	0.99	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	34.380	1.208	2874.0	2190.7	30.075	3.666	2.67		Clay	76.9			32.50	0.99	n.a.	n.a.	0.91	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	78.950	1.609	2893.2	2199.9	71.844	2.076	2.23		Sand	41.3	113.88		113.88	0.99	112.32	182.41	0.91	1.043	0.992	0.801	1.692	1.62	0.00	0.00
24.280	95.060	2.288	2913.6	2209.7	86.575	2.445	2.22		Sand	40.7	113.88		113.88	0.98	112.14	181.72	0.91	1.044	0.991	0.779	1.635	1.57	0.00	0.00
24.440	116.180	2.878	2932.8	2218.9	105.880	2.509	2.17		Sand	36.6	113.88		113.88	0.98	111.95	177.83	0.91	1.045	0.990	0.667	1.356	1.30	0.00	0.01
24.610	120.490	3.416	2953.2	2228.7	109.607	2.870	2.20		Sand	39.4			113.88	0.98	111.79	180.17	0.91	1.045	0.989	0.731	1.513	1.45	0.00	0.00
24.770	120.160	4.216	2972.4	2238.0	109.069	3.553	2.28		Sand	45.2			113.57	0.98	111.36	184.00	0.91	1.046	0.988	0.857	1.827	1.75	0.00	0.00
24.930	118.400	4.582	2991.6	2247.2	107.222	3.919	2.32		Sand	48.2			111.91	0.98	109.56	183.61	0.91	1.047	0.987	0.843	1.789	1.71	0.00	0.00
25.100	135.930	5.457	3012.0	2257.0	123.023	4.060	2.29		Sand	46.3			128.48	0.98	125.81	202.86	0.91	1.048	0.982	2.228	4.816	4.60	0.00	0.00
25.260	150.850	5.481	3031.2	2266.2	136.391	3.670	2.23		Sand	41.3			142.58	0.98	139.60	216.37	0.91	1.049	0.979	5.430	11.701	11.16	0.00	0.00
25.430	203.480	5.282	3051.6	2276.0	184.053	2.615	2.03		Sand	25.7			192.33	0.98	188.65	253.27	0.91	1.050	0.978	193.571	416.545	396.86	0.00	0.00
25.590	224.800	6.621	3070.8	2285.2	203.063	2.966	2.05		Sand	27.2			212.48	0.98	208.21	280.01	0.91	1.050	0.977	9965.275	21417.703	20391.13	0.00	0.00
25.750	213.540	7.817	3090.0	2294.4	192.426	3.687	2.14		Sand	34.5			201.83	0.98	197.57	280.34	0.90	1.051	0.976	10547.005	22639.958	21540.07	0.00	0.00
25.920	169.290	9.448	3110.4	2304.2	151.927	5.633	2.35		Sand	51.4			160.01	0.98	156.31	244.53	0.90	1.052	0.974	69.758	149.545	142.18	0.00	0.00
26.080	175.030	9.758	3129.6	2313.4	156.804	5.625	2.35		Sand	50.7			165.43	0.98	161.54	250.77	0.90	1.052	0.973	142.727	305.598	290.36	0.00	0.00
26.250	207.110	8.957	3150.0	2323.2	185.402	4.358	2.21		Sand	40.1			195.76	0.98	190.99	279.12	0.90	1.053	0.972	8545.961	18274.205	17351.45	0.00	0.00
26.410	212.910	6.896	3169.2	2332.4	190.248	3.263	2.10		Sand	31.3			201.24	0.97	196.13	273.42	0.90	1.054	0.971	3329.478	7110.870	6747.72	0.00	0.00
26.570	188.800	5.842	3188.4	2341.6	168.202	3.121	2.12		Sand	32.5			178.45	0.97	173.63	248.08	0.90	1.054	0.970	104.038	221.927	210.47	0.00	0.00
26.740	174.680	4.801	3208.8	2351.4	155.182	2.774	2.10		Sand	30.9			165.10	0.97	160.09	229.21	0.90	1.055	0.968	15.300	32.595	30.89	0.00	0.00
26.900	120.730	4.264	3228.0	2360.6	106.593	3.579	2.29		Sand	45.9			114.11	0.96	109.78	182.48	0.90	1.056	0.976	0.803	1.672	1.58	0.00	0.00
27.070	73.320	3.444	3248.4	2370.4	64.025	4.804	2.53		Sand	65.1	114.11		114.11	0.96	109.77	190.98	0.90	1.056	0.973	1.178	2.523	2.39	0.00	0.00
27.230	41.780	2.261	3267.6	2379.6	33.741	5.631	2.77		Clay	84.3			39.49	0.97	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	26.790	1.616	3288.0	2389.4	21.048	6.426	2.95		Clay	99.3			25.32	0.97	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	21.490	1.278	3307.2	2398.7	16.540	6.444	3.03		Clay	100.0			20.31	0.97	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	21.670	1.162	3326.4	2407.9	16.618	5.810	3.00		Clay	100.0			20.48	0.97	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	26.700	1.204	3346.8	2417.7	20.703	4.811	2.87		Clay	92.9			25.24	0.97	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	31.430	1.603	3366.0	2426.9	24.515	5.389	2.85		Clay	91.2			29.71	0.96	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	38.540	1.685	3386.4	2436.7	30.244	4.574	2.74		Clay	82.0			36.43	0.96	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	33.540	1.437	3405.6	2445.9	26.033	4.514	2.78		Clay	85.5			31.70	0.96	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	29.190	1.138	3424.8	2455.1	22.384	4.140	2.81		Clay	87.4			27.59	0.96	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	26.030	0.980	3445.2	2464.9	19.723	4.031	2.84		Clay	90.2			24.60	0.96	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	24.150	0.963	3464.4	2474.1	18.122	4.294	2.89		Clay	93.8			22.83	0.96	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	22.110	0.947	3484.8	2483.9	16.400	4.649	2.94		Clay	98.3			20.90	0.96	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	20.640	0.922	3504.0	2493.1	15.152	4.882	2.98		Clay	100.0			19.51	0.96	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	20.070	0.893	3523.2	2502.3	14.633	4.879	2.99		Clay	100.0			18.97	0.96	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	18.940	0.860	3543.6	2512.1	13.668	5.006	3.02		Clay	100.0			17.90	0.96	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	17.980	0.802	3562.8	2521.3	12.849	4.949	3.04		Clay	100.0			16.99	0.95	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	16.550	0.753	3583.2	2531.1	11.661	5.104	3.08		Clay	100.0			15.64	0.95	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	15.350	0.678	3602.4	2540.4	10.667	5.004	3.11		Clay	100.0			14.51	0.95	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	13.790	0.627	3621.6	2549.6	9.397	5.237	3.16		Clay	100.0			13.03	0.95	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	13.940	0.637	3642.0	2559.4	9.470	5.252	3.16		Clay	100.0			13.18	0.95	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	17.140	0.714	3661.2	2568.6	11.921	4.664	3.05		Clay	100.0			16.20	0.95	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	18.780	0.991	3681.6	2578.4	13.139	5.849	3.08		Clay	100.0			17.75	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	18.710	1.449	3700.8	2587.6	13.031	8.592	3.19		Clay	100.0			17.68	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	20.300	1.586	3720.0	2596.8	14.202	8.600	3.16		Clay	100.0			19.19	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	32.620	1.301	3740.4	2606.6	23.594	4.230	2.79		Clay	86.5			30.83	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	25.420	0.991	3759.6	2615.8	17.998	4.212	2.88		Clay	93.6			24.03	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	22.170	0.838	3780.0	2625.6	15.448	4.133	2.93		Clay	97.3			20.95	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	26.540	0.886	3799.2	2634.8	18.704	3.596	2.83		Clay	89.1			25.09	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	26.610	0.983	3818.4	2644.0	18.684	3.981	2.85		Clay	91.3			25.15	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	25.910	1.162	3838.8	2653.8	18.080	4.842	2.92		Clay	96.6			24.49	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	24.150	1.162	3858.0	2663.0	16.688	5.228	2.97		Clay	100.0			22.83	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	22.620	1.370	3878.4	2672.8	15.475	6.626	3.06		Clay	100.0			21.38	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	23.480	1.272	3897.6	2682.0	16.056	5.906	3.02		Clay	100.0			22.19	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	29.300	1.116	3916.8	2691.3	20.319	4.081	2.83		Clay	89.6			27.69	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	27.660	1.022	3937.2	2701.1	19.023	3.980	2.85		Clay	90.8			26.14	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	25.990	1.008	3956.4	2710.3	17.719	4.198	2.89		Clay	93.9			24.57	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 12

PGA (A_{max}) 1.15

Total Settlement: 0.75 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	CRR$_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	27.040	1.085	3976.8	2720.1	18.420	4.330	2.88		Clay	93.6			25.56	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	30.550	1.190	3996.0	2729.3	20.923	4.169	2.83		Clay	89.4			28.88	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	27.990	1.987	4015.2	2738.5	18.976	7.647	3.04		Clay	100.0			26.46	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	44.830	2.167	4035.6	2748.3	31.156	5.061	2.76		Clay	83.7			42.37	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	58.520	2.174	4054.8	2757.5	46.774	3.849	2.55		Sand	66.9		1.8	99.56	0.90	90.09	166.16	0.86	1.066	0.951	0.445	0.794	0.74	0.01	0.03
33.960	44.960	1.824	4075.2	2767.3	31.021	4.249	2.71		Clay	79.6			42.50	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	46.310	1.579	4094.4	2776.5	31.884	3.568	2.65		Clay	74.8			43.77	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	35.480	1.535	4113.6	2785.7	23.996	4.592	2.81		Clay	88.0			33.53	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	35.450	1.601	4134.0	2795.5	23.883	4.794	2.83		Clay	89.1			33.51	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	35.500	1.420	4153.2	2804.7	23.834	4.248	2.79		Clay	86.4			33.55	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	32.450	1.215	4173.6	2814.5	21.576	4.001	2.81		Clay	87.6			30.67	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	28.870	0.990	4192.8	2823.7	18.963	3.697	2.83		Clay	89.3			27.29	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	26.980	0.929	4212.0	2833.0	17.560	3.735	2.86		Clay	91.6			25.50	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	25.320	0.892	4232.4	2842.8	16.325	3.843	2.89		Clay	94.2			23.93	0.93	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	24.150	0.914	4251.6	2852.0	15.445	4.151	2.93		Clay	97.4			22.83	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	23.530	0.972	4272.0	2861.8	14.952	4.541	2.97		Clay	100.0			22.24	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	23.910	1.019	4291.2	2871.0	15.162	4.681	2.97		Clay	100.0			22.60	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	26.840	1.032	4311.6	2880.8	17.137	4.182	2.90		Clay	94.7			25.37	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	26.820	0.750	4330.8	2890.0	17.062	3.043	2.81		Clay	88.0			25.35	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	26.890	1.962	4350.0	2899.2	17.050	7.937	3.08		Clay	100.0			25.42	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	26.200	3.555	4370.4	2909.0	16.511	14.805	3.28		Clay	100.0			24.76	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	121.220	4.097	4389.6	2918.2	95.797	3.442	2.30		Sand	47.2		1.8	206.23	0.92	189.47	283.64	0.85	1.064	0.904	18909.577	37589.367	35317.33	0.00	0.00
36.750	60.200	3.185	4410.0	2928.0	39.614	5.491	2.71		Clay	79.8			56.90	0.92	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	34.380	1.826	4429.2	2937.2	21.902	5.678	2.90		Clay	95.3			32.50	0.92	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	24.250	0.916	4448.4	2946.4	14.951	4.160	2.94		Clay	98.3			22.92	0.92	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	19.920	0.651	4468.8	2956.2	11.965	3.682	2.99		Clay	100.0			18.83	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	18.380	0.640	4488.0	2965.4	10.883	3.965	3.04		Clay	100.0			17.37	0.91	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	17.820	0.660	4508.4	2975.2	10.464	4.239	3.07		Clay	100.0			16.84	0.91	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	17.450	0.877	4527.6	2984.4	10.177	5.772	3.16		Clay	100.0			16.49	0.91	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	19.620	1.003	4546.8	2993.7	11.589	5.783	3.12		Clay	100.0			18.54	0.91	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	34.520	1.097	4567.2	3003.5	21.466	3.403	2.76		Clay	84.1			32.63	0.91	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	29.090	1.137	4586.4	3012.7	17.789	4.245	2.89		Clay	94.1			27.50	0.91	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	27.000	0.968	4606.8	3022.5	16.342	3.921	2.90		Clay	94.6			25.52	0.91	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	25.240	0.844	4626.0	3031.7	15.125	3.683	2.90		Clay	95.4			23.86	0.91	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	23.840	0.798	4645.2	3040.9	14.152	3.709	2.93		Clay	97.3			22.53	0.91	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	21.500	0.733	4665.6	3050.7	12.566	3.825	2.98		Clay	100.0			20.32	0.91	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	19.390	0.692	4684.8	3059.9	11.143	4.058	3.04		Clay	100.0			18.33	0.91	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	19.630	0.681	4705.2	3069.7	11.257	3.943	3.02		Clay	100.0			18.55	0.91	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	21.660	0.709	4724.4	3078.9	12.535	3.673	2.97		Clay	100.0			20.47	0.91	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	25.160	0.784	4743.6	3088.1	14.759	3.438	2.89		Clay	94.6			23.78	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	26.670	0.904	4764.0	3097.9	15.680	3.720	2.89		Clay	94.6			25.21	0.90	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	30.250	1.042	4783.2	3107.1	17.932	3.741	2.85		Clay	91.1			28.59	0.90	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	32.650	1.159	4803.6	3116.9	19.409	3.832	2.83		Clay	89.5			30.86	0.90	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	32.240	1.253	4822.8	3126.1	19.083	4.201	2.86		Clay	92.0			30.47	0.90	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	32.010	1.202	4842.0	3135.4	18.874	4.062	2.86		Clay	91.5			30.26	0.90	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	29.470	1.108	4862.4	3145.2	17.194	4.098	2.89		Clay	94.2			27.85	0.90	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	29.060	1.028	4881.6	3154.4	16.878	3.863	2.88		Clay	93.4			27.47	0.90	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	29.340	1.029	4902.0	3164.2	16.996	3.828	2.88		Clay	93.0			27.73	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	28.540	0.991	4921.2	3173.4	16.436	3.801	2.88		Clay	93.8			26.98	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	26.920	0.962	4940.4	3182.6	15.365	3.935	2.92		Clay	96.4			25.44	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	24.620	0.837	4960.8	3192.4	13.870	3.779	2.94		Clay	98.3			23.27	0.90	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	23.520	0.786	4980.0	3201.6	13.137	3.739	2.96		Clay	99.6			22.23	0.90	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	21.650	0.802	5000.4	3211.4	11.926	4.186	3.02		Clay	100.0			20.46	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	19.460	0.724	5019.6	3220.6	10.526	4.270	3.07		Clay	100.0			18.39	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	18.590	0.632	5038.8	3229.8	9.951	3.935	3.07		Clay	100.0			17.57	0.89	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	17.910	0.559	5059.2	3239.6	9.495	3.634	3.06		Clay	100.0			16.93	0.89	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	17.250	0.518	5078.4	3248.8	9.056	3.519	3.07		Clay	100.0			16.30	0.89	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	15.290	0.502	5098.8	3258.6	7.820	3.943	3.15		Clay	100.0			14.45	0.89	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	14.410	0.485	5118.0	3267.8	7.253	4.088	3.19		Clay	100.0			13.62	0.89	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	14.280	0.491	5137.2	3277.1	7.148	4.195	3.20		Clay	100.0			13.50	0.89	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	14.200	0.479	5157.6	3286.8	7.071	4.125	3.20		Clay	100.0			13.42	0.89	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	14.150	0.452	5176.8	3296.1	7.015	3.906	3.19		Clay	100.0			13.37	0.89	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	13.420	0.484	5197.2	3305.9	6.547	4.472	3.25		Clay	100.0			12.68	0.89	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	13.130	0.467	5216.4	3315.1	6.348	4.440	3.26		Clay	100.0			12.41	0.89	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	14.510	0.480	5236.8	3324.9	7.153	4.035	3.19		Clay	100.0			13.71	0.89	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	17.550	0.674	5256.0	3334.1	8.951	4.519	3.14		Clay	100.0			16.59	0.89	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	18.010	0.597	5275.2	3343.3	9.196	3.886	3.09		Clay	100.0			17.02	0.89	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 12

PGA (A_{max}) 1.15

Total Settlement: 0.75 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	17.150	0.542	5295.6	3353.1	8.650	3.734	3.10		Clay	100.0			16.21	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	22.260	1.112	5314.8	3362.3	11.660	5.673	3.11		Clay	100.0			21.04	0.88	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	26.380	2.157	5335.2	3372.1	14.064	9.097	3.18		Clay	100.0			24.93	0.88	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	42.780	2.518	5354.4	3381.3	23.720	6.278	2.91		Clay	95.7			40.43	0.88	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	59.080	2.112	5373.6	3390.5	33.265	3.745	2.65		Clay	74.8			55.84	0.88	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	45.010	1.139	5394.0	3400.3	24.888	2.691	2.65		Clay	75.0			42.54	0.88	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	31.270	0.888	5413.2	3409.5	16.755	3.110	2.82		Clay	89.0			29.56	0.88	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	22.750	0.699	5433.6	3419.3	11.718	3.491	2.98		Clay	100.0			21.50	0.88	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	23.980	0.765	5452.8	3428.5	12.398	3.600	2.97		Clay	100.0			22.67	0.88	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	28.070	1.408	5472.0	3437.8	14.739	5.557	3.03		Clay	100.0			26.53	0.88	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	28.990	1.484	5492.4	3447.6	15.225	5.655	3.02		Clay	100.0			27.40	0.88	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	30.780	1.398	5511.6	3456.8	16.214	4.987	2.96		Clay	100.0			29.09	0.88	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	31.340	1.220	5532.0	3466.6	16.486	4.269	2.92		Clay	96.2			29.62	0.88	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	24.890	0.920	5551.2	3475.8	12.725	4.161	3.00		Clay	100.0			23.53	0.88	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	21.540	0.736	5570.4	3485.0	10.763	3.926	3.04		Clay	100.0			20.36	0.88	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	24.390	0.698	5590.8	3494.8	12.358	3.230	2.94		Clay	98.2			23.05	0.88	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	22.600	0.744	5610.0	3504.0	11.299	3.761	3.01		Clay	100.0			21.36	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	24.220	0.806	5630.4	3513.8	12.183	3.766	2.98		Clay	100.0			22.89	0.87	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	25.680	0.821	5649.6	3523.0	12.975	3.593	2.95		Clay	99.1			24.27	0.87	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	26.150	0.734	5668.8	3532.2	13.202	3.146	2.91		Clay	95.8			24.72	0.87	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	25.700	0.869	5689.2	3542.0	12.905	3.801	2.97		Clay	100.0			24.29	0.87	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	27.380	1.232	5708.4	3551.2	13.813	5.025	3.02		Clay	100.0			25.88	0.87	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	32.530	2.254	5728.8	3561.0	16.661	7.597	3.08		Clay	100.0			30.75	0.87	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	68.660	2.491	5748.0	3570.2	36.852	3.787	2.62		Clay	72.5			64.90	0.87	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	46.010	2.234	5767.2	3579.5	24.097	5.180	2.85		Clay	90.7			43.49	0.87	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	28.600	1.371	5787.6	3589.2	14.324	5.333	3.02		Clay	100.0			27.03	0.87	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	29.400	0.969	5806.8	3598.5	14.727	3.657	2.91		Clay	95.9			27.79	0.87	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	18.610	0.751	5827.2	3608.3	8.700	4.783	3.16		Clay	100.0			17.59	0.87	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	17.710	0.650	5846.4	3617.5	8.175	4.396	3.16		Clay	100.0			16.74	0.87	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	19.920	0.630	5865.6	3626.7	9.368	3.709	3.07		Clay	100.0			18.83	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	20.480	0.648	5886.0	3636.5	9.645	3.694	3.06		Clay	100.0			19.36	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	21.020	0.751	5905.2	3645.7	9.912	4.158	3.08		Clay	100.0			19.87	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	24.680	0.803	5925.6	3655.5	11.882	3.697	2.99		Clay	100.0			23.33	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	26.710	0.864	5944.8	3664.7	12.955	3.638	2.95		Clay	99.4			25.25	0.87	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	26.880	0.877	5964.0	3673.9	13.010	3.669	2.96		Clay	99.4			25.41	0.86	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	25.440	0.891	5984.4	3683.7	12.188	3.970	3.00		Clay	100.0			24.05	0.86	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	23.920	0.885	6003.6	3692.9	11.329	4.232	3.04		Clay	100.0			22.61	0.86	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	22.570	0.828	6024.0	3702.7	10.564	4.232	3.06		Clay	100.0			21.33	0.86	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	22.130	0.816	6043.2	3711.9	10.296	4.268	3.08		Clay	100.0			20.92	0.86	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	21.370	0.770	6062.4	3721.2	9.857	4.201	3.09		Clay	100.0			20.20	0.86	n.a.	n.a.	0.77	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	19.870	0.711	6082.8	3730.9	9.021	4.224	3.12		Clay	100.0			18.78	0.86	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	19.300	0.640	6102.0	3740.2	8.689	3.936	3.11		Clay	100.0			18.24	0.86	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	19.020	0.593	6122.4	3750.0	8.511	3.718	3.11		Clay	100.0			17.98	0.86	n.a.	n.a.	0.77	1.022	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	19.230	0.590	6141.6	3759.2	8.597	3.648	3.10		Clay	100.0			18.18	0.86	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	19.080	0.603	6162.0	3769.0	8.490	3.771	3.11		Clay	100.0			18.03	0.86	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	19.270	0.772	6181.2	3778.2	8.565	4.770	3.17		Clay	100.0			18.21	0.86	n.a.	n.a.	0.77	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	19.590	0.847	6200.4	3787.4	8.708	5.136	3.18		Clay	100.0			18.52	0.86	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	24.010	0.869	6220.8	3797.2	11.008	4.157	3.05		Clay	100.0			22.69	0.86	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	21.840	0.711	6240.0	3806.4	9.836	3.800	3.06		Clay	100.0			20.64	0.86	n.a.	n.a.	0.76	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	23.910	0.693	6260.4	3816.2	10.890	3.335	2.99		Clay	100.0			22.60	0.86	n.a.	n.a.	0.76	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	21.490	0.792	6279.6	3825.4	9.594	4.315	3.10		Clay	100.0			20.31	0.86	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	23.570	0.888	6298.8	3834.6	10.651	4.348	3.07		Clay	100.0			22.28	0.85	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	26.020	1.019	6319.2	3844.4	11.893	4.456	3.04		Clay	100.0			24.59	0.85	n.a.	n.a.	0.76	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	27.890	1.003	6338.4	3853.6	12.830	4.055	2.99		Clay	100.0			26.36	0.85	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	29.700	0.972	6358.8	3863.4	13.729	3.666	2.94		Clay	97.9			28.07	0.85	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	20.930	0.756	6378.0	3872.6	9.162	4.263	3.12		Clay	100.0			19.78	0.85	n.a.	n.a.	0.76	1.013	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	22.640	0.661	6397.2	3881.9	10.017	3.397	3.03		Clay	100.0			21.40	0.85	n.a.	n.a.	0.76	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	19.550	0.629	6417.6	3891.6	8.398	3.850	3.12		Clay	100.0			18.48	0.85	n.a.	n.a.	0.76	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	19.450	0.587	6436.8	3900.9	8.322	3.615	3.11		Clay	100.0			18.38	0.85	n.a.	n.a.	0.76	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	19.060	0.586	6457.2	3910.7	8.097	3.702	3.12		Clay	100.0			18.02	0.85	n.a.	n.a.	0.76	1.010	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	19.360	0.529	6476.4	3919.9	8.226	3.281	3.09		Clay	100.0			18.30	0.85	n.a.	n.a.	0.75	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	17.840	0.422	6495.6	3929.1	7.428	2.889	3.10		Clay	100.0			16.86	0.85	n.a.	n.a.	0.75	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	16.570	0.446	6516.0	3938.9	6.759	3.350	3.16		Clay	100.0			15.66	0.85	n.a.	n.a.	0.75	1.008	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	15.810	0.456	6535.2	3948.1	6.354	3.636	3.21		Clay	100.0			14.94	0.85	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	17.990	0.423	6555.6	3957.9	7.434	2.874	3.09		Clay	100.0			17.00	0.85	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	16.970	0.395	6574.8	3967.1	6.898	2.887	3.12		Clay	100.0			16.04	0.85	n.a.	n.a.	0.75	1.006	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	16.060	0.397	6594.0	3976.3	6.420	3.114	3.17		Clay	100.0			15.18	0.85	n.a.	n.a.	0.75	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 13

PGA (A_{max}) 1.15

Total Settlement: 1.11 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	1.290	0.001	19.2	19.2	12.705	0.039	2.37		Unsaturated	52.9			1.22	1.70	2.07	49.53	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	0.460	0.000	39.6	39.6	6.740	0.023	2.68		Unsaturated	77.0			0.43	1.70	0.74	52.60	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	0.890	0.000	58.8	58.8	9.991	0.035	2.48		Unsaturated	61.5			0.84	1.70	1.43	50.88	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	2.100	0.020	79.2	79.2	19.419	0.961	2.49		Unsaturated	62.3			1.98	1.70	3.37	53.54	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	1.960	0.108	98.4	98.4	38.837	5.652	2.73		Unsaturated	81.0			1.85	1.70	3.15	56.23	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	3.410	0.228	117.6	117.6	56.993	6.801	2.67		Unsaturated	76.9			3.22	1.70	5.48	58.74	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	4.750	0.402	138.0	138.0	67.841	8.588	2.71		Unsaturated	79.5			4.49	1.70	7.63	61.87	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	5.360	0.496	157.2	157.2	67.193	9.388	2.74		Unsaturated	82.2			5.07	1.70	8.61	63.48	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	6.430	0.589	177.6	177.6	71.410	9.281	2.72		Unsaturated	80.6			6.08	1.70	10.33	65.52	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	6.910	0.614	196.8	196.8	69.224	9.014	2.72		Unsaturated	80.4			6.53	1.70	11.10	66.50	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	7.120	0.590	216.0	216.0	64.926	8.420	2.71		Unsaturated	79.9			6.73	1.70	11.44	66.87	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	7.040	0.655	236.4	236.4	58.560	9.469	2.78		Unsaturated	85.3			6.65	1.70	11.31	67.36	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	7.340	0.644	255.6	255.6	56.433	8.935	2.77		Unsaturated	84.5			6.94	1.70	11.79	67.90	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	7.460	0.631	276.0	276.0	53.058	8.619	2.77		Unsaturated	84.9			7.05	1.70	11.99	68.19	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	7.810	0.642	295.2	295.2	51.913	8.372	2.77		Unsaturated	84.6			7.38	1.70	12.55	68.89	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	8.380	0.654	314.4	314.4	52.308	7.949	2.75		Unsaturated	83.0			7.92	1.70	13.47	69.89	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	8.500	0.659	334.8	334.8	49.777	7.905	2.76		Unsaturated	84.0			8.03	1.70	13.66	70.26	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	8.770	0.629	354.0	354.0	48.548	7.318	2.74		Unsaturated	82.5			8.29	1.70	14.09	70.64	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	9.200	0.633	374.4	374.4	48.145	7.019	2.73		Unsaturated	81.6			8.70	1.70	14.78	71.43	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	9.590	0.654	393.6	393.6	47.730	6.960	2.73		Unsaturated	81.5			9.06	1.70	15.41	72.24	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	10.420	0.681	412.8	412.8	49.484	6.667	2.71		Unsaturated	79.6			9.85	1.70	16.74	73.72	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	10.910	0.664	433.2	433.2	49.369	6.206	2.68		Unsaturated	77.8			10.31	1.70	17.53	74.49	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	11.820	0.739	452.4	452.4	51.255	6.372	2.68		Unsaturated	77.6			11.17	1.70	18.99	76.36	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	13.190	0.770	472.8	472.8	54.795	5.942	2.64		Unsaturated	74.3			12.47	1.70	21.19	78.71	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	14.870	0.861	492.0	492.0	59.447	5.889	2.61		Unsaturated	72.2			14.05	1.70	23.89	81.86	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	17.950	0.999	512.4	512.4	45.130	5.646	2.68		Unsaturated	77.4			16.97	1.70	28.84	89.12	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	20.520	1.132	531.6	531.6	50.348	5.590	2.65		Unsaturated	74.6			19.40	1.70	32.97	94.02	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	22.850	1.283	550.8	550.8	54.739	5.685	2.63		Unsaturated	73.1			21.60	1.70	36.72	98.61	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	23.590	1.595	571.2	571.2	55.089	6.845	2.69		Unsaturated	77.9			22.30	1.70	37.90	100.95	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	24.010	1.574	590.4	590.4	54.776	6.638	2.68		Unsaturated	77.2			22.69	1.70	38.58	101.71	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	26.810	1.671	610.8	610.8	59.782	6.304	2.64		Unsaturated	73.9			25.34	1.70	43.08	106.98	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	43.150	1.755	630.0	630.0	74.199	4.098	2.43		Unsaturated	57.6			40.78	1.68	68.49	135.62	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	44.000	1.810	649.2	649.2	74.528	4.144	2.43		Unsaturated	57.8			41.59	1.66	68.86	136.17	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	35.820	1.788	669.6	669.6	59.623	5.040	2.56		Unsaturated	68.0			33.86	1.68	56.82	123.55	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	34.800	1.529	688.8	688.8	57.080	4.438	2.53		Unsaturated	65.7			32.89	1.67	54.86	120.49	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	28.830	1.169	709.2	709.2	46.490	4.106	2.57		Unsaturated	68.7			27.25	1.69	45.92	109.65	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	20.540	0.814	728.4	728.4	40.230	4.034	2.61		Unsaturated	71.8			19.41	1.70	33.00	93.57	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	14.990	0.672	747.6	747.6	39.102	4.596	2.66		Unsaturated	75.7			14.17	1.70	24.09	82.69	0.99	0.737	1.097	n.a.	n.a.	n.a.	0.00	0.00
6.400	11.510	0.771	768.0	768.0	28.974	6.928	2.88		Unsaturated	93.2			10.88	1.70	18.49	77.55	0.99	0.736	1.090	n.a.	n.a.	n.a.	0.00	0.00
6.560	9.530	0.852	787.2	787.2	23.212	9.328	3.04		Unsaturated	100.0			9.01	1.70	15.31	74.00	0.99	0.736	1.086	n.a.	n.a.	n.a.	0.00	0.00
6.730	10.470	0.982	807.6	807.6	24.929	9.757	3.03		Unsaturated	100.0			9.90	1.70	16.82	75.98	0.99	0.736	1.085	n.a.	n.a.	n.a.	0.00	0.00
6.890	17.910	1.142	826.8	826.8	42.324	6.526	2.75		Unsaturated	82.6			16.93	1.64	27.73	88.41	0.99	0.735	1.091	n.a.	n.a.	n.a.	0.00	0.00
7.050	21.390	1.293	846.0	846.0	49.567	6.167	2.68		Unsaturated	77.5			20.22	1.60	32.34	93.67	0.99	0.735	1.093	n.a.	n.a.	n.a.	0.00	0.00
7.220	22.600	1.256	866.4	866.4	51.170	5.664	2.64		Unsaturated	74.6			21.36	1.58	33.67	94.92	0.99	0.734	1.091	n.a.	n.a.	n.a.	0.00	0.00
7.380	25.690	1.178	885.6	885.6	43.906	4.665	2.63		Unsaturated	73.3			24.28	1.54	37.50	99.65	0.98	0.734	1.092	n.a.	n.a.	n.a.	0.00	0.00
7.550	28.630	1.069	906.0	906.0	40.701	3.793	2.59		Unsaturated	70.0			27.06	1.52	41.02	103.59	0.98	0.734	1.093	n.a.	n.a.	n.a.	0.00	0.00
7.710	26.890	0.775	925.2	925.2	37.775	2.931	2.54		Unsaturated	65.8			25.42	1.51	38.42	99.36	0.98	0.733	1.088	n.a.	n.a.	n.a.	0.00	0.00
7.870	19.750	0.596	944.4	944.4	32.050	3.091	2.60		Unsaturated	71.3			18.67	1.53	28.55	87.73	0.98	0.733	1.078	n.a.	n.a.	n.a.	0.00	0.00
8.040	13.590	0.667	964.8	964.8	27.172	5.088	2.80		Clay	87.2			12.84	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	11.640	0.742	984.0	984.0	22.659	6.659	2.94		Clay	98.3			11.00	1.22	n.a.	n.a.	0.98	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	13.780	0.873	1004.4	1004.4	26.439	6.573	2.89		Clay	94.1			13.02	1.22	n.a.	n.a.	0.98	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	18.680	1.220	1023.6	1023.6	35.499	6.714	2.81		Clay	87.5			17.66	1.21	n.a.	n.a.	0.98	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	32.630	1.419	1042.8	1042.8	49.803	4.419	2.57		Mixed	68.9	36.63	1.8	65.93	1.31	86.52	162.06	0.98	0.762	1.100	0.394	0.788	1.03	0.01	0.02
8.860	38.750	1.270	1063.2	1063.2	50.961	3.322	2.48		Sand	61.2		1.8	65.93	1.31	86.12	159.38	0.98	0.769	1.100	0.365	0.716	0.93	0.01	0.02
9.020	30.190	1.114	1082.4	1082.4	39.182	3.759	2.60		Sand	70.8	36.63	1.8	65.93	1.29	85.38	161.05	0.98	0.775	1.100	0.382	0.760	0.98	0.01	0.02
9.190	29.440	0.953	1102.8	1102.8	37.823	3.297	2.57		Sand	68.6	36.63	1.8	65.93	1.29	84.87	159.86	0.98	0.782	1.100	0.370	0.728	0.93	0.01	0.02
9.350	18.580	0.763	1122.0	1122.0	32.119	4.233	2.70		Clay	78.6			17.56	1.18	n.a.	n.a.	0.98	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	14.290	0.654	1141.2	1141.2	24.044	4.770	2.82		Clay	88.8			13.51	1.18	n.a.	n.a.	0.98	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	13.150	0.519	1161.6	1161.6	21.641	4.132	2.82		Clay	88.3			12.43	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	14.970	0.527	1180.8	1180.8	24.356	3.664	2.74		Clay	82.4			14.15	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	14.760	0.542	1201.2	1201.2	23.575	3.825	2.77		Clay	84.3			13.95	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	15.070	0.485	1220.4	1220.4	23.697	3.353	2.73		Clay	81.2			14.24	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	12.730	0.455	1239.6	1239.6	19.539	3.758	2.82		Clay	88.9			12.03	1.15	n.a.	n.a.	0.97	0.822	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	12.450	0.445	1260.0	1260.0	18.762	3.762	2.84		Clay	90.0			11.77	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	14.220	0.414	1279.2	1279.2	21.233	3.046	2.74		Clay	82.0			13.44	1.14	n.a.	n.a.	0.97	0.833	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	13.770	0.388	1299.6	1299.6	20.191	2.956	2.75		Clay	82.7			13.02	1.14	n.a.	n.a.	0.97	0.838	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	12.000	0.361	1318.8	1318.8	17.198	3.181	2.82		Clay	88.7			11.34	1.13	n.a.	n.a.	0.97	0.843	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 13

PGA (A_{max}) 1.15

Total Settlement: 1.11 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	11.360	0.332	1338.0	1338.0	15.981	3.107	2.84		Clay	90.2			10.74	1.13	n.a.	n.a.	0.97	0.848	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	12.110	0.313	1358.4	1358.4	16.830	2.736	2.79		Clay	86.2			11.45	1.12	n.a.	n.a.	0.97	0.853	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	12.310	0.339	1377.6	1377.6	16.872	2.913	2.80		Clay	87.4			11.64	1.12	n.a.	n.a.	0.97	0.858	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	11.470	0.266	1398.0	1398.0	15.409	2.467	2.79		Clay	86.5			10.84	1.12	n.a.	n.a.	0.97	0.863	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	12.250	0.186	1417.2	1417.2	16.288	1.615	2.67		Clay	76.8			11.58	1.11	n.a.	n.a.	0.97	0.867	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	19.660	0.177	1437.6	1437.6	21.720	0.937	2.44		Sand	58.5		1.8	33.45	1.21	40.54	100.19	0.97	0.872	1.041	0.138	0.181	0.21	0.03	0.06
12.140	12.470	0.512	1456.8	1456.8	16.120	4.359	2.93		Clay	97.3			11.79	1.10	n.a.	n.a.	0.97	0.876	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	10.220	0.824	1476.0	1476.0	12.848	8.685	3.20		Clay	100.0			9.66	1.10	n.a.	n.a.	0.97	0.880	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	34.750	1.130	1496.4	1496.4	38.216	3.322	2.57		Sand	68.5		1.8	59.12	1.16	68.44	138.64	0.97	0.885	1.050	0.228	0.371	0.42	0.02	0.04
12.630	29.770	1.133	1515.6	1515.6	38.285	3.907	2.62		Clay	72.3			28.14	1.09	n.a.	n.a.	0.96	0.889	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	25.390	1.130	1536.0	1536.0	32.060	4.591	2.72		Clay	80.6			24.00	1.09	n.a.	n.a.	0.96	0.893	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	24.860	0.974	1555.2	1555.2	30.970	4.042	2.69		Clay	78.5			23.50	1.08	n.a.	n.a.	0.96	0.897	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	24.280	0.877	1574.4	1566.9	29.986	3.733	2.68		Clay	77.4			22.95	1.08	n.a.	n.a.	0.96	0.900	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	23.360	0.850	1594.8	1576.7	28.620	3.765	2.70		Clay	78.8			22.08	1.08	n.a.	n.a.	0.96	0.904	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	24.390	0.827	1614.0	1585.9	29.740	3.508	2.66		Clay	76.2			23.05	1.08	n.a.	n.a.	0.96	0.908	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	24.970	0.877	1634.4	1595.7	30.272	3.630	2.67		Clay	76.5			23.60	1.08	n.a.	n.a.	0.96	0.912	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	24.960	0.880	1653.6	1604.9	30.074	3.646	2.67		Clay	76.8			23.59	1.08	n.a.	n.a.	0.96	0.915	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	25.720	0.956	1672.8	1614.1	30.832	3.841	2.68		Clay	77.4			24.31	1.07	n.a.	n.a.	0.96	0.919	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	27.020	1.000	1693.2	1623.9	32.235	3.822	2.66		Clay	76.1			25.54	1.07	n.a.	n.a.	0.96	0.922	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	29.100	0.937	1712.4	1633.2	32.002	3.316	2.62		Mixed	73.0		1.8	49.51	1.12	55.64	123.08	0.96	0.926	1.033	0.178	0.260	0.28	0.03	0.05
14.440	29.190	0.968	1732.8	1642.9	34.479	3.419	2.61		Clay	71.8		1.8	49.66	1.07	n.a.	n.a.	0.96	0.929	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	27.010	0.966	1752.0	1652.2	31.636	3.697	2.66		Clay	75.8			25.53	1.07	n.a.	n.a.	0.96	0.932	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	28.470	1.000	1771.2	1661.4	33.207	3.625	2.64		Clay	74.1			26.91	1.07	n.a.	n.a.	0.96	0.935	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	29.800	1.050	1791.6	1671.2	34.592	3.631	2.63		Clay	73.1			28.17	1.06	n.a.	n.a.	0.96	0.939	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	34.150	1.097	1810.8	1680.4	35.261	3.299	2.59		Sand	70.4	34.14	1.8	61.45	1.10	67.75	138.19	0.95	0.942	1.033	0.227	0.361	0.38	0.02	0.05
15.260	36.120	1.102	1831.2	1690.2	37.231	3.131	2.56		Sand	67.7		1.8	61.45	1.10	67.60	137.39	0.95	0.945	1.032	0.223	0.354	0.37	0.02	0.04
15.420	32.850	1.059	1850.4	1699.4	35.180	3.317	2.59		Mixed	70.5	34.14	1.8	61.45	1.10	67.44	137.82	0.95	0.948	1.032	0.225	0.357	0.38	0.02	0.04
15.580	29.220	0.964	1869.6	1708.6	33.109	3.407	2.62		Clay	72.7			27.62	1.06	n.a.	n.a.	0.95	0.950	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	28.700	0.913	1890.0	1718.4	32.303	3.289	2.62		Clay	72.6			27.13	1.06	n.a.	n.a.	0.95	0.953	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	27.910	0.942	1909.2	1727.6	31.205	3.493	2.65		Clay	74.8			26.38	1.05	n.a.	n.a.	0.95	0.956	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	27.960	0.977	1929.6	1737.4	31.075	3.620	2.66		Clay	75.8			26.43	1.05	n.a.	n.a.	0.95	0.959	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	29.940	0.975	1948.8	1746.6	33.168	3.366	2.62		Clay	72.4			28.30	1.05	n.a.	n.a.	0.95	0.962	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	31.760	1.037	1968.0	1755.8	35.056	3.370	2.60		Clay	71.0			30.02	1.05	n.a.	n.a.	0.95	0.964	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	34.530	1.156	1988.4	1765.6	35.979	3.446	2.60		Mixed	70.9	78.44	1.36	106.68	1.06	113.31	197.17	0.95	0.967	1.046	1.617	3.721	3.85	0.00	0.00
16.730	39.350	1.432	2007.6	1774.8	39.574	3.735	2.59		Sand	70.4	78.44	1.36	106.68	1.06	113.13	196.80	0.95	0.969	1.045	1.585	3.642	3.76	0.00	0.00
16.900	46.970	1.794	2028.0	1784.6	47.298	3.903	2.55		Sand	67.0	78.44	1.36	106.68	1.06	112.95	195.64	0.95	0.972	1.043	1.491	3.419	3.52	0.00	0.00
17.060	53.590	2.067	2047.2	1793.9	53.962	3.933	2.51		Sand	64.0	78.44	1.36	106.68	1.06	112.78	194.50	0.95	0.974	1.041	1.405	3.218	3.30	0.00	0.00
17.220	56.510	2.318	2066.4	1803.1	56.804	4.178	2.52		Sand	64.3	78.44	1.36	106.68	1.06	112.59	194.35	0.95	0.977	1.039	1.395	3.189	3.27	0.00	0.00
17.390	59.880	2.475	2086.8	1812.9	60.081	4.207	2.50		Sand	63.2	78.44	1.36	106.68	1.05	112.40	193.74	0.94	0.979	1.038	1.351	3.085	3.15	0.00	0.00
17.550	62.530	2.968	2106.0	1822.1	62.618	4.827	2.53		Sand	65.8		1.36	80.38	1.06	85.18	159.52	0.94	0.981	1.026	0.366	0.671	0.68	0.02	0.04
17.720	65.960	3.811	2126.4	1831.9	65.925	5.872	2.58		Sand	69.8		1.36	84.79	1.06	89.53	166.18	0.94	0.983	1.027	0.445	0.858	0.87	0.01	0.02
17.880	82.990	4.365	2145.6	1841.1	83.006	5.329	2.49		Sand	62.1		1.36	106.68	1.05	111.84	192.66	0.94	0.986	1.034	1.280	2.911	2.95	0.00	0.00
18.040	82.770	4.193	2164.8	1850.3	82.567	5.133	2.48		Sand	61.2		1.36	106.40	1.05	111.37	191.75	0.94	0.988	1.032	1.224	2.779	2.81	0.00	0.00
18.210	69.780	2.880	2185.2	1860.1	69.244	4.193	2.46		Sand	59.8		1.36	89.70	1.05	94.12	169.15	0.94	0.990	1.025	0.489	0.963	0.97	0.01	0.02
18.370	59.050	2.748	2204.4	1869.3	58.273	4.742	2.55		Sand	67.0		1.36	75.91	1.05	79.75	152.85	0.94	0.992	1.020	0.309	0.536	0.54	0.02	0.04
18.540	59.360	2.558	2224.8	1879.1	58.422	4.392	2.52		Sand	64.9		1.36	76.30	1.05	80.01	152.63	0.94	0.994	1.019	0.307	0.532	0.54	0.02	0.04
18.700	40.440	1.885	2244.0	1888.3	41.643	4.794	2.65		Clay	75.2			38.22	1.03	n.a.	n.a.	0.94	0.996	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	29.050	1.282	2263.2	1897.5	29.426	4.593	2.75		Clay	82.8			27.46	1.03	n.a.	n.a.	0.94	0.998	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	22.680	0.871	2283.6	1907.3	22.585	4.043	2.80		Clay	86.6			21.44	1.03	n.a.	n.a.	0.94	1.000	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	19.060	0.678	2302.8	1916.5	18.688	3.788	2.84		Clay	90.2			18.02	1.03	n.a.	n.a.	0.94	1.002	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	16.620	0.479	2323.2	1926.3	16.050	3.097	2.84		Clay	90.1			15.71	1.03	n.a.	n.a.	0.94	1.004	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	15.190	0.516	2342.4	1935.6	14.486	3.679	2.92		Clay	96.5			14.36	1.02	n.a.	n.a.	0.93	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	14.460	0.545	2362.8	1945.3	13.652	4.103	2.97		Clay	100.0			13.67	1.02	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	17.380	0.502	2382.0	1954.6	16.565	3.103	2.83		Clay	89.2			16.43	1.02	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	17.110	0.443	2401.2	1963.8	16.203	2.783	2.81		Clay	87.6			16.17	1.02	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	17.220	0.498	2421.6	1973.6	16.224	3.111	2.84		Clay	89.9			16.28	1.02	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	17.400	0.616	2440.8	1982.8	16.320	3.806	2.89		Clay	94.0			16.45	1.02	n.a.	n.a.	0.93	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	19.240	0.865	2461.2	1992.6	18.076	4.801	2.92		Clay	96.4			18.19	1.02	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	24.510	1.559	2480.4	2001.8	23.249	6.698	2.93		Clay	97.8			23.17	1.01	n.a.	n.a.	0.93	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	33.740	2.424	2499.6	2011.0	32.312	7.460	2.87		Clay	92.4			31.89	1.01	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	56.220	3.032	2520.0	2020.8	54.394	5.516	2.62		Clay	72.5			53.14	1.01	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	67.510	3.629	2539.2	2030.0	63.921	5.479	2.57		Sand	68.6	75.87		75.87	1.02	77.15	149.92	0.93	1.021	1.007	0.288	0.483	0.47	0.02	0.04
21.330	80.270	3.584	2559.6	2039.8	76.042	4.538	2.46		Sand	59.7			75.87	1.02	77.01	147.23	0.93	1.023	1.006	0.271	0.447	0.44	0.02	0.04
21.490	62.320	1.513	2578.8	2049.0	58.620	2.479	2.35		Sand	50.7	75.87		75.87	1.01	76.89	143.56	0.93	1.024	1.005	0.251	0.403	0.39	0.02	0.04
21.650	39.770	1.363	2598.0	2058.2	36.869	3.543	2.60		Sand	70.9	75.87		75.87	1.01	76.72	149.90	0.92	1.026	1.004	0.288	0.482	0.47	0.02	0.04
21.820	31.390	1.384	2618.4	2068.0	29.091	4.601	2.75		Clay	83.1			29.67	1.01	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	38.790	1.435	2637.6	2077.2	36.078	3.829	2.63		Clay	73.3			36.66	1.00	n.a.	n.a.	0.92	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 13

PGA (A_{max}) 1.15

Total Settlement: 1.11 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	40.540	1.611	2658.0	2087.0	37.576	4.107	2.64		Clay	74.0			38.32	1.00	n.a.	n.a.	0.92	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	36.750	1.728	2677.2	2096.3	33.785	4.879	2.72		Clay	80.8			34.74	1.00	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	43.130	1.897	2696.4	2105.5	39.689	4.541	2.65		Clay	75.0			40.77	1.00	n.a.	n.a.	0.92	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	65.780	2.411	2716.8	2115.3	60.901	3.743	2.46		Sand	59.9	68.9	1.8	124.02	1.00	124.03	207.48	0.92	1.033	1.000	2.958	6.507	6.30	0.00	0.00
22.800	72.900	2.092	2736.0	2124.5	67.476	2.924	2.35		Sand	51.2		1.8	124.03	1.00	123.87	203.34	0.92	1.034	0.999	2.292	5.038	4.87	0.00	0.00
22.970	49.700	1.999	2756.4	2134.3	45.477	4.137	2.58		Sand	69.4	68.9	1.8	124.02	1.00	123.68	210.17	0.92	1.036	0.997	3.524	7.732	7.47	0.00	0.00
23.130	38.720	1.490	2775.6	2143.5	34.833	3.990	2.65		Clay	75.2			36.60	1.00	n.a.	n.a.	0.92	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	37.550	1.022	2794.8	2152.7	33.878	2.826	2.56		Sand	67.8		1.8	63.88	0.99	63.41	132.01	0.92	1.038	0.998	0.204	0.302	0.29	0.02	0.05
23.460	27.660	1.001	2815.2	2162.5	24.280	3.811	2.76		Clay	83.4			26.14	0.99	n.a.	n.a.	0.92	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	27.870	1.045	2834.4	2171.7	24.361	3.949	2.76		Clay	84.1			26.34	0.99	n.a.	n.a.	0.92	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	35.440	1.259	2854.8	2181.5	31.183	3.702	2.67		Clay	76.2			33.50	0.99	n.a.	n.a.	0.91	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	40.220	1.204	2874.0	2190.7	36.026	3.104	2.57		Sand	68.4		1.8	68.43	0.99	67.43	137.32	0.91	1.042	0.995	0.223	0.340	0.33	0.02	0.04
24.110	39.030	1.084	2893.2	2199.9	34.839	2.885	2.56		Sand	67.6	38.02	1.8	68.44	0.98	67.31	136.98	0.91	1.043	0.994	0.222	0.337	0.32	0.02	0.05
24.280	33.000	0.727	2913.6	2209.7	29.175	2.305	2.55		Sand	67.4	38.02	1.8	68.44	0.98	67.18	136.76	0.91	1.044	0.994	0.221	0.335	0.32	0.02	0.04
24.440	29.400	0.823	2932.8	2218.9	25.177	2.945	2.67		Clay	76.7			27.79	0.99	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	27.170	0.843	2953.2	2228.7	23.056	3.282	2.73		Clay	81.4			25.68	0.99	n.a.	n.a.	0.91	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	31.220	0.930	2972.4	2238.0	26.572	3.128	2.67		Clay	76.6			29.51	0.99	n.a.	n.a.	0.91	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	32.110	1.025	2991.6	2247.2	27.247	3.347	2.68		Clay	77.4			30.35	0.98	n.a.	n.a.	0.91	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	34.800	1.166	3012.0	2257.0	29.503	3.503	2.67		Clay	76.4			32.89	0.98	n.a.	n.a.	0.91	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	39.960	1.693	3031.2	2266.2	33.929	4.403	2.69		Clay	78.2			37.77	0.98	n.a.	n.a.	0.91	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	44.590	1.344	3051.6	2276.0	39.247	3.120	2.54		Sand	66.3	43.07	1.8	77.53	0.97	75.25	146.89	0.91	1.050	0.989	0.269	0.435	0.41	0.02	0.04
25.590	45.570	1.259	3070.8	2285.2	40.050	2.859	2.51		Sand	63.7		1.8	77.53	0.97	75.12	146.03	0.91	1.050	0.988	0.264	0.424	0.40	0.02	0.04
25.750	36.870	1.210	3090.0	2294.4	30.792	3.424	2.65		Clay	74.7			34.85	0.98	n.a.	n.a.	0.90	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	36.490	1.325	3110.4	2304.2	30.323	3.792	2.68		Clay	77.5			34.49	0.98	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	39.240	1.587	3129.6	2313.4	32.571	4.212	2.69		Clay	78.2			37.09	0.98	n.a.	n.a.	0.90	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	35.690	1.545	3150.0	2323.2	29.369	4.527	2.74		Clay	82.5			33.73	0.98	n.a.	n.a.	0.90	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	31.200	1.244	3169.2	2332.4	25.395	4.199	2.77		Clay	84.4			29.49	0.97	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	28.010	0.925	3188.4	2341.6	22.562	3.502	2.76		Clay	83.4			26.47	0.97	n.a.	n.a.	0.90	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	26.750	0.917	3208.8	2351.4	21.388	3.646	2.78		Clay	85.8			25.28	0.97	n.a.	n.a.	0.90	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	25.840	0.994	3228.0	2360.6	20.525	4.103	2.83		Clay	89.5			24.42	0.97	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	28.260	1.151	3248.4	2370.4	22.473	4.320	2.82		Clay	88.3			26.71	0.97	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	28.740	1.251	3267.6	2379.6	22.782	4.616	2.83		Clay	89.5			27.16	0.97	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	27.780	1.263	3288.0	2389.4	21.876	4.834	2.86		Clay	91.6			26.26	0.97	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	26.340	1.220	3307.2	2398.7	20.584	4.941	2.88		Clay	93.7			24.90	0.97	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	24.530	1.158	3326.4	2407.9	18.993	5.065	2.92		Clay	96.3			23.19	0.97	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	23.550	1.115	3346.8	2417.7	18.097	5.095	2.93		Clay	97.7			22.26	0.97	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	22.800	0.975	3366.0	2426.9	17.403	4.619	2.92		Clay	96.5			21.55	0.96	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	22.430	0.981	3386.4	2436.7	17.021	4.728	2.93		Clay	97.6			21.20	0.96	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	22.360	0.958	3405.6	2445.9	16.891	4.636	2.93		Clay	97.4			21.13	0.96	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	23.690	0.911	3424.8	2455.1	17.904	4.146	2.88		Clay	93.4			22.39	0.96	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	22.480	0.876	3445.2	2464.9	16.842	4.220	2.90		Clay	95.4			21.25	0.96	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	21.930	0.837	3464.4	2474.1	16.327	4.144	2.91		Clay	95.8			20.73	0.96	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	22.460	0.750	3484.8	2483.9	16.681	3.620	2.87		Clay	92.3			21.23	0.96	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	21.060	0.752	3504.0	2493.1	15.489	3.896	2.91		Clay	95.9			19.91	0.96	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	21.710	0.776	3523.2	2502.3	15.944	3.892	2.90		Clay	95.1			20.52	0.96	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	23.470	0.880	3543.6	2512.1	17.275	4.056	2.89		Clay	93.8			22.18	0.96	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	27.870	0.917	3562.8	2521.3	20.694	3.515	2.79		Clay	85.8			26.34	0.95	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	35.230	0.971	3583.2	2531.1	26.422	2.904	2.65		Clay	75.1			33.30	0.95	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	33.150	1.069	3602.4	2540.4	24.681	3.411	2.72		Clay	80.5			31.33	0.95	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	30.690	1.066	3621.6	2549.6	22.654	3.692	2.77		Clay	84.5			29.01	0.95	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	28.230	1.191	3642.0	2559.4	20.637	4.508	2.86		Clay	91.5			26.68	0.95	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	28.610	1.214	3661.2	2568.6	20.852	4.533	2.85		Clay	91.3			27.04	0.95	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	28.730	1.628	3681.6	2578.4	20.858	6.056	2.94		Clay	98.1			27.16	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	21.790	1.417	3700.8	2587.6	15.412	7.105	3.08		Clay	100.0			20.60	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	27.790	1.227	3720.0	2596.8	19.971	4.734	2.88		Clay	93.5			26.27	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	33.850	1.101	3740.4	2606.6	24.538	3.442	2.72		Clay	80.8			31.99	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	27.210	0.969	3759.6	2615.8	19.367	3.827	2.83		Clay	89.5			25.72	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	26.980	0.993	3780.0	2625.6	19.112	3.958	2.84		Clay	90.6			25.50	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	20.130	0.915	3799.2	2634.8	13.838	5.018	3.02		Clay	100.0			19.03	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	21.470	0.720	3818.4	2644.0	14.796	3.680	2.91		Clay	95.9			20.29	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	20.070	0.685	3838.8	2653.8	13.679	3.773	2.95		Clay	98.6			18.97	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	16.180	0.592	3858.0	2663.0	10.703	4.155	3.06		Clay	100.0			15.29	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	20.930	0.543	3878.4	2672.8	14.210	2.861	2.86		Clay	91.8			19.78	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	18.670	0.633	3897.6	2682.0	12.469	3.784	2.98		Clay	100.0			17.65	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	22.000	0.736	3916.8	2691.3	14.894	3.670	2.91		Clay	95.7			20.79	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	23.620	0.815	3937.2	2701.1	16.032	3.763	2.89		Clay	94.2			22.33	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	21.550	1.243	3956.4	2710.3	14.443	6.352	3.07		Clay	100.0			20.37	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 13

PGA (A_{max}) 1.15

Total Settlement: 1.11 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	22.900	1.282	3976.8	2720.1	15.376	6.129	3.04		Clay	100.0			21.64	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	35.670	1.421	3996.0	2729.3	24.675	4.219	2.78		Clay	85.3			33.71	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	34.440	1.669	4015.2	2738.5	23.686	5.145	2.85		Clay	91.0			32.55	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	35.010	3.576	4035.6	2748.3	24.009	10.839	3.07		Clay	100.0			33.09	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	59.430	4.966	4054.8	2757.5	41.634	8.651	2.84		Clay	90.4			56.17	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	215.000	6.069	4075.2	2767.3	176.014	2.850	2.07		Sand	29.0		1.8	365.78	0.93	340.78	442.49	0.86	1.066	0.919	#########	########	##########	0.00	0.00
34.120	142.760	5.438	4094.4	2776.5	116.106	3.865	2.29		Sand	46.1	203.21	1.8	365.78	0.93	340.48	472.60	0.86	1.066	0.918	#########	########	##########	0.00	0.00
34.280	103.140	3.809	4113.6	2785.7	83.269	3.768	2.37		Sand	52.8	203.21	1.8	365.78	0.93	340.18	478.81	0.86	1.066	0.918	#########	########	##########	0.00	0.00
34.450	76.310	2.969	4134.0	2795.5	61.052	3.999	2.48		Sand	61.5	203.21	1.8	365.78	0.93	339.87	484.84	0.86	1.066	0.916	#########	########	##########	0.00	0.00
34.610	50.780	2.134	4153.2	2804.7	34.729	4.382	2.68		Clay	77.5			48.00	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	40.280	1.711	4173.6	2814.5	27.140	4.480	2.77		Clay	84.3			38.07	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	35.990	1.578	4192.8	2823.7	24.006	4.654	2.82		Clay	88.3			34.02	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	32.020	1.402	4212.0	2833.0	21.119	4.686	2.86		Clay	91.8			30.26	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	31.210	2.251	4232.4	2842.8	20.469	7.737	3.02		Clay	100.0			29.50	0.93	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	35.490	2.876	4251.6	2852.0	23.397	8.621	3.01		Clay	100.0			33.54	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	62.780	2.950	4272.0	2861.8	42.382	4.864	2.65		Clay	75.2			59.34	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	57.760	2.611	4291.2	2871.0	38.743	4.694	2.67		Clay	76.5			54.59	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	54.140	2.201	4311.6	2880.8	36.091	4.233	2.66		Clay	75.7			51.17	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	56.120	2.364	4330.8	2890.0	37.339	4.382	2.66		Clay	75.7			53.04	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	57.730	2.111	4350.0	2899.2	38.324	3.799	2.61		Clay	71.6			54.57	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	54.560	1.958	4370.4	2909.0	36.009	3.739	2.62		Clay	72.8			51.57	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	46.140	1.484	4389.6	2918.2	30.118	3.376	2.65		Clay	75.0			43.61	0.92	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	40.030	1.348	4410.0	2928.0	25.837	3.563	2.72		Clay	80.2			37.84	0.92	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	33.090	1.197	4429.2	2937.2	21.024	3.876	2.81		Clay	87.6			31.28	0.92	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	27.770	1.046	4448.4	2946.4	17.340	4.093	2.89		Clay	93.9			26.25	0.92	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	24.730	1.066	4468.8	2956.2	15.219	4.739	2.97		Clay	100.0			23.37	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	24.250	1.200	4488.0	2965.4	14.842	5.454	3.02		Clay	100.0			22.92	0.91	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	27.690	1.184	4508.4	2975.2	17.098	4.656	2.93		Clay	97.2			26.17	0.91	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	30.300	1.265	4527.6	2984.4	18.788	4.512	2.89		Clay	94.0			28.64	0.91	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	30.760	1.189	4546.8	2993.7	19.031	4.173	2.86		Clay	91.9			29.07	0.91	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	31.050	1.137	4567.2	3003.5	19.156	3.951	2.84		Clay	90.5			29.35	0.91	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	31.570	1.048	4586.4	3012.7	19.436	3.578	2.81		Clay	87.9			29.84	0.91	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	29.650	0.960	4606.8	3022.5	18.096	3.511	2.83		Clay	89.4			28.02	0.91	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	29.460	0.969	4626.0	3031.7	17.909	3.569	2.84		Clay	90.1			27.84	0.91	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	31.150	1.500	4645.2	3040.9	18.960	5.204	2.92		Clay	97.0			29.44	0.91	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	34.880	2.185	4665.6	3050.7	21.338	6.713	2.96		Clay	100.0			32.97	0.91	n.a.	n.a.	0.84	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	32.620	2.643	4684.8	3059.9	19.790	8.730	3.07		Clay	100.0			30.83	0.91	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	89.410	3.401	4705.2	3069.7	68.317	3.906	2.44		Sand	58.3	87.29	1.8	157.12	0.90	140.86	228.35	0.83	1.060	0.888	14.176	27.706	26.14	0.00	0.00
39.370	92.350	2.570	4724.4	3078.9	70.511	2.856	2.33		Sand	49.6		1.8	157.12	0.89	140.41	223.35	0.83	1.060	0.887	9.299	18.156	17.13	0.00	0.00
39.530	38.600	1.355	4743.6	3088.1	23.463	3.740	2.76		Clay	83.9			36.48	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	26.910	0.904	4764.0	3097.9	15.835	3.686	2.89		Clay	94.1			25.43	0.90	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	25.770	0.829	4783.2	3107.1	15.048	3.545	2.90		Clay	94.7			24.36	0.90	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	23.110	0.804	4803.6	3116.9	13.288	3.881	2.96		Clay	100.0			21.84	0.90	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	22.470	0.741	4822.8	3126.1	12.833	3.693	2.96		Clay	99.9			21.24	0.90	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	22.190	0.685	4842.0	3135.4	12.610	3.462	2.95		Clay	99.1			20.97	0.90	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	17.850	0.609	4862.4	3145.2	9.805	3.949	3.07		Clay	100.0			16.87	0.90	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	15.550	0.519	4881.6	3154.4	8.312	3.955	3.13		Clay	100.0			14.70	0.90	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	14.570	0.471	4902.0	3164.2	7.660	3.888	3.16		Clay	100.0			13.77	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	14.080	0.397	4921.2	3173.4	7.323	3.418	3.14		Clay	100.0			13.31	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	13.990	0.420	4940.4	3182.6	7.239	3.645	3.16		Clay	100.0			13.22	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	14.860	0.477	4960.8	3192.4	7.756	3.851	3.15		Clay	100.0			14.05	0.90	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	19.450	0.645	4980.0	3201.6	10.595	3.800	3.04		Clay	100.0			18.38	0.90	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	22.590	0.984	5000.4	3211.4	12.512	4.900	3.05		Clay	100.0			21.35	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	28.010	1.703	5019.6	3220.6	15.836	6.677	3.06		Clay	100.0			26.47	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	55.660	1.641	5038.8	3229.8	40.655	3.088	2.53		Sand	65.2	60.08	1.8	108.14	0.85	92.32	168.54	0.82	1.054	0.920	0.480	0.844	0.80	0.01	0.02
42.160	63.560	1.404	5059.2	3239.6	46.620	2.300	2.40		Sand	54.8		1.8	108.14	0.85	91.97	164.51	0.82	1.053	0.922	0.423	0.723	0.69	0.01	0.03
42.320	41.720	0.945	5078.4	3248.8	24.120	2.411	2.63		Clay	73.5			39.43	0.89	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	23.800	0.852	5098.8	3258.6	13.043	4.008	2.98		Clay	100.0			22.50	0.89	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	21.100	0.825	5118.0	3267.8	11.348	4.448	3.05		Clay	100.0			19.94	0.89	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	23.760	1.262	5137.2	3277.1	12.933	5.956	3.09		Clay	100.0			22.46	0.89	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	29.880	1.830	5157.6	3286.8	16.612	6.704	3.04		Clay	100.0			28.24	0.89	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	40.550	2.187	5176.8	3296.1	23.035	5.760	2.89		Clay	94.4			38.33	0.89	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	49.960	1.810	5197.2	3305.9	28.653	3.822	2.70		Clay	79.1			47.22	0.89	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	36.560	1.827	5216.4	3315.1	20.483	5.382	2.91		Clay	95.8			34.56	0.89	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	50.660	2.439	5236.8	3324.9	28.898	5.076	2.78		Clay	85.6			47.88	0.89	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	262.730	3.889	5256.0	3334.1	195.852	1.495	1.83		Sand	9.1			248.33	0.87	216.82	224.37	0.81	1.048	0.864	10.112	19.212	18.33	0.00	0.00
43.960	219.860	4.285	5275.2	3343.3	163.339	1.973	1.97		Sand	20.5			207.81	0.88	182.02	231.63	0.81	1.048	0.863	19.023	36.108	34.46	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	13

PGA (A_{max})	1.15

Total Settlement:	1.11	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	143.100	5.218	5295.6	3353.1	105.458	3.715	2.30		Sand	47.1			135.26	0.85	115.53	190.48	0.81	1.047	0.891	1.150	2.256	2.15	0.00	0.00
44.290	113.990	4.336	5314.8	3362.3	83.479	3.895	2.38		Sand	53.6			107.74	0.84	90.17	161.71	0.81	1.047	0.918	0.390	0.649	0.62	0.02	0.03
44.460	108.920	4.790	5335.2	3372.1	79.554	4.508	2.44		Sand	58.5			102.95	0.83	85.83	158.11	0.80	1.046	0.920	0.353	0.574	0.55	0.02	0.04
44.620	150.790	5.265	5354.4	3381.3	110.744	3.555	2.27		Sand	44.9			142.52	0.86	121.90	197.01	0.80	1.046	0.881	1.603	3.107	2.97	0.00	0.00
44.780	181.060	6.377	5373.6	3390.5	133.189	3.575	2.23		Sand	41.1			171.13	0.87	148.97	227.83	0.80	1.045	0.859	13.557	25.607	24.50	0.00	0.00
44.950	174.350	6.924	5394.0	3400.3	127.986	4.034	2.28		Sand	45.3			164.79	0.87	142.99	223.74	0.80	1.045	0.858	9.605	18.124	17.35	0.00	0.00
45.110	158.700	5.977	5413.2	3409.5	116.153	3.832	2.29		Sand	45.9			150.00	0.86	128.68	206.22	0.80	1.044	0.865	2.732	5.200	4.98	0.00	0.00
45.280	117.380	6.696	5433.6	3419.3	85.256	5.840	2.51		Sand	64.0			110.95	0.84	92.73	168.73	0.80	1.044	0.909	0.483	0.840	0.80	0.01	0.02
45.440	217.000	8.283	5452.8	3428.5	159.106	3.866	2.21		Sand	39.6			205.10	0.88	180.58	265.69	0.80	1.043	0.855	1025.356	1929.185	1849.69	0.00	0.00
45.600	335.910	9.305	5472.0	3437.8	247.062	2.793	1.98		Sand	21.7			317.50	0.88	279.34	347.23	0.80	1.042	0.854	##########	########	##########	0.00	0.00
45.770	280.010	8.109	5492.4	3447.6	205.310	2.925	2.05		Sand	26.6	317.5		317.50	0.88	279.14	362.61	0.80	1.042	0.854	##########	########	##########	0.00	0.00
45.930	202.760	6.114	5511.6	3456.8	147.903	3.057	2.14		Sand	34.5	317.5		317.50	0.88	278.94	379.84	0.80	1.041	0.853	##########	########	##########	0.00	0.00
46.100	201.010	5.061	5532.0	3466.6	146.394	2.553	2.09		Sand	29.8	317.5		317.50	0.88	278.73	370.17	0.80	1.041	0.852	##########	########	##########	0.00	0.00
46.260	179.190	4.070	5551.2	3475.8	130.101	2.307	2.08		Sand	29.7	317.5		317.50	0.88	278.54	369.73	0.80	1.040	0.851	##########	########	##########	0.00	0.00
46.420	98.150	3.204	5570.4	3485.0	70.236	3.360	2.38		Sand	53.7	317.5		317.50	0.88	278.34	401.01	0.79	1.040	0.850	##########	########	##########	0.00	0.00
46.590	54.640	2.504	5590.8	3494.8	29.670	4.829	2.76		Clay	83.8			51.64	0.88	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	46.390	1.873	5610.0	3504.0	24.877	4.296	2.78		Clay	85.5			43.85	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	47.090	1.711	5630.4	3513.8	25.201	3.864	2.75		Clay	82.7			44.51	0.87	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	40.600	1.535	5649.6	3523.0	21.445	4.063	2.81		Clay	88.1			38.37	0.87	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	34.640	1.527	5668.8	3532.2	18.009	4.800	2.92		Clay	96.5			32.74	0.87	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	31.260	1.343	5689.2	3542.0	16.045	4.726	2.95		Clay	99.2			29.55	0.87	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	30.660	1.109	5708.4	3551.2	15.660	3.987	2.91		Clay	96.1			28.98	0.87	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	29.500	1.001	5728.8	3561.0	14.960	3.759	2.91		Clay	96.1			27.88	0.87	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	26.520	0.936	5748.0	3570.2	13.246	3.957	2.97		Clay	100.0			25.07	0.87	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	22.570	0.839	5767.2	3579.5	11.000	4.260	3.05		Clay	100.0			21.33	0.87	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	20.430	0.781	5787.6	3589.2	9.772	4.454	3.11		Clay	100.0			19.31	0.87	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	17.640	0.703	5806.8	3598.5	8.190	4.770	3.18		Clay	100.0			16.67	0.87	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	15.890	0.692	5827.2	3608.3	7.193	5.330	3.26		Clay	100.0			15.02	0.87	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	17.670	0.740	5846.4	3617.5	8.153	5.015	3.20		Clay	100.0			16.70	0.87	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	22.170	0.769	5865.6	3626.7	10.609	3.995	3.05		Clay	100.0			20.95	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	24.520	0.835	5886.0	3636.5	11.867	3.868	3.00		Clay	100.0			23.18	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	25.460	1.069	5905.2	3645.7	12.347	4.747	3.04		Clay	100.0			24.06	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	28.580	1.846	5925.6	3655.5	14.016	7.207	3.12		Clay	100.0			27.01	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	32.670	2.683	5944.8	3664.7	16.207	9.035	3.14		Clay	100.0			30.88	0.87	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	56.850	4.428	5964.0	3673.9	29.325	8.221	2.93		Clay	97.2			53.73	0.86	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	125.970	6.000	5984.4	3683.7	88.096	4.879	2.44		Sand	58.4			119.06	0.82	97.08	172.45	0.78	1.027	0.891	0.547	0.961	0.94	0.01	0.02
50.030	148.800	6.029	6003.6	3692.9	104.313	4.135	2.34		Sand	50.3			140.64	0.83	116.49	193.50	0.77	1.026	0.864	1.335	2.539	2.47	0.00	0.00
50.200	149.570	5.667	6024.0	3702.7	104.718	3.867	2.32		Sand	48.4			141.37	0.83	116.95	193.00	0.77	1.025	0.864	1.302	2.476	2.41	0.00	0.00
50.360	112.430	4.210	6043.2	3711.9	78.077	3.848	2.40		Sand	54.8			106.27	0.80	85.17	155.85	0.77	1.025	0.905	0.332	0.523	0.51	0.02	0.00
50.520	62.990	3.006	6062.4	3721.2	32.226	5.013	2.75		Clay	82.6			59.54	0.86	n.a.	n.a.	0.77	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	36.050	1.745	6082.8	3730.9	17.695	5.287	2.95		Clay	99.2			34.07	0.86	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	22.600	1.029	6102.0	3740.2	10.454	5.265	3.13		Clay	100.0			21.36	0.86	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	18.030	0.838	6122.4	3750.0	7.983	5.595	3.24		Clay	100.0			17.04	0.86	n.a.	n.a.	0.77	1.022	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	14.510	0.723	6141.6	3759.2	6.086	6.316	3.36		Clay	100.0			13.71	0.86	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	14.240	0.681	6162.0	3769.0	5.922	6.105	3.36		Clay	100.0			13.46	0.86	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	14.250	0.650	6181.2	3778.2	5.907	5.820	3.35		Clay	100.0			13.47	0.86	n.a.	n.a.	0.77	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	14.700	0.649	6200.4	3787.4	6.125	5.598	3.33		Clay	100.0			13.89	0.86	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	15.080	0.633	6220.8	3797.2	6.304	5.292	3.30		Clay	100.0			14.25	0.86	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	15.960	0.641	6240.0	3806.4	6.747	4.989	3.26		Clay	100.0			15.09	0.86	n.a.	n.a.	0.76	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	15.790	0.599	6260.4	3816.2	6.635	4.733	3.26		Clay	100.0			14.92	0.86	n.a.	n.a.	0.76	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	14.920	0.552	6279.6	3825.4	6.159	4.685	3.28		Clay	100.0			14.10	0.86	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	14.240	0.514	6298.8	3834.6	5.784	4.630	3.30		Clay	100.0			13.46	0.85	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	13.980	0.494	6319.2	3844.4	5.629	4.563	3.31		Clay	100.0			13.21	0.85	n.a.	n.a.	0.76	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	14.060	0.488	6338.4	3853.6	5.652	4.476	3.30		Clay	100.0			13.29	0.85	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	14.550	0.480	6358.8	3863.4	5.886	4.219	3.27		Clay	100.0			13.75	0.85	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	14.570	0.503	6378.0	3872.6	5.878	4.423	3.28		Clay	100.0			13.77	0.85	n.a.	n.a.	0.76	1.013	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	15.020	0.503	6397.2	3881.9	6.091	4.251	3.26		Clay	100.0			14.20	0.85	n.a.	n.a.	0.76	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	15.750	0.505	6417.6	3891.6	6.445	4.029	3.23		Clay	100.0			14.89	0.85	n.a.	n.a.	0.76	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	16.760	0.511	6436.8	3900.9	6.943	3.777	3.18		Clay	100.0			15.84	0.85	n.a.	n.a.	0.76	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	17.050	0.522	6457.2	3910.7	7.069	3.773	3.18		Clay	100.0			16.12	0.85	n.a.	n.a.	0.76	1.010	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	17.500	0.528	6476.4	3919.9	7.277	3.699	3.16		Clay	100.0			16.54	0.85	n.a.	n.a.	0.75	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	17.840	0.551	6495.6	3929.1	7.428	3.774	3.16		Clay	100.0			16.86	0.85	n.a.	n.a.	0.75	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	18.120	0.563	6516.0	3938.9	7.546	3.791	3.16		Clay	100.0			17.13	0.85	n.a.	n.a.	0.75	1.008	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	18.450	0.617	6535.2	3948.1	7.691	4.064	3.17		Clay	100.0			17.44	0.85	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	18.060	0.753	6555.6	3957.9	7.470	5.091	3.23		Clay	100.0			17.07	0.85	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	21.460	0.956	6574.8	3967.1	9.162	5.261	3.17		Clay	100.0			20.28	0.85	n.a.	n.a.	0.75	1.006	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	23.760	0.975	6594.0	3976.3	10.292	4.765	3.11		Clay	100.0			22.46	0.85	n.a.	n.a.	0.75	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 14

PGA (A_{max}) 1.15

Total Settlement: 0.85 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	288.200	0.982	19.2	19.2	2859.572	0.341	0.75		Unsaturated	0.0			272.40	1.70	463.08	463.08	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	161.720	1.285	39.6	39.6	1117.211	0.795	1.20		Unsaturated	0.0			152.85	1.70	259.85	259.85	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	139.120	0.890	58.8	58.8	788.645	0.640	1.18		Unsaturated	0.0			131.49	1.70	223.54	223.54	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	99.650	0.821	79.2	79.2	486.647	0.824	1.38		Unsaturated	0.0			94.19	1.70	160.12	160.12	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	54.490	0.696	98.4	98.4	238.616	1.278	1.72		Unsaturated	0.5			51.50	1.70	87.55	87.55	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	26.930	0.666	117.6	117.6	107.735	2.477	2.16		Unsaturated	35.9			25.45	1.70	43.27	92.75	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	13.620	0.593	138.0	138.0	50.154	4.373	2.57		Unsaturated	68.4			12.87	1.70	21.88	78.58	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	10.950	0.592	157.2	157.2	63.408	5.441	2.57		Unsaturated	68.6			10.35	1.70	17.59	73.09	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	14.430	0.656	177.6	177.6	76.798	4.572	2.46		Unsaturated	59.7			13.64	1.70	23.19	78.33	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	14.980	0.740	196.8	196.8	74.166	4.972	2.50		Unsaturated	62.7			14.16	1.70	24.07	80.19	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	14.740	0.722	216.0	216.0	68.322	4.936	2.52		Unsaturated	64.4			13.93	1.70	23.68	80.07	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	14.910	0.719	236.4	236.4	64.840	4.859	2.53		Unsaturated	65.1			14.09	1.70	23.96	80.59	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	14.890	0.785	255.6	255.6	61.268	5.318	2.57		Unsaturated	68.8			14.07	1.70	23.93	81.29	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	15.920	0.839	276.0	276.0	62.073	5.314	2.57		Unsaturated	68.5			15.05	1.70	25.58	83.36	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	16.560	0.855	295.2	295.2	61.584	5.211	2.56		Unsaturated	68.1			15.65	1.70	26.61	84.62	1.00	0.746	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	16.770	0.862	314.4	314.4	59.646	5.186	2.57		Unsaturated	68.8			15.85	1.70	26.95	85.18	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	17.060	0.910	334.8	334.8	58.039	5.388	2.59		Unsaturated	70.4			16.12	1.70	27.41	86.08	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	17.930	0.979	354.0	354.0	58.660	5.516	2.60		Unsaturated	70.7			16.95	1.70	28.81	87.96	1.00	0.745	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	19.070	1.065	374.4	374.4	59.994	5.642	2.60		Unsaturated	70.8			18.02	1.70	30.64	90.34	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	19.540	1.099	393.6	393.6	59.342	5.682	2.60		Unsaturated	71.3			18.47	1.70	31.40	91.40	1.00	0.744	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	20.520	1.125	412.8	412.8	60.276	5.537	2.59		Unsaturated	70.2			19.40	1.70	32.97	93.24	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	21.490	1.134	433.2	433.2	61.028	5.330	2.57		Unsaturated	68.9			20.31	1.70	34.53	95.00	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	22.840	1.273	452.4	452.4	62.934	5.629	2.58		Unsaturated	69.7			21.59	1.70	36.70	97.95	1.00	0.743	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	24.320	1.364	472.8	472.8	64.986	5.662	2.58		Unsaturated	69.1			22.99	1.70	39.08	100.90	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	26.790	1.504	492.0	492.0	69.657	5.665	2.56		Unsaturated	67.6			25.32	1.70	43.05	105.70	1.00	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	29.270	1.608	512.4	512.4	74.004	5.543	2.53		Unsaturated	65.7			27.67	1.70	47.03	110.40	0.99	0.742	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	33.040	1.824	531.6	531.6	61.803	5.566	2.59		Unsaturated	69.8			31.23	1.70	53.09	119.13	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	37.980	2.454	550.8	550.8	91.427	6.509	2.53		Unsaturated	65.6			35.90	1.70	61.03	128.39	0.99	0.741	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	44.910	2.687	571.2	571.2	81.180	6.022	2.54		Unsaturated	65.9			42.45	1.70	72.16	142.81	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	47.780	2.720	590.4	590.4	84.968	5.727	2.51		Unsaturated	63.6			45.16	1.68	76.02	147.14	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	46.260	2.663	610.8	610.8	80.845	5.795	2.52		Unsaturated	65.0			43.72	1.67	73.11	143.77	0.99	0.740	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	43.360	2.464	630.0	630.0	74.563	5.724	2.54		Unsaturated	66.4			40.98	1.67	68.45	138.15	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	40.390	2.107	649.2	649.2	68.368	5.258	2.54		Unsaturated	66.0			38.18	1.67	63.77	132.03	0.99	0.739	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	36.460	1.927	669.6	669.6	60.698	5.334	2.58		Unsaturated	69.1			34.46	1.67	57.66	124.88	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	33.390	1.752	688.8	688.8	68.521	5.301	2.54		Unsaturated	66.2			31.56	1.68	52.91	118.09	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	29.510	1.601	709.2	709.2	59.232	5.492	2.59		Unsaturated	70.4			27.89	1.68	46.84	111.19	0.99	0.738	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	26.860	1.402	728.4	728.4	52.832	5.293	2.61		Unsaturated	72.1			25.39	1.68	42.59	106.02	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	23.980	1.154	747.6	747.6	46.220	4.887	2.63		Unsaturated	73.2			22.67	1.68	38.03	100.32	0.99	0.737	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	21.750	1.029	768.0	768.0	41.053	4.816	2.66		Unsaturated	75.7			20.56	1.67	34.37	96.01	0.99	0.736	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	19.560	1.126	787.2	787.2	48.695	5.873	2.67		Unsaturated	76.7			18.49	1.67	30.84	91.59	0.99	0.736	1.098	n.a.	n.a.	n.a.	0.00	0.00
6.730	19.640	1.424	807.6	807.6	47.638	7.402	2.75		Unsaturated	83.2			18.56	1.64	30.52	92.11	0.99	0.736	1.096	n.a.	n.a.	n.a.	0.00	0.00
6.890	21.530	1.720	826.8	826.8	51.080	8.146	2.76		Unsaturated	84.2			20.35	1.61	32.83	95.25	0.99	0.735	1.096	n.a.	n.a.	n.a.	0.00	0.00
7.050	24.970	1.804	846.0	846.0	58.031	7.348	2.70		Unsaturated	78.6			23.60	1.58	37.25	100.21	0.99	0.735	1.098	n.a.	n.a.	n.a.	0.00	0.00
7.220	29.910	1.730	866.4	866.4	52.054	5.870	2.65		Unsaturated	75.1			28.27	1.54	43.46	107.69	0.99	0.734	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.380	32.880	1.541	885.6	885.6	56.410	4.752	2.56		Unsaturated	67.8			31.08	1.51	47.00	110.84	0.98	0.734	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.550	30.260	1.249	906.0	906.0	51.016	4.191	2.55		Unsaturated	67.0			28.60	1.51	43.18	105.74	0.98	0.734	1.094	n.a.	n.a.	n.a.	0.00	0.00
7.710	25.620	1.082	925.2	925.2	42.430	4.303	2.61		Unsaturated	72.1			24.22	1.51	36.68	98.37	0.98	0.733	1.087	n.a.	n.a.	n.a.	0.00	0.00
7.870	22.650	1.227	944.4	944.4	46.967	5.530	2.66		Unsaturated	76.0			21.41	1.51	32.38	93.48	0.98	0.733	1.082	n.a.	n.a.	n.a.	0.00	0.00
8.040	23.070	1.518	964.8	964.8	46.823	6.722	2.73		Clay	81.1			21.81	1.23	n.a.	n.a.	0.98	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	26.940	1.570	984.0	984.0	53.756	5.936	2.65		Clay	74.7			25.46	1.22	n.a.	n.a.	0.98	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	33.360	1.415	1004.4	1004.4	45.077	4.306	2.60		Sand	70.6	59.94	1.66	99.50	1.26	125.60	212.98	0.98	0.749	1.100	4.264	10.319	13.79	0.00	0.00
8.530	44.590	1.081	1023.6	1023.6	59.901	2.453	2.34		Sand	49.9	59.94	1.66	99.50	1.26	125.79	205.04	0.98	0.755	1.100	2.540	6.147	8.14	0.00	0.00
8.690	52.440	1.106	1042.8	1042.8	69.903	2.129	2.24		Sand	42.6	59.94	1.66	99.50	1.26	125.63	200.00	0.98	0.762	1.100	1.890	4.574	6.00	0.00	0.00
8.860	60.350	1.209	1063.2	1063.2	79.763	2.020	2.19		Sand	38.0	59.94	1.66	99.50	1.26	125.33	195.67	0.98	0.769	1.100	1.493	3.613	4.70	0.00	0.00
9.020	63.420	1.399	1082.4	1082.4	83.096	2.224	2.20		Sand	39.4		1.66	99.51	1.25	124.55	195.96	0.98	0.775	1.100	1.516	3.670	4.73	0.00	0.00
9.190	52.890	1.431	1102.8	1102.8	68.525	2.733	2.33		Sand	49.2	59.94	1.66	99.50	1.24	123.19	201.35	0.98	0.782	1.100	2.040	4.937	6.32	0.00	0.00
9.350	36.240	1.408	1122.0	1122.0	46.311	3.945	2.56		Sand	67.8	59.94	1.66	99.50	1.22	121.88	207.38	0.98	0.788	1.100	2.940	7.115	9.03	0.00	0.00
9.510	28.190	1.360	1141.2	1141.2	48.404	4.925	2.62		Clay	72.3			26.64	1.18	n.a.	n.a.	0.98	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	24.210	1.011	1161.6	1161.6	40.684	4.280	2.62		Clay	73.0			22.88	1.17	n.a.	n.a.	0.98	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	22.300	0.952	1180.8	1180.8	36.771	4.383	2.66		Clay	76.1			21.08	1.17	n.a.	n.a.	0.98	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	21.350	0.962	1201.2	1201.2	34.548	4.637	2.70		Clay	79.0			20.18	1.16	n.a.	n.a.	0.97	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	20.690	0.904	1220.4	1220.4	32.907	4.504	2.71		Clay	79.5			19.56	1.16	n.a.	n.a.	0.97	0.817	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	20.190	0.849	1239.6	1239.6	31.575	4.339	2.71		Clay	79.6			19.08	1.15	n.a.	n.a.	0.97	0.822	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	20.090	0.967	1260.0	1260.0	30.889	4.969	2.76		Clay	83.4			18.99	1.15	n.a.	n.a.	0.97	0.828	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	26.900	1.425	1279.2	1279.2	41.058	5.428	2.70		Clay	78.7			25.43	1.14	n.a.	n.a.	0.97	0.833	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	39.830	1.873	1299.6	1299.6	52.092	4.779	2.58		Mixed	69.8	325.63		325.63	1.14	370.32	528.71	0.97	0.838	1.100	#########	########	##########	0.00	0.00
10.990	55.510	1.731	1318.8	1318.8	65.670	3.155	2.38		Sand	53.8	325.63		325.63	1.13	368.89	516.15	0.97	0.843	1.100	#########	########	##########	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 14

PGA (A_{max}) 1.15

Total Settlement: 0.85 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.150	109.100	3.104	1338.0	1338.0	128.884	2.862	2.16		Sand	35.7	325.63		325.63	1.13	367.49	490.49	0.97	0.848	1.100	########	########	########	0.00	0.00
11.320	301.670	4.657	1358.4	1358.4	355.068	1.547	1.68		Sand	0.0	325.63		325.63	1.12	366.02	366.02	0.97	0.853	1.100	########	########	########	0.00	0.00
11.480	344.520	4.719	1377.6	1377.6	402.769	1.372	1.61		Sand	0.0			325.63	1.12	364.67	364.67	0.97	0.858	1.100	########	########	########	0.00	0.00
11.650	298.160	4.586	1398.0	1398.0	345.898	1.542	1.69		Sand	0.0			281.81	1.12	314.38	314.38	0.97	0.863	1.100	########	########	########	0.00	0.00
11.810	241.050	4.179	1417.2	1417.2	277.578	1.739	1.78		Sand	5.8			227.84	1.11	253.25	254.00	0.97	0.867	1.100	211.795	512.543	591.09	0.00	0.00
11.980	220.410	3.798	1437.6	1437.6	251.922	1.729	1.81		Sand	7.6			208.33	1.12	232.53	236.11	0.97	0.872	1.100	29.087	70.391	80.75	0.00	0.00
12.140	217.130	2.524	1456.8	1448.1	247.251	1.166	1.68		Sand	0.0			205.23	1.12	229.30	229.30	0.97	0.876	1.100	15.423	37.323	42.61	0.00	0.00
12.300	268.500	3.306	1476.0	1457.3	304.965	1.235	1.64		Sand	0.0			253.78	1.10	280.02	280.02	0.97	0.880	1.100	9977.724	24146.091	27432.48	0.00	0.00
12.470	268.370	3.806	1496.4	1467.1	303.786	1.422	1.69		Sand	0.0			253.66	1.10	279.39	279.39	0.97	0.885	1.100	8951.627	21662.938	24489.99	0.00	0.00
12.630	172.270	3.269	1515.6	1476.3	194.080	1.906	1.91		Sand	15.8			162.83	1.12	182.04	215.13	0.96	0.889	1.100	4.961	12.006	13.51	0.00	0.00
12.800	151.070	3.914	1536.0	1486.1	169.518	2.604	2.05		Sand	27.2			142.79	1.11	158.87	221.43	0.96	0.893	1.100	7.974	19.297	21.61	0.00	0.00
12.960	209.820	4.665	1555.2	1495.3	235.041	2.232	1.92		Sand	16.2			198.32	1.10	217.34	255.54	0.96	0.897	1.100	257.398	622.903	694.70	0.00	0.00
13.120	340.960	5.637	1574.4	1504.5	381.306	1.657	1.69		Sand	0.0			322.27	1.09	352.61	352.61	0.96	0.900	1.100	########	########	########	0.00	0.00
13.290	407.240	6.204	1594.8	1514.3	454.114	1.526	1.62		Sand	0.0			384.91	1.09	420.44	420.44	0.96	0.904	1.100	########	########	########	0.00	0.00
13.450	408.250	7.397	1614.0	1523.5	453.853	1.815	1.69		Sand	0.0			385.87	1.09	420.80	420.80	0.96	0.908	1.099	########	########	########	0.00	0.00
13.620	436.930	7.140	1634.4	1533.3	484.235	1.637	1.63		Sand	0.0			412.98	1.09	449.61	449.61	0.96	0.912	1.097	########	########	########	0.00	0.00
13.780	439.630	8.652	1653.6	1542.5	485.764	1.972	1.71		Sand	0.0			415.53	1.09	451.67	451.67	0.96	0.915	1.095	########	########	########	0.00	0.00
13.940	472.640	9.611	1672.8	1551.7	520.743	2.037	1.70		Sand	0.0			446.73	1.09	484.82	484.82	0.96	0.919	1.093	########	########	########	0.00	0.00
14.110	561.410	10.429	1693.2	1561.5	616.767	1.860	1.64		Sand	0.0			530.63	1.08	574.92	574.92	0.96	0.922	1.091	########	########	########	0.00	0.00
14.270	489.840	8.655	1712.4	1570.8	536.430	1.770	1.64		Sand	0.0			462.99	1.08	500.85	500.85	0.96	0.926	1.089	########	########	########	0.00	0.00
14.440	385.640	6.200	1732.8	1580.5	420.798	1.611	1.66		Sand	0.0			364.50	1.08	393.66	393.66	0.96	0.929	1.088	########	########	########	0.00	0.00
14.600	277.210	2.848	1752.0	1589.8	301.329	1.031	1.58		Sand	0.0			262.01	1.08	282.54	282.54	0.96	0.932	1.086	15539.525	37119.626	39816.31	0.00	0.00
14.760	146.750	2.368	1771.2	1599.0	158.599	1.623	1.91		Sand	16.0	262.01		262.01	1.08	282.11	325.60	0.96	0.935	1.084	########	########	########	0.00	0.00
14.930	83.260	1.963	1791.6	1608.8	89.282	2.383	2.20		Sand	39.3	262.01		262.01	1.07	281.66	390.66	0.96	0.939	1.082	########	########	########	0.00	0.00
15.090	33.760	1.102	1810.8	1618.0	35.512	3.353	2.59		Sand	70.6	262.01		262.01	1.07	281.23	414.02	0.95	0.942	1.081	########	########	########	0.00	0.00
15.260	28.900	0.858	1831.2	1627.8	31.782	3.065	2.60		Mixed	71.4	262.01		262.01	1.07	280.78	413.77	0.95	0.945	1.079	########	########	########	0.00	0.00
15.420	25.670	0.807	1850.4	1637.0	30.232	3.260	2.64		Clay	74.1			24.26	1.07	n.a.	n.a.	0.95	0.948	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	22.500	0.747	1869.6	1646.2	26.200	3.463	2.70		Clay	79.2			21.27	1.07	n.a.	n.a.	0.95	0.950	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	22.040	0.746	1890.0	1656.0	25.477	3.536	2.72		Clay	80.4			20.83	1.07	n.a.	n.a.	0.95	0.953	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	23.660	0.731	1909.2	1665.2	27.270	3.218	2.67		Clay	76.5			22.36	1.07	n.a.	n.a.	0.95	0.956	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	24.870	0.723	1929.6	1675.0	28.543	3.023	2.64		Clay	73.9			23.51	1.06	n.a.	n.a.	0.95	0.959	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	26.080	0.736	1948.8	1684.2	29.813	2.930	2.61		Clay	72.0			24.65	1.06	n.a.	n.a.	0.95	0.962	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	26.220	0.775	1968.0	1693.4	29.804	3.072	2.63		Clay	73.1			24.78	1.06	n.a.	n.a.	0.95	0.964	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	24.850	0.753	1988.4	1703.2	28.012	3.156	2.65		Clay	75.4			23.49	1.06	n.a.	n.a.	0.95	0.967	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	23.830	0.743	2007.6	1712.4	26.659	3.257	2.68		Clay	77.4			22.52	1.06	n.a.	n.a.	0.95	0.969	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	24.670	0.772	2028.0	1722.2	27.471	3.264	2.67		Clay	76.6			23.32	1.06	n.a.	n.a.	0.95	0.972	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	24.820	0.845	2047.2	1731.5	27.487	3.549	2.69		Clay	78.5			23.46	1.05	n.a.	n.a.	0.95	0.974	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	30.920	0.887	2066.4	1740.7	32.386	2.969	2.59		Mixed	70.2	34.7	1.28	44.42	1.10	48.68	113.51	0.95	0.977	1.023	0.158	0.217	0.22	0.03	0.06
17.390	36.710	0.833	2086.8	1750.5	37.064	2.335	2.48		Sand	61.2		1.28	44.41	1.09	48.59	111.26	0.94	0.979	1.022	0.154	0.209	0.21	0.03	0.06
17.550	33.750	0.801	2106.0	1759.7	33.889	2.450	2.52		Sand	64.6		1.28	40.83	1.09	44.63	107.07	0.94	0.981	1.021	0.147	0.196	0.20	0.03	0.06
17.720	33.290	0.847	2126.4	1769.5	33.309	2.629	2.55		Sand	66.7		1.28	40.28	1.09	43.92	106.62	0.94	0.983	1.020	0.147	0.194	0.20	0.03	0.06
17.880	34.630	1.028	2145.6	1778.7	34.595	3.063	2.58		Sand	69.1		1.28	41.90	1.09	45.53	109.23	0.94	0.986	1.020	0.151	0.202	0.20	0.03	0.06
18.040	40.890	1.197	2164.8	1787.9	40.932	3.007	2.52		Sand	64.4		1.28	49.47	1.08	53.46	118.35	0.94	0.988	1.021	0.168	0.235	0.24	0.03	0.05
18.210	43.130	1.565	2185.2	1797.7	43.107	3.722	2.56		Sand	68.1		1.28	52.18	1.08	56.17	122.74	0.94	0.990	1.021	0.178	0.255	0.26	0.03	0.05
18.370	47.230	2.082	2204.4	1806.9	47.181	4.513	2.60		Sand	70.7		1.28	57.14	1.07	61.23	129.84	0.94	0.992	1.021	0.197	0.295	0.30	0.02	0.05
18.540	57.990	2.518	2224.8	1816.7	58.019	4.428	2.53		Sand	65.3		1.28	70.16	1.06	74.69	145.89	0.94	0.994	1.024	0.264	0.438	0.44	0.02	0.04
18.700	60.530	3.432	2244.0	1825.9	62.256	5.777	2.60		Mixed	70.6		1.28	73.23	1.06	77.70	151.09	0.94	0.996	1.024	0.296	0.509	0.51	0.02	0.04
18.860	69.770	4.025	2263.2	1835.1	69.663	5.864	2.57		Sand	68.5		1.28	84.41	1.06	89.09	165.29	0.94	0.998	1.026	0.433	0.829	0.83	0.01	0.02
19.030	84.420	4.388	2283.6	1844.9	84.297	5.269	2.48		Sand	61.5		1.28	102.13	1.05	107.13	186.39	0.94	1.000	1.031	0.952	2.159	2.16	0.00	0.00
19.190	68.760	3.656	2302.8	1854.1	68.266	5.407	2.55		Sand	66.8	79.79	1.28	102.13	1.05	106.91	187.80	0.94	1.002	1.030	1.014	2.299	2.30	0.00	0.00
19.360	61.650	2.554	2323.2	1863.9	60.916	4.222	2.50		Sand	62.9	79.79	1.28	102.13	1.05	106.74	186.39	0.94	1.004	1.029	0.952	2.154	2.15	0.00	0.00
19.520	42.540	1.590	2342.4	1873.2	41.558	3.843	2.59		Sand	69.8	79.79	1.28	102.13	1.04	106.53	188.13	0.93	1.005	1.028	1.030	2.330	2.32	0.00	0.00
19.690	29.730	1.031	2362.8	1882.9	30.323	3.611	2.67		Clay	76.4			28.10	1.03	n.a.	n.a.	0.93	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	22.470	0.933	2382.0	1892.2	22.492	4.386	2.82		Clay	88.6			21.24	1.03	n.a.	n.a.	0.93	1.009	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	19.530	0.914	2401.2	1901.4	19.280	4.987	2.91		Clay	95.6			18.46	1.03	n.a.	n.a.	0.93	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	21.950	1.044	2421.6	1911.2	21.703	5.033	2.87		Clay	92.7			20.75	1.03	n.a.	n.a.	0.93	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	24.620	1.131	2440.8	1920.4	24.370	4.835	2.82		Clay	88.8			23.27	1.03	n.a.	n.a.	0.93	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	32.620	0.977	2461.2	1930.2	32.525	3.112	2.60		Clay	71.1			30.83	1.02	n.a.	n.a.	0.93	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	28.950	0.895	2480.4	1939.4	28.576	3.231	2.65		Clay	75.4			27.36	1.02	n.a.	n.a.	0.93	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	26.860	0.837	2499.6	1948.6	26.286	3.268	2.69		Clay	77.8			25.39	1.02	n.a.	n.a.	0.93	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	27.280	0.860	2520.0	1958.4	26.573	3.306	2.69		Clay	77.8			25.78	1.02	n.a.	n.a.	0.93	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	29.340	0.932	2539.2	1967.6	28.532	3.319	2.66		Clay	76.0			27.73	1.02	n.a.	n.a.	0.93	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	30.040	0.970	2559.6	1977.4	29.089	3.372	2.66		Clay	75.9			28.39	1.02	n.a.	n.a.	0.93	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	29.330	0.964	2578.8	1986.6	28.229	3.438	2.68		Clay	77.1			27.72	1.02	n.a.	n.a.	0.93	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	31.710	1.010	2598.0	1995.8	30.474	3.320	2.64		Clay	74.3			29.97	1.02	n.a.	n.a.	0.92	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	31.640	1.117	2618.4	2005.6	30.246	3.683	2.67		Clay	76.9			29.91	1.01	n.a.	n.a.	0.92	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	32.220	1.357	2637.6	2014.8	30.673	4.390	2.72		Clay	80.7			30.45	1.01	n.a.	n.a.	0.92	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 14

PGA (A_{max}) 1.15

Total Settlement: 0.85 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.150	36.390	1.822	2658.0	2024.6	34.634	5.197	2.73		Clay	81.7			34.40	1.01	n.a.	n.a.	0.92	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	42.300	2.865	2677.2	2033.9	40.280	6.994	2.78		Clay	85.6			39.98	1.01	n.a.	n.a.	0.92	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	61.920	2.762	2696.4	2043.1	58.264	4.559	2.54		Sand	66.0			58.53	1.02	59.45	126.44	0.92	1.032	1.005	0.187	0.270	0.26	0.03	0.05
22.640	115.450	3.460	2716.8	2052.9	109.483	3.032	2.22		Sand	40.9			109.12	1.01	110.31	179.55	0.92	1.033	1.006	0.713	1.495	1.45	0.00	0.00
22.800	153.050	4.085	2736.0	2062.1	145.229	2.693	2.11		Sand	31.5			144.66	1.01	145.83	212.91	0.92	1.034	1.008	4.243	9.407	9.09	0.00	0.00
22.970	152.780	4.199	2756.4	2071.9	144.618	2.773	2.12		Sand	32.3	144.66		144.66	1.01	145.61	213.91	0.92	1.036	1.006	4.552	10.077	9.73	0.00	0.00
23.130	86.400	3.725	2775.6	2081.1	81.023	4.382	2.43		Sand	57.4	144.66		144.66	1.00	145.35	233.69	0.92	1.037	1.005	23.062	50.990	49.19	0.00	0.00
23.290	66.680	3.863	2794.8	2090.3	62.462	5.918	2.60		Clay	71.2			63.02	1.00	n.a.	n.a.	0.92	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	88.890	4.084	2815.2	2100.1	82.999	4.669	2.44		Sand	58.5			84.02	1.00	84.27	156.11	0.92	1.039	1.001	0.335	0.584	0.56	0.02	0.04
23.620	89.770	4.457	2834.4	2109.3	83.642	5.045	2.47		Sand	60.5			84.85	1.00	84.95	157.64	0.92	1.040	1.001	0.348	0.614	0.59	0.02	0.04
23.790	77.350	3.632	2854.8	2119.1	71.708	4.784	2.49		Sand	62.5			73.11	1.00	73.07	143.01	0.91	1.041	1.000	0.248	0.395	0.38	0.02	0.04
23.950	66.240	3.050	2874.0	2128.3	61.073	4.706	2.53		Sand	65.7			62.61	1.00	62.45	130.24	0.91	1.042	0.999	0.198	0.291	0.28	0.02	0.05
24.110	74.460	2.834	2893.2	2137.5	68.662	3.881	2.44		Sand	58.0			70.38	1.00	70.08	137.78	0.91	1.043	0.999	0.225	0.346	0.33	0.02	0.05
24.280	113.500	3.390	2913.6	2147.3	105.126	3.025	2.23		Sand	41.7			107.28	0.99	106.71	175.73	0.91	1.044	0.997	0.616	1.241	1.19	0.01	0.01
24.440	116.230	4.359	2932.8	2156.5	107.448	3.799	2.30		Sand	47.3			109.86	0.99	109.12	182.53	0.91	1.045	0.996	0.805	1.710	1.64	0.00	0.00
24.610	125.540	5.386	2953.2	2166.3	115.892	4.341	2.33		Sand	49.4			118.66	0.99	117.72	194.56	0.91	1.045	0.994	1.409	3.082	2.95	0.00	0.00
24.770	124.040	6.663	2972.4	2175.6	114.239	5.437	2.41		Sand	56.0			117.24	0.99	116.15	195.81	0.91	1.046	0.993	1.505	3.287	3.14	0.00	0.00
24.930	136.940	7.153	2991.6	2184.8	125.988	5.281	2.38		Sand	53.2			129.43	0.99	128.13	209.75	0.91	1.047	0.991	3.427	7.469	7.13	0.00	0.00
25.100	213.260	8.202	3012.0	2194.6	196.531	3.874	2.16		Sand	35.6			201.57	0.99	199.64	284.32	0.91	1.048	0.989	21396.193	46556.838	44423.68	0.00	0.00
25.260	248.160	7.515	3031.2	2203.8	228.433	3.047	2.03		Sand	25.7			234.56	0.99	232.05	304.64	0.91	1.049	0.988	#########	########	2849476.44	0.00	0.00
25.430	230.950	7.022	3051.6	2213.6	212.014	3.061	2.05		Sand	27.3			218.29	0.99	215.71	289.07	0.91	1.050	0.986	52098.336	########	107722.67	0.00	0.00
25.590	205.730	6.003	3070.8	2222.8	188.308	2.940	2.07		Sand	28.5			194.45	0.99	191.94	263.26	0.91	1.050	0.985	724.414	1570.172	1494.91	0.00	0.00
25.750	169.220	4.963	3090.0	2232.0	154.310	2.960	2.12		Sand	32.8			159.94	0.98	157.46	228.89	0.90	1.051	0.984	14.868	32.186	30.62	0.00	0.00
25.920	158.900	6.256	3110.4	2241.8	144.486	3.976	2.24		Sand	42.4			150.19	0.98	147.65	227.32	0.90	1.052	0.983	12.964	28.027	26.65	0.00	0.00
26.080	181.780	5.921	3129.6	2251.0	165.149	3.286	2.14		Sand	34.3			171.81	0.98	168.93	244.95	0.90	1.052	0.981	73.039	157.704	149.84	0.00	0.00
26.250	130.950	5.014	3150.0	2260.8	118.302	3.875	2.29		Sand	45.8	171.81		171.81	0.98	168.84	256.61	0.90	1.053	0.980	295.021	636.158	604.03	0.00	0.00
26.410	85.750	4.181	3169.2	2270.0	76.805	4.968	2.49		Sand	61.9	171.81		171.81	0.98	168.65	265.48	0.90	1.054	0.979	993.446	2139.515	2030.25	0.00	0.00
26.570	68.140	3.251	3188.4	2279.2	60.604	4.885	2.55		Sand	66.8	171.81		171.81	0.98	168.47	267.11	0.90	1.054	0.978	1261.920	2714.332	2574.20	0.00	0.00
26.740	56.550	2.076	3208.8	2289.0	49.932	3.778	2.52		Sand	64.9	171.81		171.81	0.98	168.28	266.17	0.90	1.055	0.976	1098.477	2359.666	2236.49	0.00	0.00
26.900	39.870	1.573	3228.0	2298.2	33.292	4.112	2.68		Clay	77.0			37.68	0.98	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	28.380	1.280	3248.4	2308.0	23.185	4.786	2.84		Clay	89.8			26.82	0.98	n.a.	n.a.	0.90	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	29.710	1.265	3267.6	2317.2	24.232	4.504	2.80		Clay	87.3			28.08	0.98	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	36.690	1.174	3288.0	2327.0	30.121	3.351	2.65		Clay	74.8			34.68	0.98	n.a.	n.a.	0.90	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	35.250	1.038	3307.2	2336.3	28.761	3.090	2.64		Clay	74.2			33.32	0.97	n.a.	n.a.	0.90	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	28.760	0.859	3326.4	2345.5	23.106	3.172	2.72		Clay	80.6			27.18	0.97	n.a.	n.a.	0.89	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	23.110	0.680	3346.8	2355.3	18.203	3.173	2.80		Clay	87.1			21.84	0.97	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	18.560	0.651	3366.0	2364.5	14.275	3.857	2.94		Clay	97.9			17.54	0.97	n.a.	n.a.	0.89	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	17.510	0.646	3386.4	2374.3	13.323	4.087	2.98		Clay	100.0			16.55	0.97	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	20.350	0.728	3405.6	2383.5	15.647	3.902	2.91		Clay	95.7			19.23	0.97	n.a.	n.a.	0.89	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	24.530	0.935	3424.8	2392.7	19.073	4.096	2.86		Clay	91.4			23.19	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	27.240	1.128	3445.2	2402.5	21.242	4.419	2.84		Clay	90.3			25.75	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	26.480	1.227	3464.4	2411.7	20.523	4.956	2.89		Clay	93.8			25.03	0.97	n.a.	n.a.	0.89	1.061	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	24.440	1.090	3484.8	2421.5	18.747	4.800	2.91		Clay	95.4			23.10	0.97	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	23.240	0.957	3504.0	2430.7	17.680	4.455	2.90		Clay	95.3			21.97	0.96	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	23.460	0.871	3523.2	2439.9	17.786	4.013	2.87		Clay	92.8			22.17	0.96	n.a.	n.a.	0.89	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	27.460	0.968	3543.6	2449.7	20.972	3.768	2.80		Clay	87.0			25.95	0.96	n.a.	n.a.	0.89	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	28.770	1.057	3562.8	2458.9	21.951	3.915	2.80		Clay	86.7			27.19	0.96	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	28.450	1.088	3583.2	2468.7	21.597	4.080	2.81		Clay	88.0			26.89	0.96	n.a.	n.a.	0.88	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	26.520	1.009	3602.4	2478.0	19.951	4.080	2.84		Clay	90.1			25.07	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	24.160	0.931	3621.6	2487.2	17.972	4.167	2.88		Clay	93.4			22.84	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	24.580	0.933	3642.0	2497.0	18.229	4.100	2.87		Clay	92.6			23.23	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	25.940	1.024	3661.2	2506.2	19.240	4.246	2.86		Clay	92.0			24.52	0.96	n.a.	n.a.	0.88	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	29.800	1.075	3681.6	2516.0	22.225	3.843	2.79		Clay	85.9			28.17	0.96	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	27.880	0.945	3700.8	2525.2	20.616	3.629	2.80		Clay	86.6			26.35	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	27.780	0.909	3720.0	2534.4	20.455	3.506	2.79		Clay	86.1			26.26	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	29.030	1.046	3740.4	2544.2	21.350	3.852	2.80		Clay	87.0			27.44	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	31.480	1.155	3759.6	2553.4	23.185	3.903	2.78		Clay	85.2			29.75	0.95	n.a.	n.a.	0.88	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	33.290	1.171	3780.0	2563.2	24.501	3.729	2.75		Clay	82.7			31.47	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	32.120	1.094	3799.2	2572.4	23.496	3.618	2.75		Clay	83.1			30.36	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	29.040	0.970	3818.4	2581.6	21.018	3.576	2.78		Clay	85.8			27.45	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	25.360	0.957	3838.8	2591.4	18.091	4.082	2.87		Clay	92.7			23.97	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	22.560	0.877	3858.0	2600.6	15.866	4.251	2.93		Clay	97.2			21.32	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	20.880	0.840	3878.4	2610.4	14.512	4.434	2.97		Clay	100.0			19.74	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	20.870	0.741	3897.6	2619.6	14.446	3.918	2.94		Clay	97.9			19.73	0.95	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	20.180	0.675	3916.8	2628.9	13.863	3.702	2.94		Clay	97.9			19.07	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	18.830	0.690	3937.2	2638.7	12.780	4.089	2.99		Clay	100.0			17.80	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	18.870	0.674	3956.4	2647.9	12.759	3.988	2.98		Clay	100.0			17.84	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 14

PGA (A_{max}) 1.15

Total Settlement: 0.85 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.140	21.280	1.128	3976.8	2657.7	14.518	5.848	3.05		Clay	100.0			20.11	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	29.370	1.327	3996.0	2666.9	20.527	4.848	2.88		Clay	93.3			27.76	0.94	n.a.	n.a.	0.87	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	35.720	1.484	4015.2	2676.1	25.195	4.402	2.78		Clay	85.7			33.76	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	35.120	1.064	4035.6	2685.9	24.649	3.214	2.70		Clay	79.2			33.19	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	31.350	0.823	4054.8	2695.1	21.760	2.808	2.71		Clay	79.6			29.63	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	31.080	0.768	4075.2	2704.9	21.474	2.645	2.70		Clay	78.7			29.38	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	31.520	0.752	4094.4	2714.1	21.718	2.553	2.68		Clay	77.6			29.79	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	31.630	0.908	4113.6	2723.3	21.718	3.069	2.73		Clay	81.6			29.90	0.94	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	33.160	1.251	4134.0	2733.1	22.753	4.022	2.79		Clay	86.3			31.34	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	39.420	1.379	4153.2	2742.3	27.235	3.692	2.71		Clay	79.7			37.26	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	36.980	1.273	4173.6	2752.1	25.357	3.649	2.73		Clay	81.3			34.95	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	34.440	1.255	4192.8	2761.3	23.426	3.881	2.77		Clay	84.8			32.55	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	32.770	1.200	4212.0	2770.6	22.136	3.913	2.79		Clay	86.4			30.97	0.93	n.a.	n.a.	0.86	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	31.410	1.140	4232.4	2780.4	21.072	3.890	2.81		Clay	87.6			29.69	0.93	n.a.	n.a.	0.85	1.066	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	28.040	0.947	4251.6	2789.6	18.579	3.656	2.83		Clay	89.6			26.50	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	26.260	0.967	4272.0	2799.4	17.235	4.010	2.88		Clay	93.7			24.82	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	27.810	1.073	4291.2	2808.6	18.276	4.181	2.88		Clay	93.0			26.29	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	41.130	1.572	4311.6	2818.4	27.657	4.033	2.73		Clay	81.3			38.88	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	40.170	2.097	4330.8	2827.6	26.881	5.519	2.83		Clay	89.5			37.97	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	50.440	1.929	4350.0	2836.8	34.028	3.997	2.66		Clay	75.8			47.67	0.93	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	57.220	2.202	4370.4	2846.6	38.667	4.000	2.62		Clay	72.6			54.08	0.92	n.a.	n.a.	0.85	1.065	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	56.290	2.118	4389.6	2855.8	37.884	3.915	2.62		Clay	72.6			53.20	0.92	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	49.780	1.931	4410.0	2865.6	33.204	4.060	2.67		Clay	76.8			47.05	0.92	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	42.210	1.419	4429.2	2874.8	27.825	3.549	2.69		Clay	78.2			39.90	0.92	n.a.	n.a.	0.85	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	39.730	1.301	4448.4	2884.0	26.009	3.468	2.71		Clay	79.5			37.55	0.92	n.a.	n.a.	0.84	1.064	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	40.100	1.778	4468.8	2893.8	26.170	4.697	2.79		Clay	86.3			37.90	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	44.810	2.582	4488.0	2903.0	29.325	6.067	2.83		Clay	89.6			42.35	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	61.450	3.086	4508.4	2912.8	40.645	5.213	2.69		Clay	77.9			58.08	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	73.950	4.051	4527.6	2922.0	49.066	5.651	2.66		Clay	75.5			69.90	0.92	n.a.	n.a.	0.84	1.063	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	79.940	4.600	4546.8	2931.3	52.992	5.922	2.65		Clay	74.9			75.56	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	106.490	5.134	4567.2	2941.1	83.544	4.927	2.46		Sand	59.8		1.8	181.17	0.92	166.10	261.32	0.84	1.062	0.901	552.881	1096.198	1032.01	0.00	0.00
38.220	87.480	5.009	4586.4	2950.3	57.748	5.880	2.62		Clay	72.8			82.68	0.92	n.a.	n.a.	0.84	1.062	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	96.570	4.834	4606.8	2960.1	75.332	5.128	2.50		Sand	63.2		1.8	164.30	0.91	149.66	241.60	0.84	1.062	0.899	50.850	100.605	94.76	0.00	0.00
38.550	95.270	4.566	4626.0	2969.3	74.170	4.912	2.49		Sand	62.4		1.8	162.09	0.91	147.33	238.30	0.84	1.061	0.898	36.165	71.476	67.34	0.00	0.00
38.710	85.890	3.607	4645.2	2978.5	66.575	4.316	2.48		Sand	61.4		1.8	146.13	0.90	131.58	217.74	0.84	1.061	0.897	6.009	11.863	11.18	0.00	0.00
38.880	60.520	1.995	4665.6	2988.3	46.279	3.429	2.52		Sand	64.4		1.8	102.96	0.88	90.36	165.80	0.84	1.061	0.936	0.440	0.771	0.73	0.01	0.03
39.040	41.340	1.365	4684.8	2997.5	26.020	3.501	2.71		Clay	79.7			39.07	0.91	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	28.630	1.159	4705.2	3007.3	17.476	4.411	2.90		Clay	95.4			27.06	0.91	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	29.380	1.226	4724.4	3016.5	17.913	4.539	2.90		Clay	95.4			27.77	0.91	n.a.	n.a.	0.83	1.060	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	29.480	1.188	4743.6	3025.7	17.918	4.382	2.89		Clay	94.6			27.86	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	28.260	1.030	4764.0	3035.5	17.050	3.981	2.88		Clay	93.8			26.71	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	26.310	1.000	4783.2	3044.7	15.711	4.180	2.93		Clay	97.1			24.87	0.91	n.a.	n.a.	0.83	1.059	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	25.750	0.974	4803.6	3054.5	15.288	4.172	2.93		Clay	97.8			24.34	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	27.250	0.932	4822.8	3063.7	16.215	3.752	2.89		Clay	93.9			25.76	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	26.200	0.913	4842.0	3073.0	15.476	3.841	2.91		Clay	95.6			24.76	0.91	n.a.	n.a.	0.83	1.058	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	26.570	0.868	4862.4	3082.8	15.661	3.595	2.89		Clay	93.9			25.11	0.91	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	28.340	0.925	4881.6	3092.0	16.753	3.570	2.86		Clay	91.9			26.79	0.90	n.a.	n.a.	0.83	1.057	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	29.410	1.270	4902.0	3101.8	17.383	4.710	2.93		Clay	97.0			27.80	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	45.530	1.745	4921.2	3111.0	27.689	4.051	2.73		Clay	81.4			43.03	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	47.230	2.092	4940.4	3120.2	28.690	4.674	2.76		Clay	83.8			44.64	0.90	n.a.	n.a.	0.82	1.056	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	56.920	1.994	4960.8	3130.0	34.786	3.663	2.63		Clay	73.2			53.80	0.90	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	40.080	1.532	4980.0	3139.2	23.949	4.076	2.78		Clay	85.3			37.88	0.90	n.a.	n.a.	0.82	1.055	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	37.060	1.290	5000.4	3149.0	21.950	3.732	2.78		Clay	85.6			35.03	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	38.530	1.152	5019.6	3158.2	22.811	3.198	2.73		Clay	81.1			36.42	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	36.810	1.354	5038.8	3167.4	21.652	3.949	2.80		Clay	87.2			34.79	0.90	n.a.	n.a.	0.82	1.054	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	38.580	1.307	5059.2	3177.2	22.693	3.625	2.76		Clay	84.1			36.47	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	35.440	1.264	5078.4	3186.4	20.651	3.842	2.81		Clay	87.9			33.50	0.90	n.a.	n.a.	0.82	1.053	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	20.710	1.014	5098.8	3196.2	11.364	5.584	3.11		Clay	100.0			19.57	0.90	n.a.	n.a.	0.82	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	18.170	0.781	5118.0	3205.4	9.740	5.003	3.14		Clay	100.0			17.17	0.90	n.a.	n.a.	0.81	1.052	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	18.340	0.713	5137.2	3214.7	9.812	4.523	3.11		Clay	100.0			17.33	0.90	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	15.340	0.573	5157.6	3224.4	7.915	4.488	3.18		Clay	100.0			14.50	0.89	n.a.	n.a.	0.81	1.051	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	14.670	0.496	5176.8	3233.7	7.472	4.108	3.18		Clay	100.0			13.87	0.89	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	14.660	0.500	5197.2	3243.5	7.437	4.145	3.18		Clay	100.0			13.86	0.89	n.a.	n.a.	0.81	1.050	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	17.960	1.781	5216.4	3252.7	9.440	11.604	3.38		Clay	100.0			16.98	0.89	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	22.670	3.355	5236.8	3262.5	12.292	16.732	3.41		Clay	100.0			21.43	0.89	n.a.	n.a.	0.81	1.049	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	105.070	3.810	5256.0	3271.7	77.869	3.719	2.39		Sand	54.0		1.8	178.76	0.89	158.98	249.38	0.81	1.048	0.869	121.077	231.545	220.88	0.00	0.00
43.960	74.320	3.213	5275.2	3280.9	43.697	4.483	2.62		Clay	72.4			70.25	0.89	n.a.	n.a.	0.81	1.048	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 14

PGA (A_{max}) 1.15

Total Settlement: 0.85 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.130	40.940	2.526	5295.6	3290.7	23.273	6.597	2.93		Clay	97.4			38.70	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	39.620	1.514	5314.8	3299.9	22.402	4.095	2.80		Clay	87.2			37.45	0.89	n.a.	n.a.	0.81	1.047	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	31.140	1.151	5335.2	3309.7	17.205	4.041	2.89		Clay	93.9			29.43	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	25.440	0.863	5354.4	3318.9	13.717	3.792	2.95		Clay	98.7			24.05	0.89	n.a.	n.a.	0.80	1.046	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	25.220	1.106	5373.6	3328.1	13.541	4.908	3.02		Clay	100.0			23.84	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	33.280	1.321	5394.0	3337.9	18.325	4.318	2.88		Clay	93.7			31.46	0.89	n.a.	n.a.	0.80	1.045	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	42.190	1.615	5413.2	3347.1	23.592	4.091	2.78		Clay	85.8			39.88	0.89	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	37.880	1.737	5433.6	3356.9	20.950	4.940	2.88		Clay	93.2			35.80	0.89	n.a.	n.a.	0.80	1.044	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	31.680	1.578	5452.8	3366.1	17.203	5.450	2.97		Clay	100.0			29.94	0.88	n.a.	n.a.	0.80	1.043	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	29.360	1.252	5472.0	3375.4	15.776	4.704	2.96		Clay	99.6			27.75	0.88	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	26.790	1.002	5492.4	3385.2	14.205	4.167	2.96		Clay	99.7			25.32	0.88	n.a.	n.a.	0.80	1.042	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	24.360	0.888	5511.6	3394.4	12.729	4.110	2.99		Clay	100.0			23.02	0.88	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	22.060	0.852	5532.0	3404.2	11.336	4.415	3.05		Clay	100.0			20.85	0.88	n.a.	n.a.	0.80	1.041	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	20.750	0.832	5551.2	3413.4	10.532	4.630	3.09		Clay	100.0			19.61	0.88	n.a.	n.a.	0.80	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	19.550	0.802	5570.4	3422.6	9.797	4.786	3.12		Clay	100.0			18.48	0.88	n.a.	n.a.	0.79	1.040	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	19.130	0.790	5590.8	3432.4	9.518	4.835	3.14		Clay	100.0			18.08	0.88	n.a.	n.a.	0.79	1.039	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	19.300	0.827	5610.0	3441.6	9.586	5.014	3.14		Clay	100.0			18.24	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	19.330	0.884	5630.4	3451.4	9.570	5.355	3.16		Clay	100.0			18.27	0.88	n.a.	n.a.	0.79	1.038	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	19.540	0.898	5649.6	3460.6	9.660	5.373	3.16		Clay	100.0			18.47	0.88	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	24.590	0.881	5668.8	3469.8	12.540	4.051	2.99		Clay	100.0			23.24	0.88	n.a.	n.a.	0.79	1.037	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	22.110	0.823	5689.2	3479.6	11.073	4.271	3.05		Clay	100.0			20.90	0.88	n.a.	n.a.	0.79	1.036	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	21.510	0.738	5708.4	3488.8	10.695	3.956	3.04		Clay	100.0			20.33	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	20.600	0.672	5728.8	3498.6	10.139	3.788	3.05		Clay	100.0			19.47	0.88	n.a.	n.a.	0.79	1.035	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	19.770	0.629	5748.0	3507.8	9.633	3.722	3.06		Clay	100.0			18.69	0.88	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	20.140	0.622	5767.2	3517.1	9.813	3.602	3.05		Clay	100.0			19.04	0.87	n.a.	n.a.	0.79	1.034	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	20.350	0.638	5787.6	3526.8	9.899	3.657	3.05		Clay	100.0			19.23	0.87	n.a.	n.a.	0.78	1.033	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	19.970	0.640	5806.8	3536.1	9.653	3.750	3.07		Clay	100.0			18.88	0.87	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	19.940	0.648	5827.2	3545.9	9.604	3.803	3.07		Clay	100.0			18.85	0.87	n.a.	n.a.	0.78	1.032	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	20.430	0.666	5846.4	3555.1	9.849	3.804	3.06		Clay	100.0			19.31	0.87	n.a.	n.a.	0.78	1.031	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	21.700	0.688	5865.6	3564.3	10.531	3.665	3.03		Clay	100.0			20.51	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	23.590	0.723	5886.0	3574.1	11.554	3.499	2.98		Clay	100.0			22.30	0.87	n.a.	n.a.	0.78	1.030	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	25.530	0.938	5905.2	3583.3	12.601	4.156	3.00		Clay	100.0			24.13	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	29.470	1.381	5925.6	3593.1	14.755	5.211	3.01		Clay	100.0			27.85	0.87	n.a.	n.a.	0.78	1.029	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	38.550	2.033	5944.8	3602.3	19.753	5.715	2.94		Clay	98.1			36.44	0.87	n.a.	n.a.	0.78	1.028	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	54.810	2.356	5964.0	3611.5	28.701	4.547	2.75		Clay	83.2			51.81	0.87	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	62.020	2.128	5984.4	3621.3	32.600	3.605	2.64		Clay	74.5			58.62	0.87	n.a.	n.a.	0.78	1.027	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	45.350	1.955	6003.6	3630.5	23.329	4.617	2.82		Clay	88.8			42.86	0.87	n.a.	n.a.	0.77	1.026	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	38.620	1.316	6024.0	3640.3	19.563	3.696	2.82		Clay	88.5			36.50	0.87	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	33.810	1.134	6043.2	3649.5	16.873	3.682	2.87		Clay	92.4			31.96	0.87	n.a.	n.a.	0.77	1.025	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	28.270	1.033	6062.4	3658.8	13.796	4.093	2.96		Clay	100.0			26.72	0.87	n.a.	n.a.	0.77	1.024	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	24.080	0.885	6082.8	3668.5	11.470	4.208	3.03		Clay	100.0			22.76	0.86	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	22.220	0.791	6102.0	3677.8	10.424	4.125	3.06		Clay	100.0			21.00	0.86	n.a.	n.a.	0.77	1.023	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	19.790	0.782	6122.4	3687.6	9.073	4.675	3.14		Clay	100.0			18.71	0.86	n.a.	n.a.	0.77	1.022	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	18.580	0.731	6141.6	3696.8	8.391	4.711	3.17		Clay	100.0			17.56	0.86	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	17.450	0.661	6162.0	3706.6	7.753	4.598	3.19		Clay	100.0			16.49	0.86	n.a.	n.a.	0.77	1.021	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	17.050	0.596	6181.2	3715.8	7.514	4.272	3.19		Clay	100.0			16.12	0.86	n.a.	n.a.	0.77	1.020	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	17.100	0.547	6200.4	3725.0	7.517	3.904	3.16		Clay	100.0			16.16	0.86	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	16.700	0.506	6220.8	3734.8	7.277	3.724	3.16		Clay	100.0			15.78	0.86	n.a.	n.a.	0.77	1.019	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	15.340	0.479	6240.0	3744.0	6.528	3.921	3.22		Clay	100.0			14.50	0.86	n.a.	n.a.	0.76	1.018	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	15.470	0.480	6260.4	3753.8	6.575	3.887	3.21		Clay	100.0			14.62	0.86	n.a.	n.a.	0.76	1.017	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	15.840	0.550	6279.6	3763.0	6.750	4.327	3.23		Clay	100.0			14.97	0.86	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	17.200	0.534	6298.8	3772.2	7.450	3.803	3.16		Clay	100.0			16.26	0.86	n.a.	n.a.	0.76	1.016	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	15.850	0.494	6319.2	3782.0	6.711	3.890	3.20		Clay	100.0			14.98	0.86	n.a.	n.a.	0.76	1.015	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	16.700	0.459	6338.4	3791.2	7.138	3.392	3.15		Clay	100.0			15.78	0.86	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	18.140	0.753	6358.8	3801.0	7.872	5.035	3.21		Clay	100.0			17.15	0.86	n.a.	n.a.	0.76	1.014	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	17.060	1.052	6378.0	3810.2	7.281	7.587	3.35		Clay	100.0			16.12	0.86	n.a.	n.a.	0.76	1.013	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	35.160	1.229	6397.2	3819.5	16.736	3.846	2.88		Clay	93.5			33.23	0.86	n.a.	n.a.	0.76	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	48.760	1.510	6417.6	3829.2	23.791	3.315	2.72		Clay	80.8			46.09	0.86	n.a.	n.a.	0.76	1.012	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	36.960	1.255	6436.8	3838.5	17.581	3.721	2.86		Clay	91.5			34.93	0.85	n.a.	n.a.	0.76	1.011	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	104.530	1.896	6457.2	3848.3	71.000	1.872	2.20		Sand	39.1			98.80	0.77	76.55	136.29	0.76	1.010	0.915	0.219	0.305	0.30	0.02	0.00
53.970	186.990	2.403	6476.4	3857.5	128.633	1.308	1.91		Sand	15.6			176.74	0.80	141.36	169.93	0.75	1.009	0.885	0.502	0.858	0.85	0.01	0.00
54.130	119.350	2.477	6495.6	3866.7	81.179	2.133	2.20		Sand	38.9			112.81	0.78	88.55	150.97	0.75	1.009	0.903	0.295	0.448	0.44	0.02	0.00
54.300	66.210	2.064	6516.0	3876.5	32.479	3.278	2.62		Clay	72.3			62.58	0.85	n.a.	n.a.	0.75	1.008	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	37.990	1.314	6535.2	3885.7	17.872	3.785	2.86		Clay	91.4			35.91	0.85	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	25.690	0.570	6555.6	3895.5	11.507	2.545	2.91		Clay	95.5			24.28	0.85	n.a.	n.a.	0.75	1.007	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	20.740	0.643	6574.8	3904.7	8.939	3.687	3.09		Clay	100.0			19.60	0.85	n.a.	n.a.	0.75	1.006	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	19.010	0.629	6594.0	3913.9	8.029	4.003	3.15		Clay	100.0			17.97	0.85	n.a.	n.a.	0.75	1.005	n.a.	n.a.	n.a.	n.a.	0.00	0.00

APPENDIX D: SITE SPECIFIC GROUND MOTION HAZARDS ANALYSIS DATA

Hazards by Location

Search Information

Coordinates: 37.4510968, -121.902344

Elevation: 38 ft

Timestamp: 2020-05-28T21:35:38.703Z

Hazard Type: Seismic

Reference Document: ASCE7-16

Risk Category: III

Site Class: D

Basic Parameters

Name	Value	Description
S_S	2.257	MCE_R ground motion (period=0.2s)
S_1	0.874	MCE_R ground motion (period=1.0s)
S_{MS}	2.257	Site-modified spectral acceleration value
S_{M1}	* null	Site-modified spectral acceleration value
S_{DS}	1.505	Numeric seismic design value at 0.2s SA
S_{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F_a	1	Site amplification factor at 0.2s
F_v	* null	Site amplification factor at 1.0s
CR_S	0.914	Coefficient of risk (0.2s)
CR_1	0.901	Coefficient of risk (1.0s)
PGA	0.949	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	1.044	Site modified peak ground acceleration
T_L	12	Long-period transition period (s)

SsRT	3.262	Probabilistic risk-targeted ground motion (0.2s)
SsUH	3.57	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	2.257	Factored deterministic acceleration value (0.2s)
S1RT	1.214	Probabilistic risk-targeted ground motion (1.0s)
S1UH	1.348	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.874	Factored deterministic acceleration value (1.0s)
PGAd	0.949	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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Milpitas High School Performing Arts Center and Gym Project

Appendix D: Transportation Analysis, Hexagon Transportation Consultants, October 2021

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum

Date: October 29, 2021

To: Milpitas Unified School District

From: Brett Walinski, T.E

Subject: Transportation Analysis for the Milpitas Union High School Expansion

Introduction

Hexagon Transportation Consultants, Inc. has completed this transportation analysis for the proposed expansion of Milpitas Union High School. The proposed project would not expand the existing school enrollment but would include a new 560-seat performing arts theater, second gym, and fitness center. The existing 350-seat performing arts center would be converted into student union space, and the existing parking lot on the northeast portion of the site would be removed. Access to the site would remain unchanged from driveways on Escuela Parkway and Arizona Avenue. The project location is shown on Figure 1 and the project site plan is shown on Figure 2.

This study includes analysis required by the California Environmental Quality Act (CEQA), including vehicle-miles traveled, site circulation, and impacts to bikes, pedestrians, and transit, as well as analysis of potential traffic and parking under project conditions for informational purposes.

VMT Analysis

Senate Bill (SB) 743 has changed the primary metric for identifying transportation impacts under CEQA from level of service (LOS) to daily vehicle-miles travelled (VMT). The Milpitas Unified School District (MUSD), as the lead agency for this CEQA document, does not currently have adopted thresholds to identify VMT impacts. Thus, this analysis will utilize the State of California Governor's Office of Planning and Research (OPR) guidelines published in its *Technical Advisory on Evaluating Transportation Impacts in CEQA*. These guidelines allow for screening of small projects that would not generate substantial demand. According to OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA, "…*projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact."

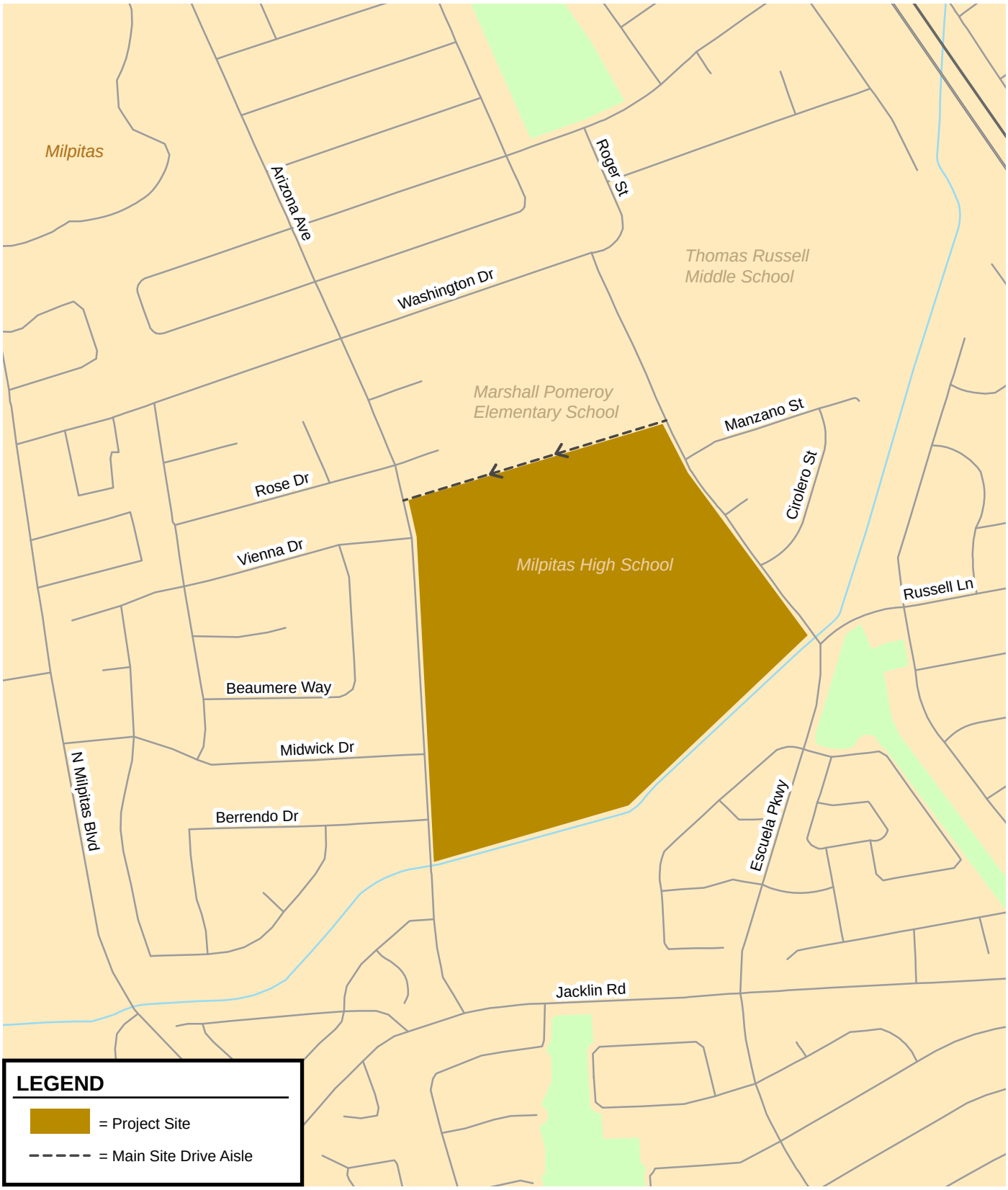

Figure 1
Project Site Location

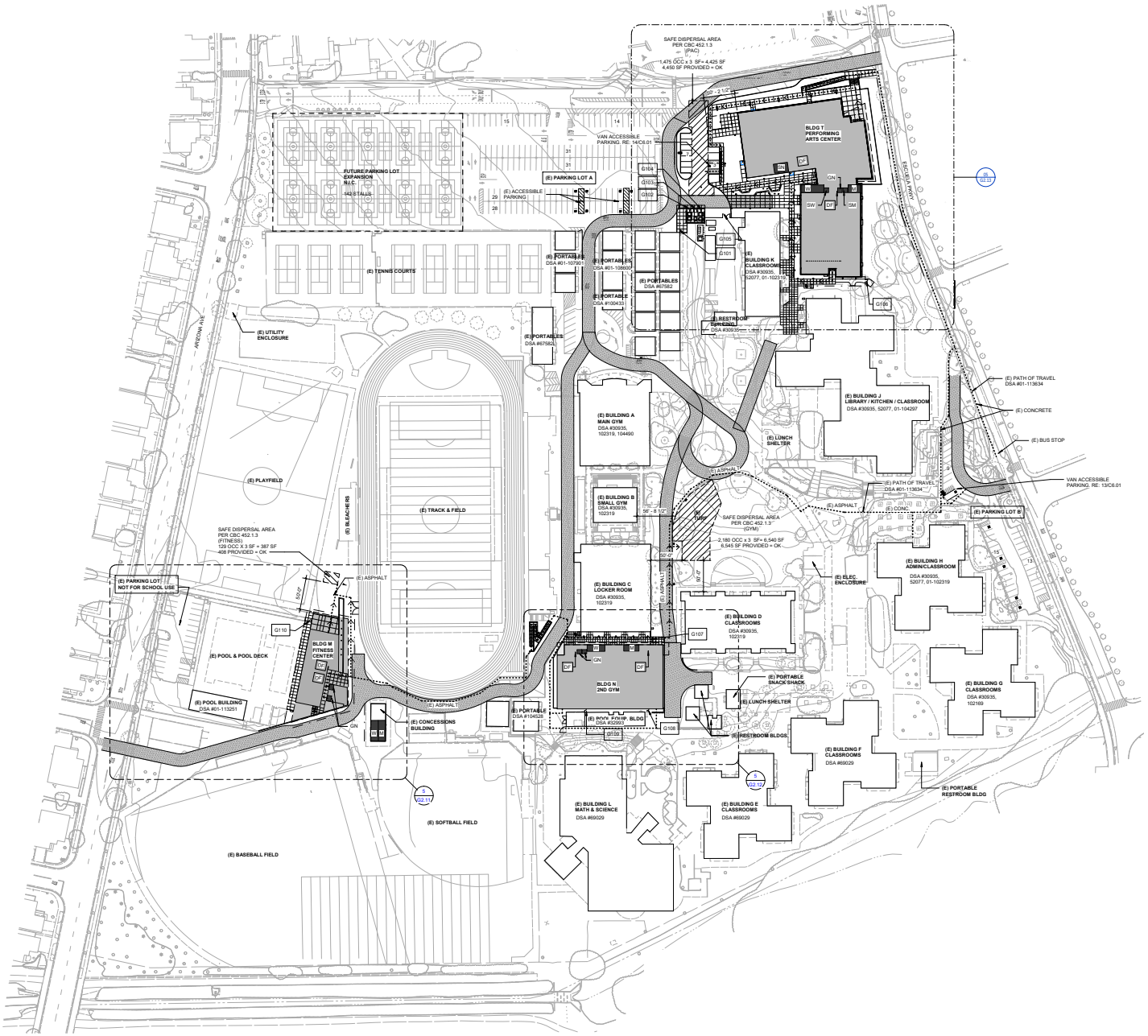

Figure 2
Site Plan

HEXAGON

NORTH
Not to Scale

Because school enrollment would not be expanded, and the fitness center and gym would serve the existing site population, the VMT impact of the project would be confined to the net expansion of the performing arts center by 210 seats. Due to the unique nature of auditorium-type uses, standard sources such as the Institute of Transportation Engineers (ITE) publication *Trip Generation* do not have published trip generation rates. To estimate the number of trips that would be generated from this expansion, two sources were considered. First, the City of Milpitas parking standards, which is based on local experience, stipulates that new theater/auditorium projects provide parking at a rate of one space per every 4 seats. Second, the Institute of Transportation Engineers (ITE) publication *Parking Generation, 4th Edition*, states that parking demand is 0.38 spaces per attendee for a "Live Theater." Each parked vehicle from theater represents two trips, one trip entering the site and one exiting. Applying the more conservative parking rate yields a total trip rate of 0.76 trips per attendee, or 160 additional roadway trips per event. MUSD staff estimate that the performing arts center would have somewhere between 27 and 52 total events per year. The remaining days, the performing arts theater would be unused or solely used by students and staff already onsite. Assuming 52 events per year, or one event per week, the number of trips added by the project, on average, would be approximately 23 daily trips. This is far below the 110 trips per day threshold stipulated by state guidelines, and for this reason, the proposed project may be assumed to cause a less-than-significant VMT impact.

Impacts to Bikes, Pedestrians and Transit

Nearly all of the streets within the study area include sidewalks, curb ramps, and crosswalks. In addition, there are existing bike lanes along the project frontage on Escuela Parkway, with the Hetch Hetchy Trail linking to these bike lanes north of Washington Drive and south of Russell Lane. According to the Valley Transportation Authority (VTA) Transportation Impact Analysis (TIA) Technical Guidelines, a project would create an impact on pedestrian and bike circulation if: (1) it would reduce, sever or eliminate existing or planned bike/pedestrian access and circulation in the area; (2) it would preclude, modify, or otherwise affect proposed bicycle and pedestrian projects and/or policies identified in an adopted plan; or (3) it would cause a change to existing bike paths such as alignment, width of the trail ROW, or length of the trail.

The City of Milpitas *Trail, Pedestrian, and Bicycle Master Plan* was reviewed to insure project conformance. The proposed fitness center and gym uses are internal to the project site, and therefore, would have no effect on the adopted plans. The proposed performing arts theater is located on the east border of the site, adjacent to Escuela Parkway. The City of Milpitas *Trail, Pedestrian and Bike Master Plan* has identified Escuela Parkway, along the project frontage, as a future corridor to extend the Hetch Hetchy Trail. Although the City's plan does not provide a design, it is anticipated that this trail extension would occur within the existing Escuela Parkway landscaped median, which is approximately 60 feet wide. The project design would not modify any existing pedestrian or bikeway facilities, nor would it preclude the extension of the Hetch Hetchy Trail through Escuela Parkway. Thus, the project would result in a less than significant impact to bike and pedestrians.

The closest transit facilities to the project site are bus routes. There is an existing bus stop, and pullout, on Escuela Parkway at Cirolero Street, which is accessible from the project site via on-street sidewalks and crosswalks, and internal pedestrian walkways within Milpitas High School. This stop serves VTA route 66, as well as school service routes 246 and 247. Route 66 serves northern Milpitas and downtown San Jose, operating on approximately 15-minute headways during weekdays. School routes 246 and 247 are seasonal and oriented towards school bell times. Alameda-Contra Costa (AC) Transit also operates Route 217 in the area, which stops on Milpitas Boulevard near Washington Drive about one-half mile from the

project site. This route runs on 60-minute headways during weekdays and links the Milpitas BART station to the Warm Springs BART station in Fremont. It is accessible from the project site using existing sidewalks.

According to the VTA TIA Technical Guidelines, a project would create an impact on transit if: (1) it would cause a permanent or temporary reduction of transit availability or interference with existing transit users (relocation/closure of a transit stop or vacation of a roadway utilized by transit) or (2) result in significant delays in transit service. The project, by itself, would not preclude, modify or otherwise affect existing or proposed transit projects or policies identified by the VTA. The project would maintain both the existing frontage on Escuela Parkway and the existing bus stop located approximately 250 feet south of the proposed Performing Arts Center. In addition, the project's trip generation would have a negligible impact on transit delay due to the relative infrequency of events. Based on these criteria, the proposed project would result in a less than significant impact to transit service.

Site Circulation and Access

The changes to the Milpitas High School campus are shown conceptually on Figure 2. The plan shows three new buildings. The new fitness center and gym buildings would be constructed internal to the existing campus on vacant portions of land and would not adversely impact either existing pedestrian pathways or vehicular circulation within or around the site. The performing arts theater would be located in an existing parking area, northeast of Building K. Parking spaces would be removed from the site to accommodate the building footprint. Other than this, the vehicular circulation and access, bus stops, walkways, and drop-off areas would remain unchanged. As with all schools, the streets surrounding the existing campus experience substantial traffic congestion immediately before and after school. This analysis, however, is focused on the planned changes to the school. By definition, impact analyses determine the incremental effects of new projects, as opposed to mitigating existing circumstances.

Access to the site would remain at the existing driveways, and drop-off and pick-up during school hours would not be affected. Vehicles would continue to circulate through the main east-west drive aisle onsite that links Escuela Parkway to Arizona Avenue. This internal roadway is one-way, westbound, and generally provides two travel lanes with access to the surrounding parking areas and student loading area. Sight distance on this roadway and its intersections were inspected in the field and determined to be adequate. The existing onsite infrastructure would be sufficient to accommodate the relatively low traffic generation from the additional seats provided within the performing arts theater. It is anticipated that events which occur during school hours would be attended by students and faculty, resulting in little or no additional traffic to and from the site. For events that occur after school hours and would not solely serve the on-campus population, the *incoming* traffic for a capacity performing arts event would be approximately 213 vehicle trips, with 80 of these representing additional trips from the performing arts theater expansion. This could be accommodated by the site's existing roadways. Each internal lane typically has a maximum capacity of hundreds of vehicles per hour (depending on the traffic control). However, traffic around the school site can be congested during existing peak pick-up and drop-off periods. For this reason, events that would draw visitors from outside the campus's student population should be scheduled such that arrivals or departures for the performing arts theater do not coincide with peak school pick up and drop off times.

> **Recommendation #1:** Theater events which primarily serve visitors from off-campus should be scheduled such that arrivals or departures for the performing arts theater do not coincide with peak school pick-up and drop-off times.

The project plans do not show bike parking. The *VTA Bicycle Technical Guidelines* include recommended practices for bike parking. The gym and fitness centers are used by existing students, and therefore, bike parking would be accommodated by the school's existing facilities. For theaters, the applicable VTA parking rates recommend one Class I (long term) space per 30 employees, and one Class II (short term) for every 1,500 feet of building space. Because the employees of the performing arts theater are part of the existing school (not an independent use), no additional bike parking would likely be needed to support them. However, the performing arts theater should consider adding Class II parking to support visitors. Based on VTA's recommended rates, the 39,300 square foot facility would need 26 additional short-term spaces. These should be placed near building entrances to promote biking.

> **Recommendation #2:** The performing arts theater should consider adding 26 Class II bike parking spaces, to be placed in a convenient location near building entrances.

Effects on Neighborhood Traffic Levels

The main streets providing access to and from the existing school campus are Escuela Parkway, Arizona Avenue, and Washington Drive. Arizona Avenue and Washington Drive are generally two-lane, local roadways, with parking on both sides of the street. Escuela Parkway generally functions as a collector street, with one lane in each direction, bike lanes, and a 60-foot wide median adjacent to the school site.

Traffic counts were conducted on these streets to establish existing traffic levels, and to compare them to the traffic added by the proposed project. These counts were conducted in September of 2021 and are shown in the attached appendix. In addition, traffic was forecasted from the proposed project. These forecasts assume a capacity theater event at the school and reflect the proposed increase of 210 additional seats. This is generally a worst-case comparison, as on more than 85% of days, the theater will not be used for events *and* not all events would require full utilization of the theater's capacity.

Daily traffic counts, and the incremental amounts of project traffic added to the aforementioned neighborhood streets, are shown on Table 1. This analysis is provided for informational purposes only, as accordance with state guidelines, the metric used to determine environmental impacts is VMT. The results show that, on a daily basis, the proposed project would result in relatively small traffic increases on the aforementioned streets. For capacity events attended primarily by visitors, it is anticipated that most patrons would arrive during the hour before and depart during the hour after the event. During these times, the project is anticipated to add, on average, a maximum of one new vehicular trip per minute to each of the surrounding roadway segments.

Table 1
Project Traffic Increases

Roadway Segment	Existing Average Daily Traffic	Traffic Increase on Days with Capacity Events	% Increase
Escuela Parkway, south of Russell Lane	4824	60	1.2%
Arizona Avenue, south of Berrendo Drive	4744	60	1.3%
Washington Drive, west of Arizona Avenue	2545	32	1.3%

Parking

As previously described, the proposed fitness center and gym would have no effect on project trip generation, and therefore, no measurable effect on parking either. The proposed performing arts theater would have two effects on parking within and around the site. First, it would remove parking spaces from the northeast portion of the site, potentially affecting existing parking conditions at the high school. Second, it would increase the demand for parking during capacity events at the theater. These are described below.

Parking Removal

Field observations of school parking were conducted on August 19th and August 26th of 2021. The existing school parking supply onsite was mostly full, but vacant spaces were available within each of the school's parking lots. In addition, there was plenty of on-street parking capacity available nearby on Arizona Avenue, indicating that the school's parking demand is currently being accommodated by the on-street and off-street parking supply.

According to the proposed project site plan, the project would remove approximately 113 parking spaces from the northeast portion of the site. However, the project plans also show future parking expansion on the existing paved basketball courts, which is estimated to accommodate 142 parked vehicles. Thus, the proposed project would result in the addition of 29 parking spaces. Given that the existing parking supply is sufficient to accommodate the school parking demand and the project would add parking spaces to the site, implementation of the project plan would not cause school parking to overflow into the adjacent neighborhood on typical school days.

Parking Demand

The proposed theater expansion would increase the parking demand at the site. According to the ITE publication *Parking Generation, 4th Edition*, parking demand could be expected to increase at a rate of 0.38 spaces per seat, which in the case of the 210-seat theater expansion, equates to new 80 parked vehicles. Overall, the 560-theater could be expected to generate parking demand of up to 213 spaces during a capacity event.

The effects of theater parking demand at the site depends on when, and what type of events, would occur. These scenarios are described below.

1) **School Events during school hours.** Some events at the Performing Arts Theater will be attended solely by students and faculty during school hours. Because students and faculty are already onsite, there would be little or no effective increase in the parking demand at the site.

2) **Events after school hours.** Some events would occur during the evening hours or after school. In such cases, there is little or no student or faculty parking demand at the school, and its existing parking lots can be utilized to accommodate theater demand. Immediately west of the performing arts center is an existing parking lot with 148 parking spaces, and to the south there is another existing parking lot with 42 spaces. In addition, the project plans show future parking supply expansion on the existing paved basketball courts, which is estimated to accommodate 142 parked vehicles. There are also more than 120 parking spaces in a gated lot directly north of the proposed theater, and south of Marshall Pomeroy Elementary School. Thus, there are more than 450 parking spaces nearby to service the theater use. This available parking capacity far exceeds the 213 spaces required by the theater use.

3) **Events held during school hours or during other events.** Should theater events attended by outside visitors be held during school hours, or during other events at the school after hours (such as a school football game), the available onsite parking supply could be insufficient to accommodate the theater parking demand. In these situations, parking demand would likely overflow onto neighborhood streets, with the most likely locations being Escuela Parkway, Manzano Street, Cirolero Street, Arizona Avenue, Rose Drive, and Vienna Drive. All of these streets currently have permit parking restrictions during school hours (8 AM to 3 PM, Monday through Friday). Parking on the east side of Arizona Avenue, adjacent to Milpitas High School, is unrestricted.

   Recommendation #3: Because overflow parking on neighborhood streets can be a frequent source of neighborhood complaints, events which primarily serve visitors from off-campus should be scheduled outside school hours and not concurrently with other school events, to the greatest extent feasible.

Conclusions

The impacts of the proposed project were evaluated in accordance with State of California OPR guidelines published in its *Technical Advisory on Evaluating Transportation Impacts in CEQA*. This report reached the following conclusions:

- The project would result in less than significant impacts to VMT, bikes, pedestrians, and transit.
- The school's site circulation and access would be adequate to serve the proposed project's traffic demand.
- The project would contribute relatively small amounts of traffic to the surrounding neighborhood streets.
- Parking demand for theater events could be accommodated onsite under most circumstances, but should theater events attended by outside visitors be held during school hours, or during other events at the school after hours, the available onsite parking supply could be insufficient.

The analysis also produced the following recommendations (note that these are not CEQA impacts, but rather best practices):

1) Theater events which primarily serve visitors from off-campus should be scheduled such that arrivals and departures for the performing arts theater do not coincide with peak school pick-up and drop-off times.
2) The performing arts theater should consider adding 26 Class II bike parking spaces, to be placed in a convenient location near building entrances.
3) Because overflow parking on neighborhood streets can be a frequent source of neighborhood complaints, theater events which primarily serve visitors from off-campus should be scheduled outside school hours and not concurrently with other school events, to the greatest extent feasible.

Appendix

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 1
Station ID:
ARIZONA AVE N.O OREGON WAY

Start Time	30-Aug-21		31-Aug-21		01-Sep-21		02-Sep-21		03-Sep-21		04-Sep-21		05-Sep-21		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	9	8	10	10	9	5	*	*	*	*	*	*	*	*	9	8
01:00	9	4	5	3	6	4	*	*	*	*	*	*	*	*	7	4
02:00	1	0	4	1	1	2	*	*	*	*	*	*	*	*	2	1
03:00	1	2	4	2	2	2	*	*	*	*	*	*	*	*	2	2
04:00	3	8	2	6	3	7	*	*	*	*	*	*	*	*	3	7
05:00	9	23	7	27	10	18	*	*	*	*	*	*	*	*	9	23
06:00	26	48	26	53	24	34	*	*	*	*	*	*	*	*	25	45
07:00	**199**	**232**	**179**	189	**107**	144	*	*	*	*	*	*	*	*	**162**	**188**
08:00	106	203	105	**201**	90	**156**	*	*	*	*	*	*	*	*	100	187
09:00	87	120	78	117	52	122	*	*	*	*	*	*	*	*	72	120
10:00	73	114	84	108	60	137	*	*	*	*	*	*	*	*	72	120
11:00	94	111	97	126	89	138	*	*	*	*	*	*	*	*	93	125
12:00 PM	110	85	124	112	40	159	*	*	*	*	*	*	*	*	91	119
01:00	124	128	143	173	66	228	*	*	*	*	*	*	*	*	111	176
02:00	173	219	**199**	**292**	153	**361**	*	*	*	*	*	*	*	*	175	**291**
03:00	213	**251**	127	180	70	227	*	*	*	*	*	*	*	*	137	219
04:00	139	215	198	190	**163**	296	*	*	*	*	*	*	*	*	167	234
05:00	**216**	193	199	227	161	300	*	*	*	*	*	*	*	*	**192**	240
06:00	187	206	177	204	141	268	*	*	*	*	*	*	*	*	168	226
07:00	140	200	148	193	134	225	*	*	*	*	*	*	*	*	141	206
08:00	106	98	107	74	95	128	*	*	*	*	*	*	*	*	103	100
09:00	68	95	77	54	70	81	*	*	*	*	*	*	*	*	72	77
10:00	40	26	49	27	36	48	*	*	*	*	*	*	*	*	42	34
11:00	27	12	21	13	16	31	*	*	*	*	*	*	*	*	21	19
Total	2160	2601	2170	2582	1598	3121	0	0	0	0	0	0	0	0	1976	2771
Day	4761		4752		4719		0		0		0		0		4747	
AM Peak	07:00	07:00	07:00	08:00	07:00	08:00	-	-	-	-	-	-	-	-	07:00	07:00
Vol.	199	232	179	201	107	156	-	-	-	-	-	-	-	-	162	188
PM Peak	17:00	15:00	14:00	14:00	16:00	14:00	-	-	-	-	-	-	-	-	17:00	14:00
Vol.	216	251	199	292	163	361	-	-	-	-	-	-	-	-	192	291

Comb. Total	4761	4752	4719	0	0	0	0	4747

ADT ADT 4,744 AADT 4,744

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 2
Station ID:
WASHINGTON W.O ARIZONA AVE

Start	30-Aug-21		31-Aug-21		01-Sep-21		02-Sep-21		03-Sep-21		04-Sep-21		05-Sep-21		Week Average	
Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	11	7	11	6	5	2	*	*	*	*	*	*	*	*	9	5
01:00	5	2	5	2	3	0	*	*	*	*	*	*	*	*	4	1
02:00	1	1	0	1	3	2	*	*	*	*	*	*	*	*	1	1
03:00	2	4	1	3	5	4	*	*	*	*	*	*	*	*	3	4
04:00	3	5	3	3	5	6	*	*	*	*	*	*	*	*	4	5
05:00	15	12	14	9	14	11	*	*	*	*	*	*	*	*	14	11
06:00	17	22	21	23	20	25	*	*	*	*	*	*	*	*	19	23
07:00	**131**	118	**123**	114	**100**	100	*	*	*	*	*	*	*	*	**118**	111
08:00	88	**171**	95	**175**	78	**188**	*	*	*	*	*	*	*	*	87	**178**
09:00	46	45	43	52	48	56	*	*	*	*	*	*	*	*	46	51
10:00	39	57	50	48	43	56	*	*	*	*	*	*	*	*	44	54
11:00	55	61	52	46	40	53	*	*	*	*	*	*	*	*	49	53
12:00 PM	52	48	51	52	110	61	*	*	*	*	*	*	*	*	71	54
01:00	101	72	97	55	122	152	*	*	*	*	*	*	*	*	107	93
02:00	**147**	168	**143**	182	**133**	**203**	*	*	*	*	*	*	*	*	**141**	**184**
03:00	120	**185**	131	**192**	71	75	*	*	*	*	*	*	*	*	107	151
04:00	90	85	86	76	68	84	*	*	*	*	*	*	*	*	81	82
05:00	98	71	66	82	79	64	*	*	*	*	*	*	*	*	81	72
06:00	68	55	61	39	56	63	*	*	*	*	*	*	*	*	62	52
07:00	63	56	64	61	74	60	*	*	*	*	*	*	*	*	67	59
08:00	36	38	54	55	45	40	*	*	*	*	*	*	*	*	45	44
09:00	24	21	30	25	22	21	*	*	*	*	*	*	*	*	25	22
10:00	16	21	15	17	18	16	*	*	*	*	*	*	*	*	16	18
11:00	10	10	5	9	8	9	*	*	*	*	*	*	*	*	8	9
Total	1238	1335	1221	1327	1170	1351	0	0	0	0	0	0	0	0	1209	1337
Day	2573		2548		2521		0		0		0		0		2546	
AM Peak	07:00	08:00	07:00	08:00	07:00	08:00	-	-	-	-	-	-	-	-	07:00	08:00
Vol.	131	171	123	175	100	188	-	-	-	-	-	-	-	-	118	178
PM Peak	14:00	15:00	14:00	15:00	14:00	14:00	-	-	-	-	-	-	-	-	14:00	14:00
Vol.	147	185	143	192	133	203	-	-	-	-	-	-	-	-	141	184

Comb. Total	2573		2548		2521		0		0		0		0		2546	
ADT	ADT 2,545		AADT 2,545													

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 3
Station ID:
ESCUELLA PKWY S.O RUSSELL LN

Start	30-Aug-21		31-Aug-21		01-Sep-21		02-Sep-21		03-Sep-21		04-Sep-21		05-Sep-21		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	7	9	7	6	7	1	*	*	*	*	*	*	*	*	7	5
01:00	7	1	6	2	5	1	*	*	*	*	*	*	*	*	6	1
02:00	1	2	3	0	2	4	*	*	*	*	*	*	*	*	2	2
03:00	2	2	1	2	1	1	*	*	*	*	*	*	*	*	1	2
04:00	5	4	6	7	5	9	*	*	*	*	*	*	*	*	5	7
05:00	18	21	23	26	19	21	*	*	*	*	*	*	*	*	20	23
06:00	73	63	82	67	70	66	*	*	*	*	*	*	*	*	75	65
07:00	**309**	208	**341**	259	**279**	**226**	*	*	*	*	*	*	*	*	**310**	**231**
08:00	169	**240**	154	**275**	113	168	*	*	*	*	*	*	*	*	145	228
09:00	130	111	107	109	113	123	*	*	*	*	*	*	*	*	117	114
10:00	120	94	104	109	100	108	*	*	*	*	*	*	*	*	108	104
11:00	97	115	95	95	95	92	*	*	*	*	*	*	*	*	96	101
12:00 PM	150	112	115	96	202	94	*	*	*	*	*	*	*	*	156	101
01:00	149	83	162	117	205	243	*	*	*	*	*	*	*	*	172	148
02:00	277	**292**	**318**	**311**	**287**	**252**	*	*	*	*	*	*	*	*	**294**	**285**
03:00	**304**	215	242	208	194	180	*	*	*	*	*	*	*	*	247	201
04:00	183	202	198	183	174	160	*	*	*	*	*	*	*	*	185	182
05:00	166	149	150	119	168	140	*	*	*	*	*	*	*	*	161	136
06:00	134	107	169	143	126	104	*	*	*	*	*	*	*	*	143	118
07:00	133	80	151	117	136	96	*	*	*	*	*	*	*	*	140	98
08:00	78	64	80	66	68	56	*	*	*	*	*	*	*	*	75	62
09:00	29	23	43	31	50	28	*	*	*	*	*	*	*	*	41	27
10:00	23	20	30	29	23	20	*	*	*	*	*	*	*	*	25	23
11:00	21	9	17	8	28	9	*	*	*	*	*	*	*	*	22	9
Total	2585	2226	2604	2385	2470	2202	0	0	0	0	0	0	0	0	2553	2273
Day	4811		4989		4672		0		0		0		0		4826	
AM Peak	07:00	08:00	07:00	08:00	07:00	07:00	-	-	-	-	-	-	-	-	07:00	07:00
Vol.	309	240	341	275	279	226	-	-	-	-	-	-	-	-	310	231
PM Peak	15:00	14:00	14:00	14:00	14:00	14:00	-	-	-	-	-	-	-	-	14:00	14:00
Vol.	304	292	318	311	287	252	-	-	-	-	-	-	-	-	294	285

Comb. Total	4811	4989	4672	0	0	0	0	4826		
ADT	ADT 4,824	AADT 4,824								