

GEOTECHNICAL INVESTIGATION
PROPOSED THE RANCH AT COACHELLA
MIXED-USE DEVELOPMENT
APNS 780-040-001, 003 &
780-060-001 & 002
COACHELLA, CALIFORNIA

-Prepared By-

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Project No. 544-24159
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Relevant Living
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Subject: Geotechnical Investigation

Project: Proposed The Ranch at Coachella
Mixed-Use Development
APN's 780-040-001, 003, 780-060-001 & 002
SWC 52nd Avenue & Van Buren Street
Coachella, California

Sladden Engineering is pleased to present the results of the geotechnical investigation performed for The Ranch at Coachella mixed-used development proposed for the subject property identified by the County of Riverside as APN's 780-040-001, 003, 780-060-001 & 002 located at the southwest corner of 52nd Avenue and Van Buren Street in the City of Coachella, California. Our services were completed in accordance with our proposal for geotechnical engineering services dated May 10, 2024 and your authorization to proceed with the work. The purpose of our investigation was to explore the subsurface conditions at the site to provide recommendations for foundation design and the design of the various site improvements. Evaluation of environmental issues and hazardous wastes was not included within the scope of services provided.

The opinions, recommendations and design criteria presented in this report are based on our field exploration program, laboratory testing and engineering analyses. Based on the results of our investigation, it is our professional opinion that the proposed project should be feasible from a geotechnical perspective provided that the recommendations presented in this report are implemented in design and carried out through construction.

We appreciate the opportunity to provide service to you on this project. If you have any questions regarding this report, please contact the undersigned.

Respectfully submitted,
SLADDEN ENGINEERING


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INTRODUCTION

This report presents the results of the geotechnical investigation performed by Sladden Engineering (Sladden) for The Ranch at Coachella mixed-use development proposed for the subject property identified by the County of Riverside as APN's 780-040-001, 003, 780-060-001, & 002 located on the southwest corner of 52nd Avenue and Van Buren Street in the City of Coachella, California. The site is located at approximately 33.6687 degrees north longitude and 116.2033 degrees west longitude. The approximate location of the site is indicated on the Site Location Map (Figure 1).

Our investigation was conducted to evaluate the engineering properties of the subsurface materials, to evaluate their *in-situ* characteristics, and to provide engineering recommendations and design criteria for site preparation, foundation design and the design of various site improvements. This study also includes a review of published and unpublished geotechnical and geological literature regarding seismicity at and near the subject site.

PROJECT DESCRIPTION

Based on the provided Site Plans (Uberion, undated), it is our understanding that the proposed mixed-use development project will consist of a residential development with restaurants, a main clubhouse, a lake, and fitness/sports facility. Paved driveways and parking areas, concrete flatwork, landscape areas and various associated site improvements are also proposed. For our analyses, we expect that the proposed structures will be of relatively lightweight wood-frame construction supported on conventional shallow spread footings and concrete slabs-on-grade.

Based on the relatively level nature of the site, Sladden expects that grading will be limited to minor cuts and fills to accomplish the desired elevations and to provide adequate gradients for site drainage. This does not include the removal and re-compaction of the loose compressible near surface soil within the proposed building pad areas. Upon completion of precise grading plans, Sladden should be retained in order to verify that the recommendations presented within in this report are properly incorporated into the design of the proposed project.

Structural foundation loads were not available at the time of this report. Based on our experience with relatively lightweight structures, we expect that isolated column loads will be less than 30 kips and continuous wall loads will be less than 3.0 kips per linear foot. If these assumed loads vary significantly from the actual loads, we should be consulted to verify the applicability of the recommendations provided.

SCOPE OF SERVICES

The purpose of our investigation was to determine specific engineering characteristics of the surface and near-surface soil to develop foundation design criteria and recommendations for site preparation. Specifically, our site characterization consisted of the following tasks:

- Site reconnaissance to assess the existing surface conditions on and adjacent to the site.
- Drilling ten (10) exploratory boreholes to depths between approximately 5 and 51 feet bgs to characterize the subsurface soil conditions. Representative samples of the soil were classified in the field and retained for laboratory testing and engineering analyses.
- Performing laboratory testing on selected samples to evaluate their engineering characteristics.
- Reviewing geologic literature and discussing geologic hazards.
- Performing site-specific ground motion procedures for the subject property.
- Performing engineering analyses to develop recommendations for foundation design and site preparation.
- The preparation of this report summarizing our work at the site.

SITE CONDITIONS

The project site is located at the southwest corner of 52nd Avenue and Van Buren Street in the City of Coachella, California. At the time of our investigation, the majority of the site was utilized for date palm tree and grape production. Two existing structures were observed in the central portion of the property. CVWD irrigation standpipes and a fenced irrigation pond and pump station was observed on the northern portion of the property. The site is near the elevation of the adjacent properties and roadways and is generally bounded by 52nd Avenue to the north, Van Buren Street to the east, and agricultural properties to the south and west.

Based on our review of the Indio 7.5-Minute Quadrangle Map (USGS, 2021) and Google Earth (2024), the site is situated at an approximate elevation of 50 feet below mean sea level (MSL).

No natural ponding of water or surface seeps were observed at or near the site during our field investigation conducted on June 6, 2024. Site drainage appears to be controlled via sheet flow and surface infiltration. Regional drainage is provided by the Whitewater River located approximately 3.96 km to the south of the project site.

GEOLOGIC SETTING

The project site is located within the Colorado Desert Physiographic Province (also referred to as the Salton Trough) that is characterized as a northwest-southeast trending structural depression extending from the Gulf of California to the Banning Pass. The Salton Trough is dominated by several northwest trending faults, most notably the San Andreas Fault system. The Salton Trough is bounded by the Santa Rosa – San Jacinto Mountains on the southwest, the San Bernardino Mountains on the north, the Little San Bernardino - Chocolate – Orocopia Mountains on the east and extends through the Imperial Valley into the Gulf of California on the south.

A relatively thick sequence (20,000 feet) of sediment has been deposited in the Coachella Valley portion of the Salton Trough from Miocene to present times. These sediments are predominately terrestrial in nature with some lacustrine (lake) and minor marine deposits. The major contributor of these sediments has been the Colorado River. The mountains surrounding the Coachella Valley are composed primarily of Precambrian metamorphic and Mesozoic “granitic” rock.

The Salton Trough is an internally draining area with no readily available outlet to Gulf of California and with portions well below sea level (-253' msl). The region is intermittently blocked from the Gulf of California by the damming effects of the Colorado River delta (current elevation +30' msl). Between about 300AD and 1600 AD (to 1700) the Salton Trough has been inundated by the River's water, forming ancient Lake Cahuilla (max. elevation +58' msl). Since that time the floor of the Trough has been repeatedly flooded with other “fresh” water lakes (1849, 1861, and 1891), the most recent and historically long lived being the current Salton Sea (1905). The sole outlet for these waters is evaporation, leaving behind vast amounts of terrestrial sediment materials and evaporite minerals.

The site has been mapped by Dibblee & Minch (2008) to be immediately underlain by Quaternary-age alluvium (Qa). The regional geologic setting for the site vicinity is presented on the Regional Geologic Map (Figure 2).

SUBSURFACE CONDITIONS

The subsurface conditions at the site were investigated by drilling ten (10) exploratory boreholes to depths between approximately 5 and 51 feet bgs. The approximate locations of the boreholes and test holes are illustrated on the Exploration Location Photograph (Figure 3). The boreholes were advanced using a truck-mounted Mobile B-61 drill-rig equipped with 8-inch outside diameter hollow stem augers. A representative of Sladden was on-site to log the materials encountered and retrieve samples for laboratory testing and engineering analysis.

During our field investigation, a thin mantle of artificial/disturbed fill soil was encountered to depths between approximately two (2) and three (3) feet bgs. Underlying the artificial/disturbed fill soil and extending to the maximum depths explored, native alluvium was encountered. The native soil throughout the site consists primarily of fine-grained silty sand (SM), sandy silt (ML), and clay (CL) that was encountered throughout the depth of our bores. Generally, granular soil was found to be slightly moist to moist, medium dense and grayish brown *in-situ* color. Cohesive soil layers were found to be moist, stiff, and orange to grayish brown *in-situ* color.

The final logs represent our interpretation of the contents of the field logs, and the results of the laboratory observations and tests of the field samples. The final logs are included in Appendix A of this report. The stratification lines represent the approximate boundaries between soil types although the transitions may be gradual and variable across the site.

Groundwater was encountered within our bores at a depth of approximately 35 feet bgs. Information regarding the approximate depth to groundwater is provided by the California Department of Water Resources online database (CDWR, 2024). The following table provides a summary of the highest recorded groundwater depths in the project vicinity.

**TABLE 1
GROUNDWATER DEPTHS**

STATE WELL	LAT/LONG	DISTANCE (KM)	DATE	DEPTH (FT)
Empire Polo 2	33.6784/-116.2359	3.2	05/31/2024	90.08
06S08E05R002S	33.6745/-116.1663	3.4	12/23/1963	-3.2
06S07E13M002S	33.6485/-116.2161	2.5	03/16/2017	25.2
06S07E13J003S	33.6482/-116.2006	2.3	02/22/2017	42.14
06S07E16A002S	33.6536/-116.2521	4.8	11/19/1987	74.1
06S07E04H001S	33.6806/-116.2533	4.8	02/27/2017	111.9

SEISMICITY AND FAULTING

The southwestern United States is a tectonically active and structurally complex region, dominated by northwest-trending dextral faults. The faults of the region are often part of complex fault systems, composed of numerous subparallel faults that splay or step from main fault traces. Strong seismic shaking could be produced by any of these faults during the design life of the proposed project.

We consider the most significant geologic hazard to the project to be the potential for moderate to strong seismic shaking that is likely to occur during the design life of the project. The proposed project is located in the highly seismic Southern California region within the influence of several fault systems. A Holocene-active active fault is defined by the State of California as a fault that has exhibited surface displacement within the Holocene time (about the last 11,700 years). A pre-Holocene fault is defined by the State as a fault whose recency of past movement is older than 11,700 years.

As previously stated, the site has been subjected to strong seismic shaking related to active faults that traverse through the region. Some of the more significant seismic events near the subject site in recent times include: M6.0 North Palm Springs (1986), M6.1 Joshua Tree (1992), M7.3 Landers (1992), M6.2 Big Bear (1992), M7.1 Hector Mine (1999), and M7.1 Ridgecrest (2019).

Table 2 lists the closest known potentially active faults that was generated in part using fault parameters from The Revised 2002 California Probabilistic Seismic Hazard Maps (Cao et al, 2003), The National Seismic Hazard Maps (2008) and the Fault and Fold Database of the United States (USGS, 2024a). This table does not identify the probability of reactivation or the on-site effects from earthquakes occurring on any faults in the region.

TABLE 2
CLOSEST KNOWN ACTIVE FAULTS

Fault Name	Distance (Km)	Maximum Event
San Andreas – Coachella	6.6	7.5
San Andreas – Southern	6.6	7.5
San Andreas – San Bernardino	6.6	7.5
Burnt Mountain	34.3	6.5
Eureka Peak	30.1	6.4
San Jacinto – Anza	26.7	7.2
Pinto Mountain	54	7.2

SITE-SPECIFIC GROUND MOTION PARAMETERS

Sladden has reviewed the 2022 California Building Code (CBC) and ASCE7-16 and developed site-specific ground motion parameters for the subject site. The project Seismic Design Maps and site-specific ground motion parameters are summarized in the following table and included within Appendix C. The project Structural Engineer should verify that all design parameters provided are applicable for the subject project.

TABLE 3
GROUND MOTION PARAMETERS

Latitude / Longitude	33.6687/-116.2033		
Risk Category	II		
Site Class	D		
Code Reference Documents	ASCE 7-16; Chapter 11 & 21		

Description	Type	Map Based	Site-Specific
MCE _R Ground Motion (0.2 second period)	S _s	1.793	---
MCE _R Ground Motion (1.0 second period)	S ₁	0.745	---
Site-Modified Spectral Acceleration Value	S _{MS}	1.793	1.980
Site-Modified Spectral Acceleration Value	S _{M1}	null	1.827
Numeric Seismic Design Value at 0.2 second SA	S _{DS}	1.196	1.320
Numeric Seismic Design Value at 1.0 second SA	S _{D1}	null	1.218
Site Amplification Factor at 0.2 second	F _a	1.0	1.0
Site Amplification Factor at 1.0 second	F _v	null	2.5
Site Peak Ground Acceleration	PGA _M	0.857	0.767

GEOLOGIC HAZARDS

The subject site is located in an active seismic zone and will likely experience strong seismic shaking during the design life of the proposed project. In general, the intensity of ground shaking will depend on several factors including; the distance to the earthquake focus, the earthquake magnitude, the response characteristics of the underlying materials, and the quality and type of construction. Geologic hazards and their relationship to the site are discussed below.

- I. Surface Rupture. Surface rupture is expected to occur along preexisting, known active fault traces. However, surface rupture could potentially splay or step from known active faults or rupture along unidentified traces. Based on our review of Rogers (1965), Jennings (1994), and CDOC (2024) known active faults are not mapped on the site. In addition, no signs of active surface faulting were observed during our review of non-stereo digitized photographs of the site and site vicinity (Google Earth, 2024). Finally, no signs of active surface fault rupture or secondary seismic effects (lateral spreading, lurching etc.) were identified during our field investigation. Therefore, it is our opinion that risks associated with primary surface ground rupture should be considered "low".
- II. Ground Shaking. The site has been subjected to past ground shaking by faults that traverse through the region. Strong seismic shaking from nearby active faults is expected to produce strong seismic shaking during the design life of the proposed project. Based on site-specific ground motion parameters developed for the property (Appendix C), the site modified peak ground acceleration (PGAM) is estimated to be 0.767g.
- III. Liquefaction. Liquefaction is the process in which loose, saturated granular soil loses strength as a result of cyclic loading. The strength loss is a result of a decrease in granular sand volume and a positive increase in pore pressures. Generally, liquefaction can occur if all of the following conditions apply; liquefaction-susceptible soil, groundwater within a depth of 50 feet or less, and strong seismic shaking.

We have performed seismic settlement calculations utilizing a magnitude of 7.5 (USGS, 2024) and a site-specific peak ground acceleration of 0.767g (PGAM). The anticipated high groundwater depth was estimated to be approximately 5 feet bgs. Screening of liquefaction susceptible fine-grained soil was completed in accordance with Bray and Sancio (2006). A review of the seismically induced settlement in the top 50 feet of the soil profile revealed total settlements of approximately 3.97 inches and 4.53 inches for BH-1 and BH-2, respectively. Based on the current depth to groundwater and the generally uniform soil conditions underlying the site, differential seismic settlements are expected to be less than 1 inch over a horizontal distance of approximately 100 feet. Our seismic settlement estimates are presented within Appendix D.

- IV. Tsunamis and Seiches. Because the site is situated at an inland location and is not immediately adjacent to any impounded bodies of water, risks associated with tsunamis and seiches are considered "negligible".

- V. Slope Failure, Landsliding, Rock Falls. Slope instability in the form of landslides and rock falls were not observed at or near the subject site. The site is situated on relatively flat ground and is not located immediately adjacent to any slopes. As such, risks associated with slope instability (landslides, mass wasting and rock falls) are considered “negligible”.
- VI. Expansive Soil. Generally, the near-surface soil consists of silty sand (SM). Based on the results of our laboratory testing ($EI = 2$), the materials underlying the site fall within the “very low” expansion category.
- VII. Static Settlement. Static settlement resulting from the anticipated foundation loads should be tolerable provided that the recommendations included in this report are considered in foundation design and construction. The ultimate static settlement is expected to be less than 1 inch when using the recommended allowable bearing pressures. As a practical matter, differential static settlement between footings can be assumed as one-half of the total static settlement.
- VIII. Subsidence. Land subsidence can occur in valleys where aquifer systems have been subjected to extensive groundwater pumping, such that groundwater pumping exceeds groundwater recharge. Generally, pore water reduction can result in a rearrangement of skeletal grains and could result in elastic (recoverable) or inelastic (unrecoverable) deformation of an aquifer system. Locally, no fissures or other surficial evidence of subsidence were observed at or near the subject site.
- IX. Debris Flows. Debris flows are viscous flows consisting of poorly sorted mixtures of sediment and water and are generally initiated on slopes steeper than approximately six horizontal to one vertical (6H:1V) (Boggs, 2001). Based on the flat nature of the site and the composition of the surface soil, we judge that risks associated with debris flows should be considered “negligible”.
- X. Flooding and Erosion. No signs of flooding or erosion were observed during our field investigation. Risks associated with flooding and erosion should be evaluated and mitigated by the project design Civil Engineer.

CONCLUSIONS

Based on the results of our investigation, it is our professional opinion that the project should be feasible from a geotechnical perspective provided that the recommendations included in this report are incorporated into design and carried out through construction. The main geotechnical concerns are the presence of artificial fill soil, the presence of loose and potentially compressible near-surface soil throughout the project site, and the potential seismic settlements.

We recommend that remedial work within the proposed building areas include over-excavation and re-compaction of the primary foundation-bearing soil to provide uniform foundation support and to help mitigate potential differential settlements. Specific recommendations for foundation area preparation are presented in the Earthwork and Grading section of this report.

Caving did occur to varying degrees within each of our exploratory bores and the surface soil may be susceptible to caving within deeper excavations. All excavations should be constructed in accordance with the normal CalOSHA excavation criteria. Based on our observations of the materials encountered, we anticipate that the subsoil will conform to that described by CalOSHA as Type C. Soil conditions should be verified in the field by a "Competent person" employed by the Contractor.

The following recommendations present more detailed design criteria that have been developed based on our field and laboratory investigation.

EARTHWORK AND GRADING

All earthwork including excavation, backfill and preparation of the primary foundation and/or slab bearing soil should be performed in accordance with the geotechnical recommendations presented in this report and portions of the local regulatory requirements, as applicable. All earthwork should be performed under the observation and testing of a qualified soil engineer. The following geotechnical engineering recommendations for the proposed project are based on observations from the field investigation program, laboratory testing and geotechnical engineering analyses.

- a. Site Clearing: Areas to be graded should be cleared of vegetation, associated root systems and debris. All areas scheduled to receive fill should be cleared of old fills and any irreducible matter. The unsuitable material should be removed off-site. Voids left by obstructions should be properly backfilled in accordance with the compaction recommendations of this report.
- b. Preparation of the Building Areas. To provide firm and uniform bearing conditions, we recommend over-excavation and re-compaction throughout the proposed building areas. All artificial fill soil and native low density near surface native soil should be removed to a depth of at least 5 feet below existing grade or 4 feet below the bottom of the footings, whichever is deeper. Remedial grading should extend laterally, a minimum of five feet beyond the building limits. The native soil exposed by over-excavation should be scarified, moisture conditioned to near optimum moisture content and compacted to at least 90 percent relative compaction prior to fill placement. The previously removed soil may then be replaced as compacted engineered soil in accordance with the recommendations below.
- c. Compaction: Soil to be used as engineered fill should be free of organic material, debris, and other deleterious substances. All fill material should be placed in thin lifts, not exceeding six inches in a loose condition. If import fill is required, the material should be of a low to non-expansive nature and should meet the following criteria:

Plastic Index	Less than 12
Liquid Limit	Less than 35
Percent Soil Passing #200 Sieve	Between 15% and 35%
Maximum Aggregate Size	3 inches

The subgrade and all fill should be compacted with acceptable compaction equipment, to at least 90 percent relative compaction. The bottom of the exposed subgrade should be observed by a representative of Sladden Engineering prior to fill placement. Compaction testing should be performed on all lifts in order to ensure proper placement of the fill materials. Table 4 provides a summary of the excavation and compaction recommendations.

TABLE 4
SUMMARY OF RECOMMENDATIONS

*Remedial Grading	Over-excavation and re-compaction within the building envelope and extending laterally for 5 feet beyond the building limits and to a minimum of 4 feet below existing grade or 3 feet below the bottom of the footings, whichever is deeper.
Native / Import Engineered Fill	Place in thin lifts not exceeding 6 inches in a loose condition, at near optimum moisture content and compact to a minimum of 90 percent relative compaction.
Asphalt Concrete Sections	Compact the top 12 inches to at least 95 percent compaction at near optimum moisture content.

*Actual depth may vary and should be determined by a representative of Sladden Engineering in the field during construction.

- d. Shrinkage and Subsidence: Volumetric shrinkage of the material that is excavated and replaced as controlled compacted fill should be anticipated. We estimate that this shrinkage should be between 10 and 20 percent. Subsidence of the surfaces that are scarified and compacted should be between 1 tenth and 3 tenths of a foot. This will vary depending upon the type of equipment used, the moisture content of the soil at the time of grading and the actual degree of compaction attained.

CONVENTIONAL SHALLOW SPREAD FOOTINGS

Conventional shallow spread footings are expected to provide adequate support for the proposed buildings. All footings should be founded upon properly compacted engineered fill soil and should have a minimum embedment depth of 12 inches measured from the lowest adjacent finished grade. Continuous footings and isolated pad footings should have minimum widths of 12 inches and 24 inches, respectively. Continuous footings and isolated pad footings supported upon properly compacted engineered fill soil may be designed using allowable (net) bearing pressures of 1800 and 2000 pounds per square foot (psf), respectively. Allowable increases of 200 psf for each additional 1 foot of width and 250 psf for each additional 6 inches of depth may be used if desired. The maximum allowable bearing pressure should be 2500 psf. The allowable bearing pressures apply to combined dead and sustained live loads. The allowable bearing pressures may be increased by one-third when considering transient live loads, including seismic and wind forces.

Based on the recommended allowable bearing pressures, the total static settlement of the shallow footings is anticipated to be less than one-inch provided foundation preparations conform to the recommendations described in this report. Static differential settlement is anticipated to be approximately one-half of the total settlement for similarly loaded footings spaced up to approximately 40 feet apart.

Lateral load resistance for the spread footings will be developed by passive pressure against the sides of the footings below grade and by friction acting at the base of the footings. An allowable passive pressure of 250 psf per foot of depth may be used for design purposes. An allowable coefficient of friction 0.45 may be used for dead and sustained live loads to compute the frictional resistance of the footing placed directly on compacted fill. Under seismic and wind loading conditions, the passive pressure and frictional resistance may be increased by one-third.

All footing excavations should be observed by a representative of the project geotechnical consultant to verify adequate embedment depths prior to placement of forms, steel reinforcement or concrete. The excavations should be trimmed neat, level and square. All loose, disturbed, sloughed or moisture-softened soils and/or any construction debris should be removed prior to concrete placement. All footings should be reinforced in accordance with the project Structural Engineer's recommendations.

SLABS-ON-GRADE

In order to provide uniform and adequate support, concrete slabs-on-grade must be placed on properly compacted engineered fill soil as outlined in the previous sections of this report. The slab subgrade should remain near optimum moisture content and should not be permitted to dry prior to concrete placement. Slab subgrade should be firm and unyielding. Disturbed soil should be removed and replaced with engineered fill soil compacted to a minimum of 90 percent relative compaction.

Slab thickness and reinforcement should be determined by the Structural Engineer. We recommend a minimum slab thickness of 4.0 inches and minimum reinforcement of #3 bars at 18 inches on center in both directions. All slab reinforcement should be supported on concrete chairs to ensure that reinforcement is placed at slab mid-height. Final floor slab design and reinforcement should be determined by the Structural Engineer.

Slabs with moisture sensitive surfaces should be underlain with a moisture vapor retarder consisting of a polyvinyl chloride membrane such as 10-mil visqueen, or equivalent. All laps within the membrane should be sealed and at least 2 inches of clean sand should be placed over the membrane to promote uniform curing of the concrete. To reduce the potential for punctures, the membrane should be placed on a pad surface that has been graded smooth without any sharp protrusions. If a smooth surface can not be achieved by grading, consideration should be given to placing a thin leveling course of sand across the pad surface prior to placement of the membrane.

RETAINING WALLS

Minor retaining walls may be necessary to accomplish the proposed construction. Cantilever retaining walls may be designed using "active" pressures. Active pressures may be estimated using an equivalent fluid weight of 35 pcf for level native backfill soil acting in a triangular pressure distribution with drained backfill conditions. "At Rest" pressures should be utilized for restrained walls. At rest pressures may be estimated using an equivalent fluid weight of 55 pcf for native backfill soil with level drained backfill conditions.

We recommend that a back drain system be provided behind all retaining walls or that the walls be designed for full hydrostatic pressures. The back drains should consist of a heavy walled, four inch diameter, perforated pipe sloped to drain to outlets by gravity, and of clean, free-draining, three-quarter to one and one-half inch crushed rock or gravel. The crushed rock or gravel should extend to within one foot of the surface. The upper one foot should be backfilled with compacted, fine-grained soil to exclude surface water. A Mirafi 140N (or equivalent) filter cloth should be placed between the on-site native material and the drain rock.

We recommend that the ground surface behind retaining walls be sloped to drain. Under no circumstances should the surface water be diverted into back drains. Where migration of moisture through walls would be detrimental, the walls should be waterproofed.

CORROSION SERIES

The soluble sulfate concentrations of the surface soil were determined to be 540 parts per million (ppm). The soil falls within the "negligible – S0" sulfate exposure category. The use of Type V cement and special sulfate-resistant concrete mixes may be necessary depending upon the surface soil conditions after grading. The soluble sulfate content of the surface soil should be reevaluated after grading and appropriate concrete mix designs should be established based upon post-grading test results.

The pH level of the surface soil was 7.8. Based on soluble chloride concentration testing (260 ppm) the soil falls within the "moderate – C1" chloride exposure category. The minimum resistivity of the surface soil was found to be 940 ohm-cm that suggests the site soil is considered to have "severe" corrosion potential with respect to ferrous metal installations. A corrosion expert should be consulted regarding appropriate corrosion protection measures for corrosion sensitive installations.

UTILITY TRENCH BACKFILL

All utility trench backfill should be compacted to a minimum of 90 percent relative compaction. Trench backfill materials should be placed in lifts no greater than six inches in a loose condition, moisture conditioned (or air-dried) as necessary to achieve near optimum moisture content, and mechanically compacted to a minimum of 90 percent relative compaction. A representative of the project soil engineer should test the backfill to verify adequate compaction.

EXTERIOR CONCRETE FLATWORK

In order to provide uniform support and minimize settlement related cracking of concrete flatwork, the subgrade soil within concrete flatwork areas should be compacted to a minimum of 90 percent relative compaction. A representative of the project geotechnical consultant should observe and verify the density and moisture content of the soil prior to concrete placement.

DRAINAGE

All final grades should be provided with positive gradients away from foundations to provide rapid removal of surface water runoff to an adequate discharge point. No water should be allowed to be pond on or immediately adjacent to foundation elements. In order to reduce water infiltration into the subgrade soil, surface water should be directed away from building foundations to an adequate discharge point. Subgrade drainage should be evaluated upon completion of the precise grading plans and in the field during grading.

LIMITATIONS

The findings and recommendations presented in this report are based upon an interpolation of the soil conditions between the exploratory bore locations and extrapolation of these conditions throughout the proposed building areas. Should conditions encountered during grading appear different than those indicated in this report, this office should be notified.

The use of this report by other parties or for other projects is not authorized. The recommendations of this report are contingent upon monitoring of the grading operation by a representative of Sladden Engineering. All recommendations are considered to be tentative pending our review of the grading operation and additional testing, if indicated. If others are employed to perform any soil testing, this office should be notified prior to such testing in order to coordinate any required site visits by our representative and to assure indemnification of Sladden Engineering.

We recommend that a pre-job conference be held on the site prior to the initiation of site grading. The purpose of this meeting will be to ensure a complete understanding of the recommendations presented in this report as they apply to the actual grading performed.

ADDITIONAL SERVICES

Once completed, final project plans and specifications should be reviewed by use prior to construction to confirm that the full intent of the recommendations presented herein have been applied to design and construction. Following review of plans and specifications, observation should be performed by the Soil Engineer during construction to document that foundation elements are founded on/or extend into the properly compacted soil, and that suitable backfill soil is placed upon competent materials and properly compacted at the recommended moisture content.

Tests and observations should be performed during grading by the Soil Engineer or his representative in order to verify that the grading is being performed in accordance with the project specifications. Field density testing shall be performed in accordance with acceptable ASTM test methods. The minimum acceptable degree of compaction should be 90 percent for engineered fill soil and 95 percent for Class II aggregate base as obtained by ASTM Test Method D1557. Where testing indicates insufficient density, additional compactive effort shall be applied until retesting indicates satisfactory compaction.

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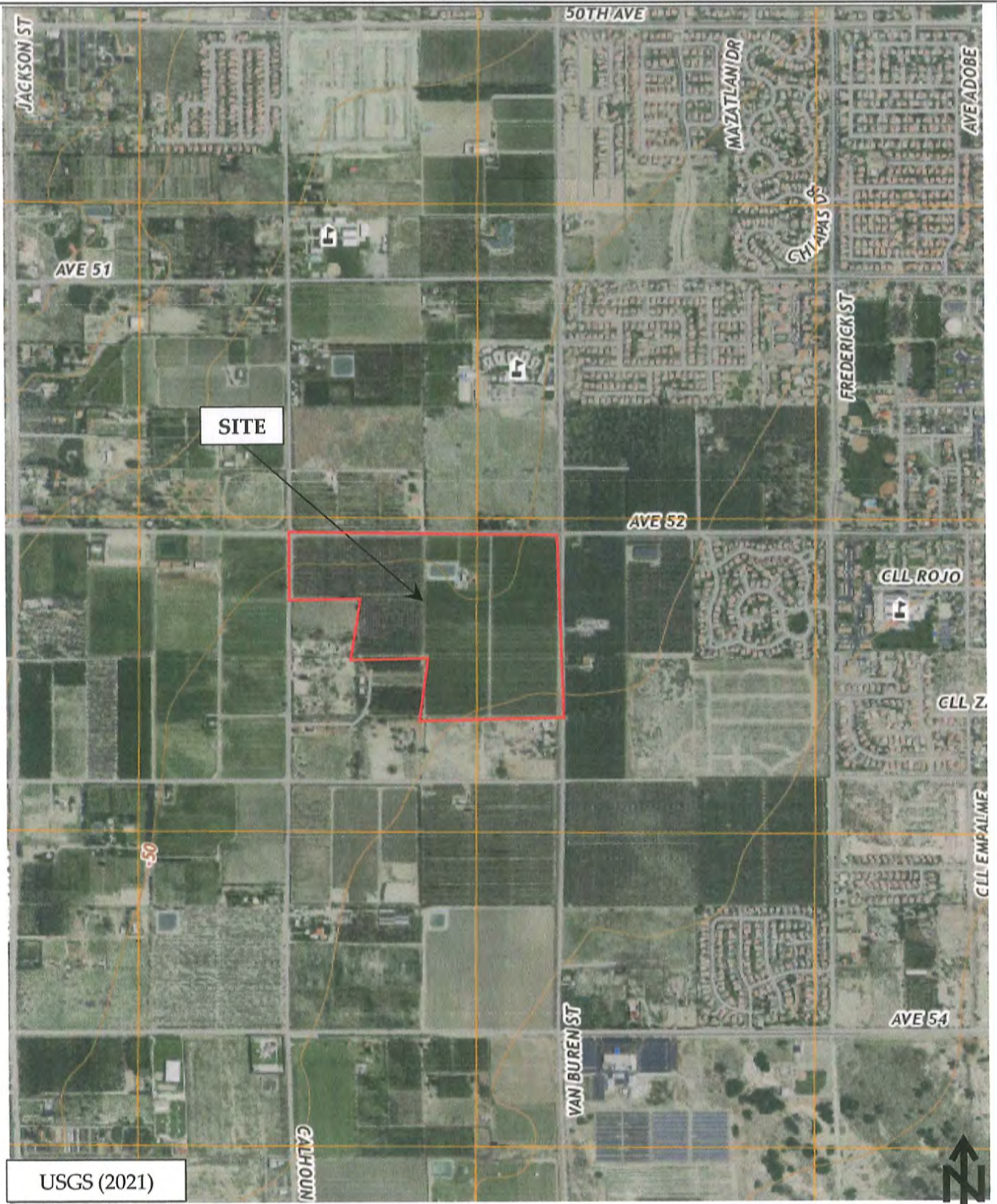
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FIGURES

SITE LOCATION MAP
REGIONAL GEOLOGIC MAP
EXPLORATION LOCATION PHOTOGRAPH
SITE PLAN



SITE LOCATION MAP

FIGURE

1



Sladden Engineering

Project Number:

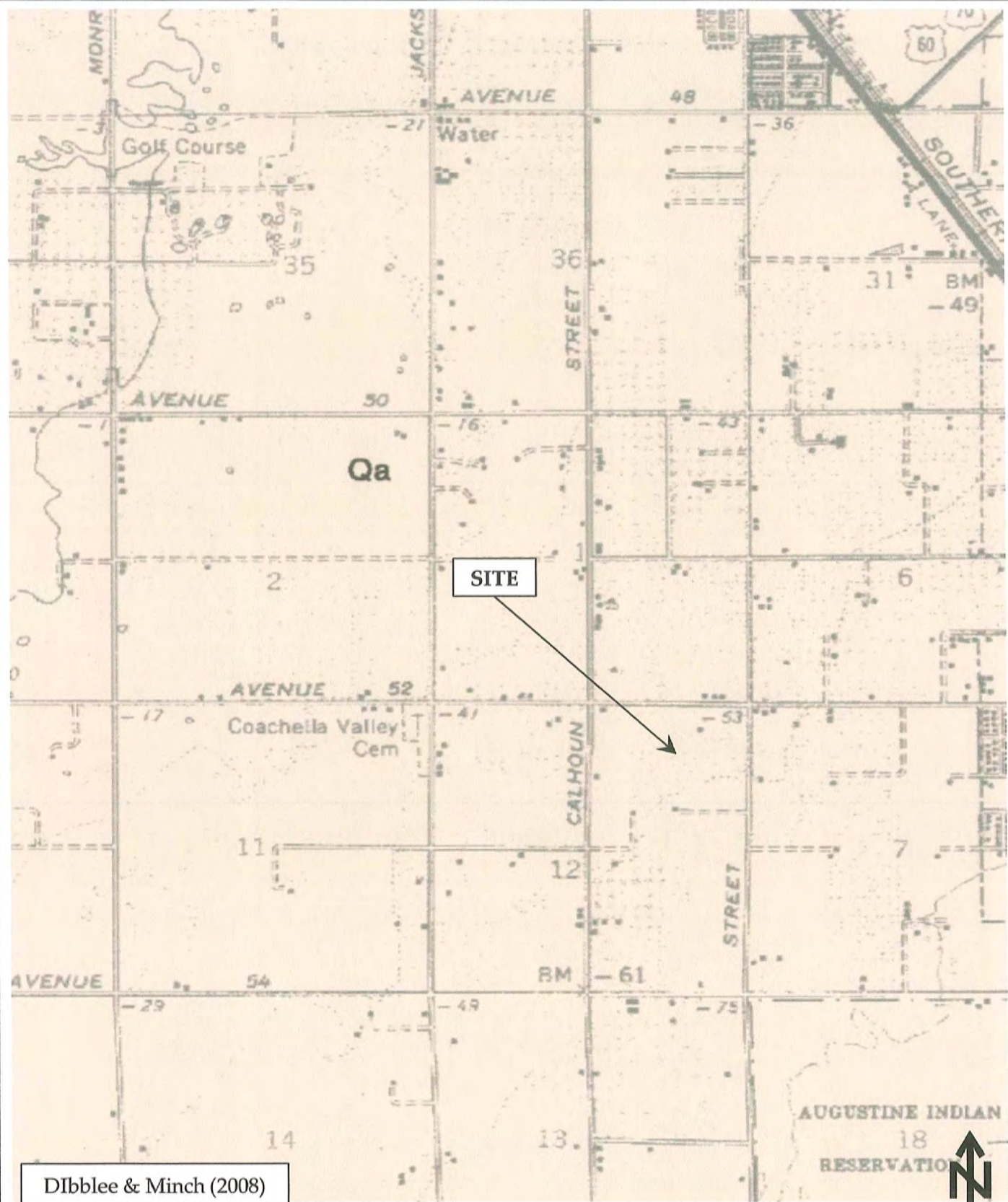
544-24159

Report Number:

24-07-358

Date:

July 11, 2024



Dibblee & Minch (2008)



Sladden Engineering

REGIONAL GEOLOGIC MAP

Project Number:	544-24159
Report Number:	24-07-358
Date:	July 11, 2024

FIGURE

2



Sladden Engineering

EXPLORATION LOCATION PLAN

Project Number:

544-24159

Report Number:

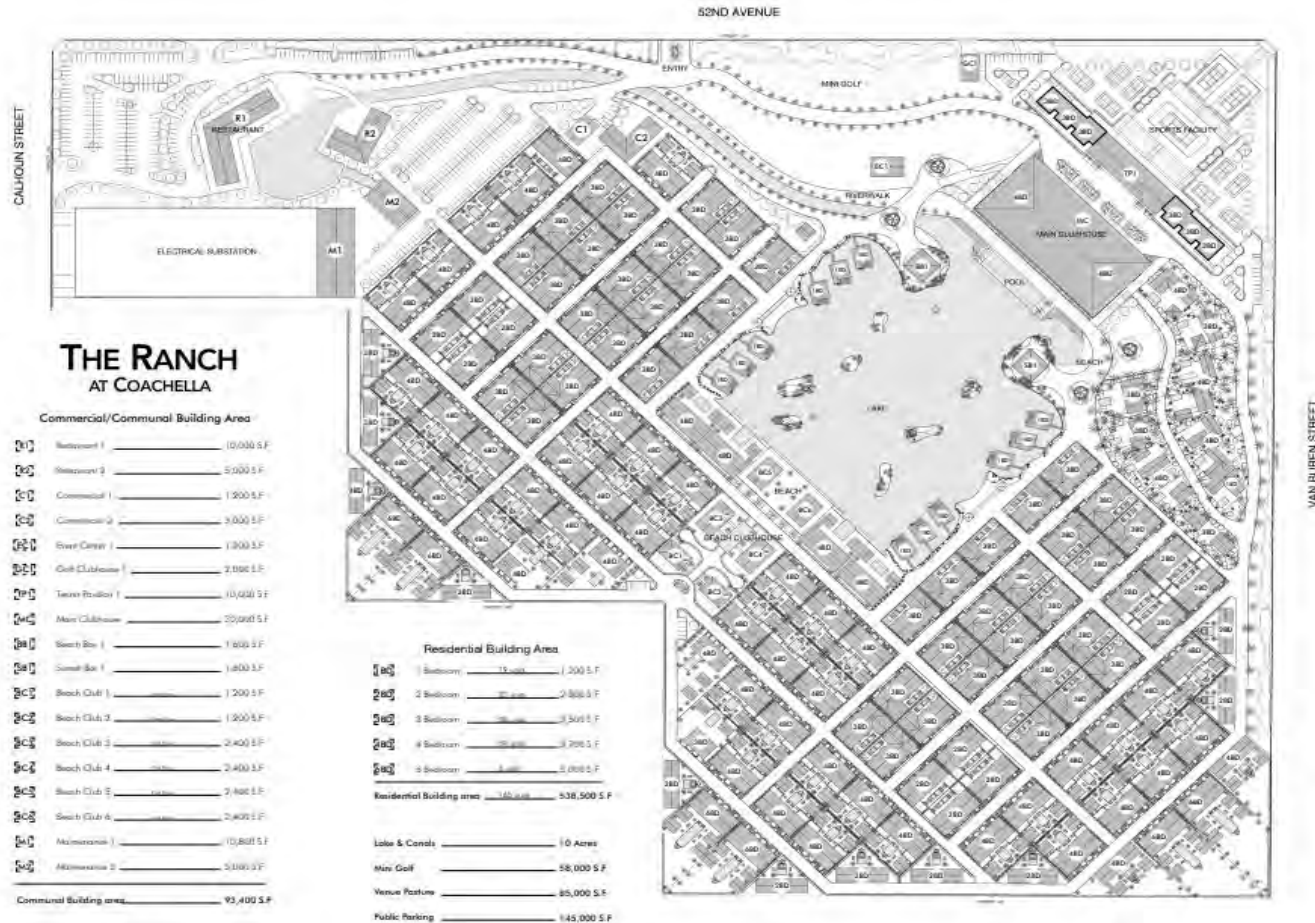
24-07-358

Date:

July 11, 2024

FIGURE

3



Sladden Engineering

Project Number:

544-24159

Report Number:

24-07-358

Date:

July 11, 2024

FIGURE

4

APPENDIX A
FIELD EXPLORATION

APPENDIX A

FIELD EXPLORATION

For our field investigation ten (10) exploratory boreholes were excavated on June 6, 2024 utilizing a truck mounted hollow stem auger rig (Mobile B-61). Continuous logs of the materials encountered were made by a representative of Sladden Engineering. Materials encountered in the boreholes were classified in accordance with the Unified Soil Classification System which is presented in this appendix.

Representative undisturbed samples were obtained within our borings by driving a thin-walled steel penetration sampler (California split spoon sampler) or a Standard Penetration Test (SPT) sampler with a 140 pound automatic-trip hammer dropping approximately 30 inches (ASTM D1586). The number of blows required to drive the samplers 18 inches was recorded in 6-inch increments and blowcounts are indicated on the boring logs.

The California samplers are 3.0 inches in diameter, carrying brass sample rings having inner diameters of 2.5 inches. The standard penetration samplers are 2.0 inches in diameter with an inner diameter of 1.5 inches. Undisturbed samples were removed from the sampler and placed in moisture sealed containers in order to preserve the natural soil moisture content. Bulk samples were obtained from the excavation spoils and samples were then transported to our laboratory for further observations and testing.

 Sladden Engineering										BORE LOG			
										Equipment:	MOBILE B-61	Date Drilled:	6/6/2024
										Elevation:	-50 FT MSL	Boring No:	BH-1
Sample	Blow Counts			Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description		
	5	7	10	1	2	32.3	7.8	103.7	2		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
	4	7	12			28.1	9.2	100.7	4		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
	4	5	5			45.8	16.6		6		Silty Sand (SM); grayish brown, moist, loose, fine to coarse-grained, interbedded clay (Qa).		
	7	11	20			22.7	11.6	102.3	10		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
	3	4	7			79.0	28.2		12		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
	7	9	11			9.9	5.0	100.8	14		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
	2	2	3			91.5	34.4		16		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
	10	19	28			23.4	18.6	112.4	18		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
	2	3	4			91.7	34.1		20		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
	5	7	10			84.6	32.0	92.6	22		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
	5	8	10			94.6	38.8		24		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									26		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									28		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									30		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									32		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									34		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									36		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									38		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									40		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									42		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									44		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									46		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									48		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
									50		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
Completion Notes: Terminated at ~ 51.5 ft bgs. No Bedrock Encountered. Groundwater Encountered at ~ 39 ft bgs.										MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA Project No: 544-24159 Report No: 24-07-358			
										Page	1		

 Sladden Engineering								BORE LOG						
								Equipment:	MOBILE B-61	Date Drilled:	6/6/2024			
								Elevation:	-50 FT MSL	Boring No:	BH-2			
Sample	Blow Counts			Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description			
									2					
									4					
	2	2	2			51.1	14.5		6		Silty Sand (SM); grayish brown, moist, very loose, fine to coarse-grained, micaceous, with organics (Qa).			
									8					
	8	12	19			17.4	2.2	109.0	10		Silty Sand (SM); grayish brown, dry, medium dense, fine to coarse-grained (Qa).			
									12					
									14					
	5	5	6			56.8	6.7		16		Sandy Silt (ML); grayish brown, slightly moist, stiff, non-plastic, interbedded clay (Qa).			
									18					
									20					
	7	8	9			47.4	17.0	96.9	22		Silty Sand (SM); grayish brown, moist, medium dense, fine to coarse-grained (Qa).			
									24					
									26					
	4	5	5			89.7	30.9		28		Sandy Silt (ML); orange-brown, moist, stiff, non plastic (Qa).			
									30					
	8	12	20			39.9	26.4	100.7	32		Silty Sand (SM); grayish brown, moist, medium dense, fine to coarse-grained, micaceous (Qa).			
									34					
									36					
	2	4	4			59.1	28.0		38		Sandy Silt (ML); orange-brown, saturated, medium stiff, non plastic, with clay (Qa).			
									40					
	8	12	15			45.9	24.7	103.2	42		Silty Sand (SM); grayish brown, saturated, medium dense, fine to coarse-grained, micaceous (Qa).			
									44					
									46					
	4	8	13			80.9	34.2		48		Sandy Clay (CL); orange-brown, saturated, very stiff, non to low plasticity (Qa).			
									50					
	6	7	9								No Recovery.			
Completion Notes: Terminated at ~ 51.5 ft bgs. No Bedrock Encountered. Groundwater Encountered at ~ 35 ft bgs.											MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA			
											Project No:	544-24159	Page	2
											Report No:	24-07-358		

 Sladden Engineering								BORE LOG			
								Equipment:	MOBILE B-61	Date Drilled:	6/6/2024
								Elevation:	-50 FT MSL	Boring No:	BH-3
Sample	Blow Counts			Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description
									2		Silty Sand (SM); grayish brown, slightly moist, fine-grained, micaceous (Qa).
									4		
	3	4	6			92.2	36.6	81.9	6		Sandy Clay (CL); orange-brown, moist, medium stiff, low plasticity (Qa).
									8		
	5	7	7			12.7	7.2		10		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).
									12		
	9	18	23			11.7	5.4	106.7	14		
									16		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).
									18		
	6	3	5			88.1	34.2		20		Sandy Clay (CL); orange brown, moist, medium stiff, low plasticity (Qa).
									22		
									24		Terminated at ~ 21.5 ft bgs.
									26		No Bedrock Encountered.
									28		No Groundwater or Seepage Encountered.
									30		
									32		
									34		
									36		
									38		
									40		
									42		
									44		
									46		
									48		
									50		
Completion Notes:										MIXED-USE DEVELOPMENT	
										SWC 52ND AVENUE & VAN BUREN, COACHELLA	
Project No: 544-24159										Page	3
Report No: 24-07-358											

 Sladden Engineering								BORE LOG			
								Equipment:	MOBILE B-61	Date Drilled:	6/6/2024
								Elevation:	-50 FT MSL	Boring No:	BH-4
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (feet)	Graphic Lithology	Description		
							2		No Recovery.		
						4					
						6					
						8					
	5 7 12						10		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
						12					
	5 7 8			18.2	6.5		14		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained, micaceous (Qa).		
						16					
						18					
						20					
	7 13 16			51.5	16.2	102.4	22		Terminated at ~ 21 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.		
							24				
							26				
							28				
							30				
							32				
							34				
							36				
							38				
							40				
							42				
							44				
							46				
							48				
							50				
Completion Notes:								MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA			
								Project No: 544-24159		Page	4
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 Sladden Engineering								BORE LOG			
								Equipment:	MOBILE B-61	Date Drilled:	6/6/2024
								Elevation:	-50 FT MSL	Boring No:	BH-5
Sample	Blow Counts			Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description
									2		Silty Sand (ML); grayish brown, slightly moist, loose, fine to coarse-grained, micaceous (Qa).
									4		
	3	5	4			64.4	10.0		6		
									8		Silty Sand (ML); grayish brown, dry, medium dense, fine to coarse-grained, micaceous (Qa).
									10		
	6	9	17			71.6	2.1	111.7	12		
									14		Sand (SW); grayish brown, dry, medium dense, fine to coarse-grained (Qa).
									16		
	4	6	8			4.5	2.5		18		
									20		Sand (SW); grayish brown, dry, medium dense, fine to coarse-grained (Qa).
									22		
	8	12	21			8.3	2.5	105.1	24		
									26		Terminated at ~ 21 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.
									28		
									30		
									32		
									34		
									36		
									38		
									40		
									42		
									44		
									46		
									48		
									50		
Completion Notes:									MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA		
									Project No:	544-24159	Page 5
									Report No:	24-07-358	

 Sladden Engineering										BORE LOG				
										Equipment:	MOBILE B-61	Date Drilled:	6/6/2024	
										Elevation:	-50 FT MSL	Boring No:	BH-6	
Sample	Blow Counts			Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description			
									2		Sandy Silt (ML); grayish brown, moist, stiff, non plastic (Qa).			
	3	4	12			50.7	21.1	103.1	4					
									6					
									8					
									10		Sand (SW-SM) with silt, grayish brown, dry, medium dense, fine to coarse-grained, micaceous (Qa).			
	3	5	6			8.3	4.0		12					
									14					
									16		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine to coarse-grained (Qa).			
	5	8	9			35.1	10.0	101.3	18					
									20					
									22		Sandy Clay (CL); grayish brown, moist, stiff, low plasticity (Qa).			
	2	5	5			91.9	34.9		24					
									26					
									28		Terminated at ~ 21.5 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.			
									30					
									32					
									34					
									36					
									38					
									40					
									42					
									44					
									46					
									48					
									50					
Completion Notes:										MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA				
										Project No:		544-24159	Page	6
										Report No:		24-07-358		

 Sladden Engineering								BORE LOG			
								Equipment:	MOBILE B-61	Date Drilled:	6/6/2024
								Elevation:	-50 FT MSL	Boring No:	BH-7
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description		
							2		Silty Sand (SM); slightly moist, fine to coarse-grained, micaceous, with trace clay (Qa).		
						4					
						6	Terminated at ~ 5 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.				
						8					
						10					
						12					
						14					
						16					
						18					
						20					
						22					
						24					
						26					
						28					
						30					
						32					
						34					
						36					
						38					
						40					
						42					
						44					
						46					
						48					
						50					
Completion Notes:								MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA			
								Project No: 544-24159		Page	7
								Report No: 24-07-358			

 Sladden Engineering								BORE LOG			
								Equipment:	MOBILE B-61	Date Drilled:	6/6/2024
								Elevation:	-50 FT MSL	Boring No:	BH-8
Sample	Blow Counts			Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (feet)	Graphic Lithology	Description
									2		
									4		
	2	2	3			35.1	11.8		6		Silty Sand (SM); grayish brown, moist, loose, fine to coarse-grained, micaceous (Qa).
									8		
	5	8	13			17.3	10.1	102.8	10		Silty Sand (SM); grayish brown, moist, medium dense, fine to coarse-grained, micaceous (Qa).
									12		
	5	8	9			27.1	10.7		14		
									16		Silty Sand (SM); grayish brown, moist, medium dense, fine to coarse-grained, micaceous (Qa).
									18		
	9	13	26			14.6	8.0	105.9	20		Silty Sand (SM); grayish brown, moist, medium dense, fine to coarse-grained, micaceous (Qa).
									22		
									24		Terminated at ~ 21.5 ft bgs.
									26		No Bedrock Encountered.
									28		No Groundwater or Seepage Encountered.
									30		
									32		
									34		
									36		
									38		
									40		
									42		
									44		
									46		
									48		
									50		
Completion Notes:										MIXED-USE DEVELOPMENT	
										SWC 52ND AVENUE & VAN BUREN, COACHELLA	
Project No: 544-24159										Page	8
Report No: 24-07-358											

 Sladden Engineering								BORE LOG					
								Equipment:	MOBILE B-61	Date Drilled:	6/6/2024		
								Elevation:	-50 FT MSL	Boring No:	BH-9		
Sample	Blow Counts			Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description		
									2		Silty Sand (SM); grayish brown, dry to slightly moist, fine to coarse-grained, micaceous.		
									4				
	5	6	10			83.4	13.0	97.7	6		Silty Clay (CL); grayish brown, moist, stiff, micaceous, low plasticity (Qa).		
									8				
	4	5	6			20.0	4.3		10		Silty Sand (SM); grayish brown, dry, medium dense, fine to coarse grained, micaceous (Qa).		
									12				
									14		Terminated at ~ 11.5 ft bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.		
									16				
									18				
									20				
									22				
									24				
									26				
									28				
									30				
									32				
									34				
									36				
									38				
									40				
									42				
									44				
									46				
									48				
									50				
Completion Notes:										MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA			
										Project No:	544-24159	Page	9
										Report No:	24-07-358		

 Sladden Engineering								BORE LOG			
								Equipment: MOBILE B-61		Date Drilled: 6/6/2024	
								Elevation: -50 FT MSL		Boring No: BH-10	
Sample	Blow Counts		Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description	
								2		Silty Sand (SM); grayish brown, dry to slightly moist, fine to coarse-grained, micaceous.	
								4			
	3	5	7		70.7	21.5		6		Silty Clay (CL); grayish brown, moist, stiff, low plasticity (Qa).	
								8			
	4	5	7		15.5	5.6		10		Silty Sand (SM); grayish brown, dry to slightly moist, fine to coarse-grained, micaceous (Qa).	
								12			
								14		Terminated at ~ 11.5 ft bgs.	
								16		No Bedrock Encountered.	
								18		No Groundwater or Seepage Encountered.	
								20			
								22			
								24			
								26			
								28			
								30			
								32			
								34			
								36			
								38			
								40			
								42			
								44			
								46			
								48			
								50			
Completion Notes:									MIXED-USE DEVELOPMENT SWC 52ND AVENUE & VAN BUREN, COACHELLA		
									Project No: 544-24159		Page 10
									Report No: 24-07-358		

APPENDIX B
LABORATORY TESTING

APPENDIX B

LABORATORY TESTING

Representative bulk and relatively undisturbed soil samples were obtained in the field and returned to our laboratory for additional observations and testing. Laboratory testing was generally performed in two phases. The first phase consisted of testing in order to determine the compaction of the existing natural soil and the general engineering classifications of the soils underlying the site. This testing was performed in order to estimate the engineering characteristics of the soil and to serve as a basis for selecting samples for the second phase of testing. The second phase consisted of soil mechanics testing. This testing including consolidation, shear strength and expansion testing was performed in order to provide a means of developing specific design recommendations based on the mechanical properties of the soil.

CLASSIFICATION AND COMPACTION TESTING

Unit Weight and Moisture Content Determinations: Each undisturbed sample was weighed and measured in order to determine its unit weight. A small portion of each sample was then subjected to testing in order to determine its moisture content. This was used in order to determine the dry density of the soil in its natural condition. The results of this testing are shown on the Boring Logs.

Maximum Density-Optimum Moisture Determinations: Representative soil types were selected for maximum density determinations. This testing was performed in accordance with the ASTM Standard D1557-91, Test Method A. Graphic representations of the results of this testing are presented in this appendix. The maximum densities are compared to the field densities of the soil in order to determine the existing relative compaction to the soil.

Classification Testing: Soil samples were selected for classification testing. This testing consists of mechanical grain size analyses. This provides information for developing classifications for the soil in accordance with the Unified Soil Classification System which is presented in the preceding appendix. This classification system categorizes the soil into groups having similar engineering characteristics. The results of this testing is very useful in detecting variations in the soil and in selecting samples for further testing.

SOIL MECHANIC'S TESTING

Expansion Testing: One (1) bulk sample was selected for Expansion testing. Expansion testing was performed in accordance with the UBC Standard 18-2. This testing consists of remolding 4-inch diameter by 1-inch thick test specimens to a moisture content and dry density corresponding to approximately 50 percent saturation. The samples are subjected to a surcharge of 144 pounds per square foot and allowed to reach equilibrium. At that point the specimens are inundated with distilled water. The linear expansion is then measured until complete.

Direct Shear Testing: One (1) bulk sample was selected for Direct Shear testing. This test measures the shear strength of the soil under various normal pressures and is used to develop parameters for foundation design and lateral design. Tests were performed using a recompacted test specimen that was saturated prior to tests. Tests were performed using a strain controlled test apparatus with normal pressures ranging from 800 to 2300 pounds per square foot.

Consolidation/Hydro-Collapse Testing: One (1) relatively undisturbed sample was selected for consolidation testing. For this test, a one-inch thick test specimen was subjected to vertical loads varying from 575 psf to 11520 psf applied progressively. The consolidation at each load increment was recorded prior to placement of each subsequent load.

Corrosion Series Testing: The soluble sulfate concentrations of the surface soil were determined in accordance with California Test Method Number (CA) 417. The pH and Minimum Resistivity were determined in accordance with CA 643. The soluble chloride concentrations were determined in accordance with CA 422.



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45090 Golf Center Pkwy, Suite F, Indio, CA 92201 (760) 863-0713 Fax (760) 863-0847
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863

Date: June 28, 2024

Account No.: 544-24159

Customer: Relevant Living

Location: APN 780-040-001, 003 & 780-060-001 & 2 SWC 52Nd Ave & Van Buren, Coachella

Analytical Report

Corrosion Series

BH-1 @ 0-5'	pH per CA 643	Soluble Sulfates per CA 417 ppm	Soluble Chloride per CA 422 ppm	Min. Resistivity per CA 643 ohm-cm
	7.8	540	260	940



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Maximum Density/Optimum Moisture

ASTM D698/D1557

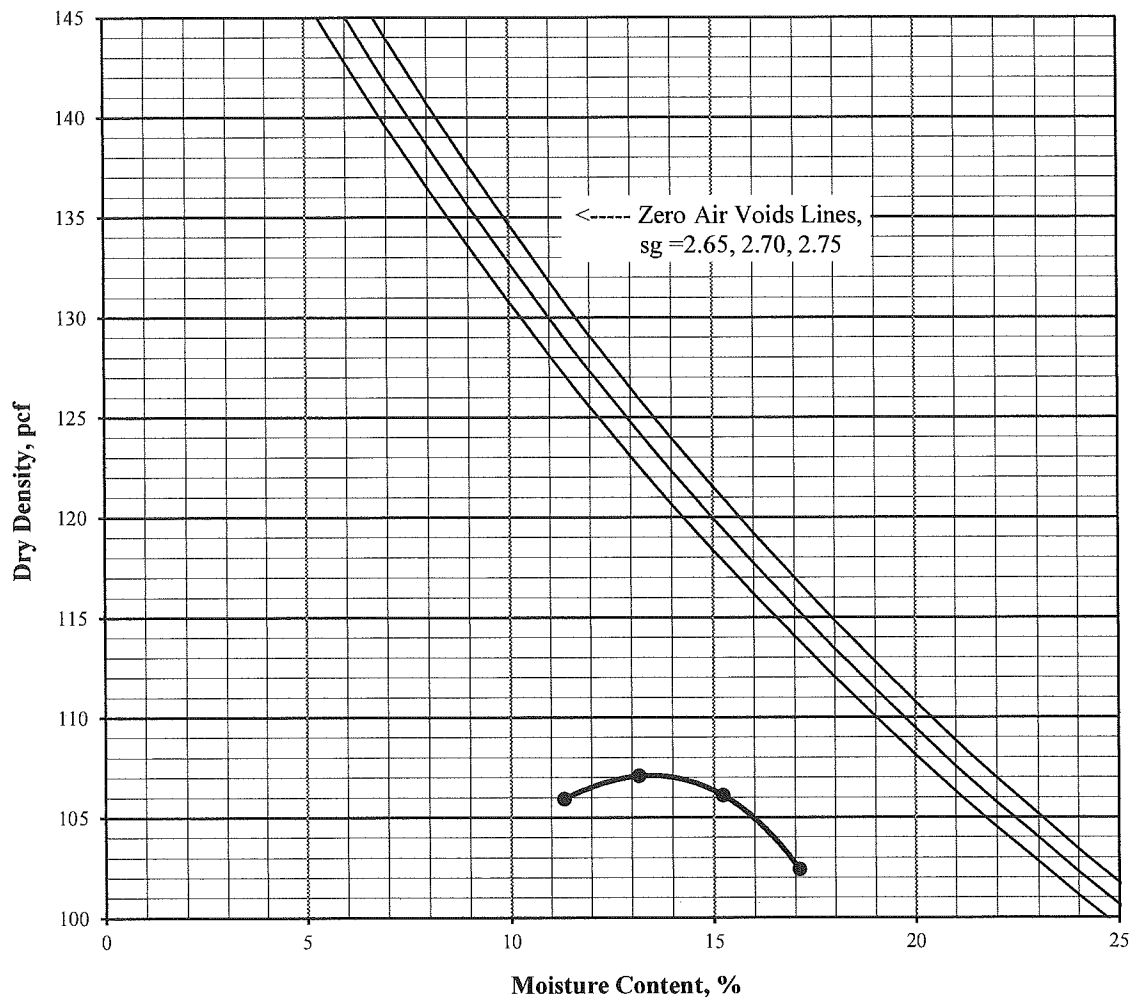
Project Number: 544-24159
Project Name: 52nd Avenue & Van Buren
Lab ID Number: LN6-24287
Sample Location: BH-1 Bulk 1 @ 0-5'
Description: Olive Brown Silty Sand (SM)

June 28, 2024

ASTM D-1557 A
Rammer Type: Machine

Maximum Density: 108 pcf
Optimum Moisture: 14.5%

Sieve Size	% Retained
3/4"	
3/8"	
#4	0.5





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Expansion Index

ASTM D 4829

Job Number: 544-24159
Job Name: 52nd Avenue & Van Buren
Lab ID Number: LN6-24287
Sample ID: BH-1 Bulk 1 @ 0-5'
Soil Description: Olive Brown Silty Sand (SM)

June 28, 2024

Wt of Soil + Ring:	543.6
Weight of Ring:	190.9
Wt of Wet Soil:	352.7
Percent Moisture:	12.5%
Sample Height, in	0.95
Wet Density, pcf:	112.9
Dry Denstiy, pcf:	100.3

% Saturation:	49.7
---------------	------

Expansion

Rack # 2

Date/Time	6/19/2024	2:49 AM
Initial Reading	0.0000	
Final Reading	0.0015	

Expansion Index

2

(Final - Initial) x 1000



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Gradation

ASTM C117 & C136

Project Number: 544-24159

June 28, 2024

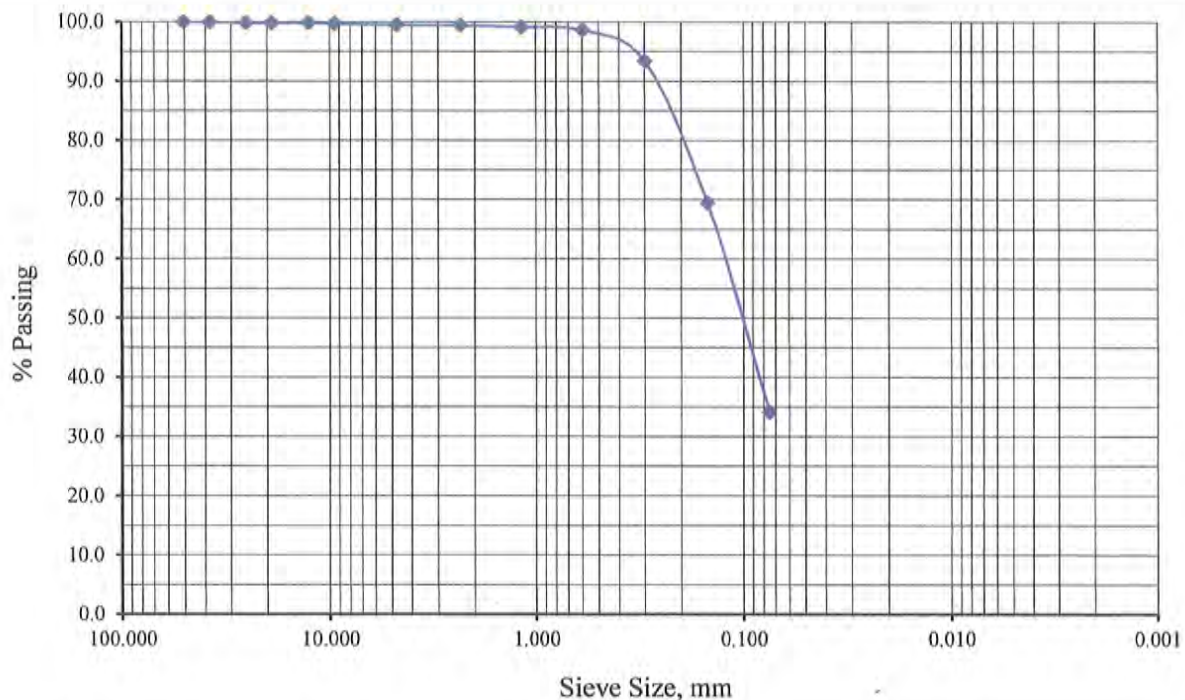
Project Name: 52nd Avenue & Van Buren

Lab ID Number: LN6-24287

Sample ID: BH-1 Bulk 1 @ -5'

Soil Classification: SM

Sieve Size, in	Sieve Size, mm	Percent Passing
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	99.8
3/4"	19.1	99.8
1/2"	12.7	99.8
3/8"	9.53	99.7
#4	4.75	99.5
#8	2.36	99.4
#16	1.18	99.1
#30	0.60	98.6
#50	0.30	93.4
#100	0.15	69.4
#200	0.075	34.1





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Gradation

ASTM C117 & C136

Project Number: 544-24159

June 28, 2024

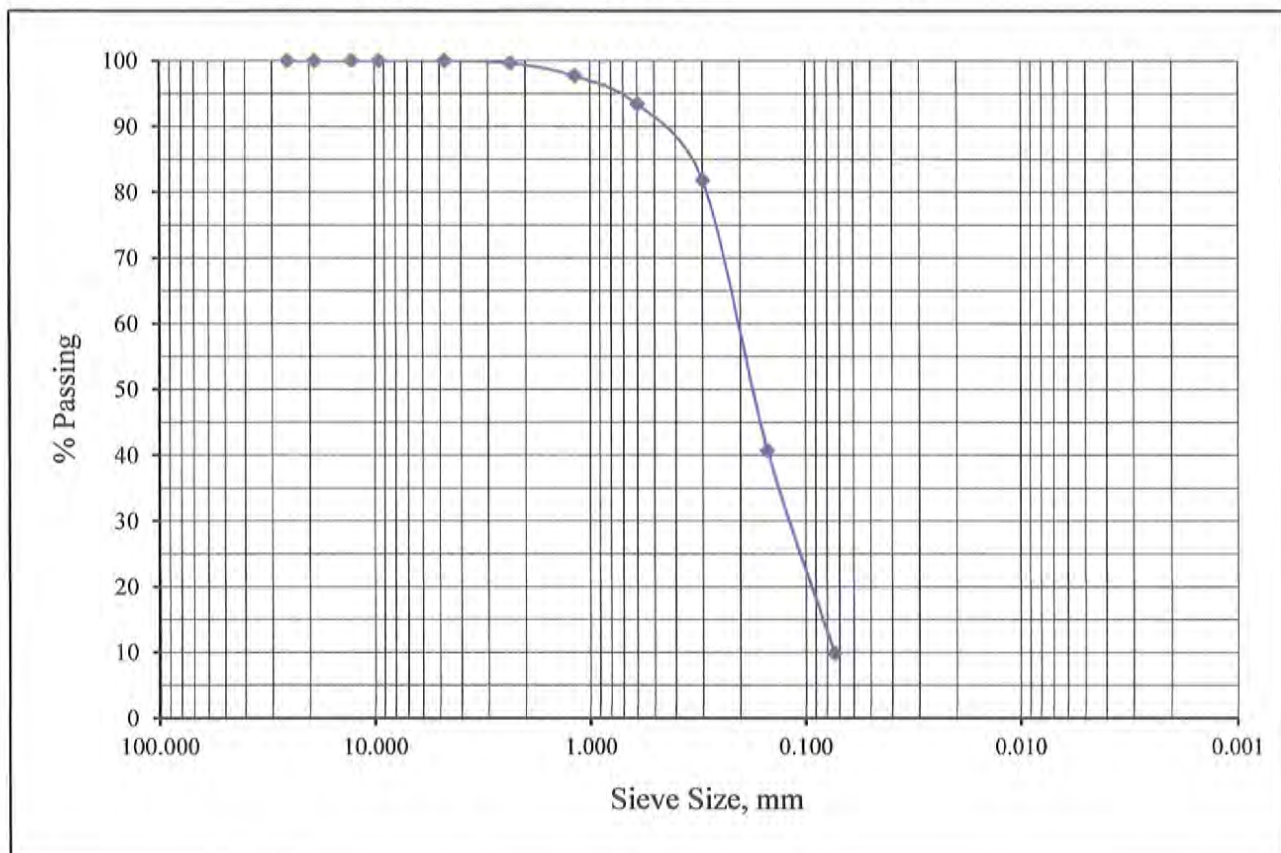
Project Name: 52nd Avenue & Van Buren

Lab ID Number: LN6-24287

Sample ID: BH-1 R-6 @ 25'

Soil Classification: SW-SM

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	100.0
#8	2.36	99.7
#16	1.18	97.7
#30	0.60	93.4
#50	0.30	81.8
#100	0.15	40.7
#200	0.074	9.9





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Gradation

ASTM C117 & C136

Project Number: 544-24159

June 28, 2024

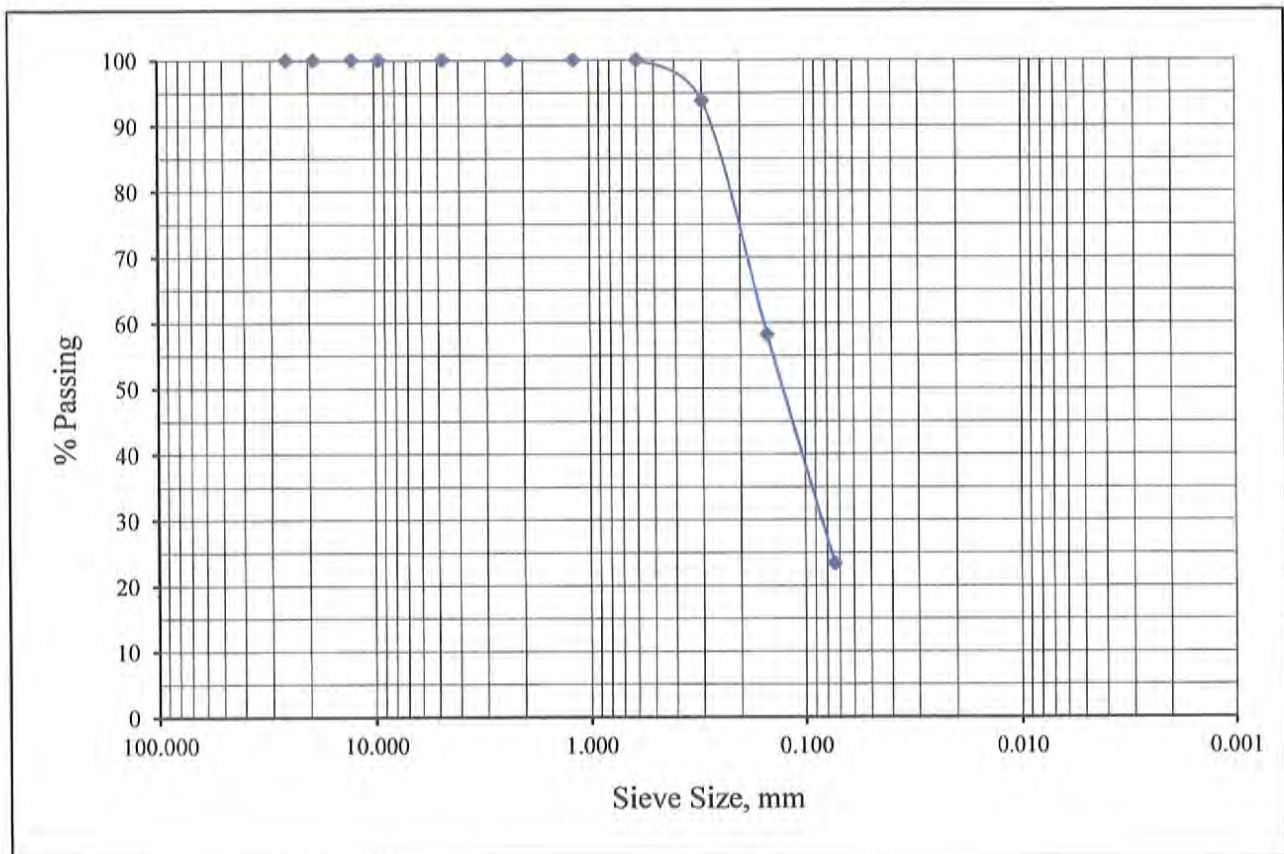
Project Name: 52nd Avenue & Van Buren

Lab ID Number: LN6-24287

Sample ID: BH-1 R-8 @ 35'

Soil Classification: SM

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	100.0
#8	2.36	100.0
#16	1.18	100.0
#30	0.60	100.0
#50	0.30	93.8
#100	0.15	58.2
#200	0.074	23.4





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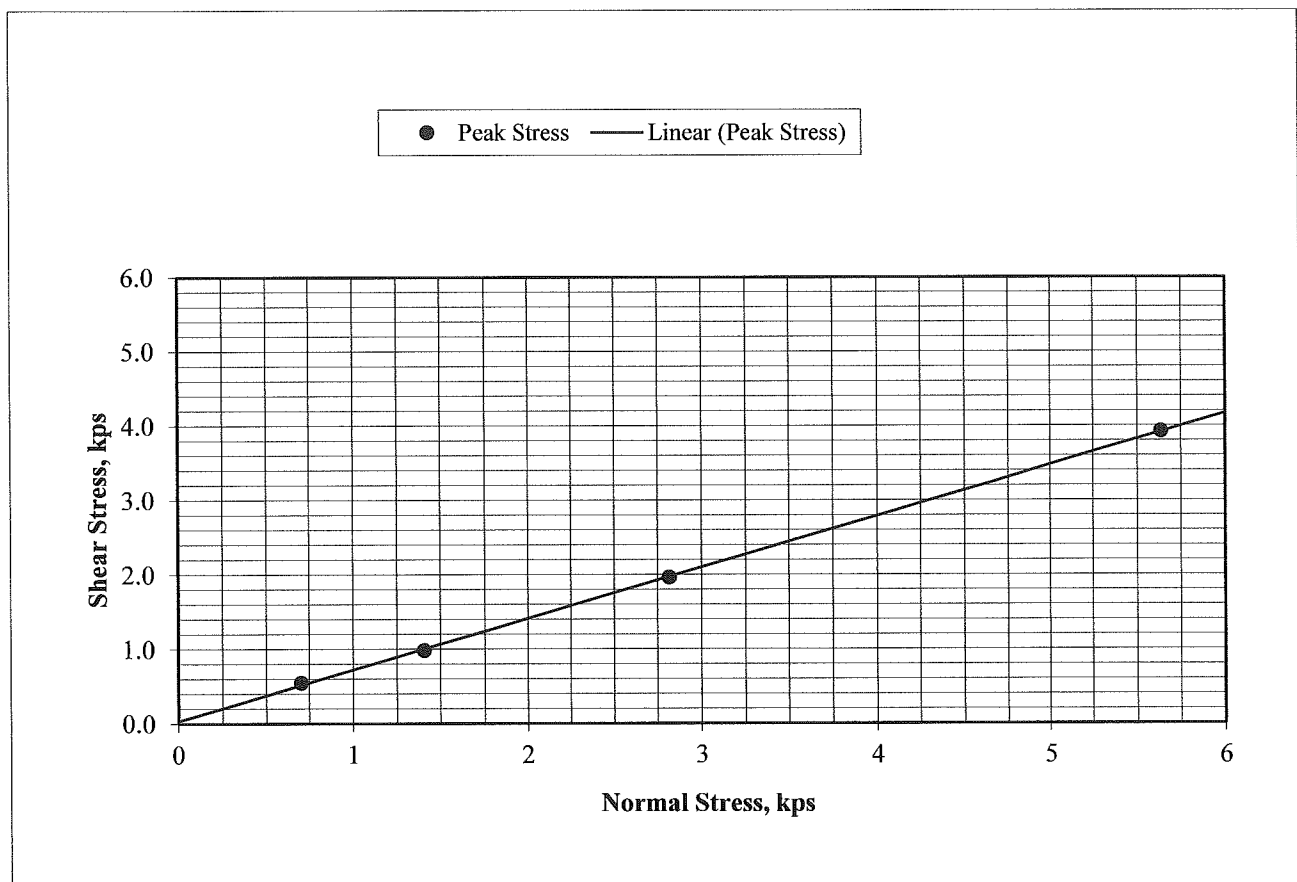
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Direct Shear ASTM D 3080-04 (modified for unconsolidated condition)

Job Number: 544-24159
Job Name 52nd Avenue & Van Buren
Lab ID No. LN6-24287
Sample ID BH-1 Bulk 1 @ 0-5'
Classification Olive Brown Silty Sand (SM)
Sample Type Remolded @ 90% of Maximum Density

June 28, 2024
Initial Dry Density: 98.2 pcf
Initial Moisture Content: 13.3 %
Peak Friction Angle (ϕ): 35°
Cohesion (c): 30 psf

Test Results	1	2	3	4	Average
Moisture Content, %	21.9	21.9	21.9	21.9	21.9
Saturation, %	82.5	82.5	82.5	82.5	82.5
Normal Stress, kps	0.704	1.409	2.817	5.635	
Peak Stress, kps	0.545	0.981	1.962	3.924	





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One Dimensional Consolidation

ASTM D2435 & D5333

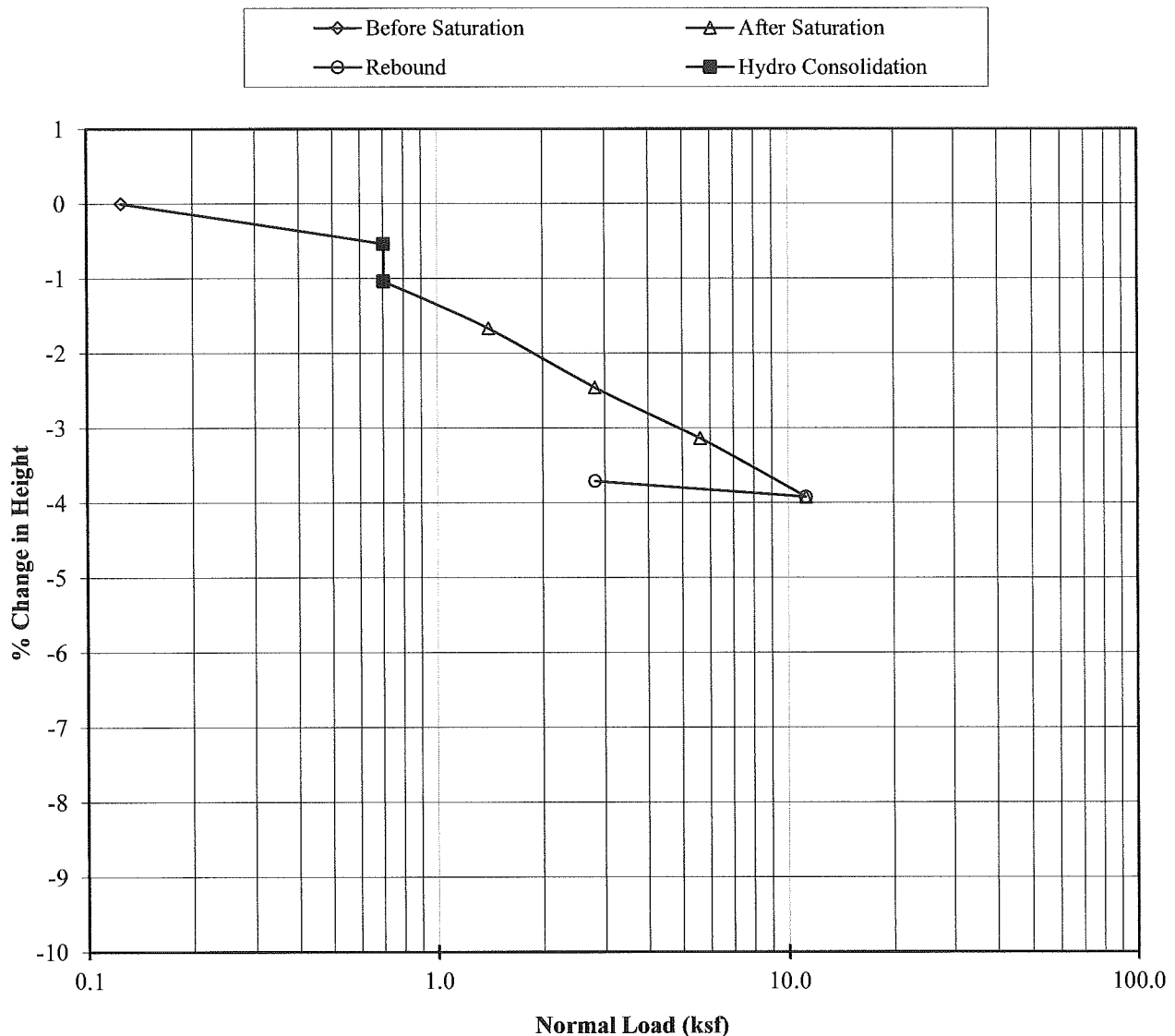
Job Number: 544-24159
Job Name: 52nd Avenue & Van Buren
Lab ID Number: LN6-24287
Sample ID: BH-2 R-2 @ 10'
Soil Description: Light Brown Silty Sand

June 28, 2024

Initial Dry Density, pcf: 100.9
Initial Moisture, %: 2.2
Initial Void Ratio: 0.652
Specific Gravity: 2.67

Hydrocollapse: 0.5% @ 0.702 ksf

% Change in Height vs Normal Pressure Diagram





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Plasticity Index

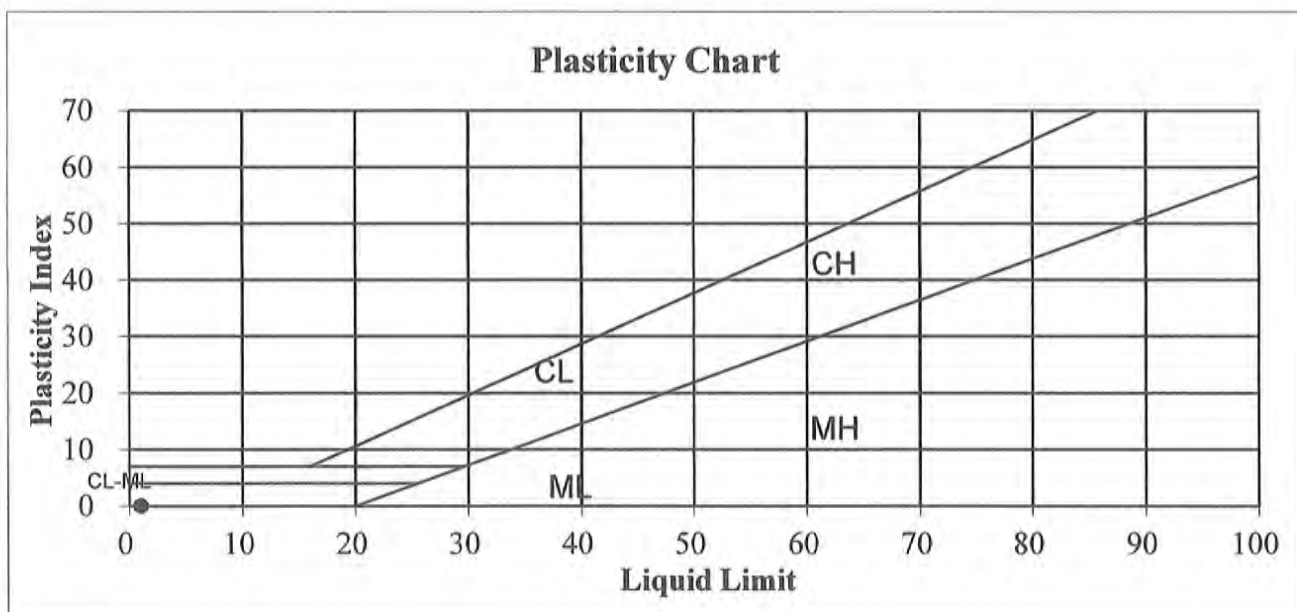
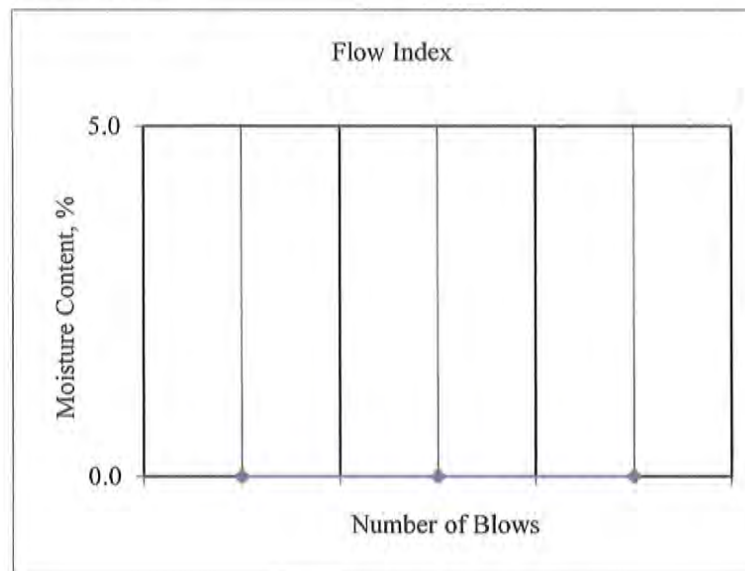
ASTM D4318

Project Number: 544-24159
Project Name: 52nd Avenue & Van Buren
Lab ID Number: LN6-24287
Sample Location: BH-1 S-5 @ 20'
Description: Olive Brown Sandy Silt (NP)

June 28, 2024

Test Results

Liquid Limit:
Plastic Limit:
Plasticity Index:





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Plasticity Index

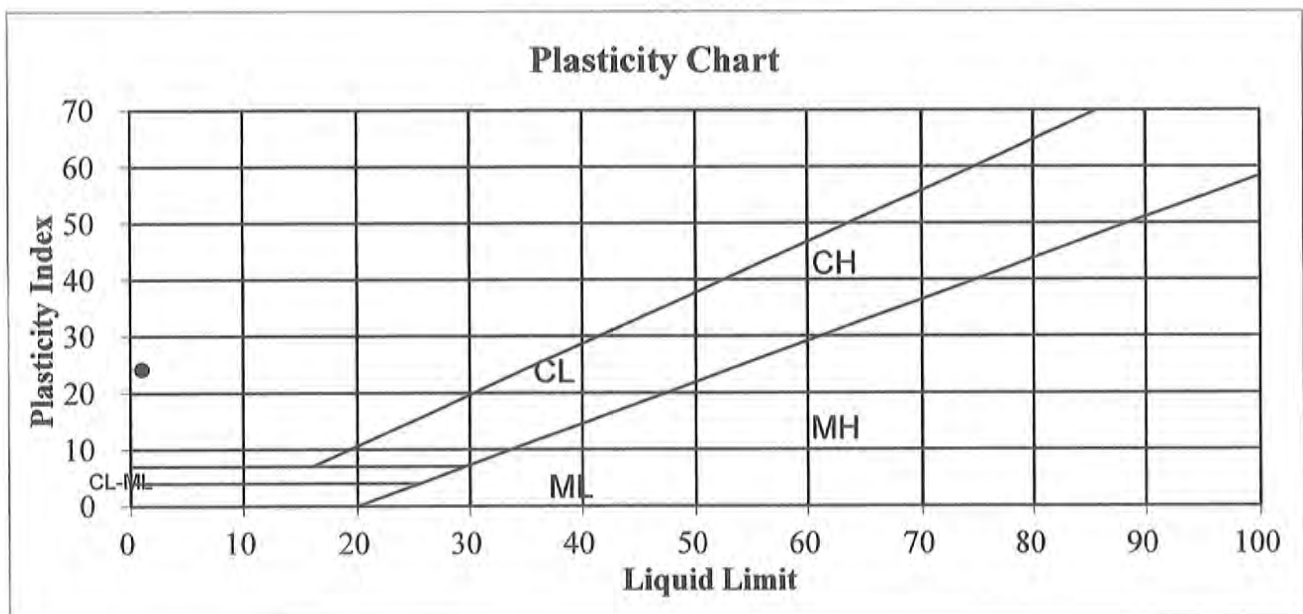
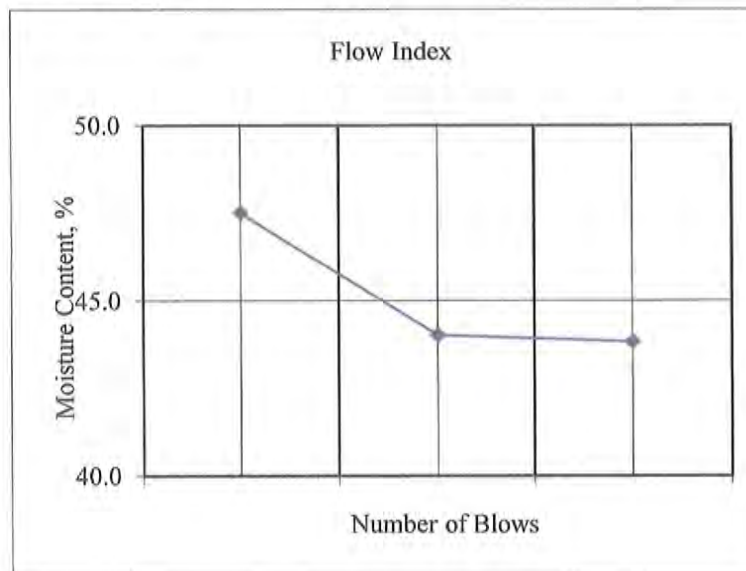
ASTM D4318

Project Number: 544-24159
Project Name: 52nd Avenue & Van Buren
Lab ID Number: LN6-24287
Sample Location: BH-1 S-7 @ 30'
Description: Olive Brown Clay (CL)

June 28, 2024

Test Results

Liquid Limit:	46
Plastic Limit:	22
Plasticity Index:	24





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Plasticity Index

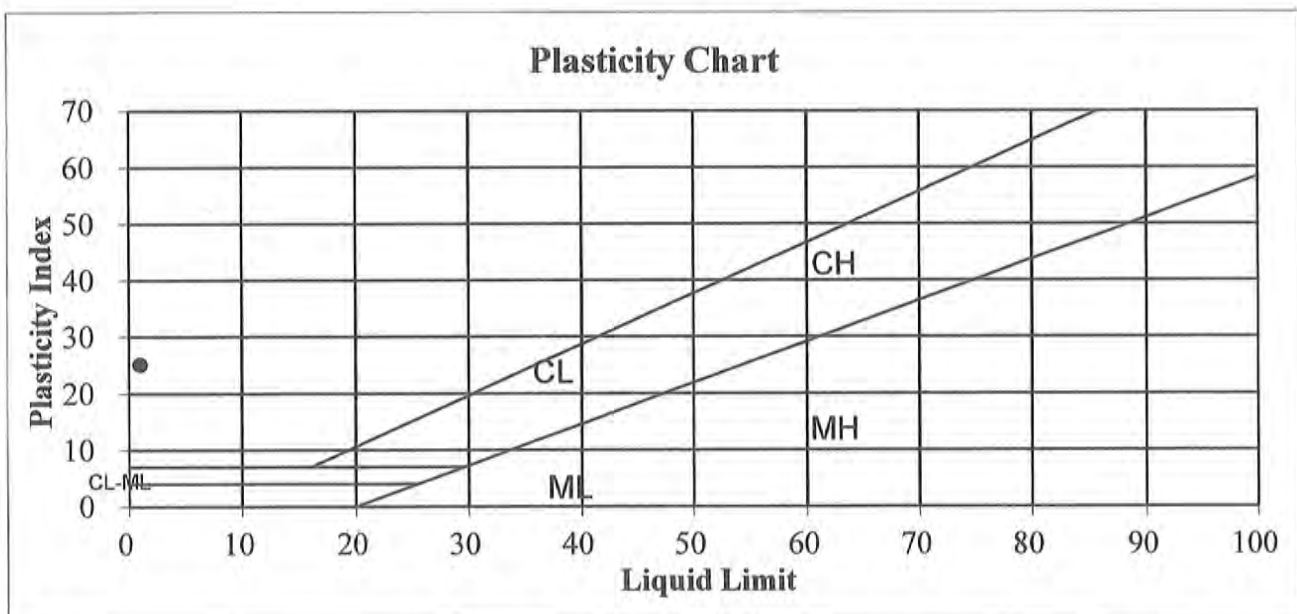
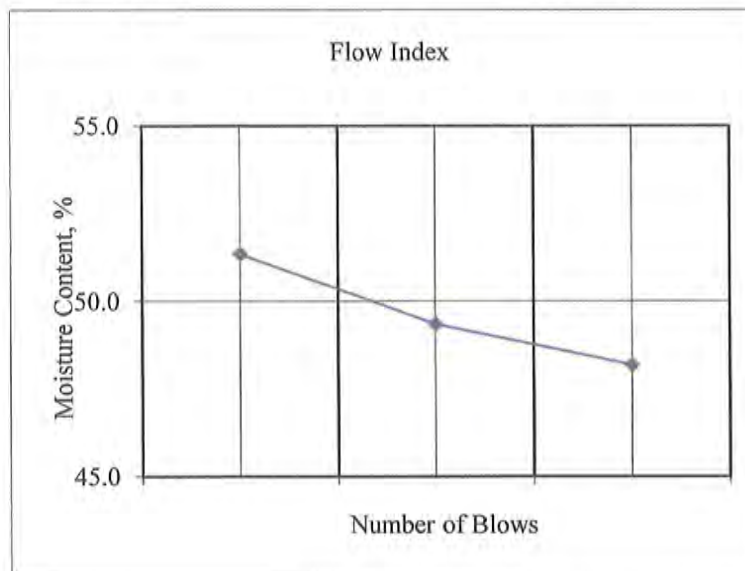
ASTM D4318

Project Number: 544-24159
Project Name: 52nd Avenue & Van Buren
Lab ID Number: LN6-24287
Sample Location: BH-1 R-10 @ 45'
Description: Olive Brown Clay (CL)

June 28, 2024

Test Results

Liquid Limit:	48
Plastic Limit:	23
Plasticity Index:	25





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Plasticity Index

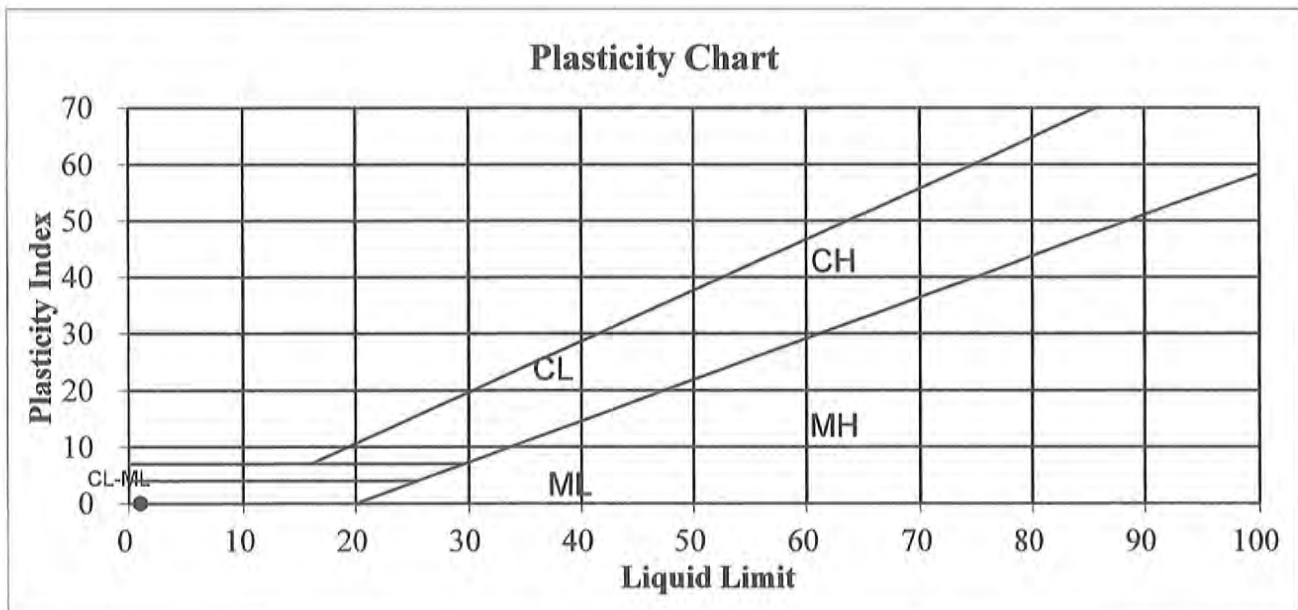
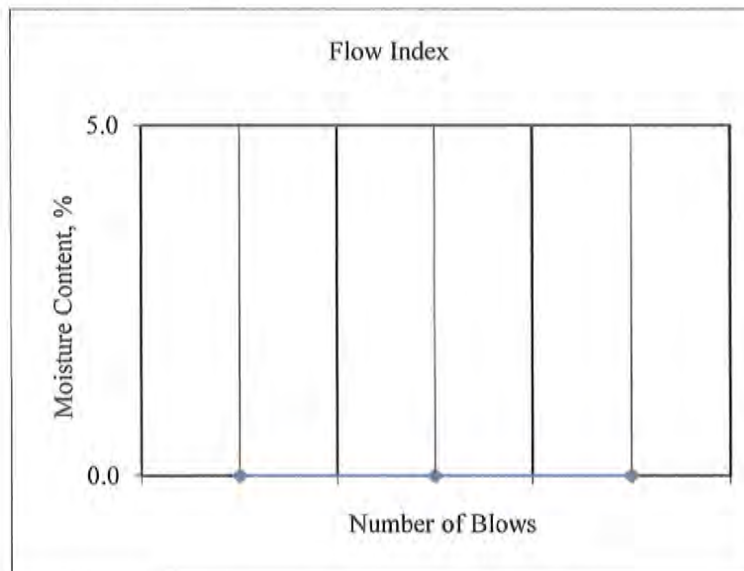
ASTM D4318

Project Number: 544-24159
Project Name: 52nd Avenue & Van Buren
Lab ID Number: LN6-24287
Sample Location: BH-2 S-7 @ 35'
Description: Olive Brown Sandy Silt (NP)

June 28, 2024

Test Results

Liquid Limit:
Plastic Limit:
Plasticity Index:



APPENDIX C

SEISMIC DESIGN PARAMETERS SEISMIC DESIGN MAPS

USGS web services were down for some period of time and as a result this tool wasn't operational, resulting in *timeout* error.
USGS web services are now operational so this tool should work as expected.



544-24159

Latitude, Longitude: 33.6687, -116.2033



Date	7/10/2024, 1:32:52 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S _S	1.793	MCE _R ground motion. (for 0.2 second period)
S ₁	0.745	MCE _R ground motion. (for 1.0s period)
S _{MS}	1.793	Site-modified spectral acceleration value
S _{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S _{DS}	1.196	Numeric seismic design value at 0.2 second SA
S _{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F _a	1	Site amplification factor at 0.2 second
F _v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.779	MCE _G peak ground acceleration
F _{PGA}	1.1	Site amplification factor at PGA
PGA _M	0.857	Site modified peak ground acceleration
T _L	8	Long-period transition period in seconds
SsRT	2.092	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	2.351	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.793	Factored deterministic acceleration value. (0.2 second)
S1RT	0.832	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.948	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.745	Factored deterministic acceleration value. (1.0 second)
PGAd	0.779	Factored deterministic acceleration value. (Peak Ground Acceleration)

Type	Value	Description
PGA _{UH}	0.93	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C _{RS}	0.89	Mapped value of the risk coefficient at short periods
C _{R1}	0.878	Mapped value of the risk coefficient at a period of 1 s
C _V	1.459	Vertical coefficient

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SITE-SPECIFIC GROUND MOTION ANALYSIS (ASCE 7-16)

Project: MIXED-USE DEVELOPMENT
 Project Number: 544-24159
 Client: RELEVANT LIVING
 Site Lat/Long: 33.6687/-116.2033
 Controlling Seismic Source: SAN ANDREAS FAULT

REFERENCE	NOTATION	VALUE	REFERENCE	NOTATION	VALUE	REFERENCE	NOTATION	VALUE
Site Class	$C_s, D, D \text{ default, or } E$	D measured	F_v (Table 11.4-2) [Used for General Spectrum]	F_a	1.7			
Site Class D - Table 11.4-1	F_a	1.0	Design Maps	S_a	1.793	$0.2 * (S_{D1}/S_{D2})$	T_0	0.141*
Site Class D - 21.3(ii)	F_v	2.5	Design Maps	S_1	0.745	S_{D1}/S_{D2}	T_s	0.706*
$0.2 * (S_{D1}/S_{D2})$	T_0	0.208	Equation 11.4-1 - $F_a * S_s$	S_{MS}	1.793*	Equation 11.4-4 - $2/3 * S_{M1}$	S_{M1}	0.1443*
S_{D1}/S_{D2}	T_s	1.039	Equation 11.4-3 - $2/3 * S_{MS}$	S_{DS}	1.195*	Equation 11.4-2 - $F_v * S_1$	S_{M1}	1.1465*
Fundamental Period (12.8.2)	T	Period	Design Maps	PGA	0.779			
Seismic Design Maps or Fig 22-14	T_1	8	Table 11.8-1	F_{req}	1.1			
Equation 11.4-4 - $2/3 * S_{M1}$	S_{D1}	1.2417	Equation 11.8-1 - $F_{req} * PGA$	PGA_{M1}	0.837*			
Equation 11.4-2 - $F_v * S_1^1$	S_{M1}	1.8625	Section 21.5.3	80% of PGA_{M1}	0.686			
¹ - F_v as determined by Section 21.3			Design Maps	C_{MS}	0.890			
			Design Maps	C_{M1}	0.878			

RISK COEFFICIENT

Cr - At Periods between 0.2 and 1.0
 use trendline formula to complete

Period	Cr
0.200	0.890
0.300	0.889
0.400	0.887
0.500	0.886
0.600	0.884
0.680	0.883
1.000	0.878

* Code based design value. See accompanying data for Site Specific Design values.

Mapped values from <https://hazards.atcouncil.org/>
<https://www.seismicmaps.org/>



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PROBABILISTIC SPECTRA¹
2% in 50 year Exceedence

Project No: 544-24159

Period	UGHM	RTGM	Max Directional Scale Factor ²	Probabilistic MCE
0.010	0.904	0.842	1.19	1.002
0.100	1.443	1.380	1.19	1.642
0.200	1.923	1.849	1.20	2.219
0.300	2.258	2.094	1.22	2.555
0.500	2.322	2.096	1.23	2.578
0.750	1.976	1.749	1.24	2.169
1.000	1.703	1.507	1.24	1.869
2.000	1.021	0.893	1.24	1.107
3.000	0.701	0.613	1.25	0.766
4.000	0.505	0.442	1.25	0.553
5.000	0.384	0.336	1.26	0.423

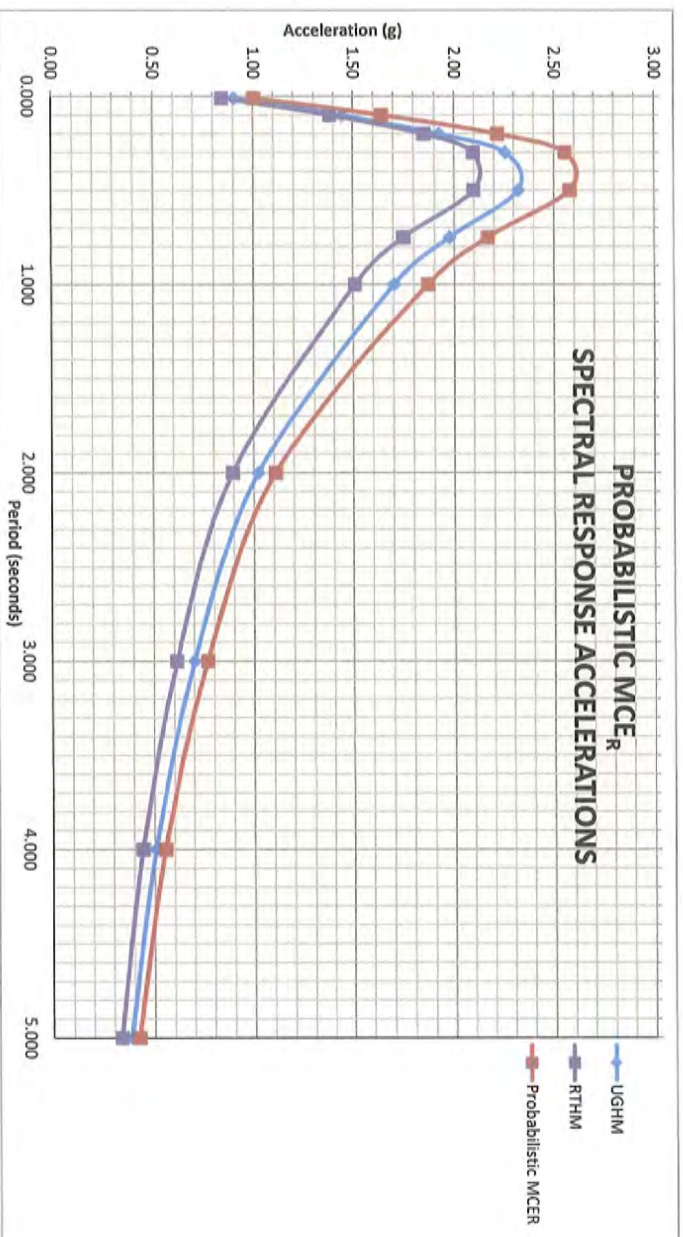
¹ Data Sources:

<https://earthquake.usgs.gov/hazards/interactive/>
<https://earthquake.usgs.gov/designmaps/rtgm/>

² Shah-Baker RotD100/RotD50 Factors (2014)

Probabilistic PGA: 0.904

Is Probabilistic $S_{a(max)} < 1.2F_a$? **NO**



DETERMINISTIC SPECTRUM

Largest Amplitudes of Ground Motions Considering All Sources Calculated using Weighted Mean of Attenuation Equations¹

Controlling Source: SAN ANDREAS FAULT

Is Probabilistic $S_{a(max)} < 1.2 F_a$? **NO**

Project No: 544-24159

Period	Deterministic P_s Median + 1.0 for 5% Damping	Max Directional Scale Factor ²	Deterministic MCE	Section 21.2.2 Scaling Factor Applied
0.010	0.767	1.19	0.912	0.912
0.020	0.767	1.19	0.913	0.913
0.030	0.778	1.19	0.926	0.926
0.050	0.821	1.19	0.977	0.977
0.075	0.977	1.19	1.163	1.163
0.100	1.156	1.19	1.375	1.375
0.150	1.415	1.20	1.699	1.699
0.200	1.588	1.20	1.905	1.905
0.250	1.717	1.21	2.078	2.078
0.300	1.791	1.22	2.185	2.185
0.400	1.835	1.23	2.256	2.256
0.500	1.789	1.23	2.200	2.200
0.750	1.471	1.24	1.824	1.824
1.000	1.250	1.24	1.551	1.551
1.500	0.912	1.24	1.130	1.130
2.000	0.701	1.24	0.869	0.869
3.000	0.487	1.25	0.609	0.609
4.000	0.343	1.25	0.429	0.429
5.000	0.256	1.26	0.322	0.322

Is Deterministic $S_{a(max)} < 1.5 F_a$? **NO**

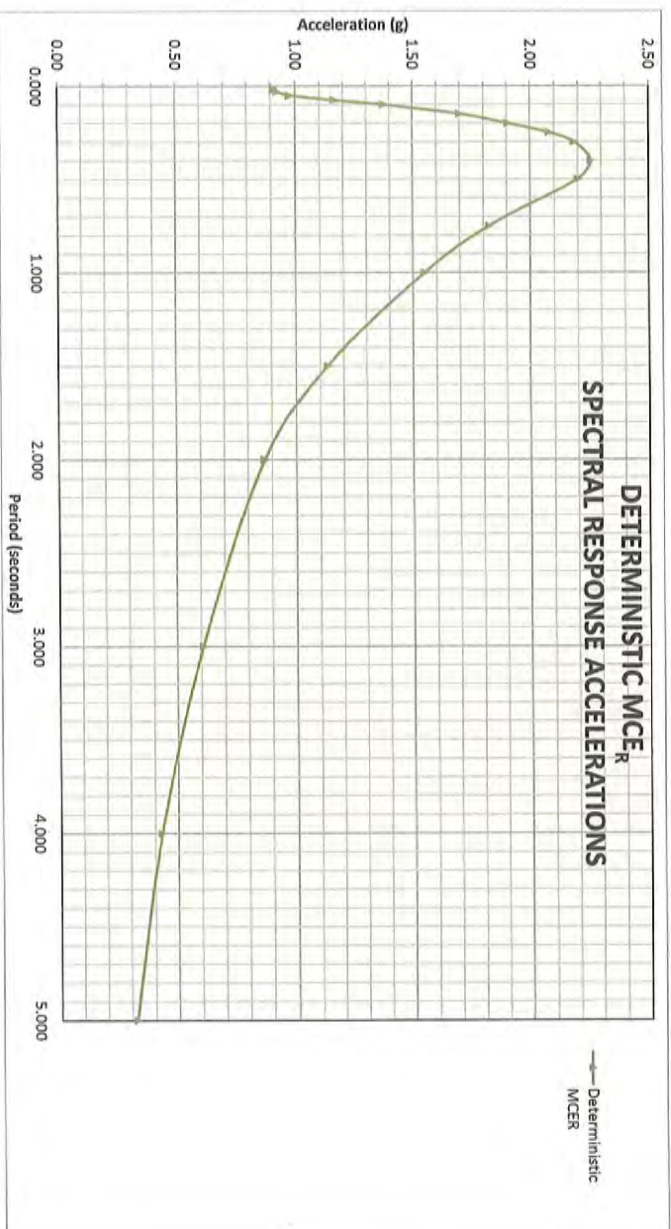
Section 21.2.2 Scaling Factor: **N/A**

Deterministic PGA: **0.767**

Is Deterministic PGA $> F_{PGA} = 0.5$? **YES**

¹ NGAWest 2 GMPE worksheet and
Uniform California Earthquake Rupture
Forecast, Version 3 (UCERF3) - Time
Dependent Model

² Shari-Baker RcdD100/RcdD50 Factors
(2014)



SITE SPECIFIC SPECTRA

Period	Probabilistic MCE	Deterministic MCE	Site-Specific MCE	Design Response Spectrum (Sa)
0.010	1.002	0.912	0.912	0.608
0.100	1.642	1.375	1.375	0.917
0.200	2.219	1.905	1.905	1.270
0.300	2.555	2.185	2.185	1.457
0.500	2.578	2.200	2.200	1.467
0.750	2.169	1.824	1.824	1.216
1.000	1.869	1.551	1.551	1.034
2.000	1.107	0.869	0.869	0.580
3.000	0.766	0.609	0.609	0.406
4.000	0.553	0.429	0.429	0.286
5.000	0.423	0.322	0.322	0.215

ASCE 7-16: Section 21.4

Site Specific

Calculated Value	Design Value
SDS: 1.320	1.320
SD1: 1.218	1.218
SMS: 1.980	1.980
SM1: 1.827	1.827
Site Specific PGAm: 0.767	0.767
Site Class: D measured	

Seismic Design Category - Short*

Seismic Design Category - 1s*

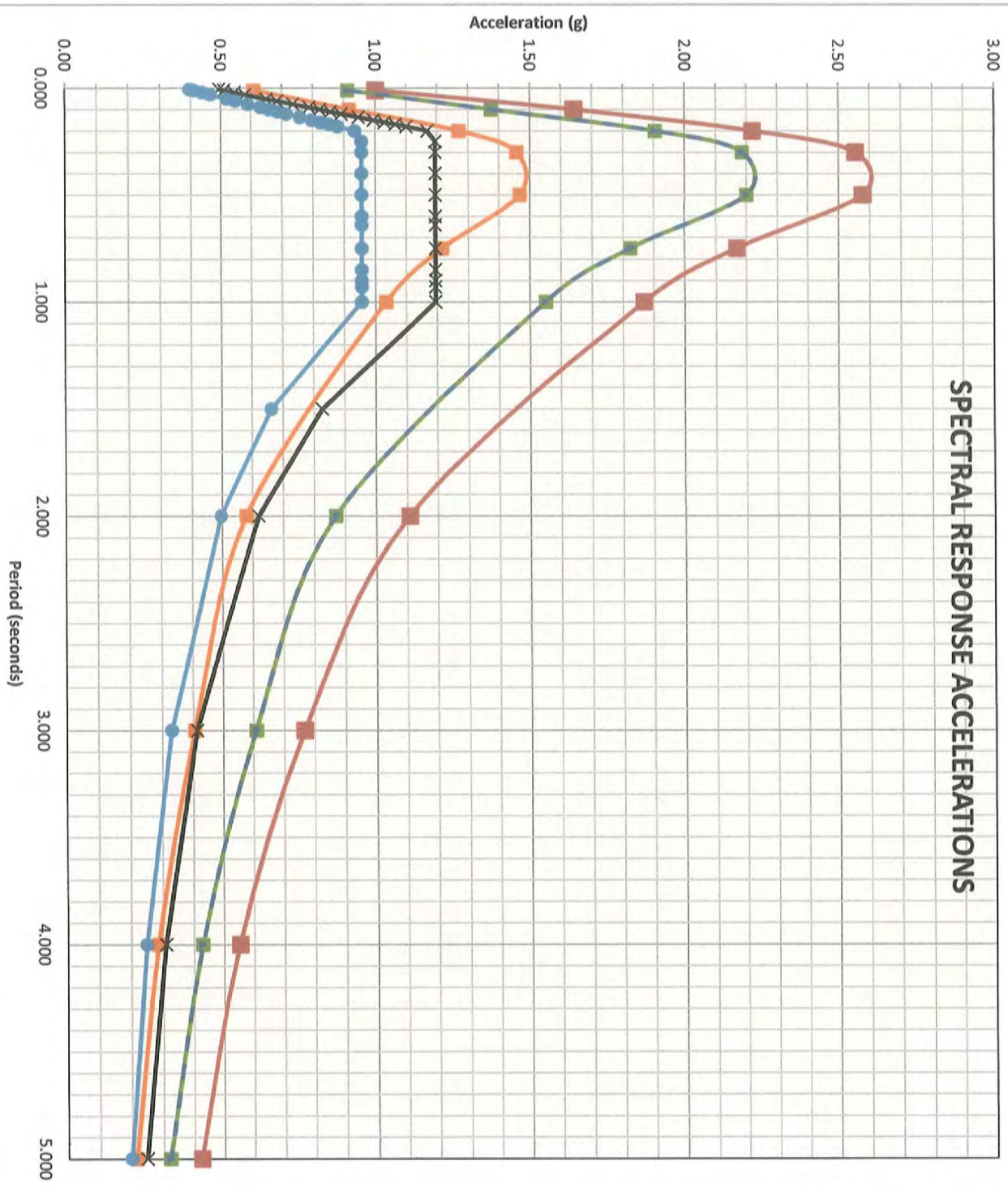
* Risk Categories I, II, or III

Period	ASCE 7 SECTION 21.3 General Spectrum	80% General Response Spectrum
0.005	0.495	0.396
0.010	0.513	0.410
0.020	0.547	0.438
0.030	0.582	0.465
0.050	0.651	0.521
0.060	0.685	0.548
0.075	0.737	0.590
0.090	0.789	0.631
0.100	0.823	0.659
0.110	0.858	0.686
0.120	0.892	0.714
0.136	0.948	0.758
0.150	0.996	0.797
0.160	1.030	0.824
0.170	1.065	0.852
0.180	1.100	0.880
0.200	1.169	0.935
0.250	1.195	0.956
0.300	1.195	0.956
0.400	1.195	0.956
0.500	1.195	0.956
0.600	1.195	0.956
0.640	1.195	0.956
0.750	1.195	0.956
0.850	1.195	0.956
0.900	1.195	0.956
0.930	1.195	0.956
1.000	1.195	0.956
1.500	0.828	0.662
2.000	0.621	0.497
3.000	0.414	0.331
4.000	0.310	0.248
5.000	0.248	0.199

Project No: 544-24159



SPECTRAL RESPONSE ACCELERATIONS



- Probabilistic MCE
- Deterministic MCE
- Site-Specific MCE
- Design Response Spectrum
- ASCE 7 Section 21.3 General Spectrum
- 80% General Response Spectrum

APPENDIX D
LIQUEFACTION ANALYSIS

LIQUEFACTION ANALYSIS SUMMARY

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Input File Name: F:\Liquefy5\544-24159 BH1.liq
Title: 52 nd Ave & Van Buren, Coachella
Subtitle: 544-24159

Surface Elev.=-55
Hole No.=BH-1
Depth of Hole= 51.00 ft
Water Table during Earthquake= 5.00 ft
Water Table during In-Situ Testing= 35.00 ft
Max. Acceleration= 0.77 g
Earthquake Magnitude= 7.45

Input Data:

Surface Elev.=-55
Hole No.=BH-1
Depth of Hole=51.00 ft
Water Table during Earthquake= 5.00 ft
Water Table during In-Situ Testing= 35.00 ft
Max. Acceleration=0.77 g
Earthquake Magnitude=7.45
No-Liquefiable Soils: Based on Analysis

1. SPT or BPT Calculation.
 2. Settlement Analysis Method: Tokimatsu, M-correction
 3. Fines Correction for Liquefaction: Modify Stark/Olson
 4. Fine Correction for Settlement: During Liquefaction*
 5. Settlement Calculation in: All zones*
 6. Hammer Energy Ratio, Ce = 1.25
 7. Borehole Diameter, Cb= 1.15
 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 SPT gamma Fines

ft		pcf	%
0.00	11.33	111.80	32.30
2.00	11.33	111.80	32.30
5.00	12.67	109.90	28.10
10.00	10.00	109.90	45.80
15.00	14.00	114.20	22.70
20.00	11.00	114.20	79.00
25.00	13.33	105.80	9.90
30.00	5.00	105.80	NoLiq
35.00	31.33	133.30	23.40
40.00	7.00	133.30	NoLiq
45.00	11.33	122.30	NoLiq
50.00	18.00	122.30	NoLiq

Output Results:

Settlement of Saturated Sands=3.69 in.

Settlement of Unsaturated Sands=0.29 in.

Total Settlement of Saturated and Unsaturated Sands=3.97 in.

Differential Settlement=1.987 to 2.622 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	0.33	0.65	5.00	3.69	0.29	3.97
0.05	0.33	0.65	5.00	3.69	0.29	3.97
0.10	0.33	0.65	5.00	3.69	0.29	3.97
0.15	0.33	0.65	5.00	3.69	0.29	3.97
0.20	0.33	0.65	5.00	3.69	0.29	3.97
0.25	0.33	0.65	5.00	3.69	0.29	3.97
0.30	0.33	0.65	5.00	3.69	0.29	3.97
0.35	0.33	0.65	5.00	3.69	0.29	3.97
0.40	0.33	0.65	5.00	3.69	0.29	3.97
0.45	0.33	0.65	5.00	3.69	0.29	3.97
0.50	0.33	0.65	5.00	3.69	0.29	3.97
0.55	0.33	0.65	5.00	3.69	0.28	3.97
0.60	0.33	0.65	5.00	3.69	0.28	3.97
0.65	0.33	0.65	5.00	3.69	0.28	3.97
0.70	0.33	0.65	5.00	3.69	0.28	3.97
0.75	0.33	0.65	5.00	3.69	0.28	3.97
0.80	0.33	0.65	5.00	3.69	0.28	3.97
0.85	0.33	0.65	5.00	3.69	0.28	3.97
0.90	0.33	0.65	5.00	3.69	0.28	3.97
0.95	0.33	0.65	5.00	3.69	0.28	3.97
1.00	0.33	0.65	5.00	3.69	0.28	3.97
1.05	0.33	0.65	5.00	3.69	0.28	3.97
1.10	0.33	0.65	5.00	3.69	0.28	3.97
1.15	0.33	0.65	5.00	3.69	0.28	3.97
1.20	0.33	0.65	5.00	3.69	0.28	3.97

1.25	0.33	0.65	5.00	3.69	0.28	3.97
1.30	0.33	0.65	5.00	3.69	0.28	3.97
1.35	0.33	0.65	5.00	3.69	0.28	3.97
1.40	0.33	0.65	5.00	3.69	0.28	3.97
1.45	0.33	0.65	5.00	3.69	0.28	3.97
1.50	0.33	0.65	5.00	3.69	0.28	3.97
1.55	0.33	0.65	5.00	3.69	0.28	3.97
1.60	0.33	0.65	5.00	3.69	0.28	3.97
1.65	0.33	0.65	5.00	3.69	0.28	3.97
1.70	0.33	0.65	5.00	3.69	0.28	3.97
1.75	0.33	0.65	5.00	3.69	0.28	3.97
1.80	0.33	0.65	5.00	3.69	0.28	3.97
1.85	0.33	0.65	5.00	3.69	0.28	3.97
1.90	0.33	0.65	5.00	3.69	0.28	3.97
1.95	0.33	0.65	5.00	3.69	0.28	3.96
2.00	0.33	0.65	5.00	3.69	0.28	3.96
2.05	0.33	0.65	5.00	3.69	0.28	3.96
2.10	0.33	0.64	5.00	3.69	0.28	3.96
2.15	0.33	0.64	5.00	3.69	0.28	3.96
2.20	0.33	0.64	5.00	3.69	0.28	3.96
2.25	0.33	0.64	5.00	3.69	0.27	3.96
2.30	0.34	0.64	5.00	3.69	0.27	3.96
2.35	0.34	0.64	5.00	3.69	0.27	3.96
2.40	0.34	0.64	5.00	3.69	0.27	3.96
2.45	0.34	0.64	5.00	3.69	0.27	3.96
2.50	0.34	0.64	5.00	3.69	0.27	3.96
2.55	0.34	0.64	5.00	3.69	0.27	3.96
2.60	0.34	0.64	5.00	3.69	0.27	3.95
2.65	0.34	0.64	5.00	3.69	0.26	3.95
2.70	0.34	0.64	5.00	3.69	0.26	3.95
2.75	0.34	0.64	5.00	3.69	0.26	3.95
2.80	0.34	0.64	5.00	3.69	0.26	3.94
2.85	0.34	0.64	5.00	3.69	0.25	3.94
2.90	0.34	0.64	5.00	3.69	0.25	3.94
2.95	0.34	0.64	5.00	3.69	0.24	3.93
3.00	0.34	0.64	5.00	3.69	0.24	3.93
3.05	0.34	0.64	5.00	3.69	0.23	3.92
3.10	0.34	0.64	5.00	3.69	0.22	3.91
3.15	0.35	0.64	5.00	3.69	0.22	3.90
3.20	0.35	0.64	5.00	3.69	0.21	3.90
3.25	0.35	0.64	5.00	3.69	0.20	3.89
3.30	0.35	0.64	5.00	3.69	0.19	3.88
3.35	0.35	0.64	5.00	3.69	0.19	3.87
3.40	0.35	0.64	5.00	3.69	0.18	3.86
3.45	0.35	0.64	5.00	3.69	0.17	3.86
3.50	0.35	0.64	5.00	3.69	0.16	3.85
3.55	0.35	0.64	5.00	3.69	0.15	3.84
3.60	0.35	0.64	5.00	3.69	0.15	3.83
3.65	0.35	0.64	5.00	3.69	0.14	3.83
3.70	0.35	0.64	5.00	3.69	0.13	3.82

3.75	0.35	0.64	5.00	3.69	0.12	3.81
3.80	0.35	0.64	5.00	3.69	0.11	3.80
3.85	0.35	0.64	5.00	3.69	0.11	3.79
3.90	0.36	0.64	5.00	3.69	0.10	3.79
3.95	0.36	0.64	5.00	3.69	0.09	3.78
4.00	0.36	0.64	5.00	3.69	0.08	3.77
4.05	0.36	0.64	5.00	3.69	0.08	3.76
4.10	0.36	0.64	5.00	3.69	0.07	3.75
4.15	0.36	0.64	5.00	3.69	0.06	3.75
4.20	0.36	0.64	5.00	3.69	0.05	3.74
4.25	0.36	0.64	5.00	3.69	0.04	3.73
4.30	0.36	0.64	5.00	3.69	0.04	3.72
4.35	0.36	0.64	5.00	3.69	0.03	3.72
4.40	0.36	0.64	5.00	3.69	0.02	3.71
4.45	0.36	0.64	5.00	3.69	0.02	3.71
4.50	0.36	0.64	5.00	3.69	0.02	3.71
4.55	0.36	0.64	5.00	3.69	0.02	3.70
4.60	0.37	0.64	5.00	3.69	0.02	3.70
4.65	0.37	0.64	5.00	3.69	0.01	3.70
4.70	0.37	0.64	5.00	3.69	0.01	3.70
4.75	0.37	0.64	5.00	3.69	0.01	3.70
4.80	0.37	0.64	5.00	3.69	0.01	3.70
4.85	0.37	0.64	5.00	3.69	0.01	3.69
4.90	0.37	0.64	5.00	3.69	0.00	3.69
4.95	0.37	0.64	5.00	3.69	0.00	3.69
5.00	0.37	0.64	0.58*	3.69	0.00	3.69
5.05	0.37	0.64	0.58*	3.68	0.00	3.68
5.10	0.37	0.65	0.57*	3.68	0.00	3.68
5.15	0.37	0.65	0.57*	3.67	0.00	3.67
5.20	0.37	0.65	0.57*	3.67	0.00	3.67
5.25	0.37	0.66	0.56*	3.66	0.00	3.66
5.30	0.37	0.66	0.56*	3.65	0.00	3.65
5.35	0.37	0.66	0.56*	3.65	0.00	3.65
5.40	0.37	0.67	0.55*	3.64	0.00	3.64
5.45	0.37	0.67	0.55*	3.64	0.00	3.64
5.50	0.37	0.67	0.55*	3.63	0.00	3.63
5.55	0.37	0.68	0.55*	3.63	0.00	3.63
5.60	0.37	0.68	0.54*	3.62	0.00	3.62
5.65	0.37	0.68	0.54*	3.62	0.00	3.62
5.70	0.37	0.69	0.54*	3.61	0.00	3.61
5.75	0.37	0.69	0.53*	3.61	0.00	3.61
5.80	0.37	0.69	0.53*	3.60	0.00	3.60
5.85	0.37	0.70	0.53*	3.59	0.00	3.59
5.90	0.37	0.70	0.53*	3.59	0.00	3.59
5.95	0.37	0.70	0.52*	3.58	0.00	3.58
6.00	0.37	0.71	0.52*	3.58	0.00	3.58
6.05	0.37	0.71	0.52*	3.57	0.00	3.57
6.10	0.37	0.71	0.52*	3.57	0.00	3.57
6.15	0.37	0.71	0.51*	3.56	0.00	3.56
6.20	0.37	0.72	0.51*	3.56	0.00	3.56

6.25	0.37	0.72	0.51*	3.55	0.00	3.55
6.30	0.37	0.72	0.51*	3.54	0.00	3.54
6.35	0.37	0.73	0.51*	3.54	0.00	3.54
6.40	0.37	0.73	0.50*	3.53	0.00	3.53
6.45	0.37	0.73	0.50*	3.53	0.00	3.53
6.50	0.37	0.73	0.50*	3.52	0.00	3.52
6.55	0.37	0.74	0.50*	3.52	0.00	3.52
6.60	0.37	0.74	0.49*	3.51	0.00	3.51
6.65	0.36	0.74	0.49*	3.51	0.00	3.51
6.70	0.36	0.74	0.48*	3.50	0.00	3.50
6.75	0.36	0.75	0.48*	3.49	0.00	3.49
6.80	0.35	0.75	0.47*	3.49	0.00	3.49
6.85	0.35	0.75	0.47*	3.48	0.00	3.48
6.90	0.35	0.75	0.46*	3.48	0.00	3.48
6.95	0.35	0.76	0.46*	3.47	0.00	3.47
7.00	0.35	0.76	0.46*	3.46	0.00	3.46
7.05	0.34	0.76	0.45*	3.46	0.00	3.46
7.10	0.34	0.76	0.45*	3.45	0.00	3.45
7.15	0.34	0.77	0.44*	3.45	0.00	3.45
7.20	0.34	0.77	0.44*	3.44	0.00	3.44
7.25	0.34	0.77	0.44*	3.43	0.00	3.43
7.30	0.33	0.77	0.43*	3.43	0.00	3.43
7.35	0.33	0.78	0.43*	3.42	0.00	3.42
7.40	0.33	0.78	0.43*	3.41	0.00	3.41
7.45	0.33	0.78	0.42*	3.41	0.00	3.41
7.50	0.33	0.78	0.42*	3.40	0.00	3.40
7.55	0.33	0.79	0.42*	3.40	0.00	3.40
7.60	0.33	0.79	0.41*	3.39	0.00	3.39
7.65	0.32	0.79	0.41*	3.38	0.00	3.38
7.70	0.32	0.79	0.41*	3.38	0.00	3.38
7.75	0.32	0.80	0.40*	3.37	0.00	3.37
7.80	0.32	0.80	0.40*	3.36	0.00	3.36
7.85	0.32	0.80	0.40*	3.36	0.00	3.36
7.90	0.32	0.80	0.40*	3.35	0.00	3.35
7.95	0.32	0.80	0.39*	3.34	0.00	3.34
8.00	0.32	0.81	0.39*	3.34	0.00	3.34
8.05	0.31	0.81	0.39*	3.33	0.00	3.33
8.10	0.31	0.81	0.39*	3.32	0.00	3.32
8.15	0.31	0.81	0.38*	3.32	0.00	3.32
8.20	0.31	0.81	0.38*	3.31	0.00	3.31
8.25	0.37	0.82	0.45*	3.30	0.00	3.30
8.30	0.37	0.82	0.45*	3.30	0.00	3.30
8.35	0.36	0.82	0.44*	3.29	0.00	3.29
8.40	0.36	0.82	0.44*	3.29	0.00	3.29
8.45	0.36	0.83	0.44*	3.28	0.00	3.28
8.50	0.36	0.83	0.43*	3.28	0.00	3.28
8.55	0.36	0.83	0.43*	3.27	0.00	3.27
8.60	0.35	0.83	0.43*	3.27	0.00	3.27
8.65	0.35	0.83	0.42*	3.26	0.00	3.26
8.70	0.35	0.84	0.42*	3.25	0.00	3.25

8.75	0.35	0.84	0.42*	3.25	0.00	3.25
8.80	0.35	0.84	0.41*	3.24	0.00	3.24
8.85	0.35	0.84	0.41*	3.24	0.00	3.24
8.90	0.34	0.84	0.41*	3.23	0.00	3.23
8.95	0.34	0.84	0.41*	3.22	0.00	3.22
9.00	0.34	0.85	0.40*	3.22	0.00	3.22
9.05	0.34	0.85	0.40*	3.21	0.00	3.21
9.10	0.34	0.85	0.40*	3.20	0.00	3.20
9.15	0.34	0.85	0.40*	3.20	0.00	3.20
9.20	0.34	0.85	0.39*	3.19	0.00	3.19
9.25	0.33	0.86	0.39*	3.19	0.00	3.19
9.30	0.33	0.86	0.39*	3.18	0.00	3.18
9.35	0.33	0.86	0.39*	3.17	0.00	3.17
9.40	0.33	0.86	0.38*	3.17	0.00	3.17
9.45	0.33	0.86	0.38*	3.16	0.00	3.16
9.50	0.33	0.86	0.38*	3.15	0.00	3.15
9.55	0.33	0.87	0.38*	3.15	0.00	3.15
9.60	0.33	0.87	0.38*	3.14	0.00	3.14
9.65	0.33	0.87	0.37*	3.14	0.00	3.14
9.70	0.32	0.87	0.37*	3.13	0.00	3.13
9.75	0.32	0.87	0.37*	3.12	0.00	3.12
9.80	0.32	0.88	0.37*	3.12	0.00	3.12
9.85	0.32	0.88	0.37*	3.11	0.00	3.11
9.90	0.32	0.88	0.36*	3.10	0.00	3.10
9.95	0.32	0.88	0.36*	3.10	0.00	3.10
10.00	0.32	0.88	0.36*	3.09	0.00	3.09
10.05	0.32	0.88	0.36*	3.08	0.00	3.08
10.10	0.32	0.89	0.36*	3.08	0.00	3.08
10.15	0.32	0.89	0.36*	3.07	0.00	3.07
10.20	0.32	0.89	0.36*	3.06	0.00	3.06
10.25	0.32	0.89	0.35*	3.06	0.00	3.06
10.30	0.31	0.89	0.35*	3.05	0.00	3.05
10.35	0.31	0.89	0.35*	3.05	0.00	3.05
10.40	0.31	0.89	0.35*	3.04	0.00	3.04
10.45	0.31	0.90	0.35*	3.03	0.00	3.03
10.50	0.31	0.90	0.35*	3.03	0.00	3.03
10.55	0.31	0.90	0.35*	3.02	0.00	3.02
10.60	0.31	0.90	0.35*	3.01	0.00	3.01
10.65	0.31	0.90	0.34*	3.01	0.00	3.01
10.70	0.31	0.90	0.34*	3.00	0.00	3.00
10.75	0.31	0.91	0.34*	2.99	0.00	2.99
10.80	0.31	0.91	0.34*	2.99	0.00	2.99
10.85	0.31	0.91	0.34*	2.98	0.00	2.98
10.90	0.31	0.91	0.34*	2.97	0.00	2.97
10.95	0.31	0.91	0.34*	2.97	0.00	2.97
11.00	0.31	0.91	0.34*	2.96	0.00	2.96
11.05	0.31	0.91	0.33*	2.95	0.00	2.95
11.10	0.31	0.92	0.33*	2.95	0.00	2.95
11.15	0.30	0.92	0.33*	2.94	0.00	2.94
11.20	0.30	0.92	0.33*	2.93	0.00	2.93

11.25	0.30	0.92	0.33*	2.92	0.00	2.92
11.30	0.30	0.92	0.33*	2.92	0.00	2.92
11.35	0.30	0.92	0.33*	2.91	0.00	2.91
11.40	0.30	0.92	0.33*	2.90	0.00	2.90
11.45	0.30	0.92	0.33*	2.90	0.00	2.90
11.50	0.30	0.93	0.32*	2.89	0.00	2.89
11.55	0.30	0.93	0.32*	2.88	0.00	2.88
11.60	0.30	0.93	0.32*	2.88	0.00	2.88
11.65	0.30	0.93	0.32*	2.87	0.00	2.87
11.70	0.30	0.93	0.32*	2.86	0.00	2.86
11.75	0.30	0.93	0.32*	2.86	0.00	2.86
11.80	0.30	0.93	0.32*	2.85	0.00	2.85
11.85	0.30	0.94	0.32*	2.84	0.00	2.84
11.90	0.30	0.94	0.32*	2.84	0.00	2.84
11.95	0.30	0.94	0.32*	2.83	0.00	2.83
12.00	0.30	0.94	0.31*	2.82	0.00	2.82
12.05	0.29	0.94	0.31*	2.81	0.00	2.81
12.10	0.29	0.94	0.31*	2.81	0.00	2.81
12.15	0.29	0.94	0.31*	2.80	0.00	2.80
12.20	0.29	0.94	0.31*	2.79	0.00	2.79
12.25	0.29	0.95	0.31*	2.79	0.00	2.79
12.30	0.29	0.95	0.31*	2.78	0.00	2.78
12.35	0.29	0.95	0.31*	2.77	0.00	2.77
12.40	0.29	0.95	0.31*	2.77	0.00	2.77
12.45	0.29	0.95	0.31*	2.76	0.00	2.76
12.50	0.29	0.95	0.30*	2.75	0.00	2.75
12.55	0.29	0.95	0.30*	2.74	0.00	2.74
12.60	0.29	0.95	0.30*	2.74	0.00	2.74
12.65	0.29	0.95	0.30*	2.73	0.00	2.73
12.70	0.29	0.96	0.30*	2.72	0.00	2.72
12.75	0.29	0.96	0.30*	2.72	0.00	2.72
12.80	0.29	0.96	0.30*	2.71	0.00	2.71
12.85	0.29	0.96	0.30*	2.70	0.00	2.70
12.90	0.29	0.96	0.30*	2.69	0.00	2.69
12.95	0.29	0.96	0.30*	2.69	0.00	2.69
13.00	0.28	0.96	0.30*	2.68	0.00	2.68
13.05	0.28	0.96	0.30*	2.67	0.00	2.67
13.10	0.28	0.96	0.29*	2.67	0.00	2.67
13.15	0.28	0.97	0.29*	2.66	0.00	2.66
13.20	0.28	0.97	0.29*	2.65	0.00	2.65
13.25	0.28	0.97	0.29*	2.64	0.00	2.64
13.30	0.28	0.97	0.29*	2.64	0.00	2.64
13.35	0.28	0.97	0.29*	2.63	0.00	2.63
13.40	0.28	0.97	0.29*	2.62	0.00	2.62
13.45	0.28	0.97	0.29*	2.62	0.00	2.62
13.50	0.28	0.97	0.29*	2.61	0.00	2.61
13.55	0.28	0.97	0.29*	2.60	0.00	2.60
13.60	0.28	0.97	0.29*	2.59	0.00	2.59
13.65	0.28	0.98	0.29*	2.59	0.00	2.59
13.70	0.28	0.98	0.28*	2.58	0.00	2.58

13.75	0.28	0.98	0.28*	2.57	0.00	2.57
13.80	0.28	0.98	0.28*	2.56	0.00	2.56
13.85	0.28	0.98	0.28*	2.56	0.00	2.56
13.90	0.28	0.98	0.28*	2.55	0.00	2.55
13.95	0.28	0.98	0.28*	2.54	0.00	2.54
14.00	0.27	0.98	0.28*	2.53	0.00	2.53
14.05	0.27	0.98	0.28*	2.53	0.00	2.53
14.10	0.27	0.98	0.28*	2.52	0.00	2.52
14.15	0.27	0.99	0.28*	2.51	0.00	2.51
14.20	0.27	0.99	0.28*	2.50	0.00	2.50
14.25	0.27	0.99	0.28*	2.50	0.00	2.50
14.30	0.27	0.99	0.27*	2.49	0.00	2.49
14.35	0.27	0.99	0.27*	2.48	0.00	2.48
14.40	0.27	0.99	0.27*	2.47	0.00	2.47
14.45	0.27	0.99	0.27*	2.47	0.00	2.47
14.50	0.27	0.99	0.27*	2.46	0.00	2.46
14.55	0.27	0.99	0.27*	2.45	0.00	2.45
14.60	0.27	0.99	0.27*	2.44	0.00	2.44
14.65	0.27	0.99	0.27*	2.44	0.00	2.44
14.70	0.27	1.00	0.27*	2.43	0.00	2.43
14.75	0.27	1.00	0.27*	2.42	0.00	2.42
14.80	0.30	1.00	0.30*	2.41	0.00	2.41
14.85	0.30	1.00	0.30*	2.41	0.00	2.41
14.90	0.30	1.00	0.30*	2.40	0.00	2.40
14.95	0.30	1.00	0.30*	2.39	0.00	2.39
15.00	0.30	1.00	0.30*	2.39	0.00	2.39
15.05	0.30	1.00	0.30*	2.38	0.00	2.38
15.10	0.30	1.00	0.30*	2.37	0.00	2.37
15.15	0.30	1.00	0.30*	2.37	0.00	2.37
15.20	0.31	1.00	0.30*	2.36	0.00	2.36
15.25	0.31	1.00	0.30*	2.35	0.00	2.35
15.30	0.31	1.00	0.31*	2.35	0.00	2.35
15.35	0.31	1.01	0.31*	2.34	0.00	2.34
15.40	0.31	1.01	0.31*	2.33	0.00	2.33
15.45	0.31	1.01	0.31*	2.33	0.00	2.33
15.50	0.31	1.01	0.31*	2.32	0.00	2.32
15.55	0.31	1.01	0.31*	2.31	0.00	2.31
15.60	0.31	1.01	0.31*	2.31	0.00	2.31
15.65	0.31	1.01	0.31*	2.30	0.00	2.30
15.70	0.32	1.01	0.31*	2.29	0.00	2.29
15.75	0.32	1.01	0.31*	2.29	0.00	2.29
15.80	0.32	1.01	0.31*	2.28	0.00	2.28
15.85	0.32	1.01	0.31*	2.27	0.00	2.27
15.90	0.32	1.01	0.32*	2.27	0.00	2.27
15.95	0.32	1.01	0.32*	2.26	0.00	2.26
16.00	0.32	1.02	0.32*	2.25	0.00	2.25
16.05	0.32	1.02	0.32*	2.25	0.00	2.25
16.10	0.33	1.02	0.32*	2.24	0.00	2.24
16.15	0.33	1.02	0.32*	2.23	0.00	2.23
16.20	0.33	1.02	0.32*	2.23	0.00	2.23

16.25	0.33	1.02	0.32*	2.22	0.00	2.22
16.30	0.33	1.02	0.32*	2.22	0.00	2.22
16.35	0.33	1.02	0.33*	2.21	0.00	2.21
16.40	0.33	1.02	0.33*	2.20	0.00	2.20
16.45	0.33	1.02	0.33*	2.20	0.00	2.20
16.50	0.34	1.02	0.33*	2.19	0.00	2.19
16.55	0.34	1.02	0.33*	2.18	0.00	2.18
16.60	0.34	1.02	0.33*	2.18	0.00	2.18
16.65	0.34	1.02	0.33*	2.17	0.00	2.17
16.70	0.34	1.03	0.33*	2.17	0.00	2.17
16.75	0.34	1.03	0.34*	2.16	0.00	2.16
16.80	0.35	1.03	0.34*	2.15	0.00	2.15
16.85	0.35	1.03	0.34*	2.15	0.00	2.15
16.90	0.35	1.03	0.34*	2.14	0.00	2.14
16.95	0.35	1.03	0.34*	2.14	0.00	2.14
17.00	0.35	1.03	0.34*	2.13	0.00	2.13
17.05	0.35	1.03	0.34*	2.12	0.00	2.12
17.10	0.36	1.03	0.35*	2.12	0.00	2.12
17.15	0.36	1.03	0.35*	2.11	0.00	2.11
17.20	0.36	1.03	0.35*	2.11	0.00	2.11
17.25	0.36	1.03	0.35*	2.10	0.00	2.10
17.30	0.36	1.03	0.35*	2.09	0.00	2.09
17.35	0.37	1.03	0.35*	2.09	0.00	2.09
17.40	0.37	1.03	0.36*	2.08	0.00	2.08
17.45	0.37	1.04	0.36*	2.08	0.00	2.08
17.50	0.37	1.04	0.36*	2.07	0.00	2.07
17.55	0.38	1.04	0.36*	2.07	0.00	2.07
17.60	0.38	1.04	0.36*	2.06	0.00	2.06
17.65	0.38	1.04	0.37*	2.06	0.00	2.06
17.70	0.38	1.04	0.37*	2.05	0.00	2.05
17.75	0.39	1.04	0.37*	2.05	0.00	2.05
17.80	0.39	1.04	0.37*	2.04	0.00	2.04
17.85	0.39	1.04	0.38*	2.04	0.00	2.04
17.90	0.40	1.04	0.38*	2.03	0.00	2.03
17.95	0.40	1.04	0.38*	2.03	0.00	2.03
18.00	0.40	1.04	0.39*	2.02	0.00	2.02
18.05	0.41	1.04	0.39*	2.02	0.00	2.02
18.10	0.41	1.04	0.40*	2.01	0.00	2.01
18.15	0.42	1.04	0.40*	2.01	0.00	2.01
18.20	0.43	1.04	0.41*	2.00	0.00	2.00
18.25	0.43	1.04	0.42*	2.00	0.00	2.00
18.30	0.44	1.05	0.42*	1.99	0.00	1.99
18.35	0.45	1.05	0.44*	1.99	0.00	1.99
18.40	0.47	1.05	0.45*	1.98	0.00	1.98
18.45	0.49	1.05	0.47*	1.98	0.00	1.98
18.50	0.51	1.05	0.49*	1.97	0.00	1.97
18.55	0.51	1.05	0.49*	1.97	0.00	1.97
18.60	0.51	1.05	0.48*	1.96	0.00	1.96
18.65	0.51	1.05	0.48*	1.96	0.00	1.96
18.70	0.51	1.05	0.48*	1.96	0.00	1.96

18.75	0.51	1.05	0.48*	1.95	0.00	1.95
18.80	0.51	1.05	0.48*	1.95	0.00	1.95
18.85	0.51	1.05	0.48*	1.94	0.00	1.94
18.90	0.51	1.05	0.48*	1.94	0.00	1.94
18.95	0.51	1.05	0.48*	1.94	0.00	1.94
19.00	0.51	1.05	0.48*	1.93	0.00	1.93
19.05	0.51	1.05	0.48*	1.93	0.00	1.93
19.10	0.51	1.05	0.48*	1.92	0.00	1.92
19.15	0.51	1.05	0.48*	1.92	0.00	1.92
19.20	0.51	1.05	0.48*	1.92	0.00	1.92
19.25	0.51	1.06	0.48*	1.91	0.00	1.91
19.30	0.51	1.06	0.48*	1.91	0.00	1.91
19.35	0.51	1.06	0.48*	1.91	0.00	1.91
19.40	0.51	1.06	0.48*	1.90	0.00	1.90
19.45	0.51	1.06	0.48*	1.90	0.00	1.90
19.50	0.51	1.06	0.48*	1.90	0.00	1.90
19.55	0.51	1.06	0.48*	1.89	0.00	1.89
19.60	0.51	1.06	0.48*	1.89	0.00	1.89
19.65	0.51	1.06	0.48*	1.89	0.00	1.89
19.70	0.51	1.06	0.48*	1.88	0.00	1.88
19.75	0.51	1.06	0.48*	1.88	0.00	1.88
19.80	0.51	1.06	0.48*	1.88	0.00	1.88
19.85	0.51	1.06	0.48*	1.87	0.00	1.87
19.90	0.51	1.06	0.48*	1.87	0.00	1.87
19.95	0.51	1.06	0.48*	1.87	0.00	1.87
20.00	0.51	1.06	0.48*	1.87	0.00	1.87
20.05	0.51	1.06	0.48*	1.86	0.00	1.86
20.10	0.51	1.06	0.48*	1.86	0.00	1.86
20.15	0.51	1.06	0.48*	1.86	0.00	1.86
20.20	0.51	1.06	0.48*	1.86	0.00	1.86
20.25	0.51	1.06	0.48*	1.85	0.00	1.85
20.30	0.51	1.07	0.48*	1.85	0.00	1.85
20.35	0.51	1.07	0.48*	1.85	0.00	1.85
20.40	0.51	1.07	0.48*	1.84	0.00	1.84
20.45	0.51	1.07	0.48*	1.84	0.00	1.84
20.50	0.51	1.07	0.48*	1.83	0.00	1.83
20.55	0.51	1.07	0.48*	1.83	0.00	1.83
20.60	0.51	1.07	0.48*	1.83	0.00	1.83
20.65	0.51	1.07	0.48*	1.82	0.00	1.82
20.70	0.51	1.07	0.48*	1.82	0.00	1.82
20.75	0.49	1.07	0.45*	1.81	0.00	1.81
20.80	0.45	1.07	0.42*	1.81	0.00	1.81
20.85	0.43	1.07	0.40*	1.81	0.00	1.81
20.90	0.41	1.07	0.39*	1.80	0.00	1.80
20.95	0.40	1.07	0.38*	1.80	0.00	1.80
21.00	0.40	1.07	0.37*	1.79	0.00	1.79
21.05	0.39	1.07	0.36*	1.79	0.00	1.79
21.10	0.38	1.07	0.36*	1.78	0.00	1.78
21.15	0.37	1.07	0.35*	1.78	0.00	1.78
21.20	0.37	1.07	0.34*	1.77	0.00	1.77

21.25	0.36	1.07	0.34*	1.76	0.00	1.76
21.30	0.36	1.07	0.33*	1.76	0.00	1.76
21.35	0.36	1.07	0.33*	1.75	0.00	1.75
21.40	0.35	1.08	0.33*	1.75	0.00	1.75
21.45	0.35	1.08	0.32*	1.74	0.00	1.74
21.50	0.34	1.08	0.32*	1.74	0.00	1.74
21.55	0.34	1.08	0.31*	1.73	0.00	1.73
21.60	0.34	1.08	0.31*	1.72	0.00	1.72
21.65	0.33	1.08	0.31*	1.72	0.00	1.72
21.70	0.33	1.08	0.30*	1.71	0.00	1.71
21.75	0.32	1.08	0.30*	1.70	0.00	1.70
21.80	0.32	1.08	0.30*	1.70	0.00	1.70
21.85	0.32	1.08	0.30*	1.69	0.00	1.69
21.90	0.32	1.08	0.29*	1.69	0.00	1.69
21.95	0.31	1.08	0.29*	1.68	0.00	1.68
22.00	0.31	1.08	0.29*	1.67	0.00	1.67
22.05	0.31	1.08	0.28*	1.67	0.00	1.67
22.10	0.30	1.08	0.28*	1.66	0.00	1.66
22.15	0.30	1.08	0.28*	1.65	0.00	1.65
22.20	0.30	1.08	0.28*	1.64	0.00	1.64
22.25	0.30	1.08	0.27*	1.64	0.00	1.64
22.30	0.29	1.08	0.27*	1.63	0.00	1.63
22.35	0.29	1.08	0.27*	1.62	0.00	1.62
22.40	0.29	1.08	0.27*	1.62	0.00	1.62
22.45	0.29	1.08	0.26*	1.61	0.00	1.61
22.50	0.28	1.08	0.26*	1.60	0.00	1.60
22.55	0.28	1.09	0.26*	1.60	0.00	1.60
22.60	0.28	1.09	0.26*	1.59	0.00	1.59
22.65	0.28	1.09	0.25*	1.58	0.00	1.58
22.70	0.27	1.09	0.25*	1.57	0.00	1.57
22.75	0.27	1.09	0.25*	1.57	0.00	1.57
22.80	0.27	1.09	0.25*	1.56	0.00	1.56
22.85	0.27	1.09	0.24*	1.55	0.00	1.55
22.90	0.26	1.09	0.24*	1.54	0.00	1.54
22.95	0.26	1.09	0.24*	1.54	0.00	1.54
23.00	0.26	1.09	0.24*	1.53	0.00	1.53
23.05	0.26	1.09	0.24*	1.52	0.00	1.52
23.10	0.26	1.09	0.23*	1.51	0.00	1.51
23.15	0.25	1.09	0.23*	1.50	0.00	1.50
23.20	0.25	1.09	0.23*	1.50	0.00	1.50
23.25	0.25	1.09	0.23*	1.49	0.00	1.49
23.30	0.25	1.09	0.23*	1.48	0.00	1.48
23.35	0.25	1.09	0.22*	1.47	0.00	1.47
23.40	0.24	1.09	0.22*	1.46	0.00	1.46
23.45	0.24	1.09	0.22*	1.46	0.00	1.46
23.50	0.24	1.09	0.22*	1.45	0.00	1.45
23.55	0.24	1.09	0.22*	1.44	0.00	1.44
23.60	0.24	1.09	0.22*	1.43	0.00	1.43
23.65	0.23	1.09	0.21*	1.42	0.00	1.42
23.70	0.23	1.09	0.21*	1.41	0.00	1.41

23.75	0.23	1.10	0.21*	1.40	0.00	1.40
23.80	0.23	1.10	0.21*	1.40	0.00	1.40
23.85	0.23	1.10	0.21*	1.39	0.00	1.39
23.90	0.22	1.10	0.20*	1.38	0.00	1.38
23.95	0.22	1.10	0.20*	1.37	0.00	1.37
24.00	0.22	1.10	0.20*	1.36	0.00	1.36
24.05	0.22	1.10	0.20*	1.35	0.00	1.35
24.10	0.22	1.10	0.20*	1.34	0.00	1.34
24.15	0.22	1.10	0.20*	1.33	0.00	1.33
24.20	0.21	1.10	0.19*	1.32	0.00	1.32
24.25	0.21	1.10	0.19*	1.31	0.00	1.31
24.30	0.21	1.10	0.19*	1.31	0.00	1.31
24.35	0.21	1.10	0.19*	1.30	0.00	1.30
24.40	0.21	1.10	0.19*	1.29	0.00	1.29
24.45	0.21	1.10	0.19*	1.28	0.00	1.28
24.50	0.20	1.10	0.19*	1.27	0.00	1.27
24.55	0.20	1.10	0.18*	1.26	0.00	1.26
24.60	0.20	1.10	0.18*	1.25	0.00	1.25
24.65	0.20	1.10	0.18*	1.24	0.00	1.24
24.70	0.20	1.10	0.18*	1.23	0.00	1.23
24.75	0.20	1.10	0.18*	1.22	0.00	1.22
24.80	0.19	1.10	0.18*	1.21	0.00	1.21
24.85	0.19	1.10	0.17*	1.20	0.00	1.20
24.90	0.19	1.10	0.17*	1.19	0.00	1.19
24.95	0.19	1.10	0.17*	1.18	0.00	1.18
25.00	0.19	1.11	0.17*	1.17	0.00	1.17
25.05	0.19	1.11	0.17*	1.16	0.00	1.16
25.10	0.19	1.11	0.17*	1.15	0.00	1.15
25.15	0.19	1.11	0.17*	1.13	0.00	1.13
25.20	0.19	1.11	0.17*	1.12	0.00	1.12
25.25	0.19	1.11	0.17*	1.11	0.00	1.11
25.30	0.19	1.11	0.18*	1.10	0.00	1.10
25.35	0.19	1.11	0.18*	1.09	0.00	1.09
25.40	0.20	1.11	0.18*	1.08	0.00	1.08
25.45	0.20	1.11	0.18*	1.07	0.00	1.07
25.50	0.20	1.11	0.18*	1.06	0.00	1.06
25.55	0.20	1.11	0.18*	1.05	0.00	1.05
25.60	0.20	1.11	0.18*	1.04	0.00	1.04
25.65	0.20	1.11	0.18*	1.03	0.00	1.03
25.70	0.20	1.11	0.18*	1.02	0.00	1.02
25.75	0.20	1.11	0.18*	1.01	0.00	1.01
25.80	0.21	1.11	0.18*	1.00	0.00	1.00
25.85	0.21	1.11	0.19*	0.99	0.00	0.99
25.90	0.21	1.11	0.19*	0.99	0.00	0.99
25.95	0.21	1.11	0.19*	0.98	0.00	0.98
26.00	0.21	1.11	0.19*	0.97	0.00	0.97
26.05	0.21	1.11	0.19*	0.96	0.00	0.96
26.10	0.21	1.11	0.19*	0.95	0.00	0.95
26.15	0.21	1.11	0.19*	0.94	0.00	0.94
26.20	0.22	1.11	0.19*	0.93	0.00	0.93

26.25	0.22	1.11	0.19*	0.92	0.00	0.92
26.30	0.22	1.12	0.20*	0.91	0.00	0.91
26.35	0.22	1.12	0.20*	0.90	0.00	0.90
26.40	0.22	1.12	0.20*	0.89	0.00	0.89
26.45	0.22	1.12	0.20*	0.88	0.00	0.88
26.50	0.22	1.12	0.20*	0.87	0.00	0.87
26.55	0.22	1.12	0.20*	0.87	0.00	0.87
26.60	0.23	1.12	0.20*	0.86	0.00	0.86
26.65	0.23	1.12	0.20*	0.85	0.00	0.85
26.70	0.23	1.12	0.20*	0.84	0.00	0.84
26.75	0.23	1.12	0.21*	0.83	0.00	0.83
26.80	0.23	1.12	0.21*	0.82	0.00	0.82
26.85	0.23	1.12	0.21*	0.81	0.00	0.81
26.90	0.23	1.12	0.21*	0.80	0.00	0.80
26.95	0.24	1.12	0.21*	0.80	0.00	0.80
27.00	0.24	1.12	0.21*	0.79	0.00	0.79
27.05	0.24	1.12	0.21*	0.78	0.00	0.78
27.10	0.24	1.12	0.21*	0.77	0.00	0.77
27.15	0.24	1.12	0.21*	0.76	0.00	0.76
27.20	0.24	1.12	0.22*	0.75	0.00	0.75
27.25	0.24	1.12	0.22*	0.75	0.00	0.75
27.30	0.25	1.12	0.22*	0.74	0.00	0.74
27.35	0.25	1.12	0.22*	0.73	0.00	0.73
27.40	0.25	1.12	0.22*	0.72	0.00	0.72
27.45	0.25	1.12	0.22*	0.71	0.00	0.71
27.50	0.25	1.12	0.22*	0.70	0.00	0.70
27.55	0.25	1.12	0.22*	0.70	0.00	0.70
27.60	0.25	1.12	0.23*	0.69	0.00	0.69
27.65	0.26	1.12	0.23*	0.68	0.00	0.68
27.70	0.26	1.12	0.23*	0.67	0.00	0.67
27.75	0.26	1.13	0.23*	0.66	0.00	0.66
27.80	0.26	1.13	0.23*	0.66	0.00	0.66
27.85	0.26	1.13	0.23*	0.65	0.00	0.65
27.90	0.27	1.13	0.24*	0.64	0.00	0.64
27.95	0.27	1.13	0.24*	0.63	0.00	0.63
28.00	0.27	1.13	0.24*	0.63	0.00	0.63
28.05	0.28	1.13	0.25*	0.62	0.00	0.62
28.10	0.28	1.13	0.25*	0.61	0.00	0.61
28.15	0.28	1.13	0.25*	0.60	0.00	0.60
28.20	0.28	1.13	0.25*	0.60	0.00	0.60
28.25	0.28	1.13	0.25*	0.59	0.00	0.59
28.30	0.29	1.13	0.25*	0.58	0.00	0.58
28.35	0.29	1.13	0.25*	0.57	0.00	0.57
28.40	0.29	1.13	0.26*	0.57	0.00	0.57
28.45	0.29	1.13	0.26*	0.56	0.00	0.56
28.50	0.29	1.13	0.26*	0.55	0.00	0.55
28.55	0.29	1.13	0.26*	0.55	0.00	0.55
28.60	0.30	1.13	0.26*	0.54	0.00	0.54
28.65	0.30	1.13	0.26*	0.53	0.00	0.53
28.70	0.30	1.13	0.27*	0.53	0.00	0.53

28.75	0.30	1.13	0.27*	0.52	0.00	0.52
28.80	0.30	1.13	0.27*	0.51	0.00	0.51
28.85	0.31	1.13	0.27*	0.51	0.00	0.51
28.90	0.31	1.13	0.27*	0.50	0.00	0.50
28.95	0.31	1.13	0.27*	0.49	0.00	0.49
29.00	0.31	1.13	0.28*	0.49	0.00	0.49
29.05	0.32	1.13	0.28*	0.48	0.00	0.48
29.10	0.32	1.13	0.28*	0.47	0.00	0.47
29.15	0.32	1.13	0.28*	0.47	0.00	0.47
29.20	0.32	1.13	0.28*	0.46	0.00	0.46
29.25	0.33	1.13	0.29*	0.45	0.00	0.45
29.30	0.33	1.13	0.29*	0.45	0.00	0.45
29.35	0.33	1.13	0.29*	0.44	0.00	0.44
29.40	0.33	1.13	0.29*	0.43	0.00	0.43
29.45	0.34	1.14	0.30*	0.43	0.00	0.43
29.50	0.34	1.14	0.30*	0.42	0.00	0.42
29.55	0.34	1.14	0.30*	0.41	0.00	0.41
29.60	0.35	1.14	0.30*	0.41	0.00	0.41
29.65	0.35	1.14	0.31*	0.40	0.00	0.40
29.70	0.35	1.14	0.31*	0.40	0.00	0.40
29.75	0.36	1.14	0.31*	0.39	0.00	0.39
29.80	0.36	1.14	0.32*	0.38	0.00	0.38
29.85	0.36	1.14	0.32*	0.38	0.00	0.38
29.90	0.37	1.14	0.32*	0.37	0.00	0.37
29.95	0.37	1.14	0.32*	0.37	0.00	0.37
30.00	0.37	1.14	0.32*	0.37	0.00	0.37
30.05	0.38	1.14	0.33*	0.37	0.00	0.37
30.10	0.38	1.14	0.34*	0.37	0.00	0.37
30.15	0.39	1.14	0.34*	0.36	0.00	0.36
30.20	0.39	1.14	0.34*	0.36	0.00	0.36
30.25	0.40	1.14	0.35*	0.35	0.00	0.35
30.30	0.40	1.14	0.36*	0.35	0.00	0.35
30.35	0.41	1.14	0.36*	0.34	0.00	0.34
30.40	0.42	1.14	0.37*	0.34	0.00	0.34
30.45	0.43	1.14	0.38*	0.33	0.00	0.33
30.50	0.44	1.14	0.39*	0.33	0.00	0.33
30.55	0.46	1.14	0.41*	0.32	0.00	0.32
30.60	0.49	1.14	0.43*	0.32	0.00	0.32
30.65	0.51	1.14	0.45*	0.31	0.00	0.31
30.70	0.51	1.14	0.45*	0.31	0.00	0.31
30.75	0.51	1.14	0.45*	0.31	0.00	0.31
30.80	0.51	1.14	0.45*	0.30	0.00	0.30
30.85	0.51	1.14	0.45*	0.30	0.00	0.30
30.90	0.51	1.14	0.45*	0.29	0.00	0.29
30.95	0.51	1.14	0.45*	0.29	0.00	0.29
31.00	0.51	1.14	0.45*	0.29	0.00	0.29
31.05	0.51	1.14	0.45*	0.28	0.00	0.28
31.10	0.51	1.13	0.45*	0.28	0.00	0.28
31.15	0.51	1.13	0.45*	0.27	0.00	0.27
31.20	0.51	1.13	0.45*	0.27	0.00	0.27

31.25	0.51	1.13	0.45*	0.27	0.00	0.27
31.30	0.51	1.13	0.45*	0.26	0.00	0.26
31.35	0.51	1.13	0.45*	0.26	0.00	0.26
31.40	0.51	1.13	0.45*	0.26	0.00	0.26
31.45	0.51	1.13	0.45*	0.25	0.00	0.25
31.50	0.51	1.13	0.45*	0.25	0.00	0.25
31.55	0.51	1.13	0.45*	0.25	0.00	0.25
31.60	0.51	1.13	0.45*	0.25	0.00	0.25
31.65	0.51	1.13	0.45*	0.24	0.00	0.24
31.70	0.51	1.13	0.45*	0.24	0.00	0.24
31.75	0.51	1.13	0.45*	0.24	0.00	0.24
31.80	0.51	1.13	0.45*	0.23	0.00	0.23
31.85	0.51	1.13	0.45*	0.23	0.00	0.23
31.90	0.50	1.13	0.45*	0.23	0.00	0.23
31.95	0.50	1.13	0.45*	0.23	0.00	0.23
32.00	0.50	1.13	0.45*	0.23	0.00	0.23
32.05	0.50	1.13	0.45*	0.22	0.00	0.22
32.10	0.50	1.13	0.45*	0.22	0.00	0.22
32.15	0.50	1.13	0.45*	0.22	0.00	0.22
32.20	0.50	1.13	0.45*	0.22	0.00	0.22
32.25	0.50	1.13	0.45*	0.22	0.00	0.22
32.30	0.50	1.13	0.45*	0.22	0.00	0.22
32.35	0.50	1.13	0.45*	0.21	0.00	0.21
32.40	0.50	1.13	0.45*	0.21	0.00	0.21
32.45	0.50	1.13	0.45*	0.21	0.00	0.21
32.50	0.50	1.13	0.45*	0.21	0.00	0.21
32.55	0.50	1.13	0.45*	0.21	0.00	0.21
32.60	0.50	1.13	0.45*	0.21	0.00	0.21
32.65	0.50	1.13	0.45*	0.21	0.00	0.21
32.70	0.50	1.13	0.45*	0.21	0.00	0.21
32.75	0.50	1.13	0.45*	0.21	0.00	0.21
32.80	0.50	1.13	0.45*	0.20	0.00	0.20
32.85	0.50	1.12	0.45*	0.20	0.00	0.20
32.90	0.50	1.12	0.45*	0.20	0.00	0.20
32.95	0.50	1.12	0.45*	0.20	0.00	0.20
33.00	0.50	1.12	0.45*	0.20	0.00	0.20
33.05	0.50	1.12	0.45*	0.20	0.00	0.20
33.10	0.50	1.12	0.45*	0.20	0.00	0.20
33.15	0.50	1.12	0.45*	0.20	0.00	0.20
33.20	0.50	1.12	0.45*	0.20	0.00	0.20
33.25	0.50	1.12	0.45*	0.20	0.00	0.20
33.30	0.50	1.12	0.45*	0.19	0.00	0.19
33.35	0.50	1.12	0.45*	0.19	0.00	0.19
33.40	0.50	1.12	0.45*	0.19	0.00	0.19
33.45	0.50	1.12	0.45*	0.19	0.00	0.19
33.50	0.50	1.12	0.45*	0.19	0.00	0.19
33.55	0.50	1.12	0.45*	0.19	0.00	0.19
33.60	0.50	1.12	0.45*	0.19	0.00	0.19
33.65	0.50	1.12	0.45*	0.19	0.00	0.19
33.70	0.50	1.12	0.45*	0.19	0.00	0.19

33.75	0.50	1.12	0.45*	0.19	0.00	0.19
33.80	0.50	1.12	0.45*	0.19	0.00	0.19
33.85	0.50	1.12	0.45*	0.19	0.00	0.19
33.90	0.50	1.12	0.45*	0.18	0.00	0.18
33.95	0.50	1.12	0.45*	0.18	0.00	0.18
34.00	0.50	1.11	0.45*	0.18	0.00	0.18
34.05	0.50	1.11	0.45*	0.18	0.00	0.18
34.10	0.50	1.11	0.45*	0.18	0.00	0.18
34.15	0.50	1.11	0.45*	0.18	0.00	0.18
34.20	0.50	1.11	0.45*	0.18	0.00	0.18
34.25	0.50	1.11	0.45*	0.18	0.00	0.18
34.30	0.50	1.11	0.45*	0.18	0.00	0.18
34.35	0.50	1.11	0.45*	0.18	0.00	0.18
34.40	0.50	1.11	0.45*	0.18	0.00	0.18
34.45	0.50	1.11	0.45*	0.18	0.00	0.18
34.50	0.50	1.11	0.45*	0.18	0.00	0.18
34.55	0.50	1.11	0.45*	0.18	0.00	0.18
34.60	0.50	1.11	0.45*	0.18	0.00	0.18
34.65	0.50	1.11	0.45*	0.18	0.00	0.18
34.70	0.50	1.11	0.45*	0.18	0.00	0.18
34.75	0.50	1.11	0.45*	0.18	0.00	0.18
34.80	0.50	1.11	0.45*	0.18	0.00	0.18
34.85	0.50	1.11	0.45*	0.18	0.00	0.18
34.90	0.50	1.11	0.45*	0.18	0.00	0.18
34.95	0.50	1.11	0.45*	0.18	0.00	0.18
35.00	0.50	1.10	0.45*	0.18	0.00	0.18
35.05	0.50	1.10	0.45*	0.18	0.00	0.18
35.10	0.50	1.10	0.45*	0.18	0.00	0.18
35.15	0.50	1.10	0.45*	0.18	0.00	0.18
35.20	0.50	1.10	0.45*	0.18	0.00	0.18
35.25	0.50	1.10	0.45*	0.18	0.00	0.18
35.30	0.50	1.10	0.45*	0.18	0.00	0.18
35.35	0.50	1.10	0.45*	0.18	0.00	0.18
35.40	0.49	1.10	0.45*	0.18	0.00	0.18
35.45	0.49	1.10	0.45*	0.18	0.00	0.18
35.50	0.49	1.10	0.45*	0.18	0.00	0.18
35.55	0.49	1.10	0.45*	0.18	0.00	0.18
35.60	0.49	1.10	0.45*	0.18	0.00	0.18
35.65	0.49	1.10	0.45*	0.18	0.00	0.18
35.70	0.49	1.10	0.45*	0.18	0.00	0.18
35.75	0.49	1.10	0.45*	0.18	0.00	0.18
35.80	0.49	1.10	0.45*	0.18	0.00	0.18
35.85	0.49	1.10	0.45*	0.17	0.00	0.17
35.90	0.49	1.10	0.45*	0.17	0.00	0.17
35.95	0.49	1.09	0.45*	0.17	0.00	0.17
36.00	0.49	1.09	0.45*	0.17	0.00	0.17
36.05	0.49	1.09	0.45*	0.17	0.00	0.17
36.10	0.49	1.09	0.45*	0.17	0.00	0.17
36.15	0.49	1.09	0.45*	0.17	0.00	0.17
36.20	0.49	1.09	0.45*	0.17	0.00	0.17

36.25	0.49	1.09	0.45*	0.17	0.00	0.17
36.30	0.49	1.09	0.45*	0.17	0.00	0.17
36.35	0.49	1.09	0.45*	0.17	0.00	0.17
36.40	0.49	1.09	0.45*	0.17	0.00	0.17
36.45	0.49	1.09	0.45*	0.17	0.00	0.17
36.50	0.49	1.09	0.45*	0.16	0.00	0.16
36.55	0.49	1.09	0.45*	0.16	0.00	0.16
36.60	0.49	1.09	0.45*	0.16	0.00	0.16
36.65	0.49	1.09	0.45*	0.16	0.00	0.16
36.70	0.49	1.09	0.45*	0.16	0.00	0.16
36.75	0.49	1.09	0.45*	0.16	0.00	0.16
36.80	0.49	1.09	0.45*	0.16	0.00	0.16
36.85	0.49	1.08	0.45*	0.16	0.00	0.16
36.90	0.49	1.08	0.45*	0.16	0.00	0.16
36.95	0.49	1.08	0.45*	0.16	0.00	0.16
37.00	0.49	1.08	0.45*	0.15	0.00	0.15
37.05	0.49	1.08	0.45*	0.15	0.00	0.15
37.10	0.49	1.08	0.45*	0.15	0.00	0.15
37.15	0.49	1.08	0.45*	0.15	0.00	0.15
37.20	0.49	1.08	0.46*	0.15	0.00	0.15
37.25	0.49	1.08	0.46*	0.15	0.00	0.15
37.30	0.49	1.08	0.46*	0.15	0.00	0.15
37.35	0.49	1.08	0.46*	0.15	0.00	0.15
37.40	0.49	1.08	0.46*	0.15	0.00	0.15
37.45	0.49	1.08	0.46*	0.14	0.00	0.14
37.50	0.49	1.08	0.46*	0.14	0.00	0.14
37.55	0.49	1.08	0.46*	0.14	0.00	0.14
37.60	0.49	1.08	0.46*	0.14	0.00	0.14
37.65	0.49	1.08	0.46*	0.14	0.00	0.14
37.70	0.49	1.08	0.46*	0.14	0.00	0.14
37.75	0.49	1.08	0.46*	0.14	0.00	0.14
37.80	0.49	1.07	0.46*	0.14	0.00	0.14
37.85	0.49	1.07	0.46*	0.13	0.00	0.13
37.90	0.49	1.07	0.46*	0.13	0.00	0.13
37.95	0.49	1.07	0.46*	0.13	0.00	0.13
38.00	0.49	1.07	0.46*	0.13	0.00	0.13
38.05	0.49	1.07	0.46*	0.13	0.00	0.13
38.10	0.49	1.07	0.46*	0.12	0.00	0.12
38.15	0.49	1.07	0.46*	0.12	0.00	0.12
38.20	0.49	1.07	0.46*	0.12	0.00	0.12
38.25	0.49	1.07	0.46*	0.12	0.00	0.12
38.30	0.49	1.07	0.46*	0.11	0.00	0.11
38.35	0.49	1.07	0.46*	0.11	0.00	0.11
38.40	0.49	1.07	0.46*	0.11	0.00	0.11
38.45	0.49	1.07	0.46*	0.11	0.00	0.11
38.50	0.49	1.07	0.46*	0.10	0.00	0.10
38.55	0.49	1.07	0.46*	0.10	0.00	0.10
38.60	0.49	1.07	0.46*	0.10	0.00	0.10
38.65	0.49	1.07	0.46*	0.10	0.00	0.10
38.70	0.49	1.07	0.46*	0.09	0.00	0.09

38.75	0.49	1.06	0.46*	0.09	0.00	0.09
38.80	0.49	1.06	0.46*	0.09	0.00	0.09
38.85	0.49	1.06	0.46*	0.08	0.00	0.08
38.90	0.49	1.06	0.46*	0.08	0.00	0.08
38.95	0.49	1.06	0.46*	0.08	0.00	0.08
39.00	0.49	1.06	0.46*	0.07	0.00	0.07
39.05	0.49	1.06	0.46*	0.07	0.00	0.07
39.10	0.49	1.06	0.46*	0.07	0.00	0.07
39.15	0.49	1.06	0.46*	0.06	0.00	0.06
39.20	0.49	1.06	0.46*	0.06	0.00	0.06
39.25	0.49	1.06	0.46*	0.06	0.00	0.06
39.30	0.49	1.06	0.46*	0.05	0.00	0.05
39.35	0.49	1.06	0.46*	0.05	0.00	0.05
39.40	0.49	1.06	0.46*	0.04	0.00	0.04
39.45	0.49	1.06	0.46*	0.04	0.00	0.04
39.50	0.49	1.06	0.46*	0.04	0.00	0.04
39.55	0.49	1.06	0.46*	0.03	0.00	0.03
39.60	0.49	1.06	0.46*	0.03	0.00	0.03
39.65	0.49	1.05	0.46*	0.03	0.00	0.03
39.70	0.49	1.05	0.46*	0.02	0.00	0.02
39.75	0.49	1.05	0.46*	0.02	0.00	0.02
39.80	0.49	1.05	0.46*	0.01	0.00	0.01
39.85	0.49	1.05	0.46*	0.01	0.00	0.01
39.90	0.49	1.05	0.46*	0.00	0.00	0.00
39.95	0.49	1.05	0.46*	0.00	0.00	0.00
40.00	0.43	1.05	0.41*	0.00	0.00	0.00
40.05	2.00	1.05	5.00	0.00	0.00	0.00
40.10	2.00	1.05	5.00	0.00	0.00	0.00
40.15	2.00	1.05	5.00	0.00	0.00	0.00
40.20	2.00	1.05	5.00	0.00	0.00	0.00
40.25	2.00	1.05	5.00	0.00	0.00	0.00
40.30	2.00	1.05	5.00	0.00	0.00	0.00
40.35	2.00	1.05	5.00	0.00	0.00	0.00
40.40	2.00	1.05	5.00	0.00	0.00	0.00
40.45	2.00	1.05	5.00	0.00	0.00	0.00
40.50	2.00	1.05	5.00	0.00	0.00	0.00
40.55	2.00	1.05	5.00	0.00	0.00	0.00
40.60	2.00	1.04	5.00	0.00	0.00	0.00
40.65	2.00	1.04	5.00	0.00	0.00	0.00
40.70	2.00	1.04	5.00	0.00	0.00	0.00
40.75	2.00	1.04	5.00	0.00	0.00	0.00
40.80	2.00	1.04	5.00	0.00	0.00	0.00
40.85	2.00	1.04	5.00	0.00	0.00	0.00
40.90	2.00	1.04	5.00	0.00	0.00	0.00
40.95	2.00	1.04	5.00	0.00	0.00	0.00
41.00	2.00	1.04	5.00	0.00	0.00	0.00
41.05	2.00	1.04	5.00	0.00	0.00	0.00
41.10	2.00	1.04	5.00	0.00	0.00	0.00
41.15	2.00	1.04	5.00	0.00	0.00	0.00
41.20	2.00	1.04	5.00	0.00	0.00	0.00

41.25	2.00	1.04	5.00	0.00	0.00	0.00
41.30	2.00	1.04	5.00	0.00	0.00	0.00
41.35	2.00	1.04	5.00	0.00	0.00	0.00
41.40	2.00	1.04	5.00	0.00	0.00	0.00
41.45	2.00	1.04	5.00	0.00	0.00	0.00
41.50	2.00	1.04	5.00	0.00	0.00	0.00
41.55	2.00	1.04	5.00	0.00	0.00	0.00
41.60	2.00	1.03	5.00	0.00	0.00	0.00
41.65	2.00	1.03	5.00	0.00	0.00	0.00
41.70	2.00	1.03	5.00	0.00	0.00	0.00
41.75	2.00	1.03	5.00	0.00	0.00	0.00
41.80	2.00	1.03	5.00	0.00	0.00	0.00
41.85	2.00	1.03	5.00	0.00	0.00	0.00
41.90	2.00	1.03	5.00	0.00	0.00	0.00
41.95	2.00	1.03	5.00	0.00	0.00	0.00
42.00	2.00	1.03	5.00	0.00	0.00	0.00
42.05	2.00	1.03	5.00	0.00	0.00	0.00
42.10	2.00	1.03	5.00	0.00	0.00	0.00
42.15	2.00	1.03	5.00	0.00	0.00	0.00
42.20	2.00	1.03	5.00	0.00	0.00	0.00
42.25	2.00	1.03	5.00	0.00	0.00	0.00
42.30	2.00	1.03	5.00	0.00	0.00	0.00
42.35	2.00	1.03	5.00	0.00	0.00	0.00
42.40	2.00	1.03	5.00	0.00	0.00	0.00
42.45	2.00	1.03	5.00	0.00	0.00	0.00
42.50	2.00	1.03	5.00	0.00	0.00	0.00
42.55	2.00	1.03	5.00	0.00	0.00	0.00
42.60	2.00	1.03	5.00	0.00	0.00	0.00
42.65	2.00	1.02	5.00	0.00	0.00	0.00
42.70	2.00	1.02	5.00	0.00	0.00	0.00
42.75	2.00	1.02	5.00	0.00	0.00	0.00
42.80	2.00	1.02	5.00	0.00	0.00	0.00
42.85	2.00	1.02	5.00	0.00	0.00	0.00
42.90	2.00	1.02	5.00	0.00	0.00	0.00
42.95	2.00	1.02	5.00	0.00	0.00	0.00
43.00	2.00	1.02	5.00	0.00	0.00	0.00
43.05	2.00	1.02	5.00	0.00	0.00	0.00
43.10	2.00	1.02	5.00	0.00	0.00	0.00
43.15	2.00	1.02	5.00	0.00	0.00	0.00
43.20	2.00	1.02	5.00	0.00	0.00	0.00
43.25	2.00	1.02	5.00	0.00	0.00	0.00
43.30	2.00	1.02	5.00	0.00	0.00	0.00
43.35	2.00	1.02	5.00	0.00	0.00	0.00
43.40	2.00	1.02	5.00	0.00	0.00	0.00
43.45	2.00	1.02	5.00	0.00	0.00	0.00
43.50	2.00	1.02	5.00	0.00	0.00	0.00
43.55	2.00	1.02	5.00	0.00	0.00	0.00
43.60	2.00	1.02	5.00	0.00	0.00	0.00
43.65	2.00	1.02	5.00	0.00	0.00	0.00
43.70	2.00	1.02	5.00	0.00	0.00	0.00

43.75	2.00	1.01	5.00	0.00	0.00	0.00
43.80	2.00	1.01	5.00	0.00	0.00	0.00
43.85	2.00	1.01	5.00	0.00	0.00	0.00
43.90	2.00	1.01	5.00	0.00	0.00	0.00
43.95	2.00	1.01	5.00	0.00	0.00	0.00
44.00	2.00	1.01	5.00	0.00	0.00	0.00
44.05	2.00	1.01	5.00	0.00	0.00	0.00
44.10	2.00	1.01	5.00	0.00	0.00	0.00
44.15	2.00	1.01	5.00	0.00	0.00	0.00
44.20	2.00	1.01	5.00	0.00	0.00	0.00
44.25	2.00	1.01	5.00	0.00	0.00	0.00
44.30	2.00	1.01	5.00	0.00	0.00	0.00
44.35	2.00	1.01	5.00	0.00	0.00	0.00
44.40	2.00	1.01	5.00	0.00	0.00	0.00
44.45	2.00	1.01	5.00	0.00	0.00	0.00
44.50	2.00	1.01	5.00	0.00	0.00	0.00
44.55	2.00	1.01	5.00	0.00	0.00	0.00
44.60	2.00	1.01	5.00	0.00	0.00	0.00
44.65	2.00	1.01	5.00	0.00	0.00	0.00
44.70	2.00	1.01	5.00	0.00	0.00	0.00
44.75	2.00	1.01	5.00	0.00	0.00	0.00
44.80	2.00	1.01	5.00	0.00	0.00	0.00
44.85	2.00	1.00	5.00	0.00	0.00	0.00
44.90	2.00	1.00	5.00	0.00	0.00	0.00
44.95	2.00	1.00	5.00	0.00	0.00	0.00
45.00	2.00	1.00	5.00	0.00	0.00	0.00
45.05	2.00	1.00	5.00	0.00	0.00	0.00
45.10	2.00	1.00	5.00	0.00	0.00	0.00
45.15	2.00	1.00	5.00	0.00	0.00	0.00
45.20	2.00	1.00	5.00	0.00	0.00	0.00
45.25	2.00	1.00	5.00	0.00	0.00	0.00
45.30	2.00	1.00	5.00	0.00	0.00	0.00
45.35	2.00	1.00	5.00	0.00	0.00	0.00
45.40	2.00	1.00	5.00	0.00	0.00	0.00
45.45	2.00	1.00	5.00	0.00	0.00	0.00
45.50	2.00	1.00	5.00	0.00	0.00	0.00
45.55	2.00	1.00	5.00	0.00	0.00	0.00
45.60	2.00	1.00	5.00	0.00	0.00	0.00
45.65	2.00	1.00	5.00	0.00	0.00	0.00
45.70	2.00	1.00	5.00	0.00	0.00	0.00
45.75	2.00	1.00	5.00	0.00	0.00	0.00
45.80	2.00	1.00	5.00	0.00	0.00	0.00
45.85	2.00	1.00	5.00	0.00	0.00	0.00
45.90	2.00	1.00	5.00	0.00	0.00	0.00
45.95	2.00	1.00	5.00	0.00	0.00	0.00
46.00	2.00	0.99	5.00	0.00	0.00	0.00
46.05	2.00	0.99	5.00	0.00	0.00	0.00
46.10	2.00	0.99	5.00	0.00	0.00	0.00
46.15	2.00	0.99	5.00	0.00	0.00	0.00
46.20	2.00	0.99	5.00	0.00	0.00	0.00

46.25	2.00	0.99	5.00	0.00	0.00	0.00
46.30	2.00	0.99	5.00	0.00	0.00	0.00
46.35	2.00	0.99	5.00	0.00	0.00	0.00
46.40	2.00	0.99	5.00	0.00	0.00	0.00
46.45	2.00	0.99	5.00	0.00	0.00	0.00
46.50	2.00	0.99	5.00	0.00	0.00	0.00
46.55	2.00	0.99	5.00	0.00	0.00	0.00
46.60	2.00	0.99	5.00	0.00	0.00	0.00
46.65	2.00	0.99	5.00	0.00	0.00	0.00
46.70	2.00	0.99	5.00	0.00	0.00	0.00
46.75	2.00	0.99	5.00	0.00	0.00	0.00
46.80	2.00	0.99	5.00	0.00	0.00	0.00
46.85	2.00	0.99	5.00	0.00	0.00	0.00
46.90	2.00	0.99	5.00	0.00	0.00	0.00
46.95	2.00	0.99	5.00	0.00	0.00	0.00
47.00	2.00	0.99	5.00	0.00	0.00	0.00
47.05	2.00	0.99	5.00	0.00	0.00	0.00
47.10	2.00	0.99	5.00	0.00	0.00	0.00
47.15	2.00	0.98	5.00	0.00	0.00	0.00
47.20	2.00	0.98	5.00	0.00	0.00	0.00
47.25	2.00	0.98	5.00	0.00	0.00	0.00
47.30	2.00	0.98	5.00	0.00	0.00	0.00
47.35	2.00	0.98	5.00	0.00	0.00	0.00
47.40	2.00	0.98	5.00	0.00	0.00	0.00
47.45	2.00	0.98	5.00	0.00	0.00	0.00
47.50	2.00	0.98	5.00	0.00	0.00	0.00
47.55	2.00	0.98	5.00	0.00	0.00	0.00
47.60	2.00	0.98	5.00	0.00	0.00	0.00
47.65	2.00	0.98	5.00	0.00	0.00	0.00
47.70	2.00	0.98	5.00	0.00	0.00	0.00
47.75	2.00	0.98	5.00	0.00	0.00	0.00
47.80	2.00	0.98	5.00	0.00	0.00	0.00
47.85	2.00	0.98	5.00	0.00	0.00	0.00
47.90	2.00	0.98	5.00	0.00	0.00	0.00
47.95	2.00	0.98	5.00	0.00	0.00	0.00
48.00	2.00	0.98	5.00	0.00	0.00	0.00
48.05	2.00	0.98	5.00	0.00	0.00	0.00
48.10	2.00	0.98	5.00	0.00	0.00	0.00
48.15	2.00	0.98	5.00	0.00	0.00	0.00
48.20	2.00	0.98	5.00	0.00	0.00	0.00
48.25	2.00	0.97	5.00	0.00	0.00	0.00
48.30	2.00	0.97	5.00	0.00	0.00	0.00
48.35	2.00	0.97	5.00	0.00	0.00	0.00
48.40	2.00	0.97	5.00	0.00	0.00	0.00
48.45	2.00	0.97	5.00	0.00	0.00	0.00
48.50	2.00	0.97	5.00	0.00	0.00	0.00
48.55	2.00	0.97	5.00	0.00	0.00	0.00
48.60	2.00	0.97	5.00	0.00	0.00	0.00
48.65	2.00	0.97	5.00	0.00	0.00	0.00
48.70	2.00	0.97	5.00	0.00	0.00	0.00

48.75	2.00	0.97	5.00	0.00	0.00	0.00
48.80	2.00	0.97	5.00	0.00	0.00	0.00
48.85	2.00	0.97	5.00	0.00	0.00	0.00
48.90	2.00	0.97	5.00	0.00	0.00	0.00
48.95	2.00	0.97	5.00	0.00	0.00	0.00
49.00	2.00	0.97	5.00	0.00	0.00	0.00
49.05	2.00	0.97	5.00	0.00	0.00	0.00
49.10	2.00	0.97	5.00	0.00	0.00	0.00
49.15	2.00	0.97	5.00	0.00	0.00	0.00
49.20	2.00	0.97	5.00	0.00	0.00	0.00
49.25	2.00	0.97	5.00	0.00	0.00	0.00
49.30	2.00	0.97	5.00	0.00	0.00	0.00
49.35	2.00	0.96	5.00	0.00	0.00	0.00
49.40	2.00	0.96	5.00	0.00	0.00	0.00
49.45	2.00	0.96	5.00	0.00	0.00	0.00
49.50	2.00	0.96	5.00	0.00	0.00	0.00
49.55	2.00	0.96	5.00	0.00	0.00	0.00
49.60	2.00	0.96	5.00	0.00	0.00	0.00
49.65	2.00	0.96	5.00	0.00	0.00	0.00
49.70	2.00	0.96	5.00	0.00	0.00	0.00
49.75	2.00	0.96	5.00	0.00	0.00	0.00
49.80	2.00	0.96	5.00	0.00	0.00	0.00
49.85	2.00	0.96	5.00	0.00	0.00	0.00
49.90	2.00	0.96	5.00	0.00	0.00	0.00
49.95	2.00	0.96	5.00	0.00	0.00	0.00
50.00	2.00	0.96	5.00	0.00	0.00	0.00
50.05	2.00	0.96	5.00	0.00	0.00	0.00
50.10	2.00	0.96	5.00	0.00	0.00	0.00
50.15	2.00	0.96	5.00	0.00	0.00	0.00
50.20	2.00	0.96	5.00	0.00	0.00	0.00
50.25	2.00	0.96	5.00	0.00	0.00	0.00
50.30	2.00	0.96	5.00	0.00	0.00	0.00
50.35	2.00	0.96	5.00	0.00	0.00	0.00
50.40	2.00	0.96	5.00	0.00	0.00	0.00
50.45	2.00	0.96	5.00	0.00	0.00	0.00
50.50	2.00	0.95	5.00	0.00	0.00	0.00
50.55	2.00	0.95	5.00	0.00	0.00	0.00
50.60	2.00	0.95	5.00	0.00	0.00	0.00
50.65	2.00	0.95	5.00	0.00	0.00	0.00
50.70	2.00	0.95	5.00	0.00	0.00	0.00
50.75	2.00	0.95	5.00	0.00	0.00	0.00
50.80	2.00	0.95	5.00	0.00	0.00	0.00
50.85	2.00	0.95	5.00	0.00	0.00	0.00
50.90	2.00	0.95	5.00	0.00	0.00	0.00
50.95	2.00	0.95	5.00	0.00	0.00	0.00
51.00	2.00	0.95	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.

1 atm (atmosphere)	= 1 tsf (ton/ft ²)
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 SUMMARY

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Input File Name: F:\Liquefy5\544-24159 BH2.liq
Title: 52 nd Ave & Van Buren, Coachella
Subtitle: 544-24159

Surface Elev.=-55
Hole No.=BH-2
Depth of Hole= 51.00 ft
Water Table during Earthquake= 5.00 ft
Water Table during In-Situ Testing= 35.00 ft
Max. Acceleration= 0.77 g
Earthquake Magnitude= 7.45

Input Data:

Surface Elev.=-55
Hole No.=BH-2
Depth of Hole=51.00 ft
Water Table during Earthquake= 5.00 ft
Water Table during In-Situ Testing= 35.00 ft
Max. Acceleration=0.77 g
Earthquake Magnitude=7.45
No-Liquefiable Soils: Based on Analysis

1. SPT or BPT Calculation.
 2. Settlement Analysis Method: Tokimatsu, M-correction
 3. Fines Correction for Liquefaction: Modify Stark/Olson
 4. Fine Correction for Settlement: During Liquefaction*
 5. Settlement Calculation in: All zones*
 6. Hammer Energy Ratio, $C_e = 1.25$
 7. Borehole Diameter, $C_b = 1.15$
 8. Sampling Method, $C_s = 1$
 9. User request factor of safety (apply to CSR) , User= 1.3
Plot one CSR curve ($f_{s1} = \text{User}$)
 10. Use Curve Smoothing: Yes*
- * Recommended Options

In-Situ Test Data:

Depth SPT gamma Fines

ft		pcf	%
0.00	11.33	111.80	32.30
5.00	4.00	111.80	51.50
10.00	20.67	111.40	17.40
15.00	11.00	111.40	56.80
20.00	11.33	113.50	47.40
25.00	10.00	113.50	89.70
30.00	21.33	127.20	39.90
35.00	8.00	127.20	59.10
40.00	18.00	128.70	45.90
45.00	11.00	128.70	NoLiq
50.00	10.67	128.70	NoLiq

Output Results:

Settlement of Saturated Sands=3.92 in.

Settlement of Unsaturated Sands=0.61 in.

Total Settlement of Saturated and Unsaturated Sands=4.53 in.

Differential Settlement=2.266 to 2.991 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	0.33	0.65	5.00	3.92	0.61	4.53
0.05	0.33	0.65	5.00	3.92	0.61	4.53
0.10	0.33	0.65	5.00	3.92	0.61	4.53
0.15	0.33	0.65	5.00	3.92	0.61	4.53
0.20	0.32	0.65	5.00	3.92	0.61	4.53
0.25	0.32	0.65	5.00	3.92	0.61	4.53
0.30	0.32	0.65	5.00	3.92	0.61	4.53
0.35	0.32	0.65	5.00	3.92	0.61	4.53
0.40	0.32	0.65	5.00	3.92	0.61	4.53
0.45	0.31	0.65	5.00	3.92	0.61	4.53
0.50	0.31	0.65	5.00	3.92	0.61	4.53
0.55	0.31	0.65	5.00	3.92	0.61	4.53
0.60	0.31	0.65	5.00	3.92	0.61	4.53
0.65	0.31	0.65	5.00	3.92	0.61	4.53
0.70	0.31	0.65	5.00	3.92	0.61	4.53
0.75	0.30	0.65	5.00	3.92	0.61	4.53
0.80	0.30	0.65	5.00	3.92	0.61	4.53
0.85	0.30	0.65	5.00	3.92	0.61	4.53
0.90	0.30	0.65	5.00	3.92	0.61	4.53
0.95	0.30	0.65	5.00	3.92	0.61	4.53
1.00	0.30	0.65	5.00	3.92	0.61	4.53
1.05	0.30	0.65	5.00	3.92	0.60	4.53
1.10	0.29	0.65	5.00	3.92	0.60	4.53
1.15	0.29	0.65	5.00	3.92	0.60	4.53
1.20	0.29	0.65	5.00	3.92	0.60	4.53
1.25	0.29	0.65	5.00	3.92	0.60	4.53

1.30	0.29	0.65	5.00	3.92	0.60	4.53
1.35	0.29	0.65	5.00	3.92	0.60	4.53
1.40	0.28	0.65	5.00	3.92	0.60	4.53
1.45	0.28	0.65	5.00	3.92	0.60	4.53
1.50	0.28	0.65	5.00	3.92	0.60	4.53
1.55	0.28	0.65	5.00	3.92	0.60	4.53
1.60	0.28	0.65	5.00	3.92	0.60	4.52
1.65	0.28	0.65	5.00	3.92	0.60	4.52
1.70	0.28	0.65	5.00	3.92	0.60	4.52
1.75	0.28	0.65	5.00	3.92	0.60	4.52
1.80	0.27	0.65	5.00	3.92	0.60	4.52
1.85	0.27	0.65	5.00	3.92	0.60	4.52
1.90	0.27	0.65	5.00	3.92	0.60	4.52
1.95	0.27	0.65	5.00	3.92	0.60	4.52
2.00	0.27	0.65	5.00	3.92	0.60	4.52
2.05	0.27	0.65	5.00	3.92	0.60	4.52
2.10	0.27	0.64	5.00	3.92	0.60	4.52
2.15	0.26	0.64	5.00	3.92	0.59	4.52
2.20	0.26	0.64	5.00	3.92	0.59	4.52
2.25	0.26	0.64	5.00	3.92	0.59	4.51
2.30	0.26	0.64	5.00	3.92	0.59	4.51
2.35	0.26	0.64	5.00	3.92	0.59	4.51
2.40	0.26	0.64	5.00	3.92	0.58	4.51
2.45	0.26	0.64	5.00	3.92	0.58	4.50
2.50	0.26	0.64	5.00	3.92	0.58	4.50
2.55	0.25	0.64	5.00	3.92	0.57	4.50
2.60	0.25	0.64	5.00	3.92	0.57	4.49
2.65	0.25	0.64	5.00	3.92	0.56	4.48
2.70	0.25	0.64	5.00	3.92	0.55	4.47
2.75	0.25	0.64	5.00	3.92	0.54	4.46
2.80	0.25	0.64	5.00	3.92	0.53	4.45
2.85	0.25	0.64	5.00	3.92	0.52	4.44
2.90	0.25	0.64	5.00	3.92	0.50	4.43
2.95	0.25	0.64	5.00	3.92	0.49	4.42
3.00	0.24	0.64	5.00	3.92	0.48	4.41
3.05	0.24	0.64	5.00	3.92	0.47	4.40
3.10	0.24	0.64	5.00	3.92	0.46	4.38
3.15	0.24	0.64	5.00	3.92	0.45	4.37
3.20	0.24	0.64	5.00	3.92	0.44	4.36
3.25	0.24	0.64	5.00	3.92	0.43	4.35
3.30	0.24	0.64	5.00	3.92	0.42	4.34
3.35	0.24	0.64	5.00	3.92	0.41	4.33
3.40	0.24	0.64	5.00	3.92	0.39	4.32
3.45	0.23	0.64	5.00	3.92	0.38	4.31
3.50	0.23	0.64	5.00	3.92	0.37	4.30
3.55	0.23	0.64	5.00	3.92	0.36	4.28
3.60	0.23	0.64	5.00	3.92	0.35	4.27
3.65	0.23	0.64	5.00	3.92	0.34	4.26
3.70	0.23	0.64	5.00	3.92	0.33	4.25
3.75	0.23	0.64	5.00	3.92	0.31	4.24

3.80	0.23	0.64	5.00	3.92	0.30	4.23
3.85	0.23	0.64	5.00	3.92	0.29	4.21
3.90	0.22	0.64	5.00	3.92	0.28	4.20
3.95	0.22	0.64	5.00	3.92	0.27	4.19
4.00	0.22	0.64	5.00	3.92	0.25	4.18
4.05	0.22	0.64	5.00	3.92	0.24	4.17
4.10	0.22	0.64	5.00	3.92	0.23	4.15
4.15	0.22	0.64	5.00	3.92	0.22	4.14
4.20	0.22	0.64	5.00	3.92	0.20	4.13
4.25	0.22	0.64	5.00	3.92	0.19	4.12
4.30	0.22	0.64	5.00	3.92	0.18	4.10
4.35	0.22	0.64	5.00	3.92	0.17	4.09
4.40	0.21	0.64	5.00	3.92	0.15	4.08
4.45	0.21	0.64	5.00	3.92	0.14	4.07
4.50	0.21	0.64	5.00	3.92	0.13	4.06
4.55	0.21	0.64	5.00	3.92	0.12	4.04
4.60	0.21	0.64	5.00	3.92	0.11	4.03
4.65	0.21	0.64	5.00	3.92	0.09	4.02
4.70	0.21	0.64	5.00	3.92	0.08	4.00
4.75	0.21	0.64	5.00	3.92	0.07	3.99
4.80	0.21	0.64	5.00	3.92	0.05	3.98
4.85	0.21	0.64	5.00	3.92	0.04	3.96
4.90	0.20	0.64	5.00	3.92	0.03	3.95
4.95	0.20	0.64	5.00	3.92	0.01	3.94
5.00	0.20	0.64	0.32*	3.92	0.00	3.92
5.05	0.21	0.64	0.32*	3.91	0.00	3.91
5.10	0.21	0.65	0.32*	3.90	0.00	3.90
5.15	0.21	0.65	0.32*	3.89	0.00	3.89
5.20	0.21	0.65	0.33*	3.89	0.00	3.89
5.25	0.22	0.66	0.33*	3.88	0.00	3.88
5.30	0.22	0.66	0.33*	3.87	0.00	3.87
5.35	0.22	0.66	0.33*	3.86	0.00	3.86
5.40	0.22	0.67	0.33*	3.85	0.00	3.85
5.45	0.23	0.67	0.34*	3.84	0.00	3.84
5.50	0.23	0.67	0.34*	3.83	0.00	3.83
5.55	0.23	0.68	0.34*	3.82	0.00	3.82
5.60	0.23	0.68	0.34*	3.81	0.00	3.81
5.65	0.24	0.68	0.35*	3.80	0.00	3.80
5.70	0.24	0.69	0.35*	3.80	0.00	3.80
5.75	0.24	0.69	0.35*	3.79	0.00	3.79
5.80	0.25	0.69	0.35*	3.78	0.00	3.78
5.85	0.25	0.70	0.36*	3.77	0.00	3.77
5.90	0.25	0.70	0.36*	3.76	0.00	3.76
5.95	0.25	0.70	0.36*	3.76	0.00	3.76
6.00	0.26	0.70	0.36*	3.75	0.00	3.75
6.05	0.26	0.71	0.37*	3.74	0.00	3.74
6.10	0.26	0.71	0.37*	3.73	0.00	3.73
6.15	0.27	0.71	0.37*	3.72	0.00	3.72
6.20	0.27	0.72	0.38*	3.72	0.00	3.72
6.25	0.27	0.72	0.38*	3.71	0.00	3.71

6.30	0.28	0.72	0.38*	3.70	0.00	3.70
6.35	0.28	0.72	0.39*	3.69	0.00	3.69
6.40	0.28	0.73	0.39*	3.69	0.00	3.69
6.45	0.29	0.73	0.39*	3.68	0.00	3.68
6.50	0.29	0.73	0.40*	3.67	0.00	3.67
6.55	0.29	0.74	0.40*	3.66	0.00	3.66
6.60	0.30	0.74	0.40*	3.66	0.00	3.66
6.65	0.30	0.74	0.41*	3.65	0.00	3.65
6.70	0.30	0.74	0.41*	3.64	0.00	3.64
6.75	0.31	0.75	0.41*	3.64	0.00	3.64
6.80	0.31	0.75	0.41*	3.63	0.00	3.63
6.85	0.31	0.75	0.42*	3.62	0.00	3.62
6.90	0.31	0.75	0.42*	3.62	0.00	3.62
6.95	0.32	0.76	0.42*	3.61	0.00	3.61
7.00	0.32	0.76	0.42*	3.60	0.00	3.60
7.05	0.32	0.76	0.43*	3.60	0.00	3.60
7.10	0.33	0.76	0.43*	3.59	0.00	3.59
7.15	0.33	0.77	0.43*	3.58	0.00	3.58
7.20	0.33	0.77	0.43*	3.58	0.00	3.58
7.25	0.34	0.77	0.44*	3.57	0.00	3.57
7.30	0.34	0.77	0.44*	3.57	0.00	3.57
7.35	0.34	0.78	0.44*	3.56	0.00	3.56
7.40	0.35	0.78	0.45*	3.55	0.00	3.55
7.45	0.35	0.78	0.45*	3.55	0.00	3.55
7.50	0.35	0.78	0.45*	3.54	0.00	3.54
7.55	0.36	0.78	0.46*	3.54	0.00	3.54
7.60	0.36	0.79	0.46*	3.53	0.00	3.53
7.65	0.37	0.79	0.46*	3.52	0.00	3.52
7.70	0.37	0.79	0.47*	3.52	0.00	3.52
7.75	0.38	0.79	0.47*	3.51	0.00	3.51
7.80	0.38	0.80	0.48*	3.51	0.00	3.51
7.85	0.39	0.80	0.48*	3.50	0.00	3.50
7.90	0.39	0.80	0.49*	3.50	0.00	3.50
7.95	0.40	0.80	0.50*	3.49	0.00	3.49
8.00	0.41	0.80	0.50*	3.49	0.00	3.49
8.05	0.41	0.81	0.51*	3.48	0.00	3.48
8.10	0.42	0.81	0.53*	3.48	0.00	3.48
8.15	0.44	0.81	0.54*	3.47	0.00	3.47
8.20	0.46	0.81	0.56*	3.47	0.00	3.47
8.25	0.51	0.81	0.62*	3.46	0.00	3.46
8.30	0.51	0.82	0.62*	3.46	0.00	3.46
8.35	0.51	0.82	0.62*	3.46	0.00	3.46
8.40	0.51	0.82	0.62*	3.46	0.00	3.46
8.45	0.51	0.82	0.62*	3.46	0.00	3.46
8.50	0.51	0.82	0.62*	3.46	0.00	3.46
8.55	0.51	0.83	0.61*	3.46	0.00	3.46
8.60	0.51	0.83	0.61*	3.46	0.00	3.46
8.65	0.51	0.83	0.61*	3.45	0.00	3.45
8.70	0.51	0.83	0.61*	3.45	0.00	3.45
8.75	0.51	0.83	0.61*	3.45	0.00	3.45

8.80	0.51	0.84	0.61*	3.45	0.00	3.45
8.85	0.51	0.84	0.61*	3.45	0.00	3.45
8.90	0.51	0.84	0.61*	3.45	0.00	3.45
8.95	0.51	0.84	0.60*	3.45	0.00	3.45
9.00	0.51	0.84	0.60*	3.45	0.00	3.45
9.05	0.51	0.85	0.60*	3.45	0.00	3.45
9.10	0.51	0.85	0.60*	3.45	0.00	3.45
9.15	0.51	0.85	0.60*	3.45	0.00	3.45
9.20	0.51	0.85	0.60*	3.44	0.00	3.44
9.25	0.51	0.85	0.60*	3.44	0.00	3.44
9.30	0.51	0.85	0.59*	3.44	0.00	3.44
9.35	0.51	0.86	0.59*	3.44	0.00	3.44
9.40	0.51	0.86	0.59*	3.44	0.00	3.44
9.45	0.51	0.86	0.59*	3.44	0.00	3.44
9.50	0.51	0.86	0.59*	3.44	0.00	3.44
9.55	0.51	0.86	0.59*	3.44	0.00	3.44
9.60	0.51	0.87	0.59*	3.44	0.00	3.44
9.65	0.51	0.87	0.59*	3.44	0.00	3.44
9.70	0.51	0.87	0.59*	3.44	0.00	3.44
9.75	0.51	0.87	0.58*	3.44	0.00	3.44
9.80	0.51	0.87	0.58*	3.44	0.00	3.44
9.85	0.51	0.87	0.58*	3.44	0.00	3.44
9.90	0.51	0.88	0.58*	3.44	0.00	3.44
9.95	0.51	0.88	0.58*	3.44	0.00	3.44
10.00	0.51	0.88	0.58*	3.44	0.00	3.44
10.05	0.51	0.88	0.58*	3.44	0.00	3.44
10.10	0.51	0.88	0.58*	3.44	0.00	3.44
10.15	0.51	0.88	0.58*	3.44	0.00	3.44
10.20	0.51	0.88	0.57*	3.44	0.00	3.44
10.25	0.51	0.89	0.57*	3.44	0.00	3.44
10.30	0.51	0.89	0.57*	3.44	0.00	3.44
10.35	0.51	0.89	0.57*	3.44	0.00	3.44
10.40	0.51	0.89	0.57*	3.44	0.00	3.44
10.45	0.51	0.89	0.57*	3.44	0.00	3.44
10.50	0.51	0.89	0.57*	3.44	0.00	3.44
10.55	0.51	0.90	0.57*	3.44	0.00	3.44
10.60	0.51	0.90	0.57*	3.44	0.00	3.44
10.65	0.51	0.90	0.57*	3.44	0.00	3.44
10.70	0.51	0.90	0.57*	3.44	0.00	3.44
10.75	0.51	0.90	0.56*	3.44	0.00	3.44
10.80	0.51	0.90	0.56*	3.43	0.00	3.43
10.85	0.51	0.90	0.56*	3.43	0.00	3.43
10.90	0.51	0.91	0.56*	3.43	0.00	3.43
10.95	0.51	0.91	0.56*	3.43	0.00	3.43
11.00	0.51	0.91	0.56*	3.43	0.00	3.43
11.05	0.51	0.91	0.56*	3.43	0.00	3.43
11.10	0.51	0.91	0.56*	3.43	0.00	3.43
11.15	0.51	0.91	0.56*	3.43	0.00	3.43
11.20	0.51	0.91	0.56*	3.43	0.00	3.43
11.25	0.51	0.92	0.56*	3.43	0.00	3.43

11.30	0.51	0.92	0.55*	3.43	0.00	3.43
11.35	0.51	0.92	0.55*	3.42	0.00	3.42
11.40	0.51	0.92	0.55*	3.42	0.00	3.42
11.45	0.51	0.92	0.55*	3.42	0.00	3.42
11.50	0.51	0.92	0.55*	3.42	0.00	3.42
11.55	0.51	0.92	0.55*	3.42	0.00	3.42
11.60	0.51	0.92	0.55*	3.42	0.00	3.42
11.65	0.51	0.93	0.55*	3.42	0.00	3.42
11.70	0.51	0.93	0.55*	3.42	0.00	3.42
11.75	0.51	0.93	0.55*	3.41	0.00	3.41
11.80	0.51	0.93	0.55*	3.41	0.00	3.41
11.85	0.51	0.93	0.55*	3.41	0.00	3.41
11.90	0.51	0.93	0.55*	3.41	0.00	3.41
11.95	0.51	0.93	0.54*	3.41	0.00	3.41
12.00	0.51	0.93	0.54*	3.40	0.00	3.40
12.05	0.51	0.94	0.54*	3.40	0.00	3.40
12.10	0.51	0.94	0.54*	3.40	0.00	3.40
12.15	0.51	0.94	0.54*	3.40	0.00	3.40
12.20	0.51	0.94	0.54*	3.39	0.00	3.39
12.25	0.51	0.94	0.54*	3.39	0.00	3.39
12.30	0.51	0.94	0.54*	3.39	0.00	3.39
12.35	0.51	0.94	0.54*	3.39	0.00	3.39
12.40	0.51	0.94	0.54*	3.38	0.00	3.38
12.45	0.51	0.95	0.54*	3.38	0.00	3.38
12.50	0.51	0.95	0.54*	3.38	0.00	3.38
12.55	0.51	0.95	0.54*	3.37	0.00	3.37
12.60	0.51	0.95	0.54*	3.37	0.00	3.37
12.65	0.51	0.95	0.54*	3.37	0.00	3.37
12.70	0.51	0.95	0.53*	3.36	0.00	3.36
12.75	0.51	0.95	0.53*	3.36	0.00	3.36
12.80	0.51	0.95	0.53*	3.36	0.00	3.36
12.85	0.51	0.95	0.53*	3.35	0.00	3.35
12.90	0.51	0.96	0.53*	3.35	0.00	3.35
12.95	0.51	0.96	0.53*	3.34	0.00	3.34
13.00	0.51	0.96	0.53*	3.34	0.00	3.34
13.05	0.51	0.96	0.53*	3.34	0.00	3.34
13.10	0.51	0.96	0.53*	3.33	0.00	3.33
13.15	0.51	0.96	0.53*	3.33	0.00	3.33
13.20	0.51	0.96	0.53*	3.32	0.00	3.32
13.25	0.51	0.96	0.53*	3.32	0.00	3.32
13.30	0.48	0.96	0.50*	3.31	0.00	3.31
13.35	0.46	0.97	0.48*	3.31	0.00	3.31
13.40	0.45	0.97	0.46*	3.31	0.00	3.31
13.45	0.43	0.97	0.45*	3.30	0.00	3.30
13.50	0.43	0.97	0.44*	3.30	0.00	3.30
13.55	0.42	0.97	0.43*	3.29	0.00	3.29
13.60	0.41	0.97	0.42*	3.29	0.00	3.29
13.65	0.41	0.97	0.42*	3.28	0.00	3.28
13.70	0.40	0.97	0.41*	3.28	0.00	3.28
13.75	0.40	0.97	0.41*	3.27	0.00	3.27

13.80	0.39	0.97	0.40*	3.27	0.00	3.27
13.85	0.39	0.98	0.40*	3.26	0.00	3.26
13.90	0.38	0.98	0.39*	3.26	0.00	3.26
13.95	0.38	0.98	0.39*	3.25	0.00	3.25
14.00	0.38	0.98	0.39*	3.25	0.00	3.25
14.05	0.38	0.98	0.38*	3.24	0.00	3.24
14.10	0.37	0.98	0.38*	3.24	0.00	3.24
14.15	0.37	0.98	0.38*	3.23	0.00	3.23
14.20	0.37	0.98	0.37*	3.22	0.00	3.22
14.25	0.37	0.98	0.37*	3.22	0.00	3.22
14.30	0.36	0.98	0.37*	3.21	0.00	3.21
14.35	0.36	0.99	0.37*	3.21	0.00	3.21
14.40	0.36	0.99	0.36*	3.20	0.00	3.20
14.45	0.36	0.99	0.36*	3.20	0.00	3.20
14.50	0.35	0.99	0.36*	3.19	0.00	3.19
14.55	0.35	0.99	0.36*	3.18	0.00	3.18
14.60	0.35	0.99	0.35*	3.18	0.00	3.18
14.65	0.35	0.99	0.35*	3.17	0.00	3.17
14.70	0.35	0.99	0.35*	3.17	0.00	3.17
14.75	0.35	0.99	0.35*	3.16	0.00	3.16
14.80	0.42	0.99	0.42*	3.15	0.00	3.15
14.85	0.41	0.99	0.41*	3.15	0.00	3.15
14.90	0.41	1.00	0.41*	3.15	0.00	3.15
14.95	0.40	1.00	0.40*	3.14	0.00	3.14
15.00	0.40	1.00	0.40*	3.14	0.00	3.14
15.05	0.39	1.00	0.39*	3.13	0.00	3.13
15.10	0.39	1.00	0.39*	3.13	0.00	3.13
15.15	0.39	1.00	0.39*	3.12	0.00	3.12
15.20	0.39	1.00	0.39*	3.12	0.00	3.12
15.25	0.39	1.00	0.38*	3.11	0.00	3.11
15.30	0.38	1.00	0.38*	3.10	0.00	3.10
15.35	0.38	1.00	0.38*	3.10	0.00	3.10
15.40	0.38	1.00	0.38*	3.09	0.00	3.09
15.45	0.38	1.00	0.38*	3.09	0.00	3.09
15.50	0.38	1.01	0.37*	3.08	0.00	3.08
15.55	0.37	1.01	0.37*	3.08	0.00	3.08
15.60	0.37	1.01	0.37*	3.07	0.00	3.07
15.65	0.37	1.01	0.37*	3.07	0.00	3.07
15.70	0.37	1.01	0.37*	3.06	0.00	3.06
15.75	0.37	1.01	0.36*	3.06	0.00	3.06
15.80	0.37	1.01	0.36*	3.05	0.00	3.05
15.85	0.37	1.01	0.36*	3.05	0.00	3.05
15.90	0.36	1.01	0.36*	3.04	0.00	3.04
15.95	0.36	1.01	0.36*	3.03	0.00	3.03
16.00	0.36	1.01	0.36*	3.03	0.00	3.03
16.05	0.36	1.01	0.35*	3.02	0.00	3.02
16.10	0.36	1.02	0.35*	3.02	0.00	3.02
16.15	0.36	1.02	0.35*	3.01	0.00	3.01
16.20	0.36	1.02	0.35*	3.01	0.00	3.01
16.25	0.35	1.02	0.35*	3.00	0.00	3.00

16.30	0.35	1.02	0.35*	2.99	0.00	2.99
16.35	0.35	1.02	0.35*	2.99	0.00	2.99
16.40	0.35	1.02	0.34*	2.98	0.00	2.98
16.45	0.35	1.02	0.34*	2.98	0.00	2.98
16.50	0.35	1.02	0.34*	2.97	0.00	2.97
16.55	0.35	1.02	0.34*	2.96	0.00	2.96
16.60	0.35	1.02	0.34*	2.96	0.00	2.96
16.65	0.35	1.02	0.34*	2.95	0.00	2.95
16.70	0.34	1.02	0.34*	2.95	0.00	2.95
16.75	0.34	1.02	0.34*	2.94	0.00	2.94
16.80	0.34	1.03	0.33*	2.93	0.00	2.93
16.85	0.34	1.03	0.33*	2.93	0.00	2.93
16.90	0.34	1.03	0.33*	2.92	0.00	2.92
16.95	0.34	1.03	0.33*	2.92	0.00	2.92
17.00	0.34	1.03	0.33*	2.91	0.00	2.91
17.05	0.34	1.03	0.33*	2.90	0.00	2.90
17.10	0.34	1.03	0.33*	2.90	0.00	2.90
17.15	0.34	1.03	0.33*	2.89	0.00	2.89
17.20	0.33	1.03	0.32*	2.88	0.00	2.88
17.25	0.33	1.03	0.32*	2.88	0.00	2.88
17.30	0.33	1.03	0.32*	2.87	0.00	2.87
17.35	0.33	1.03	0.32*	2.87	0.00	2.87
17.40	0.33	1.03	0.32*	2.86	0.00	2.86
17.45	0.33	1.03	0.32*	2.85	0.00	2.85
17.50	0.33	1.03	0.32*	2.85	0.00	2.85
17.55	0.33	1.04	0.32*	2.84	0.00	2.84
17.60	0.33	1.04	0.32*	2.83	0.00	2.83
17.65	0.33	1.04	0.31*	2.83	0.00	2.83
17.70	0.33	1.04	0.31*	2.82	0.00	2.82
17.75	0.32	1.04	0.31*	2.82	0.00	2.82
17.80	0.32	1.04	0.31*	2.81	0.00	2.81
17.85	0.32	1.04	0.31*	2.80	0.00	2.80
17.90	0.32	1.04	0.31*	2.80	0.00	2.80
17.95	0.32	1.04	0.31*	2.79	0.00	2.79
18.00	0.32	1.04	0.31*	2.78	0.00	2.78
18.05	0.32	1.04	0.31*	2.78	0.00	2.78
18.10	0.32	1.04	0.31*	2.77	0.00	2.77
18.15	0.32	1.04	0.30*	2.76	0.00	2.76
18.20	0.32	1.04	0.30*	2.76	0.00	2.76
18.25	0.32	1.04	0.30*	2.75	0.00	2.75
18.30	0.32	1.04	0.30*	2.74	0.00	2.74
18.35	0.31	1.05	0.30*	2.74	0.00	2.74
18.40	0.31	1.05	0.30*	2.73	0.00	2.73
18.45	0.31	1.05	0.30*	2.72	0.00	2.72
18.50	0.31	1.05	0.30*	2.72	0.00	2.72
18.55	0.31	1.05	0.30*	2.71	0.00	2.71
18.60	0.31	1.05	0.30*	2.70	0.00	2.70
18.65	0.31	1.05	0.30*	2.70	0.00	2.70
18.70	0.31	1.05	0.29*	2.69	0.00	2.69
18.75	0.31	1.05	0.29*	2.68	0.00	2.68

18.80	0.31	1.05	0.29*	2.68	0.00	2.68
18.85	0.31	1.05	0.29*	2.67	0.00	2.67
18.90	0.31	1.05	0.29*	2.66	0.00	2.66
18.95	0.31	1.05	0.29*	2.66	0.00	2.66
19.00	0.30	1.05	0.29*	2.65	0.00	2.65
19.05	0.30	1.05	0.29*	2.64	0.00	2.64
19.10	0.30	1.05	0.29*	2.64	0.00	2.64
19.15	0.30	1.05	0.29*	2.63	0.00	2.63
19.20	0.30	1.05	0.29*	2.62	0.00	2.62
19.25	0.30	1.06	0.29*	2.62	0.00	2.62
19.30	0.30	1.06	0.28*	2.61	0.00	2.61
19.35	0.30	1.06	0.28*	2.60	0.00	2.60
19.40	0.30	1.06	0.28*	2.60	0.00	2.60
19.45	0.30	1.06	0.28*	2.59	0.00	2.59
19.50	0.30	1.06	0.28*	2.58	0.00	2.58
19.55	0.30	1.06	0.28*	2.58	0.00	2.58
19.60	0.30	1.06	0.28*	2.57	0.00	2.57
19.65	0.30	1.06	0.28*	2.56	0.00	2.56
19.70	0.30	1.06	0.28*	2.55	0.00	2.55
19.75	0.29	1.06	0.28*	2.55	0.00	2.55
19.80	0.29	1.06	0.28*	2.54	0.00	2.54
19.85	0.29	1.06	0.28*	2.53	0.00	2.53
19.90	0.29	1.06	0.28*	2.53	0.00	2.53
19.95	0.29	1.06	0.27*	2.52	0.00	2.52
20.00	0.29	1.06	0.27*	2.51	0.00	2.51
20.05	0.29	1.06	0.27*	2.51	0.00	2.51
20.10	0.29	1.06	0.28*	2.50	0.00	2.50
20.15	0.29	1.06	0.28*	2.49	0.00	2.49
20.20	0.30	1.06	0.28*	2.48	0.00	2.48
20.25	0.30	1.07	0.28*	2.48	0.00	2.48
20.30	0.30	1.07	0.28*	2.47	0.00	2.47
20.35	0.30	1.07	0.28*	2.46	0.00	2.46
20.40	0.30	1.07	0.28*	2.46	0.00	2.46
20.45	0.30	1.07	0.28*	2.45	0.00	2.45
20.50	0.30	1.07	0.28*	2.44	0.00	2.44
20.55	0.30	1.07	0.28*	2.44	0.00	2.44
20.60	0.31	1.07	0.29*	2.43	0.00	2.43
20.65	0.31	1.07	0.29*	2.42	0.00	2.42
20.70	0.31	1.07	0.29*	2.42	0.00	2.42
20.75	0.31	1.07	0.29*	2.41	0.00	2.41
20.80	0.31	1.07	0.29*	2.40	0.00	2.40
20.85	0.31	1.07	0.29*	2.40	0.00	2.40
20.90	0.31	1.07	0.29*	2.39	0.00	2.39
20.95	0.31	1.07	0.29*	2.38	0.00	2.38
21.00	0.32	1.07	0.29*	2.38	0.00	2.38
21.05	0.32	1.07	0.30*	2.37	0.00	2.37
21.10	0.32	1.07	0.30*	2.36	0.00	2.36
21.15	0.32	1.07	0.30*	2.36	0.00	2.36
21.20	0.32	1.07	0.30*	2.35	0.00	2.35
21.25	0.32	1.07	0.30*	2.34	0.00	2.34

21.30	0.32	1.07	0.30*	2.34	0.00	2.34
21.35	0.33	1.07	0.30*	2.33	0.00	2.33
21.40	0.33	1.08	0.30*	2.32	0.00	2.32
21.45	0.33	1.08	0.31*	2.32	0.00	2.32
21.50	0.33	1.08	0.31*	2.31	0.00	2.31
21.55	0.33	1.08	0.31*	2.31	0.00	2.31
21.60	0.33	1.08	0.31*	2.30	0.00	2.30
21.65	0.33	1.08	0.31*	2.29	0.00	2.29
21.70	0.34	1.08	0.31*	2.29	0.00	2.29
21.75	0.34	1.08	0.31*	2.28	0.00	2.28
21.80	0.34	1.08	0.31*	2.27	0.00	2.27
21.85	0.34	1.08	0.32*	2.27	0.00	2.27
21.90	0.34	1.08	0.32*	2.26	0.00	2.26
21.95	0.34	1.08	0.32*	2.26	0.00	2.26
22.00	0.35	1.08	0.32*	2.25	0.00	2.25
22.05	0.35	1.08	0.32*	2.24	0.00	2.24
22.10	0.35	1.08	0.32*	2.24	0.00	2.24
22.15	0.35	1.08	0.33*	2.23	0.00	2.23
22.20	0.35	1.08	0.33*	2.23	0.00	2.23
22.25	0.36	1.08	0.33*	2.22	0.00	2.22
22.30	0.36	1.08	0.33*	2.21	0.00	2.21
22.35	0.36	1.08	0.33*	2.21	0.00	2.21
22.40	0.36	1.08	0.33*	2.20	0.00	2.20
22.45	0.36	1.08	0.34*	2.20	0.00	2.20
22.50	0.37	1.08	0.34*	2.19	0.00	2.19
22.55	0.37	1.08	0.34*	2.19	0.00	2.19
22.60	0.37	1.08	0.34*	2.18	0.00	2.18
22.65	0.37	1.08	0.34*	2.17	0.00	2.17
22.70	0.38	1.09	0.35*	2.17	0.00	2.17
22.75	0.38	1.09	0.35*	2.16	0.00	2.16
22.80	0.38	1.09	0.35*	2.16	0.00	2.16
22.85	0.39	1.09	0.35*	2.15	0.00	2.15
22.90	0.39	1.09	0.36*	2.15	0.00	2.15
22.95	0.39	1.09	0.36*	2.14	0.00	2.14
23.00	0.40	1.09	0.36*	2.14	0.00	2.14
23.05	0.40	1.09	0.37*	2.13	0.00	2.13
23.10	0.40	1.09	0.37*	2.13	0.00	2.13
23.15	0.41	1.09	0.37*	2.12	0.00	2.12
23.20	0.41	1.09	0.38*	2.12	0.00	2.12
23.25	0.42	1.09	0.38*	2.11	0.00	2.11
23.30	0.43	1.09	0.39*	2.11	0.00	2.11
23.35	0.43	1.09	0.40*	2.10	0.00	2.10
23.40	0.44	1.09	0.41*	2.10	0.00	2.10
23.45	0.45	1.09	0.42*	2.09	0.00	2.09
23.50	0.47	1.09	0.43*	2.09	0.00	2.09
23.55	0.49	1.09	0.45*	2.09	0.00	2.09
23.60	0.51	1.09	0.47*	2.08	0.00	2.08
23.65	0.51	1.09	0.47*	2.08	0.00	2.08
23.70	0.51	1.09	0.47*	2.07	0.00	2.07
23.75	0.51	1.09	0.47*	2.07	0.00	2.07

23.80	0.51	1.09	0.47*	2.06	0.00	2.06
23.85	0.51	1.09	0.47*	2.06	0.00	2.06
23.90	0.51	1.09	0.47*	2.06	0.00	2.06
23.95	0.51	1.09	0.46*	2.05	0.00	2.05
24.00	0.51	1.09	0.46*	2.05	0.00	2.05
24.05	0.51	1.09	0.46*	2.04	0.00	2.04
24.10	0.51	1.09	0.46*	2.04	0.00	2.04
24.15	0.51	1.09	0.46*	2.04	0.00	2.04
24.20	0.51	1.10	0.46*	2.03	0.00	2.03
24.25	0.51	1.10	0.46*	2.03	0.00	2.03
24.30	0.51	1.10	0.46*	2.03	0.00	2.03
24.35	0.51	1.10	0.46*	2.02	0.00	2.02
24.40	0.51	1.10	0.46*	2.02	0.00	2.02
24.45	0.51	1.10	0.46*	2.01	0.00	2.01
24.50	0.51	1.10	0.46*	2.01	0.00	2.01
24.55	0.51	1.10	0.46*	2.01	0.00	2.01
24.60	0.51	1.10	0.46*	2.00	0.00	2.00
24.65	0.51	1.10	0.46*	2.00	0.00	2.00
24.70	0.51	1.10	0.46*	2.00	0.00	2.00
24.75	0.51	1.10	0.46*	1.99	0.00	1.99
24.80	0.51	1.10	0.46*	1.99	0.00	1.99
24.85	0.51	1.10	0.46*	1.99	0.00	1.99
24.90	0.51	1.10	0.46*	1.99	0.00	1.99
24.95	0.51	1.10	0.46*	1.98	0.00	1.98
25.00	0.51	1.10	0.46*	1.98	0.00	1.98
25.05	0.51	1.10	0.46*	1.98	0.00	1.98
25.10	0.51	1.10	0.46*	1.97	0.00	1.97
25.15	0.51	1.10	0.46*	1.97	0.00	1.97
25.20	0.51	1.10	0.46*	1.97	0.00	1.97
25.25	0.51	1.10	0.46*	1.97	0.00	1.97
25.30	0.51	1.10	0.46*	1.96	0.00	1.96
25.35	0.51	1.10	0.46*	1.96	0.00	1.96
25.40	0.51	1.10	0.46*	1.96	0.00	1.96
25.45	0.51	1.10	0.46*	1.96	0.00	1.96
25.50	0.51	1.10	0.46*	1.95	0.00	1.95
25.55	0.51	1.10	0.46*	1.95	0.00	1.95
25.60	0.51	1.10	0.46*	1.95	0.00	1.95
25.65	0.51	1.10	0.46*	1.94	0.00	1.94
25.70	0.51	1.10	0.46*	1.94	0.00	1.94
25.75	0.51	1.10	0.46*	1.94	0.00	1.94
25.80	0.51	1.10	0.46*	1.94	0.00	1.94
25.85	0.51	1.10	0.46*	1.93	0.00	1.93
25.90	0.51	1.10	0.46*	1.93	0.00	1.93
25.95	0.51	1.10	0.46*	1.93	0.00	1.93
26.00	0.51	1.10	0.46*	1.93	0.00	1.93
26.05	0.51	1.11	0.46*	1.92	0.00	1.92
26.10	0.51	1.11	0.46*	1.92	0.00	1.92
26.15	0.51	1.11	0.46*	1.92	0.00	1.92
26.20	0.51	1.11	0.46*	1.91	0.00	1.91
26.25	0.51	1.11	0.46*	1.91	0.00	1.91

26.30	0.51	1.11	0.46*	1.91	0.00	1.91
26.35	0.51	1.11	0.46*	1.91	0.00	1.91
26.40	0.51	1.11	0.46*	1.90	0.00	1.90
26.45	0.51	1.11	0.46*	1.90	0.00	1.90
26.50	0.51	1.11	0.46*	1.90	0.00	1.90
26.55	0.51	1.11	0.46*	1.90	0.00	1.90
26.60	0.51	1.11	0.46*	1.89	0.00	1.89
26.65	0.51	1.11	0.46*	1.89	0.00	1.89
26.70	0.51	1.11	0.46*	1.89	0.00	1.89
26.75	0.51	1.11	0.46*	1.88	0.00	1.88
26.80	0.51	1.11	0.46*	1.88	0.00	1.88
26.85	0.51	1.11	0.46*	1.88	0.00	1.88
26.90	0.51	1.11	0.46*	1.88	0.00	1.88
26.95	0.51	1.11	0.46*	1.87	0.00	1.87
27.00	0.51	1.11	0.46*	1.87	0.00	1.87
27.05	0.51	1.11	0.46*	1.87	0.00	1.87
27.10	0.51	1.11	0.46*	1.86	0.00	1.86
27.15	0.51	1.11	0.46*	1.86	0.00	1.86
27.20	0.51	1.11	0.46*	1.86	0.00	1.86
27.25	0.51	1.11	0.46*	1.86	0.00	1.86
27.30	0.51	1.11	0.46*	1.85	0.00	1.85
27.35	0.51	1.11	0.46*	1.85	0.00	1.85
27.40	0.51	1.11	0.46*	1.85	0.00	1.85
27.45	0.51	1.11	0.46*	1.84	0.00	1.84
27.50	0.51	1.11	0.46*	1.84	0.00	1.84
27.55	0.51	1.11	0.46*	1.84	0.00	1.84
27.60	0.51	1.11	0.46*	1.84	0.00	1.84
27.65	0.51	1.11	0.46*	1.83	0.00	1.83
27.70	0.51	1.11	0.46*	1.83	0.00	1.83
27.75	0.51	1.11	0.46*	1.83	0.00	1.83
27.80	0.51	1.11	0.46*	1.82	0.00	1.82
27.85	0.51	1.11	0.46*	1.82	0.00	1.82
27.90	0.51	1.11	0.46*	1.82	0.00	1.82
27.95	0.51	1.11	0.46*	1.82	0.00	1.82
28.00	0.51	1.11	0.46*	1.81	0.00	1.81
28.05	0.51	1.11	0.46*	1.81	0.00	1.81
28.10	0.51	1.11	0.46*	1.81	0.00	1.81
28.15	0.51	1.11	0.46*	1.81	0.00	1.81
28.20	0.51	1.11	0.46*	1.81	0.00	1.81
28.25	0.51	1.11	0.46*	1.81	0.00	1.81
28.30	0.51	1.11	0.46*	1.80	0.00	1.80
28.35	0.51	1.11	0.46*	1.80	0.00	1.80
28.40	0.51	1.11	0.46*	1.80	0.00	1.80
28.45	0.51	1.11	0.46*	1.80	0.00	1.80
28.50	0.51	1.11	0.46*	1.80	0.00	1.80
28.55	0.51	1.11	0.46*	1.79	0.00	1.79
28.60	0.51	1.11	0.46*	1.79	0.00	1.79
28.65	0.51	1.11	0.46*	1.79	0.00	1.79
28.70	0.51	1.11	0.46*	1.79	0.00	1.79
28.75	0.51	1.11	0.46*	1.79	0.00	1.79

28.80	0.51	1.11	0.46*	1.78	0.00	1.78
28.85	0.51	1.11	0.46*	1.78	0.00	1.78
28.90	0.51	1.11	0.46*	1.78	0.00	1.78
28.95	0.51	1.11	0.46*	1.78	0.00	1.78
29.00	0.51	1.11	0.46*	1.78	0.00	1.78
29.05	0.51	1.11	0.46*	1.77	0.00	1.77
29.10	0.51	1.11	0.46*	1.77	0.00	1.77
29.15	0.51	1.11	0.46*	1.77	0.00	1.77
29.20	0.51	1.11	0.46*	1.77	0.00	1.77
29.25	0.51	1.11	0.46*	1.77	0.00	1.77
29.30	0.51	1.11	0.46*	1.76	0.00	1.76
29.35	0.51	1.11	0.46*	1.76	0.00	1.76
29.40	0.51	1.11	0.46*	1.76	0.00	1.76
29.45	0.51	1.11	0.46*	1.76	0.00	1.76
29.50	0.51	1.11	0.46*	1.76	0.00	1.76
29.55	0.51	1.11	0.46*	1.75	0.00	1.75
29.60	0.51	1.11	0.46*	1.75	0.00	1.75
29.65	0.51	1.11	0.46*	1.75	0.00	1.75
29.70	0.51	1.11	0.46*	1.75	0.00	1.75
29.75	0.51	1.11	0.46*	1.74	0.00	1.74
29.80	0.51	1.11	0.46*	1.74	0.00	1.74
29.85	0.51	1.11	0.46*	1.74	0.00	1.74
29.90	0.51	1.11	0.46*	1.74	0.00	1.74
29.95	0.51	1.11	0.46*	1.74	0.00	1.74
30.00	0.51	1.11	0.46*	1.73	0.00	1.73
30.05	0.51	1.11	0.46*	1.73	0.00	1.73
30.10	0.51	1.11	0.46*	1.73	0.00	1.73
30.15	0.51	1.11	0.46*	1.73	0.00	1.73
30.20	0.51	1.11	0.46*	1.72	0.00	1.72
30.25	0.51	1.11	0.46*	1.72	0.00	1.72
30.30	0.51	1.11	0.46*	1.72	0.00	1.72
30.35	0.51	1.11	0.46*	1.71	0.00	1.71
30.40	0.51	1.11	0.46*	1.71	0.00	1.71
30.45	0.51	1.11	0.46*	1.71	0.00	1.71
30.50	0.51	1.11	0.46*	1.70	0.00	1.70
30.55	0.51	1.11	0.46*	1.70	0.00	1.70
30.60	0.51	1.11	0.46*	1.70	0.00	1.70
30.65	0.51	1.11	0.46*	1.69	0.00	1.69
30.70	0.51	1.11	0.46*	1.69	0.00	1.69
30.75	0.51	1.11	0.46*	1.69	0.00	1.69
30.80	0.51	1.11	0.46*	1.68	0.00	1.68
30.85	0.51	1.11	0.46*	1.68	0.00	1.68
30.90	0.51	1.11	0.46*	1.67	0.00	1.67
30.95	0.50	1.11	0.46*	1.67	0.00	1.67
31.00	0.48	1.10	0.43*	1.66	0.00	1.66
31.05	0.45	1.10	0.41*	1.66	0.00	1.66
31.10	0.43	1.10	0.39*	1.66	0.00	1.66
31.15	0.42	1.10	0.38*	1.65	0.00	1.65
31.20	0.41	1.10	0.37*	1.65	0.00	1.65
31.25	0.40	1.10	0.36*	1.64	0.00	1.64

31.30	0.39	1.10	0.36*	1.64	0.00	1.64
31.35	0.39	1.10	0.35*	1.63	0.00	1.63
31.40	0.38	1.10	0.35*	1.63	0.00	1.63
31.45	0.38	1.10	0.34*	1.62	0.00	1.62
31.50	0.37	1.10	0.34*	1.62	0.00	1.62
31.55	0.37	1.10	0.33*	1.61	0.00	1.61
31.60	0.36	1.10	0.33*	1.60	0.00	1.60
31.65	0.36	1.10	0.33*	1.60	0.00	1.60
31.70	0.36	1.10	0.32*	1.59	0.00	1.59
31.75	0.35	1.10	0.32*	1.59	0.00	1.59
31.80	0.35	1.10	0.32*	1.58	0.00	1.58
31.85	0.35	1.10	0.31*	1.58	0.00	1.58
31.90	0.34	1.10	0.31*	1.57	0.00	1.57
31.95	0.34	1.10	0.31*	1.56	0.00	1.56
32.00	0.34	1.10	0.31*	1.56	0.00	1.56
32.05	0.33	1.10	0.30*	1.55	0.00	1.55
32.10	0.33	1.10	0.30*	1.55	0.00	1.55
32.15	0.33	1.10	0.30*	1.54	0.00	1.54
32.20	0.33	1.10	0.30*	1.53	0.00	1.53
32.25	0.32	1.10	0.29*	1.53	0.00	1.53
32.30	0.32	1.09	0.29*	1.52	0.00	1.52
32.35	0.32	1.09	0.29*	1.51	0.00	1.51
32.40	0.32	1.09	0.29*	1.51	0.00	1.51
32.45	0.31	1.09	0.29*	1.50	0.00	1.50
32.50	0.31	1.09	0.28*	1.49	0.00	1.49
32.55	0.31	1.09	0.28*	1.49	0.00	1.49
32.60	0.31	1.09	0.28*	1.48	0.00	1.48
32.65	0.30	1.09	0.28*	1.48	0.00	1.48
32.70	0.30	1.09	0.28*	1.47	0.00	1.47
32.75	0.30	1.09	0.27*	1.46	0.00	1.46
32.80	0.30	1.09	0.27*	1.46	0.00	1.46
32.85	0.30	1.09	0.27*	1.45	0.00	1.45
32.90	0.29	1.09	0.27*	1.44	0.00	1.44
32.95	0.29	1.09	0.27*	1.43	0.00	1.43
33.00	0.29	1.09	0.27*	1.43	0.00	1.43
33.05	0.29	1.09	0.26*	1.42	0.00	1.42
33.10	0.29	1.09	0.26*	1.41	0.00	1.41
33.15	0.28	1.09	0.26*	1.41	0.00	1.41
33.20	0.28	1.09	0.26*	1.40	0.00	1.40
33.25	0.28	1.09	0.26*	1.39	0.00	1.39
33.30	0.28	1.09	0.26*	1.39	0.00	1.39
33.35	0.28	1.09	0.25*	1.38	0.00	1.38
33.40	0.27	1.09	0.25*	1.37	0.00	1.37
33.45	0.27	1.09	0.25*	1.36	0.00	1.36
33.50	0.27	1.09	0.25*	1.36	0.00	1.36
33.55	0.27	1.09	0.25*	1.35	0.00	1.35
33.60	0.27	1.08	0.25*	1.34	0.00	1.34
33.65	0.27	1.08	0.25*	1.33	0.00	1.33
33.70	0.26	1.08	0.24*	1.33	0.00	1.33
33.75	0.26	1.08	0.24*	1.32	0.00	1.32

33.80	0.26	1.08	0.24*	1.31	0.00	1.31
33.85	0.26	1.08	0.24*	1.30	0.00	1.30
33.90	0.26	1.08	0.24*	1.30	0.00	1.30
33.95	0.26	1.08	0.24*	1.29	0.00	1.29
34.00	0.26	1.08	0.24*	1.28	0.00	1.28
34.05	0.25	1.08	0.23*	1.27	0.00	1.27
34.10	0.25	1.08	0.23*	1.27	0.00	1.27
34.15	0.25	1.08	0.23*	1.26	0.00	1.26
34.20	0.25	1.08	0.23*	1.25	0.00	1.25
34.25	0.25	1.08	0.23*	1.24	0.00	1.24
34.30	0.25	1.08	0.23*	1.23	0.00	1.23
34.35	0.25	1.08	0.23*	1.23	0.00	1.23
34.40	0.24	1.08	0.23*	1.22	0.00	1.22
34.45	0.24	1.08	0.23*	1.21	0.00	1.21
34.50	0.24	1.08	0.22*	1.20	0.00	1.20
34.55	0.24	1.08	0.22*	1.19	0.00	1.19
34.60	0.24	1.08	0.22*	1.19	0.00	1.19
34.65	0.24	1.08	0.22*	1.18	0.00	1.18
34.70	0.24	1.08	0.22*	1.17	0.00	1.17
34.75	0.23	1.08	0.22*	1.16	0.00	1.16
34.80	0.23	1.08	0.22*	1.15	0.00	1.15
34.85	0.23	1.07	0.22*	1.14	0.00	1.14
34.90	0.23	1.07	0.21*	1.14	0.00	1.14
34.95	0.23	1.07	0.21*	1.13	0.00	1.13
35.00	0.23	1.07	0.21*	1.12	0.00	1.12
35.05	0.23	1.07	0.21*	1.11	0.00	1.11
35.10	0.23	1.07	0.21*	1.10	0.00	1.10
35.15	0.23	1.07	0.21*	1.09	0.00	1.09
35.20	0.23	1.07	0.22*	1.08	0.00	1.08
35.25	0.23	1.07	0.22*	1.08	0.00	1.08
35.30	0.23	1.07	0.22*	1.07	0.00	1.07
35.35	0.23	1.07	0.22*	1.06	0.00	1.06
35.40	0.23	1.07	0.22*	1.05	0.00	1.05
35.45	0.24	1.07	0.22*	1.04	0.00	1.04
35.50	0.24	1.07	0.22*	1.03	0.00	1.03
35.55	0.24	1.07	0.22*	1.03	0.00	1.03
35.60	0.24	1.07	0.22*	1.02	0.00	1.02
35.65	0.24	1.07	0.22*	1.01	0.00	1.01
35.70	0.24	1.07	0.22*	1.00	0.00	1.00
35.75	0.24	1.07	0.22*	0.99	0.00	0.99
35.80	0.24	1.07	0.23*	0.98	0.00	0.98
35.85	0.24	1.07	0.23*	0.98	0.00	0.98
35.90	0.24	1.07	0.23*	0.97	0.00	0.97
35.95	0.24	1.07	0.23*	0.96	0.00	0.96
36.00	0.24	1.07	0.23*	0.95	0.00	0.95
36.05	0.25	1.07	0.23*	0.94	0.00	0.94
36.10	0.25	1.06	0.23*	0.94	0.00	0.94
36.15	0.25	1.06	0.23*	0.93	0.00	0.93
36.20	0.25	1.06	0.23*	0.92	0.00	0.92
36.25	0.25	1.06	0.23*	0.91	0.00	0.91

36.30	0.25	1.06	0.23*	0.90	0.00	0.90
36.35	0.25	1.06	0.24*	0.90	0.00	0.90
36.40	0.25	1.06	0.24*	0.89	0.00	0.89
36.45	0.25	1.06	0.24*	0.88	0.00	0.88
36.50	0.25	1.06	0.24*	0.87	0.00	0.87
36.55	0.25	1.06	0.24*	0.87	0.00	0.87
36.60	0.25	1.06	0.24*	0.86	0.00	0.86
36.65	0.26	1.06	0.24*	0.85	0.00	0.85
36.70	0.26	1.06	0.24*	0.84	0.00	0.84
36.75	0.26	1.06	0.24*	0.84	0.00	0.84
36.80	0.26	1.06	0.24*	0.83	0.00	0.83
36.85	0.26	1.06	0.24*	0.82	0.00	0.82
36.90	0.26	1.06	0.25*	0.81	0.00	0.81
36.95	0.26	1.06	0.25*	0.80	0.00	0.80
37.00	0.26	1.06	0.25*	0.80	0.00	0.80
37.05	0.26	1.06	0.25*	0.79	0.00	0.79
37.10	0.26	1.06	0.25*	0.78	0.00	0.78
37.15	0.26	1.06	0.25*	0.77	0.00	0.77
37.20	0.27	1.06	0.25*	0.77	0.00	0.77
37.25	0.27	1.05	0.25*	0.76	0.00	0.76
37.30	0.27	1.05	0.25*	0.75	0.00	0.75
37.35	0.27	1.05	0.25*	0.75	0.00	0.75
37.40	0.27	1.05	0.26*	0.74	0.00	0.74
37.45	0.27	1.05	0.26*	0.73	0.00	0.73
37.50	0.27	1.05	0.26*	0.72	0.00	0.72
37.55	0.27	1.05	0.26*	0.72	0.00	0.72
37.60	0.27	1.05	0.26*	0.71	0.00	0.71
37.65	0.27	1.05	0.26*	0.70	0.00	0.70
37.70	0.27	1.05	0.26*	0.69	0.00	0.69
37.75	0.28	1.05	0.26*	0.69	0.00	0.69
37.80	0.28	1.05	0.26*	0.68	0.00	0.68
37.85	0.28	1.05	0.26*	0.67	0.00	0.67
37.90	0.28	1.05	0.27*	0.67	0.00	0.67
37.95	0.28	1.05	0.27*	0.66	0.00	0.66
38.00	0.28	1.05	0.27*	0.65	0.00	0.65
38.05	0.28	1.05	0.27*	0.64	0.00	0.64
38.10	0.28	1.05	0.27*	0.64	0.00	0.64
38.15	0.28	1.05	0.27*	0.63	0.00	0.63
38.20	0.28	1.05	0.27*	0.62	0.00	0.62
38.25	0.29	1.05	0.27*	0.62	0.00	0.62
38.30	0.29	1.05	0.27*	0.61	0.00	0.61
38.35	0.29	1.05	0.28*	0.60	0.00	0.60
38.40	0.29	1.05	0.28*	0.60	0.00	0.60
38.45	0.29	1.04	0.28*	0.59	0.00	0.59
38.50	0.29	1.04	0.28*	0.58	0.00	0.58
38.55	0.29	1.04	0.28*	0.58	0.00	0.58
38.60	0.29	1.04	0.28*	0.57	0.00	0.57
38.65	0.29	1.04	0.28*	0.56	0.00	0.56
38.70	0.30	1.04	0.28*	0.56	0.00	0.56
38.75	0.30	1.04	0.28*	0.55	0.00	0.55

38.80	0.30	1.04	0.29*	0.54	0.00	0.54
38.85	0.30	1.04	0.29*	0.54	0.00	0.54
38.90	0.30	1.04	0.29*	0.53	0.00	0.53
38.95	0.30	1.04	0.29*	0.52	0.00	0.52
39.00	0.30	1.04	0.29*	0.52	0.00	0.52
39.05	0.30	1.04	0.29*	0.51	0.00	0.51
39.10	0.30	1.04	0.29*	0.50	0.00	0.50
39.15	0.31	1.04	0.29*	0.50	0.00	0.50
39.20	0.31	1.04	0.30*	0.49	0.00	0.49
39.25	0.31	1.04	0.30*	0.48	0.00	0.48
39.30	0.31	1.04	0.30*	0.48	0.00	0.48
39.35	0.31	1.04	0.30*	0.47	0.00	0.47
39.40	0.31	1.04	0.30*	0.46	0.00	0.46
39.45	0.31	1.04	0.30*	0.46	0.00	0.46
39.50	0.31	1.04	0.30*	0.45	0.00	0.45
39.55	0.32	1.03	0.31*	0.44	0.00	0.44
39.60	0.32	1.03	0.31*	0.44	0.00	0.44
39.65	0.32	1.03	0.31*	0.43	0.00	0.43
39.70	0.32	1.03	0.31*	0.43	0.00	0.43
39.75	0.32	1.03	0.31*	0.42	0.00	0.42
39.80	0.32	1.03	0.31*	0.41	0.00	0.41
39.85	0.32	1.03	0.31*	0.41	0.00	0.41
39.90	0.33	1.03	0.32*	0.40	0.00	0.40
39.95	0.33	1.03	0.32*	0.40	0.00	0.40
40.00	0.33	1.03	0.32*	0.39	0.00	0.39
40.05	0.33	1.03	0.32*	0.38	0.00	0.38
40.10	0.33	1.03	0.32*	0.38	0.00	0.38
40.15	0.33	1.03	0.32*	0.37	0.00	0.37
40.20	0.33	1.03	0.32*	0.36	0.00	0.36
40.25	0.34	1.03	0.33*	0.36	0.00	0.36
40.30	0.34	1.03	0.33*	0.35	0.00	0.35
40.35	0.34	1.03	0.33*	0.35	0.00	0.35
40.40	0.34	1.03	0.33*	0.34	0.00	0.34
40.45	0.34	1.03	0.33*	0.34	0.00	0.34
40.50	0.34	1.03	0.33*	0.33	0.00	0.33
40.55	0.34	1.03	0.34*	0.32	0.00	0.32
40.60	0.35	1.03	0.34*	0.32	0.00	0.32
40.65	0.35	1.03	0.34*	0.31	0.00	0.31
40.70	0.35	1.02	0.34*	0.31	0.00	0.31
40.75	0.35	1.02	0.34*	0.30	0.00	0.30
40.80	0.35	1.02	0.34*	0.30	0.00	0.30
40.85	0.35	1.02	0.35*	0.29	0.00	0.29
40.90	0.36	1.02	0.35*	0.28	0.00	0.28
40.95	0.36	1.02	0.35*	0.28	0.00	0.28
41.00	0.36	1.02	0.35*	0.27	0.00	0.27
41.05	0.36	1.02	0.35*	0.27	0.00	0.27
41.10	0.36	1.02	0.36*	0.26	0.00	0.26
41.15	0.37	1.02	0.36*	0.26	0.00	0.26
41.20	0.37	1.02	0.36*	0.25	0.00	0.25
41.25	0.37	1.02	0.36*	0.25	0.00	0.25

41.30	0.37	1.02	0.37*	0.24	0.00	0.24
41.35	0.38	1.02	0.37*	0.24	0.00	0.24
41.40	0.38	1.02	0.37*	0.23	0.00	0.23
41.45	0.38	1.02	0.38*	0.23	0.00	0.23
41.50	0.39	1.02	0.38*	0.22	0.00	0.22
41.55	0.39	1.02	0.38*	0.22	0.00	0.22
41.60	0.40	1.02	0.39*	0.21	0.00	0.21
41.65	0.40	1.02	0.39*	0.21	0.00	0.21
41.70	0.40	1.02	0.40*	0.20	0.00	0.20
41.75	0.41	1.02	0.40*	0.20	0.00	0.20
41.80	0.42	1.01	0.41*	0.19	0.00	0.19
41.85	0.43	1.01	0.42*	0.19	0.00	0.19
41.90	0.44	1.01	0.43*	0.19	0.00	0.19
41.95	0.45	1.01	0.44*	0.18	0.00	0.18
42.00	0.46	1.01	0.46*	0.18	0.00	0.18
42.05	0.48	1.01	0.48*	0.17	0.00	0.17
42.10	0.48	1.01	0.48*	0.17	0.00	0.17
42.15	0.48	1.01	0.48*	0.16	0.00	0.16
42.20	0.48	1.01	0.48*	0.16	0.00	0.16
42.25	0.48	1.01	0.48*	0.15	0.00	0.15
42.30	0.48	1.01	0.48*	0.15	0.00	0.15
42.35	0.48	1.01	0.48*	0.15	0.00	0.15
42.40	0.48	1.01	0.48*	0.14	0.00	0.14
42.45	0.48	1.01	0.48*	0.14	0.00	0.14
42.50	0.48	1.01	0.48*	0.13	0.00	0.13
42.55	0.48	1.01	0.48*	0.13	0.00	0.13
42.60	0.48	1.01	0.48*	0.13	0.00	0.13
42.65	0.48	1.01	0.48*	0.12	0.00	0.12
42.70	0.48	1.01	0.48*	0.12	0.00	0.12
42.75	0.48	1.01	0.48*	0.11	0.00	0.11
42.80	0.48	1.01	0.48*	0.11	0.00	0.11
42.85	0.48	1.01	0.48*	0.11	0.00	0.11
42.90	0.48	1.00	0.48*	0.10	0.00	0.10
42.95	0.48	1.00	0.48*	0.10	0.00	0.10
43.00	0.48	1.00	0.48*	0.10	0.00	0.10
43.05	0.48	1.00	0.48*	0.09	0.00	0.09
43.10	0.48	1.00	0.48*	0.09	0.00	0.09
43.15	0.48	1.00	0.48*	0.09	0.00	0.09
43.20	0.48	1.00	0.48*	0.08	0.00	0.08
43.25	0.48	1.00	0.48*	0.08	0.00	0.08
43.30	0.48	1.00	0.48*	0.08	0.00	0.08
43.35	0.48	1.00	0.48*	0.07	0.00	0.07
43.40	0.48	1.00	0.48*	0.07	0.00	0.07
43.45	0.48	1.00	0.48*	0.07	0.00	0.07
43.50	0.48	1.00	0.48*	0.06	0.00	0.06
43.55	0.48	1.00	0.48*	0.06	0.00	0.06
43.60	0.48	1.00	0.48*	0.06	0.00	0.06
43.65	0.48	1.00	0.48*	0.05	0.00	0.05
43.70	0.48	1.00	0.48*	0.05	0.00	0.05
43.75	0.48	1.00	0.48*	0.05	0.00	0.05

43.80	0.48	1.00	0.48*	0.04	0.00	0.04
43.85	0.48	1.00	0.48*	0.04	0.00	0.04
43.90	0.48	1.00	0.48*	0.04	0.00	0.04
43.95	0.48	1.00	0.48*	0.04	0.00	0.04
44.00	0.48	0.99	0.48*	0.03	0.00	0.03
44.05	0.48	0.99	0.48*	0.03	0.00	0.03
44.10	0.48	0.99	0.48*	0.03	0.00	0.03
44.15	0.48	0.99	0.48*	0.03	0.00	0.03
44.20	0.48	0.99	0.48*	0.03	0.00	0.03
44.25	0.48	0.99	0.48*	0.02	0.00	0.02
44.30	0.48	0.99	0.48*	0.02	0.00	0.02
44.35	0.48	0.99	0.48*	0.02	0.00	0.02
44.40	0.48	0.99	0.48*	0.02	0.00	0.02
44.45	0.48	0.99	0.48*	0.01	0.00	0.01
44.50	0.48	0.99	0.48*	0.01	0.00	0.01
44.55	0.48	0.99	0.48*	0.01	0.00	0.01
44.60	0.48	0.99	0.48*	0.01	0.00	0.01
44.65	0.48	0.99	0.48*	0.01	0.00	0.01
44.70	0.48	0.99	0.48*	0.01	0.00	0.01
44.75	0.48	0.99	0.48*	0.01	0.00	0.01
44.80	0.48	0.99	0.48*	0.00	0.00	0.00
44.85	0.48	0.99	0.48*	0.00	0.00	0.00
44.90	0.48	0.99	0.48*	0.00	0.00	0.00
44.95	0.48	0.99	0.48*	0.00	0.00	0.00
45.00	0.48	0.99	0.49*	0.00	0.00	0.00
45.05	2.00	0.99	5.00	0.00	0.00	0.00
45.10	2.00	0.98	5.00	0.00	0.00	0.00
45.15	2.00	0.98	5.00	0.00	0.00	0.00
45.20	2.00	0.98	5.00	0.00	0.00	0.00
45.25	2.00	0.98	5.00	0.00	0.00	0.00
45.30	2.00	0.98	5.00	0.00	0.00	0.00
45.35	2.00	0.98	5.00	0.00	0.00	0.00
45.40	2.00	0.98	5.00	0.00	0.00	0.00
45.45	2.00	0.98	5.00	0.00	0.00	0.00
45.50	2.00	0.98	5.00	0.00	0.00	0.00
45.55	2.00	0.98	5.00	0.00	0.00	0.00
45.60	2.00	0.98	5.00	0.00	0.00	0.00
45.65	2.00	0.98	5.00	0.00	0.00	0.00
45.70	2.00	0.98	5.00	0.00	0.00	0.00
45.75	2.00	0.98	5.00	0.00	0.00	0.00
45.80	2.00	0.98	5.00	0.00	0.00	0.00
45.85	2.00	0.98	5.00	0.00	0.00	0.00
45.90	2.00	0.98	5.00	0.00	0.00	0.00
45.95	2.00	0.98	5.00	0.00	0.00	0.00
46.00	2.00	0.98	5.00	0.00	0.00	0.00
46.05	2.00	0.98	5.00	0.00	0.00	0.00
46.10	2.00	0.98	5.00	0.00	0.00	0.00
46.15	2.00	0.97	5.00	0.00	0.00	0.00
46.20	2.00	0.97	5.00	0.00	0.00	0.00
46.25	2.00	0.97	5.00	0.00	0.00	0.00

46.30	2.00	0.97	5.00	0.00	0.00	0.00
46.35	2.00	0.97	5.00	0.00	0.00	0.00
46.40	2.00	0.97	5.00	0.00	0.00	0.00
46.45	2.00	0.97	5.00	0.00	0.00	0.00
46.50	2.00	0.97	5.00	0.00	0.00	0.00
46.55	2.00	0.97	5.00	0.00	0.00	0.00
46.60	2.00	0.97	5.00	0.00	0.00	0.00
46.65	2.00	0.97	5.00	0.00	0.00	0.00
46.70	2.00	0.97	5.00	0.00	0.00	0.00
46.75	2.00	0.97	5.00	0.00	0.00	0.00
46.80	2.00	0.97	5.00	0.00	0.00	0.00
46.85	2.00	0.97	5.00	0.00	0.00	0.00
46.90	2.00	0.97	5.00	0.00	0.00	0.00
46.95	2.00	0.97	5.00	0.00	0.00	0.00
47.00	2.00	0.97	5.00	0.00	0.00	0.00
47.05	2.00	0.97	5.00	0.00	0.00	0.00
47.10	2.00	0.97	5.00	0.00	0.00	0.00
47.15	2.00	0.97	5.00	0.00	0.00	0.00
47.20	2.00	0.97	5.00	0.00	0.00	0.00
47.25	2.00	0.96	5.00	0.00	0.00	0.00
47.30	2.00	0.96	5.00	0.00	0.00	0.00
47.35	2.00	0.96	5.00	0.00	0.00	0.00
47.40	2.00	0.96	5.00	0.00	0.00	0.00
47.45	2.00	0.96	5.00	0.00	0.00	0.00
47.50	2.00	0.96	5.00	0.00	0.00	0.00
47.55	2.00	0.96	5.00	0.00	0.00	0.00
47.60	2.00	0.96	5.00	0.00	0.00	0.00
47.65	2.00	0.96	5.00	0.00	0.00	0.00
47.70	2.00	0.96	5.00	0.00	0.00	0.00
47.75	2.00	0.96	5.00	0.00	0.00	0.00
47.80	2.00	0.96	5.00	0.00	0.00	0.00
47.85	2.00	0.96	5.00	0.00	0.00	0.00
47.90	2.00	0.96	5.00	0.00	0.00	0.00
47.95	2.00	0.96	5.00	0.00	0.00	0.00
48.00	2.00	0.96	5.00	0.00	0.00	0.00
48.05	2.00	0.96	5.00	0.00	0.00	0.00
48.10	2.00	0.96	5.00	0.00	0.00	0.00
48.15	2.00	0.96	5.00	0.00	0.00	0.00
48.20	2.00	0.96	5.00	0.00	0.00	0.00
48.25	2.00	0.96	5.00	0.00	0.00	0.00
48.30	2.00	0.95	5.00	0.00	0.00	0.00
48.35	2.00	0.95	5.00	0.00	0.00	0.00
48.40	2.00	0.95	5.00	0.00	0.00	0.00
48.45	2.00	0.95	5.00	0.00	0.00	0.00
48.50	2.00	0.95	5.00	0.00	0.00	0.00
48.55	2.00	0.95	5.00	0.00	0.00	0.00
48.60	2.00	0.95	5.00	0.00	0.00	0.00
48.65	2.00	0.95	5.00	0.00	0.00	0.00
48.70	2.00	0.95	5.00	0.00	0.00	0.00
48.75	2.00	0.95	5.00	0.00	0.00	0.00

48.80	2.00	0.95	5.00	0.00	0.00	0.00
48.85	2.00	0.95	5.00	0.00	0.00	0.00
48.90	2.00	0.95	5.00	0.00	0.00	0.00
48.95	2.00	0.95	5.00	0.00	0.00	0.00
49.00	2.00	0.95	5.00	0.00	0.00	0.00
49.05	2.00	0.95	5.00	0.00	0.00	0.00
49.10	2.00	0.95	5.00	0.00	0.00	0.00
49.15	2.00	0.95	5.00	0.00	0.00	0.00
49.20	2.00	0.95	5.00	0.00	0.00	0.00
49.25	2.00	0.95	5.00	0.00	0.00	0.00
49.30	2.00	0.95	5.00	0.00	0.00	0.00
49.35	2.00	0.95	5.00	0.00	0.00	0.00
49.40	2.00	0.94	5.00	0.00	0.00	0.00
49.45	2.00	0.94	5.00	0.00	0.00	0.00
49.50	2.00	0.94	5.00	0.00	0.00	0.00
49.55	2.00	0.94	5.00	0.00	0.00	0.00
49.60	2.00	0.94	5.00	0.00	0.00	0.00
49.65	2.00	0.94	5.00	0.00	0.00	0.00
49.70	2.00	0.94	5.00	0.00	0.00	0.00
49.75	2.00	0.94	5.00	0.00	0.00	0.00
49.80	2.00	0.94	5.00	0.00	0.00	0.00
49.85	2.00	0.94	5.00	0.00	0.00	0.00
49.90	2.00	0.94	5.00	0.00	0.00	0.00
49.95	2.00	0.94	5.00	0.00	0.00	0.00
50.00	2.00	0.94	5.00	0.00	0.00	0.00
50.05	2.00	0.94	5.00	0.00	0.00	0.00
50.10	2.00	0.94	5.00	0.00	0.00	0.00
50.15	2.00	0.94	5.00	0.00	0.00	0.00
50.20	2.00	0.94	5.00	0.00	0.00	0.00
50.25	2.00	0.94	5.00	0.00	0.00	0.00
50.30	2.00	0.94	5.00	0.00	0.00	0.00
50.35	2.00	0.94	5.00	0.00	0.00	0.00
50.40	2.00	0.94	5.00	0.00	0.00	0.00
50.45	2.00	0.93	5.00	0.00	0.00	0.00
50.50	2.00	0.93	5.00	0.00	0.00	0.00
50.55	2.00	0.93	5.00	0.00	0.00	0.00
50.60	2.00	0.93	5.00	0.00	0.00	0.00
50.65	2.00	0.93	5.00	0.00	0.00	0.00
50.70	2.00	0.93	5.00	0.00	0.00	0.00
50.75	2.00	0.93	5.00	0.00	0.00	0.00
50.80	2.00	0.93	5.00	0.00	0.00	0.00
50.85	2.00	0.93	5.00	0.00	0.00	0.00
50.90	2.00	0.93	5.00	0.00	0.00	0.00
50.95	2.00	0.93	5.00	0.00	0.00	0.00
51.00	2.00	0.93	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.

1 atm (atmosphere)	= 1 tsf (ton/ft ²)
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