APPENDIX C

Geotechnical Reports

GEOTECHNICAL AND GEOHAZARD INVESTIGATION STADIUM IMPROVEMENTS PROJECT LOS ALTOS HIGH SCHOOL MOUNTAIN VIEW – LOS ALTOS UNION HIGH SCHOOL DISTRICT LOS ALTOS, CALIFORNIA

for

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by

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April 2014

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April 7, 2014
Project No. 1307.1F
Ser. 4293

Mr. Joe White, Associate Business Services
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RE: GEOTECHNICAL AND GEOHAZARD INVESTIGATION
STADIUM IMPROVEMENTS PROJECT
LOS ALTOS HIGH SCHOOL
201 ALMOND AVENUE
LOS ALTOS, CALIFORNIA

Dear Mr. White:

As authorized, we have performed a geotechnical and geohazard investigation for the planned stadium improvements project at Los Altos High School in Los Altos, California. The accompanying report presents the results of our field investigation, laboratory testing and engineering analyses. The site and subsurface conditions are discussed and recommendations for the geotechnical engineering aspects of the project design are presented. The recommendations presented in this report are contingent upon our review of the grading and foundation plans and observation/testing of the earthwork and foundation installation phases of the project.

Please refer to the text of the report for details of our findings and recommendations. If you have any questions concerning this report, please call.

Yours very truly,
CLEARY CONSULTANTS, INC.

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INTRODUCTION

This report presents the results of our geotechnical investigation for the planned new stadium improvements project at Los Altos High School in Los Altos, California (see Drawing 1, Site Vicinity Map for location). The purpose of this investigation was to explore the soil and foundation conditions in the vicinity of the planned new press box and bleacher sites and develop recommendations for the geotechnical engineering aspects of the project design. We have also performed a geologic and seismic hazards assessment for the project as part of the geotechnical investigation.

We understand from our correspondence with Mr. Orlando Delgadillo with Kramer Project Development Company, Inc., that the stadium improvements project will include a new press box behind the existing home side bleachers and new 500 seating capacity visitor side bleachers. The new press box and bleachers are planned to be supported on a concrete spread footing foundations. The existing home side press box will be removed prior to the construction of the new press box. Details of the press box and bleacher construction were not known at the time of this report.

We anticipate that the project will also include the installation of associated underground utilities, exterior slabs-on-grade and asphalt-paved pedestrian walkways.

SCOPE

A. Geotechnical Investigation

As outlined in our proposal agreement dated January 3, 2014, the scope of our services for this investigation has included:

1. Several reconnaissances of the site by our staff and review of relevant published and unpublished geologic literature and maps.

2. A subsurface investigation including the drilling and sampling of four exploratory borings in the vicinity of the planned new press box and bleacher structures.

3. Engineering analysis of the field and laboratory data.

4. Preparation of this geotechnical investigation and geologic and seismic hazards assessment report for use in the project design and construction. The report includes findings and recommendations for the following:

    a. Geologic and seismic setting of the site and surrounding area, including research and review of available geologic/seismic reports and maps.

    b. 2013 CBC seismic design criteria.

    c. Site preparation and grading.

    d. Press box and bleacher foundation type, allowable soil engineering design parameters, and minimum foundation dimensions.

e. Estimated foundation settlements.

f. Support of exterior concrete slabs-on-grade.

g. Treatment of expansive soils (as required).

h. Flexible pavement section for new pedestrian pathways.

i. Backfill and compaction of utility trenches.

j. Any other unusual design or construction conditions encountered in the investigation.

B. Geologic and Seismic Hazards Assessment

The Geologic and Seismic Hazards Assessment section of our report consists of the following:

1. Discussion of geologic and seismic conditions and data on the nature of the site and potential earthquake damage including:

   a. Regional geology and seismic conditions and historical information on the seismicity of the local and regional area.

   b. Location of known active and potentially active faults near the site, as well as possible nearby inactive faults.

2. Earthquake ground motion acceleration design parameters and geologic subgrade site classification in accordance with the 2013 California Building Code study requirements.

3. Potential for ground rupture related to faulting, liquefaction, seismic settlement and differential compaction, landsliding, tsunami and seiche inundation, flooding and dam failure inundation with recommended mitigation measures, where appropriate.

This report has been prepared for the specific use of the Mountain View - Los Altos Union High School District and their consultants in accordance with generally accepted geotechnical engineering principles and practices. No other warranty, either expressed or implied, is made. In the event that any substantial changes in the nature of the project are planned, the conclusions and recommendations of this report shall not be considered valid unless such changes are reviewed and the conclusions of this report modified or verified in writing. Any use or reliance of this report or the information herein by a third party shall be at such party's sole risk.

It should also be recognized that changes in the site conditions may occur with the passage of time due to environmental processes and/or acts of man, and that changes in building codes, the state of the practice or new information may require modifications in the recommendations presented herein. Accordingly, neither the client, nor any other party should rely on the information or conclusions contained in this report after three years from its date of issuance without the express written consent of Cleary Consultants, Inc.

METHOD OF INVESTIGATION

A site reconnaissance and the subsurface investigation were performed on February 13, 2014, using a truck-mounted, hollow-stem auger drill rig. Four exploratory borings were drilled under the guidance of our geologist, Tom DeSimone, to a maximum depth of 45 feet at the locations shown on Drawing 4, Site Plan. A key describing the soil classification system and soil consistency terms used in this report is presented on Drawing 5 and the soil sampling procedures are described in Drawing 6. Logs of the borings are presented on Drawings 8 through 15.

The borings were located in the field by pacing/tape measurements and interpolation of the features shown on the site plan provided us. These locations should be considered accurate only to the degree implied by the method used.

Samples of the soil materials from the borings were returned to our laboratory for classification and testing. The results of moisture content, dry density, percent finer than No. 4 and No. 200 sieves, plasticity index and free swell testing are shown on the boring logs. The laboratory testing procedures followed during this investigation are summarized on Drawing 7. Drawing 16, Plasticity Chart, presents additional data on the plasticity index testing. Drawing 17 presents the results of soil corrosivity testing on a composite sample of the surficial soils collected from the borings.

A list of references consulted during the investigation is included at the end of the text.

SITE CONDITIONS

A. Surface

The planned press box and visitor bleacher sites are located along the east and west sides of the existing track and field/football stadium at the Los Altos High School campus. The stadium is located on the west side of the campus, situated between the baseball field and the main parking lot. A residential neighborhood is located to the west of the stadium and property line.

The relatively flat press box site, which is situated immediately behind the bleachers, is occupied by an asphalt-paved driveway and concrete valley gutter. The existing Science Building lies to the east. The visitor bleacher area is also relatively flat and covered with asphalt-pavement. This

area was occupied by temporary bleachers and soccer goals during our site visit. A low concrete landscape retaining wall borders the west and north sides of the planned visitor bleacher site.

There are some small to large trees along the south, east and west sides of the stadium. Several asphalt patches for utility trenches were observed behind the home bleachers where the new press box will be constructed.

The regional slope gradient in the site vicinity is approximately one and one-half to two percent to the north. The site is approximately 140 feet above sea level.

B. Subsurface

The exploratory borings drilled for this investigation encountered medium dense to very dense gravelly clayey sand, clayey sand, silty sand and stiff to hard sandy clay to the maximum depth explored of 45 feet. EB-1 encountered medium dense clayey sand fill to a depth of approximately two feet. A layer of loose silty sand was encountered in EB-4 from approximately seven and one-half to 12 feet.

The upper sandy clay and clayey sand soils are considered to be moderately expansive based on their plasticity characteristics (Plasticity Indices of 16 to 21 percent) and the free swell test data (Free Swells of 30 to 50 percent).

The attached boring logs and related information depict subsurface conditions only at the specific locations shown on Drawing 4 and on the particular date designated on the logs. Soil conditions at other locations may differ from conditions occurring at these boring locations. Also, the passage of time may result in a change of conditions at these boring locations due to environmental changes.

C. Groundwater

Free groundwater was not encountered in the borings performed during this investigation. However, the borings were only open for a short period, and this may not have been sufficiently long to establish the stabilized water table conditions. It should also be noted that fluctuations of localized perched groundwater and the regional groundwater level can occur due to such factors as variations in rainfall, temperature, runoff, irrigation, and other factors not evident at the time our measurements were made and reported herein.

The depth to historically high groundwater in the site vicinity is shown at a depth of 40 to 45 feet below the ground surface on Plate 1.2 of the State of California Seismic Hazard Zone Report 060, Mountain View Quadrangle, "Depth to Historically High Groundwater."

GEOLOGY AND SEISMICITY

The Santa Clara Valley, a broad, sediment filled basin bordered on the east by the Diablo Range and on the west by the Santa Cruz Mountain Range, is about 16 miles wide in the vicinity of the site, which is situated on the west side of the Valley. Structurally, the Santa Clara Valley has formed as a result of tectonic downwarping controlled by three northwest trending active fault zones: the San Andreas fault on the southwest and the Hayward and the Calaveras faults on the northeast. The school site is located in an area of older alluvial fan deposits (Qof) which underlie this portion of the Santa Clara Valley (SR107).

The San Francisco Bay Area is recognized by geologists and seismologists as one of the most active seismic regions in the United States. The three major fault zones which pass through the Bay Area in a northwest direction have produced approximately a dozen earthquakes per century strong enough to cause structural damage. The faults causing these earthquakes are part of the

San Andreas fault system, a major rift in the earth's crust that extends for at least 450 miles along the California Coast and includes the San Andreas, Hayward and Calaveras faults. The site is located approximately 5.2 miles northeast of the San Andreas fault, 14.0 miles southwest of the Hayward fault, and 17.1 miles southwest of the Calaveras fault, respectively. In addition, the site is located about 2.6 miles northeast of the potentially active Monte Vista-Shannon fault.

Since the early 1800's, major earthquakes have been recorded along the San Andreas, Hayward and Calaveras fault zones (Toppozoda et al, 2000). In 1861, an earthquake having a Richter magnitude of approximately 6.5 was reported on the Calaveras fault. The presumed epicenter of this earthquake was located approximately 27 miles northeast of the site. In 1984 and 2007, earthquakes having magnitudes of approximately 6.1 and 5.6 were reported on the Calaveras fault near Mt. Hamilton and the City of Milpitas. The epicenters of these earthquakes were located approximately 25 and 19 miles southeast and northeast of the site. In 1868, an earthquake having a Richter magnitude of approximately 7.0 was recorded along the Hayward fault. This earthquake opened fissures at random locations along the fault, from San Pablo to Mission San Jose. The presumed epicenter of the 1868 earthquake is located approximately 22 miles northeast of the site. The San Francisco Earthquake of 1906 had a Richter Magnitude of approximately 8.3 and the epicenter of this earthquake (Toppozoda et al, 2000) was located approximately 31 miles northwest of the site; also, the San Andreas fault produced earthquakes having approximate magnitudes of 7.0 and 6.6 in 1838 and 1865, the presumed epicenters of which are located about six miles southwest and 17 miles southeast of the site.

An earthquake with Richter Magnitude 5.4 experienced on the Concord fault in 1955 had its epicenter approximately 40 miles northeast of the site. Another damaging earthquake with Richter Magnitude 5.3 occurred in 1957 on the San Andreas fault in Daly City, causing approximately one million dollars in damage. The epicenter of this earthquake was about 31 miles northwest of the site. Two earthquakes in 1980, along traces of the Greenville fault, had their epicenters approximately 36 miles northeast of the site. These 1980 earthquakes had Richter magnitudes of 5.5 and 5.8. In addition, numerous earthquakes of magnitudes 4.0 or

greater have been recorded throughout the Bay Area along the San Andreas, Hayward and Calaveras faults.

On October 17, 1989, the Loma Prieta earthquake, which had its epicenter 27 miles southeast of the site and a recorded Moment Magnitude of 6.9, produced widespread damage through the Bay Area. Most of the liquefaction-related damage caused by this earthquake occurred in areas of shallow water table (10 feet or less) underlain by unconsolidated fill and loose soil deposits, such as the Marina District of San Francisco, the westerly portion of Oakland, and downtown Santa Cruz. Liquefaction was not observed in the northern portion of the Santa Clara Valley (DMG OFR 2000 - 010) during the Loma Prieta Earthquake.

The distances between the site and the capable segments of the above faults, as well as other significant faults within a radius of 60 miles from the site, was determined using the USGS Earthquake Hazards Program 2008 USGS National Seismic Hazard Maps – Fault Parameters, as presented below in Table 1:

TABLE 1 - Summary of Significant Earthquake Faults Capable of Generating Strong Ground Shaking at the Stadium Improvements Project at Los Altos High School, Los Altos[1], [2]

Earthquake Generating Fault	Approximate Distance and Direction to Generating Fault (miles)	Maximum Earthquake (Moment Magnitude)
Monta Vista - Shannon	2.6 SW	6.5
N. San Andreas (SAO+SAN+SAP+SAS)	5.2 SW	8.1
Hayward-Rodgers Creek (RC+HN+HS)	14.0 NE	7.3
San Gregorio Connected	17.0 SW	7.5
Calaveras (CN+CC+CS)	17.1 NE	7.0
Zayante-Vergales	21.9 S	7.0
Mount Diablo Thrust	28.4 NE	6.7
Greenville Connected	31.1 NE	7.0
Monterey Bay-Tularcitos	32.1 SW	7.3
Green Valley Connected	36.0 NE	6.8
Great Valley	40.1 NE	6.9
Ortigalita	46.3 SE	7.1
Quien Sabe	52.0 SE	6.6
Rinconada	52.8 SE	7.5
West Napa	54.2 NW	6.7
Point Reyes	55.3 NW	6.9

(1) USGS Earthquake Hazards Program 2008 USGS National Seismic Hazard Maps – Fault Parameters, run April 1, 2014

(2) Site Latitude: 37.38662°N; Site Longitude: 122.11021°W

The historical seismicity of the greater San Francisco Bay area and surrounding regions is presented on Drawing 3, Regional Earthquake Epicenter Map.

Similar to most of the San Francisco Bay Area, it is reasonable to assume that the stadium improvements project will be subjected to a moderate to large earthquake from one of the above-mentioned faults during its lifetime. During such an earthquake, strong ground shaking is likely to occur at the site.

GEOLOGIC AND SEISMIC HAZARDS EVALUATION

A. Fault Offset Hazard

Based on our review of existing geologic information, we conclude that there are no known active or potentially active faults crossing the site. The site is also located outside of the Special Studies Zones boundaries of the Alquist-Priolo Earthquake Fault Zoning Map. Therefore, the hazard resulting from surface rupture or fault offset is considered low.

B. Ground Shaking Hazards

1. Strong Ground Shaking

Strong ground shaking is likely to occur during the lifetime of the planned improvements as a result of movement along one or more of the regional active faults discussed above. The proposed stadium improvements will need to be designed and constructed in accordance with current standards of earthquake-resistant construction.

2. Soil Liquefaction

Liquefaction is a phenomenon in which saturated, essentially cohesionless soils lose strength during strong seismic shaking and may experience horizontal and vertical movements. Soils that are generally most susceptible to liquefaction are clean, loose, saturated, uniformly graded, fine-grained sands and silts that lie within roughly 50 feet of the ground surface.

This site is not mapped within a zone of required investigation for liquefaction (State of California Seismic Hazard Zones Map, Mountain View Quadrangle, October 18, 2006).

The water table was not encountered to the maximum depth explored of 45 feet in the borings, however, we have conservatively assumed the groundwater table to be at a depth of 40 feet for the purposes of liquefaction analysis, based on the information provided in the State of California Historic High Groundwater Plate 1.2 for the Mountain View Quadrangle.

EB-1 and EB-4 were analyzed for seismically-induced dry settlement using the LiquefyPro computer program (Version 5.0) and a factor of safety (FOS) of 1.3 per CGS Special Publication 117A. One-inch blowcounts were recorded in the sand layers encountered during drilling in intervals where gravels were observed; however, gravel interference was not indicated.

LiquefyPro evaluates seismically induced settlement potential and calculates the settlement of saturated and unsaturated deposits due to seismic loads using SPT blowcount, total unit weight, fines content, peak horizontal acceleration and earthquake moment magnitude data. The program is based on the most recent publications of the NCEER Workshop and SP117 Implementation.

The fine grained sandy clay layers were further analyzed for liquefaction susceptibility using criteria from Bray, J.D. and Sancio, R.B. in their 2006 paper "Assessment of the Liquefaction Susceptibility of Fine Grained Soils". This study found that fine grained soils with a plasticity index of 12 or more and a water content to liquid limit ratio of less than 0.8 are not susceptible to liquefaction. Based on these criteria, the sandy clay layers encountered at the site were not found to be susceptible to liquefaction.

Based on the results of our analysis, the theoretical settlement from earthquake-induced soil liquefaction is approximately one-quarter inch in the site vicinity, with up to one-eighth of differential settlement over a distance of 50 feet, using the calculated peak ground acceleration ($PGA_M = 0.653$) for the site as specified in Item 20 of CGS Note 48

(2013), and the Tokimatsu and Seed calculation method with magnitude scaling correction.

Based on the above information, we conclude that the likelihood that the new press box and bleacher structures will be damaged by earthquake-induced soil liquefaction is very low.

3. Soil Densification

The recognized procedures for evaluation of seismically-induced settlement in dry sandy soils (Tokimatsu and Seed, 1987; Pradel, 1998) are considered most applicable to non-cohesive loose clean sands with less than 5 percent fines (Day, 2002). The fines content of the loose to medium dense sand layers encountered in the borings ranges from approximately three to 47 percent. The sand layers were analyzed for seismically-induced settlement using the LiquefyPro computer program.

Based on the results of our analysis, a theoretical dry settlement of approximately two inches could occur in the site vicinity, with up to one inch of differential settlement over a distance of 50 feet, using the calculated peak ground acceleration ($PGA_M = 0.646$) for the site as specified in Item 20 of CGS Note 48 (2013), and the Tokimatsu and Seed calculation method with magnitude scaling correction.

Based on the above information, we conclude that the likelihood that the new press box and bleacher structures will be damaged by earthquake-induced soil densification is low.

The results and supporting data for the liquefaction and dry settlement analysis are included in Appendix A of this report.

4. Other Seismic Hazards

We have also considered the possibility of other seismically induced hazards at the site. Because of the site's relatively flat topography, and the absence of a shallow groundwater table and a "free face" in the site vicinity, soil lurching and lateral spreading are considered unlikely.

Ground cracking may be caused by any of the phenomena discussed above. Although there is a potential for soil densification of the soils underlying the site, it is unlikely that significant ground cracking would be present at the surface since the densification component predominately occurs below a depth of 10 feet. Landsliding is also very unlikely to occur at the site based on the relatively flat topography and absence of a shallow ground water table.

C. Flooding

The 2003 Anderson Dam Inundation Maps prepared by the Santa Clara Valley Water District indicates the site would be not be subject to inundation in the event that the dam failed catastrophically. The site is also not located within the dam failure inundation areas of other reservoirs in Santa Clara County such as the Calaveras, Lexington, Stevens Creek and Coyote Reservoirs. The site is also not within the area subject to tsunami inundation from San Francisco Bay, which lies about four miles to the north (State of California, July 31, 2009).

The Santa Clara County Flood Insurance Rate Map (FIRM) dated May 18, 2009, indicates the site is in Zone X (Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood). The site is not mapped within the "Special Flood Hazard Areas", and the likelihood of flooding in Zone X is considered low.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our investigation, we judge that there are no geologic hazards or constraints which would preclude the construction of the planned Stadium Improvements project at Los Altos High School. From a soil and foundation engineering standpoint, we also conclude that the improvements can be constructed as planned provided the recommendations of this report are incorporated into the design and construction of the project.

Our analysis indicates that the potential total seismically-induced dry soil settlement at the site is approximately two inches; and the potential for liquefaction-induced settlement is approximately one-quarter inch.

The new press box and visitor's bleacher structures can be supported on conventional spread footing foundations bearing in the medium dense native gravelly clayey sand and stiff to very stiff sandy clay soils encountered at the site.

Interior and exterior slabs should be supported on a cushion of imported Class 2 aggregate base to minimize expansive soil movements.

The recommendations presented in the remainder of this report are contingent on our review of the earthwork and foundation plans for the project and our observation of the grading, foundation installation, and pavement installation phases of the construction.

A. Earthwork

1. Stripping and Site Preparation

Existing AC pavements, slabs, surface vegetation, underground utilities, trees designated to be removed, existing foundations, underground obstructions and other site improvements not designated to remain should be removed to their full depth and extent and hauled from the site.

Any holes resulting from the removal of underground obstructions (such as old concrete footings, abandoned utilities or tree root bulbs) that extend below the planned finished grade should be cleared of loose soil and debris, and backfilled with suitable material compacted to the requirements discussed below for engineered fill (see Section 3, Fill Placement and Compaction).

2. Moisture Conditioning and Recompaction of Surface Soils

Surface soils exposed in the new construction areas should be properly moisture conditioned and recompacted prior to placing any required fill. This work should consist of ripping the upper six inches, thoroughly moisture conditioning the soils to one to two percent above optimum moisture, and compacting them to at least 90 percent relative compaction as determined by ASTM Test Designation D1557. Compaction should be performed using heavy compaction equipment such as a self-propelled sheepsfoot compactor.

In order to achieve satisfactory compaction in the subgrade and fill soils, it may be necessary to adjust the soil moisture content at the time of compaction. This may require that water be added and thoroughly mixed into any soils which are too dry or that repeated frequent scarification and aeration be performed in any soils which are too wet.

3. Fill Placement and Compaction

Existing soils having an organic content of less than three percent by volume, and which are free of construction debris, can be used as engineered fill. Fill material should not, however, contain rocks or lumps greater than six inches in greatest dimension with not more than 15 percent larger than 2.5 inches. Any imported fill required to raise grades in the improvement areas should be predominantly granular with a maximum plasticity index of twelve. Imported fill to be placed within press box and bleacher foundation areas should not contain asphaltic material.

Engineered fill should be compacted to at least 90 percent relative compaction, as determined by ASTM Test Designation D1557. Fill material should be spread and compacted in lifts not exceeding eight inches in uncompacted thickness. In order to achieve satisfactory compaction in the subgrade and fill soils, it may be necessary to adjust the soil moisture content at the time of soil compaction. This may require that water be added and thoroughly mixed into any soils which are too dry or that scarification and aeration be performed in any soils which are too wet.

4. Utility Trench Backfilling

The presently available subsurface information indicates that utility trenches can be excavated with conventional backhoe equipment. Trenches deeper than five feet should be properly braced or sloped in accordance with the current requirements of CAL-OSHA or the local governmental agency, whichever is more stringent.

Utility trenches should be backfilled with engineered fill placed in lifts not exceeding eight inches in uncompacted thickness, except thicker lifts may be used with the approval of the soil engineer provided satisfactory compaction is achieved. If on-site soil is used, the

material should be compacted to at least 85 percent relative compaction by mechanical means only. Imported sand can also be used for backfilling trenches provided it is compacted to at least 90 percent relative compaction. In bleacher, slab, and pavement areas, the trench backfill should be compacted to at least 90 percent relative compaction for on-site soils, and 95 percent where imported clean sand backfill is used. In addition, the upper six inches of all trench backfill materials under vehicular pavement areas should be compacted to at least 95 percent relative compaction.

Water jetting to achieve the required level of backfill compaction should not be permitted.

5. Surface Drainage

Positive surface gradients of at least two percent on porous surfaces and one percent on impervious surfaces should be provided adjacent to the new press box, bleachers and other site improvements so that surface water is directed away from foundations and towards suitable discharge facilities. Ponding of surface water should not be allowed on pavements or slabs adjacent to the structures. Water from roof downspouts should be collected into closed pipes which carry the runoff away from the improvements and discharge into approved drainage facilities or discharged onto hardscape surfaces which drain toward collection basins or surface collectors.

6. Construction Observation

The grading and earthwork operations should be observed and tested by our representative for conformance with the project plans/specifications and our recommendations. This work includes site preparation, selection of satisfactory fill materials, and placement and compaction of the subgrade and fill. Sufficient notification prior to commencement of earthwork is essential to make certain that the work will be properly observed.

B. Press Box and Visitors Bleachers Foundations

After the site has been properly prepared, the new home-side press box and visitors bleachers can be supported on conventional continuous perimeter and isolated spread footing foundations bearing in undisturbed medium dense clayey sand and stiff sandy clay native soil or in properly engineered fill.

Spread footings should be founded at least 18 inches below lowest adjacent finished grade. Continuous footings should have a minimum width of 16 inches, and isolated column footings should be at least 24 inches square. Footings located adjacent to utility trenches should have their bearing surfaces at least nine inches below an imaginary 2:1 (horizontal to vertical) plane projected upward from the edge of the bottom of the trench.

At the above depths, footings can be designed for an allowable bearing pressure of 2000 psf due to dead loads with a one-third increase for dead plus live loads (2667 psf) and a 50 percent increase (3000 psf) for total design loads including wind and seismic. Footings should be provided with top and bottom reinforcement as specified by the structural engineer to provide structural continuity and to permit spanning of local irregularities. Soil conditions in the foundation excavations should be checked by our representative prior to placing reinforcing steel or concrete.

Lateral loads can be resisted by friction between the foundation bottoms and the supporting subgrade. A friction coefficient of 0.30 is considered applicable. As an alternative, a passive pressure equal to an equivalent fluid pressure of 300 pcf can be taken against the sides of footings poured neat. The passive pressure may be assumed to start 12 inches below the ground surface.

Footing trenches should be kept moist so that any drying-shrinkage cracks are closed prior to placement of concrete. Moisture should be added in a light mist spray. Flooding of the footing excavations, which could result in softening of the subgrade, should be avoided.

Settlements under the anticipated loads are expected to be within tolerable limits for the proposed construction.

C. Seismic Design Parameters

Seismic design values for the project were determined using the USGS Seismic Design Maps Web Tool Application with the 2008 USGS Hazard Data and the 2010 ASCE 7 (with July 2013 errata), and the subsurface information obtained from the exploratory borings which was used for determining the site classification. A site-specific seismic hazard analysis is not required (per CBC 2013 Section 1616A.1.3), as the site is assigned to Seismic Design Category D (per CBC 2013 Section 1613A.3.5).

Using the site Latitude (37.3866 °N) and Longitude (122.1102 °W) and the site classification as input, the computer application provides Seismic Hazard Curve information, Site Coefficients and Uniform Hazard Response Spectra for both "short" (0.2 seconds) and long period (1-second) durations as detailed in the 2013 CBC.

Based on the results of our investigation, the tables provided in Section 1613.5.2 of the 2013 CBC, and our analysis using the USGS Earthquake Ground Motion Parameter Java Application, the following seismic design parameters can be used in lateral force analyses at this site:

Site Class D - Stiff Soil Profile with Standard Penetration Test Values of 15 to 50 blows/foot

USGS Website Values:

Site Coefficient $F_a = 1.0$
Site Coefficient $F_v = 1.5$
Mapped Spectral Acceleration Values; $S_S = 1.710$, $S_1 = 0.727$
Spectral Response Accelerations; $SM_S = 1.710$, $SM_1 = 1.090$
Design Spectral Response Accelerations; $SD_S = 1.140$, $SD_1 = 0.727$

D. Slabs-on-Grade

Slab-on-grade construction will be used for press box and exterior slabs. Just prior to final slab preparation, the slab subgrade should be checked to determine that the upper 12 inches of native soils are at least at optimum moisture content and proof-rolled to provide firm, uniform support. Interior slabs should be underlain by a minimum 15 mil vapor retarder of permeance less than or equal to 0.01 perms (as tested by ASTM E1249) placed over six inches of 3/4-inch clean, free draining crushed rock. Care should be taken to prevent wear, punctures and/or tearing of the membrane during the construction phase (such as could result from the placement of rebar) subsequent to its installation; any tears or punctures should be tightly sealed. The six inch drain rock section should be further underlain by six inches of compacted Class 2 aggregate baserock.

Exterior concrete flatwork, sidewalks and curb and gutters should be underlain by at least six inches of Class 2 aggregate baserock placed on the prepared subgrade soil.

Reinforcement of slabs should be provided in accordance with their anticipated use and loading, but as a minimum, slabs should be reinforced with No. 3 bars at 18 inches on center, both ways, or No. 4 bars at 24 inches on center, both ways. Concrete slabs should be articulated with a maximum joint spacing of ten feet in both directions.

Prior to final construction of slabs, the subgrade surface should be proof rolled to provide a smooth, firm non-yielding surface. The baserock and upper eight inches of underlying subgrade should be compacted to at least 90 percent relative compaction.

The moisture content of the compacted subgrade should be maintained at, or slightly above, optimum moisture prior to placing non-expansive fill materials.

E. Flexible Pavements for Pedestrian Walkways

Any new hardscape areas required for the project (i.e pedestrian walkways) should consist of two inches AC over four inches Class 2 aggregate baserock.

The upper six inches of soil subgrade in AC hardscape areas and the Class 2 aggregate baserock section should be compacted to at least 90 percent relative compaction. Any fill required below the upper six inches of subgrade should be compacted to at least 90 percent.

Class 2 aggregate base should have an R-Value of at least 78 and conform to the requirements of Section 26, State of California "CALTRANS" Standard Specifications, latest edition. The aggregate base material should be placed in thin lifts in a manner to prevent segregation, and should be uniformly moisture conditioned and compacted to at least 90 percent relative compaction to provide a smooth, unyielding surface.

Concrete curbs should be embedded at least two inches below the soil subgrade (below the bottom of the aggregate base section) in any areas where irrigated landscape areas are planned adjacent to AC pavements.

The asphaltic concrete should conform to and be placed in accordance with the requirements of Section 39 in the State of California CALTRANS Standard Specifications, latest edition.

F. Soil Corrosivity

Laboratory resistivity, pH, chloride and sulfate testing was performed on a composite soil sample obtained from EB-1 through EB-4 during our geotechnical investigation for this project. The testing was performed by Cooper Testing Laboratory for the purpose of evaluating the soils' corrosion potential for use in the design of underground utilities and embedded concrete on this project.

In summary, the test results indicated a minimum resistivity of 2,120 Ohm-Cm, a PH of 7.8, a chloride content of seven ppm, and water soluble sulfate content of 107 ppm. Soils with chloride contents of less than 500 ppm and sulfate contents of less than 1500 ppm are considered to be of "low" Corrosivity. However, based on the resistivity testing, the soils are considered "mildly corrosive."

Table 2 below shows the general correlation between resistivity and corrosion potential.

Table 2 - Correlation Between Resistivity and Corrosion Potential (c)

Soil Resistivity (ohm-cm)	Soil Classification
Below 500	Very Corrosive
500 to 1,000	Corrosive
1,000 to 2,000	Moderately Corrosive
2,000 to 10,000	Mildly Corrosive
Above 10,000	Progressively Less Corrosive

(c) National Association of Corrosion Engineers.

This condition could result in reduced life span of buried steel piping and culverts for this project. Thicker gauge pipelines would have greater life spans. For example, the life spans for

18, 16 and 14 gauge steel culverts with a soil resistivity of 2,120 ohm-cm and a pH of 7.8 are estimated to be roughly 34, 44 and 54 years, respectively (California Division of Highways, 1993).

For the purposes of design of concrete in contact with the soil, there are no restrictions on types of cementitious materials to be used, based on the resistivity testing and sulfate testing.

PLAN REVIEW AND CONSTRUCTION OBSERVATION

We should be provided the opportunity to review the foundation and grading plans and the specifications for the project when they are available. We should also be retained to provide soil engineering observation and testing services during the grading and foundation installation phases of the project. This will provide the opportunity for correlation of the soil conditions found in our investigation with those actually encountered in the field, and thus permit any necessary modifications in our recommendations resulting from changes in anticipated conditions.

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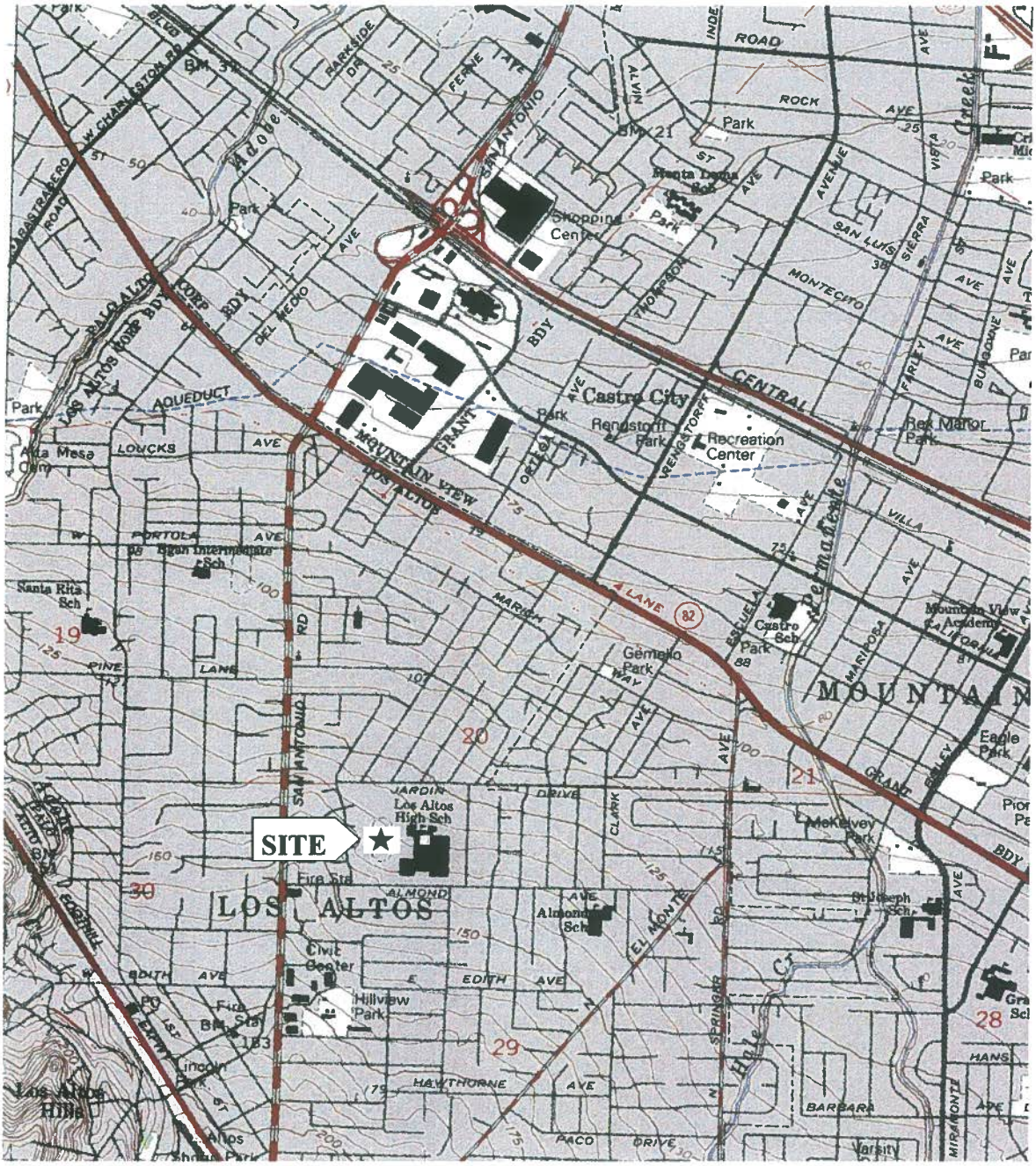
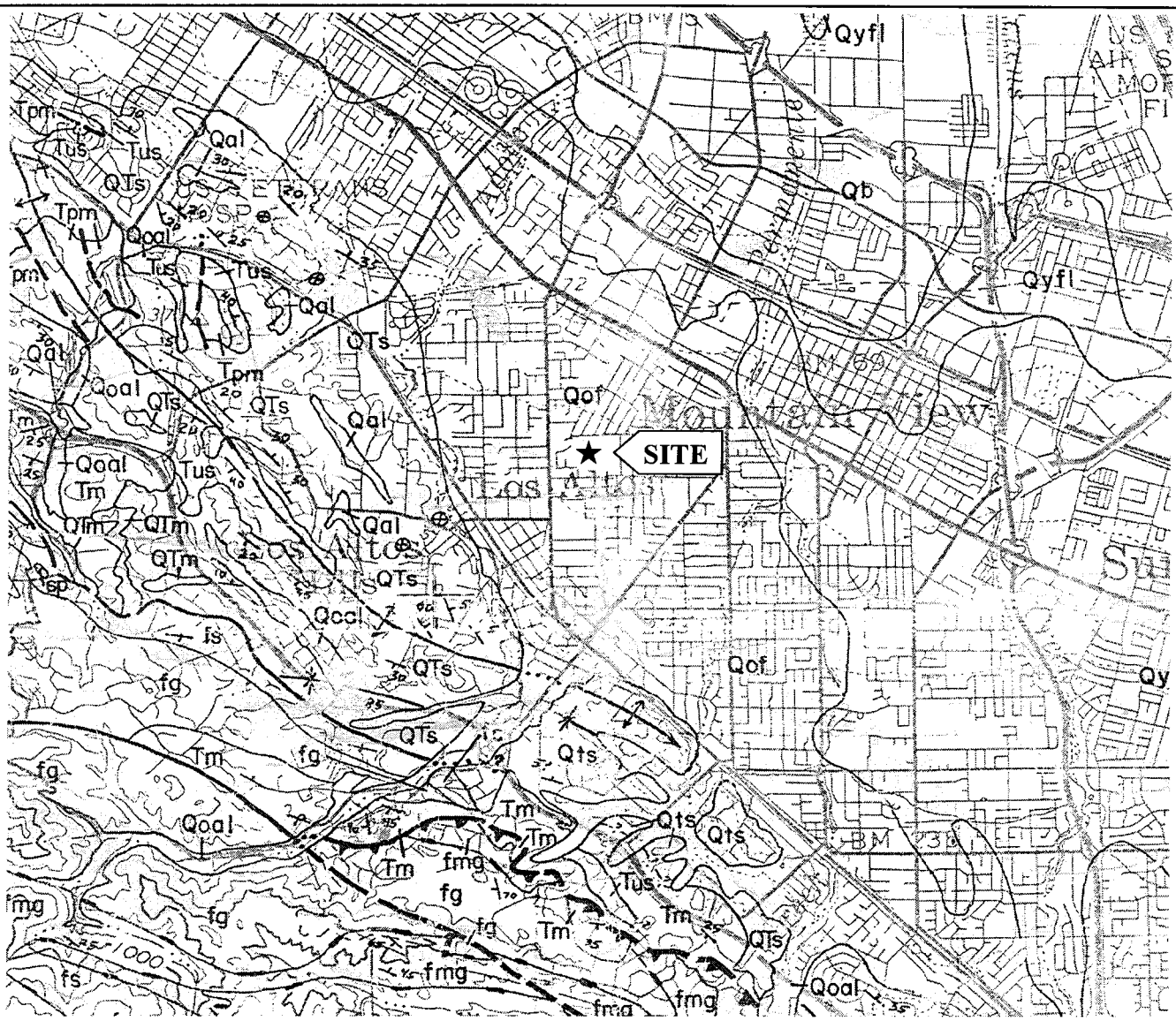


BASE: U.S. Geological Survey, Mountain View 7.5' Quadrangle, Los Altos, California

SITE VICINITY MAP

CLEARY CONSULTANTS, INC. *Geotechnical Engineers and Geologists*	STADIUM IMPROVEMENTS PROJECT Los Altos High School Los Altos, California			
APPROVED BY	**SCALE**	**PROJECT NO.**	**DATE**	**DRAWING NO.**
GF	1" = 2000'	1307.1F	April 2014	1



EXPLANATION

Qal	Stream Alluvium
Qyfl	Fluvial Deposits
Qb	Interfluvial Fresh Water Basin Deposits
Qoal	Older Stream Alluvial Deposits
Qof	Older Alluvial Fan Deposits
QTm	Merced Formation
QTs	Santa Clara Formation
Tm	Monterey Formation
Tus	Sandstone & Semi-Siliceous Shale
Tpm	Page Mill Basalt
fs	Franciscan Assemblage Sandstone
fg	Franciscan Assemblage Greenstone
fmg	Franciscan Assemblage Melange
sp	Serpentinite
30	Strike and Dip of Bedding
	Syncline
	Anticline
	Fault, dashed where inferred
	Lithologic contact

N

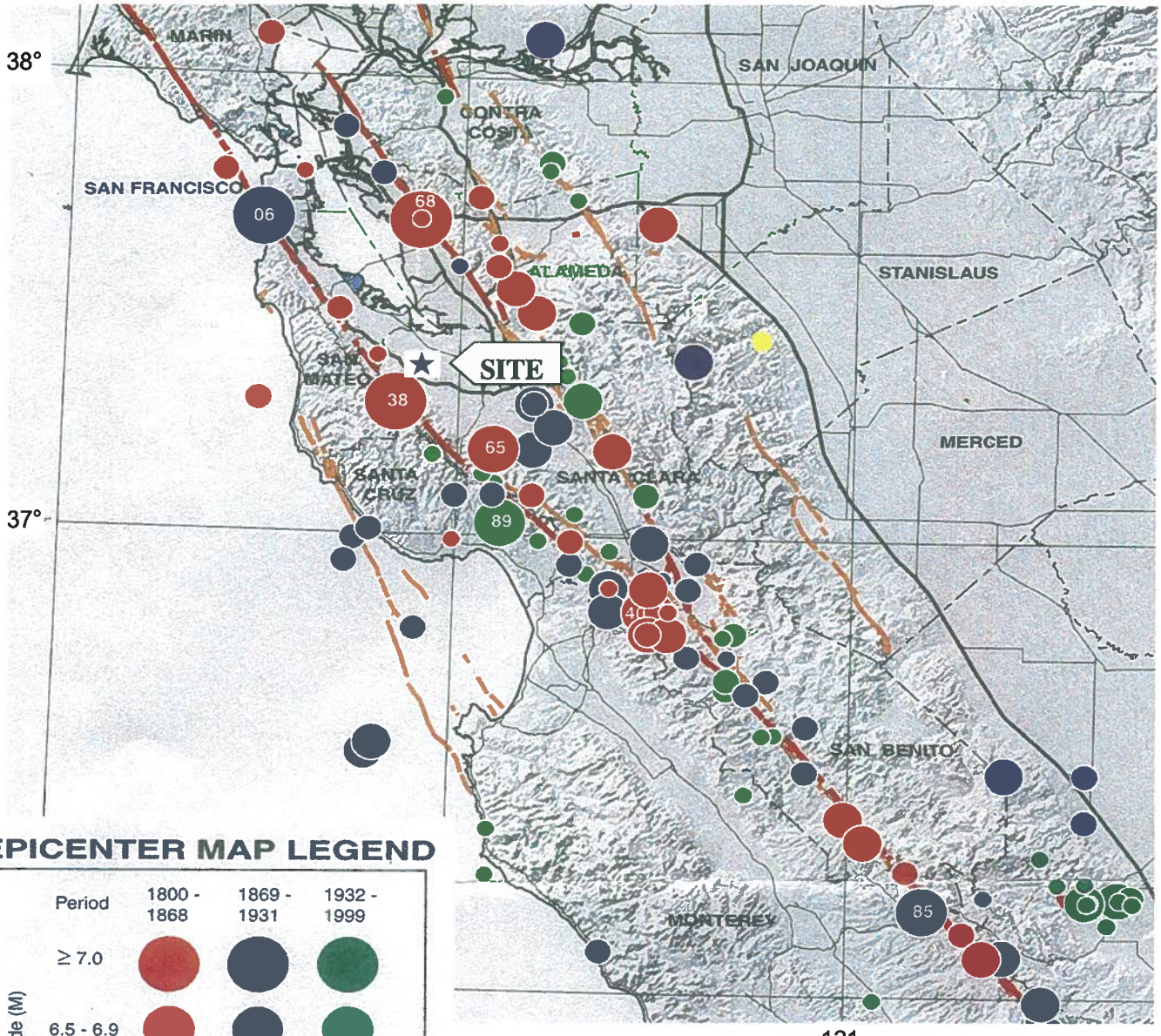
BASE: SR107 (Rogers & Williams, 1974)

LOCAL GEOLOGIC MAP

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	1" = 1 Mile	1307.1F	April 2014	2



EPICENTER MAP LEGEND

Period	1800 - 1868	1869 - 1931	1932 - 1999
Magnitude (M) ≥ 7.0			
6.5 - 6.9			
6.0 - 6.4			
5.5 - 5.9			
5.0 - 5.4			

Historical Faulting

Holocene Faulting

Highways (Major)

Highways (Minor)

Lakes

65 — Last two digits of M ≥ 6.5 earthquake year

N

BASE: CDMG Map Sheet 49; Toppozada et al, 2000. Magnitude 5.0 and greater earthquakes plotted through 1999; subsequent epicenters through 2012 plotted in yellow

REGIONAL EARTHQUAKE EPICENTER MAP

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STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	1" = 25 miles ±	1307.1F	April 2014	3

EXPLANATION

EB-1 Approximate Location of Exploratory Boring

BASE: Sugimura Finney Architects, received December 2, 2013

SITE PLAN

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STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	1" = 50' ±	1307.1F	April 2014	4

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISION
COARSE GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	Well graded gravels, gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well graded sands, gravelly sands, little or no fines
			SP	Poorly graded sands or gravelly sands, little or no fines
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines
			SC	Clayey sands, sand-clay mixtures, plastic fines
FINE GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS LIQUID LIMIT IS GREATER THAN 50%		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS			
200	40	10	4	3/4"	3"	12"	
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

GRAIN SIZES

SANDS AND GRAVELS	BLOWS/FOOT ✧
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

RELATIVE DENSITY

SILTS AND CLAYS	STRENGTH ★	BLOWS/FOOT ✧
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

CONSISTENCY

✧ Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1-3/8 inch I.D.) split barrel (ASTM D-1586).

★ Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation.

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KEY TO EXPLORATORY BORING LOGS

STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

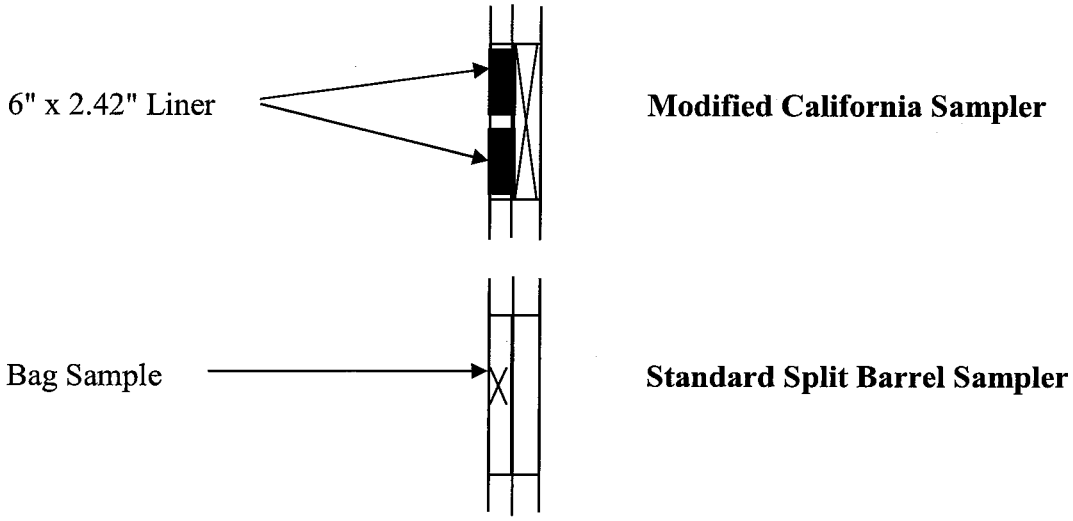
PROJECT NO.	DATE	DRAWING NO.
1307.1F	April 2014	5

FIELD SAMPLING PROCEDURES

The soils encountered in the borings were continuously logged in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D-2487).

Representative soil samples were obtained from the borings at selected depths appropriate to the soil investigation. All samples were returned to our laboratory for classification and testing.

In accordance with the ASTM D1586 procedure, the standard penetration resistance was obtained by dropping a 140 pound hammer through a 30-inch free fall. The 2-inch O.D. Standard split barrel sampler was driven 18 inches or to practical refusal and the number of blows were recorded for each 6-inch penetration interval. The blows per foot recorded on the boring logs represent the accumulated number of blows, or N-value, required to drive the penetration sampler the final 12 inches. In addition, 3.0 inch O.D. x 2.42 inch I.D. drive samples were obtained using a Modified California Sampler and 140 pound hammer. Blow counts for the Modified California Sampler were converted to standard penetration resistance by multiplying by 0.6. The sample type is shown on the boring logs in accordance with the designation below.



Where obtained, the shear strength of the soil samples using either Torvane (TV) or Pocket Penetrometer (PP) devices is shown on the boring logs in the far right hand column.

CLEARY CONSULTANTS, INC. *Geotechnical Engineers and Geologists*	SUMMARY OF FIELD SAMPLING PROCEDURES STADIUM IMPROVEMENTS PROJECT Los Altos High School Los Altos, California		
	PROJECT NO.	**DATE**	**DRAWING NO.**
	1307.1F	April 2014	6

LABORATORY TESTING PROCEDURES

The laboratory testing program was directed toward a quantitative and qualitative evaluation of the physical and mechanical properties of the soils underlying the proposed photovoltaic sites.

The natural water content was determined on 44 samples of the materials recovered from the borings in accordance with the ASTM D2216 Test Procedure. The water contents are recorded on the boring logs at the appropriate sample depths.

Dry density determinations were performed on 24 samples to measure the unit weight of the subsurface soils in accordance with the ASTM D2937 Test Procedure. The results of the tests are shown on the boring logs at the appropriate sample depths.

Atterberg Limit determinations were performed on 11 samples of the subsurface soils in accordance with the ASTM D4318 Test Procedure to determine the range of water contents over which the materials exhibited plasticity. The Atterberg Limits are used to classify the soils in accordance with the Unified Soil Classification System and to evaluate the soil's expansion potential. The results of the tests are presented on Drawing 16 and on the boring logs at the appropriate sample depths.

The percent soil fraction passing the #4 and/or #200 sieves was determined on 33 samples of the subsurface soils, respectively, in accordance with the ASTM D1140 Test Procedure to aid in the classification of the soils. The results of the tests are shown on the boring logs at the appropriate sample depths.

Free swell tests were performed on 33 samples of the soil materials to evaluate the swelling potential of the soil. The free swell tests were performed by slowly pouring 10 ml of air dried soil passing the No. 40 sieve into a 100 ml graduated cylinder filled with approximately 90 ml of distilled water. The suspension was stirred repeatedly to ensure thorough wetting of the soil specimen. The graduated cylinder was then filled with distilled water to the 100 ml mark and allowed to settle until equilibrium was reached (approximately 24 hours). The free swell volume of the soil was then noted. The percent free swell was calculated by subtracting the initial soil volume from the free swell volume, dividing the difference by the initial volume, and multiplying the result by 100 percent. The results of the tests are presented on the boring logs at the appropriate sample depths.

Corrosion testing was performed on a composite sample of the surficial soil materials from the site. Testing included resistivity, pH, chloride and sulfate testing performed in accordance with ASTM G57, ASTM G51, Caltrans 422 (modified) and Caltrans 417(modified), respectively. The results of these tests are presented on Drawing 17 and are discussed in Section F. Soil Corrosivity.

EQUIPMENT	8" Diameter Hollow Stem Auger*	ELEVATION	---	LOGGED BY	TD
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	---	DATE DRILLED	2/13/2014

DESCRIPTION AND CLASSIFICATION				DEPTH (feet)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
AC Hardscape: 3" AC Over 8" AB GRAVELLY CLAYEY SAND, moist, fine to coarse grained sand @1.0': Finer than #4 = 78% Finer than #200 = 24% Free Swell = 50% @1.5': Finer than #4 = 83% Finer than #200 = 30% Free Swell = 50%	Dark Yellowish Brown	Medium Dense	SC	1			12		PP>4.5
				2		16	12	127	
			CL				17	114	
		Stiff		3					
Fill									
SANDY CLAY, moist, fine to coarse grained sand @2.0': Finer than #4 = 96% Finer than #200 = 56% Free Swell = 40% @3.5': Liquid Limit = 43% Plasticity Index = 21% Finer than #4 = 97% Finer than #200 = 58% Free Swell = 30%	Dark Yellowish Brown			4		12	18		PP>4.5
				5		13	18		
				6					
				7		13	16		
CLAYEY SAND, moist, fine to occasionally coarse grained sand @9.5': Liquid Limit = 30% Plasticity Index = 10% Finer than #4 = 96% Finer than #200 = 47% Free Swell = 30%	Dark Yellowish Brown	Dense	SC	8					
				9					
				10		35	15	119	
				11					
		Medium Dense		12					
				13					
				14					
				15		20	18		
				16					
				17					
SANDY CLAY, moist, fine grained sand @19.5': Liquid Limit = 40% Plasticity Index = 21% Finer than #4 = 99% Finer than #200 = 78% Free Swell = 30%	Dark Yellowish Brown	Stiff	CL	18					
				19					
				20		13	17	116	

* Drilled with a B53 Truck Mounted Rig
PP = Pocket Penetrometer

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 1
STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	----	1307.1F	April 2014	8

EQUIPMENT	8" Diameter Hollow Stem Auger*	ELEVATION	---	LOGGED BY	TD
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	---	DATE DRILLED	2/13/2014

DESCRIPTION AND CLASSIFICATION				DEPTH (feet)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
SANDY CLAY, moist, continued....	Dark Yellowish Brown	Stiff	CL	21					
GRAVELLY CLAYEY SAND, moist, fine to coarse grained sand, fine to coarse angular to subangular gravel up to 1" diameter	Dark Yellowish Brown	Medium Dense	SC	22					
@24.5': Liquid Limit = 33% Plasticity Index = 14% Finer than #4 = 91% Finer than #200 = 27% Free Swell = 30%				23 24 25		22	12	132	
	Dark Grayish Brown	Dense		26 27 28					
@29.5': no recovery				29 30		43			
@31.0': Finer than #4 = 57% Finer than #200 = 13% Free Swell = 20%				31 32		47	6		
		Medium Dense		33					
@34.5': Finer than #4 = 66% Finer than #200 = 3% Free Swell = 10%			SP	34 35 36		21	4	124	
SANDY CLAY, moist, fine grained sand, occasional fine subrounded to rounded gravel up to 5/8" diameter @39.5': Liquid Limit = 49% Plasticity Index = 27% Finer than #4 = 92% Finer than #200 = 77% Free Swell = 30%	Dark Yellowish Brown	Hard	CL	37 38 39					
* Drilled with a B53 Truck Mounted Rig				40		45	19	111	

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 1
STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	----	1307.1F	April 2014	9

EQUIPMENT	8" Diameter Hollow Stem Auger*	ELEVATION	---	LOGGED BY	TD
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	---	DATE DRILLED	2/13/2014

DESCRIPTION AND CLASSIFICATION				DEPTH (feet)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
SANDY CLAY, moist, continued....	Dark Yellowish Brown	Hard	CL	41					
				42					
		Very Stiff		43					
				44		24	19		
Bottom of Boring = 45.0'				45					
				46					
				47					
				48					
				49					
				50					
				51					
				52					
				53					
				54					
				55					
				56					
				57					
				58					
				59					
				60					

* Drilled with a B53 Truck Mounted Rig

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 1
STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	----	1307.1F	April 2014	10

EQUIPMENT	8" Diameter Hollow Stem Auger*	ELEVATION	---	LOGGED BY	TD
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	---	DATE DRILLED	2/13/2014

DESCRIPTION AND CLASSIFICATION				DEPTH (feet)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
AC Fire Lane: 2.5" AC Over 6" AB	Dark Brown	Medium Dense	SC	1					
CLAYEY SAND, moist, fine to coarse grained sand, trace fine subangular gravels up to 1/2" diameter									
@1.0': Liquid Limit = 38% Plasticity Index = 19% Finer than #4 = 93% Finer than #200 = 42% Free Swell = 30%				2		15	13 14	124 122	TV=3.0
				3		12	14		
@4.5': Finer than #4 = 88% Finer than #200 = 43% Free Swell = 50%				4		15	13	95	
	Dark Yellowish Brown			5					
@6.0': Finer than #4 = 98% Finer than #200 = 47% Free Swell = 30%			SC-CL	6		10	14		
				7					
				8					
				9					
@9.5': Liquid Limit = 29% Plasticity Index = 9% Finer than #4 = 90% Finer than #200 = 28% Free Swell = 20%			SC	10		14	10	118	
				11					
SANDY CLAY, moist, fine grained sand	Yellowish Brown	Hard	CL	12					
				13					
				14					
@14.5': Finer than #4 = 100% Finer than #200 = 72% Free Swell = 20%				15		33	18		
				16					
CLAYEY SAND, fine to coarse grained sand	Dark Yellowish Brown	Medium Dense	SC	17					
@19.5': Finer than #4 = 94% Finer than #200 = 12% Free Swell = 10%				18					
				19					
* Drilled with a B53 Truck Mounted Rig TV = Torvane				20		14	6	122	
Bottom of Boring = 20.0'									

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 2
STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	----	1307.1F	April 2014	11

EQUIPMENT	8" Diameter Hollow Stem Auger*	ELEVATION	---	LOGGED BY	TD
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	---	DATE DRILLED	2/13/2014

DESCRIPTION AND CLASSIFICATION				DEPTH (feet)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
AC Hardscape: 4" AC Over 6" AB GRAVELLY CLAYEY SAND, slightly moist, fine to coarse grained sand, fine to occasionally coarse subangular gravel up to 1" diameter	Reddish Brown	Medium Dense	SC	1					
@1.5': Finer than #4 = 50% Finer than #200 = 16% Free Swell = 40%	Brown			2		27	6	120	
				3		23	5		
				4					
@4.5': Finer than #4 = 65% Finer than #200 = 10% Free Swell = 20%				5		16	5		
				6		10	5		
				7					
CLAYEY SAND, slightly moist, fine to occasional coarse grained sand, 1/8" rootlets	Yellowish Brown	Very Dense	SC	8					
@9.5': Finer than #4 = 98% Finer than #200 = 27% Free Swell = 20%				9		30/5"	8	114	
				10					
				11					
		Medium Dense		12					
				13					
				14		29	12		
				15					
				16					
	Dark Yellowish Brown	Dense		17					
@19.5': Finer than #4 = 90% Finer than #200 = 46% Free Swell = 30%				18					
				19					
* Drilled with a B53 Truck Mounted Rig PP = Pocket Penetrometer Bottom of Boring = 20.0'				20		32	14	123	PP>4.5

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 3
STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	----	1307.1F	April 2014	12

EQUIPMENT	8" Diameter Hollow Stem Auger*	ELEVATION	---	LOGGED BY	TD
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	---	DATE DRILLED	2/13/2014

DESCRIPTION AND CLASSIFICATION				DEPTH (feet)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
AC Hardscape: 4" AC Over 6" AB CLAYEY SAND, moist, fine to coarse grained sand, minor fine subangular gravel up to 5/8" diameter @1.5': Liquid Limit = 34% Plasticity Index = 16% Finer than #4 = 93% Finer than #200 = 45% Free Swell = 40%	Reddish Brown	Medium Dense	SC	1		25	10 13	124	
			CL	2					
		Stiff		3		16	14		
SANDY CLAY, moist, fine to coarse grained sand @4.5': Liquid Limit = 36% Plasticity Index = 16% Finer than #4 = 96% Finer than #200 = 52% Free Swell = 40% @6.0': Finer than #4 = 100% Finer than #200 = 57% Free Swell = 20%	Dark Yellowish Brown			4			14		
				5		10	14	108	
		Very Stiff		6		28	14		
				7					
SILTY SAND, moist, medium to coarse grained sand @8.5': Finer than #4 = 98% Finer than #200 = 6% Free Swell = 0%	Grayish Brown	Loose	SM	8					
				9			5		
@9.5': Finer than #4 = 99% Finer than #200 = 19% Free Swell = 10%	Dark Yellowish Brown			10		6	9	94	
				11					
CLAYEY SAND, moist, fine to coarse grained sand	Dark Yellowish Brown	Very Dense	SC	12					
				13					
				14		50/6"			
@15.5': Finer than #4 = 89% Finer than #200 = 11% Free Swell = 40%				15		60	5		
@16.0': increased medium and coarse grained sand content				16					
				17					
	Reddish Brown	Medium Dense		18					
@19.5': Liquid Limit = 31% Plasticity Index = 13% Finer than #4 = 85% Finer than #200 = 29% Free Swell = 20%				19					
* Drilled with a B53 Truck Mounted Rig PP = Pocket Penetrometer				20		24	11	125	PP>4.5

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 4
STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	----	1307.1F	April 2014	13

EQUIPMENT	8" Diameter Hollow Stem Auger*	ELEVATION	---	LOGGED BY	TD
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	---	DATE DRILLED	2/13/2014

DESCRIPTION AND CLASSIFICATION				DEPTH (feet)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
CLAYEY SAND, moist, continued....	Reddish Brown	Medium Dense	ML	21					
				22					
	Grayish Brown	Dense		23					
				24					
@24.5': Finer than #4 = 87% Finer than #200 = 5% Free Swell = 30%				25		43	4	121	
				26					
CLAYEY GRAVEL, moist, fine to coarse grained sand, fine subangular gravel up to 5/8" diameter	Grayish Brown	Medium Dense	GC	27					
				28					
@29.0': fine to coarse angular to subangular gravel up to 1.25" diameter, occasional fines Finer than #4 = 35% Finer than #200 = 4% Free Swell = 30%				29		22	4	132	
				30					
				31					
CLAYEY SAND, moist, fine to coarse grained sand, fine subangular gravel up to 5/8" diameter	Grayish Brown	Very Dense	SC	32					
				33					
@33.5': fine to coarse grained sand, fine subangular gravel up to 3/4" diameter Finer than #4 = 60% Finer than #200 = 3% Free Swell = 30%				34		30/6"	4	126	
				35					
				36					
SANDY CLAY, moist, fine grained sand	Brown	Hard	CL	37					
				38					
@39.5': Liquid Limit = 46% Plasticity Index = 25% Finer than #4 = 100% Finer than #200 = 86% Free Swell = 50%				39		37	22	109	
* Drilled with a B53 Truck Mounted Rig				40					

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 4
STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	----	1307.1F	April 2014	14

EQUIPMENT	8" Diameter Hollow Stem Auger*	ELEVATION	---	LOGGED BY	TD
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	---	DATE DRILLED	2/13/2014

DESCRIPTION AND CLASSIFICATION				DEPTH (feet)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
SANDY CLAY, moist, fine grained sand	Brown	Hard	CL	41					
CLAYEY SAND, moist, fine to coarse grained sand, occasional subangular gravel up to 3/4" diameter	Brown	Medium Dense	SC						
@42.0': practical auger refusal				42					
@43.0': Finer than #4 = 89% Finer than #200 = 4% Free Swell = 10%				43		28	6	108	
		Dense		44					
					X	50			
Bottom of Boring = 45.0'				45					
				46					
				47					
				48					
				49					
				50					
				51					
				52					
				53					
				54					
				55					
				56					
				57					
				58					
				59					
				60					

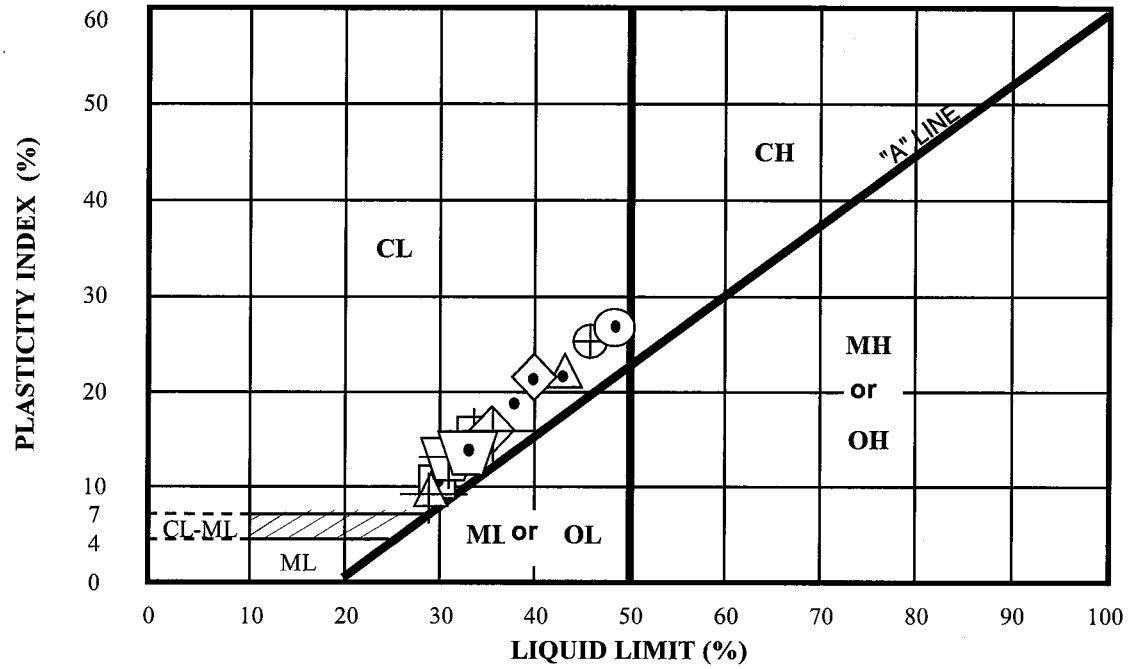
* Drilled with a B53 Truck Mounted Rig

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 4
STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	----	1307.1F	April 2014	15



KEY SYMBOL	BORING NO.	SAMPLE DEPTH (feet)	NATURAL WATER CONTENT %	LIQUID LIMIT %	PLASTICITY INDEX %	PASSING NO. 200 SIEVE %	LIQUIDITY INDEX	UNIFIED SOIL CLASSIFICATION SYMBOL
△	1	3.5	18	43	21	58	-0.2	CL
□	1	9.5	15	30	10	47	-0.5	SC*
◇	1	19.5	17	40	21	78	-0.1	CL
▽	1	24.5	12	33	14	27	-0.5	SC*
⊙	1	39.5	19	49	27	77	-0.1	CL
•	2	1.0	13	38	19	42	-0.3	SC*
⊿	2	9.5	10	29	9	28	-1.1	SC*
⊞	4	1.5	13	34	16	45	-0.3	SC*
◈	4	4.5	14	36	16	52	-0.4	CL
⊽	4	19.5	11	31	13	29	-0.5	SC*
⊕	4	39.5	22	46	25	86	0.0	CL

*Classified as coarse-grained soil since less than 50% passes #200 sieve

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

PLASTICITY CHART

STADIUM IMPROVEMENTS PROJECT
Los Altos High School
Los Altos, California

PROJECT NO.	DATE	DRAWING NO.
1307.1F	April 2014	16

Corrosivity Tests Summary

CTL # 018-706 | Date: 3/5/2014 | Tested By: PJ | Checked: PJ
Client: Cleary Consultants, Inc. | Project: Los Altos High School- Stadium Improvements | Proj. No: 1307.1F
Remarks:

Sample Location or ID			Resistivity @ 15.5 °C (Ohm-cm)			Chloride	Sulfate		pH	ORP (Redox)		Sulfide	Moisture	Soil Visual Description
			As Rec.	Min	Sat.	mg/kg	mg/kg	%		E_H (mv)	At Test	Qualitative by Lead	At Test %	
						Dry Wt.	Dry Wt.	Dry Wt.						
Boring	Sample, No.	Depth, ft.	ASTM G57	Cal 643	ASTM G57	ASTM D4327	ASTM D4327	ASTM D4327	ASTM G51	ASTM G200	Temp °C	Acetate Paper	ASTM D2216	
EB-1,2,3,4	-	0.5-4.0	-	-	2,120	7	107	0.0107	7.8	505	22	-	11.2	Brown Sandy CLAY

DRAWING NO. 17

APPENDIX A

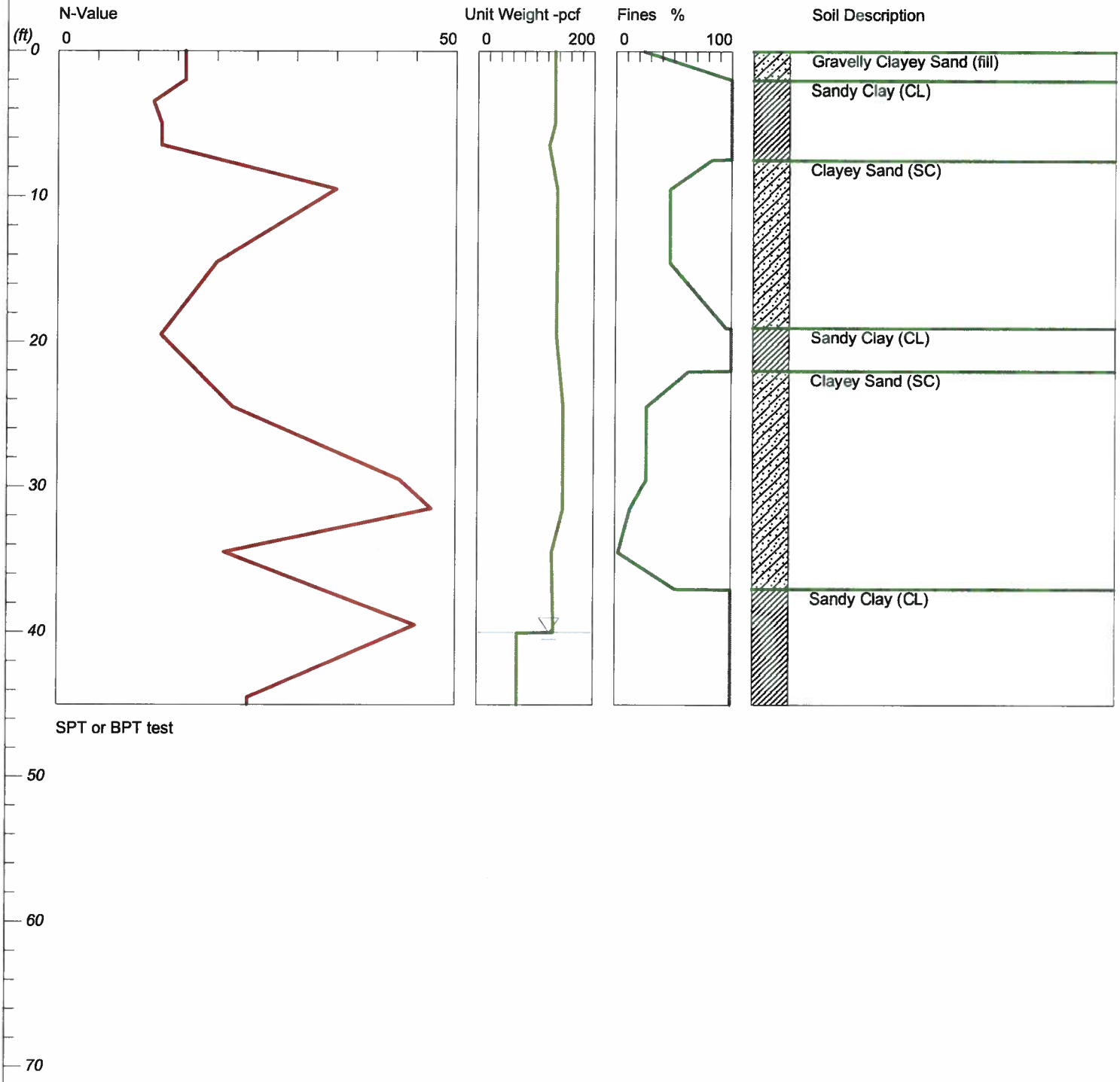
Los Altos High School
Stadium Improvements
Liquefaction and Dry Settlement Analyses and Calculations, EB-1 and EB-4, Drilled February 13, 2014

LIQUEFACTION ANALYSIS

Los Altos HS School Stadium Improvements

Hole No.=EB-1 Water Depth=40 ft

Magnitude=8.5
Acceleration=0.653g



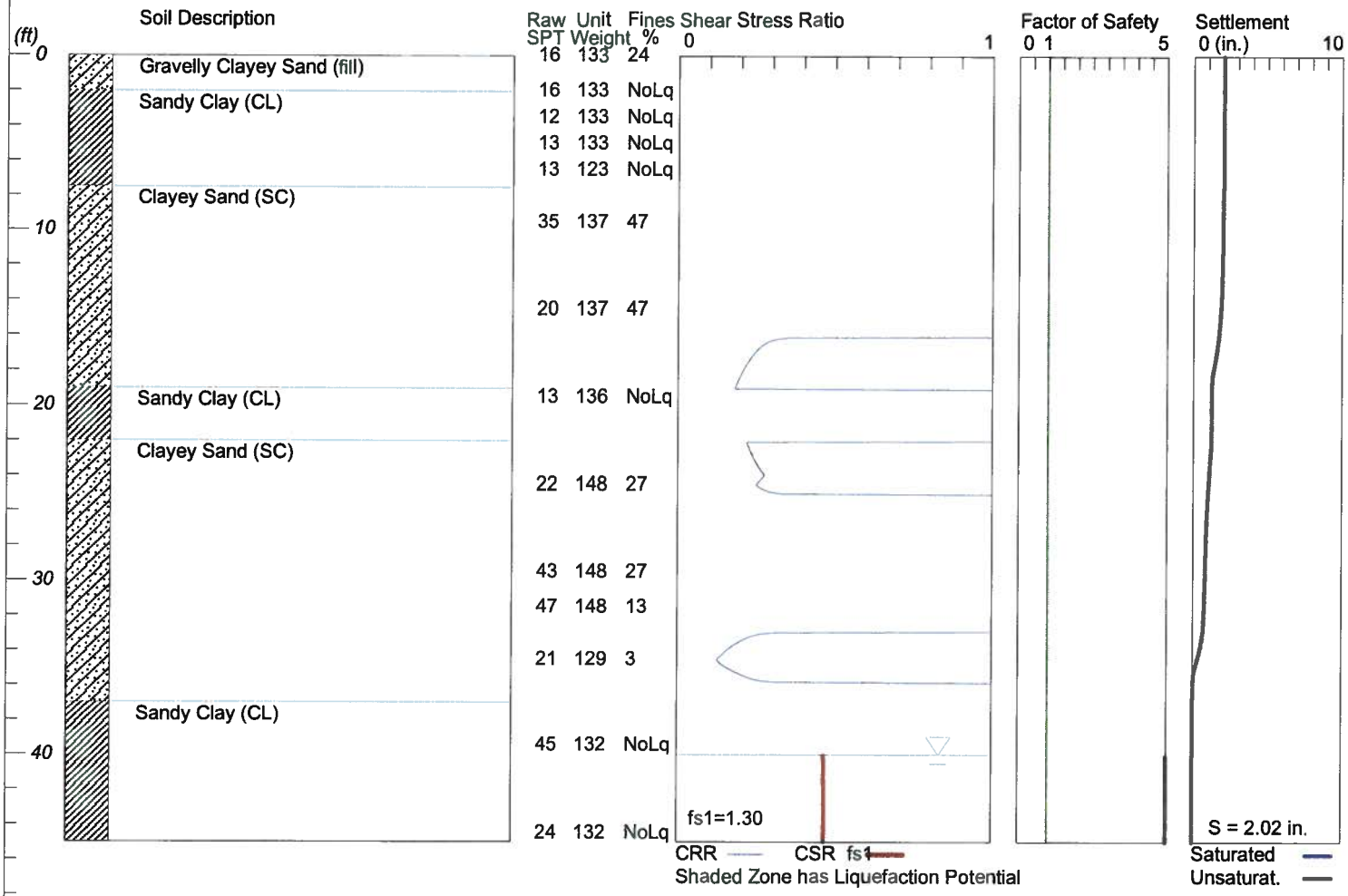
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

Los Altos HS School Stadium Improvements

Hole No.=EB-1 Water Depth=40 ft

Magnitude=8.5
Acceleration=0.653g



LiquefyPro CivilTech Software USA www.civiltech.com

CLEARY CONSULTANTS, INC.

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LIQUEFACTION ANALYSIS SUMMARY

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Input File Name: \\GRANT-PC\Grant Rough Drafts\Liquefy Pro Data Files\Los Altos HS Stadium EB1.liq
Title: Los Altos HS School Stadium Improvements
Subtitle:

Surface Elev.=
Hole No.=EB-1
Depth of Hole= 45.00 ft
Water Table during Earthquake= 40.00 ft
Water Table during In-Situ Testing= 40.00 ft
Max. Acceleration= 0.65 g
Earthquake Magnitude= 8.50

Input Data:
Surface Elev.=
Hole No.=EB-1
Depth of Hole=45.00 ft
Water Table during Earthquake= 40.00 ft
Water Table during In-Situ Testing= 40.00 ft
Max. Acceleration=0.65 g
Earthquake Magnitude=8.50
No-Liquefiable Soils: CL, OL are Non-Liq. Soil

1. SPT or BPT Calculation.
2. Settlement Analysis Method: Tokimatsu, M-correction
3. Fines Correction for Liquefaction: Idriss/Seed
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio, Ce = 1.25
7. Borehole Diameter, Cb= 1
8. Sampling Method, Cs= 1
9. User request factor of safety (apply to CSR) , User= 1.3
   Plot one CSR curve (fs1=User)
10. Use Curve Smoothing: Yes*
* Recommended Options

In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.00	16.00	133.00	24.00
2.00	16.00	133.00	NoLiq
3.50	12.00	133.00	NoLiq
5.00	13.00	133.00	NoLiq
6.50	13.00	123.00	NoLiq
9.50	35.00	137.00	47.00
14.50	20.00	137.00	47.00
19.50	13.00	136.00	NoLiq
24.50	22.00	148.00	27.00

29.50	43.00	148.00	27.00
31.50	47.00	148.00	13.00
34.50	21.00	129.00	3.00
39.50	45.00	132.00	NoLiq
44.50	24.00	132.00	NoLiq

Output Results:

Settlement of Saturated Sands=0.00 in.
Settlement of Unsaturated Sands=2.02 in.
Total Settlement of Saturated and Unsaturated Sands=2.02 in.
Differential Settlement=1.009 to 1.332 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	1.45	0.55	5.00	0.00	2.02	2.02
0.05	1.45	0.55	5.00	0.00	2.02	2.02
0.10	1.45	0.55	5.00	0.00	2.02	2.02
0.15	1.45	0.55	5.00	0.00	2.02	2.02
0.20	1.45	0.55	5.00	0.00	2.02	2.02
0.25	1.45	0.55	5.00	0.00	2.02	2.02
0.30	1.45	0.55	5.00	0.00	2.02	2.02
0.35	1.45	0.55	5.00	0.00	2.02	2.02
0.40	1.45	0.55	5.00	0.00	2.02	2.02
0.45	1.45	0.55	5.00	0.00	2.02	2.02
0.50	1.45	0.55	5.00	0.00	2.02	2.02
0.55	1.45	0.55	5.00	0.00	2.02	2.02
0.60	1.45	0.55	5.00	0.00	2.02	2.02
0.65	1.45	0.55	5.00	0.00	2.02	2.02
0.70	1.45	0.55	5.00	0.00	2.02	2.02
0.75	1.45	0.55	5.00	0.00	2.02	2.02
0.80	1.45	0.55	5.00	0.00	2.02	2.02
0.85	1.45	0.55	5.00	0.00	2.02	2.02
0.90	1.45	0.55	5.00	0.00	2.02	2.02
0.95	1.45	0.55	5.00	0.00	2.02	2.02
1.00	1.45	0.55	5.00	0.00	2.02	2.02
1.05	1.45	0.55	5.00	0.00	2.02	2.02
1.10	1.45	0.55	5.00	0.00	2.02	2.02
1.15	1.45	0.55	5.00	0.00	2.02	2.02
1.20	1.45	0.55	5.00	0.00	2.02	2.02
1.25	1.45	0.55	5.00	0.00	2.02	2.02
1.30	1.45	0.55	5.00	0.00	2.02	2.02
1.35	1.45	0.55	5.00	0.00	2.02	2.02
1.40	1.45	0.55	5.00	0.00	2.02	2.02
1.45	1.45	0.55	5.00	0.00	2.01	2.01
1.50	1.45	0.55	5.00	0.00	2.01	2.01
1.55	1.45	0.55	5.00	0.00	2.01	2.01
1.60	1.45	0.55	5.00	0.00	2.01	2.01
1.65	1.45	0.55	5.00	0.00	2.01	2.01
1.70	1.45	0.55	5.00	0.00	2.01	2.01
1.75	1.45	0.55	5.00	0.00	2.01	2.01
1.80	1.45	0.55	5.00	0.00	2.01	2.01
1.85	1.45	0.55	5.00	0.00	2.01	2.01
1.90	1.45	0.55	5.00	0.00	2.01	2.01
1.95	1.45	0.55	5.00	0.00	2.01	2.01
2.00	1.45	0.55	5.00	0.00	2.01	2.01
2.05	2.00	0.55	5.00	0.00	2.01	2.01
2.10	2.00	0.55	5.00	0.00	2.01	2.01
2.15	2.00	0.55	5.00	0.00	2.01	2.01
2.20	2.00	0.55	5.00	0.00	2.01	2.01
2.25	2.00	0.55	5.00	0.00	2.01	2.01
2.30	2.00	0.55	5.00	0.00	2.01	2.01

2.35	2.00	0.55	5.00	0.00	2.01	2.01
2.40	2.00	0.55	5.00	0.00	2.01	2.01
2.45	2.00	0.55	5.00	0.00	2.01	2.01
2.50	2.00	0.55	5.00	0.00	2.01	2.01
2.55	2.00	0.55	5.00	0.00	2.01	2.01
2.60	2.00	0.55	5.00	0.00	2.01	2.01
2.65	2.00	0.55	5.00	0.00	2.01	2.01
2.70	2.00	0.55	5.00	0.00	2.01	2.01
2.75	2.00	0.55	5.00	0.00	2.01	2.01
2.80	2.00	0.55	5.00	0.00	2.01	2.01
2.85	2.00	0.55	5.00	0.00	2.01	2.01
2.90	2.00	0.55	5.00	0.00	2.01	2.01
2.95	2.00	0.55	5.00	0.00	2.01	2.01
3.00	2.00	0.55	5.00	0.00	2.01	2.01
3.05	2.00	0.55	5.00	0.00	2.01	2.01
3.10	2.00	0.55	5.00	0.00	2.01	2.01
3.15	2.00	0.55	5.00	0.00	2.01	2.01
3.20	2.00	0.55	5.00	0.00	2.01	2.01
3.25	2.00	0.55	5.00	0.00	2.01	2.01
3.30	2.00	0.55	5.00	0.00	2.01	2.01
3.35	2.00	0.55	5.00	0.00	2.01	2.01
3.40	2.00	0.55	5.00	0.00	2.01	2.01
3.45	2.00	0.55	5.00	0.00	2.01	2.01
3.50	2.00	0.55	5.00	0.00	2.01	2.01
3.55	2.00	0.55	5.00	0.00	2.01	2.01
3.60	2.00	0.55	5.00	0.00	2.01	2.01
3.65	2.00	0.55	5.00	0.00	2.01	2.01
3.70	2.00	0.55	5.00	0.00	2.01	2.01
3.75	2.00	0.55	5.00	0.00	2.01	2.01
3.80	2.00	0.55	5.00	0.00	2.01	2.01
3.85	2.00	0.55	5.00	0.00	2.01	2.01
3.90	2.00	0.55	5.00	0.00	2.01	2.01
3.95	2.00	0.55	5.00	0.00	2.01	2.01
4.00	2.00	0.55	5.00	0.00	2.01	2.01
4.05	2.00	0.55	5.00	0.00	2.01	2.01
4.10	2.00	0.55	5.00	0.00	2.01	2.01
4.15	2.00	0.55	5.00	0.00	2.01	2.01
4.20	2.00	0.55	5.00	0.00	2.01	2.01
4.25	2.00	0.55	5.00	0.00	2.01	2.01
4.30	2.00	0.55	5.00	0.00	2.01	2.01
4.35	2.00	0.55	5.00	0.00	2.01	2.01
4.40	2.00	0.55	5.00	0.00	2.01	2.01
4.45	2.00	0.55	5.00	0.00	2.01	2.01
4.50	2.00	0.55	5.00	0.00	2.01	2.01
4.55	2.00	0.55	5.00	0.00	2.01	2.01
4.60	2.00	0.55	5.00	0.00	2.01	2.01
4.65	2.00	0.55	5.00	0.00	2.01	2.01
4.70	2.00	0.55	5.00	0.00	2.01	2.01
4.75	2.00	0.55	5.00	0.00	2.01	2.01
4.80	2.00	0.55	5.00	0.00	2.01	2.01
4.85	2.00	0.55	5.00	0.00	2.01	2.01
4.90	2.00	0.55	5.00	0.00	2.01	2.01
4.95	2.00	0.55	5.00	0.00	2.01	2.01
5.00	2.00	0.55	5.00	0.00	2.01	2.01
5.05	2.00	0.55	5.00	0.00	2.01	2.01
5.10	2.00	0.55	5.00	0.00	2.01	2.01
5.15	2.00	0.55	5.00	0.00	2.01	2.01
5.20	2.00	0.55	5.00	0.00	2.01	2.01
5.25	2.00	0.55	5.00	0.00	2.01	2.01
5.30	2.00	0.54	5.00	0.00	2.01	2.01
5.35	2.00	0.54	5.00	0.00	2.01	2.01
5.40	2.00	0.54	5.00	0.00	2.01	2.01
5.45	2.00	0.54	5.00	0.00	2.01	2.01

5.50	2.00	0.54	5.00	0.00	2.01	2.01
5.55	2.00	0.54	5.00	0.00	2.01	2.01
5.60	2.00	0.54	5.00	0.00	2.01	2.01
5.65	2.00	0.54	5.00	0.00	2.01	2.01
5.70	2.00	0.54	5.00	0.00	2.01	2.01
5.75	2.00	0.54	5.00	0.00	2.01	2.01
5.80	2.00	0.54	5.00	0.00	2.01	2.01
5.85	2.00	0.54	5.00	0.00	2.01	2.01
5.90	2.00	0.54	5.00	0.00	2.01	2.01
5.95	2.00	0.54	5.00	0.00	2.01	2.01
6.00	2.00	0.54	5.00	0.00	2.01	2.01
6.05	2.00	0.54	5.00	0.00	2.01	2.01
6.10	2.00	0.54	5.00	0.00	2.01	2.01
6.15	2.00	0.54	5.00	0.00	2.01	2.01
6.20	2.00	0.54	5.00	0.00	2.01	2.01
6.25	2.00	0.54	5.00	0.00	2.01	2.01
6.30	2.00	0.54	5.00	0.00	2.01	2.01
6.35	2.00	0.54	5.00	0.00	2.01	2.01
6.40	2.00	0.54	5.00	0.00	2.01	2.01
6.45	2.00	0.54	5.00	0.00	2.01	2.01
6.50	2.00	0.54	5.00	0.00	2.01	2.01
6.55	2.00	0.54	5.00	0.00	2.01	2.01
6.60	2.00	0.54	5.00	0.00	2.01	2.01
6.65	2.00	0.54	5.00	0.00	2.01	2.01
6.70	2.00	0.54	5.00	0.00	2.01	2.01
6.75	2.00	0.54	5.00	0.00	2.01	2.01
6.80	2.00	0.54	5.00	0.00	2.01	2.01
6.85	2.00	0.54	5.00	0.00	2.01	2.01
6.90	2.00	0.54	5.00	0.00	2.01	2.01
6.95	2.00	0.54	5.00	0.00	2.01	2.01
7.00	2.00	0.54	5.00	0.00	2.01	2.01
7.05	2.00	0.54	5.00	0.00	2.01	2.01
7.10	2.00	0.54	5.00	0.00	2.01	2.01
7.15	2.00	0.54	5.00	0.00	2.01	2.01
7.20	2.00	0.54	5.00	0.00	2.01	2.01
7.25	2.00	0.54	5.00	0.00	2.01	2.01
7.30	2.00	0.54	5.00	0.00	2.01	2.01
7.35	2.00	0.54	5.00	0.00	2.01	2.01
7.40	2.00	0.54	5.00	0.00	2.01	2.01
7.45	2.00	0.54	5.00	0.00	2.01	2.01
7.50	1.45	0.54	5.00	0.00	2.01	2.01
7.55	1.45	0.54	5.00	0.00	2.01	2.01
7.60	1.45	0.54	5.00	0.00	2.01	2.01
7.65	1.45	0.54	5.00	0.00	2.01	2.01
7.70	1.45	0.54	5.00	0.00	2.00	2.00
7.75	1.45	0.54	5.00	0.00	2.00	2.00
7.80	1.45	0.54	5.00	0.00	2.00	2.00
7.85	1.45	0.54	5.00	0.00	2.00	2.00
7.90	1.45	0.54	5.00	0.00	2.00	2.00
7.95	1.45	0.54	5.00	0.00	2.00	2.00
8.00	1.45	0.54	5.00	0.00	1.99	1.99
8.05	1.45	0.54	5.00	0.00	1.99	1.99
8.10	1.45	0.54	5.00	0.00	1.99	1.99
8.15	1.45	0.54	5.00	0.00	1.99	1.99
8.20	1.45	0.54	5.00	0.00	1.99	1.99
8.25	1.45	0.54	5.00	0.00	1.99	1.99
8.30	1.45	0.54	5.00	0.00	1.98	1.98
8.35	1.45	0.54	5.00	0.00	1.98	1.98
8.40	1.45	0.54	5.00	0.00	1.98	1.98
8.45	1.45	0.54	5.00	0.00	1.98	1.98
8.50	1.45	0.54	5.00	0.00	1.98	1.98
8.55	1.45	0.54	5.00	0.00	1.98	1.98
8.60	1.45	0.54	5.00	0.00	1.98	1.98

8.65	1.45	0.54	5.00	0.00	1.98	1.98
8.70	1.45	0.54	5.00	0.00	1.98	1.98
8.75	1.45	0.54	5.00	0.00	1.97	1.97
8.80	1.45	0.54	5.00	0.00	1.97	1.97
8.85	1.45	0.54	5.00	0.00	1.97	1.97
8.90	1.45	0.54	5.00	0.00	1.97	1.97
8.95	1.45	0.54	5.00	0.00	1.97	1.97
9.00	1.45	0.54	5.00	0.00	1.97	1.97
9.05	1.45	0.54	5.00	0.00	1.97	1.97
9.10	1.45	0.54	5.00	0.00	1.97	1.97
9.15	1.45	0.54	5.00	0.00	1.97	1.97
9.20	1.45	0.54	5.00	0.00	1.97	1.97
9.25	1.45	0.54	5.00	0.00	1.97	1.97
9.30	1.45	0.54	5.00	0.00	1.97	1.97
9.35	1.45	0.54	5.00	0.00	1.97	1.97
9.40	1.45	0.54	5.00	0.00	1.97	1.97
9.45	1.45	0.54	5.00	0.00	1.97	1.97
9.50	1.45	0.54	5.00	0.00	1.97	1.97
9.55	1.45	0.54	5.00	0.00	1.97	1.97
9.60	1.45	0.54	5.00	0.00	1.97	1.97
9.65	1.45	0.54	5.00	0.00	1.97	1.97
9.70	1.45	0.54	5.00	0.00	1.97	1.97
9.75	1.45	0.54	5.00	0.00	1.97	1.97
9.80	1.45	0.54	5.00	0.00	1.97	1.97
9.85	1.45	0.54	5.00	0.00	1.97	1.97
9.90	1.45	0.54	5.00	0.00	1.97	1.97
9.95	1.45	0.54	5.00	0.00	1.97	1.97
10.00	1.45	0.54	5.00	0.00	1.97	1.97
10.05	1.45	0.54	5.00	0.00	1.96	1.96
10.10	1.45	0.54	5.00	0.00	1.96	1.96
10.15	1.45	0.54	5.00	0.00	1.96	1.96
10.20	1.45	0.54	5.00	0.00	1.96	1.96
10.25	1.45	0.54	5.00	0.00	1.96	1.96
10.30	1.45	0.54	5.00	0.00	1.96	1.96
10.35	1.45	0.54	5.00	0.00	1.96	1.96
10.40	1.45	0.54	5.00	0.00	1.96	1.96
10.45	1.45	0.54	5.00	0.00	1.96	1.96
10.50	1.45	0.54	5.00	0.00	1.96	1.96
10.55	1.45	0.54	5.00	0.00	1.96	1.96
10.60	1.45	0.54	5.00	0.00	1.96	1.96
10.65	1.45	0.54	5.00	0.00	1.96	1.96
10.70	1.45	0.54	5.00	0.00	1.96	1.96
10.75	1.45	0.54	5.00	0.00	1.96	1.96
10.80	1.45	0.54	5.00	0.00	1.96	1.96
10.85	1.45	0.54	5.00	0.00	1.96	1.96
10.90	1.45	0.54	5.00	0.00	1.96	1.96
10.95	1.45	0.54	5.00	0.00	1.96	1.96
11.00	1.45	0.54	5.00	0.00	1.96	1.96
11.05	1.45	0.54	5.00	0.00	1.95	1.95
11.10	1.45	0.54	5.00	0.00	1.95	1.95
11.15	1.45	0.54	5.00	0.00	1.95	1.95
11.20	1.45	0.54	5.00	0.00	1.95	1.95
11.25	1.45	0.54	5.00	0.00	1.95	1.95
11.30	1.45	0.54	5.00	0.00	1.95	1.95
11.35	1.45	0.54	5.00	0.00	1.95	1.95
11.40	1.45	0.54	5.00	0.00	1.95	1.95
11.45	1.45	0.54	5.00	0.00	1.95	1.95
11.50	1.45	0.54	5.00	0.00	1.95	1.95
11.55	1.45	0.54	5.00	0.00	1.95	1.95
11.60	1.45	0.54	5.00	0.00	1.95	1.95
11.65	1.45	0.54	5.00	0.00	1.95	1.95
11.70	1.45	0.54	5.00	0.00	1.95	1.95
11.75	1.45	0.54	5.00	0.00	1.95	1.95

11.80	1.45	0.54	5.00	0.00	1.94	1.94
11.85	1.45	0.54	5.00	0.00	1.94	1.94
11.90	1.45	0.54	5.00	0.00	1.94	1.94
11.95	1.45	0.54	5.00	0.00	1.94	1.94
12.00	1.45	0.54	5.00	0.00	1.94	1.94
12.05	1.45	0.54	5.00	0.00	1.94	1.94
12.10	1.45	0.54	5.00	0.00	1.94	1.94
12.15	1.45	0.54	5.00	0.00	1.94	1.94
12.20	1.45	0.54	5.00	0.00	1.94	1.94
12.25	1.45	0.54	5.00	0.00	1.94	1.94
12.30	1.45	0.54	5.00	0.00	1.94	1.94
12.35	1.45	0.54	5.00	0.00	1.93	1.93
12.40	1.45	0.54	5.00	0.00	1.93	1.93
12.45	1.45	0.54	5.00	0.00	1.93	1.93
12.50	1.45	0.54	5.00	0.00	1.93	1.93
12.55	1.45	0.54	5.00	0.00	1.93	1.93
12.60	1.45	0.54	5.00	0.00	1.93	1.93
12.65	1.45	0.54	5.00	0.00	1.93	1.93
12.70	1.45	0.54	5.00	0.00	1.93	1.93
12.75	1.45	0.54	5.00	0.00	1.93	1.93
12.80	1.45	0.54	5.00	0.00	1.93	1.93
12.85	1.45	0.54	5.00	0.00	1.92	1.92
12.90	1.45	0.54	5.00	0.00	1.92	1.92
12.95	1.45	0.54	5.00	0.00	1.92	1.92
13.00	1.45	0.54	5.00	0.00	1.92	1.92
13.05	1.45	0.53	5.00	0.00	1.92	1.92
13.10	1.45	0.53	5.00	0.00	1.92	1.92
13.15	1.45	0.53	5.00	0.00	1.92	1.92
13.20	1.45	0.53	5.00	0.00	1.92	1.92
13.25	1.45	0.53	5.00	0.00	1.91	1.91
13.30	1.45	0.53	5.00	0.00	1.91	1.91
13.35	1.45	0.53	5.00	0.00	1.91	1.91
13.40	1.45	0.53	5.00	0.00	1.91	1.91
13.45	1.45	0.53	5.00	0.00	1.91	1.91
13.50	1.45	0.53	5.00	0.00	1.91	1.91
13.55	1.45	0.53	5.00	0.00	1.90	1.90
13.60	1.45	0.53	5.00	0.00	1.90	1.90
13.65	1.45	0.53	5.00	0.00	1.90	1.90
13.70	1.45	0.53	5.00	0.00	1.90	1.90
13.75	1.45	0.53	5.00	0.00	1.90	1.90
13.80	1.45	0.53	5.00	0.00	1.89	1.89
13.85	1.45	0.53	5.00	0.00	1.89	1.89
13.90	1.45	0.53	5.00	0.00	1.89	1.89
13.95	1.45	0.53	5.00	0.00	1.89	1.89
14.00	1.45	0.53	5.00	0.00	1.88	1.88
14.05	1.45	0.53	5.00	0.00	1.88	1.88
14.10	1.45	0.53	5.00	0.00	1.88	1.88
14.15	1.45	0.53	5.00	0.00	1.87	1.87
14.20	1.45	0.53	5.00	0.00	1.87	1.87
14.25	1.45	0.53	5.00	0.00	1.87	1.87
14.30	1.45	0.53	5.00	0.00	1.86	1.86
14.35	1.45	0.53	5.00	0.00	1.86	1.86
14.40	1.45	0.53	5.00	0.00	1.86	1.86
14.45	1.45	0.53	5.00	0.00	1.85	1.85
14.50	1.45	0.53	5.00	0.00	1.85	1.85
14.55	1.45	0.53	5.00	0.00	1.85	1.85
14.60	1.45	0.53	5.00	0.00	1.84	1.84
14.65	1.45	0.53	5.00	0.00	1.84	1.84
14.70	1.45	0.53	5.00	0.00	1.83	1.83
14.75	1.45	0.53	5.00	0.00	1.83	1.83
14.80	1.45	0.53	5.00	0.00	1.82	1.82
14.85	1.45	0.53	5.00	0.00	1.82	1.82
14.90	1.45	0.53	5.00	0.00	1.82	1.82

14.95	1.45	0.53	5.00	0.00	1.81	1.81
15.00	1.45	0.53	5.00	0.00	1.81	1.81
15.05	1.45	0.53	5.00	0.00	1.81	1.81
15.10	1.45	0.53	5.00	0.00	1.80	1.80
15.15	1.45	0.53	5.00	0.00	1.80	1.80
15.20	1.45	0.53	5.00	0.00	1.80	1.80
15.25	1.45	0.53	5.00	0.00	1.79	1.79
15.30	1.45	0.53	5.00	0.00	1.79	1.79
15.35	1.45	0.53	5.00	0.00	1.78	1.78
15.40	1.45	0.53	5.00	0.00	1.78	1.78
15.45	1.45	0.53	5.00	0.00	1.77	1.77
15.50	1.45	0.53	5.00	0.00	1.77	1.77
15.55	1.45	0.53	5.00	0.00	1.76	1.76
15.60	1.45	0.53	5.00	0.00	1.76	1.76
15.65	1.45	0.53	5.00	0.00	1.75	1.75
15.70	1.45	0.53	5.00	0.00	1.75	1.75
15.75	1.45	0.53	5.00	0.00	1.74	1.74
15.80	1.45	0.53	5.00	0.00	1.74	1.74
15.85	1.45	0.53	5.00	0.00	1.73	1.73
15.90	1.45	0.53	5.00	0.00	1.73	1.73
15.95	1.45	0.53	5.00	0.00	1.72	1.72
16.00	1.45	0.53	5.00	0.00	1.72	1.72
16.05	1.45	0.53	5.00	0.00	1.71	1.71
16.10	0.35	0.53	5.00	0.00	1.70	1.70
16.15	0.33	0.53	5.00	0.00	1.70	1.70
16.20	0.31	0.53	5.00	0.00	1.69	1.69
16.25	0.30	0.53	5.00	0.00	1.68	1.68
16.30	0.29	0.53	5.00	0.00	1.68	1.68
16.35	0.29	0.53	5.00	0.00	1.67	1.67
16.40	0.28	0.53	5.00	0.00	1.66	1.66
16.45	0.28	0.53	5.00	0.00	1.65	1.65
16.50	0.27	0.53	5.00	0.00	1.65	1.65
16.55	0.27	0.53	5.00	0.00	1.64	1.64
16.60	0.26	0.53	5.00	0.00	1.63	1.63
16.65	0.26	0.53	5.00	0.00	1.62	1.62
16.70	0.26	0.53	5.00	0.00	1.61	1.61
16.75	0.26	0.53	5.00	0.00	1.60	1.60
16.80	0.25	0.53	5.00	0.00	1.59	1.59
16.85	0.25	0.53	5.00	0.00	1.58	1.58
16.90	0.25	0.53	5.00	0.00	1.57	1.57
16.95	0.25	0.53	5.00	0.00	1.57	1.57
17.00	0.24	0.53	5.00	0.00	1.56	1.56
17.05	0.24	0.53	5.00	0.00	1.55	1.55
17.10	0.24	0.53	5.00	0.00	1.54	1.54
17.15	0.24	0.53	5.00	0.00	1.53	1.53
17.20	0.23	0.53	5.00	0.00	1.52	1.52
17.25	0.23	0.53	5.00	0.00	1.51	1.51
17.30	0.23	0.53	5.00	0.00	1.50	1.50
17.35	0.23	0.53	5.00	0.00	1.49	1.49
17.40	0.23	0.53	5.00	0.00	1.48	1.48
17.45	0.22	0.53	5.00	0.00	1.47	1.47
17.50	0.22	0.53	5.00	0.00	1.46	1.46
17.55	0.22	0.53	5.00	0.00	1.45	1.45
17.60	0.22	0.53	5.00	0.00	1.44	1.44
17.65	0.22	0.53	5.00	0.00	1.43	1.43
17.70	0.22	0.53	5.00	0.00	1.42	1.42
17.75	0.21	0.53	5.00	0.00	1.40	1.40
17.80	0.21	0.53	5.00	0.00	1.39	1.39
17.85	0.21	0.53	5.00	0.00	1.38	1.38
17.90	0.21	0.53	5.00	0.00	1.37	1.37
17.95	0.21	0.53	5.00	0.00	1.36	1.36
18.00	0.21	0.53	5.00	0.00	1.35	1.35
18.05	0.21	0.53	5.00	0.00	1.34	1.34

18.10	0.20	0.53	5.00	0.00	1.33	1.33
18.15	0.20	0.53	5.00	0.00	1.32	1.32
18.20	0.20	0.53	5.00	0.00	1.31	1.31
18.25	0.20	0.53	5.00	0.00	1.30	1.30
18.30	0.20	0.53	5.00	0.00	1.29	1.29
18.35	0.20	0.53	5.00	0.00	1.29	1.29
18.40	0.20	0.53	5.00	0.00	1.29	1.29
18.45	0.19	0.53	5.00	0.00	1.28	1.28
18.50	0.19	0.53	5.00	0.00	1.28	1.28
18.55	0.19	0.53	5.00	0.00	1.27	1.27
18.60	0.19	0.53	5.00	0.00	1.27	1.27
18.65	0.19	0.53	5.00	0.00	1.27	1.27
18.70	0.19	0.53	5.00	0.00	1.26	1.26
18.75	0.19	0.53	5.00	0.00	1.26	1.26
18.80	0.19	0.53	5.00	0.00	1.26	1.26
18.85	0.19	0.53	5.00	0.00	1.25	1.25
18.90	0.18	0.53	5.00	0.00	1.25	1.25
18.95	0.18	0.53	5.00	0.00	1.24	1.24
19.00	0.18	0.53	5.00	0.00	1.24	1.24
19.05	2.00	0.53	5.00	0.00	1.23	1.23
19.10	2.00	0.53	5.00	0.00	1.23	1.23
19.15	2.00	0.53	5.00	0.00	1.23	1.23
19.20	2.00	0.53	5.00	0.00	1.23	1.23
19.25	2.00	0.53	5.00	0.00	1.23	1.23
19.30	2.00	0.53	5.00	0.00	1.23	1.23
19.35	2.00	0.53	5.00	0.00	1.23	1.23
19.40	2.00	0.53	5.00	0.00	1.23	1.23
19.45	2.00	0.53	5.00	0.00	1.23	1.23
19.50	2.00	0.53	5.00	0.00	1.23	1.23
19.55	2.00	0.53	5.00	0.00	1.23	1.23
19.60	2.00	0.53	5.00	0.00	1.23	1.23
19.65	2.00	0.53	5.00	0.00	1.23	1.23
19.70	2.00	0.53	5.00	0.00	1.23	1.23
19.75	2.00	0.53	5.00	0.00	1.23	1.23
19.80	2.00	0.53	5.00	0.00	1.23	1.23
19.85	2.00	0.53	5.00	0.00	1.23	1.23
19.90	2.00	0.53	5.00	0.00	1.23	1.23
19.95	2.00	0.53	5.00	0.00	1.23	1.23
20.00	2.00	0.53	5.00	0.00	1.23	1.23
20.05	2.00	0.53	5.00	0.00	1.23	1.23
20.10	2.00	0.53	5.00	0.00	1.23	1.23
20.15	2.00	0.53	5.00	0.00	1.23	1.23
20.20	2.00	0.53	5.00	0.00	1.23	1.23
20.25	2.00	0.53	5.00	0.00	1.23	1.23
20.30	2.00	0.53	5.00	0.00	1.23	1.23
20.35	2.00	0.53	5.00	0.00	1.23	1.23
20.40	2.00	0.53	5.00	0.00	1.23	1.23
20.45	2.00	0.53	5.00	0.00	1.23	1.23
20.50	2.00	0.53	5.00	0.00	1.23	1.23
20.55	2.00	0.53	5.00	0.00	1.23	1.23
20.60	2.00	0.53	5.00	0.00	1.23	1.23
20.65	2.00	0.53	5.00	0.00	1.23	1.23
20.70	2.00	0.53	5.00	0.00	1.23	1.23
20.75	2.00	0.53	5.00	0.00	1.23	1.23
20.80	2.00	0.53	5.00	0.00	1.23	1.23
20.85	2.00	0.52	5.00	0.00	1.23	1.23
20.90	2.00	0.52	5.00	0.00	1.23	1.23
20.95	2.00	0.52	5.00	0.00	1.23	1.23
21.00	2.00	0.52	5.00	0.00	1.23	1.23
21.05	2.00	0.52	5.00	0.00	1.23	1.23
21.10	2.00	0.52	5.00	0.00	1.23	1.23
21.15	2.00	0.52	5.00	0.00	1.23	1.23
21.20	2.00	0.52	5.00	0.00	1.23	1.23

21.25	2.00	0.52	5.00	0.00	1.23	1.23
21.30	2.00	0.52	5.00	0.00	1.23	1.23
21.35	2.00	0.52	5.00	0.00	1.23	1.23
21.40	2.00	0.52	5.00	0.00	1.23	1.23
21.45	2.00	0.52	5.00	0.00	1.23	1.23
21.50	2.00	0.52	5.00	0.00	1.23	1.23
21.55	2.00	0.52	5.00	0.00	1.23	1.23
21.60	2.00	0.52	5.00	0.00	1.23	1.23
21.65	2.00	0.52	5.00	0.00	1.23	1.23
21.70	2.00	0.52	5.00	0.00	1.23	1.23
21.75	2.00	0.52	5.00	0.00	1.23	1.23
21.80	2.00	0.52	5.00	0.00	1.23	1.23
21.85	2.00	0.52	5.00	0.00	1.23	1.23
21.90	2.00	0.52	5.00	0.00	1.23	1.23
21.95	2.00	0.52	5.00	0.00	1.23	1.23
22.00	2.00	0.52	5.00	0.00	1.23	1.23
22.05	0.22	0.52	5.00	0.00	1.23	1.23
22.10	0.22	0.52	5.00	0.00	1.23	1.23
22.15	0.22	0.52	5.00	0.00	1.23	1.23
22.20	0.22	0.52	5.00	0.00	1.22	1.22
22.25	0.22	0.52	5.00	0.00	1.22	1.22
22.30	0.23	0.52	5.00	0.00	1.21	1.21
22.35	0.23	0.52	5.00	0.00	1.21	1.21
22.40	0.23	0.52	5.00	0.00	1.21	1.21
22.45	0.23	0.52	5.00	0.00	1.20	1.20
22.50	0.23	0.52	5.00	0.00	1.20	1.20
22.55	0.23	0.52	5.00	0.00	1.19	1.19
22.60	0.23	0.52	5.00	0.00	1.19	1.19
22.65	0.23	0.52	5.00	0.00	1.19	1.19
22.70	0.24	0.52	5.00	0.00	1.18	1.18
22.75	0.24	0.52	5.00	0.00	1.18	1.18
22.80	0.24	0.52	5.00	0.00	1.18	1.18
22.85	0.24	0.52	5.00	0.00	1.17	1.17
22.90	0.24	0.52	5.00	0.00	1.17	1.17
22.95	0.24	0.52	5.00	0.00	1.16	1.16
23.00	0.24	0.52	5.00	0.00	1.16	1.16
23.05	0.24	0.52	5.00	0.00	1.16	1.16
23.10	0.25	0.52	5.00	0.00	1.15	1.15
23.15	0.25	0.52	5.00	0.00	1.15	1.15
23.20	0.25	0.52	5.00	0.00	1.15	1.15
23.25	0.25	0.52	5.00	0.00	1.14	1.14
23.30	0.25	0.52	5.00	0.00	1.14	1.14
23.35	0.25	0.52	5.00	0.00	1.13	1.13
23.40	0.26	0.52	5.00	0.00	1.13	1.13
23.45	0.26	0.52	5.00	0.00	1.13	1.13
23.50	0.26	0.52	5.00	0.00	1.12	1.12
23.55	0.26	0.52	5.00	0.00	1.12	1.12
23.60	0.26	0.52	5.00	0.00	1.12	1.12
23.65	0.26	0.52	5.00	0.00	1.11	1.11
23.70	0.27	0.52	5.00	0.00	1.11	1.11
23.75	0.27	0.52	5.00	0.00	1.11	1.11
23.80	0.27	0.52	5.00	0.00	1.10	1.10
23.85	0.27	0.52	5.00	0.00	1.10	1.10
23.90	0.28	0.52	5.00	0.00	1.10	1.10
23.95	0.28	0.52	5.00	0.00	1.09	1.09
24.00	0.27	0.52	5.00	0.00	1.09	1.09
24.05	0.27	0.52	5.00	0.00	1.08	1.08
24.10	0.27	0.52	5.00	0.00	1.08	1.08
24.15	0.27	0.52	5.00	0.00	1.08	1.08
24.20	0.26	0.52	5.00	0.00	1.07	1.07
24.25	0.26	0.52	5.00	0.00	1.07	1.07
24.30	0.26	0.52	5.00	0.00	1.07	1.07
24.35	0.26	0.52	5.00	0.00	1.06	1.06

24.40	0.25	0.52	5.00	0.00	1.06	1.06
24.45	0.25	0.52	5.00	0.00	1.05	1.05
24.50	0.25	0.52	5.00	0.00	1.05	1.05
24.55	0.25	0.52	5.00	0.00	1.05	1.05
24.60	0.26	0.52	5.00	0.00	1.04	1.04
24.65	0.26	0.52	5.00	0.00	1.04	1.04
24.70	0.27	0.52	5.00	0.00	1.03	1.03
24.75	0.27	0.52	5.00	0.00	1.03	1.03
24.80	0.28	0.52	5.00	0.00	1.03	1.03
24.85	0.29	0.52	5.00	0.00	1.02	1.02
24.90	0.30	0.52	5.00	0.00	1.02	1.02
24.95	0.31	0.52	5.00	0.00	1.02	1.02
25.00	0.33	0.52	5.00	0.00	1.01	1.01
25.05	1.45	0.52	5.00	0.00	1.01	1.01
25.10	1.45	0.52	5.00	0.00	1.00	1.00
25.15	1.45	0.52	5.00	0.00	1.00	1.00
25.20	1.45	0.52	5.00	0.00	1.00	1.00
25.25	1.45	0.52	5.00	0.00	0.99	0.99
25.30	1.45	0.52	5.00	0.00	0.99	0.99
25.35	1.45	0.52	5.00	0.00	0.99	0.99
25.40	1.45	0.52	5.00	0.00	0.98	0.98
25.45	1.45	0.52	5.00	0.00	0.98	0.98
25.50	1.44	0.52	5.00	0.00	0.98	0.98
25.55	1.44	0.52	5.00	0.00	0.98	0.98
25.60	1.44	0.52	5.00	0.00	0.97	0.97
25.65	1.44	0.52	5.00	0.00	0.97	0.97
25.70	1.44	0.52	5.00	0.00	0.97	0.97
25.75	1.44	0.52	5.00	0.00	0.96	0.96
25.80	1.44	0.52	5.00	0.00	0.96	0.96
25.85	1.44	0.52	5.00	0.00	0.96	0.96
25.90	1.44	0.52	5.00	0.00	0.96	0.96
25.95	1.44	0.52	5.00	0.00	0.95	0.95
26.00	1.44	0.52	5.00	0.00	0.95	0.95
26.05	1.44	0.52	5.00	0.00	0.95	0.95
26.10	1.44	0.52	5.00	0.00	0.94	0.94
26.15	1.44	0.52	5.00	0.00	0.94	0.94
26.20	1.44	0.52	5.00	0.00	0.94	0.94
26.25	1.44	0.52	5.00	0.00	0.94	0.94
26.30	1.44	0.52	5.00	0.00	0.93	0.93
26.35	1.44	0.52	5.00	0.00	0.93	0.93
26.40	1.44	0.52	5.00	0.00	0.93	0.93
26.45	1.44	0.52	5.00	0.00	0.93	0.93
26.50	1.43	0.52	5.00	0.00	0.93	0.93
26.55	1.43	0.52	5.00	0.00	0.92	0.92
26.60	1.43	0.52	5.00	0.00	0.92	0.92
26.65	1.43	0.52	5.00	0.00	0.92	0.92
26.70	1.43	0.52	5.00	0.00	0.92	0.92
26.75	1.43	0.52	5.00	0.00	0.91	0.91
26.80	1.43	0.52	5.00	0.00	0.91	0.91
26.85	1.43	0.52	5.00	0.00	0.91	0.91
26.90	1.43	0.52	5.00	0.00	0.91	0.91
26.95	1.43	0.52	5.00	0.00	0.91	0.91
27.00	1.43	0.52	5.00	0.00	0.90	0.90
27.05	1.43	0.52	5.00	0.00	0.90	0.90
27.10	1.43	0.52	5.00	0.00	0.90	0.90
27.15	1.43	0.52	5.00	0.00	0.90	0.90
27.20	1.43	0.52	5.00	0.00	0.90	0.90
27.25	1.43	0.52	5.00	0.00	0.89	0.89
27.30	1.43	0.52	5.00	0.00	0.89	0.89
27.35	1.43	0.52	5.00	0.00	0.89	0.89
27.40	1.43	0.52	5.00	0.00	0.89	0.89
27.45	1.43	0.52	5.00	0.00	0.89	0.89
27.50	1.42	0.52	5.00	0.00	0.89	0.89

27.55	1.42	0.52	5.00	0.00	0.88	0.88
27.60	1.42	0.52	5.00	0.00	0.88	0.88
27.65	1.42	0.52	5.00	0.00	0.88	0.88
27.70	1.42	0.52	5.00	0.00	0.88	0.88
27.75	1.42	0.52	5.00	0.00	0.88	0.88
27.80	1.42	0.52	5.00	0.00	0.88	0.88
27.85	1.42	0.52	5.00	0.00	0.87	0.87
27.90	1.42	0.52	5.00	0.00	0.87	0.87
27.95	1.42	0.52	5.00	0.00	0.87	0.87
28.00	1.42	0.52	5.00	0.00	0.87	0.87
28.05	1.42	0.52	5.00	0.00	0.87	0.87
28.10	1.42	0.52	5.00	0.00	0.87	0.87
28.15	1.42	0.52	5.00	0.00	0.86	0.86
28.20	1.42	0.52	5.00	0.00	0.86	0.86
28.25	1.42	0.52	5.00	0.00	0.86	0.86
28.30	1.42	0.52	5.00	0.00	0.86	0.86
28.35	1.42	0.52	5.00	0.00	0.86	0.86
28.40	1.42	0.52	5.00	0.00	0.86	0.86
28.45	1.42	0.52	5.00	0.00	0.86	0.86
28.50	1.41	0.52	5.00	0.00	0.85	0.85
28.55	1.41	0.52	5.00	0.00	0.85	0.85
28.60	1.41	0.51	5.00	0.00	0.85	0.85
28.65	1.41	0.51	5.00	0.00	0.85	0.85
28.70	1.41	0.51	5.00	0.00	0.85	0.85
28.75	1.41	0.51	5.00	0.00	0.85	0.85
28.80	1.41	0.51	5.00	0.00	0.85	0.85
28.85	1.41	0.51	5.00	0.00	0.84	0.84
28.90	1.41	0.51	5.00	0.00	0.84	0.84
28.95	1.41	0.51	5.00	0.00	0.84	0.84
29.00	1.41	0.51	5.00	0.00	0.84	0.84
29.05	1.41	0.51	5.00	0.00	0.84	0.84
29.10	1.41	0.51	5.00	0.00	0.84	0.84
29.15	1.41	0.51	5.00	0.00	0.84	0.84
29.20	1.41	0.51	5.00	0.00	0.83	0.83
29.25	1.41	0.51	5.00	0.00	0.83	0.83
29.30	1.41	0.51	5.00	0.00	0.83	0.83
29.35	1.41	0.51	5.00	0.00	0.83	0.83
29.40	1.41	0.51	5.00	0.00	0.83	0.83
29.45	1.41	0.51	5.00	0.00	0.83	0.83
29.50	1.40	0.51	5.00	0.00	0.83	0.83
29.55	1.40	0.51	5.00	0.00	0.82	0.82
29.60	1.40	0.51	5.00	0.00	0.82	0.82
29.65	1.40	0.51	5.00	0.00	0.82	0.82
29.70	1.40	0.51	5.00	0.00	0.82	0.82
29.75	1.40	0.51	5.00	0.00	0.82	0.82
29.80	1.40	0.51	5.00	0.00	0.82	0.82
29.85	1.40	0.51	5.00	0.00	0.82	0.82
29.90	1.40	0.51	5.00	0.00	0.81	0.81
29.95	1.40	0.51	5.00	0.00	0.81	0.81
30.00	1.40	0.51	5.00	0.00	0.81	0.81
30.05	1.40	0.51	5.00	0.00	0.81	0.81
30.10	1.40	0.51	5.00	0.00	0.81	0.81
30.15	1.40	0.51	5.00	0.00	0.81	0.81
30.20	1.40	0.51	5.00	0.00	0.81	0.81
30.25	1.40	0.51	5.00	0.00	0.80	0.80
30.30	1.40	0.51	5.00	0.00	0.80	0.80
30.35	1.40	0.51	5.00	0.00	0.80	0.80
30.40	1.40	0.51	5.00	0.00	0.80	0.80
30.45	1.40	0.51	5.00	0.00	0.80	0.80
30.50	1.40	0.51	5.00	0.00	0.80	0.80
30.55	1.39	0.51	5.00	0.00	0.79	0.79
30.60	1.39	0.51	5.00	0.00	0.79	0.79
30.65	1.39	0.51	5.00	0.00	0.79	0.79

30.70	1.39	0.51	5.00	0.00	0.79	0.79
30.75	1.39	0.51	5.00	0.00	0.79	0.79
30.80	1.39	0.51	5.00	0.00	0.79	0.79
30.85	1.39	0.51	5.00	0.00	0.79	0.79
30.90	1.39	0.51	5.00	0.00	0.78	0.78
30.95	1.39	0.51	5.00	0.00	0.78	0.78
31.00	1.39	0.51	5.00	0.00	0.78	0.78
31.05	1.39	0.51	5.00	0.00	0.78	0.78
31.10	1.39	0.51	5.00	0.00	0.78	0.78
31.15	1.39	0.51	5.00	0.00	0.78	0.78
31.20	1.39	0.51	5.00	0.00	0.77	0.77
31.25	1.39	0.51	5.00	0.00	0.77	0.77
31.30	1.39	0.51	5.00	0.00	0.77	0.77
31.35	1.39	0.51	5.00	0.00	0.77	0.77
31.40	1.39	0.51	5.00	0.00	0.77	0.77
31.45	1.39	0.51	5.00	0.00	0.77	0.77
31.50	1.39	0.51	5.00	0.00	0.76	0.76
31.55	1.39	0.51	5.00	0.00	0.76	0.76
31.60	1.38	0.51	5.00	0.00	0.76	0.76
31.65	1.38	0.51	5.00	0.00	0.76	0.76
31.70	1.38	0.51	5.00	0.00	0.76	0.76
31.75	1.38	0.51	5.00	0.00	0.75	0.75
31.80	1.38	0.51	5.00	0.00	0.75	0.75
31.85	1.38	0.50	5.00	0.00	0.75	0.75
31.90	1.38	0.50	5.00	0.00	0.75	0.75
31.95	1.38	0.50	5.00	0.00	0.75	0.75
32.00	1.38	0.50	5.00	0.00	0.74	0.74
32.05	1.38	0.50	5.00	0.00	0.74	0.74
32.10	1.38	0.50	5.00	0.00	0.74	0.74
32.15	1.38	0.50	5.00	0.00	0.74	0.74
32.20	1.38	0.50	5.00	0.00	0.74	0.74
32.25	1.38	0.50	5.00	0.00	0.73	0.73
32.30	1.38	0.50	5.00	0.00	0.73	0.73
32.35	1.38	0.50	5.00	0.00	0.73	0.73
32.40	1.38	0.50	5.00	0.00	0.72	0.72
32.45	1.38	0.50	5.00	0.00	0.72	0.72
32.50	1.38	0.50	5.00	0.00	0.72	0.72
32.55	1.38	0.50	5.00	0.00	0.71	0.71
32.60	1.38	0.50	5.00	0.00	0.71	0.71
32.65	1.38	0.50	5.00	0.00	0.70	0.70
32.70	1.37	0.50	5.00	0.00	0.70	0.70
32.75	1.37	0.50	5.00	0.00	0.70	0.70
32.80	1.37	0.50	5.00	0.00	0.69	0.69
32.85	1.37	0.50	5.00	0.00	0.69	0.69
32.90	1.37	0.50	5.00	0.00	0.68	0.68
32.95	0.32	0.50	5.00	0.00	0.67	0.67
33.00	0.28	0.50	5.00	0.00	0.67	0.67
33.05	0.26	0.50	5.00	0.00	0.66	0.66
33.10	0.25	0.50	5.00	0.00	0.65	0.65
33.15	0.24	0.50	5.00	0.00	0.65	0.65
33.20	0.23	0.50	5.00	0.00	0.64	0.64
33.25	0.22	0.50	5.00	0.00	0.63	0.63
33.30	0.22	0.50	5.00	0.00	0.62	0.62
33.35	0.21	0.50	5.00	0.00	0.62	0.62
33.40	0.21	0.50	5.00	0.00	0.61	0.61
33.45	0.20	0.50	5.00	0.00	0.60	0.60
33.50	0.20	0.50	5.00	0.00	0.59	0.59
33.55	0.19	0.50	5.00	0.00	0.58	0.58
33.60	0.19	0.50	5.00	0.00	0.56	0.56
33.65	0.18	0.50	5.00	0.00	0.55	0.55
33.70	0.18	0.50	5.00	0.00	0.54	0.54
33.75	0.17	0.50	5.00	0.00	0.53	0.53
33.80	0.17	0.50	5.00	0.00	0.52	0.52

33.85	0.17	0.50	5.00	0.00	0.50	0.50
33.90	0.16	0.50	5.00	0.00	0.49	0.49
33.95	0.16	0.50	5.00	0.00	0.48	0.48
34.00	0.16	0.50	5.00	0.00	0.47	0.47
34.05	0.15	0.49	5.00	0.00	0.45	0.45
34.10	0.15	0.49	5.00	0.00	0.44	0.44
34.15	0.15	0.49	5.00	0.00	0.42	0.42
34.20	0.15	0.49	5.00	0.00	0.41	0.41
34.25	0.14	0.49	5.00	0.00	0.39	0.39
34.30	0.14	0.49	5.00	0.00	0.38	0.38
34.35	0.14	0.49	5.00	0.00	0.36	0.36
34.40	0.13	0.49	5.00	0.00	0.35	0.35
34.45	0.13	0.49	5.00	0.00	0.33	0.33
34.50	0.13	0.49	5.00	0.00	0.31	0.31
34.55	0.13	0.49	5.00	0.00	0.29	0.29
34.60	0.13	0.49	5.00	0.00	0.28	0.28
34.65	0.13	0.49	5.00	0.00	0.26	0.26
34.70	0.14	0.49	5.00	0.00	0.24	0.24
34.75	0.14	0.49	5.00	0.00	0.23	0.23
34.80	0.14	0.49	5.00	0.00	0.21	0.21
34.85	0.15	0.49	5.00	0.00	0.20	0.20
34.90	0.15	0.49	5.00	0.00	0.18	0.18
34.95	0.16	0.49	5.00	0.00	0.17	0.17
35.00	0.16	0.49	5.00	0.00	0.15	0.15
35.05	0.17	0.49	5.00	0.00	0.14	0.14
35.10	0.17	0.49	5.00	0.00	0.13	0.13
35.15	0.18	0.49	5.00	0.00	0.11	0.11
35.20	0.18	0.49	5.00	0.00	0.10	0.10
35.25	0.19	0.49	5.00	0.00	0.09	0.09
35.30	0.19	0.49	5.00	0.00	0.08	0.08
35.35	0.20	0.49	5.00	0.00	0.07	0.07
35.40	0.21	0.49	5.00	0.00	0.07	0.07
35.45	0.21	0.49	5.00	0.00	0.06	0.06
35.50	0.22	0.49	5.00	0.00	0.06	0.06
35.55	0.23	0.49	5.00	0.00	0.06	0.06
35.60	0.24	0.49	5.00	0.00	0.05	0.05
35.65	0.24	0.49	5.00	0.00	0.05	0.05
35.70	0.26	0.49	5.00	0.00	0.05	0.05
35.75	0.27	0.49	5.00	0.00	0.05	0.05
35.80	0.32	0.49	5.00	0.00	0.04	0.04
35.85	1.35	0.49	5.00	0.00	0.04	0.04
35.90	1.35	0.49	5.00	0.00	0.04	0.04
35.95	1.35	0.49	5.00	0.00	0.04	0.04
36.00	1.35	0.49	5.00	0.00	0.03	0.03
36.05	1.35	0.49	5.00	0.00	0.03	0.03
36.10	1.35	0.49	5.00	0.00	0.03	0.03
36.15	1.35	0.49	5.00	0.00	0.03	0.03
36.20	1.35	0.49	5.00	0.00	0.03	0.03
36.25	1.35	0.49	5.00	0.00	0.02	0.02
36.30	1.35	0.48	5.00	0.00	0.02	0.02
36.35	1.35	0.48	5.00	0.00	0.02	0.02
36.40	1.35	0.48	5.00	0.00	0.02	0.02
36.45	1.35	0.48	5.00	0.00	0.02	0.02
36.50	1.34	0.48	5.00	0.00	0.02	0.02
36.55	1.34	0.48	5.00	0.00	0.01	0.01
36.60	1.34	0.48	5.00	0.00	0.01	0.01
36.65	1.34	0.48	5.00	0.00	0.01	0.01
36.70	1.34	0.48	5.00	0.00	0.01	0.01
36.75	1.34	0.48	5.00	0.00	0.01	0.01
36.80	1.34	0.48	5.00	0.00	0.01	0.01
36.85	1.34	0.48	5.00	0.00	0.01	0.01
36.90	1.34	0.48	5.00	0.00	0.00	0.00
36.95	1.34	0.48	5.00	0.00	0.00	0.00

37.00	1.34	0.48	5.00	0.00	0.00	0.00
37.05	2.00	0.48	5.00	0.00	0.00	0.00
37.10	2.00	0.48	5.00	0.00	0.00	0.00
37.15	2.00	0.48	5.00	0.00	0.00	0.00
37.20	2.00	0.48	5.00	0.00	0.00	0.00
37.25	2.00	0.48	5.00	0.00	0.00	0.00
37.30	2.00	0.48	5.00	0.00	0.00	0.00
37.35	2.00	0.48	5.00	0.00	0.00	0.00
37.40	2.00	0.48	5.00	0.00	0.00	0.00
37.45	2.00	0.48	5.00	0.00	0.00	0.00
37.50	2.00	0.48	5.00	0.00	0.00	0.00
37.55	2.00	0.48	5.00	0.00	0.00	0.00
37.60	2.00	0.48	5.00	0.00	0.00	0.00
37.65	2.00	0.48	5.00	0.00	0.00	0.00
37.70	2.00	0.48	5.00	0.00	0.00	0.00
37.75	2.00	0.48	5.00	0.00	0.00	0.00
37.80	2.00	0.48	5.00	0.00	0.00	0.00
37.85	2.00	0.48	5.00	0.00	0.00	0.00
37.90	2.00	0.48	5.00	0.00	0.00	0.00
37.95	2.00	0.48	5.00	0.00	0.00	0.00
38.00	2.00	0.48	5.00	0.00	0.00	0.00
38.05	2.00	0.48	5.00	0.00	0.00	0.00
38.10	2.00	0.48	5.00	0.00	0.00	0.00
38.15	2.00	0.48	5.00	0.00	0.00	0.00
38.20	2.00	0.48	5.00	0.00	0.00	0.00
38.25	2.00	0.48	5.00	0.00	0.00	0.00
38.30	2.00	0.48	5.00	0.00	0.00	0.00
38.35	2.00	0.48	5.00	0.00	0.00	0.00
38.40	2.00	0.48	5.00	0.00	0.00	0.00
38.45	2.00	0.48	5.00	0.00	0.00	0.00
38.50	2.00	0.47	5.00	0.00	0.00	0.00
38.55	2.00	0.47	5.00	0.00	0.00	0.00
38.60	2.00	0.47	5.00	0.00	0.00	0.00
38.65	2.00	0.47	5.00	0.00	0.00	0.00
38.70	2.00	0.47	5.00	0.00	0.00	0.00
38.75	2.00	0.47	5.00	0.00	0.00	0.00
38.80	2.00	0.47	5.00	0.00	0.00	0.00
38.85	2.00	0.47	5.00	0.00	0.00	0.00
38.90	2.00	0.47	5.00	0.00	0.00	0.00
38.95	2.00	0.47	5.00	0.00	0.00	0.00
39.00	2.00	0.47	5.00	0.00	0.00	0.00
39.05	2.00	0.47	5.00	0.00	0.00	0.00
39.10	2.00	0.47	5.00	0.00	0.00	0.00
39.15	2.00	0.47	5.00	0.00	0.00	0.00
39.20	2.00	0.47	5.00	0.00	0.00	0.00
39.25	2.00	0.47	5.00	0.00	0.00	0.00
39.30	2.00	0.47	5.00	0.00	0.00	0.00
39.35	2.00	0.47	5.00	0.00	0.00	0.00
39.40	2.00	0.47	5.00	0.00	0.00	0.00
39.45	2.00	0.47	5.00	0.00	0.00	0.00
39.50	2.00	0.47	5.00	0.00	0.00	0.00
39.55	2.00	0.47	5.00	0.00	0.00	0.00
39.60	2.00	0.47	5.00	0.00	0.00	0.00
39.65	2.00	0.47	5.00	0.00	0.00	0.00
39.70	2.00	0.47	5.00	0.00	0.00	0.00
39.75	2.00	0.47	5.00	0.00	0.00	0.00
39.80	2.00	0.47	5.00	0.00	0.00	0.00
39.85	2.00	0.47	5.00	0.00	0.00	0.00
39.90	2.00	0.47	5.00	0.00	0.00	0.00
39.95	2.00	0.47	5.00	0.00	0.00	0.00
40.00	2.00	0.47	5.00	0.00	0.00	0.00
40.05	2.00	0.47	5.00	0.00	0.00	0.00
40.10	2.00	0.47	5.00	0.00	0.00	0.00

40.15	2.00	0.47	5.00	0.00	0.00	0.00
40.20	2.00	0.47	5.00	0.00	0.00	0.00
40.25	2.00	0.47	5.00	0.00	0.00	0.00
40.30	2.00	0.47	5.00	0.00	0.00	0.00
40.35	2.00	0.47	5.00	0.00	0.00	0.00
40.40	2.00	0.47	5.00	0.00	0.00	0.00
40.45	2.00	0.47	5.00	0.00	0.00	0.00
40.50	2.00	0.47	5.00	0.00	0.00	0.00
40.55	2.00	0.47	5.00	0.00	0.00	0.00
40.60	2.00	0.47	5.00	0.00	0.00	0.00
40.65	2.00	0.47	5.00	0.00	0.00	0.00
40.70	2.00	0.47	5.00	0.00	0.00	0.00
40.75	2.00	0.47	5.00	0.00	0.00	0.00
40.80	2.00	0.47	5.00	0.00	0.00	0.00
40.85	2.00	0.47	5.00	0.00	0.00	0.00
40.90	2.00	0.47	5.00	0.00	0.00	0.00
40.95	2.00	0.47	5.00	0.00	0.00	0.00
41.00	2.00	0.47	5.00	0.00	0.00	0.00
41.05	2.00	0.47	5.00	0.00	0.00	0.00
41.10	2.00	0.47	5.00	0.00	0.00	0.00
41.15	2.00	0.47	5.00	0.00	0.00	0.00
41.20	2.00	0.47	5.00	0.00	0.00	0.00
41.25	2.00	0.47	5.00	0.00	0.00	0.00
41.30	2.00	0.47	5.00	0.00	0.00	0.00
41.35	2.00	0.47	5.00	0.00	0.00	0.00
41.40	2.00	0.47	5.00	0.00	0.00	0.00
41.45	2.00	0.47	5.00	0.00	0.00	0.00
41.50	2.00	0.47	5.00	0.00	0.00	0.00
41.55	2.00	0.47	5.00	0.00	0.00	0.00
41.60	2.00	0.47	5.00	0.00	0.00	0.00
41.65	2.00	0.47	5.00	0.00	0.00	0.00
41.70	2.00	0.47	5.00	0.00	0.00	0.00
41.75	2.00	0.47	5.00	0.00	0.00	0.00
41.80	2.00	0.47	5.00	0.00	0.00	0.00
41.85	2.00	0.47	5.00	0.00	0.00	0.00
41.90	2.00	0.47	5.00	0.00	0.00	0.00
41.95	2.00	0.47	5.00	0.00	0.00	0.00
42.00	2.00	0.47	5.00	0.00	0.00	0.00
42.05	2.00	0.47	5.00	0.00	0.00	0.00
42.10	2.00	0.47	5.00	0.00	0.00	0.00
42.15	2.00	0.47	5.00	0.00	0.00	0.00
42.20	2.00	0.47	5.00	0.00	0.00	0.00
42.25	2.00	0.47	5.00	0.00	0.00	0.00
42.30	2.00	0.47	5.00	0.00	0.00	0.00
42.35	2.00	0.47	5.00	0.00	0.00	0.00
42.40	2.00	0.47	5.00	0.00	0.00	0.00
42.45	2.00	0.47	5.00	0.00	0.00	0.00
42.50	2.00	0.47	5.00	0.00	0.00	0.00
42.55	2.00	0.47	5.00	0.00	0.00	0.00
42.60	2.00	0.47	5.00	0.00	0.00	0.00
42.65	2.00	0.47	5.00	0.00	0.00	0.00
42.70	2.00	0.47	5.00	0.00	0.00	0.00
42.75	2.00	0.47	5.00	0.00	0.00	0.00
42.80	2.00	0.47	5.00	0.00	0.00	0.00
42.85	2.00	0.47	5.00	0.00	0.00	0.00
42.90	2.00	0.47	5.00	0.00	0.00	0.00
42.95	2.00	0.47	5.00	0.00	0.00	0.00
43.00	2.00	0.47	5.00	0.00	0.00	0.00
43.05	2.00	0.47	5.00	0.00	0.00	0.00
43.10	2.00	0.47	5.00	0.00	0.00	0.00
43.15	2.00	0.47	5.00	0.00	0.00	0.00
43.20	2.00	0.47	5.00	0.00	0.00	0.00
43.25	2.00	0.47	5.00	0.00	0.00	0.00

43.30	2.00	0.47	5.00	0.00	0.00	0.00
43.35	2.00	0.47	5.00	0.00	0.00	0.00
43.40	2.00	0.47	5.00	0.00	0.00	0.00
43.45	2.00	0.47	5.00	0.00	0.00	0.00
43.50	2.00	0.47	5.00	0.00	0.00	0.00
43.55	2.00	0.47	5.00	0.00	0.00	0.00
43.60	2.00	0.47	5.00	0.00	0.00	0.00
43.65	2.00	0.47	5.00	0.00	0.00	0.00
43.70	2.00	0.47	5.00	0.00	0.00	0.00
43.75	2.00	0.47	5.00	0.00	0.00	0.00
43.80	2.00	0.47	5.00	0.00	0.00	0.00
43.85	2.00	0.47	5.00	0.00	0.00	0.00
43.90	2.00	0.47	5.00	0.00	0.00	0.00
43.95	2.00	0.47	5.00	0.00	0.00	0.00
44.00	2.00	0.47	5.00	0.00	0.00	0.00
44.05	2.00	0.47	5.00	0.00	0.00	0.00
44.10	2.00	0.47	5.00	0.00	0.00	0.00
44.15	2.00	0.47	5.00	0.00	0.00	0.00
44.20	2.00	0.47	5.00	0.00	0.00	0.00
44.25	2.00	0.47	5.00	0.00	0.00	0.00
44.30	2.00	0.47	5.00	0.00	0.00	0.00
44.35	2.00	0.47	5.00	0.00	0.00	0.00
44.40	2.00	0.47	5.00	0.00	0.00	0.00
44.45	2.00	0.47	5.00	0.00	0.00	0.00
44.50	2.00	0.47	5.00	0.00	0.00	0.00
44.55	2.00	0.47	5.00	0.00	0.00	0.00
44.60	2.00	0.47	5.00	0.00	0.00	0.00
44.65	2.00	0.47	5.00	0.00	0.00	0.00
44.70	2.00	0.47	5.00	0.00	0.00	0.00
44.75	2.00	0.47	5.00	0.00	0.00	0.00
44.80	2.00	0.47	5.00	0.00	0.00	0.00
44.85	2.00	0.47	5.00	0.00	0.00	0.00
44.90	2.00	0.47	5.00	0.00	0.00	0.00
44.95	2.00	0.47	5.00	0.00	0.00	0.00
45.00	2.00	0.47	5.00	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units: Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight = pcf; Depth = ft; Settlement = in.

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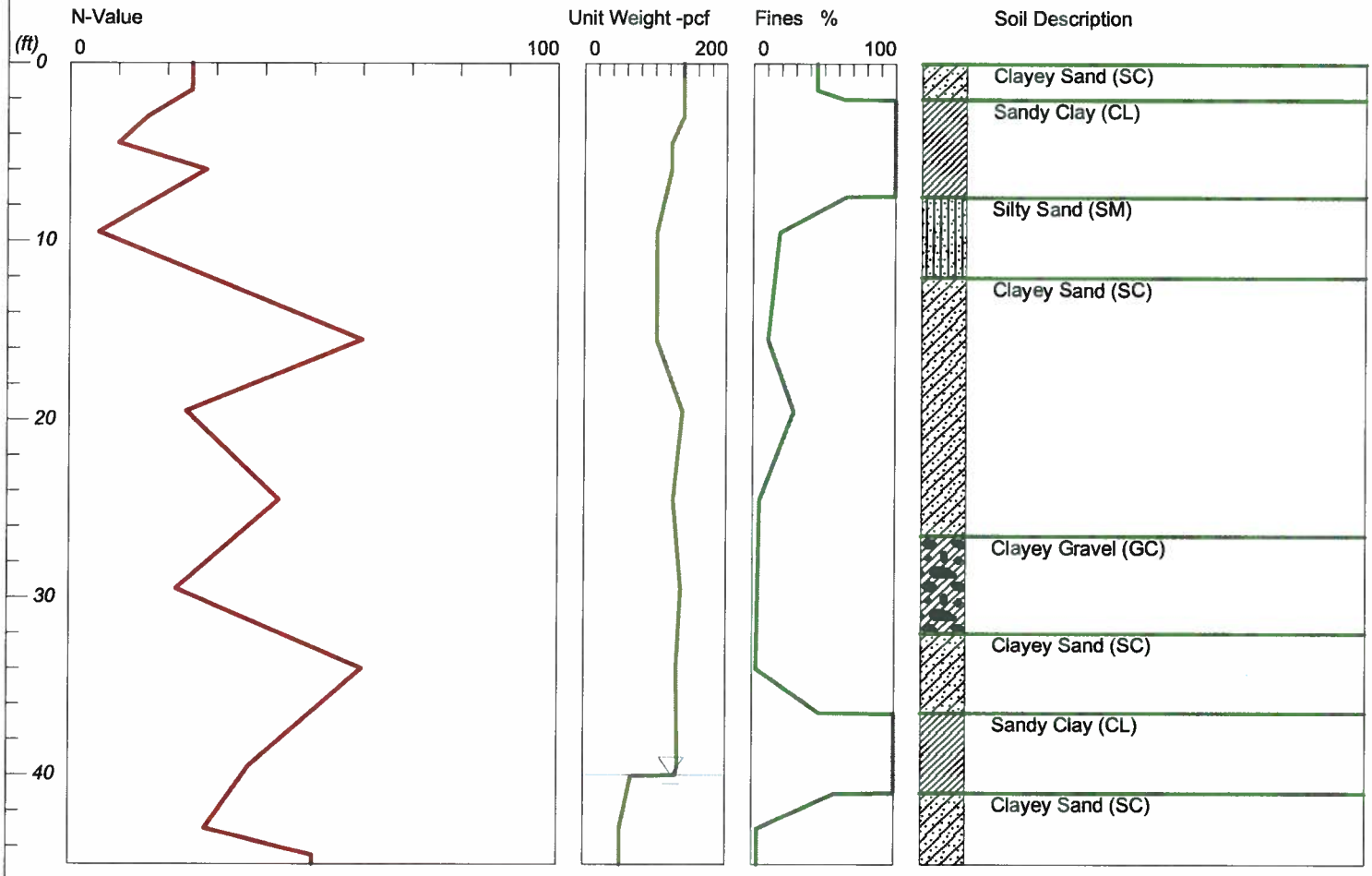
1 atm (atmosphere) = 1 tsf (ton/ft2)
CRRm Cyclic resistance ratio from soils
CSRsf Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S. Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat Settlement from saturated sands
S_dry Settlement from Unsaturated Sands
S_all Total Settlement from Saturated and Unsaturated Sands
NoLiq No-Liquefy Soils

LIQUEFACTION ANALYSIS

Los Altos HS School Stadium Improvements

Hole No.=EB-4 Water Depth=40 ft

Magnitude=8.5
Acceleration=0.653g



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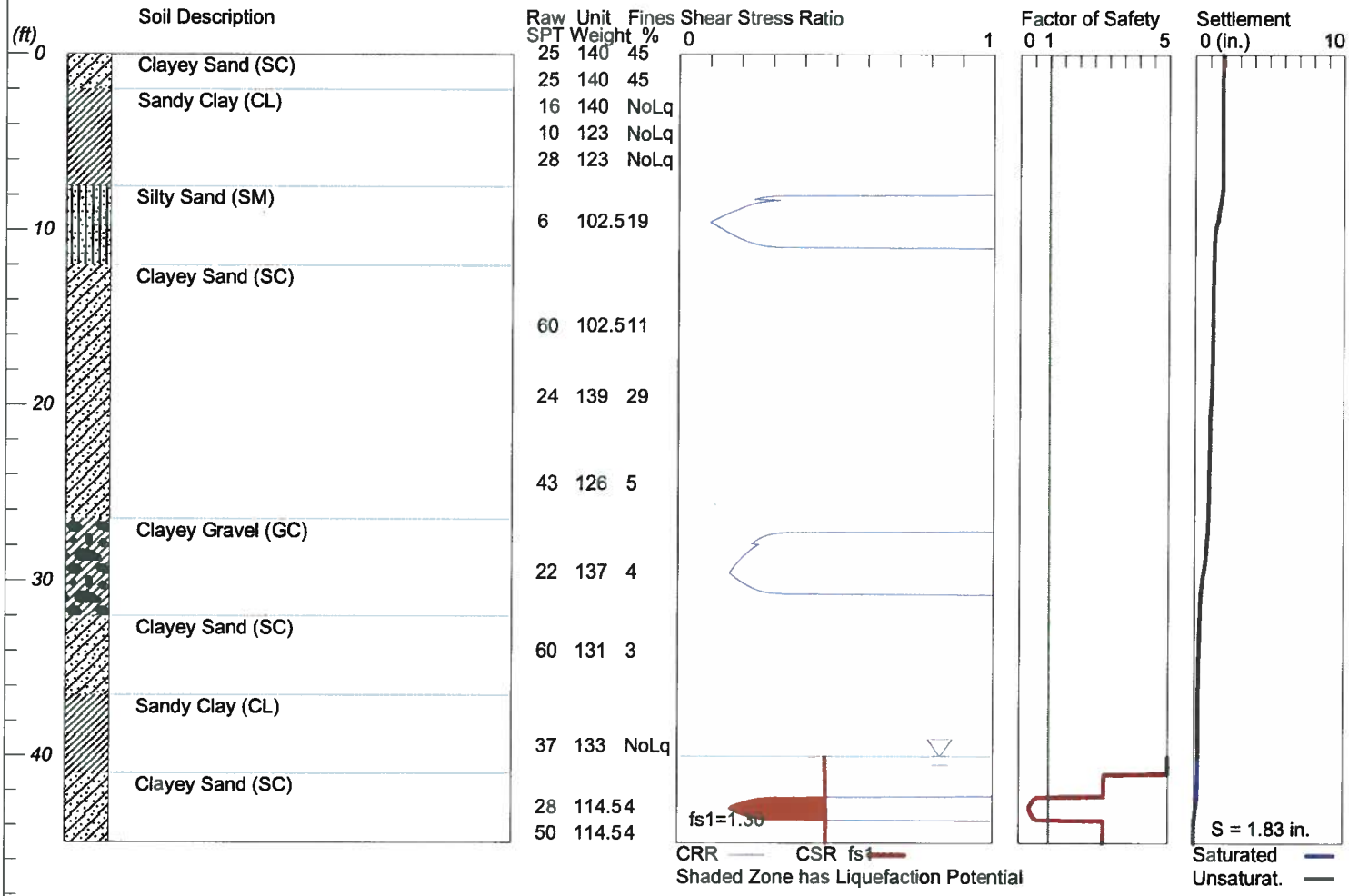
LIQUEFACTION ANALYSIS

Los Altos HS School Stadium Improvements

Hole No.=EB-4 Water Depth=40 ft

Magnitude=8.5
Acceleration=0.653g



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LIQUEFACTION ANALYSIS SUMMARY

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Input File Name: \\GRANT-PC\Grant Rough Drafts\Liquefy Pro Data Files\Los Altos HS Stadium EB4.liq
Title: Los Altos HS School Stadium Improvements
Subtitle:

Surface Elev.=
Hole No.=EB-4
Depth of Hole= 45.00 ft
Water Table during Earthquake= 40.00 ft
Water Table during In-Situ Testing= 40.00 ft
Max. Acceleration= 0.65 g
Earthquake Magnitude= 8.50

Input Data:
Surface Elev.=
Hole No.=EB-4
Depth of Hole=45.00 ft
Water Table during Earthquake= 40.00 ft
Water Table during In-Situ Testing= 40.00 ft
Max. Acceleration=0.65 g
Earthquake Magnitude=8.50
No-Liquefiable Soils: CL, OL are Non-Liq. Soil

1. SPT or BPT Calculation.
2. Settlement Analysis Method: Tokimatsu, M-correction
3. Fines Correction for Liquefaction: Idriss/Seed
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio, Ce = 1.25
7. Borehole Diameter, Cb= 1
8. Sampling Method, Cs= 1
9. User request factor of safety (apply to CSR) , User= 1.3
   Plot one CSR curve (fs1=User)
10. Use Curve Smoothing: Yes*

* Recommended Options

In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.00	25.00	140.00	45.00
1.50	25.00	140.00	45.00
3.00	16.00	140.00	NoLiq
4.50	10.00	123.00	NoLiq
6.00	28.00	123.00	NoLiq
9.50	6.00	102.50	19.00
15.50	60.00	102.50	11.00
19.50	24.00	139.00	29.00
24.50	43.00	126.00	5.00

29.50	22.00	137.00	4.00
34.00	60.00	131.00	3.00
39.50	37.00	133.00	NoLiq
43.00	28.00	114.50	4.00
44.50	50.00	114.50	4.00

Output Results:

Settlement of Saturated Sands=0.23 in.
Settlement of Unsaturated Sands=1.60 in.
Total Settlement of Saturated and Unsaturated Sands=1.83 in.
Differential Settlement=0.917 to 1.211 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	1.45	0.55	5.00	0.23	1.60	1.83
0.05	1.45	0.55	5.00	0.23	1.60	1.83
0.10	1.45	0.55	5.00	0.23	1.60	1.83
0.15	1.45	0.55	5.00	0.23	1.60	1.83
0.20	1.45	0.55	5.00	0.23	1.60	1.83
0.25	1.45	0.55	5.00	0.23	1.60	1.83
0.30	1.45	0.55	5.00	0.23	1.60	1.83
0.35	1.45	0.55	5.00	0.23	1.60	1.83
0.40	1.45	0.55	5.00	0.23	1.60	1.83
0.45	1.45	0.55	5.00	0.23	1.60	1.83
0.50	1.45	0.55	5.00	0.23	1.60	1.83
0.55	1.45	0.55	5.00	0.23	1.60	1.83
0.60	1.45	0.55	5.00	0.23	1.60	1.83
0.65	1.45	0.55	5.00	0.23	1.60	1.83
0.70	1.45	0.55	5.00	0.23	1.60	1.83
0.75	1.45	0.55	5.00	0.23	1.60	1.83
0.80	1.45	0.55	5.00	0.23	1.60	1.83
0.85	1.45	0.55	5.00	0.23	1.60	1.83
0.90	1.45	0.55	5.00	0.23	1.60	1.83
0.95	1.45	0.55	5.00	0.23	1.60	1.83
1.00	1.45	0.55	5.00	0.23	1.60	1.83
1.05	1.45	0.55	5.00	0.23	1.60	1.83
1.10	1.45	0.55	5.00	0.23	1.60	1.83
1.15	1.45	0.55	5.00	0.23	1.60	1.83
1.20	1.45	0.55	5.00	0.23	1.60	1.83
1.25	1.45	0.55	5.00	0.23	1.60	1.83
1.30	1.45	0.55	5.00	0.23	1.60	1.83
1.35	1.45	0.55	5.00	0.23	1.60	1.83
1.40	1.45	0.55	5.00	0.23	1.60	1.83
1.45	1.45	0.55	5.00	0.23	1.60	1.83
1.50	1.45	0.55	5.00	0.23	1.60	1.83
1.55	1.45	0.55	5.00	0.23	1.60	1.83
1.60	1.45	0.55	5.00	0.23	1.60	1.83
1.65	1.45	0.55	5.00	0.23	1.60	1.83
1.70	1.45	0.55	5.00	0.23	1.60	1.83
1.75	1.45	0.55	5.00	0.23	1.60	1.83
1.80	1.45	0.55	5.00	0.23	1.60	1.83
1.85	1.45	0.55	5.00	0.23	1.60	1.83
1.90	1.45	0.55	5.00	0.23	1.60	1.83
1.95	1.45	0.55	5.00	0.23	1.60	1.83
2.00	1.45	0.55	5.00	0.23	1.60	1.83
2.05	2.00	0.55	5.00	0.23	1.60	1.83
2.10	2.00	0.55	5.00	0.23	1.60	1.83
2.15	2.00	0.55	5.00	0.23	1.60	1.83
2.20	2.00	0.55	5.00	0.23	1.60	1.83
2.25	2.00	0.55	5.00	0.23	1.60	1.83
2.30	2.00	0.55	5.00	0.23	1.60	1.83

2.35	2.00	0.55	5.00	0.23	1.60	1.83
2.40	2.00	0.55	5.00	0.23	1.60	1.83
2.45	2.00	0.55	5.00	0.23	1.60	1.83
2.50	2.00	0.55	5.00	0.23	1.60	1.83
2.55	2.00	0.55	5.00	0.23	1.60	1.83
2.60	2.00	0.55	5.00	0.23	1.60	1.83
2.65	2.00	0.55	5.00	0.23	1.60	1.83
2.70	2.00	0.55	5.00	0.23	1.60	1.83
2.75	2.00	0.55	5.00	0.23	1.60	1.83
2.80	2.00	0.55	5.00	0.23	1.60	1.83
2.85	2.00	0.55	5.00	0.23	1.60	1.83
2.90	2.00	0.55	5.00	0.23	1.60	1.83
2.95	2.00	0.55	5.00	0.23	1.60	1.83
3.00	2.00	0.55	5.00	0.23	1.60	1.83
3.05	2.00	0.55	5.00	0.23	1.60	1.83
3.10	2.00	0.55	5.00	0.23	1.60	1.83
3.15	2.00	0.55	5.00	0.23	1.60	1.83
3.20	2.00	0.55	5.00	0.23	1.60	1.83
3.25	2.00	0.55	5.00	0.23	1.60	1.83
3.30	2.00	0.55	5.00	0.23	1.60	1.83
3.35	2.00	0.55	5.00	0.23	1.60	1.83
3.40	2.00	0.55	5.00	0.23	1.60	1.83
3.45	2.00	0.55	5.00	0.23	1.60	1.83
3.50	2.00	0.55	5.00	0.23	1.60	1.83
3.55	2.00	0.55	5.00	0.23	1.60	1.83
3.60	2.00	0.55	5.00	0.23	1.60	1.83
3.65	2.00	0.55	5.00	0.23	1.60	1.83
3.70	2.00	0.55	5.00	0.23	1.60	1.83
3.75	2.00	0.55	5.00	0.23	1.60	1.83
3.80	2.00	0.55	5.00	0.23	1.60	1.83
3.85	2.00	0.55	5.00	0.23	1.60	1.83
3.90	2.00	0.55	5.00	0.23	1.60	1.83
3.95	2.00	0.55	5.00	0.23	1.60	1.83
4.00	2.00	0.55	5.00	0.23	1.60	1.83
4.05	2.00	0.55	5.00	0.23	1.60	1.83
4.10	2.00	0.55	5.00	0.23	1.60	1.83
4.15	2.00	0.55	5.00	0.23	1.60	1.83
4.20	2.00	0.55	5.00	0.23	1.60	1.83
4.25	2.00	0.55	5.00	0.23	1.60	1.83
4.30	2.00	0.55	5.00	0.23	1.60	1.83
4.35	2.00	0.55	5.00	0.23	1.60	1.83
4.40	2.00	0.55	5.00	0.23	1.60	1.83
4.45	2.00	0.55	5.00	0.23	1.60	1.83
4.50	2.00	0.55	5.00	0.23	1.60	1.83
4.55	2.00	0.55	5.00	0.23	1.60	1.83
4.60	2.00	0.55	5.00	0.23	1.60	1.83
4.65	2.00	0.55	5.00	0.23	1.60	1.83
4.70	2.00	0.55	5.00	0.23	1.60	1.83
4.75	2.00	0.55	5.00	0.23	1.60	1.83
4.80	2.00	0.55	5.00	0.23	1.60	1.83
4.85	2.00	0.55	5.00	0.23	1.60	1.83
4.90	2.00	0.55	5.00	0.23	1.60	1.83
4.95	2.00	0.55	5.00	0.23	1.60	1.83
5.00	2.00	0.55	5.00	0.23	1.60	1.83
5.05	2.00	0.55	5.00	0.23	1.60	1.83
5.10	2.00	0.55	5.00	0.23	1.60	1.83
5.15	2.00	0.55	5.00	0.23	1.60	1.83
5.20	2.00	0.55	5.00	0.23	1.60	1.83
5.25	2.00	0.55	5.00	0.23	1.60	1.83
5.30	2.00	0.54	5.00	0.23	1.60	1.83
5.35	2.00	0.54	5.00	0.23	1.60	1.83
5.40	2.00	0.54	5.00	0.23	1.60	1.83
5.45	2.00	0.54	5.00	0.23	1.60	1.83

5.50	2.00	0.54	5.00	0.23	1.60	1.83
5.55	2.00	0.54	5.00	0.23	1.60	1.83
5.60	2.00	0.54	5.00	0.23	1.60	1.83
5.65	2.00	0.54	5.00	0.23	1.60	1.83
5.70	2.00	0.54	5.00	0.23	1.60	1.83
5.75	2.00	0.54	5.00	0.23	1.60	1.83
5.80	2.00	0.54	5.00	0.23	1.60	1.83
5.85	2.00	0.54	5.00	0.23	1.60	1.83
5.90	2.00	0.54	5.00	0.23	1.60	1.83
5.95	2.00	0.54	5.00	0.23	1.60	1.83
6.00	2.00	0.54	5.00	0.23	1.60	1.83
6.05	2.00	0.54	5.00	0.23	1.60	1.83
6.10	2.00	0.54	5.00	0.23	1.60	1.83
6.15	2.00	0.54	5.00	0.23	1.60	1.83
6.20	2.00	0.54	5.00	0.23	1.60	1.83
6.25	2.00	0.54	5.00	0.23	1.60	1.83
6.30	2.00	0.54	5.00	0.23	1.60	1.83
6.35	2.00	0.54	5.00	0.23	1.60	1.83
6.40	2.00	0.54	5.00	0.23	1.60	1.83
6.45	2.00	0.54	5.00	0.23	1.60	1.83
6.50	2.00	0.54	5.00	0.23	1.60	1.83
6.55	2.00	0.54	5.00	0.23	1.60	1.83
6.60	2.00	0.54	5.00	0.23	1.60	1.83
6.65	2.00	0.54	5.00	0.23	1.60	1.83
6.70	2.00	0.54	5.00	0.23	1.60	1.83
6.75	2.00	0.54	5.00	0.23	1.60	1.83
6.80	2.00	0.54	5.00	0.23	1.60	1.83
6.85	2.00	0.54	5.00	0.23	1.60	1.83
6.90	2.00	0.54	5.00	0.23	1.60	1.83
6.95	2.00	0.54	5.00	0.23	1.60	1.83
7.00	2.00	0.54	5.00	0.23	1.60	1.83
7.05	2.00	0.54	5.00	0.23	1.60	1.83
7.10	2.00	0.54	5.00	0.23	1.60	1.83
7.15	2.00	0.54	5.00	0.23	1.60	1.83
7.20	2.00	0.54	5.00	0.23	1.60	1.83
7.25	2.00	0.54	5.00	0.23	1.60	1.83
7.30	2.00	0.54	5.00	0.23	1.60	1.83
7.35	2.00	0.54	5.00	0.23	1.60	1.83
7.40	2.00	0.54	5.00	0.23	1.60	1.83
7.45	2.00	0.54	5.00	0.23	1.60	1.83
7.50	1.45	0.54	5.00	0.23	1.60	1.83
7.55	1.45	0.54	5.00	0.23	1.59	1.83
7.60	1.45	0.54	5.00	0.23	1.59	1.82
7.65	1.45	0.54	5.00	0.23	1.59	1.82
7.70	1.45	0.54	5.00	0.23	1.58	1.81
7.75	1.45	0.54	5.00	0.23	1.57	1.81
7.80	1.45	0.54	5.00	0.23	1.56	1.80
7.85	1.45	0.54	5.00	0.23	1.56	1.79
7.90	1.45	0.54	5.00	0.23	1.55	1.78
7.95	1.45	0.54	5.00	0.23	1.54	1.77
8.00	0.31	0.54	5.00	0.23	1.53	1.77
8.05	0.28	0.54	5.00	0.23	1.52	1.76
8.10	0.26	0.54	5.00	0.23	1.51	1.75
8.15	0.25	0.54	5.00	0.23	1.51	1.74
8.20	0.24	0.54	5.00	0.23	1.50	1.73
8.25	0.32	0.54	5.00	0.23	1.49	1.72
8.30	0.28	0.54	5.00	0.23	1.48	1.71
8.35	0.26	0.54	5.00	0.23	1.47	1.70
8.40	0.25	0.54	5.00	0.23	1.46	1.69
8.45	0.24	0.54	5.00	0.23	1.45	1.68
8.50	0.23	0.54	5.00	0.23	1.44	1.67
8.55	0.22	0.54	5.00	0.23	1.43	1.66
8.60	0.21	0.54	5.00	0.23	1.42	1.65

8.65	0.20	0.54	5.00	0.23	1.41	1.64
8.70	0.20	0.54	5.00	0.23	1.40	1.63
8.75	0.19	0.54	5.00	0.23	1.39	1.62
8.80	0.19	0.54	5.00	0.23	1.38	1.61
8.85	0.18	0.54	5.00	0.23	1.36	1.60
8.90	0.17	0.54	5.00	0.23	1.35	1.58
8.95	0.16	0.54	5.00	0.23	1.34	1.57
9.00	0.16	0.54	5.00	0.23	1.33	1.57
9.05	0.15	0.54	5.00	0.23	1.33	1.56
9.10	0.15	0.54	5.00	0.23	1.32	1.56
9.15	0.14	0.54	5.00	0.23	1.32	1.55
9.20	0.13	0.54	5.00	0.23	1.31	1.54
9.25	0.13	0.54	5.00	0.23	1.30	1.54
9.30	0.12	0.54	5.00	0.23	1.29	1.53
9.35	0.12	0.54	5.00	0.23	1.28	1.52
9.40	0.11	0.54	5.00	0.23	1.27	1.51
9.45	0.10	0.54	5.00	0.23	1.26	1.49
9.50	0.10	0.54	5.00	0.23	1.24	1.47
9.55	0.10	0.54	5.00	0.23	1.22	1.45
9.60	0.11	0.54	5.00	0.23	1.20	1.43
9.65	0.11	0.54	5.00	0.23	1.18	1.41
9.70	0.12	0.54	5.00	0.23	1.16	1.40
9.75	0.12	0.54	5.00	0.23	1.15	1.38
9.80	0.13	0.54	5.00	0.23	1.14	1.37
9.85	0.13	0.54	5.00	0.23	1.13	1.36
9.90	0.14	0.54	5.00	0.23	1.12	1.35
9.95	0.14	0.54	5.00	0.23	1.11	1.35
10.00	0.15	0.54	5.00	0.23	1.11	1.34
10.05	0.15	0.54	5.00	0.23	1.10	1.33
10.10	0.16	0.54	5.00	0.23	1.09	1.33
10.15	0.16	0.54	5.00	0.23	1.09	1.32
10.20	0.17	0.54	5.00	0.23	1.08	1.31
10.25	0.17	0.54	5.00	0.23	1.08	1.31
10.30	0.18	0.54	5.00	0.23	1.07	1.31
10.35	0.18	0.54	5.00	0.23	1.07	1.30
10.40	0.19	0.54	5.00	0.23	1.06	1.30
10.45	0.20	0.54	5.00	0.23	1.06	1.29
10.50	0.20	0.54	5.00	0.23	1.06	1.29
10.55	0.21	0.54	5.00	0.23	1.05	1.29
10.60	0.22	0.54	5.00	0.23	1.05	1.28
10.65	0.23	0.54	5.00	0.23	1.05	1.28
10.70	0.23	0.54	5.00	0.23	1.05	1.28
10.75	0.24	0.54	5.00	0.23	1.04	1.28
10.80	0.25	0.54	5.00	0.23	1.04	1.27
10.85	0.27	0.54	5.00	0.23	1.04	1.27
10.90	0.29	0.54	5.00	0.23	1.04	1.27
10.95	0.32	0.54	5.00	0.23	1.03	1.27
11.00	1.45	0.54	5.00	0.23	1.03	1.27
11.05	1.45	0.54	5.00	0.23	1.03	1.26
11.10	1.45	0.54	5.00	0.23	1.03	1.26
11.15	1.45	0.54	5.00	0.23	1.03	1.26
11.20	1.45	0.54	5.00	0.23	1.02	1.26
11.25	1.45	0.54	5.00	0.23	1.02	1.26
11.30	1.45	0.54	5.00	0.23	1.02	1.26
11.35	1.45	0.54	5.00	0.23	1.02	1.25
11.40	1.45	0.54	5.00	0.23	1.02	1.25
11.45	1.45	0.54	5.00	0.23	1.02	1.25
11.50	1.45	0.54	5.00	0.23	1.02	1.25
11.55	1.45	0.54	5.00	0.23	1.02	1.25
11.60	1.45	0.54	5.00	0.23	1.01	1.25
11.65	1.45	0.54	5.00	0.23	1.01	1.25
11.70	1.45	0.54	5.00	0.23	1.01	1.25
11.75	1.45	0.54	5.00	0.23	1.01	1.24

11.80	1.45	0.54	5.00	0.23	1.01	1.24
11.85	1.45	0.54	5.00	0.23	1.01	1.24
11.90	1.45	0.54	5.00	0.23	1.01	1.24
11.95	1.45	0.54	5.00	0.23	1.01	1.24
12.00	1.45	0.54	5.00	0.23	1.01	1.24
12.05	1.45	0.54	5.00	0.23	1.01	1.24
12.10	1.45	0.54	5.00	0.23	1.01	1.24
12.15	1.45	0.54	5.00	0.23	1.00	1.24
12.20	1.45	0.54	5.00	0.23	1.00	1.24
12.25	1.45	0.54	5.00	0.23	1.00	1.24
12.30	1.45	0.54	5.00	0.23	1.00	1.24
12.35	1.45	0.54	5.00	0.23	1.00	1.23
12.40	1.45	0.54	5.00	0.23	1.00	1.23
12.45	1.45	0.54	5.00	0.23	1.00	1.23
12.50	1.45	0.54	5.00	0.23	1.00	1.23
12.55	1.45	0.54	5.00	0.23	1.00	1.23
12.60	1.45	0.54	5.00	0.23	1.00	1.23
12.65	1.45	0.54	5.00	0.23	1.00	1.23
12.70	1.45	0.54	5.00	0.23	1.00	1.23
12.75	1.45	0.54	5.00	0.23	1.00	1.23
12.80	1.45	0.54	5.00	0.23	0.99	1.23
12.85	1.45	0.54	5.00	0.23	0.99	1.23
12.90	1.45	0.54	5.00	0.23	0.99	1.23
12.95	1.45	0.54	5.00	0.23	0.99	1.23
13.00	1.45	0.54	5.00	0.23	0.99	1.23
13.05	1.45	0.53	5.00	0.23	0.99	1.22
13.10	1.45	0.53	5.00	0.23	0.99	1.22
13.15	1.45	0.53	5.00	0.23	0.99	1.22
13.20	1.45	0.53	5.00	0.23	0.99	1.22
13.25	1.45	0.53	5.00	0.23	0.99	1.22
13.30	1.45	0.53	5.00	0.23	0.99	1.22
13.35	1.45	0.53	5.00	0.23	0.99	1.22
13.40	1.45	0.53	5.00	0.23	0.99	1.22
13.45	1.45	0.53	5.00	0.23	0.99	1.22
13.50	1.45	0.53	5.00	0.23	0.99	1.22
13.55	1.45	0.53	5.00	0.23	0.98	1.22
13.60	1.45	0.53	5.00	0.23	0.98	1.22
13.65	1.45	0.53	5.00	0.23	0.98	1.22
13.70	1.45	0.53	5.00	0.23	0.98	1.22
13.75	1.45	0.53	5.00	0.23	0.98	1.22
13.80	1.45	0.53	5.00	0.23	0.98	1.21
13.85	1.45	0.53	5.00	0.23	0.98	1.21
13.90	1.45	0.53	5.00	0.23	0.98	1.21
13.95	1.45	0.53	5.00	0.23	0.98	1.21
14.00	1.45	0.53	5.00	0.23	0.98	1.21
14.05	1.45	0.53	5.00	0.23	0.98	1.21
14.10	1.45	0.53	5.00	0.23	0.98	1.21
14.15	1.45	0.53	5.00	0.23	0.98	1.21
14.20	1.45	0.53	5.00	0.23	0.98	1.21
14.25	1.45	0.53	5.00	0.23	0.98	1.21
14.30	1.45	0.53	5.00	0.23	0.98	1.21
14.35	1.45	0.53	5.00	0.23	0.97	1.21
14.40	1.45	0.53	5.00	0.23	0.97	1.21
14.45	1.45	0.53	5.00	0.23	0.97	1.21
14.50	1.45	0.53	5.00	0.23	0.97	1.21
14.55	1.45	0.53	5.00	0.23	0.97	1.21
14.60	1.45	0.53	5.00	0.23	0.97	1.21
14.65	1.45	0.53	5.00	0.23	0.97	1.20
14.70	1.45	0.53	5.00	0.23	0.97	1.20
14.75	1.45	0.53	5.00	0.23	0.97	1.20
14.80	1.45	0.53	5.00	0.23	0.97	1.20
14.85	1.45	0.53	5.00	0.23	0.97	1.20
14.90	1.45	0.53	5.00	0.23	0.97	1.20

14.95	1.45	0.53	5.00	0.23	0.97	1.20
15.00	1.45	0.53	5.00	0.23	0.97	1.20
15.05	1.45	0.53	5.00	0.23	0.97	1.20
15.10	1.45	0.53	5.00	0.23	0.97	1.20
15.15	1.45	0.53	5.00	0.23	0.97	1.20
15.20	1.45	0.53	5.00	0.23	0.97	1.20
15.25	1.45	0.53	5.00	0.23	0.96	1.20
15.30	1.45	0.53	5.00	0.23	0.96	1.20
15.35	1.45	0.53	5.00	0.23	0.96	1.20
15.40	1.45	0.53	5.00	0.23	0.96	1.20
15.45	1.45	0.53	5.00	0.23	0.96	1.20
15.50	1.45	0.53	5.00	0.23	0.96	1.20
15.55	1.45	0.53	5.00	0.23	0.96	1.20
15.60	1.45	0.53	5.00	0.23	0.96	1.19
15.65	1.45	0.53	5.00	0.23	0.96	1.19
15.70	1.45	0.53	5.00	0.23	0.96	1.19
15.75	1.45	0.53	5.00	0.23	0.96	1.19
15.80	1.45	0.53	5.00	0.23	0.96	1.19
15.85	1.45	0.53	5.00	0.23	0.96	1.19
15.90	1.45	0.53	5.00	0.23	0.96	1.19
15.95	1.45	0.53	5.00	0.23	0.96	1.19
16.00	1.45	0.53	5.00	0.23	0.96	1.19
16.05	1.45	0.53	5.00	0.23	0.96	1.19
16.10	1.45	0.53	5.00	0.23	0.96	1.19
16.15	1.45	0.53	5.00	0.23	0.96	1.19
16.20	1.45	0.53	5.00	0.23	0.95	1.19
16.25	1.45	0.53	5.00	0.23	0.95	1.19
16.30	1.45	0.53	5.00	0.23	0.95	1.19
16.35	1.45	0.53	5.00	0.23	0.95	1.19
16.40	1.45	0.53	5.00	0.23	0.95	1.19
16.45	1.45	0.53	5.00	0.23	0.95	1.18
16.50	1.45	0.53	5.00	0.23	0.95	1.18
16.55	1.45	0.53	5.00	0.23	0.95	1.18
16.60	1.45	0.53	5.00	0.23	0.95	1.18
16.65	1.45	0.53	5.00	0.23	0.95	1.18
16.70	1.45	0.53	5.00	0.23	0.95	1.18
16.75	1.45	0.53	5.00	0.23	0.95	1.18
16.80	1.45	0.53	5.00	0.23	0.95	1.18
16.85	1.45	0.53	5.00	0.23	0.95	1.18
16.90	1.45	0.53	5.00	0.23	0.95	1.18
16.95	1.45	0.53	5.00	0.23	0.94	1.18
17.00	1.45	0.53	5.00	0.23	0.94	1.18
17.05	1.45	0.53	5.00	0.23	0.94	1.18
17.10	1.45	0.53	5.00	0.23	0.94	1.18
17.15	1.45	0.53	5.00	0.23	0.94	1.17
17.20	1.45	0.53	5.00	0.23	0.94	1.17
17.25	1.45	0.53	5.00	0.23	0.94	1.17
17.30	1.45	0.53	5.00	0.23	0.94	1.17
17.35	1.45	0.53	5.00	0.23	0.94	1.17
17.40	1.45	0.53	5.00	0.23	0.94	1.17
17.45	1.45	0.53	5.00	0.23	0.94	1.17
17.50	1.45	0.53	5.00	0.23	0.94	1.17
17.55	1.45	0.53	5.00	0.23	0.93	1.17
17.60	1.45	0.53	5.00	0.23	0.93	1.17
17.65	1.45	0.53	5.00	0.23	0.93	1.17
17.70	1.45	0.53	5.00	0.23	0.93	1.16
17.75	1.45	0.53	5.00	0.23	0.93	1.16
17.80	1.45	0.53	5.00	0.23	0.93	1.16
17.85	1.45	0.53	5.00	0.23	0.93	1.16
17.90	1.45	0.53	5.00	0.23	0.93	1.16
17.95	1.45	0.53	5.00	0.23	0.93	1.16
18.00	1.45	0.53	5.00	0.23	0.93	1.16
18.05	1.45	0.53	5.00	0.23	0.92	1.16

18.10	1.45	0.53	5.00	0.23	0.92	1.16
18.15	1.45	0.53	5.00	0.23	0.92	1.15
18.20	1.45	0.53	5.00	0.23	0.92	1.15
18.25	1.45	0.53	5.00	0.23	0.92	1.15
18.30	1.45	0.53	5.00	0.23	0.92	1.15
18.35	1.45	0.53	5.00	0.23	0.92	1.15
18.40	1.45	0.53	5.00	0.23	0.91	1.15
18.45	1.45	0.53	5.00	0.23	0.91	1.15
18.50	1.45	0.53	5.00	0.23	0.91	1.15
18.55	1.45	0.53	5.00	0.23	0.91	1.14
18.60	1.45	0.53	5.00	0.23	0.91	1.14
18.65	1.45	0.53	5.00	0.23	0.91	1.14
18.70	1.45	0.53	5.00	0.23	0.91	1.14
18.75	1.45	0.53	5.00	0.23	0.90	1.14
18.80	1.45	0.53	5.00	0.23	0.90	1.14
18.85	1.45	0.53	5.00	0.23	0.90	1.13
18.90	1.45	0.53	5.00	0.23	0.90	1.13
18.95	1.45	0.53	5.00	0.23	0.90	1.13
19.00	1.45	0.53	5.00	0.23	0.89	1.13
19.05	1.45	0.53	5.00	0.23	0.89	1.13
19.10	1.45	0.53	5.00	0.23	0.89	1.12
19.15	1.45	0.53	5.00	0.23	0.89	1.12
19.20	1.45	0.53	5.00	0.23	0.89	1.12
19.25	1.45	0.53	5.00	0.23	0.88	1.12
19.30	1.45	0.53	5.00	0.23	0.88	1.11
19.35	1.45	0.53	5.00	0.23	0.88	1.11
19.40	1.45	0.53	5.00	0.23	0.88	1.11
19.45	1.45	0.53	5.00	0.23	0.87	1.11
19.50	1.45	0.53	5.00	0.23	0.87	1.10
19.55	1.45	0.53	5.00	0.23	0.86	1.10
19.60	1.45	0.53	5.00	0.23	0.86	1.09
19.65	1.45	0.53	5.00	0.23	0.86	1.09
19.70	1.45	0.53	5.00	0.23	0.85	1.09
19.75	1.45	0.53	5.00	0.23	0.85	1.08
19.80	1.45	0.53	5.00	0.23	0.85	1.08
19.85	1.45	0.53	5.00	0.23	0.84	1.08
19.90	1.45	0.53	5.00	0.23	0.84	1.07
19.95	1.45	0.53	5.00	0.23	0.84	1.07
20.00	1.45	0.53	5.00	0.23	0.83	1.06
20.05	1.45	0.53	5.00	0.23	0.83	1.06
20.10	1.45	0.53	5.00	0.23	0.82	1.06
20.15	1.45	0.53	5.00	0.23	0.82	1.05
20.20	1.45	0.53	5.00	0.23	0.82	1.05
20.25	1.45	0.53	5.00	0.23	0.81	1.05
20.30	1.45	0.53	5.00	0.23	0.81	1.04
20.35	1.45	0.53	5.00	0.23	0.81	1.04
20.40	1.45	0.53	5.00	0.23	0.80	1.04
20.45	1.45	0.53	5.00	0.23	0.80	1.03
20.50	1.45	0.53	5.00	0.23	0.80	1.03
20.55	1.45	0.53	5.00	0.23	0.79	1.03
20.60	1.45	0.53	5.00	0.23	0.79	1.02
20.65	1.45	0.53	5.00	0.23	0.79	1.02
20.70	1.45	0.53	5.00	0.23	0.79	1.02
20.75	1.45	0.53	5.00	0.23	0.79	1.02
20.80	1.45	0.53	5.00	0.23	0.79	1.02
20.85	1.45	0.52	5.00	0.23	0.79	1.02
20.90	1.45	0.52	5.00	0.23	0.78	1.02
20.95	1.45	0.52	5.00	0.23	0.78	1.02
21.00	1.45	0.52	5.00	0.23	0.78	1.02
21.05	1.45	0.52	5.00	0.23	0.78	1.02
21.10	1.45	0.52	5.00	0.23	0.78	1.01
21.15	1.45	0.52	5.00	0.23	0.78	1.01
21.20	1.45	0.52	5.00	0.23	0.78	1.01

21.25	1.45	0.52	5.00	0.23	0.78	1.01
21.30	1.45	0.52	5.00	0.23	0.78	1.01
21.35	1.45	0.52	5.00	0.23	0.78	1.01
21.40	1.45	0.52	5.00	0.23	0.78	1.01
21.45	1.45	0.52	5.00	0.23	0.78	1.01
21.50	1.45	0.52	5.00	0.23	0.77	1.01
21.55	1.45	0.52	5.00	0.23	0.77	1.01
21.60	1.45	0.52	5.00	0.23	0.77	1.01
21.65	1.45	0.52	5.00	0.23	0.77	1.01
21.70	1.45	0.52	5.00	0.23	0.77	1.00
21.75	1.45	0.52	5.00	0.23	0.77	1.00
21.80	1.45	0.52	5.00	0.23	0.77	1.00
21.85	1.45	0.52	5.00	0.23	0.77	1.00
21.90	1.45	0.52	5.00	0.23	0.77	1.00
21.95	1.45	0.52	5.00	0.23	0.77	1.00
22.00	1.45	0.52	5.00	0.23	0.77	1.00
22.05	1.45	0.52	5.00	0.23	0.77	1.00
22.10	1.45	0.52	5.00	0.23	0.76	1.00
22.15	1.45	0.52	5.00	0.23	0.76	1.00
22.20	1.45	0.52	5.00	0.23	0.76	1.00
22.25	1.45	0.52	5.00	0.23	0.76	0.99
22.30	1.45	0.52	5.00	0.23	0.76	0.99
22.35	1.45	0.52	5.00	0.23	0.76	0.99
22.40	1.45	0.52	5.00	0.23	0.76	0.99
22.45	1.45	0.52	5.00	0.23	0.76	0.99
22.50	1.45	0.52	5.00	0.23	0.76	0.99
22.55	1.45	0.52	5.00	0.23	0.76	0.99
22.60	1.45	0.52	5.00	0.23	0.76	0.99
22.65	1.45	0.52	5.00	0.23	0.75	0.99
22.70	1.45	0.52	5.00	0.23	0.75	0.99
22.75	1.45	0.52	5.00	0.23	0.75	0.99
22.80	1.45	0.52	5.00	0.23	0.75	0.99
22.85	1.45	0.52	5.00	0.23	0.75	0.98
22.90	1.45	0.52	5.00	0.23	0.75	0.98
22.95	1.45	0.52	5.00	0.23	0.75	0.98
23.00	1.45	0.52	5.00	0.23	0.75	0.98
23.05	1.45	0.52	5.00	0.23	0.75	0.98
23.10	1.45	0.52	5.00	0.23	0.75	0.98
23.15	1.45	0.52	5.00	0.23	0.75	0.98
23.20	1.45	0.52	5.00	0.23	0.74	0.98
23.25	1.45	0.52	5.00	0.23	0.74	0.98
23.30	1.45	0.52	5.00	0.23	0.74	0.98
23.35	1.45	0.52	5.00	0.23	0.74	0.98
23.40	1.45	0.52	5.00	0.23	0.74	0.97
23.45	1.45	0.52	5.00	0.23	0.74	0.97
23.50	1.45	0.52	5.00	0.23	0.74	0.97
23.55	1.45	0.52	5.00	0.23	0.74	0.97
23.60	1.45	0.52	5.00	0.23	0.74	0.97
23.65	1.45	0.52	5.00	0.23	0.74	0.97
23.70	1.45	0.52	5.00	0.23	0.74	0.97
23.75	1.45	0.52	5.00	0.23	0.73	0.97
23.80	1.45	0.52	5.00	0.23	0.73	0.97
23.85	1.45	0.52	5.00	0.23	0.73	0.97
23.90	1.45	0.52	5.00	0.23	0.73	0.97
23.95	1.45	0.52	5.00	0.23	0.73	0.96
24.00	1.45	0.52	5.00	0.23	0.73	0.96
24.05	1.45	0.52	5.00	0.23	0.73	0.96
24.10	1.45	0.52	5.00	0.23	0.73	0.96
24.15	1.45	0.52	5.00	0.23	0.73	0.96
24.20	1.45	0.52	5.00	0.23	0.73	0.96
24.25	1.45	0.52	5.00	0.23	0.73	0.96
24.30	1.45	0.52	5.00	0.23	0.72	0.96
24.35	1.45	0.52	5.00	0.23	0.72	0.96

24.40	1.45	0.52	5.00	0.23	0.72	0.96
24.45	1.45	0.52	5.00	0.23	0.72	0.95
24.50	1.45	0.52	5.00	0.23	0.72	0.95
24.55	1.45	0.52	5.00	0.23	0.72	0.95
24.60	1.45	0.52	5.00	0.23	0.72	0.95
24.65	1.45	0.52	5.00	0.23	0.72	0.95
24.70	1.45	0.52	5.00	0.23	0.72	0.95
24.75	1.45	0.52	5.00	0.23	0.72	0.95
24.80	1.45	0.52	5.00	0.23	0.71	0.95
24.85	1.45	0.52	5.00	0.23	0.71	0.95
24.90	1.45	0.52	5.00	0.23	0.71	0.95
24.95	1.45	0.52	5.00	0.23	0.71	0.94
25.00	1.45	0.52	5.00	0.23	0.71	0.94
25.05	1.45	0.52	5.00	0.23	0.71	0.94
25.10	1.45	0.52	5.00	0.23	0.71	0.94
25.15	1.45	0.52	5.00	0.23	0.71	0.94
25.20	1.45	0.52	5.00	0.23	0.71	0.94
25.25	1.45	0.52	5.00	0.23	0.71	0.94
25.30	1.45	0.52	5.00	0.23	0.70	0.94
25.35	1.45	0.52	5.00	0.23	0.70	0.94
25.40	1.45	0.52	5.00	0.23	0.70	0.93
25.45	1.45	0.52	5.00	0.23	0.70	0.93
25.50	1.45	0.52	5.00	0.23	0.70	0.93
25.55	1.45	0.52	5.00	0.23	0.70	0.93
25.60	1.45	0.52	5.00	0.23	0.70	0.93
25.65	1.45	0.52	5.00	0.23	0.70	0.93
25.70	1.45	0.52	5.00	0.23	0.69	0.93
25.75	1.45	0.52	5.00	0.23	0.69	0.93
25.80	1.45	0.52	5.00	0.23	0.69	0.92
25.85	1.45	0.52	5.00	0.23	0.69	0.92
25.90	1.45	0.52	5.00	0.23	0.69	0.92
25.95	1.45	0.52	5.00	0.23	0.69	0.92
26.00	1.45	0.52	5.00	0.23	0.68	0.92
26.05	1.45	0.52	5.00	0.23	0.68	0.92
26.10	1.45	0.52	5.00	0.23	0.68	0.91
26.15	1.45	0.52	5.00	0.23	0.68	0.91
26.20	1.45	0.52	5.00	0.23	0.68	0.91
26.25	1.45	0.52	5.00	0.23	0.68	0.91
26.30	1.45	0.52	5.00	0.23	0.67	0.91
26.35	1.45	0.52	5.00	0.23	0.67	0.90
26.40	1.45	0.52	5.00	0.23	0.67	0.90
26.45	1.45	0.52	5.00	0.23	0.67	0.90
26.50	1.45	0.52	5.00	0.23	0.66	0.90
26.55	1.45	0.52	5.00	0.23	0.66	0.90
26.60	1.45	0.52	5.00	0.23	0.66	0.89
26.65	1.45	0.52	5.00	0.23	0.66	0.89
26.70	1.45	0.52	5.00	0.23	0.66	0.89
26.75	1.45	0.52	5.00	0.23	0.65	0.89
26.80	1.45	0.52	5.00	0.23	0.65	0.88
26.85	1.46	0.52	5.00	0.23	0.65	0.88
26.90	1.46	0.52	5.00	0.23	0.65	0.88
26.95	1.46	0.52	5.00	0.23	0.64	0.88
27.00	1.46	0.52	5.00	0.23	0.64	0.87
27.05	1.46	0.52	5.00	0.23	0.64	0.87
27.10	1.46	0.52	5.00	0.23	0.63	0.87
27.15	1.46	0.52	5.00	0.23	0.63	0.86
27.20	0.35	0.52	5.00	0.23	0.63	0.86
27.25	0.32	0.52	5.00	0.23	0.62	0.86
27.30	0.30	0.52	5.00	0.23	0.62	0.85
27.35	0.29	0.52	5.00	0.23	0.62	0.85
27.40	0.28	0.52	5.00	0.23	0.61	0.85
27.45	0.27	0.52	5.00	0.23	0.61	0.84
27.50	0.26	0.52	5.00	0.23	0.61	0.84

27.55	0.26	0.52	5.00	0.23	0.60	0.84
27.60	0.25	0.52	5.00	0.23	0.60	0.83
27.65	0.25	0.52	5.00	0.23	0.59	0.83
27.70	0.25	0.52	5.00	0.23	0.59	0.82
27.75	0.24	0.52	5.00	0.23	0.59	0.82
27.80	0.24	0.52	5.00	0.23	0.58	0.82
27.85	0.23	0.52	5.00	0.23	0.58	0.81
27.90	0.26	0.52	5.00	0.23	0.57	0.81
27.95	0.25	0.52	5.00	0.23	0.57	0.80
28.00	0.25	0.52	5.00	0.23	0.57	0.80
28.05	0.24	0.52	5.00	0.23	0.56	0.79
28.10	0.24	0.52	5.00	0.23	0.56	0.79
28.15	0.23	0.52	5.00	0.23	0.55	0.78
28.20	0.23	0.52	5.00	0.23	0.55	0.78
28.25	0.23	0.52	5.00	0.23	0.54	0.78
28.30	0.22	0.52	5.00	0.23	0.54	0.77
28.35	0.22	0.52	5.00	0.23	0.53	0.77
28.40	0.22	0.52	5.00	0.23	0.53	0.76
28.45	0.21	0.52	5.00	0.23	0.52	0.75
28.50	0.21	0.52	5.00	0.23	0.52	0.75
28.55	0.21	0.52	5.00	0.23	0.51	0.74
28.60	0.21	0.51	5.00	0.23	0.50	0.74
28.65	0.20	0.51	5.00	0.23	0.50	0.73
28.70	0.20	0.51	5.00	0.23	0.49	0.72
28.75	0.20	0.51	5.00	0.23	0.48	0.72
28.80	0.19	0.51	5.00	0.23	0.48	0.71
28.85	0.19	0.51	5.00	0.23	0.47	0.70
28.90	0.19	0.51	5.00	0.23	0.46	0.70
28.95	0.19	0.51	5.00	0.23	0.46	0.69
29.00	0.18	0.51	5.00	0.23	0.45	0.68
29.05	0.18	0.51	5.00	0.23	0.44	0.67
29.10	0.18	0.51	5.00	0.23	0.43	0.67
29.15	0.18	0.51	5.00	0.23	0.42	0.66
29.20	0.18	0.51	5.00	0.23	0.41	0.65
29.25	0.17	0.51	5.00	0.23	0.41	0.64
29.30	0.17	0.51	5.00	0.23	0.40	0.63
29.35	0.17	0.51	5.00	0.23	0.39	0.62
29.40	0.17	0.51	5.00	0.23	0.38	0.61
29.45	0.17	0.51	5.00	0.23	0.37	0.60
29.50	0.16	0.51	5.00	0.23	0.35	0.59
29.55	0.17	0.51	5.00	0.23	0.34	0.58
29.60	0.17	0.51	5.00	0.23	0.33	0.56
29.65	0.17	0.51	5.00	0.23	0.32	0.55
29.70	0.18	0.51	5.00	0.23	0.31	0.54
29.75	0.18	0.51	5.00	0.23	0.30	0.54
29.80	0.18	0.51	5.00	0.23	0.29	0.53
29.85	0.19	0.51	5.00	0.23	0.28	0.52
29.90	0.19	0.51	5.00	0.23	0.28	0.51
29.95	0.20	0.51	5.00	0.23	0.27	0.50
30.00	0.20	0.51	5.00	0.23	0.26	0.49
30.05	0.20	0.51	5.00	0.23	0.25	0.49
30.10	0.21	0.51	5.00	0.23	0.25	0.48
30.15	0.21	0.51	5.00	0.23	0.24	0.47
30.20	0.22	0.51	5.00	0.23	0.23	0.47
30.25	0.22	0.51	5.00	0.23	0.23	0.46
30.30	0.23	0.51	5.00	0.23	0.22	0.46
30.35	0.24	0.51	5.00	0.23	0.22	0.45
30.40	0.24	0.51	5.00	0.23	0.21	0.44
30.45	0.25	0.51	5.00	0.23	0.21	0.44
30.50	0.26	0.51	5.00	0.23	0.20	0.43
30.55	0.27	0.51	5.00	0.23	0.20	0.43
30.60	0.28	0.51	5.00	0.23	0.19	0.43
30.65	0.30	0.51	5.00	0.23	0.19	0.42

30.70	0.34	0.51	5.00	0.23	0.18	0.42
30.75	1.42	0.51	5.00	0.23	0.18	0.41
30.80	1.42	0.51	5.00	0.23	0.18	0.41
30.85	1.42	0.51	5.00	0.23	0.17	0.40
30.90	1.42	0.51	5.00	0.23	0.17	0.40
30.95	1.42	0.51	5.00	0.23	0.16	0.40
31.00	1.42	0.51	5.00	0.23	0.16	0.39
31.05	1.42	0.51	5.00	0.23	0.16	0.39
31.10	1.42	0.51	5.00	0.23	0.15	0.39
31.15	1.42	0.51	5.00	0.23	0.15	0.38
31.20	1.42	0.51	5.00	0.23	0.15	0.38
31.25	1.42	0.51	5.00	0.23	0.15	0.38
31.30	1.42	0.51	5.00	0.23	0.14	0.38
31.35	1.42	0.51	5.00	0.23	0.14	0.37
31.40	1.42	0.51	5.00	0.23	0.14	0.37
31.45	1.42	0.51	5.00	0.23	0.13	0.37
31.50	1.42	0.51	5.00	0.23	0.13	0.37
31.55	1.42	0.51	5.00	0.23	0.13	0.36
31.60	1.42	0.51	5.00	0.23	0.13	0.36
31.65	1.42	0.51	5.00	0.23	0.13	0.36
31.70	1.41	0.51	5.00	0.23	0.12	0.36
31.75	1.41	0.51	5.00	0.23	0.12	0.35
31.80	1.41	0.51	5.00	0.23	0.12	0.35
31.85	1.41	0.50	5.00	0.23	0.12	0.35
31.90	1.41	0.50	5.00	0.23	0.12	0.35
31.95	1.41	0.50	5.00	0.23	0.11	0.35
32.00	1.41	0.50	5.00	0.23	0.11	0.35
32.05	1.41	0.50	5.00	0.23	0.11	0.34
32.10	1.41	0.50	5.00	0.23	0.11	0.34
32.15	1.41	0.50	5.00	0.23	0.11	0.34
32.20	1.41	0.50	5.00	0.23	0.11	0.34
32.25	1.41	0.50	5.00	0.23	0.10	0.34
32.30	1.41	0.50	5.00	0.23	0.10	0.34
32.35	1.41	0.50	5.00	0.23	0.10	0.33
32.40	1.41	0.50	5.00	0.23	0.10	0.33
32.45	1.41	0.50	5.00	0.23	0.10	0.33
32.50	1.41	0.50	5.00	0.23	0.10	0.33
32.55	1.41	0.50	5.00	0.23	0.09	0.33
32.60	1.41	0.50	5.00	0.23	0.09	0.33
32.65	1.41	0.50	5.00	0.23	0.09	0.33
32.70	1.41	0.50	5.00	0.23	0.09	0.32
32.75	1.41	0.50	5.00	0.23	0.09	0.32
32.80	1.41	0.50	5.00	0.23	0.09	0.32
32.85	1.40	0.50	5.00	0.23	0.09	0.32
32.90	1.40	0.50	5.00	0.23	0.08	0.32
32.95	1.40	0.50	5.00	0.23	0.08	0.32
33.00	1.40	0.50	5.00	0.23	0.08	0.32
33.05	1.40	0.50	5.00	0.23	0.08	0.31
33.10	1.40	0.50	5.00	0.23	0.08	0.31
33.15	1.40	0.50	5.00	0.23	0.08	0.31
33.20	1.40	0.50	5.00	0.23	0.08	0.31
33.25	1.40	0.50	5.00	0.23	0.08	0.31
33.30	1.40	0.50	5.00	0.23	0.07	0.31
33.35	1.40	0.50	5.00	0.23	0.07	0.31
33.40	1.40	0.50	5.00	0.23	0.07	0.30
33.45	1.40	0.50	5.00	0.23	0.07	0.30
33.50	1.40	0.50	5.00	0.23	0.07	0.30
33.55	1.40	0.50	5.00	0.23	0.07	0.30
33.60	1.40	0.50	5.00	0.23	0.07	0.30
33.65	1.40	0.50	5.00	0.23	0.07	0.30
33.70	1.40	0.50	5.00	0.23	0.06	0.30
33.75	1.40	0.50	5.00	0.23	0.06	0.30
33.80	1.40	0.50	5.00	0.23	0.06	0.30

33.85	1.40	0.50	5.00	0.23	0.06	0.29
33.90	1.40	0.50	5.00	0.23	0.06	0.29
33.95	1.40	0.50	5.00	0.23	0.06	0.29
34.00	1.39	0.50	5.00	0.23	0.06	0.29
34.05	1.39	0.49	5.00	0.23	0.06	0.29
34.10	1.39	0.49	5.00	0.23	0.05	0.29
34.15	1.39	0.49	5.00	0.23	0.05	0.29
34.20	1.39	0.49	5.00	0.23	0.05	0.29
34.25	1.39	0.49	5.00	0.23	0.05	0.28
34.30	1.39	0.49	5.00	0.23	0.05	0.28
34.35	1.39	0.49	5.00	0.23	0.05	0.28
34.40	1.39	0.49	5.00	0.23	0.05	0.28
34.45	1.39	0.49	5.00	0.23	0.05	0.28
34.50	1.39	0.49	5.00	0.23	0.05	0.28
34.55	1.39	0.49	5.00	0.23	0.04	0.28
34.60	1.39	0.49	5.00	0.23	0.04	0.28
34.65	1.39	0.49	5.00	0.23	0.04	0.28
34.70	1.39	0.49	5.00	0.23	0.04	0.27
34.75	1.39	0.49	5.00	0.23	0.04	0.27
34.80	1.39	0.49	5.00	0.23	0.04	0.27
34.85	1.39	0.49	5.00	0.23	0.04	0.27
34.90	1.39	0.49	5.00	0.23	0.04	0.27
34.95	1.39	0.49	5.00	0.23	0.04	0.27
35.00	1.39	0.49	5.00	0.23	0.03	0.27
35.05	1.39	0.49	5.00	0.23	0.03	0.27
35.10	1.39	0.49	5.00	0.23	0.03	0.27
35.15	1.39	0.49	5.00	0.23	0.03	0.26
35.20	1.38	0.49	5.00	0.23	0.03	0.26
35.25	1.38	0.49	5.00	0.23	0.03	0.26
35.30	1.38	0.49	5.00	0.23	0.03	0.26
35.35	1.38	0.49	5.00	0.23	0.03	0.26
35.40	1.38	0.49	5.00	0.23	0.03	0.26
35.45	1.38	0.49	5.00	0.23	0.02	0.26
35.50	1.38	0.49	5.00	0.23	0.02	0.26
35.55	1.38	0.49	5.00	0.23	0.02	0.26
35.60	1.38	0.49	5.00	0.23	0.02	0.25
35.65	1.38	0.49	5.00	0.23	0.02	0.25
35.70	1.38	0.49	5.00	0.23	0.02	0.25
35.75	1.38	0.49	5.00	0.23	0.02	0.25
35.80	1.38	0.49	5.00	0.23	0.02	0.25
35.85	1.38	0.49	5.00	0.23	0.02	0.25
35.90	1.38	0.49	5.00	0.23	0.01	0.25
35.95	1.38	0.49	5.00	0.23	0.01	0.25
36.00	1.38	0.49	5.00	0.23	0.01	0.25
36.05	1.38	0.49	5.00	0.23	0.01	0.24
36.10	1.38	0.49	5.00	0.23	0.01	0.24
36.15	1.38	0.49	5.00	0.23	0.01	0.24
36.20	1.38	0.49	5.00	0.23	0.01	0.24
36.25	1.38	0.49	5.00	0.23	0.01	0.24
36.30	1.38	0.48	5.00	0.23	0.01	0.24
36.35	1.38	0.48	5.00	0.23	0.00	0.24
36.40	1.38	0.48	5.00	0.23	0.00	0.24
36.45	1.37	0.48	5.00	0.23	0.00	0.24
36.50	1.37	0.48	5.00	0.23	0.00	0.23
36.55	2.00	0.48	5.00	0.23	0.00	0.23
36.60	2.00	0.48	5.00	0.23	0.00	0.23
36.65	2.00	0.48	5.00	0.23	0.00	0.23
36.70	2.00	0.48	5.00	0.23	0.00	0.23
36.75	2.00	0.48	5.00	0.23	0.00	0.23
36.80	2.00	0.48	5.00	0.23	0.00	0.23
36.85	2.00	0.48	5.00	0.23	0.00	0.23
36.90	2.00	0.48	5.00	0.23	0.00	0.23
36.95	2.00	0.48	5.00	0.23	0.00	0.23

37.00	2.00	0.48	5.00	0.23	0.00	0.23
37.05	2.00	0.48	5.00	0.23	0.00	0.23
37.10	2.00	0.48	5.00	0.23	0.00	0.23
37.15	2.00	0.48	5.00	0.23	0.00	0.23
37.20	2.00	0.48	5.00	0.23	0.00	0.23
37.25	2.00	0.48	5.00	0.23	0.00	0.23
37.30	2.00	0.48	5.00	0.23	0.00	0.23
37.35	2.00	0.48	5.00	0.23	0.00	0.23
37.40	2.00	0.48	5.00	0.23	0.00	0.23
37.45	2.00	0.48	5.00	0.23	0.00	0.23
37.50	2.00	0.48	5.00	0.23	0.00	0.23
37.55	2.00	0.48	5.00	0.23	0.00	0.23
37.60	2.00	0.48	5.00	0.23	0.00	0.23
37.65	2.00	0.48	5.00	0.23	0.00	0.23
37.70	2.00	0.48	5.00	0.23	0.00	0.23
37.75	2.00	0.48	5.00	0.23	0.00	0.23
37.80	2.00	0.48	5.00	0.23	0.00	0.23
37.85	2.00	0.48	5.00	0.23	0.00	0.23
37.90	2.00	0.48	5.00	0.23	0.00	0.23
37.95	2.00	0.48	5.00	0.23	0.00	0.23
38.00	2.00	0.48	5.00	0.23	0.00	0.23
38.05	2.00	0.48	5.00	0.23	0.00	0.23
38.10	2.00	0.48	5.00	0.23	0.00	0.23
38.15	2.00	0.48	5.00	0.23	0.00	0.23
38.20	2.00	0.48	5.00	0.23	0.00	0.23
38.25	2.00	0.48	5.00	0.23	0.00	0.23
38.30	2.00	0.48	5.00	0.23	0.00	0.23
38.35	2.00	0.48	5.00	0.23	0.00	0.23
38.40	2.00	0.48	5.00	0.23	0.00	0.23
38.45	2.00	0.48	5.00	0.23	0.00	0.23
38.50	2.00	0.47	5.00	0.23	0.00	0.23
38.55	2.00	0.47	5.00	0.23	0.00	0.23
38.60	2.00	0.47	5.00	0.23	0.00	0.23
38.65	2.00	0.47	5.00	0.23	0.00	0.23
38.70	2.00	0.47	5.00	0.23	0.00	0.23
38.75	2.00	0.47	5.00	0.23	0.00	0.23
38.80	2.00	0.47	5.00	0.23	0.00	0.23
38.85	2.00	0.47	5.00	0.23	0.00	0.23
38.90	2.00	0.47	5.00	0.23	0.00	0.23
38.95	2.00	0.47	5.00	0.23	0.00	0.23
39.00	2.00	0.47	5.00	0.23	0.00	0.23
39.05	2.00	0.47	5.00	0.23	0.00	0.23
39.10	2.00	0.47	5.00	0.23	0.00	0.23
39.15	2.00	0.47	5.00	0.23	0.00	0.23
39.20	2.00	0.47	5.00	0.23	0.00	0.23
39.25	2.00	0.47	5.00	0.23	0.00	0.23
39.30	2.00	0.47	5.00	0.23	0.00	0.23
39.35	2.00	0.47	5.00	0.23	0.00	0.23
39.40	2.00	0.47	5.00	0.23	0.00	0.23
39.45	2.00	0.47	5.00	0.23	0.00	0.23
39.50	2.00	0.47	5.00	0.23	0.00	0.23
39.55	2.00	0.47	5.00	0.23	0.00	0.23
39.60	2.00	0.47	5.00	0.23	0.00	0.23
39.65	2.00	0.47	5.00	0.23	0.00	0.23
39.70	2.00	0.47	5.00	0.23	0.00	0.23
39.75	2.00	0.47	5.00	0.23	0.00	0.23
39.80	2.00	0.47	5.00	0.23	0.00	0.23
39.85	2.00	0.47	5.00	0.23	0.00	0.23
39.90	2.00	0.47	5.00	0.23	0.00	0.23
39.95	2.00	0.47	5.00	0.23	0.00	0.23
40.00	2.00	0.47	5.00	0.23	0.00	0.23
40.05	2.00	0.47	5.00	0.23	0.00	0.23
40.10	2.00	0.47	5.00	0.23	0.00	0.23

40.15	2.00	0.47	5.00	0.23	0.00	0.23
40.20	2.00	0.47	5.00	0.23	0.00	0.23
40.25	2.00	0.47	5.00	0.23	0.00	0.23
40.30	2.00	0.47	5.00	0.23	0.00	0.23
40.35	2.00	0.47	5.00	0.23	0.00	0.23
40.40	2.00	0.47	5.00	0.23	0.00	0.23
40.45	2.00	0.47	5.00	0.23	0.00	0.23
40.50	2.00	0.47	5.00	0.23	0.00	0.23
40.55	2.00	0.47	5.00	0.23	0.00	0.23
40.60	2.00	0.47	5.00	0.23	0.00	0.23
40.65	2.00	0.47	5.00	0.23	0.00	0.23
40.70	2.00	0.47	5.00	0.23	0.00	0.23
40.75	2.00	0.47	5.00	0.23	0.00	0.23
40.80	2.00	0.47	5.00	0.23	0.00	0.23
40.85	2.00	0.47	5.00	0.23	0.00	0.23
40.90	2.00	0.47	5.00	0.23	0.00	0.23
40.95	2.00	0.47	5.00	0.23	0.00	0.23
41.00	2.00	0.47	5.00	0.23	0.00	0.23
41.05	1.34	0.47	2.86	0.23	0.00	0.23
41.10	1.34	0.47	2.86	0.23	0.00	0.23
41.15	1.34	0.47	2.86	0.23	0.00	0.23
41.20	1.34	0.47	2.86	0.23	0.00	0.23
41.25	1.34	0.47	2.86	0.23	0.00	0.23
41.30	1.34	0.47	2.86	0.23	0.00	0.23
41.35	1.34	0.47	2.86	0.23	0.00	0.23
41.40	1.34	0.47	2.86	0.23	0.00	0.23
41.45	1.34	0.47	2.85	0.23	0.00	0.23
41.50	1.34	0.47	2.85	0.23	0.00	0.23
41.55	1.34	0.47	2.85	0.23	0.00	0.23
41.60	1.34	0.47	2.85	0.23	0.00	0.23
41.65	1.34	0.47	2.85	0.23	0.00	0.23
41.70	1.34	0.47	2.85	0.23	0.00	0.23
41.75	1.34	0.47	2.85	0.23	0.00	0.23
41.80	1.34	0.47	2.85	0.22	0.00	0.22
41.85	1.34	0.47	2.85	0.22	0.00	0.22
41.90	1.34	0.47	2.85	0.22	0.00	0.22
41.95	1.34	0.47	2.85	0.22	0.00	0.22
42.00	1.34	0.47	2.85	0.22	0.00	0.22
42.05	1.34	0.47	2.85	0.22	0.00	0.22
42.10	1.34	0.47	2.85	0.22	0.00	0.22
42.15	1.34	0.47	2.85	0.21	0.00	0.21
42.20	1.34	0.47	2.85	0.21	0.00	0.21
42.25	1.34	0.47	2.84	0.21	0.00	0.21
42.30	1.34	0.47	2.84	0.20	0.00	0.20
42.35	0.29	0.47	0.63*	0.20	0.00	0.20
42.40	0.26	0.47	0.56*	0.20	0.00	0.20
42.45	0.24	0.47	0.52*	0.19	0.00	0.19
42.50	0.23	0.47	0.49*	0.19	0.00	0.19
42.55	0.22	0.47	0.47*	0.18	0.00	0.18
42.60	0.21	0.47	0.45*	0.17	0.00	0.17
42.65	0.20	0.47	0.43*	0.17	0.00	0.17
42.70	0.19	0.47	0.41*	0.16	0.00	0.16
42.75	0.19	0.47	0.39*	0.15	0.00	0.15
42.80	0.18	0.47	0.38*	0.15	0.00	0.15
42.85	0.17	0.47	0.37*	0.14	0.00	0.14
42.90	0.17	0.47	0.36*	0.13	0.00	0.13
42.95	0.16	0.47	0.35*	0.12	0.00	0.12
43.00	0.16	0.47	0.35*	0.11	0.00	0.11
43.05	0.17	0.47	0.36*	0.11	0.00	0.11
43.10	0.17	0.47	0.37*	0.10	0.00	0.10
43.15	0.18	0.47	0.38*	0.09	0.00	0.09
43.20	0.18	0.47	0.39*	0.08	0.00	0.08
43.25	0.19	0.47	0.41*	0.08	0.00	0.08

43.30	0.20	0.47	0.42*	0.07	0.00	0.07
43.35	0.20	0.47	0.44*	0.06	0.00	0.06
43.40	0.21	0.47	0.45*	0.06	0.00	0.06
43.45	0.22	0.47	0.47*	0.05	0.00	0.05
43.50	0.23	0.47	0.49*	0.04	0.00	0.04
43.55	0.24	0.47	0.51*	0.04	0.00	0.04
43.60	0.26	0.47	0.55*	0.03	0.00	0.03
43.65	0.29	0.47	0.61*	0.03	0.00	0.03
43.70	1.33	0.47	2.83	0.02	0.00	0.02
43.75	1.33	0.47	2.83	0.02	0.00	0.02
43.80	1.33	0.47	2.83	0.01	0.00	0.01
43.85	1.33	0.47	2.83	0.01	0.00	0.01
43.90	1.33	0.47	2.83	0.01	0.00	0.01
43.95	1.33	0.47	2.83	0.01	0.00	0.01
44.00	1.33	0.47	2.83	0.00	0.00	0.00
44.05	1.33	0.47	2.83	0.00	0.00	0.00
44.10	1.33	0.47	2.83	0.00	0.00	0.00
44.15	1.33	0.47	2.83	0.00	0.00	0.00
44.20	1.33	0.47	2.83	0.00	0.00	0.00
44.25	1.33	0.47	2.82	0.00	0.00	0.00
44.30	1.33	0.47	2.82	0.00	0.00	0.00
44.35	1.33	0.47	2.82	0.00	0.00	0.00
44.40	1.33	0.47	2.82	0.00	0.00	0.00
44.45	1.33	0.47	2.82	0.00	0.00	0.00
44.50	1.33	0.47	2.82	0.00	0.00	0.00
44.55	1.33	0.47	2.82	0.00	0.00	0.00
44.60	1.33	0.47	2.82	0.00	0.00	0.00
44.65	1.33	0.47	2.82	0.00	0.00	0.00
44.70	1.33	0.47	2.82	0.00	0.00	0.00
44.75	1.33	0.47	2.82	0.00	0.00	0.00
44.80	1.33	0.47	2.82	0.00	0.00	0.00
44.85	1.33	0.47	2.82	0.00	0.00	0.00
44.90	1.33	0.47	2.82	0.00	0.00	0.00
44.95	1.33	0.47	2.82	0.00	0.00	0.00
45.00	1.33	0.47	2.82	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units: Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight = pcf; Depth = ft; Settlement = in.

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1 atm (atmosphere) = 1 tsf (ton/ft2)
CRRm Cyclic resistance ratio from soils
CSRsf Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S. Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat Settlement from saturated sands
S_dry Settlement from Unsaturated Sands
S_all Total Settlement from Saturated and Unsaturated Sands
NoLiq No-Liquefy Soils

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

Christophe A. Ciechanowski, President, GE
Grant F. Foster, Vice-President, GE
J. Michael Cleary, Principal, CEG, GE

December 19, 2019
Project No. 1307.1P
Ser. 6395

Mr. Mike Mathiesen, Associate Business Services
Mountain View – Los Altos Union High School District
1299 Bryant Avenue
Mountain View, CA 94040

RE: SUPPLEMENTAL DRILLED PIER FOUNDATION RECOMMENDATIONS AND UPDATED SEISMIC DESIGN CRITERIA
STADIUM LIGHTING PROJECT
LOS ALTOS HIGH SCHOOL
201 ALMOND AVENUE
LOS ALTOS, CALIFORNIA

Dear Mr. Mathiesen:

Introduction

As requested, we are providing additional geotechnical engineering recommendations for the Stadium Lighting project at Los Altos High School in Los Altos, California. Our geotechnical and geologic hazards investigation report (Cleary Consultants Project No. 1307.1F) for the Stadium Improvements Project at Los Altos High School, submitted April 7, 2014, included geologic and seismic hazards analysis, including that for liquefaction and seismically-induced dry soil settlement, and recommendations for grading, utility backfilling, press box and visitor's bleacher spread footing foundation design, slabs-on-grade and pedestrian asphaltic concrete sections, seismic design parameters (2013 California Building Code) and soil corrosivity information. We have additionally previously performed geotechnical/geologic investigations, including associated construction observation and testing services, for a number of projects at Los Altos High School during the period between 2010 and 2019. Relevant information from our prior investigations was used for this supplemental letter.

Per our discussions with DJ Halpert of RGM Kramer and Josh Randall of Musco Sports Lighting, we understand that four new 90-foot tall cantilever light poles (two on each side of the track) are planned to be supported on 36-inch diameter drilled pier foundations. The planned light pole design includes a precast, pre-stressed concrete base extending to a depth of 14-to-20 feet below the ground surface within the planned drilled pier. Musco Sports Lighting has requested drilled pier foundation recommendations based on the above planned design and updated seismic design parameters (2019 California Building Code).

Conclusions

Based on the findings our April 7, 2014 investigation, we judge that there are no geologic hazards or constraints which would preclude the construction of the planned stadium lighting at Los Altos High School. From a soil and foundation engineering standpoint, we also conclude that the improvements can be constructed as planned provided the recommendations of our April 2014 report and this supplemental letter are incorporated into the design and construction of the project.

The exploratory borings drilled for our April 2014 investigation encountered medium dense to very dense clayey sand, gravelly clayey sand, and silty sand and stiff to hard sandy clay to the maximum depth explored of 45 feet. EB-1 encountered approximately two feet of medium dense fill. A layer of loose silty sand was encountered at a depth approximately 7.5 to 12.0 feet in EB-4, located approximately 60 feet north-northeast of the planned southeastern stadium light pole. The upper soils are considered to be moderately expansive based on the laboratory testing data.

Free groundwater was not encountered in our exploratory borings performed at Los Altos High School (2010 through 2019); high groundwater was assumed at 40 feet for our analysis.

The seismically-induced dry soil settlement analysis of the Stadium Improvements project indicated a total theoretical settlement of approximately two inches with approximately one inch of differential settlement predicted over a distance of 50 feet.

The supplemental recommendations presented in the remainder of this letter are contingent on our review of the earthwork and foundation plans for the project and our observation of the grading and foundation installation phases of the project.

Stadium Lighting Drilled Pier Foundations

The drilled piers for the new 90-foot tall cantilever light poles can be supported on cast-in-place, straight shaft friction piers. The piers should extend through any existing fill and loose soil to a depth of at least 15-to-21 feet below the ground surface, bearing in the native medium dense to very dense clayey sand and gravelly clayey sand and stiff to hard sandy clay soils. Drilled piers should have a minimum diameter of 36 inches. Piers should be spaced no closer than three diameters center to center. The actual pier diameters and depths for vertical and lateral support requirements should be determined by the project structural engineer.

The portion of the drilled piers within native soils can be designed on the basis of 300 psf skin friction with a 50 percent increase for wind and seismic conditions. Point bearing resistance should be neglected. For resistance to lateral loads, a uniform passive equivalent fluid pressure of 300 pcf up to 3000 psf maximum can be assumed to act over 1.5 times the projected area of the individual pier shaft. The skin friction and passive pressure can be assumed to start two feet below the ground surface. An allowable negative skin friction value of 225 psf within native soil can be used on the pier sidewall to resist uplift forces.

The exploratory borings encountered zones of loose granular soil, which may be prone to caving if encountered during drilling of the light pole foundations. We understand that the use of steel drilling casings to prevent caving may not be feasible due to design and installation method of the light pole base. As an alternative, the pier holes may be over-drilled using an auger 18 inches (minimum) greater in diameter than that of the planned pier, backfilled with an approved slurry mixture and then re-drilled, or an appropriate drilling stabilizing fluid may be used to prevent caving during excavation of the light pole foundations. If drilling fluid is used to stabilize the excavation, concrete should be installed using the tremie method.

The bottom of the pier excavations should be free of loose soil or fall-in prior to installing reinforcing steel and placing concrete. Heavy-duty drilling equipment in good working condition should be used to drill the pier holes. This work should be performed under the observation of our representative.

Reinforcement of the piers should be provided for their full length as determined by the structural engineer's analysis.

Settlements under the anticipated loads are expected to be within tolerable limits for the proposed construction.

Seismic Design Parameters

Seismic design values (ASCE 7-16) for the project were determined using the online OSHPD U.S. Seismic Design Maps, the project site coordinates (37.3866 °N, 122.1102 °W) and the subsurface information obtained from the exploratory borings, which was used for determining the site classification. A site-specific seismic hazard analysis is also required (per CBC 2019). The site-specific design parameters should be used for structural design.

A site-specific seismic hazard analysis at the Los Altos High School campus was performed for the Student Services Building project (37.3856° N, 122.1078° W), located approximately 995 feet north-northeast of the stadium. The site-specific analysis was performed in accordance with ASCE 7-16 Chapters 11 and 21, and the 2019 California Building Code with results as follows:

Site Class D – Stiff Soil Profile (SPT Values of 15 to 50 Blows/Foot)

ASCE 7-16 Values (OSHPD U.S. Seismic Design Maps):

Site Coefficient $F_a = 1.0$
Site Coefficient F_v = Null
Mapped Spectral Acceleration Values; $S_S = 2.01$, $S_1 = 0.717$
Spectral Response Accelerations; $SM_S = 2.01$, SM_1 = Null
Design Spectral Response Accelerations; $SD_S = 1.34$, SD_1 = Null

Site-Specific Ground Motion Analysis Values (ASCE 7-16 and 2019 CBC):

Maximum Considered EQ Spectral Response (0.2 Second Period); $SM_S = 2.05$
Maximum Considered EQ Spectral Response (1-Second Period); $SM_1 = 2.20$
Design Spectral Response Acceleration (0.2 Second Period); $SD_S = 1.37$
Design Spectral Response Acceleration (1-Second Period); $SD_1 = 1.47$

Plan Review and Construction Observation

We should review the final project plans and specifications for conformance with our findings and recommendations. We should also provide soil engineering observation and testing services during the installation of the new stadium lighting and associated improvements. This will provide the opportunity for correlation of the anticipated conditions with those actually encountered during construction, and thus permit any necessary modifications in our recommendations resulting from change in conditions.

We have performed our analysis in accordance with generally accepted geotechnical engineering principles and practices. No other warranty is implied.

We appreciate the opportunity of serving you on this project. If you have any questions regarding this report, please call.

Very truly yours,

CLEARY CONSULTANTS, INC.

Chris McMahon
Staff Engineering Geologist

Grant Foster
Geotechnical Engineer 2662

CMc/GF:cs

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