

GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
NORTH OF COTTONWOOD DRIVE &
EAST OF LYON AVENUE
APN 436-280-011, 012, 013 & 014
SAN JACINTO, CALIFORNIA

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Subject: Geotechnical Investigation

Project: Proposed Residential Development
North of Cottonwood Avenue &
East of Lyon Avenue
APN 436-280-011, 012, 013 & 014
San Jacinto, California

Sladden Engineering is pleased to present the results of the geotechnical investigation performed for the residential development proposed for the site located north of Cottonwood Avenue and east of Lyon Avenue in the City of San Jacinto, California. Our services were completed in accordance with our proposal for geotechnical engineering services dated January 18, 2021 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.

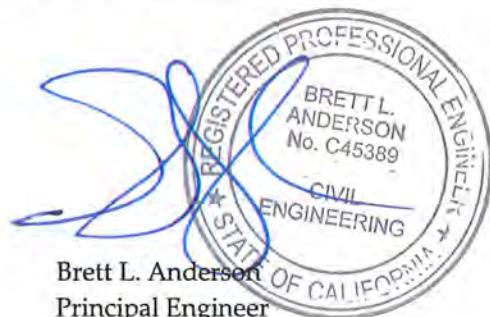
We appreciate the opportunity to provide service to you on this project. If you have any questions regarding this report, please contact the undersigned.

Respectfully submitted,
SLADDEN ENGINEERING

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INTRODUCTION

This report presents the results of the geotechnical investigation performed for the residential development proposed for the vacant property located on the north side of Cottonwood Avenue and east of Lyon Avenue in the City of San Jacinto, California. The project site is formally identified by the County of Riverside as APN 436-280-011, 012, 013 and 014 and is located at approximately 33.7900 degrees north latitude and 116.9877 degrees west longitude. The approximate location of the site is indicated on the Site Location Map (Figure 1).

Our investigation was conducted in order 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 plan, it is our understanding that the proposed project will consist of constructing a new residential subdivision on the subject site. The proposed project will also include two retention basins and open spaces. Paved roadways, underground utilities, concrete flatwork, landscape areas and various other associated site improvements are also anticipated for the project. For our analyses, we expect that the proposed residential structures will consist of a relatively lightweight wood-frame structures supported on conventional shallow spread footings and concrete slabs-on-grade.

Sladden expects that grading will be limited to minor cuts and fills in order to accomplish the desired elevations and to provide adequate gradients for site drainage. This does not include the removal and recompaction of the loose surface soil and primary foundation bearing 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 20 kips and continuous wall loads will be less than 2.0 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 in order 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 six (6) exploratory boreholes to depths between approximately 16 feet 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 on the east side of Lyon Avenue and north of Cottonwood Avenue in the City of San Jacinto, California. The site is formally identified by the County of Riverside as APN 436-280-011, 012, 013 and 014 and consists of approximately 26 acres of undeveloped land. At the time of our investigation mounds of stockpiled soil were observed in the central portion of the project site. The remaining portions of the site were covered in scattered weeds and brush. Based on our review of historical Google Earth (2021) images of the project site, it appears that the site was previously occupied by scattered structures, livestock pens and horse arenas. The site is near the elevation of the adjacent properties and roadways. The subject site is generally bounded by undeveloped property to the north and immediate east, developed properties to the south and Lyon Avenue to the immediate west.

Based on our review of the San Jacinto 7.5-Minute Quadrangle Map (USGS, 2015), the site is situated at an approximate elevation of 1505 feet above 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 February 16, 2021. Site drainage appears to be controlled via sheet flow and surface infiltration.

GEOLOGIC SETTING

The project site is located in the Peninsular Ranges Physiographic Province of California. The Peninsular Ranges are mountainous areas that extend from the western edge of the continental borderland to the Salton Trough and from the Transverse Ranges Physiographic Province in the north to the tip of Baja California in the south. The Peninsular Ranges Physiographic Province is characterized by northwest-trending topographic and structural features that locally include the San Jacinto Structural Block. The San Jacinto Structural Block is a northwest-southeast trending elongated structural block bounded on the southwest by the San Jacinto Fault and by the San Andreas Fault Zone to the northeast. The province is characterized by elongated, northwest-southeast trending mountain ranges and valleys and is truncated at its northern margin by the east-west grain of the Transverse Ranges. Mountainous areas of the Peninsular Ranges Physiographic Province generally consist of Igneous, metasedimentary and metavolcanic rocks. However, plutonic rocks of the Southern California Batholith are the dominant basement rock exposed (Jahns, 1954).

The site has been mapped by Dibblee (2003) to be immediately underlain by young 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 excavating six (6) exploratory boreholes to a depths between approximately 16 and 51 feet bgs. The approximate locations of the boreholes are illustrated on the Exploration Location Plan (Figure 3). The boreholes were advanced using a Mobil 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 mantle of disturbed soil was encountered throughout the site to an approximate depth of two (2) feet below the existing ground surface. Underlying the fill soil and extending to the maximum depth explored, native alluvium was encountered. The site soil consists of interbedded silty sand (SM), sand (SW/SP) and minor proportions of sandy silt (ML) and sandy clay (CL). Generally, the native earth materials appeared grayish brown to yellowish brown, dry to wet and loose with blow counts indicating that density generally increases with depth.

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 during our field investigation at a depth of approximately 49 Feet bgs within BH-1. Based on our exploratory bores and our review of groundwater level data (CDWR, 2021), groundwater should not be a factor during construction of the proposed project.

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 which 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 that are considered to be active or potentially active. An active fault is defined by the State of California as a "sufficiently active and well defined fault" that has exhibited surface displacement within the Holocene epoch (about the last 11,000 years). A potentially active fault is defined by the State as a fault with a history of movement within Pleistocene time (between 11,000 and 1.6 million years ago). The southwestern portion of the site is located within a State of California delineated fault zone (CDMG, 1980).

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 within 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 1 lists the closest known potentially active faults that was generated in part using the EQFAULT computer program (Blake, 2000), as modified using the fault parameters from The Revised 2002 California Probabilistic Seismic Hazard Maps (Cao et al, 2003), Southern Earthquake Data Center (SCEDC, 2021) and the Quaternary Fault and Fold Database of the United States (USGS, 2021a). This table does not identify the probability of reactivation or the on-site effects from earthquakes occurring on any of the other faults in the region.

TABLE 1
CLOSEST KNOWN ACTIVE FAULTS

Fault Name	Distance (Km)	Maximum Event
San Jacinto – San Jacinto Valley	0.0*	7.38
San Jacinto – Anza	10.0	7.2
Elsinore – Temecula	3.08	6.8
San Jacinto – San Bernardino	27.4	6.7
San Andreas – Southern	32.8	7.2
San Andreas – San Bernardino	32.8	7.5
Elsinore – Glen Ivy	39.6	6.8
Elsinore – Julian	51.1	7.1

*Project site is partially located within a State of California delineated fault zone.

SITE SPECIFIC GROUND MOTION PARAMETERS

Sladden has reviewed the 2019 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 2
GROUND MOTION PARAMETERS

Latitude / Longitude	33.7900/-116.9877		
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	2.184	---
MCE _R Ground Motion (1.0 second period)	S ₁	0.887	---
Site-Modified Spectral Acceleration Value	S _{MS}	2.184	2.439
Site-Modified Spectral Acceleration Value	S _{M1}	Null	2.547
Numeric Seismic Design Value at 0.2 second SA	S _{DS}	1.456	1.626
Numeric Seismic Design Value at 1.0 second SA	S _{D1}	Null	1.698
Site Amplification Factor at 0.2 second	F _a	1	1
Site Amplification Factor at 1.0 second	F _v	Null	1.7
Site Peak Ground Acceleration	PGAM	1.088	0.964

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 CDMG (1980), Jennings (1994), Dibblee (2003), RCPR (2021) and our previous work of the subject property (Sladden, 2003), the southwestern portion of the property is located within a State of California delineated fault zone (Figure 4). Sladden (2003) evaluated that portion of the site by fault trenching and established a restricted use zone (RUZ) of 50 feet (Figure 5). In accordance with current guidelines, no structures intended for human occupancy should be constructed within the previously established RUZ.

- 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 0.964g.
- III. Liquefaction/ Dry Sand Settlement. 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 liquefaction calculations utilizing a magnitude of 7.38 (BSSC, 2013) and modified peak ground acceleration of 0.964g. Historic high and anticipated high groundwater depths were determined to be approximately 49 feet bgs. Calculations indicate potential total seismic settlements of up to 7.25 inches and 6.36 inches for BH-1 and BH-4, respectively. Based on the general uniformity of the site soil conditions as demonstrated by the similarity between bores, we expect that differential settlement should be less than 1-inch over a horizontal distance of approximately 100 feet. The seismic settlement calculations are included 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 surface soil consists of interbedded silty sand (SM), sand (SP/SW), sandy silt (ML) and sandy clay (CL). Based on the results of our laboratory testing (EI=16), the materials underlying the site are considered to have a "low" expansion potential.
- VII. Static Settlement. Static settlement resulting from the anticipated foundation loads should be minimal 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 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 remote.
- 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 foundation design and carried out through construction. The main geotechnical concerns in the design and construction of the proposed project include the presence of artificial fill soil, the loose condition of the near surface native soil, the potential liquefaction related seismic settlements and the presence of a State of California delineated fault zone within the southwestern corner of the site.

Some of the near surface soil underlying the site is considered loose, potentially compressible and not suitable for support of shallow foundations or concrete slabs in the existing condition. Because of the somewhat loose and potentially compressible condition of some of the near surface soil, remedial grading including over-excavation and re-compaction is recommended for the proposed new building and foundation areas. We recommend that remedial grading within the proposed new building areas include over-excavation and re-compaction of the primary foundation bearing soil. Specific recommendations for site preparation are presented in the Earthwork and Grading section of this report.

Groundwater was encountered within our bores at a depth of approximately 49 feet bgs. Based on the depth to groundwater, we do not expect the presence of groundwater to impact the proposed development of the property.

As previously stated, the project site is partially located within a State of California delineated fault zone (Figure 4). Previous geologic investigations were conducted on the property to evaluate the active surface rupture potential on the subject property. Based on the Sladden (2003) investigation and City of San Jacinto approval, a restricted use zone (RUZ) of 50 feet was established from the southwestern property corner. In accordance with the Sladden (2003) investigation and current guidelines, structures intended for human occupancy should not be constructed within the RUZ.

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 preliminary design 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. Stripping: Areas to be graded and paved should be cleared of any existing surface improvements, vegetation, 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 or stockpiled for later use in landscape areas. Voids left by obstructions should be properly backfilled in accordance with the compaction recommendations of this report.
- b. Preparation of Building Areas: In order to achieve firm and uniform foundation bearing conditions and to help mitigate potential seismic settlements, we recommend over-excavation and re-compaction throughout the proposed building areas. All artificial fill soil and low density near surface native soil should be removed to a depth of at least 5 feet below existing grade or 5 feet below the bottom of the footings, whichever is deeper. Remedial grading should extend laterally, a minimum of five feet beyond the building perimeter where possible. 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 all placement. The previously removed soil may then be replaced as engineered fill as recommended below.
- c. Compaction: Soil to be used as engineered fill should be free of organic material, debris, and other deleterious substances, and should not contain irreducible matter greater than three inches in maximum dimension. All fill materials 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 3 provides a summary of the excavation and compaction recommendations.

TABLE 3
SUMMARY OF RECOMMENDATIONS

*Remedial Grading	Over-excavation and re-compaction within the building envelope and extending laterally 5 feet beyond the building limits and to a minimum depth of 5 feet below existing grade or 5 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.

- c. **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 2 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 spread footings may be utilized for building support, provided the potential seismic related settlements of approximately 1.0 inch over a horizontal distance of approximately 100 feet can be adequately mitigated in design. 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 and isolated footings should have minimum widths of 12 inches and 24 inches, respectively. Continuous and isolated footings placed on compact 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 3000 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. All footings should be reinforced in accordance with the project structural engineer's recommendations.

Lateral load resistance for the spread footings will be developed by passive soil pressure against the sides of the footings below grade and by friction acting at the base of the concrete footings bearing on compacted fill. An allowable passive pressure of 250 psf per foot of depth may be used for design purposes. An allowable coefficient of friction 0.40 may be used for dead and sustained live loads to compute the frictional resistance of footings 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 Sladden Engineering to verify adequate embedment depths prior to the placement of forms, reinforcement or concrete. The excavations should be trimmed neat, level and square. All loose, disturbed, sloughed or moisture-softened soil and/or any construction debris should be removed prior to concrete placement.

PRELIMINARY PAVEMENT DESIGN

Asphalt concrete pavements should be designed in accordance with Topic 608 of the Caltrans Highway Design Manual based on R-Value and Traffic Index. An R-Value of 40 was assumed to develop the following preliminary pavement design section. For preliminary design, a Traffic Index (TI) of 6.5 was used for the on-site roadways. We assumed Asphalt Concrete (AC) over Class II Aggregate Base (AB). The preliminary flexible pavement design is as follows:

ON-SITE ASPHALT PAVEMENT SECTION LAYER THICKNESS	
Pavement Material	Recommended Thickness
	TI = 6.5
Asphalt Concrete Surface Course	3.0 inches
Class II Aggregate Base Course	6.0 inches
Compacted Subgrade Soil	12.0 inches

Asphalt concrete should conform with the Standard Specifications for Public Works Construction ("Greenbook") or CalTrans. Class II aggregate base should conform to Greenbook or Caltrans Standard Specifications. The aggregate base material should be compacted to at least 95 percent of the maximum dry density as determined by ASTM Method D 1557.

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 5.0 inches and minimum reinforcement of #3 bars at 24 inches on center in both directions to help mitigate potential seismic settlements. 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 1-inch thick leveling course of sand across the pad surface prior to placement of the membrane.

RETAINING WALLS

Minor retaining walls may be required 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 gently sloping (less than 3H:1V) native backfill soil acting in a triangular pressure distribution with free-draining 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 free-draining backfill conditions. These lateral pressures should also be applicable for use in swimming pool design.

CORROSION SERIES

The soluble sulfate concentrations of the surface soil were determined to be 20 parts per million (ppm). The soil is considered to have a "negligible" corrosion potential with respect to concrete. The use of Type V cement and special sulfate resistant concrete mixes may be necessary. The soluble sulfate content of the surface soil should be reevaluated after grading.

The Ph levels of the surface soil was 9.1 Based on soluble chloride concentration testing (50 ppm) the soil is considered to have a "low" corrosion potential with respect to normal grade steel. The minimum resistivity of the surface soil was found to be 2330 ohm-cm, which suggests the site soil is considered to have a "moderate" 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

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

FIGURES

SITE LOCATION MAP
REGIONAL GEOLOGIC MAP
EXPLORATION LOCATION PLAN
FAULT ZONE MAP
RESTRICTED USE ZONE



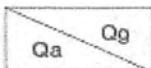
SITE LOCATION MAP

Project Number:	644-21002
Report Number:	21-03-030
Date:	March 26, 2021

FIGURE

1

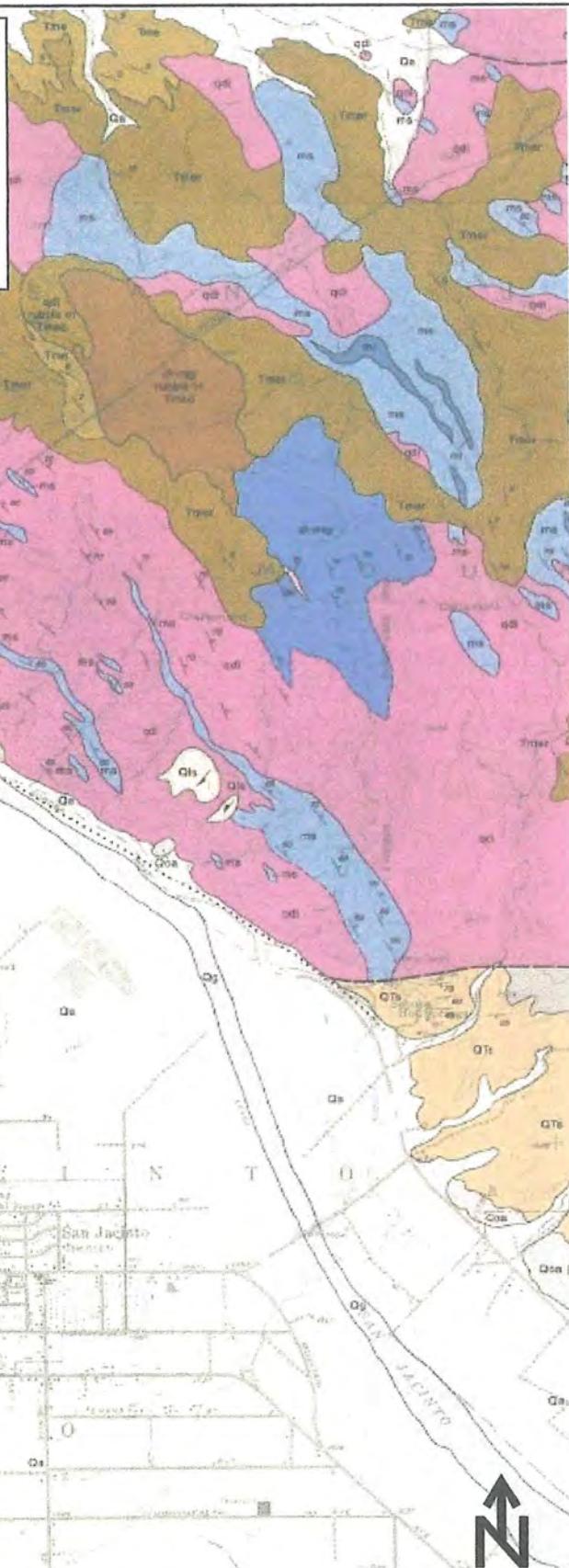
EXPLANATION OF SITE UNITS



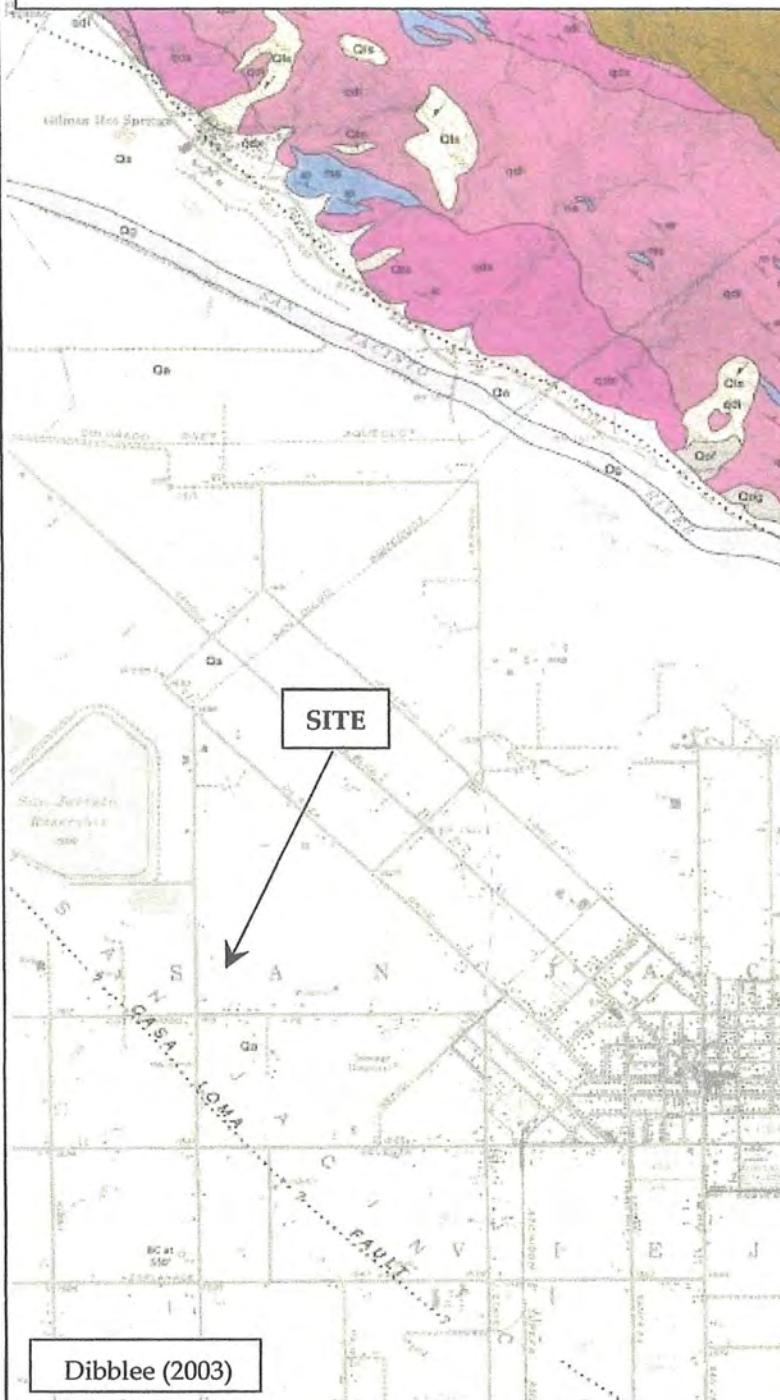
SURFICIAL SEDIMENTS

Qg Alluvial sediments, unconsolidated, undissected

Qa Alluvial sand and clay of valley areas, covered by gray soil, includes stream channel gravel and sand in mountain area



SITE



Dibblee (2003)



Sladden Engineering

REGIONAL GEOLOGIC MAP

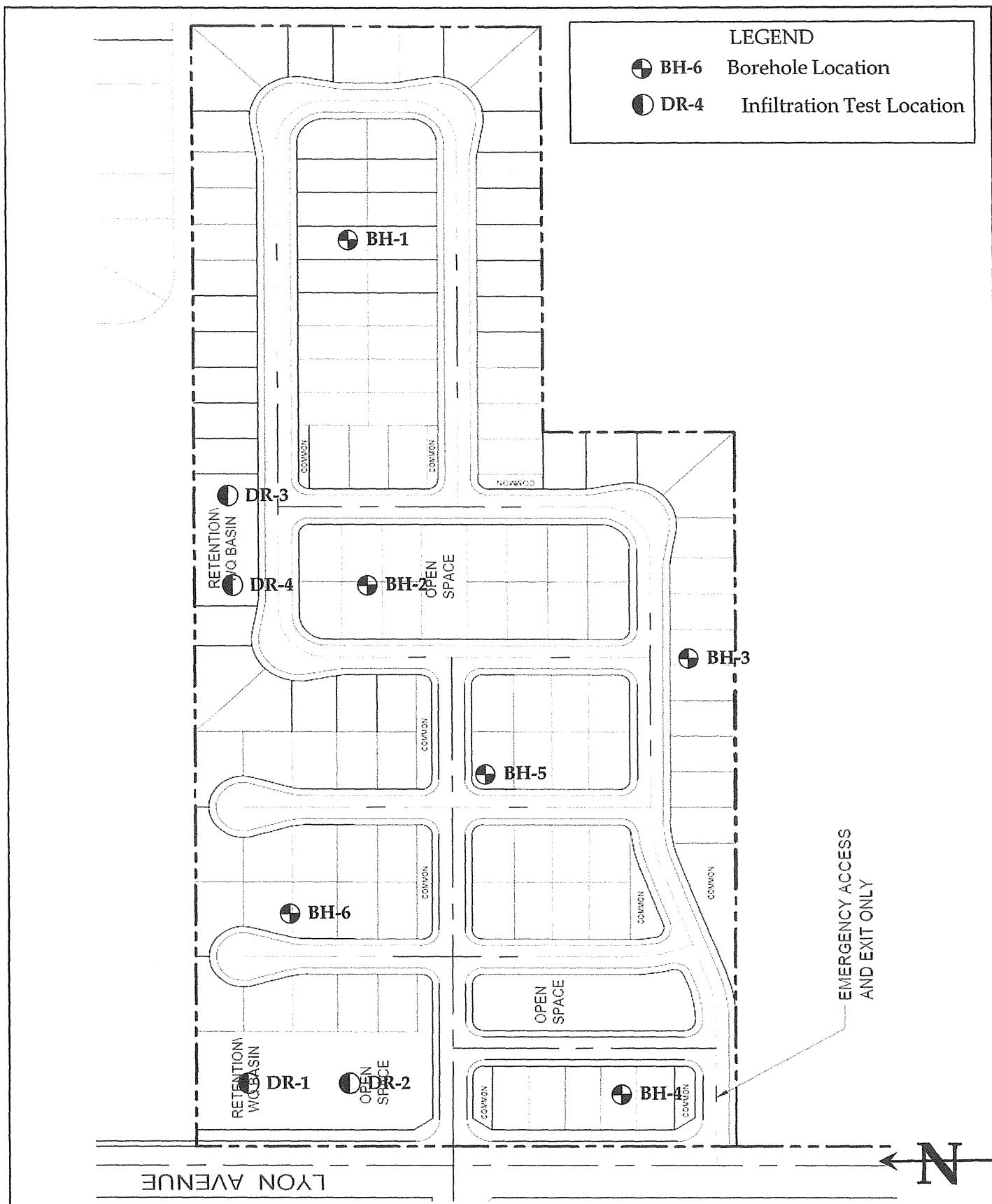
Project Number:	644-21002
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Report Number:	21-03-030
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Date:	March 26, 2021
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FIGURE

2



MAP EXPLANATION

Potentially Active Faults

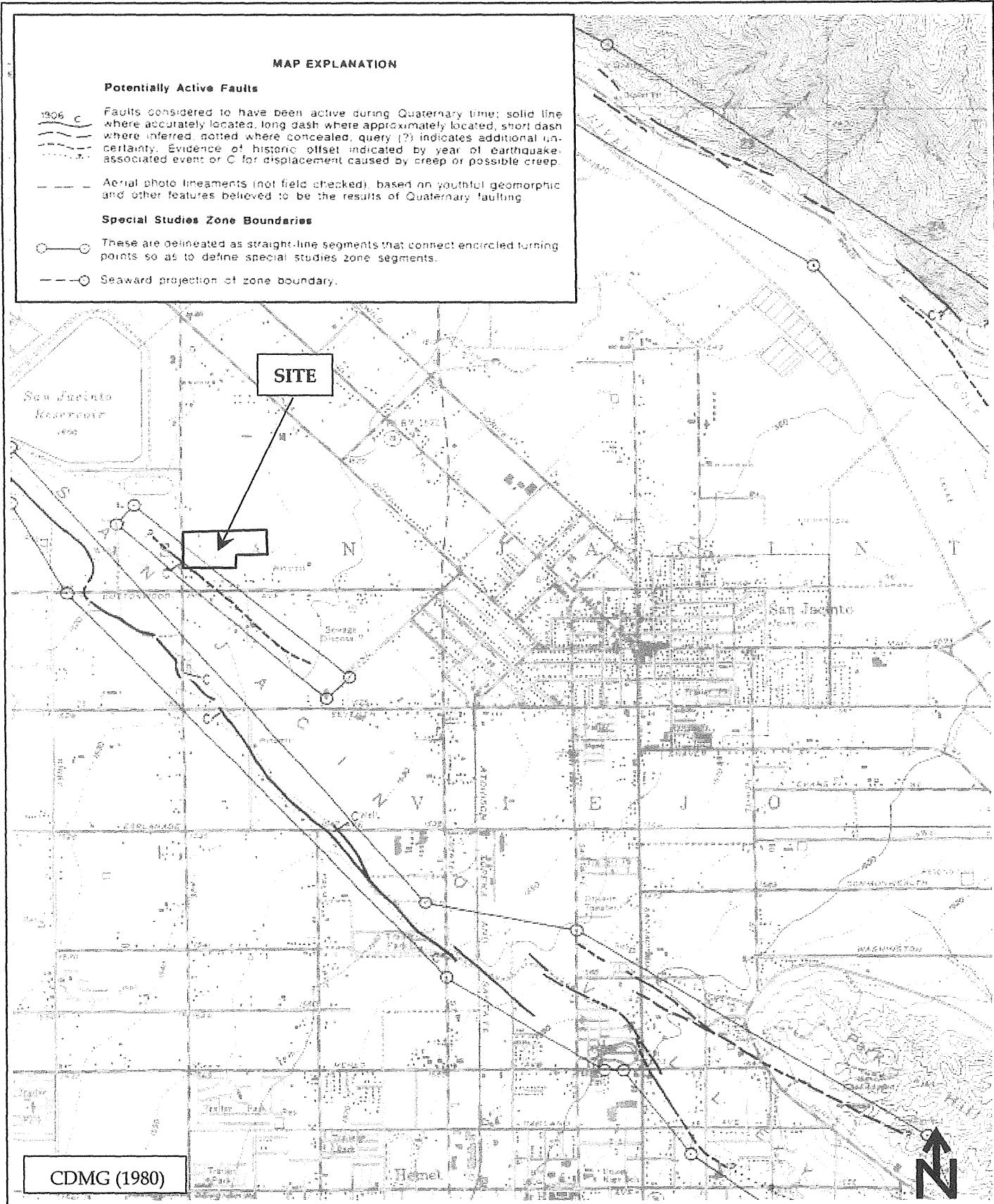
1906 C
 Solid line where accurately located, long dash where approximately located, short dash where inferred, dotted where concealed; query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake-associated event or C for displacement caused by creep or possible creep.

— — — Aerial photo lineaments (not field checked), based on youthful geomorphic and other features believed to be the results of Quaternary faulting

Special Studies Zone Boundaries

○ — ○ These are delineated as straight-line segments that connect encircled turning points so as to define special studies zone segments.

— — ○ Seaward projection of zone boundary.



CDMG (1980)

FAULT ZONE MAP

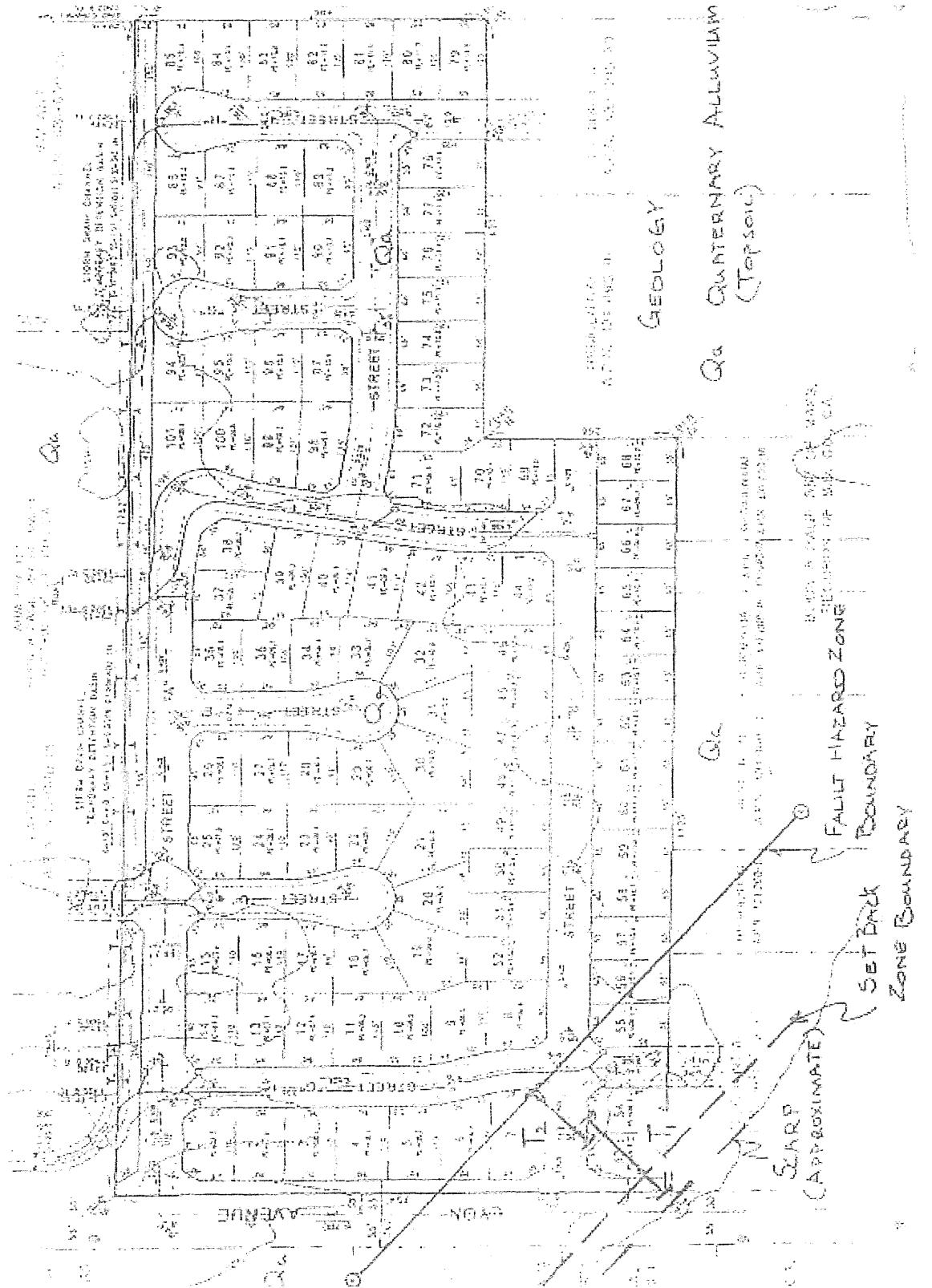


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Date:	March 26, 2021

FIGURE

4



Sladden (2003)



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RESTRICTED USE ZONE

Project Number:	644-21002
Report Number:	21-03-030
Date:	March 26, 20

FIGURE

5

APPENDIX A
FIELD EXPLORATION

APPENDIX A

FIELD EXPLORATION

For our field investigation six (6) exploratory boreholes were excavated on February 16, 2021 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.



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BORE LOG

Equipment:	MOBILE B-61	Date Drilled:	2/16/2021
Elevation:	1505 MSL	Boring No:	BH-1

Sample	Blow Counts			Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density,pcf	Depth (Feet)	Graphic Lithology	Description
	5	6	6	1	16	22.3	2.9	106.2	2		Silty Sand (SM); grayish brown, dry to slightly moist, fine- to coarse-grained with gravel (Fill/Disturbed).
	5	6	7			24.7	3.0	99.5	4		Silty Sand (SM); grayish brown, dry to slightly moist, loose, fine- to coarse-grained with gravel (Qa).
	8	9	10			5.5	1.8		6		Silty Sand (SM); light grayish brown, dry, loose, fine- to coarse-grained, micaceous (Qa).
	6	8	8			6.2	1.9	98.9	8		Sand (SP); light grayish brown, dry, medium dense, fine- to coarse-grained, micaceous (Qa).
	5	6	10			31.4	11.5		10		Sand (SP); light gray, dry, loose, fine-grained, micaceous (Qa).
	9	10	11			37.1	14.4	110.8	12		Silty Sand (SM); gray, moist, medium dense, fine-grained (Qa).
	7	9	13			8.2	5.2		14		Silty Sand (SM); gray, moist, medium dense, fine- coarse-grained (Qa).
	10	11	11			30.7	14.5	110.1	16		Sand (SW); grayish brown, slightly moist, medium dense, fine- to coarse grained (Qa).
	8	6	6			63.0	25.9		18		Silky Sand (SM); light gray, dry, medium dense, fine-grained, micaceous (Qa).
	9	13	22			17.1	15.5	112.7	20		Sandy Silt (ML); dark grayish brown, moist, stiff, low plasticity (Qa).
	10	13	13			36.5	22.4		22		Silty Sand (SM); dark grayish brown, very moist to wet, medium dense, fine-grained, micaceous (Qa).
									24		Silty Sand (SM); dark grayish brown, very moist to wet, medium dense, fine-grained, micaceous (Qa).
									26		
									28		
									30		
									32		
									34		
									36		
									38		
									40		
									42		
									44		
									46		
									48		
									50		

Completion Notes:

Terminated at ~51.5 Feet bgs

No Bedrock Encountered

Groundwater Encountered at 49.0 Feet bgs

PROPOSED RESIDENTIAL DEVELOPMENT

PROPOSED RESIDENTIAL DEVELOPMENT

AT&T 450-280-

21-03-030

Page | 1



Sladden Engineering

BORE LOG

Equipment:	MOBILE B-61	Date Drilled:	2/16/2021
Elevation:	1505 MSL	Boring No:	BH-2

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 with gravel (Fill/Disturbed).
	5	6	8			44.2	4.9	94.4	4		Silty Sand (SM); mottled reddish brown and light grayish brown, dry to slightly moist, loose, fine- to coarse-grained (Qa).
	8	10	13			16.9	3.0		6		Silty Sand (SM); light gray, dry, medium dense, fine- to coarse-grained, micaceous.
	9	10	13			56.3	6.0	98.1	8		Sand (SP); light gray, slightly moist, medium dense, fine-grained, micaceous (Qa).
									10		Terminated at ~16.5 Feet bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.
									12		
									14		
									16		
									18		
									20		
									22		
									24		
									26		
									28		
									30		
									32		
									34		
									36		
									38		
									40		
									42		
									44		
									46		
									48		
									50		

Completion Notes:

PROPOSED RESIDENTIAL DEVELOPMENT
APN 436-280-011, 012, 013, 014; SAN JACINTO

Project No: 644-21002

Report No: 21-03-030

Page 2

Sladden Engineering							BORE LOG			
							Equipment: MOBILE B-61		Date Drilled: 2/16/2021	
							Elevation: 1505 MSL		Boring No: BH-3	
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density, pcf	Depth (Feet)	Graphic Lithology	Description	
									Silty Sand (SM); grayish brown, dry to slightly moist, fine- to coarse-grained with gravel (Fill/Disturbed).	
	3 4 4			2.8	2.2		2		Sand (SP); light gray, dry to slightly moist, loose, fine- to coarse-grained, micaceous (Qa).	
	6 8 11			2.2	2.0	106.4	6		Sand (SW); light gray, dry, medium dense, fine- to coarse-grained (Qa).	
	4 3 3			87.0	35.3		10		Sandy Silt (ML); greenish gray, moist, medium stiff, low plasticity (Qa).	
	6 8 9			44.7	15.2	92.5	14		Silty Sand (SM); mottled grayish brown and yellowish brown, moist, medium dense, fine-grained (Qa).	
							18		Terminated at ~21.5 Feet bgs. No Bedrock Encountered. No Groundwater or Seepage Encountered.	
							22			
							24			
							26			
							28			
							30			
							32			
							34			
							36			
							38			
							40			
							42			
							44			
							46			
							48			
							50			
Completion Notes:							PROPOSED RESIDENTIAL DEVELOPMENT APN 436-280-011, 012, 013, 014; SAN JACINTO			
							Project No:	644-21002		
							Report No:	21-03-030	Page	3

Sladden Engineering							BORE LOG					
							Equipment: MOBILE B-61		Date Drilled: 2/16/2021			
Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density,pcf	Depth (Feet)	Graphic Lithology	Description			
									Silty Sand (SM); grayish brown, dry to slightly moist, fine- to coarse-grained with gravel (Fill/Disturbed).			
	4 4 4			2.2	1.8		2		Silty Sand (SM); yellowish brown, slightly moist, loose, fine- to coarse-grained, micaceous (Qa).			
	7 8 9			1.3	1.1		6		Sand (SW); light gray, dry, medium dense, fine- to coarse-grained (Qa).			
	4 6 7			54.6	8.6		10		Sandy Silt (ML); grayish brown, slightly moist, stiff, low plasticity, micaceous (Qa).			
	10 13 15			1.9	0.7	109.9	14		Sand (SP); yellowish brown, dry, medium dense, fine- to coarse-grained (Qa).			
	8 8 10			12.3	6.7		18		Silty Sand (SM); light gray, dry to slightly moist, medium dense, fine- to coarse-grained (Qa).			
	16 21 31			4.6	2.0	106.6	22		Sand (SW); light grayish brown, dry, dense, fine- to coarse-grained, micaceous (Qa).			
	11 14 14			4.5	2.1		26		Sand (SW); yellowish brown, dry, medium dense, fine- to coarse-grained, micaceous (Qa).			
	7 14 25			42.9	15.5	112.9	30		Silty Sand (SM); grayish brown, moist, medium dense, fine-grained, micaceous (Qa).			
	3 5 8			62.1	23.7		34		Sandy Silt (ML); grayish brown, moist, stiff, low plasticity , micaceous (Qa).			
	8 11 21			79.0	29.2	98.0	38		Sandy Silt (ML); grayish brown, moist, very stiff, low plasticity, micaceous (Qa).			
Completion Notes:							PROPOSED RESIDENTIAL DEVELOPMENT APN 436-280-011, 012, 013, 014; SAN JACINTO					
Terminated at ~51.5 Feet bgs.												
No Bedrock Encountered.							Project No:	644-21002				
No Groundwater or Seepage Encountered.							Report No:	21-03-030	Page	4		



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BORE LOG

Equipment:	MOBILE B-61	Date Drilled:	2/16/2021
Elevation:	1505 MSL	Boring No:	BH-5

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density,pcf	Depth (Feet)	Graphic Lithology	Description	
							-2	Silhouette	Silty Sand (SM); grayish brown, dry to slightly moist, fine- to coarse-grained with gravel (Fill/Disturbed).	
	5 5 8			20.9	2.4	97.3	2			
							4			
							6			
							8			
							10	Silhouette	Silty Sand (SM); light grayish brown, dry, loose, fine- to coarse-grained, micaceous (Qa).	
	5 5 5			3.5	2.0		12			
							14			
							16	Silhouette	Sand (SW); yellowish brown, dry to slightly moist, loose, fine- to coarse-grained, micaceous (Qa).	
	4 6 9			63.2	21.9	87.8	18			
							20	Silhouette	Sandy Silt (ML); yellowish brown, moist, stiff, low plasticity (Qa).	
	3 5 6			65.9	19.0		22			
							24		Terminated at ~21.5 Feet bgs.	
							26		No Bedrock Encountered.	
							28		No Groundwater or Seepage Encountered.	
							30			
							32			
							34			
							36			
							38			
							40			
							42			
							44			
							46			
							48			
							50			
Completion Notes:								PROPOSED RESIDENTIAL DEVELOPMENT APN 436-280-011, 012, 013, 014; SAN JACINTO		
								Project No:	644-21002	
								Report No:	21-03-030	Page 5



Sladden Engineering

BORE LOG

Equipment:	MOBILE B-61	Date Drilled:	2/16/2021
Elevation:	1505 MSL	Boring No:	BH-6

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Density,pcf	Depth (Feet)	Graphic Lithology	Description	
									Silty Sand (SM); grayish brown, dry to slightly moist, fine- to coarse-grained with gravel (Fill/Disturbed).	
	2 2 3			2.7	1.4		2		Sand (SW); yellowish brown, dry, loose, fine- to coarse-grained, micaceous (Qa).	
	7 11 15			2.1	0.4	103.4	4		Sand (SW); grayish brown, dry, medium dense, fine- to coarse-grained, micaceous (Qa).	
	5 4 4			92.5	25.3		6		Sandy Clay (CL); mottled grayish brown and yellowish brown, moist, medium stiff, low plasticity (Qa).	
	9 15 19			32.5	4.6	105.3	8		Silty Sand (SM); yellowish brown, slightly moist, medium dense, fine-grained, micaceous (Qa).	
							10		Terminated at ~21.5 Feet bgs.	
							12		No Bedrock Encountered.	
							14		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:								PROPOSED RESIDENTIAL DEVELOPMENT APN 436-280-011, 012, 013, 014; SAN JACINTO		
								Project No:	644-21002	
								Report No:	21-03-030	Page 6

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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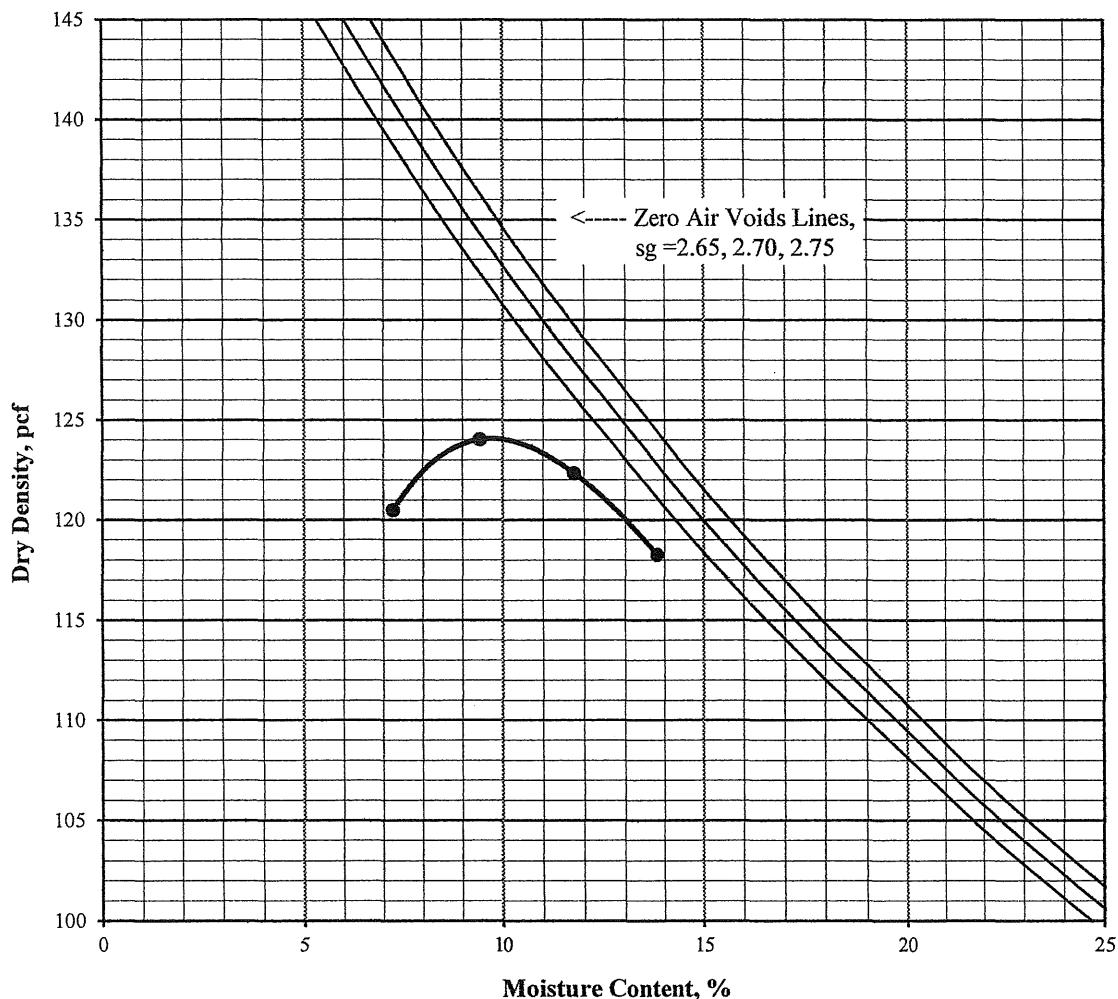
Maximum Density/Optimum Moisture

ASTM D698/D1557

Project Number: 644-21002 March 23, 2021
Project Name: Lyon Avenue
Lab ID Number: LN6-21087 ASTM D-1557 A
Sample Location: BH-1 Bulk 1 @ 0-5' Rammer Type: Machine
Description: Dark Brown Silty Sand (SM)

Maximum Density: 124.5 pcf
Optimum Moisture: 10%

Sieve Size	% Retained
3/4"	
3/8"	
#4	0.2





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Expansion Index

ASTM D 4829

Job Number: 644-21002 March 23, 2021
Job Name: Lyon Avenue
Lab ID Number: LN6-21087
Sample ID: BH-1 Bulk 1 @ 0-5'
Soil Description: Dark Brown Silty Sand (SM)

Wt of Soil + Ring:	581.3
Weight of Ring:	191.1
Wt of Wet Soil:	390.2
Percent Moisture:	8.3%
Sample Height, in	0.95
Wet Density, pcf:	124.9
Dry Density, pcf:	115.3

% Saturation:	48.6
---------------	------

Expansion Rack # 3

Date/Time	3/22/2021	3:15 PM
Initial Reading	0.0000	
Final Reading	0.0159	

Expansion Index

16

(Final - Initial) x 1000



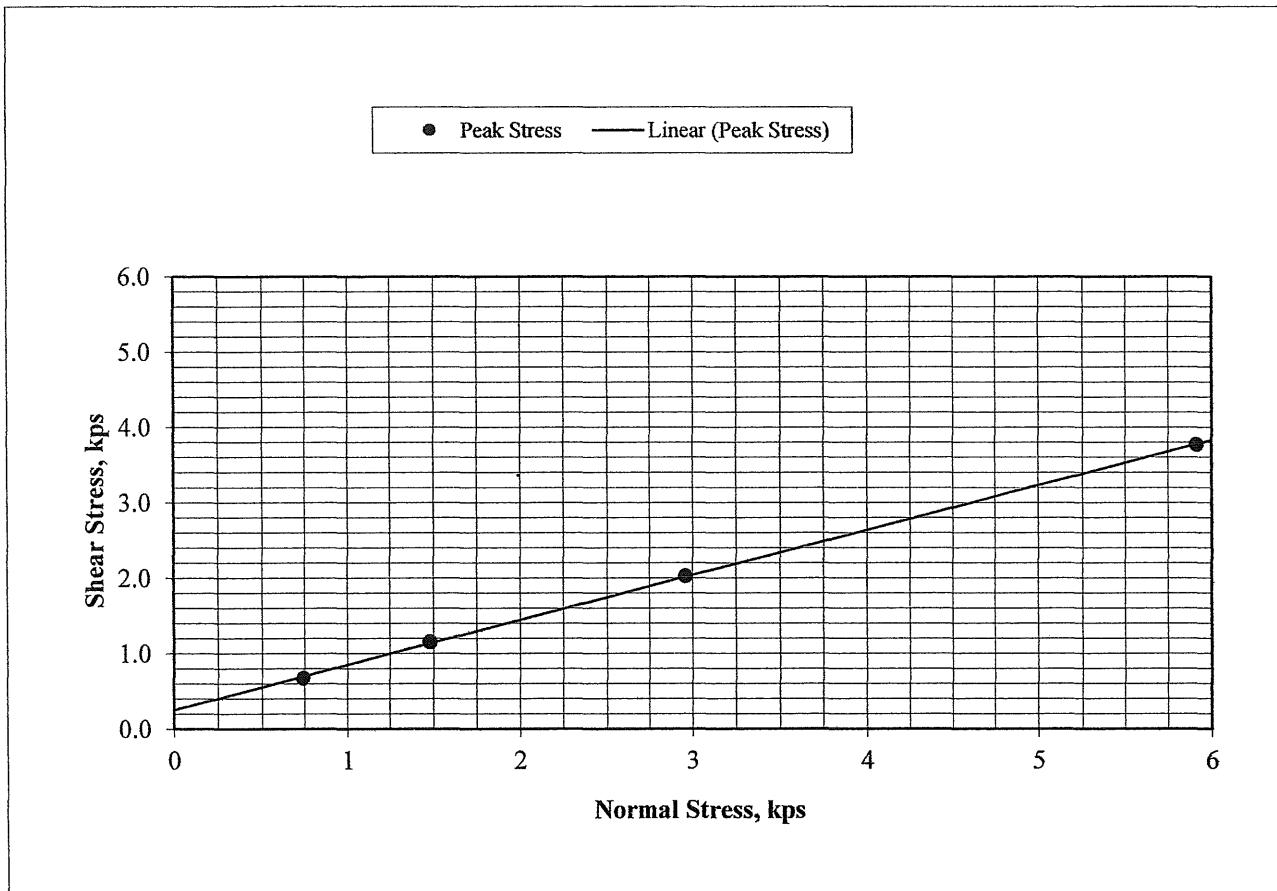
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Direct Shear ASTM D 3080-04 (modified for unconsolidated condition)

Job Number: 644-21002 March 23, 2021
Job Name Lyon Avenue Initial Dry Density: 111.9 pcf
Lab ID No. LN6-21087 Initial Moisture Content: 9.8 %
Sample ID BH-1 Bulk 1 @ 0-5' Peak Friction Angle (\emptyset): 31°
Classification Dark Brown Silty Sand (SM) Cohesion (c): 260 psf
Sample Type Remolded @ 90% of Maximum Density

Test Results	1	2	3	4	Average
Moisture Content, %	18.8	18.8	18.8	18.8	18.8
Saturation, %	100.3	100.3	100.3	100.3	100.3
Normal Stress, kps	0.739	1.479	2.958	5.916	
Peak Stress, kps	0.676	1.155	2.027	3.771	





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Gradation

ASTM C117 & C136

Project Number: 644-21002

March 23, 2021

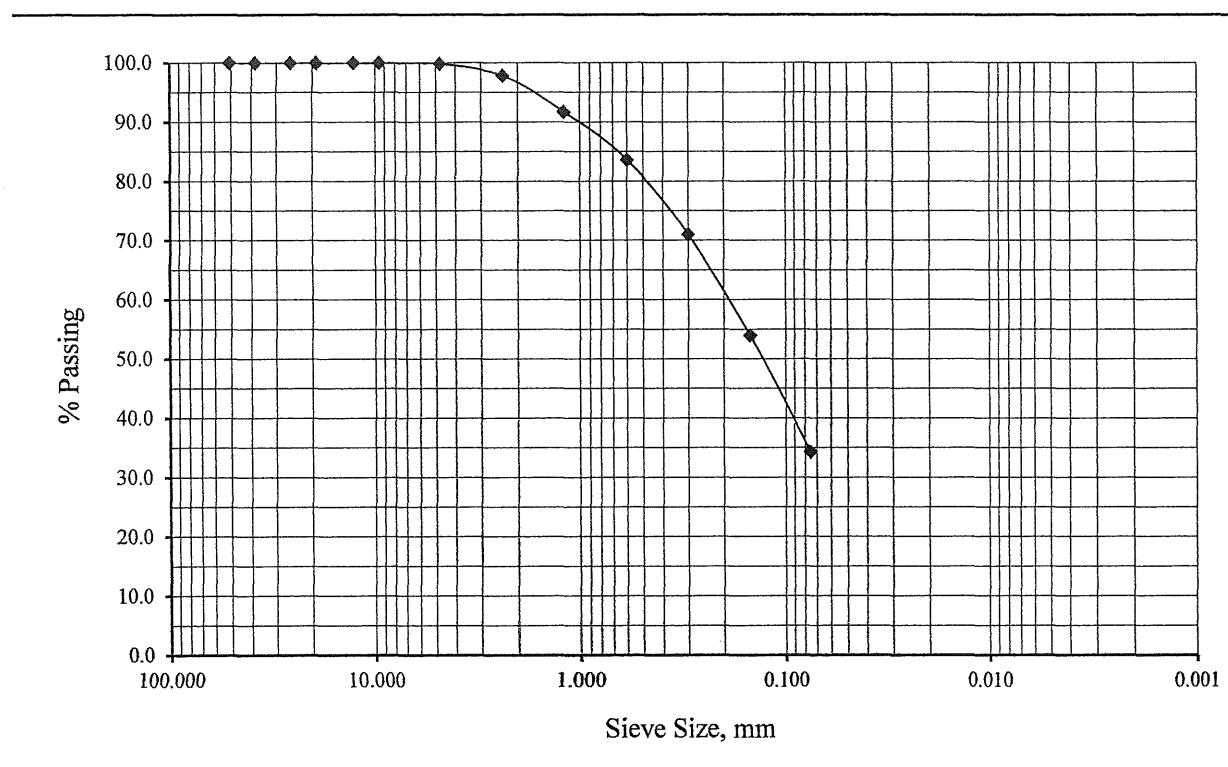
Project Name: Lyon Avenue

Lab ID Number: LN6-21087

Sample ID: BH-1 Bulk 1 @ 0-5'

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	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	99.8
#8	2.36	97.8
#16	1.18	91.7
#30	0.60	83.6
#50	0.30	71.0
#100	0.15	54.0
#200	0.075	34.3





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Gradation

ASTM C117 & C136

Project Number: 644-21002

March 23, 2021

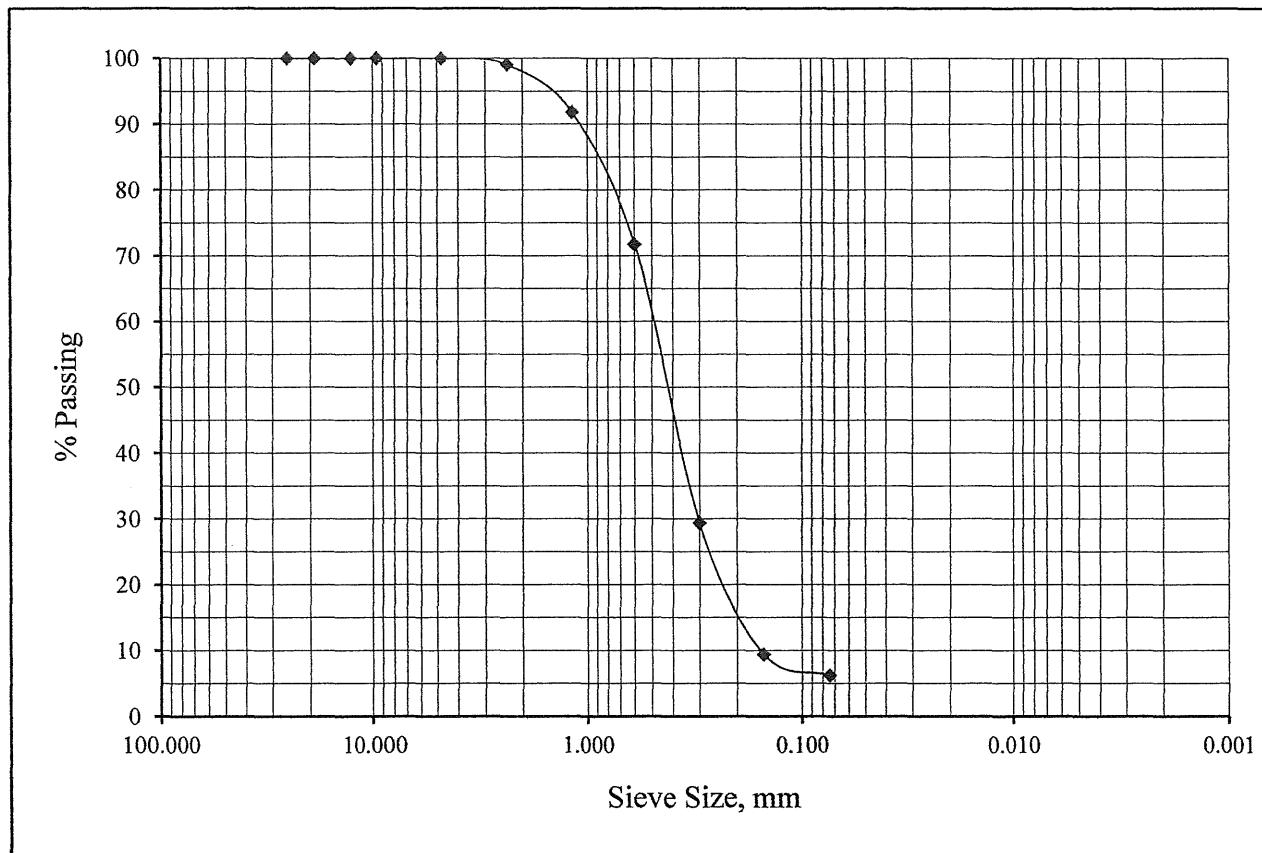
Project Name: Lyon Avenue

Lab ID Number: LN6-21087

Sample ID: BH-1 R-4 @ 15'

Soil Classification: SP-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	99.1
#16	1.18	91.8
#30	0.60	71.7
#50	0.30	29.4
#100	0.15	9.4
#200	0.074	6.2





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Gradation

ASTM C117 & C136

Project Number: 644-21002

March 23, 2021

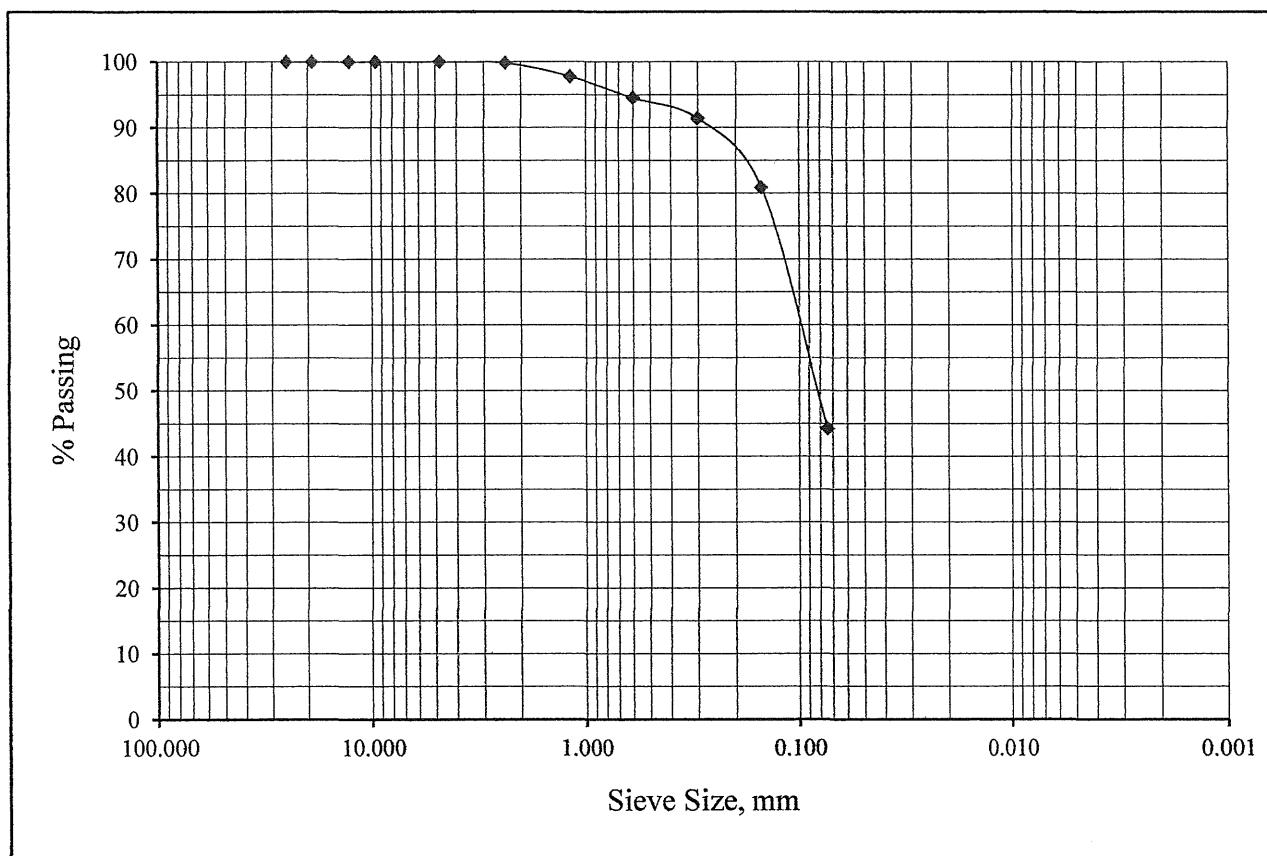
Project Name: Lyon Avenue

Lab ID Number: LN6-21087

Sample ID: BH-2 R-1 @ 5'

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	99.8
#16	1.18	97.8
#30	0.60	94.5
#50	0.30	91.4
#100	0.15	80.9
#200	0.074	44.2





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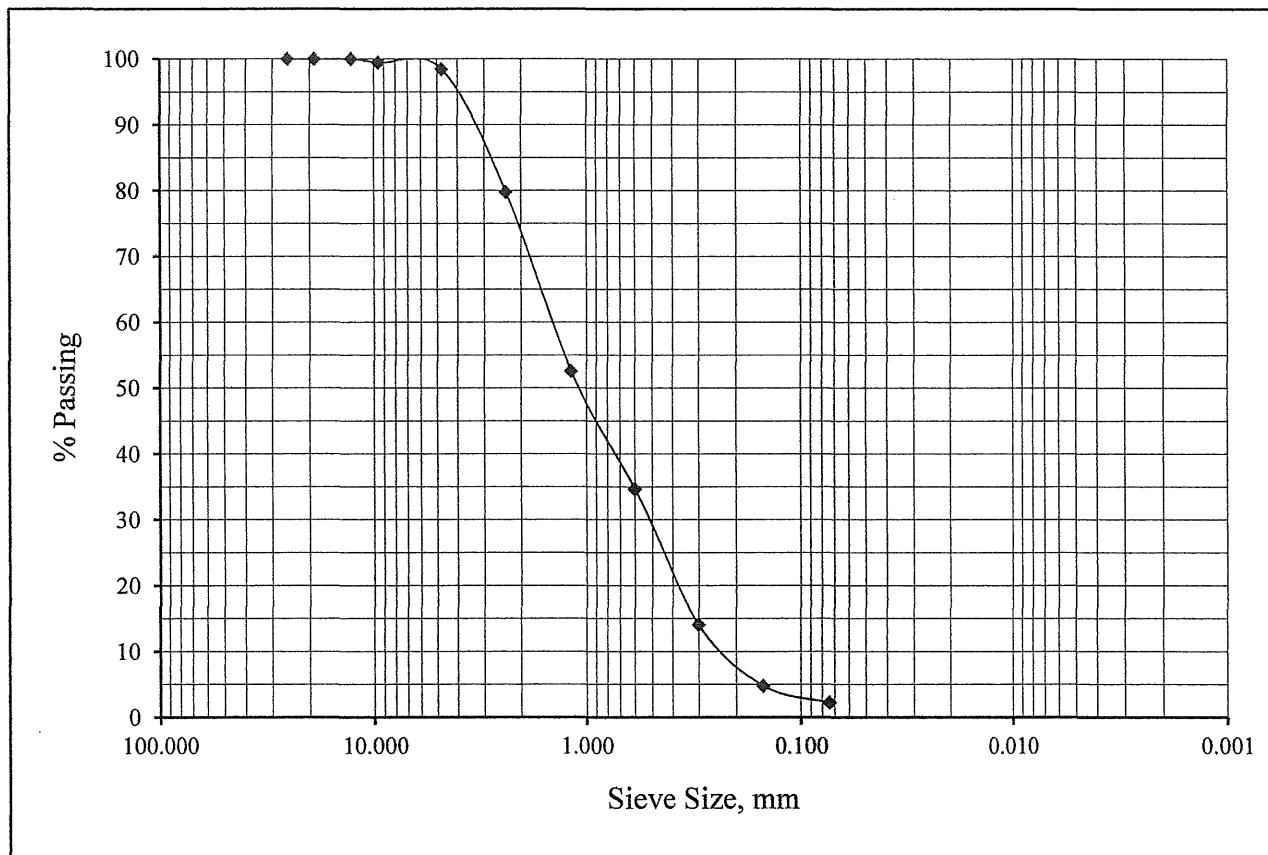
ASTM C117 & C136

Project Number: 644-21002
Project Name: Lyon Avenue
Lab ID Number: LN6-21087
Sample ID: BH-3 R-2 @ 10'

March 23, 2021

Soil Classification: SW

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	99.5
#4	4.75	98.4
#8	2.36	79.8
#16	1.18	52.6
#30	0.60	34.6
#50	0.30	14.1
#100	0.15	4.8
#200	0.074	2.2





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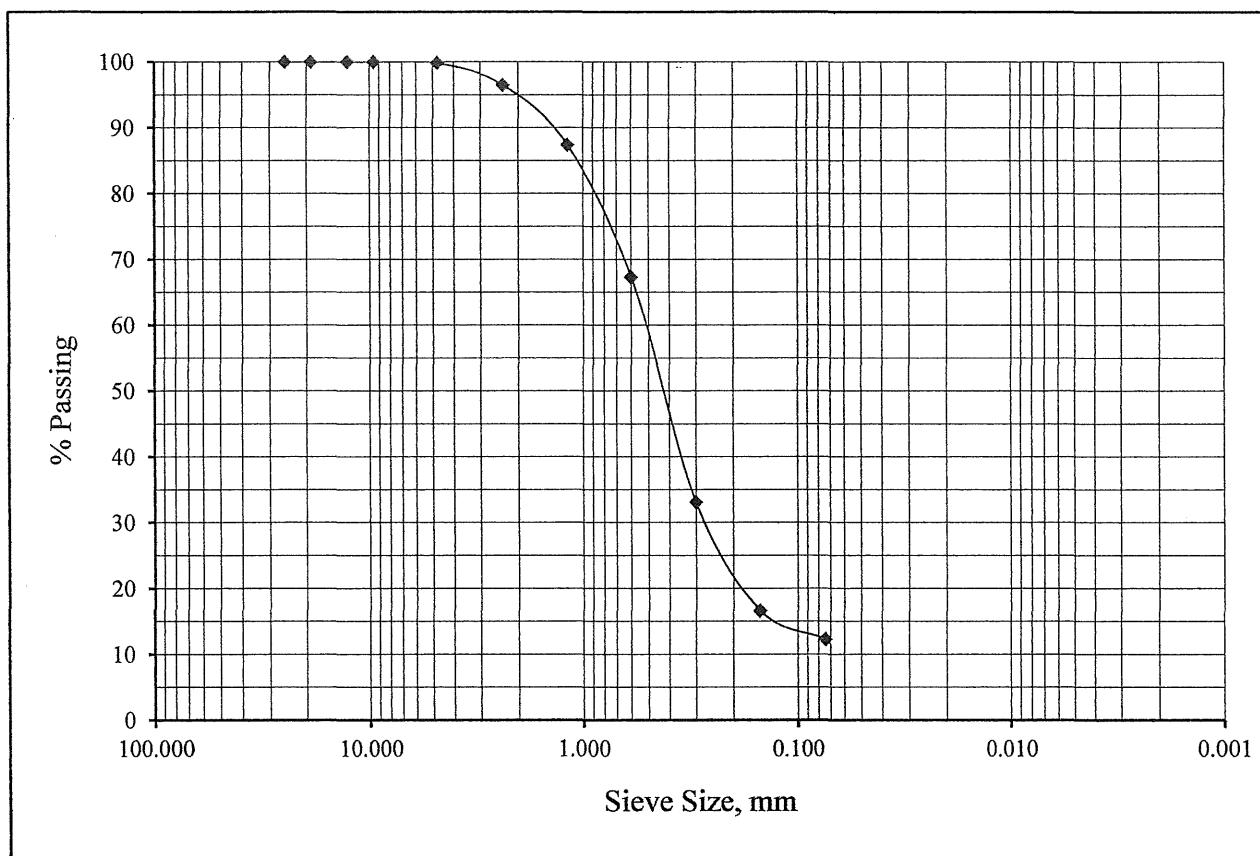
ASTM C117 & C136

Project Number: 644-21002
Project Name: Lyon Avenue
Lab ID Number: LN6-21087
Sample ID: BH-4 S-5 @ 25'

March 23, 2021

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	99.9
#8	2.36	96.5
#16	1.18	87.4
#30	0.60	67.3
#50	0.30	33.1
#100	0.15	16.6
#200	0.074	12.3





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Gradation

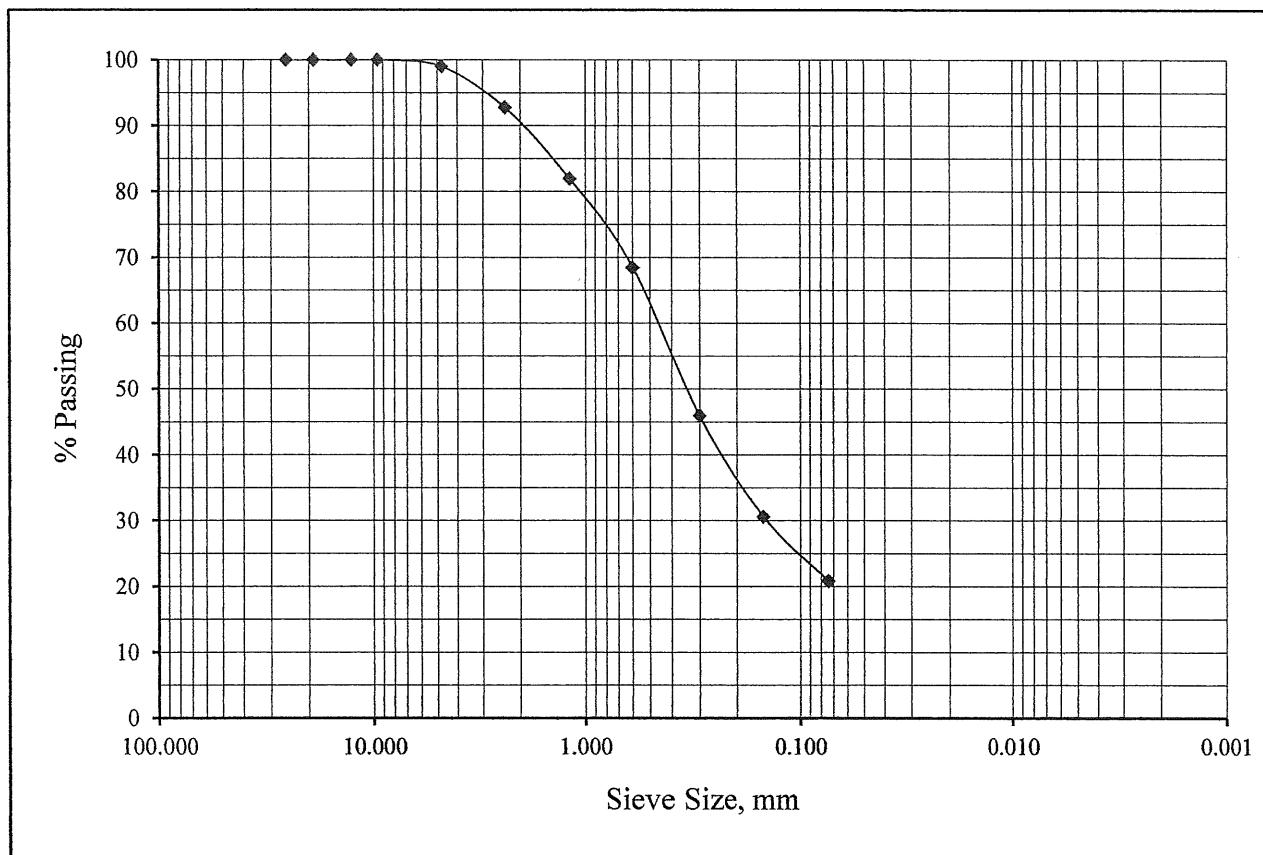
ASTM C117 & C136

Project Number: 644-21002
Project Name: Lyon Avenue
Lab ID Number: LN6-21087
Sample ID: BH-5 R-1 @ 5'

March 23, 2021

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	99.0
#8	2.36	92.8
#16	1.18	82.0
#30	0.60	68.5
#50	0.30	45.9
#100	0.15	30.6
#200	0.074	20.9





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One Dimensional Consolidation

ASTM D2435 & D5333

Job Number: 644-21002

March 23, 2021

Job Name: Lyon Avenue

Lab ID Number: LN6-21087

Initial Dry Density, pcf: 91.7

Sample ID: BH-2 R-1 @ 5'

Initial Moisture, %: 4.9

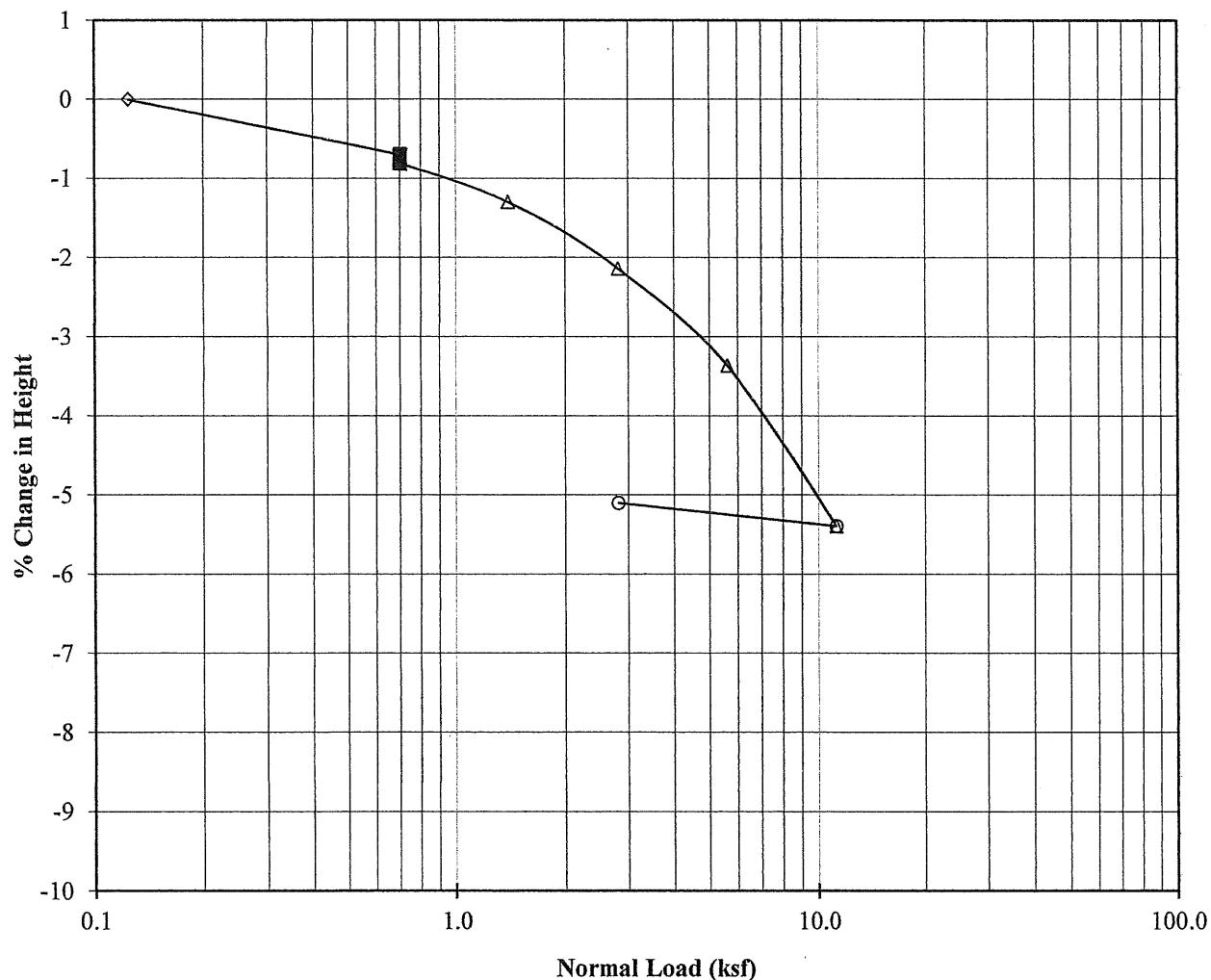
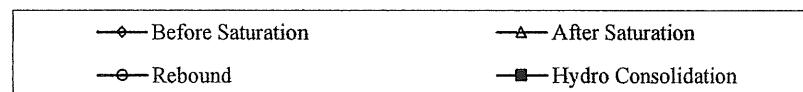
Soil Description: Dark Gray Brown Silty Sand (SM)

Initial Void Ratio: 0.817

Specific Gravity: 2.67

Hydrocollapse: 0.1% @ 0.702 ksf

% Change in Height vs Normal Pressure Diagram





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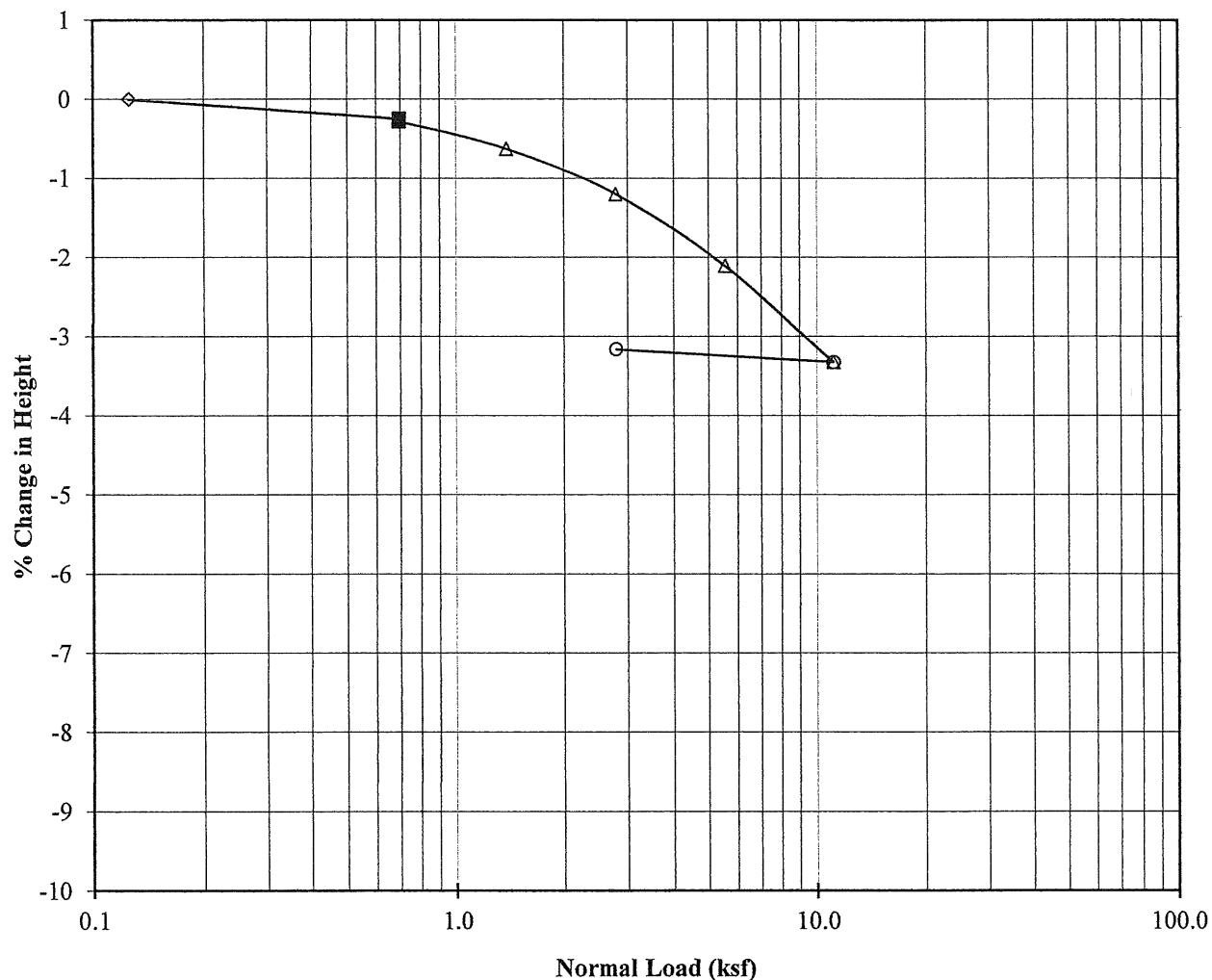
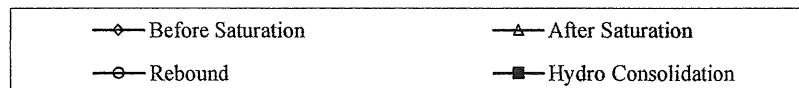
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863

One Dimensional Consolidation

ASTM D2435 & D5333

Job Number: 644-21002 March 23, 2021
Job Name: Lyon Avenue
Lab ID Number: LN6-21087 Initial Dry Density, pcf: 110.7
Sample ID: BH-3 R-2 @ 10' Initial Moisture, %: 2.0
Soil Description: Gray Brown Sand (SW) Initial Void Ratio: 0.506
Specific Gravity: 2.67

% Change in Height vs Normal Pressure Diagram





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6782 Stanton Ave., Suite A, Buena Park, CA 90621 (714) 523-0952 Fax (714) 523-1369
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: March 23, 2021

Account No.: 644-21002

Customer: Richland Developers, Inc.

Location: APNs 436-280-011 & 012, Lyon Avenue, San Jacinto

Analytical Report

Corrosion Series

	pH per CA 643	Soluble Sulfates per CA 417 ppm	Soluble Chloride per CA 422 ppm	Min. Resistivity per CA 643 ohm-cm
BH-1 @ 0-5'	9.1	20	50	2330

APPENDIX C
SITE-SPECIFIC GROUND MOTION PARAMETERS

Project: APN 436-280-011, 012, 013 & 014; San Jacinto, California
Project Number: 644-21002
Client: Richland Developers, Inc.
Site Lat/Long: 33.7900/-116.9877
Controlling Seismic Source: San Jacinto (Casa Loma)

REFERENCE	NOTATION	VALUE	REFERENCE	NOTATION	VALUE
Site Class	C, D, D default, or E	D measured	Fv (Table 11.4-2)[Used for General Spectrum]	F _v	1.7
Site Class D - Table 11.4-1	F _a	1.0	Design Maps	S _s	2.184
Site Class D - 21.3(ii)	F _v	2.5	Design Maps	S ₁	0.887
0.2*(S _{D1} /S _{DS})	T ₀	0.138	Equation 11.4-1 - F _A *S _s	S _{MS}	2.184*
S _{D1} /S _{DS}	T _s	0.690	Equation 11.4-3 - 2/3*S _{MS}	S _{DS}	1.456*
Fundamental Period (12.8.2)	T	Period	Design Maps	PGA	0.989
Seismic Design Maps or Fig 22-14	T _L	8	Table 11.8-1	F _{PGA}	1.1
Equation 11.4-4 - 2/3*S _{M1}	S _{D1}	1.0053*	Equation 11.8-1 - F _{PGA} *PGA	PGA _M	1.088*
Equation 11.4-2 - F _v *S ₁	S _{M1}	1.5079*	Section 21.5.3	80% of PGA _M	0.870
			Design Maps	C _{RS}	0.890
			Design Maps	C _{R1}	0.877
<u>RISK COEFFICIENT</u>					
Cr - At Periods <=0.2, Cr=C _{RS}	C _{RS}	0.890	Cr - At Periods between 0.2 and 1.0 use trendline formula to complete	Period	Cr
Cr - At Periods >=1.0, Cr=C _{R1}	C _{R1}	0.877		0.200	0.890
				0.300	0.888
				0.400	0.887
				0.500	0.885
				0.600	0.884
				0.680	0.882
				1.000	0.877

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

Mapped values from <https://seismicmaps.org/>



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PROBABILISTIC SPECTRA¹
2% in 50 year Exceedance

Period	UGHM	RTHM	Max Directional Scale Factor ²	Probabilistic MCE
0.010	0.964	0.902	1.19	1.073
0.100	1.536	1.494	1.19	1.778
0.200	2.006	1.962	1.20	2.354
0.300	2.333	2.205	1.22	2.690
0.500	2.419	2.203	1.23	2.710
0.750	2.116	1.877	1.24	2.327
1.000	1.847	1.633	1.24	2.025
2.000	1.144	0.997	1.24	1.236
3.000	0.812	0.706	1.25	0.883
4.000	0.595	0.515	1.25	0.644
5.000	0.453	0.392	1.26	0.494

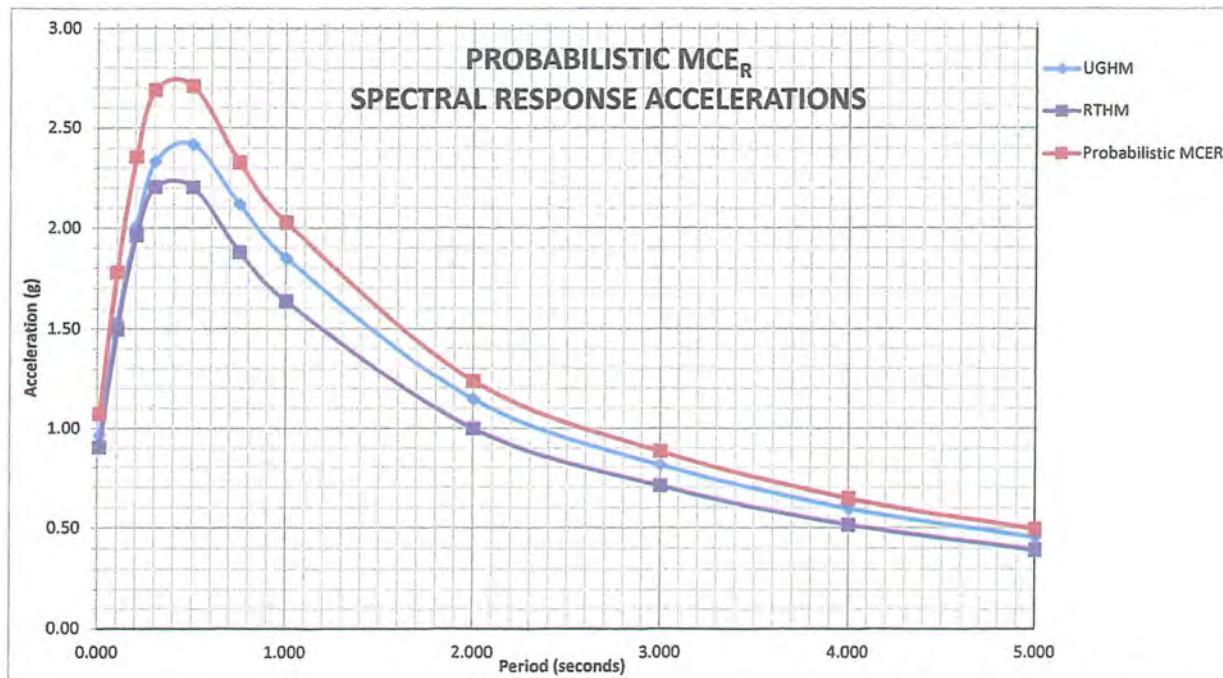
Project No: 644-21002

¹ Data Sources:

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

² Shahi-Baker RotD100/RotD50 Factors (2014)

Probabilistic PGA: 0.964
 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 Jacinto (Casa Loma)

Is Probabilistic $Sa_{(max)} < 1.2Fa$?

NO

Period	Deterministic PSa Median + 1. σ for 5% Damping	Max Directional Scale Factor ²	Deterministic MCE	Section 21.2.2 Scaling Factor Applied
0.010	1.033	1.19	1.229	1.229
0.020	1.037	1.19	1.234	1.234
0.030	1.049	1.19	1.248	1.248
0.050	1.087	1.19	1.293	1.293
0.075	1.273	1.19	1.515	1.515
0.100	1.488	1.19	1.771	1.771
0.150	1.788	1.20	2.146	2.146
0.200	2.005	1.20	2.406	2.406
0.250	2.210	1.21	2.674	2.674
0.300	2.324	1.22	2.836	2.836
0.400	2.429	1.23	2.988	2.988
0.500	2.402	1.23	2.955	2.955
0.750	2.045	1.24	2.535	2.535
1.000	1.768	1.24	2.193	2.193
1.500	1.292	1.24	1.602	1.602
2.000	0.985	1.24	1.222	1.222
3.000	0.679	1.25	0.849	0.849
4.000	0.461	1.25	0.576	0.576
5.000	0.336	1.26	0.423	0.423

Project No: 644-21002

Is Deterministic $Sa_{(max)} < 1.5*Fa$? NO

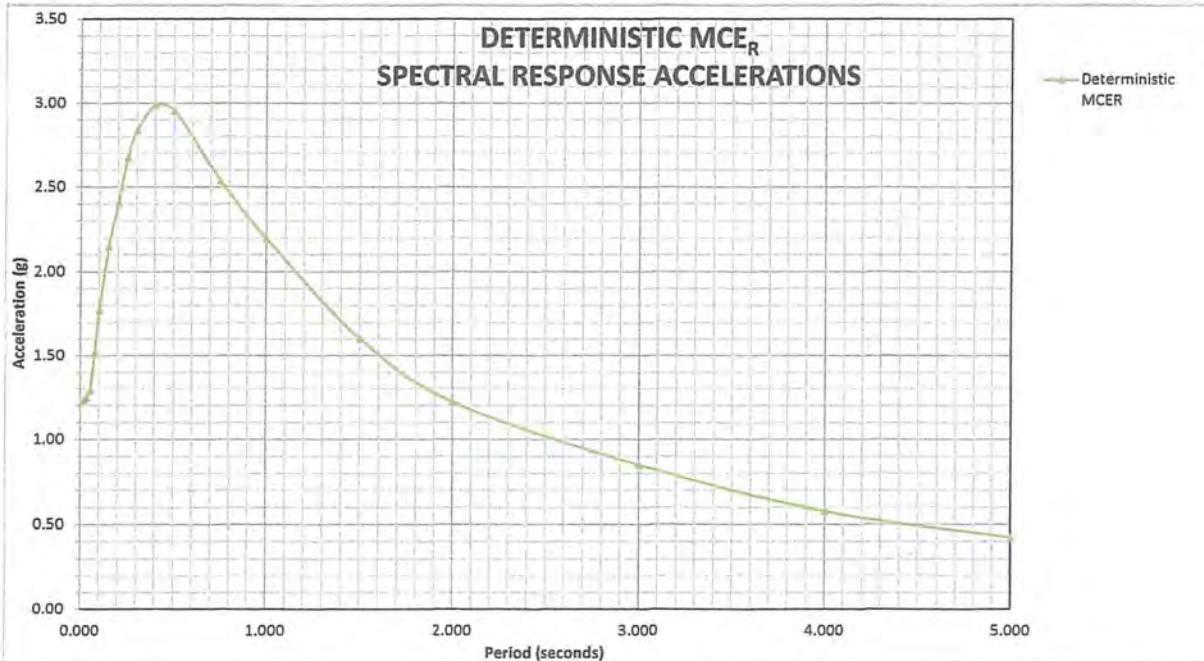
Section 21.2.2 Scaling Factor: N/A

Deterministic PGA: 1.033

Is Deterministic PGA $\geq F_{PGA} * 0.5$? YES

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

² Shahi-Baker RotD100/RotD50 Factors (2014)



SITE SPECIFIC SPECTRA

Period	Probabilistic MCE	Deterministic MCE	Site-Specific MCE	Design Response Spectrum (Sa)
0.010	1.073	1.229	1.073	0.716
0.100	1.778	1.771	1.771	1.181
0.200	2.354	2.406	2.354	1.570
0.300	2.690	2.836	2.690	1.793
0.500	2.710	2.955	2.710	1.806
0.750	2.327	2.535	2.327	1.552
1.000	2.025	2.193	2.025	1.350
2.000	1.236	1.222	1.222	0.814
3.000	0.883	0.849	0.849	0.566
4.000	0.644	0.576	0.576	0.384
5.000	0.494	0.423	0.423	0.282

ASCE 7-16: Section 21.4

Site Specific

	Calculated Value	Design Value
SDS:	1.626	1.626
SD1:	1.698	1.698
SMS:	2.439	2.439
SM1:	2.547	2.547
Site Specific PGAm:	0.964	0.964
Site Class:	D measured	

Seismic Design Category - Short* E
 Seismic Design Category - 1s* E

* Risk Categories I, II, or III

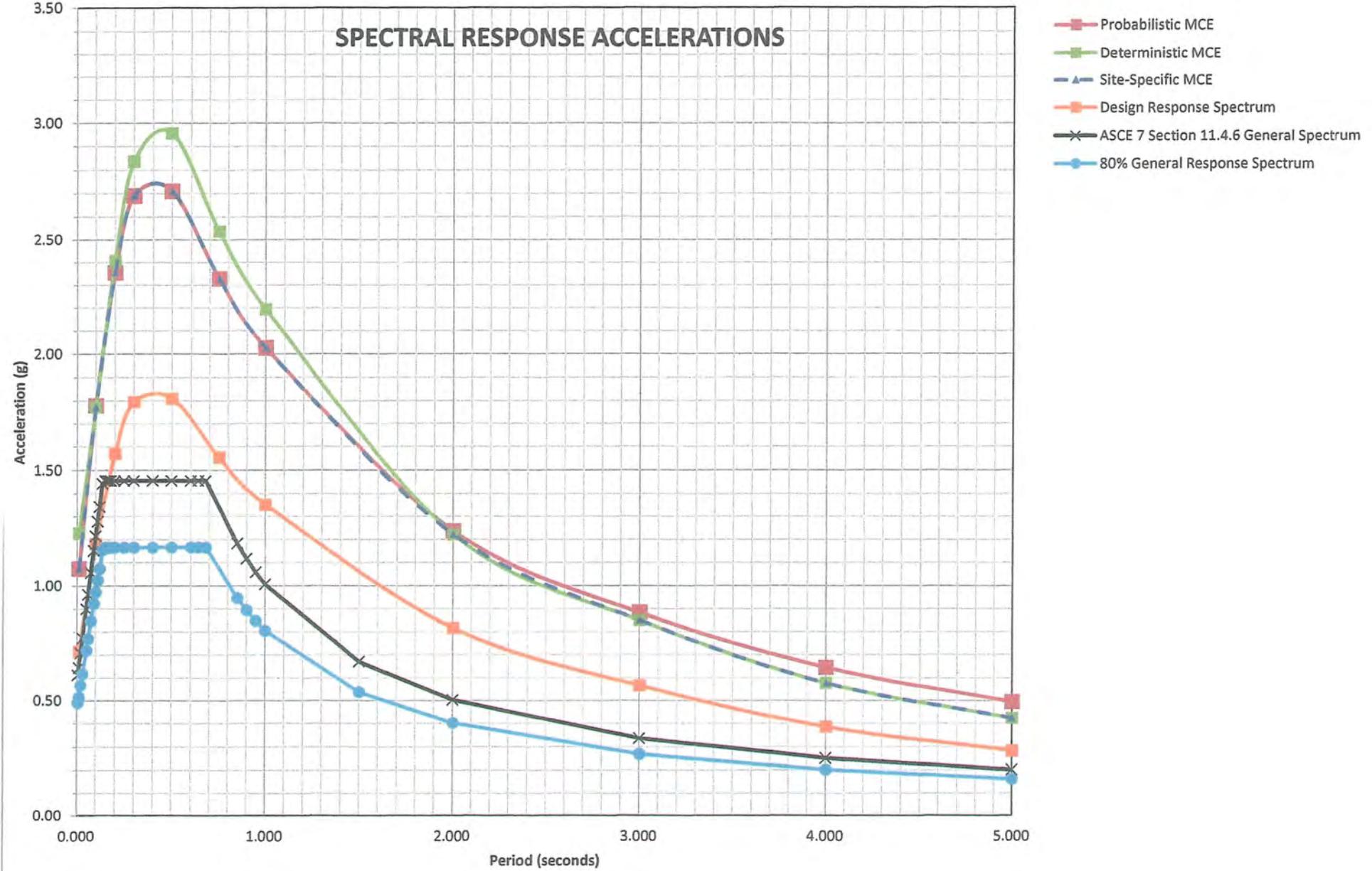
Period	ASCE 7 SECTION 11.4.6 General Spectrum	80% General Response Spectrum
0.005	0.614	0.491
0.010	0.646	0.517
0.020	0.709	0.567
0.030	0.772	0.618
0.050	0.899	0.719
0.060	0.962	0.770
0.075	1.057	0.846
0.090	1.152	0.921
0.100	1.215	0.972
0.110	1.278	1.023
0.120	1.342	1.073
0.136	1.443	1.154
0.150	1.456	1.165
0.160	1.456	1.165
0.170	1.456	1.165
0.180	1.456	1.165
0.200	1.456	1.165
0.250	1.456	1.165
0.300	1.456	1.165
0.400	1.456	1.165
0.500	1.456	1.165
0.600	1.456	1.165
0.640	1.456	1.165
0.680	1.456	1.165
0.850	1.183	0.946
0.900	1.117	0.894
0.950	1.058	0.847
1.000	1.005	0.804
1.500	0.670	0.536
2.000	0.503	0.402
3.000	0.335	0.268
4.000	0.251	0.201
5.000	0.201	0.161

Project No: 644-21002



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SPECTRAL RESPONSE ACCELERATIONS

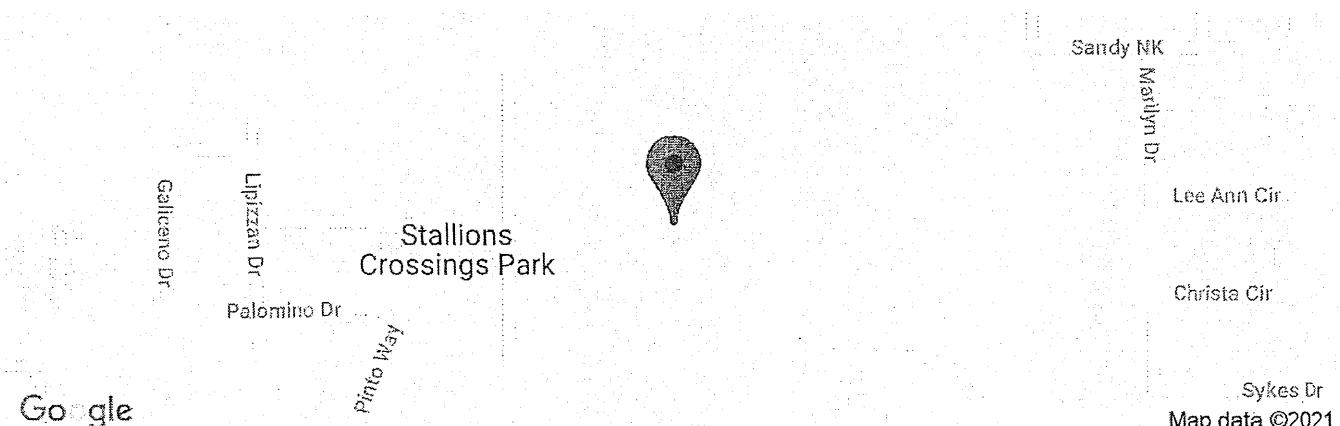




OSHPD

APN 436-280-011, 012, 013 & 014; San Jacinto

Latitude, Longitude: 33.7900, -116.9877



Date	3/29/2021, 9:35:59 AM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S _S	2.184	MCE _R ground motion. (for 0.2 second period)
S ₁	0.887	MCE _R ground motion. (for 1.0s period)
S _{MS}	2.184	Site-modified spectral acceleration value
S _{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S _{DS}	1.456	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	0.989	MCE _G peak ground acceleration
F _{PGA}	1.1	Site amplification factor at PGA
PGA _M	1.088	Site modified peak ground acceleration
T _L	8	Long-period transition period in seconds
SsRT	2.184	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	2.454	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.377	Factored deterministic acceleration value. (0.2 second)
S1RT	0.887	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	1.011	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.952	Factored deterministic acceleration value. (1.0 second)
PGAd	1.001	Factored deterministic acceleration value. (Peak Ground Acceleration)
C _{RS}	0.89	Mapped value of the risk coefficient at short periods

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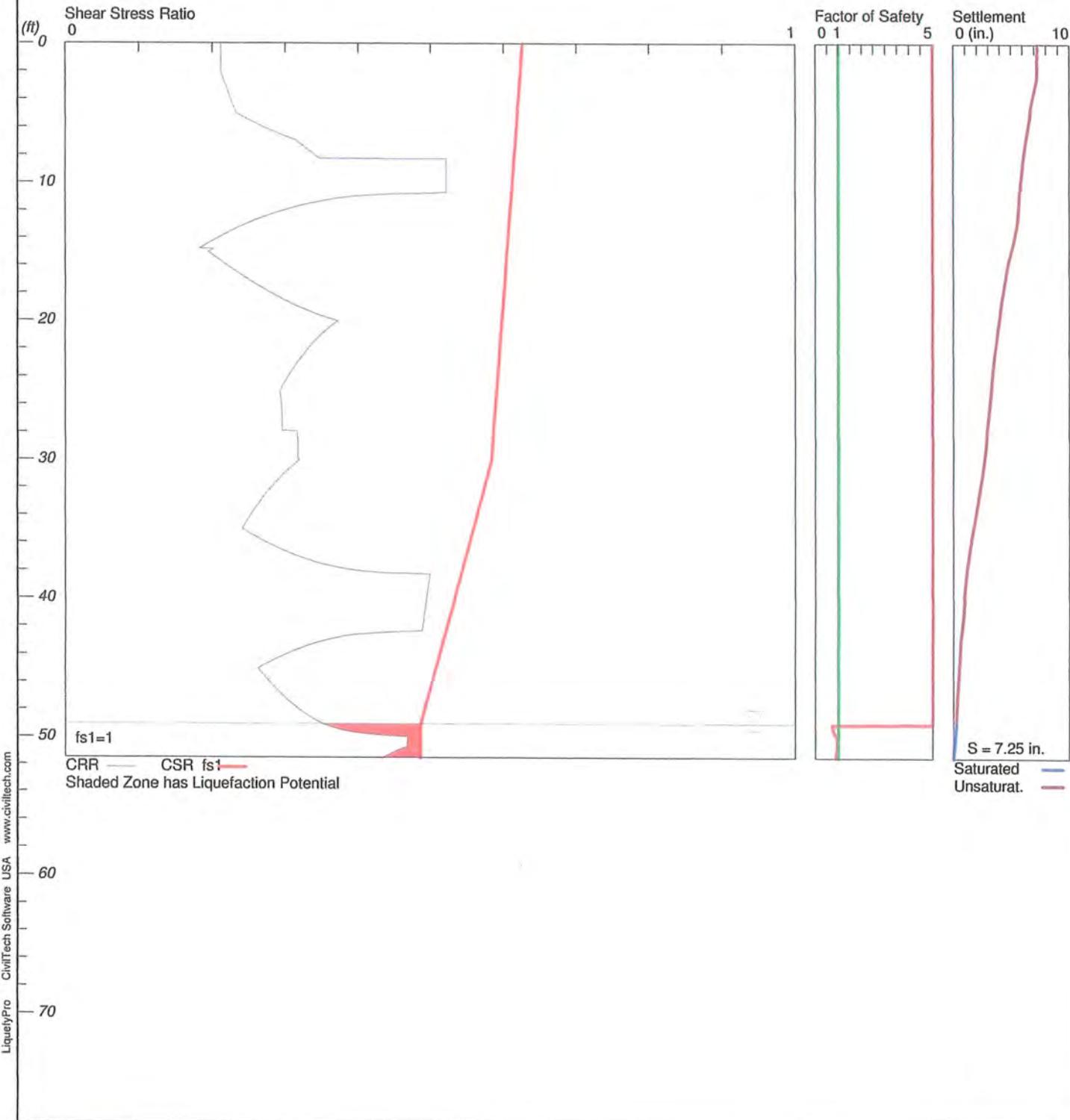
APPENDIX D
LIQUEFACTION ANALYSES

LIQUEFACTION ANALYSIS

APN 436-280-011, 012, 013, & 014; San Jancinto

Hole No.=BH-1 Water Depth=49 ft

Magnitude=7.38
Acceleration=0.964g



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Plate A-1

LIQUEFACTION ANALYSIS SUMMARY

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Font: Courier New, Regular, Size 8 is recommended for this report.
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Input File Name: D:\Liquefy5\644-21002 BH-1.liq
Title: APN 436-280-011, 012, 013, & 014; San Jancinto
Subtitle:

Surface Elev.=
Hole No.=BH-1
Depth of Hole= 51.50 ft
Water Table during Earthquake= 49.00 ft
Water Table during In-Situ Testing= 49.00 ft
Max. Acceleration= 0.96 g
Earthquake Magnitude= 7.38

Input Data:

Surface Elev.=
Hole No.=BH-1
Depth of Hole=51.50 ft
Water Table during Earthquake= 49.00 ft
Water Table during In-Situ Testing= 49.00 ft
Max. Acceleration=0.96 g
Earthquake Magnitude=7.38
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= 1.1
Plot one CSR curve (fs1=1)
 10. Use Curve Smoothing: Yes*
- * Recommended Options

In-Situ Test Data:

Depth SPT gamma Fines

ft		pcf	%
0.00	8.00	109.30	22.30
2.00	8.00	109.30	22.30
5.00	8.67	102.50	24.70
10.00	19.00	102.50	5.50
15.00	10.67	100.80	6.20
20.00	16.00	100.80	31.40
25.00	14.00	126.80	37.10
30.00	22.00	126.80	8.20
35.00	14.67	126.10	30.70
40.00	12.00	126.10	NoLiq
45.00	23.33	130.10	17.10
50.00	26.00	130.10	36.50

Output Results:

Settlement of Saturated Sands=0.22 in.

Settlement of Unsaturated Sands=7.03 in.

Total Settlement of Saturated and Unsaturated Sands=7.25 in.

Differential Settlement=3.625 to 4.785 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	0.21	0.63	5.00	0.22	7.03	7.25
0.05	0.21	0.63	5.00	0.22	7.03	7.25
0.10	0.21	0.63	5.00	0.22	7.03	7.25
0.15	0.21	0.63	5.00	0.22	7.03	7.25
0.20	0.21	0.63	5.00	0.22	7.03	7.25
0.25	0.21	0.63	5.00	0.22	7.03	7.25
0.30	0.21	0.63	5.00	0.22	7.03	7.25
0.35	0.21	0.63	5.00	0.22	7.03	7.25
0.40	0.21	0.63	5.00	0.22	7.03	7.25
0.45	0.21	0.63	5.00	0.22	7.03	7.25
0.50	0.21	0.63	5.00	0.22	7.03	7.25
0.55	0.21	0.63	5.00	0.22	7.03	7.25
0.60	0.21	0.63	5.00	0.22	7.03	7.25
0.65	0.21	0.63	5.00	0.22	7.03	7.25
0.70	0.21	0.63	5.00	0.22	7.03	7.25
0.75	0.21	0.63	5.00	0.22	7.03	7.25
0.80	0.21	0.63	5.00	0.22	7.03	7.25
0.85	0.21	0.63	5.00	0.22	7.03	7.25
0.90	0.21	0.63	5.00	0.22	7.03	7.25
0.95	0.21	0.63	5.00	0.22	7.03	7.25
1.00	0.21	0.63	5.00	0.22	7.03	7.25
1.05	0.21	0.63	5.00	0.22	7.03	7.25
1.10	0.21	0.62	5.00	0.22	7.03	7.24
1.15	0.21	0.62	5.00	0.22	7.03	7.24
1.20	0.21	0.62	5.00	0.22	7.03	7.24

1.25	0.21	0.62	5.00	0.22	7.03	7.24
1.30	0.21	0.62	5.00	0.22	7.03	7.24
1.35	0.21	0.62	5.00	0.22	7.03	7.24
1.40	0.21	0.62	5.00	0.22	7.03	7.24
1.45	0.21	0.62	5.00	0.22	7.03	7.24
1.50	0.21	0.62	5.00	0.22	7.02	7.24
1.55	0.21	0.62	5.00	0.22	7.02	7.24
1.60	0.21	0.62	5.00	0.22	7.02	7.24
1.65	0.21	0.62	5.00	0.22	7.02	7.24
1.70	0.21	0.62	5.00	0.22	7.02	7.24
1.75	0.21	0.62	5.00	0.22	7.02	7.24
1.80	0.21	0.62	5.00	0.22	7.02	7.24
1.85	0.21	0.62	5.00	0.22	7.02	7.24
1.90	0.21	0.62	5.00	0.22	7.02	7.24
1.95	0.21	0.62	5.00	0.22	7.02	7.23
2.00	0.21	0.62	5.00	0.22	7.02	7.23
2.05	0.21	0.62	5.00	0.22	7.01	7.23
2.10	0.21	0.62	5.00	0.22	7.01	7.23
2.15	0.21	0.62	5.00	0.22	7.01	7.23
2.20	0.21	0.62	5.00	0.22	7.01	7.22
2.25	0.21	0.62	5.00	0.22	7.01	7.22
2.30	0.21	0.62	5.00	0.22	7.00	7.22
2.35	0.21	0.62	5.00	0.22	7.00	7.21
2.40	0.21	0.62	5.00	0.22	6.99	7.21
2.45	0.21	0.62	5.00	0.22	6.99	7.20
2.50	0.21	0.62	5.00	0.22	6.98	7.20
2.55	0.22	0.62	5.00	0.22	6.97	7.19
2.60	0.22	0.62	5.00	0.22	6.96	7.18
2.65	0.22	0.62	5.00	0.22	6.95	7.16
2.70	0.22	0.62	5.00	0.22	6.94	7.15
2.75	0.22	0.62	5.00	0.22	6.92	7.14
2.80	0.22	0.62	5.00	0.22	6.91	7.13
2.85	0.22	0.62	5.00	0.22	6.90	7.11
2.90	0.22	0.62	5.00	0.22	6.88	7.10
2.95	0.22	0.62	5.00	0.22	6.87	7.09
3.00	0.22	0.62	5.00	0.22	6.86	7.08
3.05	0.22	0.62	5.00	0.22	6.85	7.06
3.10	0.22	0.62	5.00	0.22	6.83	7.05
3.15	0.22	0.62	5.00	0.22	6.82	7.04
3.20	0.22	0.62	5.00	0.22	6.81	7.03
3.25	0.22	0.62	5.00	0.22	6.80	7.01
3.30	0.22	0.62	5.00	0.22	6.78	7.00
3.35	0.22	0.62	5.00	0.22	6.77	6.99
3.40	0.22	0.62	5.00	0.22	6.76	6.98
3.45	0.22	0.62	5.00	0.22	6.75	6.96
3.50	0.22	0.62	5.00	0.22	6.73	6.95
3.55	0.22	0.62	5.00	0.22	6.72	6.94
3.60	0.22	0.62	5.00	0.22	6.71	6.93
3.65	0.22	0.62	5.00	0.22	6.70	6.91
3.70	0.22	0.62	5.00	0.22	6.68	6.90

3.75	0.22	0.62	5.00	0.22	6.67	6.89
3.80	0.22	0.62	5.00	0.22	6.66	6.88
3.85	0.22	0.62	5.00	0.22	6.65	6.86
3.90	0.22	0.62	5.00	0.22	6.64	6.85
3.95	0.23	0.62	5.00	0.22	6.62	6.84
4.00	0.23	0.62	5.00	0.22	6.61	6.83
4.05	0.23	0.62	5.00	0.22	6.60	6.82
4.10	0.23	0.62	5.00	0.22	6.59	6.80
4.15	0.23	0.62	5.00	0.22	6.58	6.79
4.20	0.23	0.62	5.00	0.22	6.56	6.78
4.25	0.23	0.62	5.00	0.22	6.55	6.77
4.30	0.23	0.62	5.00	0.22	6.54	6.76
4.35	0.23	0.62	5.00	0.22	6.53	6.74
4.40	0.23	0.62	5.00	0.22	6.52	6.73
4.45	0.23	0.62	5.00	0.22	6.50	6.72
4.50	0.23	0.62	5.00	0.22	6.49	6.71
4.55	0.23	0.62	5.00	0.22	6.48	6.70
4.60	0.23	0.62	5.00	0.22	6.47	6.69
4.65	0.23	0.62	5.00	0.22	6.47	6.69
4.70	0.23	0.62	5.00	0.22	6.46	6.68
4.75	0.23	0.62	5.00	0.22	6.46	6.67
4.80	0.23	0.62	5.00	0.22	6.45	6.67
4.85	0.23	0.62	5.00	0.22	6.45	6.66
4.90	0.23	0.62	5.00	0.22	6.44	6.65
4.95	0.23	0.62	5.00	0.22	6.43	6.65
5.00	0.23	0.62	5.00	0.22	6.42	6.64
5.05	0.23	0.62	5.00	0.22	6.41	6.63
5.10	0.24	0.62	5.00	0.22	6.41	6.62
5.15	0.24	0.62	5.00	0.22	6.40	6.61
5.20	0.24	0.62	5.00	0.22	6.39	6.60
5.25	0.24	0.62	5.00	0.22	6.38	6.59
5.30	0.24	0.62	5.00	0.22	6.37	6.59
5.35	0.25	0.62	5.00	0.22	6.36	6.58
5.40	0.25	0.62	5.00	0.22	6.35	6.56
5.45	0.25	0.62	5.00	0.22	6.34	6.55
5.50	0.25	0.62	5.00	0.22	6.33	6.54
5.55	0.25	0.62	5.00	0.22	6.32	6.53
5.60	0.25	0.62	5.00	0.22	6.31	6.52
5.65	0.26	0.62	5.00	0.22	6.30	6.51
5.70	0.26	0.62	5.00	0.22	6.29	6.50
5.75	0.26	0.62	5.00	0.22	6.27	6.49
5.80	0.26	0.62	5.00	0.22	6.26	6.48
5.85	0.26	0.62	5.00	0.22	6.25	6.47
5.90	0.27	0.62	5.00	0.22	6.24	6.46
5.95	0.27	0.62	5.00	0.22	6.23	6.45
6.00	0.27	0.62	5.00	0.22	6.22	6.44
6.05	0.27	0.62	5.00	0.22	6.21	6.43
6.10	0.27	0.62	5.00	0.22	6.20	6.42
6.15	0.28	0.62	5.00	0.22	6.20	6.41
6.20	0.28	0.62	5.00	0.22	6.19	6.40

6.25	0.28	0.62	5.00	0.22	6.18	6.39
6.30	0.28	0.62	5.00	0.22	6.17	6.38
6.35	0.29	0.62	5.00	0.22	6.16	6.37
6.40	0.29	0.62	5.00	0.22	6.15	6.36
6.45	0.29	0.62	5.00	0.22	6.14	6.35
6.50	0.29	0.62	5.00	0.22	6.13	6.35
6.55	0.30	0.62	5.00	0.22	6.12	6.34
6.60	0.30	0.62	5.00	0.22	6.11	6.33
6.65	0.30	0.62	5.00	0.22	6.10	6.32
6.70	0.30	0.62	5.00	0.22	6.09	6.31
6.75	0.31	0.62	5.00	0.22	6.08	6.30
6.80	0.31	0.62	5.00	0.22	6.08	6.29
6.85	0.31	0.62	5.00	0.22	6.07	6.28
6.90	0.31	0.62	5.00	0.22	6.06	6.27
6.95	0.32	0.62	5.00	0.22	6.05	6.27
7.00	0.32	0.62	5.00	0.22	6.04	6.26
7.05	0.32	0.62	5.00	0.22	6.03	6.25
7.10	0.32	0.62	5.00	0.22	6.02	6.24
7.15	0.32	0.62	5.00	0.22	6.02	6.23
7.20	0.32	0.62	5.00	0.22	6.01	6.22
7.25	0.32	0.62	5.00	0.22	6.00	6.22
7.30	0.32	0.62	5.00	0.22	5.99	6.21
7.35	0.32	0.62	5.00	0.22	5.98	6.20
7.40	0.33	0.62	5.00	0.22	5.97	6.19
7.45	0.33	0.62	5.00	0.22	5.97	6.18
7.50	0.33	0.62	5.00	0.22	5.96	6.17
7.55	0.33	0.62	5.00	0.22	5.95	6.17
7.60	0.33	0.62	5.00	0.22	5.94	6.16
7.65	0.33	0.62	5.00	0.22	5.93	6.15
7.70	0.33	0.62	5.00	0.22	5.92	6.14
7.75	0.33	0.62	5.00	0.22	5.92	6.13
7.80	0.34	0.62	5.00	0.22	5.91	6.12
7.85	0.34	0.62	5.00	0.22	5.90	6.12
7.90	0.34	0.62	5.00	0.22	5.89	6.11
7.95	0.34	0.61	5.00	0.22	5.88	6.10
8.00	0.34	0.61	5.00	0.22	5.88	6.09
8.05	0.34	0.61	5.00	0.22	5.87	6.08
8.10	0.34	0.61	5.00	0.22	5.86	6.08
8.15	0.34	0.61	5.00	0.22	5.85	6.07
8.20	0.35	0.61	5.00	0.22	5.84	6.06
8.25	0.52	0.61	5.00	0.22	5.84	6.05
8.30	0.52	0.61	5.00	0.22	5.83	6.05
8.35	0.52	0.61	5.00	0.22	5.82	6.04
8.40	0.52	0.61	5.00	0.22	5.82	6.03
8.45	0.52	0.61	5.00	0.22	5.81	6.03
8.50	0.52	0.61	5.00	0.22	5.80	6.02
8.55	0.52	0.61	5.00	0.22	5.80	6.01
8.60	0.52	0.61	5.00	0.22	5.79	6.01
8.65	0.52	0.61	5.00	0.22	5.78	6.00
8.70	0.52	0.61	5.00	0.22	5.78	5.99

8.75	0.52	0.61	5.00	0.22	5.77	5.99
8.80	0.52	0.61	5.00	0.22	5.76	5.98
8.85	0.52	0.61	5.00	0.22	5.76	5.97
8.90	0.52	0.61	5.00	0.22	5.75	5.97
8.95	0.52	0.61	5.00	0.22	5.74	5.96
9.00	0.52	0.61	5.00	0.22	5.74	5.95
9.05	0.52	0.61	5.00	0.22	5.73	5.95
9.10	0.52	0.61	5.00	0.22	5.73	5.94
9.15	0.52	0.61	5.00	0.22	5.72	5.94
9.20	0.52	0.61	5.00	0.22	5.71	5.93
9.25	0.52	0.61	5.00	0.22	5.71	5.92
9.30	0.52	0.61	5.00	0.22	5.70	5.92
9.35	0.52	0.61	5.00	0.22	5.69	5.91
9.40	0.52	0.61	5.00	0.22	5.69	5.90
9.45	0.52	0.61	5.00	0.22	5.68	5.90
9.50	0.52	0.61	5.00	0.22	5.68	5.89
9.55	0.52	0.61	5.00	0.22	5.67	5.89
9.60	0.52	0.61	5.00	0.22	5.66	5.88
9.65	0.52	0.61	5.00	0.22	5.66	5.87
9.70	0.52	0.61	5.00	0.22	5.65	5.87
9.75	0.52	0.61	5.00	0.22	5.64	5.86
9.80	0.52	0.61	5.00	0.22	5.64	5.86
9.85	0.52	0.61	5.00	0.22	5.63	5.85
9.90	0.52	0.61	5.00	0.22	5.63	5.84
9.95	0.52	0.61	5.00	0.22	5.62	5.84
10.00	0.52	0.61	5.00	0.22	5.61	5.83
10.05	0.52	0.61	5.00	0.22	5.61	5.83
10.10	0.52	0.61	5.00	0.22	5.60	5.82
10.15	0.52	0.61	5.00	0.22	5.60	5.81
10.20	0.52	0.61	5.00	0.22	5.59	5.81
10.25	0.52	0.61	5.00	0.22	5.58	5.80
10.30	0.52	0.61	5.00	0.22	5.58	5.79
10.35	0.52	0.61	5.00	0.22	5.57	5.79
10.40	0.52	0.61	5.00	0.22	5.56	5.78
10.45	0.52	0.61	5.00	0.22	5.56	5.77
10.50	0.52	0.61	5.00	0.22	5.55	5.77
10.55	0.52	0.61	5.00	0.22	5.55	5.76
10.60	0.52	0.61	5.00	0.22	5.54	5.75
10.65	0.52	0.61	5.00	0.22	5.53	5.75
10.70	0.50	0.61	5.00	0.22	5.52	5.74
10.75	0.46	0.61	5.00	0.22	5.52	5.73
10.80	0.43	0.61	5.00	0.22	5.51	5.73
10.85	0.42	0.61	5.00	0.22	5.50	5.72
10.90	0.40	0.61	5.00	0.22	5.50	5.71
10.95	0.39	0.61	5.00	0.22	5.49	5.71
11.00	0.39	0.61	5.00	0.22	5.49	5.71
11.05	0.38	0.61	5.00	0.22	5.49	5.71
11.10	0.37	0.61	5.00	0.22	5.49	5.70
11.15	0.37	0.61	5.00	0.22	5.48	5.70
11.20	0.36	0.61	5.00	0.22	5.48	5.70

11.25	0.35	0.61	5.00	0.22	5.48	5.70
11.30	0.35	0.61	5.00	0.22	5.48	5.69
11.35	0.34	0.61	5.00	0.22	5.47	5.69
11.40	0.34	0.61	5.00	0.22	5.47	5.69
11.45	0.34	0.61	5.00	0.22	5.47	5.68
11.50	0.33	0.61	5.00	0.22	5.47	5.68
11.55	0.33	0.61	5.00	0.22	5.46	5.68
11.60	0.32	0.61	5.00	0.22	5.46	5.67
11.65	0.32	0.61	5.00	0.22	5.46	5.67
11.70	0.32	0.61	5.00	0.22	5.45	5.67
11.75	0.31	0.61	5.00	0.22	5.45	5.66
11.80	0.31	0.61	5.00	0.22	5.44	5.66
11.85	0.31	0.61	5.00	0.22	5.44	5.66
11.90	0.30	0.61	5.00	0.22	5.44	5.65
11.95	0.30	0.61	5.00	0.22	5.43	5.65
12.00	0.30	0.61	5.00	0.22	5.43	5.64
12.05	0.29	0.61	5.00	0.22	5.42	5.64
12.10	0.29	0.61	5.00	0.22	5.42	5.63
12.15	0.29	0.61	5.00	0.22	5.41	5.63
12.20	0.28	0.61	5.00	0.22	5.41	5.62
12.25	0.28	0.61	5.00	0.22	5.40	5.62
12.30	0.28	0.61	5.00	0.22	5.40	5.61
12.35	0.28	0.61	5.00	0.22	5.39	5.61
12.40	0.27	0.61	5.00	0.22	5.39	5.60
12.45	0.27	0.61	5.00	0.22	5.38	5.60
12.50	0.27	0.61	5.00	0.22	5.37	5.59
12.55	0.27	0.61	5.00	0.22	5.37	5.58
12.60	0.26	0.61	5.00	0.22	5.36	5.58
12.65	0.26	0.61	5.00	0.22	5.35	5.57
12.70	0.26	0.61	5.00	0.22	5.35	5.56
12.75	0.26	0.61	5.00	0.22	5.34	5.56
12.80	0.25	0.61	5.00	0.22	5.33	5.55
12.85	0.25	0.61	5.00	0.22	5.32	5.54
12.90	0.25	0.61	5.00	0.22	5.32	5.53
12.95	0.25	0.61	5.00	0.22	5.31	5.52
13.00	0.24	0.61	5.00	0.22	5.30	5.51
13.05	0.24	0.61	5.00	0.22	5.29	5.51
13.10	0.24	0.61	5.00	0.22	5.28	5.50
13.15	0.24	0.61	5.00	0.22	5.27	5.49
13.20	0.24	0.61	5.00	0.22	5.26	5.48
13.25	0.23	0.61	5.00	0.22	5.25	5.46
13.30	0.23	0.61	5.00	0.22	5.24	5.45
13.35	0.23	0.61	5.00	0.22	5.23	5.44
13.40	0.23	0.61	5.00	0.22	5.21	5.43
13.45	0.23	0.61	5.00	0.22	5.20	5.42
13.50	0.23	0.61	5.00	0.22	5.19	5.41
13.55	0.22	0.61	5.00	0.22	5.18	5.39
13.60	0.22	0.61	5.00	0.22	5.17	5.38
13.65	0.22	0.61	5.00	0.22	5.15	5.37
13.70	0.22	0.61	5.00	0.22	5.14	5.36

13.75	0.22	0.61	5.00	0.22	5.13	5.34
13.80	0.21	0.61	5.00	0.22	5.11	5.33
13.85	0.21	0.61	5.00	0.22	5.10	5.32
13.90	0.21	0.61	5.00	0.22	5.09	5.31
13.95	0.21	0.61	5.00	0.22	5.08	5.29
14.00	0.21	0.61	5.00	0.22	5.06	5.28
14.05	0.21	0.61	5.00	0.22	5.05	5.27
14.10	0.20	0.61	5.00	0.22	5.04	5.25
14.15	0.20	0.61	5.00	0.22	5.02	5.24
14.20	0.20	0.61	5.00	0.22	5.01	5.22
14.25	0.20	0.61	5.00	0.22	4.99	5.21
14.30	0.20	0.61	5.00	0.22	4.98	5.20
14.35	0.20	0.61	5.00	0.22	4.96	5.18
14.40	0.19	0.61	5.00	0.22	4.95	5.17
14.45	0.19	0.61	5.00	0.22	4.94	5.15
14.50	0.19	0.61	5.00	0.22	4.92	5.14
14.55	0.19	0.61	5.00	0.22	4.91	5.12
14.60	0.19	0.61	5.00	0.22	4.89	5.11
14.65	0.19	0.61	5.00	0.22	4.87	5.09
14.70	0.18	0.61	5.00	0.22	4.86	5.08
14.75	0.18	0.61	5.00	0.22	4.84	5.06
14.80	0.20	0.60	5.00	0.22	4.83	5.04
14.85	0.20	0.60	5.00	0.22	4.81	5.03
14.90	0.20	0.60	5.00	0.22	4.80	5.02
14.95	0.20	0.60	5.00	0.22	4.78	5.00
15.00	0.19	0.60	5.00	0.22	4.77	4.99
15.05	0.20	0.60	5.00	0.22	4.76	4.97
15.10	0.20	0.60	5.00	0.22	4.74	4.96
15.15	0.20	0.60	5.00	0.22	4.73	4.94
15.20	0.20	0.60	5.00	0.22	4.71	4.93
15.25	0.20	0.60	5.00	0.22	4.70	4.91
15.30	0.20	0.60	5.00	0.22	4.68	4.90
15.35	0.20	0.60	5.00	0.22	4.67	4.89
15.40	0.20	0.60	5.00	0.22	4.66	4.87
15.45	0.21	0.60	5.00	0.22	4.64	4.86
15.50	0.21	0.60	5.00	0.22	4.63	4.84
15.55	0.21	0.60	5.00	0.22	4.62	4.83
15.60	0.21	0.60	5.00	0.22	4.60	4.82
15.65	0.21	0.60	5.00	0.22	4.59	4.80
15.70	0.21	0.60	5.00	0.22	4.58	4.79
15.75	0.21	0.60	5.00	0.22	4.56	4.78
15.80	0.22	0.60	5.00	0.22	4.55	4.77
15.85	0.22	0.60	5.00	0.22	4.54	4.75
15.90	0.22	0.60	5.00	0.22	4.52	4.74
15.95	0.22	0.60	5.00	0.22	4.51	4.73
16.00	0.22	0.60	5.00	0.22	4.50	4.71
16.05	0.22	0.60	5.00	0.22	4.49	4.70
16.10	0.22	0.60	5.00	0.22	4.47	4.69
16.15	0.22	0.60	5.00	0.22	4.46	4.68
16.20	0.23	0.60	5.00	0.22	4.45	4.67

16.25	0.23	0.60	5.00	0.22	4.44	4.65
16.30	0.23	0.60	5.00	0.22	4.43	4.64
16.35	0.23	0.60	5.00	0.22	4.41	4.63
16.40	0.23	0.60	5.00	0.22	4.40	4.62
16.45	0.23	0.60	5.00	0.22	4.39	4.61
16.50	0.23	0.60	5.00	0.22	4.38	4.59
16.55	0.24	0.60	5.00	0.22	4.37	4.58
16.60	0.24	0.60	5.00	0.22	4.35	4.57
16.65	0.24	0.60	5.00	0.22	4.34	4.56
16.70	0.24	0.60	5.00	0.22	4.33	4.55
16.75	0.24	0.60	5.00	0.22	4.32	4.54
16.80	0.24	0.60	5.00	0.22	4.31	4.53
16.85	0.24	0.60	5.00	0.22	4.30	4.51
16.90	0.25	0.60	5.00	0.22	4.29	4.50
16.95	0.25	0.60	5.00	0.22	4.28	4.49
17.00	0.25	0.60	5.00	0.22	4.27	4.48
17.05	0.25	0.60	5.00	0.22	4.25	4.47
17.10	0.25	0.60	5.00	0.22	4.24	4.46
17.15	0.25	0.60	5.00	0.22	4.23	4.45
17.20	0.25	0.60	5.00	0.22	4.22	4.44
17.25	0.26	0.60	5.00	0.22	4.21	4.43
17.30	0.26	0.60	5.00	0.22	4.20	4.42
17.35	0.26	0.60	5.00	0.22	4.19	4.41
17.40	0.26	0.60	5.00	0.22	4.18	4.40
17.45	0.26	0.60	5.00	0.22	4.17	4.39
17.50	0.26	0.60	5.00	0.22	4.16	4.38
17.55	0.27	0.60	5.00	0.22	4.15	4.37
17.60	0.27	0.60	5.00	0.22	4.14	4.36
17.65	0.27	0.60	5.00	0.22	4.13	4.35
17.70	0.27	0.60	5.00	0.22	4.12	4.34
17.75	0.27	0.60	5.00	0.22	4.11	4.33
17.80	0.27	0.60	5.00	0.22	4.10	4.32
17.85	0.28	0.60	5.00	0.22	4.09	4.31
17.90	0.28	0.60	5.00	0.22	4.08	4.30
17.95	0.28	0.60	5.00	0.22	4.07	4.29
18.00	0.28	0.60	5.00	0.22	4.06	4.28
18.05	0.28	0.60	5.00	0.22	4.05	4.27
18.10	0.28	0.60	5.00	0.22	4.04	4.26
18.15	0.29	0.60	5.00	0.22	4.03	4.25
18.20	0.29	0.60	5.00	0.22	4.02	4.24
18.25	0.29	0.60	5.00	0.22	4.02	4.23
18.30	0.29	0.60	5.00	0.22	4.01	4.22
18.35	0.29	0.60	5.00	0.22	4.00	4.21
18.40	0.29	0.60	5.00	0.22	3.99	4.20
18.45	0.30	0.60	5.00	0.22	3.98	4.19
18.50	0.30	0.60	5.00	0.22	3.97	4.19
18.55	0.30	0.60	5.00	0.22	3.96	4.18
18.60	0.30	0.60	5.00	0.22	3.95	4.17
18.65	0.30	0.60	5.00	0.22	3.94	4.16
18.70	0.31	0.60	5.00	0.22	3.93	4.15

18.75	0.31	0.60	5.00	0.22	3.93	4.14
18.80	0.31	0.60	5.00	0.22	3.92	4.13
18.85	0.31	0.60	5.00	0.22	3.91	4.12
18.90	0.31	0.60	5.00	0.22	3.90	4.12
18.95	0.32	0.60	5.00	0.22	3.89	4.11
19.00	0.32	0.60	5.00	0.22	3.88	4.10
19.05	0.32	0.60	5.00	0.22	3.87	4.09
19.10	0.32	0.60	5.00	0.22	3.87	4.08
19.15	0.33	0.60	5.00	0.22	3.86	4.07
19.20	0.33	0.60	5.00	0.22	3.85	4.06
19.25	0.33	0.60	5.00	0.22	3.84	4.06
19.30	0.33	0.60	5.00	0.22	3.83	4.05
19.35	0.33	0.60	5.00	0.22	3.82	4.04
19.40	0.34	0.60	5.00	0.22	3.82	4.03
19.45	0.34	0.60	5.00	0.22	3.81	4.02
19.50	0.34	0.60	5.00	0.22	3.80	4.02
19.55	0.34	0.60	5.00	0.22	3.79	4.01
19.60	0.35	0.60	5.00	0.22	3.78	4.00
19.65	0.35	0.60	5.00	0.22	3.78	3.99
19.70	0.35	0.60	5.00	0.22	3.77	3.98
19.75	0.36	0.60	5.00	0.22	3.76	3.98
19.80	0.36	0.60	5.00	0.22	3.75	3.97
19.85	0.36	0.60	5.00	0.22	3.74	3.96
19.90	0.36	0.60	5.00	0.22	3.74	3.95
19.95	0.37	0.60	5.00	0.22	3.73	3.95
20.00	0.37	0.60	5.00	0.22	3.72	3.94
20.05	0.37	0.60	5.00	0.22	3.71	3.93
20.10	0.37	0.60	5.00	0.22	3.71	3.92
20.15	0.37	0.60	5.00	0.22	3.70	3.92
20.20	0.37	0.60	5.00	0.22	3.69	3.91
20.25	0.37	0.60	5.00	0.22	3.68	3.90
20.30	0.36	0.60	5.00	0.22	3.68	3.89
20.35	0.36	0.60	5.00	0.22	3.67	3.88
20.40	0.36	0.60	5.00	0.22	3.66	3.88
20.45	0.36	0.60	5.00	0.22	3.65	3.87
20.50	0.36	0.60	5.00	0.22	3.65	3.86
20.55	0.36	0.60	5.00	0.22	3.64	3.85
20.60	0.36	0.60	5.00	0.22	3.63	3.85
20.65	0.36	0.60	5.00	0.22	3.62	3.84
20.70	0.35	0.60	5.00	0.22	3.61	3.83
20.75	0.35	0.60	5.00	0.22	3.61	3.82
20.80	0.35	0.60	5.00	0.22	3.60	3.81
20.85	0.35	0.60	5.00	0.22	3.59	3.81
20.90	0.35	0.60	5.00	0.22	3.58	3.80
20.95	0.35	0.60	5.00	0.22	3.57	3.79
21.00	0.35	0.60	5.00	0.22	3.57	3.78
21.05	0.35	0.60	5.00	0.22	3.56	3.78
21.10	0.35	0.60	5.00	0.22	3.55	3.77
21.15	0.35	0.60	5.00	0.22	3.54	3.76
21.20	0.34	0.60	5.00	0.22	3.54	3.75

21.25	0.34	0.60	5.00	0.22	3.53	3.74
21.30	0.34	0.60	5.00	0.22	3.52	3.74
21.35	0.34	0.60	5.00	0.22	3.51	3.73
21.40	0.34	0.60	5.00	0.22	3.50	3.72
21.45	0.34	0.60	5.00	0.22	3.50	3.71
21.50	0.34	0.60	5.00	0.22	3.49	3.70
21.55	0.34	0.60	5.00	0.22	3.48	3.70
21.60	0.34	0.60	5.00	0.22	3.47	3.69
21.65	0.34	0.59	5.00	0.22	3.46	3.68
21.70	0.34	0.59	5.00	0.22	3.45	3.67
21.75	0.34	0.59	5.00	0.22	3.45	3.66
21.80	0.33	0.59	5.00	0.22	3.44	3.65
21.85	0.33	0.59	5.00	0.22	3.43	3.65
21.90	0.33	0.59	5.00	0.22	3.42	3.64
21.95	0.33	0.59	5.00	0.22	3.41	3.63
22.00	0.33	0.59	5.00	0.22	3.41	3.62
22.05	0.33	0.59	5.00	0.22	3.40	3.61
22.10	0.33	0.59	5.00	0.22	3.39	3.61
22.15	0.33	0.59	5.00	0.22	3.38	3.60
22.20	0.33	0.59	5.00	0.22	3.37	3.59
22.25	0.33	0.59	5.00	0.22	3.36	3.58
22.30	0.33	0.59	5.00	0.22	3.36	3.57
22.35	0.33	0.59	5.00	0.22	3.35	3.56
22.40	0.32	0.59	5.00	0.22	3.34	3.56
22.45	0.32	0.59	5.00	0.22	3.33	3.55
22.50	0.32	0.59	5.00	0.22	3.32	3.54
22.55	0.32	0.59	5.00	0.22	3.31	3.53
22.60	0.32	0.59	5.00	0.22	3.31	3.52
22.65	0.32	0.59	5.00	0.22	3.30	3.51
22.70	0.32	0.59	5.00	0.22	3.29	3.51
22.75	0.32	0.59	5.00	0.22	3.28	3.50
22.80	0.32	0.59	5.00	0.22	3.27	3.49
22.85	0.32	0.59	5.00	0.22	3.26	3.48
22.90	0.32	0.59	5.00	0.22	3.26	3.47
22.95	0.32	0.59	5.00	0.22	3.25	3.46
23.00	0.32	0.59	5.00	0.22	3.24	3.46
23.05	0.32	0.59	5.00	0.22	3.23	3.45
23.10	0.31	0.59	5.00	0.22	3.22	3.44
23.15	0.31	0.59	5.00	0.22	3.21	3.43
23.20	0.31	0.59	5.00	0.22	3.20	3.42
23.25	0.31	0.59	5.00	0.22	3.20	3.41
23.30	0.31	0.59	5.00	0.22	3.19	3.40
23.35	0.31	0.59	5.00	0.22	3.18	3.40
23.40	0.31	0.59	5.00	0.22	3.17	3.39
23.45	0.31	0.59	5.00	0.22	3.16	3.38
23.50	0.31	0.59	5.00	0.22	3.15	3.37
23.55	0.31	0.59	5.00	0.22	3.15	3.37
23.60	0.31	0.59	5.00	0.22	3.15	3.36
23.65	0.31	0.59	5.00	0.22	3.14	3.36
23.70	0.31	0.59	5.00	0.22	3.14	3.35

23.75	0.31	0.59	5.00	0.22	3.13	3.35
23.80	0.31	0.59	5.00	0.22	3.13	3.35
23.85	0.31	0.59	5.00	0.22	3.13	3.34
23.90	0.30	0.59	5.00	0.22	3.12	3.34
23.95	0.30	0.59	5.00	0.22	3.12	3.33
24.00	0.30	0.59	5.00	0.22	3.11	3.33
24.05	0.30	0.59	5.00	0.22	3.11	3.32
24.10	0.30	0.59	5.00	0.22	3.10	3.32
24.15	0.30	0.59	5.00	0.22	3.10	3.32
24.20	0.30	0.59	5.00	0.22	3.10	3.31
24.25	0.30	0.59	5.00	0.22	3.09	3.31
24.30	0.30	0.59	5.00	0.22	3.09	3.30
24.35	0.30	0.59	5.00	0.22	3.08	3.30
24.40	0.30	0.59	5.00	0.22	3.08	3.29
24.45	0.30	0.59	5.00	0.22	3.07	3.29
24.50	0.30	0.59	5.00	0.22	3.07	3.28
24.55	0.30	0.59	5.00	0.22	3.06	3.28
24.60	0.30	0.59	5.00	0.22	3.06	3.28
24.65	0.30	0.59	5.00	0.22	3.05	3.27
24.70	0.30	0.59	5.00	0.22	3.05	3.27
24.75	0.29	0.59	5.00	0.22	3.05	3.26
24.80	0.29	0.59	5.00	0.22	3.04	3.26
24.85	0.29	0.59	5.00	0.22	3.04	3.25
24.90	0.29	0.59	5.00	0.22	3.03	3.25
24.95	0.29	0.59	5.00	0.22	3.03	3.24
25.00	0.29	0.59	5.00	0.22	3.02	3.24
25.05	0.29	0.59	5.00	0.22	3.02	3.23
25.10	0.29	0.59	5.00	0.22	3.01	3.23
25.15	0.29	0.59	5.00	0.22	3.01	3.22
25.20	0.29	0.59	5.00	0.22	3.00	3.22
25.25	0.29	0.59	5.00	0.22	2.99	3.21
25.30	0.29	0.59	5.00	0.22	2.99	3.21
25.35	0.29	0.59	5.00	0.22	2.98	3.20
25.40	0.29	0.59	5.00	0.22	2.98	3.20
25.45	0.29	0.59	5.00	0.22	2.97	3.19
25.50	0.29	0.59	5.00	0.22	2.97	3.18
25.55	0.29	0.59	5.00	0.22	2.96	3.18
25.60	0.29	0.59	5.00	0.22	2.96	3.17
25.65	0.29	0.59	5.00	0.22	2.95	3.17
25.70	0.29	0.59	5.00	0.22	2.95	3.16
25.75	0.29	0.59	5.00	0.22	2.94	3.16
25.80	0.29	0.59	5.00	0.22	2.94	3.15
25.85	0.29	0.59	5.00	0.22	2.93	3.15
25.90	0.29	0.59	5.00	0.22	2.93	3.14
25.95	0.29	0.59	5.00	0.22	2.92	3.14
26.00	0.29	0.59	5.00	0.22	2.91	3.13
26.05	0.29	0.59	5.00	0.22	2.91	3.13
26.10	0.29	0.59	5.00	0.22	2.90	3.12
26.15	0.29	0.59	5.00	0.22	2.90	3.11
26.20	0.29	0.59	5.00	0.22	2.89	3.11

26.25	0.29	0.59	5.00	0.22	2.89	3.10
26.30	0.29	0.59	5.00	0.22	2.88	3.10
26.35	0.29	0.59	5.00	0.22	2.88	3.09
26.40	0.29	0.59	5.00	0.22	2.87	3.09
26.45	0.29	0.59	5.00	0.22	2.86	3.08
26.50	0.29	0.59	5.00	0.22	2.86	3.07
26.55	0.29	0.59	5.00	0.22	2.85	3.07
26.60	0.29	0.59	5.00	0.22	2.85	3.06
26.65	0.30	0.59	5.00	0.22	2.84	3.06
26.70	0.30	0.59	5.00	0.22	2.83	3.05
26.75	0.30	0.59	5.00	0.22	2.83	3.04
26.80	0.30	0.59	5.00	0.22	2.82	3.04
26.85	0.30	0.59	5.00	0.22	2.82	3.03
26.90	0.30	0.59	5.00	0.22	2.81	3.03
26.95	0.30	0.59	5.00	0.22	2.80	3.02
27.00	0.30	0.59	5.00	0.22	2.80	3.01
27.05	0.30	0.59	5.00	0.22	2.79	3.01
27.10	0.30	0.59	5.00	0.22	2.79	3.00
27.15	0.30	0.59	5.00	0.22	2.78	3.00
27.20	0.30	0.59	5.00	0.22	2.77	2.99
27.25	0.30	0.59	5.00	0.22	2.77	2.98
27.30	0.30	0.59	5.00	0.22	2.76	2.98
27.35	0.30	0.59	5.00	0.22	2.76	2.97
27.40	0.30	0.59	5.00	0.22	2.75	2.96
27.45	0.30	0.59	5.00	0.22	2.74	2.96
27.50	0.30	0.59	5.00	0.22	2.74	2.95
27.55	0.30	0.59	5.00	0.22	2.73	2.95
27.60	0.30	0.59	5.00	0.22	2.72	2.94
27.65	0.30	0.59	5.00	0.22	2.72	2.93
27.70	0.30	0.59	5.00	0.22	2.71	2.93
27.75	0.30	0.59	5.00	0.22	2.70	2.92
27.80	0.30	0.59	5.00	0.22	2.70	2.91
27.85	0.30	0.59	5.00	0.22	2.69	2.91
27.90	0.32	0.59	5.00	0.22	2.68	2.90
27.95	0.32	0.59	5.00	0.22	2.68	2.89
28.00	0.32	0.59	5.00	0.22	2.67	2.89
28.05	0.32	0.59	5.00	0.22	2.67	2.88
28.10	0.32	0.59	5.00	0.22	2.66	2.88
28.15	0.32	0.59	5.00	0.22	2.65	2.87
28.20	0.32	0.59	5.00	0.22	2.65	2.86
28.25	0.32	0.59	5.00	0.22	2.64	2.86
28.30	0.32	0.59	5.00	0.22	2.64	2.85
28.35	0.32	0.59	5.00	0.22	2.63	2.85
28.40	0.32	0.59	5.00	0.22	2.62	2.84
28.45	0.32	0.59	5.00	0.22	2.62	2.83
28.50	0.32	0.58	5.00	0.22	2.61	2.83
28.55	0.32	0.58	5.00	0.22	2.61	2.82
28.60	0.32	0.58	5.00	0.22	2.60	2.82
28.65	0.32	0.58	5.00	0.22	2.59	2.81
28.70	0.32	0.58	5.00	0.22	2.59	2.80

28.75	0.32	0.58	5.00	0.22	2.58	2.80
28.80	0.32	0.58	5.00	0.22	2.57	2.79
28.85	0.32	0.58	5.00	0.22	2.57	2.78
28.90	0.32	0.58	5.00	0.22	2.56	2.78
28.95	0.32	0.58	5.00	0.22	2.56	2.77
29.00	0.32	0.58	5.00	0.22	2.55	2.77
29.05	0.32	0.58	5.00	0.22	2.54	2.76
29.10	0.32	0.58	5.00	0.22	2.54	2.75
29.15	0.32	0.58	5.00	0.22	2.53	2.75
29.20	0.32	0.58	5.00	0.22	2.52	2.74
29.25	0.32	0.58	5.00	0.22	2.52	2.73
29.30	0.32	0.58	5.00	0.22	2.51	2.73
29.35	0.32	0.58	5.00	0.22	2.50	2.72
29.40	0.32	0.58	5.00	0.22	2.50	2.71
29.45	0.32	0.58	5.00	0.22	2.49	2.71
29.50	0.32	0.58	5.00	0.22	2.48	2.70
29.55	0.32	0.58	5.00	0.22	2.48	2.69
29.60	0.32	0.58	5.00	0.22	2.47	2.69
29.65	0.32	0.58	5.00	0.22	2.46	2.68
29.70	0.32	0.58	5.00	0.22	2.46	2.67
29.75	0.32	0.58	5.00	0.22	2.45	2.66
29.80	0.32	0.58	5.00	0.22	2.44	2.66
29.85	0.32	0.58	5.00	0.22	2.43	2.65
29.90	0.32	0.58	5.00	0.22	2.43	2.64
29.95	0.32	0.58	5.00	0.22	2.42	2.64
30.00	0.32	0.58	5.00	0.22	2.41	2.63
30.05	0.32	0.58	5.00	0.22	2.41	2.62
30.10	0.32	0.58	5.00	0.22	2.40	2.62
30.15	0.32	0.58	5.00	0.22	2.39	2.61
30.20	0.31	0.58	5.00	0.22	2.38	2.60
30.25	0.31	0.58	5.00	0.22	2.38	2.59
30.30	0.31	0.58	5.00	0.22	2.37	2.59
30.35	0.31	0.58	5.00	0.22	2.36	2.58
30.40	0.31	0.58	5.00	0.22	2.35	2.57
30.45	0.31	0.58	5.00	0.22	2.35	2.56
30.50	0.31	0.58	5.00	0.22	2.34	2.56
30.55	0.31	0.58	5.00	0.22	2.33	2.55
30.60	0.31	0.58	5.00	0.22	2.32	2.54
30.65	0.30	0.58	5.00	0.22	2.31	2.53
30.70	0.30	0.58	5.00	0.22	2.31	2.52
30.75	0.30	0.58	5.00	0.22	2.30	2.51
30.80	0.30	0.58	5.00	0.22	2.29	2.51
30.85	0.30	0.58	5.00	0.22	2.28	2.50
30.90	0.30	0.58	5.00	0.22	2.27	2.49
30.95	0.30	0.58	5.00	0.22	2.27	2.48
31.00	0.30	0.58	5.00	0.22	2.26	2.47
31.05	0.30	0.58	5.00	0.22	2.25	2.46
31.10	0.30	0.58	5.00	0.22	2.24	2.46
31.15	0.29	0.58	5.00	0.22	2.23	2.45
31.20	0.29	0.58	5.00	0.22	2.22	2.44

31.25	0.29	0.58	5.00	0.22	2.21	2.43
31.30	0.29	0.58	5.00	0.22	2.20	2.42
31.35	0.29	0.58	5.00	0.22	2.19	2.41
31.40	0.29	0.58	5.00	0.22	2.18	2.40
31.45	0.29	0.58	5.00	0.22	2.18	2.39
31.50	0.29	0.58	5.00	0.22	2.17	2.38
31.55	0.29	0.57	5.00	0.22	2.16	2.37
31.60	0.29	0.57	5.00	0.22	2.15	2.36
31.65	0.29	0.57	5.00	0.22	2.14	2.35
31.70	0.28	0.57	5.00	0.22	2.13	2.35
31.75	0.28	0.57	5.00	0.22	2.12	2.34
31.80	0.28	0.57	5.00	0.22	2.11	2.33
31.85	0.28	0.57	5.00	0.22	2.10	2.32
31.90	0.28	0.57	5.00	0.22	2.09	2.31
31.95	0.28	0.57	5.00	0.22	2.08	2.30
32.00	0.28	0.57	5.00	0.22	2.07	2.29
32.05	0.28	0.57	5.00	0.22	2.06	2.28
32.10	0.28	0.57	5.00	0.22	2.05	2.27
32.15	0.28	0.57	5.00	0.22	2.04	2.26
32.20	0.28	0.57	5.00	0.22	2.03	2.25
32.25	0.28	0.57	5.00	0.22	2.03	2.24
32.30	0.27	0.57	5.00	0.22	2.02	2.23
32.35	0.27	0.57	5.00	0.22	2.01	2.22
32.40	0.27	0.57	5.00	0.22	2.00	2.21
32.45	0.27	0.57	5.00	0.22	1.99	2.20
32.50	0.27	0.57	5.00	0.22	1.98	2.19
32.55	0.27	0.57	5.00	0.22	1.97	2.18
32.60	0.27	0.57	5.00	0.22	1.96	2.17
32.65	0.27	0.57	5.00	0.22	1.95	2.16
32.70	0.27	0.57	5.00	0.22	1.94	2.15
32.75	0.27	0.57	5.00	0.22	1.93	2.14
32.80	0.27	0.57	5.00	0.22	1.92	2.13
32.85	0.27	0.57	5.00	0.22	1.91	2.12
32.90	0.27	0.57	5.00	0.22	1.90	2.11
32.95	0.27	0.57	5.00	0.22	1.89	2.10
33.00	0.26	0.57	5.00	0.22	1.88	2.09
33.05	0.26	0.57	5.00	0.22	1.87	2.08
33.10	0.26	0.57	5.00	0.22	1.86	2.08
33.15	0.26	0.57	5.00	0.22	1.85	2.07
33.20	0.26	0.57	5.00	0.22	1.84	2.05
33.25	0.26	0.57	5.00	0.22	1.83	2.04
33.30	0.26	0.57	5.00	0.22	1.82	2.03
33.35	0.26	0.57	5.00	0.22	1.81	2.02
33.40	0.26	0.57	5.00	0.22	1.80	2.01
33.45	0.26	0.57	5.00	0.22	1.79	2.00
33.50	0.26	0.56	5.00	0.22	1.78	1.99
33.55	0.26	0.56	5.00	0.22	1.77	1.98
33.60	0.26	0.56	5.00	0.22	1.76	1.97
33.65	0.26	0.56	5.00	0.22	1.75	1.96
33.70	0.26	0.56	5.00	0.22	1.74	1.95

33.75	0.25	0.56	5.00	0.22	1.73	1.94
33.80	0.25	0.56	5.00	0.22	1.72	1.93
33.85	0.25	0.56	5.00	0.22	1.71	1.92
33.90	0.25	0.56	5.00	0.22	1.70	1.91
33.95	0.25	0.56	5.00	0.22	1.69	1.90
34.00	0.25	0.56	5.00	0.22	1.67	1.89
34.05	0.25	0.56	5.00	0.22	1.66	1.88
34.10	0.25	0.56	5.00	0.22	1.65	1.87
34.15	0.25	0.56	5.00	0.22	1.64	1.86
34.20	0.25	0.56	5.00	0.22	1.63	1.85
34.25	0.25	0.56	5.00	0.22	1.62	1.84
34.30	0.25	0.56	5.00	0.22	1.61	1.83
34.35	0.25	0.56	5.00	0.22	1.60	1.82
34.40	0.25	0.56	5.00	0.22	1.59	1.81
34.45	0.25	0.56	5.00	0.22	1.58	1.80
34.50	0.25	0.56	5.00	0.22	1.57	1.79
34.55	0.25	0.56	5.00	0.22	1.56	1.77
34.60	0.24	0.56	5.00	0.22	1.55	1.76
34.65	0.24	0.56	5.00	0.22	1.54	1.75
34.70	0.24	0.56	5.00	0.22	1.53	1.74
34.75	0.24	0.56	5.00	0.22	1.52	1.73
34.80	0.24	0.56	5.00	0.22	1.50	1.72
34.85	0.24	0.56	5.00	0.22	1.49	1.71
34.90	0.24	0.56	5.00	0.22	1.48	1.70
34.95	0.24	0.56	5.00	0.22	1.47	1.69
35.00	0.24	0.56	5.00	0.22	1.46	1.68
35.05	0.24	0.56	5.00	0.22	1.45	1.67
35.10	0.24	0.56	5.00	0.22	1.44	1.66
35.15	0.25	0.56	5.00	0.22	1.43	1.65
35.20	0.25	0.56	5.00	0.22	1.42	1.63
35.25	0.25	0.56	5.00	0.22	1.41	1.62
35.30	0.25	0.56	5.00	0.22	1.40	1.61
35.35	0.25	0.56	5.00	0.22	1.39	1.60
35.40	0.25	0.56	5.00	0.22	1.38	1.59
35.45	0.25	0.55	5.00	0.22	1.37	1.58
35.50	0.26	0.55	5.00	0.22	1.36	1.57
35.55	0.26	0.55	5.00	0.22	1.35	1.56
35.60	0.26	0.55	5.00	0.22	1.34	1.55
35.65	0.26	0.55	5.00	0.22	1.33	1.54
35.70	0.26	0.55	5.00	0.22	1.32	1.53
35.75	0.27	0.55	5.00	0.22	1.31	1.52
35.80	0.27	0.55	5.00	0.22	1.30	1.51
35.85	0.27	0.55	5.00	0.22	1.29	1.50
35.90	0.27	0.55	5.00	0.22	1.28	1.49
35.95	0.27	0.55	5.00	0.22	1.27	1.48
36.00	0.27	0.55	5.00	0.22	1.26	1.47
36.05	0.28	0.55	5.00	0.22	1.25	1.46
36.10	0.28	0.55	5.00	0.22	1.24	1.46
36.15	0.28	0.55	5.00	0.22	1.23	1.45
36.20	0.28	0.55	5.00	0.22	1.22	1.44

36.25	0.28	0.55	5.00	0.22	1.21	1.43
36.30	0.29	0.55	5.00	0.22	1.20	1.42
36.35	0.29	0.55	5.00	0.22	1.19	1.41
36.40	0.29	0.55	5.00	0.22	1.18	1.40
36.45	0.29	0.55	5.00	0.22	1.18	1.39
36.50	0.29	0.55	5.00	0.22	1.17	1.38
36.55	0.30	0.55	5.00	0.22	1.16	1.37
36.60	0.30	0.55	5.00	0.22	1.15	1.37
36.65	0.30	0.55	5.00	0.22	1.14	1.36
36.70	0.30	0.55	5.00	0.22	1.13	1.35
36.75	0.31	0.55	5.00	0.22	1.12	1.34
36.80	0.31	0.55	5.00	0.22	1.11	1.33
36.85	0.31	0.55	5.00	0.22	1.11	1.32
36.90	0.31	0.55	5.00	0.22	1.10	1.31
36.95	0.32	0.55	5.00	0.22	1.09	1.31
37.00	0.32	0.55	5.00	0.22	1.08	1.30
37.05	0.32	0.55	5.00	0.22	1.07	1.29
37.10	0.32	0.55	5.00	0.22	1.06	1.28
37.15	0.33	0.55	5.00	0.22	1.06	1.27
37.20	0.33	0.55	5.00	0.22	1.05	1.26
37.25	0.33	0.55	5.00	0.22	1.04	1.26
37.30	0.34	0.55	5.00	0.22	1.03	1.25
37.35	0.34	0.55	5.00	0.22	1.02	1.24
37.40	0.34	0.54	5.00	0.22	1.02	1.23
37.45	0.35	0.54	5.00	0.22	1.01	1.23
37.50	0.35	0.54	5.00	0.22	1.00	1.22
37.55	0.35	0.54	5.00	0.22	0.99	1.21
37.60	0.36	0.54	5.00	0.22	0.99	1.20
37.65	0.36	0.54	5.00	0.22	0.98	1.19
37.70	0.36	0.54	5.00	0.22	0.97	1.19
37.75	0.37	0.54	5.00	0.22	0.96	1.18
37.80	0.37	0.54	5.00	0.22	0.96	1.17
37.85	0.38	0.54	5.00	0.22	0.95	1.16
37.90	0.39	0.54	5.00	0.22	0.94	1.16
37.95	0.39	0.54	5.00	0.22	0.93	1.15
38.00	0.40	0.54	5.00	0.22	0.93	1.14
38.05	0.41	0.54	5.00	0.22	0.92	1.14
38.10	0.42	0.54	5.00	0.22	0.91	1.13
38.15	0.44	0.54	5.00	0.22	0.91	1.12
38.20	0.47	0.54	5.00	0.22	0.90	1.12
38.25	0.50	0.54	5.00	0.22	0.89	1.11
38.30	0.50	0.54	5.00	0.22	0.89	1.10
38.35	0.50	0.54	5.00	0.22	0.88	1.10
38.40	0.50	0.54	5.00	0.22	0.87	1.09
38.45	0.50	0.54	5.00	0.22	0.87	1.08
38.50	0.50	0.54	5.00	0.22	0.86	1.08
38.55	0.50	0.54	5.00	0.22	0.86	1.07
38.60	0.50	0.54	5.00	0.22	0.85	1.07
38.65	0.50	0.54	5.00	0.22	0.84	1.06
38.70	0.50	0.54	5.00	0.22	0.84	1.05

38.75	0.50	0.54	5.00	0.22	0.83	1.05
38.80	0.50	0.54	5.00	0.22	0.83	1.04
38.85	0.50	0.54	5.00	0.22	0.82	1.04
38.90	0.50	0.54	5.00	0.22	0.82	1.03
38.95	0.50	0.54	5.00	0.22	0.81	1.03
39.00	0.50	0.54	5.00	0.22	0.81	1.02
39.05	0.50	0.54	5.00	0.22	0.80	1.02
39.10	0.50	0.54	5.00	0.22	0.80	1.01
39.15	0.50	0.54	5.00	0.22	0.79	1.01
39.20	0.50	0.54	5.00	0.22	0.78	1.00
39.25	0.50	0.54	5.00	0.22	0.78	1.00
39.30	0.50	0.54	5.00	0.22	0.78	0.99
39.35	0.50	0.53	5.00	0.22	0.77	0.99
39.40	0.50	0.53	5.00	0.22	0.77	0.98
39.45	0.50	0.53	5.00	0.22	0.76	0.98
39.50	0.50	0.53	5.00	0.22	0.76	0.97
39.55	0.49	0.53	5.00	0.22	0.75	0.97
39.60	0.49	0.53	5.00	0.22	0.75	0.96
39.65	0.49	0.53	5.00	0.22	0.74	0.96
39.70	0.49	0.53	5.00	0.22	0.74	0.95
39.75	0.49	0.53	5.00	0.22	0.73	0.95
39.80	0.49	0.53	5.00	0.22	0.73	0.95
39.85	0.49	0.53	5.00	0.22	0.73	0.94
39.90	0.49	0.53	5.00	0.22	0.72	0.94
39.95	0.49	0.53	5.00	0.22	0.72	0.93
40.00	0.49	0.53	5.00	0.22	0.72	0.93
40.05	0.49	0.53	5.00	0.22	0.72	0.93
40.10	0.49	0.53	5.00	0.22	0.72	0.93
40.15	0.49	0.53	5.00	0.22	0.71	0.93
40.20	0.49	0.53	5.00	0.22	0.71	0.92
40.25	0.49	0.53	5.00	0.22	0.70	0.92
40.30	0.49	0.53	5.00	0.22	0.70	0.92
40.35	0.49	0.53	5.00	0.22	0.70	0.91
40.40	0.49	0.53	5.00	0.22	0.69	0.91
40.45	0.49	0.53	5.00	0.22	0.69	0.90
40.50	0.49	0.53	5.00	0.22	0.68	0.90
40.55	0.49	0.53	5.00	0.22	0.68	0.89
40.60	0.49	0.53	5.00	0.22	0.67	0.89
40.65	0.49	0.53	5.00	0.22	0.67	0.89
40.70	0.49	0.53	5.00	0.22	0.66	0.88
40.75	0.49	0.53	5.00	0.22	0.66	0.88
40.80	0.49	0.53	5.00	0.22	0.65	0.87
40.85	0.49	0.53	5.00	0.22	0.65	0.87
40.90	0.49	0.53	5.00	0.22	0.64	0.86
40.95	0.49	0.53	5.00	0.22	0.64	0.86
41.00	0.49	0.53	5.00	0.22	0.63	0.85
41.05	0.49	0.53	5.00	0.22	0.63	0.85
41.10	0.49	0.53	5.00	0.22	0.62	0.84
41.15	0.49	0.53	5.00	0.22	0.62	0.84
41.20	0.49	0.53	5.00	0.22	0.61	0.83

41.25	0.49	0.53	5.00	0.22	0.61	0.82
41.30	0.49	0.53	5.00	0.22	0.60	0.82
41.35	0.49	0.52	5.00	0.22	0.60	0.81
41.40	0.49	0.52	5.00	0.22	0.59	0.81
41.45	0.49	0.52	5.00	0.22	0.59	0.80
41.50	0.49	0.52	5.00	0.22	0.58	0.80
41.55	0.49	0.52	5.00	0.22	0.57	0.79
41.60	0.49	0.52	5.00	0.22	0.57	0.79
41.65	0.49	0.52	5.00	0.22	0.56	0.78
41.70	0.49	0.52	5.00	0.22	0.56	0.77
41.75	0.49	0.52	5.00	0.22	0.55	0.77
41.80	0.49	0.52	5.00	0.22	0.54	0.76
41.85	0.49	0.52	5.00	0.22	0.54	0.75
41.90	0.49	0.52	5.00	0.22	0.53	0.75
41.95	0.49	0.52	5.00	0.22	0.53	0.74
42.00	0.49	0.52	5.00	0.22	0.52	0.74
42.05	0.49	0.52	5.00	0.22	0.51	0.73
42.10	0.49	0.52	5.00	0.22	0.51	0.72
42.15	0.49	0.52	5.00	0.22	0.50	0.72
42.20	0.49	0.52	5.00	0.22	0.49	0.71
42.25	0.49	0.52	5.00	0.22	0.49	0.70
42.30	0.49	0.52	5.00	0.22	0.48	0.69
42.35	0.47	0.52	5.00	0.22	0.47	0.69
42.40	0.44	0.52	5.00	0.22	0.46	0.68
42.45	0.42	0.52	5.00	0.22	0.46	0.67
42.50	0.41	0.52	5.00	0.22	0.45	0.67
42.55	0.40	0.52	5.00	0.22	0.44	0.66
42.60	0.39	0.52	5.00	0.22	0.44	0.65
42.65	0.39	0.52	5.00	0.22	0.43	0.65
42.70	0.38	0.52	5.00	0.22	0.42	0.64
42.75	0.37	0.52	5.00	0.22	0.41	0.63
42.80	0.37	0.52	5.00	0.22	0.41	0.62
42.85	0.36	0.52	5.00	0.22	0.40	0.62
42.90	0.36	0.52	5.00	0.22	0.40	0.61
42.95	0.36	0.52	5.00	0.22	0.39	0.61
43.00	0.35	0.52	5.00	0.22	0.39	0.61
43.05	0.35	0.52	5.00	0.22	0.39	0.61
43.10	0.35	0.52	5.00	0.22	0.39	0.60
43.15	0.34	0.52	5.00	0.22	0.38	0.60
43.20	0.34	0.52	5.00	0.22	0.38	0.60
43.25	0.34	0.52	5.00	0.22	0.38	0.60
43.30	0.33	0.51	5.00	0.22	0.38	0.59
43.35	0.33	0.51	5.00	0.22	0.37	0.59
43.40	0.33	0.51	5.00	0.22	0.37	0.59
43.45	0.33	0.51	5.00	0.22	0.37	0.58
43.50	0.32	0.51	5.00	0.22	0.36	0.58
43.55	0.32	0.51	5.00	0.22	0.36	0.58
43.60	0.32	0.51	5.00	0.22	0.36	0.58
43.65	0.32	0.51	5.00	0.22	0.36	0.57
43.70	0.31	0.51	5.00	0.22	0.35	0.57

43.75	0.31	0.51	5.00	0.22	0.35	0.57
43.80	0.31	0.51	5.00	0.22	0.35	0.56
43.85	0.31	0.51	5.00	0.22	0.34	0.56
43.90	0.30	0.51	5.00	0.22	0.34	0.56
43.95	0.30	0.51	5.00	0.22	0.34	0.55
44.00	0.30	0.51	5.00	0.22	0.33	0.55
44.05	0.30	0.51	5.00	0.22	0.33	0.55
44.10	0.30	0.51	5.00	0.22	0.33	0.54
44.15	0.29	0.51	5.00	0.22	0.33	0.54
44.20	0.29	0.51	5.00	0.22	0.32	0.54
44.25	0.29	0.51	5.00	0.22	0.32	0.53
44.30	0.29	0.51	5.00	0.22	0.32	0.53
44.35	0.29	0.51	5.00	0.22	0.31	0.53
44.40	0.28	0.51	5.00	0.22	0.31	0.52
44.45	0.28	0.51	5.00	0.22	0.30	0.52
44.50	0.28	0.51	5.00	0.22	0.30	0.52
44.55	0.28	0.51	5.00	0.22	0.30	0.51
44.60	0.28	0.51	5.00	0.22	0.29	0.51
44.65	0.27	0.51	5.00	0.22	0.29	0.51
44.70	0.27	0.51	5.00	0.22	0.29	0.50
44.75	0.27	0.51	5.00	0.22	0.28	0.50
44.80	0.27	0.51	5.00	0.22	0.28	0.50
44.85	0.27	0.51	5.00	0.22	0.28	0.49
44.90	0.27	0.51	5.00	0.22	0.27	0.49
44.95	0.26	0.51	5.00	0.22	0.27	0.48
45.00	0.26	0.51	5.00	0.22	0.26	0.48
45.05	0.26	0.51	5.00	0.22	0.26	0.48
45.10	0.26	0.51	5.00	0.22	0.26	0.47
45.15	0.26	0.51	5.00	0.22	0.25	0.47
45.20	0.26	0.51	5.00	0.22	0.25	0.46
45.25	0.27	0.50	5.00	0.22	0.24	0.46
45.30	0.27	0.50	5.00	0.22	0.24	0.46
45.35	0.27	0.50	5.00	0.22	0.24	0.45
45.40	0.27	0.50	5.00	0.22	0.23	0.45
45.45	0.27	0.50	5.00	0.22	0.23	0.45
45.50	0.27	0.50	5.00	0.22	0.23	0.44
45.55	0.27	0.50	5.00	0.22	0.22	0.44
45.60	0.27	0.50	5.00	0.22	0.22	0.43
45.65	0.27	0.50	5.00	0.22	0.21	0.43
45.70	0.27	0.50	5.00	0.22	0.21	0.43
45.75	0.27	0.50	5.00	0.22	0.21	0.42
45.80	0.27	0.50	5.00	0.22	0.20	0.42
45.85	0.28	0.50	5.00	0.22	0.20	0.42
45.90	0.28	0.50	5.00	0.22	0.20	0.41
45.95	0.28	0.50	5.00	0.22	0.19	0.41
46.00	0.28	0.50	5.00	0.22	0.19	0.40
46.05	0.28	0.50	5.00	0.22	0.18	0.40
46.10	0.28	0.50	5.00	0.22	0.18	0.40
46.15	0.28	0.50	5.00	0.22	0.18	0.39
46.20	0.28	0.50	5.00	0.22	0.17	0.39

46.25	0.28	0.50	5.00	0.22	0.17	0.39
46.30	0.28	0.50	5.00	0.22	0.17	0.38
46.35	0.28	0.50	5.00	0.22	0.16	0.38
46.40	0.29	0.50	5.00	0.22	0.16	0.38
46.45	0.29	0.50	5.00	0.22	0.16	0.37
46.50	0.29	0.50	5.00	0.22	0.15	0.37
46.55	0.29	0.50	5.00	0.22	0.15	0.37
46.60	0.29	0.50	5.00	0.22	0.15	0.36
46.65	0.29	0.50	5.00	0.22	0.14	0.36
46.70	0.29	0.50	5.00	0.22	0.14	0.36
46.75	0.29	0.50	5.00	0.22	0.14	0.35
46.80	0.29	0.50	5.00	0.22	0.13	0.35
46.85	0.29	0.50	5.00	0.22	0.13	0.35
46.90	0.29	0.50	5.00	0.22	0.13	0.34
46.95	0.30	0.50	5.00	0.22	0.12	0.34
47.00	0.30	0.50	5.00	0.22	0.12	0.34
47.05	0.30	0.50	5.00	0.22	0.12	0.33
47.10	0.30	0.50	5.00	0.22	0.11	0.33
47.15	0.30	0.50	5.00	0.22	0.11	0.33
47.20	0.30	0.49	5.00	0.22	0.11	0.32
47.25	0.30	0.49	5.00	0.22	0.10	0.32
47.30	0.30	0.49	5.00	0.22	0.10	0.32
47.35	0.30	0.49	5.00	0.22	0.10	0.31
47.40	0.31	0.49	5.00	0.22	0.09	0.31
47.45	0.31	0.49	5.00	0.22	0.09	0.31
47.50	0.31	0.49	5.00	0.22	0.09	0.30
47.55	0.31	0.49	5.00	0.22	0.09	0.30
47.60	0.31	0.49	5.00	0.22	0.08	0.30
47.65	0.31	0.49	5.00	0.22	0.08	0.30
47.70	0.31	0.49	5.00	0.22	0.08	0.29
47.75	0.31	0.49	5.00	0.22	0.07	0.29
47.80	0.31	0.49	5.00	0.22	0.07	0.29
47.85	0.32	0.49	5.00	0.22	0.07	0.28
47.90	0.32	0.49	5.00	0.22	0.06	0.28
47.95	0.32	0.49	5.00	0.22	0.06	0.28
48.00	0.32	0.49	5.00	0.22	0.06	0.27
48.05	0.32	0.49	5.00	0.22	0.06	0.27
48.10	0.32	0.49	5.00	0.22	0.05	0.27
48.15	0.32	0.49	5.00	0.22	0.05	0.27
48.20	0.32	0.49	5.00	0.22	0.05	0.26
48.25	0.33	0.49	5.00	0.22	0.04	0.26
48.30	0.33	0.49	5.00	0.22	0.04	0.26
48.35	0.33	0.49	5.00	0.22	0.04	0.25
48.40	0.33	0.49	5.00	0.22	0.04	0.25
48.45	0.33	0.49	5.00	0.22	0.03	0.25
48.50	0.33	0.49	5.00	0.22	0.03	0.25
48.55	0.33	0.49	5.00	0.22	0.03	0.24
48.60	0.34	0.49	5.00	0.22	0.02	0.24
48.65	0.34	0.49	5.00	0.22	0.02	0.24
48.70	0.34	0.49	5.00	0.22	0.02	0.24

48.75	0.34	0.49	5.00	0.22	0.02	0.23
48.80	0.34	0.49	5.00	0.22	0.01	0.23
48.85	0.34	0.49	5.00	0.22	0.01	0.23
48.90	0.35	0.49	5.00	0.22	0.01	0.22
48.95	0.35	0.49	5.00	0.22	0.01	0.22
49.00	0.35	0.49	5.00	0.22	0.00	0.22
49.05	0.35	0.49	0.73*	0.22	0.00	0.22
49.10	0.35	0.49	0.73*	0.21	0.00	0.21
49.15	0.36	0.49	0.74*	0.21	0.00	0.21
49.20	0.36	0.49	0.74*	0.20	0.00	0.20
49.25	0.36	0.49	0.75*	0.20	0.00	0.20
49.30	0.37	0.49	0.75*	0.19	0.00	0.19
49.35	0.37	0.49	0.76*	0.19	0.00	0.19
49.40	0.37	0.49	0.77*	0.18	0.00	0.18
49.45	0.38	0.49	0.78*	0.18	0.00	0.18
49.50	0.38	0.49	0.78*	0.17	0.00	0.17
49.55	0.39	0.49	0.79*	0.17	0.00	0.17
49.60	0.39	0.49	0.80*	0.16	0.00	0.16
49.65	0.40	0.49	0.82*	0.16	0.00	0.16
49.70	0.40	0.49	0.83*	0.15	0.00	0.15
49.75	0.41	0.49	0.85*	0.15	0.00	0.15
49.80	0.42	0.49	0.87*	0.14	0.00	0.14
49.85	0.44	0.49	0.90*	0.14	0.00	0.14
49.90	0.45	0.49	0.93*	0.14	0.00	0.14
49.95	0.47	0.49	0.96*	0.13	0.00	0.13
50.00	0.47	0.49	0.96*	0.13	0.00	0.13
50.05	0.47	0.49	0.96*	0.12	0.00	0.12
50.10	0.47	0.49	0.96*	0.12	0.00	0.12
50.15	0.47	0.49	0.96*	0.12	0.00	0.12
50.20	0.47	0.49	0.96*	0.11	0.00	0.11
50.25	0.47	0.49	0.96*	0.11	0.00	0.11
50.30	0.47	0.49	0.96*	0.10	0.00	0.10
50.35	0.47	0.49	0.96*	0.10	0.00	0.10
50.40	0.47	0.49	0.96*	0.09	0.00	0.09
50.45	0.47	0.49	0.96*	0.09	0.00	0.09
50.50	0.47	0.49	0.96*	0.09	0.00	0.09
50.55	0.47	0.49	0.96*	0.08	0.00	0.08
50.60	0.47	0.49	0.96*	0.08	0.00	0.08
50.65	0.47	0.49	0.96*	0.07	0.00	0.07
50.70	0.47	0.49	0.96*	0.07	0.00	0.07
50.75	0.46	0.49	0.95*	0.06	0.00	0.06
50.80	0.46	0.49	0.95*	0.06	0.00	0.06
50.85	0.46	0.49	0.94*	0.06	0.00	0.06
50.90	0.46	0.49	0.94*	0.05	0.00	0.05
50.95	0.45	0.49	0.93*	0.05	0.00	0.05
51.00	0.45	0.49	0.93*	0.04	0.00	0.04
51.05	0.45	0.49	0.92*	0.04	0.00	0.04
51.10	0.45	0.49	0.92*	0.03	0.00	0.03
51.15	0.44	0.49	0.92*	0.03	0.00	0.03
51.20	0.44	0.49	0.91*	0.03	0.00	0.03

51.25	0.44	0.49	0.91*	0.02	0.00	0.02
51.30	0.44	0.49	0.90*	0.02	0.00	0.02
51.35	0.44	0.49	0.90*	0.01	0.00	0.01
51.40	0.44	0.49	0.90*	0.01	0.00	0.01
51.45	0.43	0.49	0.89*	0.00	0.00	0.00
51.50	0.43	0.49	0.89*	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/ft²)

CRRm Cyclic resistance ratio from soils

CSRsf Cyclic stress ratio induced by a given earthquake (with user request factor of safety)

F.S. Factor of Safety against liquefaction, F.S.=CRRm/CSRsf

S_sat Settlement from saturated sands

S_dry Settlement from Unsaturated Sands

S_all Total Settlement from Saturated and Unsaturated Sands

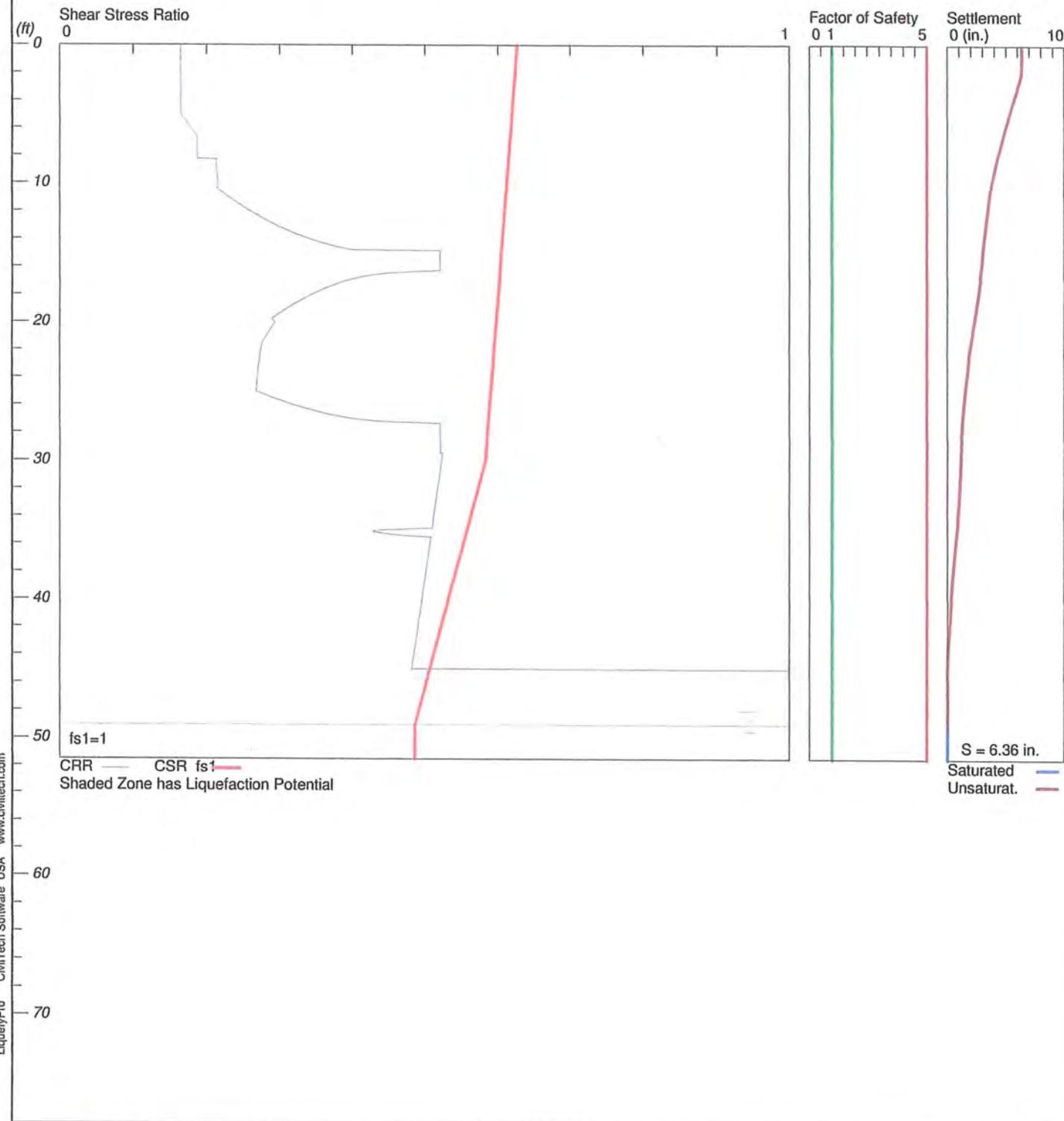
NoLiq No-Liquefy Soils

LIQUEFACTION ANALYSIS

APN 436-280-011, 012, 013 & 014; San Jancinto

Hole No.=BH-4 Water Depth=49 ft

Magnitude=7.38
Acceleration=0.964g



Sladden Engineering

Plate A-1

LIQUEFACTION ANALYSIS SUMMARY

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Input File Name: D:\Liquefy5\644-21002 BH-4.liq
Title: APN 436-280-011, 012, 013 & 014; San Jancinto
Subtitle:

Surface Elev.=
Hole No.=BH-4
Depth of Hole= 51.50 ft
Water Table during Earthquake= 49.00 ft
Water Table during In-Situ Testing= 49.00 ft
Max. Acceleration= 0.96 g
Earthquake Magnitude= 7.38

Input Data:

Surface Elev.=
Hole No.=BH-4
Depth of Hole=51.50 ft
Water Table during Earthquake= 49.00 ft
Water Table during In-Situ Testing= 49.00 ft
Max. Acceleration=0.96 g
Earthquake Magnitude=7.38
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= 1.1
Plot one CSR curve (fs1=1)
 10. Use Curve Smoothing: Yes*
- * Recommended Options

In-Situ Test Data:

Depth SPT gamma Fines

ft		pcf	%
0.00	8.00	110.70	2.20
5.00	8.00	110.70	2.20
10.00	11.33	110.70	1.30
15.00	13.00	110.70	54.60
20.00	18.67	110.70	1.90
25.00	18.00	110.70	12.30
30.00	34.67	108.80	4.60
35.00	28.00	108.80	4.50
40.00	26.00	130.30	42.90
45.00	13.00	130.30	NoLiq
50.00	21.33	126.60	NoLiq

Output Results:

Settlement of Saturated Sands=0.00 in.

Settlement of Unsaturated Sands=6.36 in.

Total Settlement of Saturated and Unsaturated Sands=6.36 in.

Differential Settlement=3.180 to 4.197 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	0.17	0.63	5.00	0.00	6.36	6.36
0.05	0.17	0.63	5.00	0.00	6.36	6.36
0.10	0.17	0.63	5.00	0.00	6.36	6.36
0.15	0.17	0.63	5.00	0.00	6.36	6.36
0.20	0.17	0.63	5.00	0.00	6.36	6.36
0.25	0.17	0.63	5.00	0.00	6.36	6.36
0.30	0.17	0.63	5.00	0.00	6.36	6.36
0.35	0.17	0.63	5.00	0.00	6.36	6.36
0.40	0.17	0.63	5.00	0.00	6.36	6.36
0.45	0.17	0.63	5.00	0.00	6.36	6.36
0.50	0.17	0.63	5.00	0.00	6.36	6.36
0.55	0.17	0.63	5.00	0.00	6.36	6.36
0.60	0.17	0.63	5.00	0.00	6.36	6.36
0.65	0.17	0.63	5.00	0.00	6.36	6.36
0.70	0.17	0.63	5.00	0.00	6.36	6.36
0.75	0.17	0.63	5.00	0.00	6.36	6.36
0.80	0.17	0.63	5.00	0.00	6.35	6.35
0.85	0.17	0.63	5.00	0.00	6.35	6.35
0.90	0.17	0.63	5.00	0.00	6.35	6.35
0.95	0.17	0.63	5.00	0.00	6.35	6.35
1.00	0.17	0.63	5.00	0.00	6.35	6.35
1.05	0.17	0.63	5.00	0.00	6.35	6.35
1.10	0.17	0.62	5.00	0.00	6.35	6.35
1.15	0.17	0.62	5.00	0.00	6.35	6.35
1.20	0.17	0.62	5.00	0.00	6.35	6.35
1.25	0.17	0.62	5.00	0.00	6.35	6.35

1.30	0.17	0.62	5.00	0.00	6.35	6.35
1.35	0.17	0.62	5.00	0.00	6.35	6.35
1.40	0.17	0.62	5.00	0.00	6.35	6.35
1.45	0.17	0.62	5.00	0.00	6.35	6.35
1.50	0.17	0.62	5.00	0.00	6.34	6.34
1.55	0.17	0.62	5.00	0.00	6.34	6.34
1.60	0.17	0.62	5.00	0.00	6.34	6.34
1.65	0.17	0.62	5.00	0.00	6.34	6.34
1.70	0.17	0.62	5.00	0.00	6.34	6.34
1.75	0.17	0.62	5.00	0.00	6.34	6.34
1.80	0.17	0.62	5.00	0.00	6.33	6.33
1.85	0.17	0.62	5.00	0.00	6.33	6.33
1.90	0.17	0.62	5.00	0.00	6.32	6.32
1.95	0.17	0.62	5.00	0.00	6.32	6.32
2.00	0.17	0.62	5.00	0.00	6.31	6.31
2.05	0.17	0.62	5.00	0.00	6.30	6.30
2.10	0.17	0.62	5.00	0.00	6.29	6.29
2.15	0.17	0.62	5.00	0.00	6.28	6.28
2.20	0.17	0.62	5.00	0.00	6.26	6.26
2.25	0.17	0.62	5.00	0.00	6.24	6.24
2.30	0.17	0.62	5.00	0.00	6.22	6.22
2.35	0.17	0.62	5.00	0.00	6.20	6.20
2.40	0.17	0.62	5.00	0.00	6.19	6.19
2.45	0.17	0.62	5.00	0.00	6.17	6.17
2.50	0.17	0.62	5.00	0.00	6.15	6.15
2.55	0.17	0.62	5.00	0.00	6.13	6.13
2.60	0.17	0.62	5.00	0.00	6.11	6.11
2.65	0.17	0.62	5.00	0.00	6.10	6.10
2.70	0.17	0.62	5.00	0.00	6.08	6.08
2.75	0.17	0.62	5.00	0.00	6.06	6.06
2.80	0.17	0.62	5.00	0.00	6.04	6.04
2.85	0.17	0.62	5.00	0.00	6.02	6.02
2.90	0.17	0.62	5.00	0.00	6.00	6.00
2.95	0.17	0.62	5.00	0.00	5.99	5.99
3.00	0.17	0.62	5.00	0.00	5.97	5.97
3.05	0.17	0.62	5.00	0.00	5.95	5.95
3.10	0.17	0.62	5.00	0.00	5.93	5.93
3.15	0.17	0.62	5.00	0.00	5.91	5.91
3.20	0.17	0.62	5.00	0.00	5.90	5.90
3.25	0.17	0.62	5.00	0.00	5.88	5.88
3.30	0.17	0.62	5.00	0.00	5.86	5.86
3.35	0.17	0.62	5.00	0.00	5.84	5.84
3.40	0.17	0.62	5.00	0.00	5.82	5.82
3.45	0.17	0.62	5.00	0.00	5.81	5.81
3.50	0.17	0.62	5.00	0.00	5.79	5.79
3.55	0.17	0.62	5.00	0.00	5.77	5.77
3.60	0.17	0.62	5.00	0.00	5.75	5.75
3.65	0.17	0.62	5.00	0.00	5.73	5.73
3.70	0.17	0.62	5.00	0.00	5.71	5.71
3.75	0.17	0.62	5.00	0.00	5.70	5.70

3.80	0.17	0.62	5.00	0.00	5.68	5.68
3.85	0.17	0.62	5.00	0.00	5.66	5.66
3.90	0.17	0.62	5.00	0.00	5.64	5.64
3.95	0.17	0.62	5.00	0.00	5.62	5.62
4.00	0.17	0.62	5.00	0.00	5.61	5.61
4.05	0.17	0.62	5.00	0.00	5.59	5.59
4.10	0.17	0.62	5.00	0.00	5.57	5.57
4.15	0.17	0.62	5.00	0.00	5.55	5.55
4.20	0.17	0.62	5.00	0.00	5.53	5.53
4.25	0.17	0.62	5.00	0.00	5.51	5.51
4.30	0.17	0.62	5.00	0.00	5.50	5.50
4.35	0.17	0.62	5.00	0.00	5.48	5.48
4.40	0.17	0.62	5.00	0.00	5.46	5.46
4.45	0.17	0.62	5.00	0.00	5.44	5.44
4.50	0.17	0.62	5.00	0.00	5.42	5.42
4.55	0.17	0.62	5.00	0.00	5.41	5.41
4.60	0.17	0.62	5.00	0.00	5.39	5.39
4.65	0.17	0.62	5.00	0.00	5.37	5.37
4.70	0.17	0.62	5.00	0.00	5.35	5.35
4.75	0.17	0.62	5.00	0.00	5.33	5.33
4.80	0.17	0.62	5.00	0.00	5.31	5.31
4.85	0.17	0.62	5.00	0.00	5.30	5.30
4.90	0.17	0.62	5.00	0.00	5.28	5.28
4.95	0.17	0.62	5.00	0.00	5.26	5.26
5.00	0.17	0.62	5.00	0.00	5.24	5.24
5.05	0.17	0.62	5.00	0.00	5.22	5.22
5.10	0.17	0.62	5.00	0.00	5.21	5.21
5.15	0.17	0.62	5.00	0.00	5.19	5.19
5.20	0.17	0.62	5.00	0.00	5.17	5.17
5.25	0.17	0.62	5.00	0.00	5.15	5.15
5.30	0.17	0.62	5.00	0.00	5.13	5.13
5.35	0.17	0.62	5.00	0.00	5.12	5.12
5.40	0.17	0.62	5.00	0.00	5.10	5.10
5.45	0.17	0.62	5.00	0.00	5.08	5.08
5.50	0.17	0.62	5.00	0.00	5.06	5.06
5.55	0.17	0.62	5.00	0.00	5.05	5.05
5.60	0.17	0.62	5.00	0.00	5.03	5.03
5.65	0.17	0.62	5.00	0.00	5.01	5.01
5.70	0.17	0.62	5.00	0.00	5.00	5.00
5.75	0.18	0.62	5.00	0.00	4.98	4.98
5.80	0.18	0.62	5.00	0.00	4.96	4.96
5.85	0.18	0.62	5.00	0.00	4.95	4.95
5.90	0.18	0.62	5.00	0.00	4.93	4.93
5.95	0.18	0.62	5.00	0.00	4.91	4.91
6.00	0.18	0.62	5.00	0.00	4.90	4.90
6.05	0.18	0.62	5.00	0.00	4.88	4.88
6.10	0.18	0.62	5.00	0.00	4.86	4.86
6.15	0.18	0.62	5.00	0.00	4.85	4.85
6.20	0.18	0.62	5.00	0.00	4.83	4.83
6.25	0.18	0.62	5.00	0.00	4.82	4.82

6.30	0.18	0.62	5.00	0.00	4.80	4.80
6.35	0.18	0.62	5.00	0.00	4.78	4.78
6.40	0.18	0.62	5.00	0.00	4.77	4.77
6.45	0.18	0.62	5.00	0.00	4.75	4.75
6.50	0.19	0.62	5.00	0.00	4.74	4.74
6.55	0.19	0.62	5.00	0.00	4.72	4.72
6.60	0.19	0.62	5.00	0.00	4.70	4.70
6.65	0.19	0.62	5.00	0.00	4.69	4.69
6.70	0.19	0.62	5.00	0.00	4.67	4.67
6.75	0.19	0.62	5.00	0.00	4.66	4.66
6.80	0.19	0.62	5.00	0.00	4.64	4.64
6.85	0.19	0.62	5.00	0.00	4.63	4.63
6.90	0.19	0.62	5.00	0.00	4.61	4.61
6.95	0.19	0.62	5.00	0.00	4.60	4.60
7.00	0.19	0.62	5.00	0.00	4.58	4.58
7.05	0.19	0.62	5.00	0.00	4.57	4.57
7.10	0.19	0.62	5.00	0.00	4.55	4.55
7.15	0.19	0.62	5.00	0.00	4.53	4.53
7.20	0.19	0.62	5.00	0.00	4.52	4.52
7.25	0.19	0.62	5.00	0.00	4.50	4.50
7.30	0.19	0.62	5.00	0.00	4.49	4.49
7.35	0.19	0.62	5.00	0.00	4.47	4.47
7.40	0.19	0.62	5.00	0.00	4.46	4.46
7.45	0.19	0.62	5.00	0.00	4.44	4.44
7.50	0.19	0.62	5.00	0.00	4.43	4.43
7.55	0.19	0.62	5.00	0.00	4.41	4.41
7.60	0.19	0.62	5.00	0.00	4.40	4.40
7.65	0.19	0.62	5.00	0.00	4.38	4.38
7.70	0.19	0.62	5.00	0.00	4.37	4.37
7.75	0.19	0.62	5.00	0.00	4.35	4.35
7.80	0.19	0.62	5.00	0.00	4.33	4.33
7.85	0.19	0.62	5.00	0.00	4.32	4.32
7.90	0.19	0.62	5.00	0.00	4.30	4.30
7.95	0.19	0.61	5.00	0.00	4.29	4.29
8.00	0.19	0.61	5.00	0.00	4.27	4.27
8.05	0.19	0.61	5.00	0.00	4.26	4.26
8.10	0.19	0.61	5.00	0.00	4.24	4.24
8.15	0.19	0.61	5.00	0.00	4.23	4.23
8.20	0.19	0.61	5.00	0.00	4.21	4.21
8.25	0.21	0.61	5.00	0.00	4.20	4.20
8.30	0.21	0.61	5.00	0.00	4.18	4.18
8.35	0.21	0.61	5.00	0.00	4.17	4.17
8.40	0.21	0.61	5.00	0.00	4.16	4.16
8.45	0.21	0.61	5.00	0.00	4.14	4.14
8.50	0.21	0.61	5.00	0.00	4.13	4.13
8.55	0.21	0.61	5.00	0.00	4.12	4.12
8.60	0.21	0.61	5.00	0.00	4.10	4.10
8.65	0.21	0.61	5.00	0.00	4.09	4.09
8.70	0.21	0.61	5.00	0.00	4.08	4.08
8.75	0.21	0.61	5.00	0.00	4.07	4.07

8.80	0.21	0.61	5.00	0.00	4.05	4.05
8.85	0.21	0.61	5.00	0.00	4.04	4.04
8.90	0.21	0.61	5.00	0.00	4.03	4.03
8.95	0.21	0.61	5.00	0.00	4.01	4.01
9.00	0.21	0.61	5.00	0.00	4.00	4.00
9.05	0.21	0.61	5.00	0.00	3.99	3.99
9.10	0.21	0.61	5.00	0.00	3.97	3.97
9.15	0.21	0.61	5.00	0.00	3.96	3.96
9.20	0.21	0.61	5.00	0.00	3.95	3.95
9.25	0.21	0.61	5.00	0.00	3.94	3.94
9.30	0.21	0.61	5.00	0.00	3.92	3.92
9.35	0.21	0.61	5.00	0.00	3.91	3.91
9.40	0.21	0.61	5.00	0.00	3.90	3.90
9.45	0.21	0.61	5.00	0.00	3.88	3.88
9.50	0.21	0.61	5.00	0.00	3.87	3.87
9.55	0.21	0.61	5.00	0.00	3.86	3.86
9.60	0.21	0.61	5.00	0.00	3.84	3.84
9.65	0.21	0.61	5.00	0.00	3.83	3.83
9.70	0.21	0.61	5.00	0.00	3.82	3.82
9.75	0.21	0.61	5.00	0.00	3.81	3.81
9.80	0.21	0.61	5.00	0.00	3.79	3.79
9.85	0.21	0.61	5.00	0.00	3.78	3.78
9.90	0.22	0.61	5.00	0.00	3.77	3.77
9.95	0.22	0.61	5.00	0.00	3.75	3.75
10.00	0.22	0.61	5.00	0.00	3.74	3.74
10.05	0.22	0.61	5.00	0.00	3.73	3.73
10.10	0.21	0.61	5.00	0.00	3.72	3.72
10.15	0.21	0.61	5.00	0.00	3.70	3.70
10.20	0.21	0.61	5.00	0.00	3.69	3.69
10.25	0.21	0.61	5.00	0.00	3.68	3.68
10.30	0.21	0.61	5.00	0.00	3.66	3.66
10.35	0.21	0.61	5.00	0.00	3.66	3.66
10.40	0.22	0.61	5.00	0.00	3.65	3.65
10.45	0.22	0.61	5.00	0.00	3.64	3.64
10.50	0.22	0.61	5.00	0.00	3.63	3.63
10.55	0.22	0.61	5.00	0.00	3.62	3.62
10.60	0.22	0.61	5.00	0.00	3.61	3.61
10.65	0.22	0.61	5.00	0.00	3.60	3.60
10.70	0.22	0.61	5.00	0.00	3.60	3.60
10.75	0.22	0.61	5.00	0.00	3.59	3.59
10.80	0.23	0.61	5.00	0.00	3.58	3.58
10.85	0.23	0.61	5.00	0.00	3.57	3.57
10.90	0.23	0.61	5.00	0.00	3.56	3.56
10.95	0.23	0.61	5.00	0.00	3.55	3.55
11.00	0.23	0.61	5.00	0.00	3.55	3.55
11.05	0.23	0.61	5.00	0.00	3.54	3.54
11.10	0.23	0.61	5.00	0.00	3.53	3.53
11.15	0.23	0.61	5.00	0.00	3.52	3.52
11.20	0.24	0.61	5.00	0.00	3.51	3.51
11.25	0.24	0.61	5.00	0.00	3.50	3.50

11.30	0.24	0.61	5.00	0.00	3.50	3.50
11.35	0.24	0.61	5.00	0.00	3.49	3.49
11.40	0.24	0.61	5.00	0.00	3.48	3.48
11.45	0.24	0.61	5.00	0.00	3.47	3.47
11.50	0.24	0.61	5.00	0.00	3.47	3.47
11.55	0.25	0.61	5.00	0.00	3.46	3.46
11.60	0.25	0.61	5.00	0.00	3.45	3.45
11.65	0.25	0.61	5.00	0.00	3.44	3.44
11.70	0.25	0.61	5.00	0.00	3.43	3.43
11.75	0.25	0.61	5.00	0.00	3.43	3.43
11.80	0.25	0.61	5.00	0.00	3.42	3.42
11.85	0.26	0.61	5.00	0.00	3.41	3.41
11.90	0.26	0.61	5.00	0.00	3.40	3.40
11.95	0.26	0.61	5.00	0.00	3.40	3.40
12.00	0.26	0.61	5.00	0.00	3.39	3.39
12.05	0.26	0.61	5.00	0.00	3.38	3.38
12.10	0.26	0.61	5.00	0.00	3.37	3.37
12.15	0.26	0.61	5.00	0.00	3.37	3.37
12.20	0.27	0.61	5.00	0.00	3.36	3.36
12.25	0.27	0.61	5.00	0.00	3.35	3.35
12.30	0.27	0.61	5.00	0.00	3.34	3.34
12.35	0.27	0.61	5.00	0.00	3.34	3.34
12.40	0.27	0.61	5.00	0.00	3.33	3.33
12.45	0.27	0.61	5.00	0.00	3.32	3.32
12.50	0.28	0.61	5.00	0.00	3.32	3.32
12.55	0.28	0.61	5.00	0.00	3.31	3.31
12.60	0.28	0.61	5.00	0.00	3.30	3.30
12.65	0.28	0.61	5.00	0.00	3.30	3.30
12.70	0.28	0.61	5.00	0.00	3.29	3.29
12.75	0.29	0.61	5.00	0.00	3.28	3.28
12.80	0.29	0.61	5.00	0.00	3.27	3.27
12.85	0.29	0.61	5.00	0.00	3.27	3.27
12.90	0.29	0.61	5.00	0.00	3.26	3.26
12.95	0.29	0.61	5.00	0.00	3.25	3.25
13.00	0.30	0.61	5.00	0.00	3.25	3.25
13.05	0.30	0.61	5.00	0.00	3.24	3.24
13.10	0.30	0.61	5.00	0.00	3.23	3.23
13.15	0.30	0.61	5.00	0.00	3.23	3.23
13.20	0.30	0.61	5.00	0.00	3.22	3.22
13.25	0.31	0.61	5.00	0.00	3.21	3.21
13.30	0.31	0.61	5.00	0.00	3.21	3.21
13.35	0.31	0.61	5.00	0.00	3.20	3.20
13.40	0.31	0.61	5.00	0.00	3.19	3.19
13.45	0.31	0.61	5.00	0.00	3.19	3.19
13.50	0.32	0.61	5.00	0.00	3.18	3.18
13.55	0.32	0.61	5.00	0.00	3.17	3.17
13.60	0.32	0.61	5.00	0.00	3.17	3.17
13.65	0.32	0.61	5.00	0.00	3.16	3.16
13.70	0.33	0.61	5.00	0.00	3.16	3.16
13.75	0.33	0.61	5.00	0.00	3.15	3.15

13.80	0.33	0.61	5.00	0.00	3.14	3.14
13.85	0.33	0.61	5.00	0.00	3.14	3.14
13.90	0.34	0.61	5.00	0.00	3.13	3.13
13.95	0.34	0.61	5.00	0.00	3.12	3.12
14.00	0.34	0.61	5.00	0.00	3.12	3.12
14.05	0.35	0.61	5.00	0.00	3.11	3.11
14.10	0.35	0.61	5.00	0.00	3.11	3.11
14.15	0.35	0.61	5.00	0.00	3.10	3.10
14.20	0.35	0.61	5.00	0.00	3.09	3.09
14.25	0.36	0.61	5.00	0.00	3.09	3.09
14.30	0.36	0.61	5.00	0.00	3.08	3.08
14.35	0.36	0.61	5.00	0.00	3.08	3.08
14.40	0.37	0.61	5.00	0.00	3.07	3.07
14.45	0.37	0.61	5.00	0.00	3.06	3.06
14.50	0.38	0.61	5.00	0.00	3.06	3.06
14.55	0.38	0.61	5.00	0.00	3.05	3.05
14.60	0.39	0.61	5.00	0.00	3.05	3.05
14.65	0.39	0.61	5.00	0.00	3.04	3.04
14.70	0.40	0.61	5.00	0.00	3.03	3.03
14.75	0.40	0.61	5.00	0.00	3.03	3.03
14.80	0.52	0.60	5.00	0.00	3.02	3.02
14.85	0.52	0.60	5.00	0.00	3.02	3.02
14.90	0.52	0.60	5.00	0.00	3.01	3.01
14.95	0.52	0.60	5.00	0.00	3.01	3.01
15.00	0.52	0.60	5.00	0.00	3.01	3.01
15.05	0.52	0.60	5.00	0.00	3.00	3.00
15.10	0.52	0.60	5.00	0.00	3.00	3.00
15.15	0.52	0.60	5.00	0.00	2.99	2.99
15.20	0.52	0.60	5.00	0.00	2.99	2.99
15.25	0.52	0.60	5.00	0.00	2.98	2.98
15.30	0.52	0.60	5.00	0.00	2.98	2.98
15.35	0.52	0.60	5.00	0.00	2.97	2.97
15.40	0.52	0.60	5.00	0.00	2.97	2.97
15.45	0.52	0.60	5.00	0.00	2.96	2.96
15.50	0.52	0.60	5.00	0.00	2.96	2.96
15.55	0.52	0.60	5.00	0.00	2.95	2.95
15.60	0.52	0.60	5.00	0.00	2.95	2.95
15.65	0.52	0.60	5.00	0.00	2.94	2.94
15.70	0.52	0.60	5.00	0.00	2.94	2.94
15.75	0.52	0.60	5.00	0.00	2.93	2.93
15.80	0.52	0.60	5.00	0.00	2.93	2.93
15.85	0.52	0.60	5.00	0.00	2.92	2.92
15.90	0.52	0.60	5.00	0.00	2.91	2.91
15.95	0.52	0.60	5.00	0.00	2.91	2.91
16.00	0.52	0.60	5.00	0.00	2.90	2.90
16.05	0.52	0.60	5.00	0.00	2.90	2.90
16.10	0.52	0.60	5.00	0.00	2.89	2.89
16.15	0.52	0.60	5.00	0.00	2.88	2.88
16.20	0.52	0.60	5.00	0.00	2.88	2.88
16.25	0.51	0.60	5.00	0.00	2.87	2.87

16.30	0.48	0.60	5.00	0.00	2.86	2.86
16.35	0.47	0.60	5.00	0.00	2.86	2.86
16.40	0.45	0.60	5.00	0.00	2.85	2.85
16.45	0.44	0.60	5.00	0.00	2.84	2.84
16.50	0.44	0.60	5.00	0.00	2.83	2.83
16.55	0.43	0.60	5.00	0.00	2.83	2.83
16.60	0.42	0.60	5.00	0.00	2.82	2.82
16.65	0.42	0.60	5.00	0.00	2.81	2.81
16.70	0.41	0.60	5.00	0.00	2.81	2.81
16.75	0.41	0.60	5.00	0.00	2.80	2.80
16.80	0.40	0.60	5.00	0.00	2.79	2.79
16.85	0.40	0.60	5.00	0.00	2.78	2.78
16.90	0.40	0.60	5.00	0.00	2.78	2.78
16.95	0.39	0.60	5.00	0.00	2.77	2.77
17.00	0.39	0.60	5.00	0.00	2.76	2.76
17.05	0.39	0.60	5.00	0.00	2.75	2.75
17.10	0.38	0.60	5.00	0.00	2.75	2.75
17.15	0.38	0.60	5.00	0.00	2.74	2.74
17.20	0.38	0.60	5.00	0.00	2.73	2.73
17.25	0.37	0.60	5.00	0.00	2.72	2.72
17.30	0.37	0.60	5.00	0.00	2.72	2.72
17.35	0.37	0.60	5.00	0.00	2.71	2.71
17.40	0.37	0.60	5.00	0.00	2.70	2.70
17.45	0.36	0.60	5.00	0.00	2.69	2.69
17.50	0.36	0.60	5.00	0.00	2.69	2.69
17.55	0.36	0.60	5.00	0.00	2.68	2.68
17.60	0.36	0.60	5.00	0.00	2.67	2.67
17.65	0.36	0.60	5.00	0.00	2.66	2.66
17.70	0.35	0.60	5.00	0.00	2.66	2.66
17.75	0.35	0.60	5.00	0.00	2.65	2.65
17.80	0.35	0.60	5.00	0.00	2.64	2.64
17.85	0.35	0.60	5.00	0.00	2.63	2.63
17.90	0.35	0.60	5.00	0.00	2.62	2.62
17.95	0.34	0.60	5.00	0.00	2.62	2.62
18.00	0.34	0.60	5.00	0.00	2.61	2.61
18.05	0.34	0.60	5.00	0.00	2.60	2.60
18.10	0.34	0.60	5.00	0.00	2.59	2.59
18.15	0.34	0.60	5.00	0.00	2.58	2.58
18.20	0.33	0.60	5.00	0.00	2.58	2.58
18.25	0.33	0.60	5.00	0.00	2.57	2.57
18.30	0.33	0.60	5.00	0.00	2.56	2.56
18.35	0.33	0.60	5.00	0.00	2.55	2.55
18.40	0.33	0.60	5.00	0.00	2.54	2.54
18.45	0.33	0.60	5.00	0.00	2.53	2.53
18.50	0.32	0.60	5.00	0.00	2.53	2.53
18.55	0.32	0.60	5.00	0.00	2.52	2.52
18.60	0.32	0.60	5.00	0.00	2.51	2.51
18.65	0.32	0.60	5.00	0.00	2.50	2.50
18.70	0.32	0.60	5.00	0.00	2.49	2.49
18.75	0.32	0.60	5.00	0.00	2.48	2.48

18.80	0.31	0.60	5.00	0.00	2.48	2.48
18.85	0.31	0.60	5.00	0.00	2.47	2.47
18.90	0.31	0.60	5.00	0.00	2.46	2.46
18.95	0.31	0.60	5.00	0.00	2.45	2.45
19.00	0.31	0.60	5.00	0.00	2.44	2.44
19.05	0.31	0.60	5.00	0.00	2.43	2.43
19.10	0.31	0.60	5.00	0.00	2.42	2.42
19.15	0.30	0.60	5.00	0.00	2.42	2.42
19.20	0.30	0.60	5.00	0.00	2.41	2.41
19.25	0.30	0.60	5.00	0.00	2.40	2.40
19.30	0.30	0.60	5.00	0.00	2.39	2.39
19.35	0.30	0.60	5.00	0.00	2.38	2.38
19.40	0.30	0.60	5.00	0.00	2.37	2.37
19.45	0.30	0.60	5.00	0.00	2.36	2.36
19.50	0.29	0.60	5.00	0.00	2.35	2.35
19.55	0.29	0.60	5.00	0.00	2.34	2.34
19.60	0.29	0.60	5.00	0.00	2.33	2.33
19.65	0.29	0.60	5.00	0.00	2.33	2.33
19.70	0.29	0.60	5.00	0.00	2.32	2.32
19.75	0.29	0.60	5.00	0.00	2.31	2.31
19.80	0.29	0.60	5.00	0.00	2.30	2.30
19.85	0.29	0.60	5.00	0.00	2.29	2.29
19.90	0.29	0.60	5.00	0.00	2.28	2.28
19.95	0.29	0.60	5.00	0.00	2.27	2.27
20.00	0.29	0.60	5.00	0.00	2.26	2.26
20.05	0.29	0.60	5.00	0.00	2.25	2.25
20.10	0.29	0.60	5.00	0.00	2.24	2.24
20.15	0.29	0.60	5.00	0.00	2.23	2.23
20.20	0.29	0.60	5.00	0.00	2.22	2.22
20.25	0.29	0.60	5.00	0.00	2.22	2.22
20.30	0.29	0.60	5.00	0.00	2.21	2.21
20.35	0.29	0.60	5.00	0.00	2.20	2.20
20.40	0.29	0.60	5.00	0.00	2.19	2.19
20.45	0.29	0.60	5.00	0.00	2.18	2.18
20.50	0.29	0.60	5.00	0.00	2.17	2.17
20.55	0.29	0.60	5.00	0.00	2.16	2.16
20.60	0.29	0.60	5.00	0.00	2.15	2.15
20.65	0.28	0.60	5.00	0.00	2.14	2.14
20.70	0.28	0.60	5.00	0.00	2.13	2.13
20.75	0.28	0.60	5.00	0.00	2.12	2.12
20.80	0.28	0.60	5.00	0.00	2.11	2.11
20.85	0.28	0.60	5.00	0.00	2.10	2.10
20.90	0.28	0.60	5.00	0.00	2.09	2.09
20.95	0.28	0.60	5.00	0.00	2.09	2.09
21.00	0.28	0.60	5.00	0.00	2.08	2.08
21.05	0.28	0.60	5.00	0.00	2.07	2.07
21.10	0.28	0.60	5.00	0.00	2.06	2.06
21.15	0.28	0.60	5.00	0.00	2.05	2.05
21.20	0.28	0.60	5.00	0.00	2.04	2.04
21.25	0.28	0.60	5.00	0.00	2.03	2.03

21.30	0.28	0.60	5.00	0.00	2.02	2.02
21.35	0.28	0.60	5.00	0.00	2.01	2.01
21.40	0.28	0.60	5.00	0.00	2.00	2.00
21.45	0.28	0.60	5.00	0.00	1.99	1.99
21.50	0.28	0.60	5.00	0.00	1.98	1.98
21.55	0.27	0.60	5.00	0.00	1.97	1.97
21.60	0.27	0.60	5.00	0.00	1.96	1.96
21.65	0.27	0.59	5.00	0.00	1.95	1.95
21.70	0.27	0.59	5.00	0.00	1.94	1.94
21.75	0.27	0.59	5.00	0.00	1.93	1.93
21.80	0.27	0.59	5.00	0.00	1.92	1.92
21.85	0.27	0.59	5.00	0.00	1.91	1.91
21.90	0.27	0.59	5.00	0.00	1.90	1.90
21.95	0.27	0.59	5.00	0.00	1.89	1.89
22.00	0.27	0.59	5.00	0.00	1.88	1.88
22.05	0.27	0.59	5.00	0.00	1.87	1.87
22.10	0.27	0.59	5.00	0.00	1.86	1.86
22.15	0.27	0.59	5.00	0.00	1.86	1.86
22.20	0.27	0.59	5.00	0.00	1.85	1.85
22.25	0.27	0.59	5.00	0.00	1.85	1.85
22.30	0.27	0.59	5.00	0.00	1.84	1.84
22.35	0.27	0.59	5.00	0.00	1.84	1.84
22.40	0.27	0.59	5.00	0.00	1.83	1.83
22.45	0.27	0.59	5.00	0.00	1.83	1.83
22.50	0.27	0.59	5.00	0.00	1.82	1.82
22.55	0.27	0.59	5.00	0.00	1.82	1.82
22.60	0.27	0.59	5.00	0.00	1.81	1.81
22.65	0.27	0.59	5.00	0.00	1.81	1.81
22.70	0.27	0.59	5.00	0.00	1.80	1.80
22.75	0.27	0.59	5.00	0.00	1.79	1.79
22.80	0.27	0.59	5.00	0.00	1.79	1.79
22.85	0.27	0.59	5.00	0.00	1.78	1.78
22.90	0.27	0.59	5.00	0.00	1.78	1.78
22.95	0.27	0.59	5.00	0.00	1.77	1.77
23.00	0.27	0.59	5.00	0.00	1.77	1.77
23.05	0.27	0.59	5.00	0.00	1.76	1.76
23.10	0.27	0.59	5.00	0.00	1.76	1.76
23.15	0.27	0.59	5.00	0.00	1.75	1.75
23.20	0.27	0.59	5.00	0.00	1.74	1.74
23.25	0.27	0.59	5.00	0.00	1.74	1.74
23.30	0.27	0.59	5.00	0.00	1.73	1.73
23.35	0.27	0.59	5.00	0.00	1.73	1.73
23.40	0.27	0.59	5.00	0.00	1.72	1.72
23.45	0.27	0.59	5.00	0.00	1.71	1.71
23.50	0.27	0.59	5.00	0.00	1.71	1.71
23.55	0.27	0.59	5.00	0.00	1.70	1.70
23.60	0.27	0.59	5.00	0.00	1.70	1.70
23.65	0.27	0.59	5.00	0.00	1.69	1.69
23.70	0.27	0.59	5.00	0.00	1.68	1.68
23.75	0.27	0.59	5.00	0.00	1.68	1.68

23.80	0.27	0.59	5.00	0.00	1.67	1.67
23.85	0.27	0.59	5.00	0.00	1.67	1.67
23.90	0.27	0.59	5.00	0.00	1.66	1.66
23.95	0.27	0.59	5.00	0.00	1.65	1.65
24.00	0.27	0.59	5.00	0.00	1.65	1.65
24.05	0.27	0.59	5.00	0.00	1.64	1.64
24.10	0.27	0.59	5.00	0.00	1.63	1.63
24.15	0.27	0.59	5.00	0.00	1.63	1.63
24.20	0.27	0.59	5.00	0.00	1.62	1.62
24.25	0.27	0.59	5.00	0.00	1.61	1.61
24.30	0.27	0.59	5.00	0.00	1.61	1.61
24.35	0.27	0.59	5.00	0.00	1.60	1.60
24.40	0.27	0.59	5.00	0.00	1.60	1.60
24.45	0.27	0.59	5.00	0.00	1.59	1.59
24.50	0.27	0.59	5.00	0.00	1.58	1.58
24.55	0.27	0.59	5.00	0.00	1.58	1.58
24.60	0.27	0.59	5.00	0.00	1.57	1.57
24.65	0.27	0.59	5.00	0.00	1.56	1.56
24.70	0.27	0.59	5.00	0.00	1.55	1.55
24.75	0.27	0.59	5.00	0.00	1.55	1.55
24.80	0.27	0.59	5.00	0.00	1.54	1.54
24.85	0.27	0.59	5.00	0.00	1.53	1.53
24.90	0.27	0.59	5.00	0.00	1.53	1.53
24.95	0.27	0.59	5.00	0.00	1.52	1.52
25.00	0.27	0.59	5.00	0.00	1.51	1.51
25.05	0.27	0.59	5.00	0.00	1.51	1.51
25.10	0.27	0.59	5.00	0.00	1.50	1.50
25.15	0.27	0.59	5.00	0.00	1.49	1.49
25.20	0.28	0.59	5.00	0.00	1.49	1.49
25.25	0.28	0.59	5.00	0.00	1.48	1.48
25.30	0.28	0.59	5.00	0.00	1.47	1.47
25.35	0.28	0.59	5.00	0.00	1.47	1.47
25.40	0.29	0.59	5.00	0.00	1.46	1.46
25.45	0.29	0.59	5.00	0.00	1.45	1.45
25.50	0.29	0.59	5.00	0.00	1.45	1.45
25.55	0.29	0.59	5.00	0.00	1.44	1.44
25.60	0.30	0.59	5.00	0.00	1.43	1.43
25.65	0.30	0.59	5.00	0.00	1.43	1.43
25.70	0.30	0.59	5.00	0.00	1.42	1.42
25.75	0.30	0.59	5.00	0.00	1.42	1.42
25.80	0.31	0.59	5.00	0.00	1.41	1.41
25.85	0.31	0.59	5.00	0.00	1.41	1.41
25.90	0.31	0.59	5.00	0.00	1.40	1.40
25.95	0.32	0.59	5.00	0.00	1.40	1.40
26.00	0.32	0.59	5.00	0.00	1.39	1.39
26.05	0.32	0.59	5.00	0.00	1.38	1.38
26.10	0.33	0.59	5.00	0.00	1.38	1.38
26.15	0.33	0.59	5.00	0.00	1.37	1.37
26.20	0.33	0.59	5.00	0.00	1.37	1.37
26.25	0.34	0.59	5.00	0.00	1.36	1.36

26.30	0.34	0.59	5.00	0.00	1.36	1.36
26.35	0.34	0.59	5.00	0.00	1.35	1.35
26.40	0.35	0.59	5.00	0.00	1.35	1.35
26.45	0.35	0.59	5.00	0.00	1.35	1.35
26.50	0.35	0.59	5.00	0.00	1.34	1.34
26.55	0.36	0.59	5.00	0.00	1.34	1.34
26.60	0.36	0.59	5.00	0.00	1.33	1.33
26.65	0.37	0.59	5.00	0.00	1.33	1.33
26.70	0.37	0.59	5.00	0.00	1.32	1.32
26.75	0.38	0.59	5.00	0.00	1.32	1.32
26.80	0.38	0.59	5.00	0.00	1.31	1.31
26.85	0.39	0.59	5.00	0.00	1.31	1.31
26.90	0.39	0.59	5.00	0.00	1.31	1.31
26.95	0.40	0.59	5.00	0.00	1.30	1.30
27.00	0.41	0.59	5.00	0.00	1.30	1.30
27.05	0.42	0.59	5.00	0.00	1.29	1.29
27.10	0.43	0.59	5.00	0.00	1.29	1.29
27.15	0.44	0.59	5.00	0.00	1.28	1.28
27.20	0.47	0.59	5.00	0.00	1.28	1.28
27.25	0.51	0.59	5.00	0.00	1.28	1.28
27.30	0.52	0.59	5.00	0.00	1.27	1.27
27.35	0.52	0.59	5.00	0.00	1.27	1.27
27.40	0.52	0.59	5.00	0.00	1.27	1.27
27.45	0.52	0.59	5.00	0.00	1.26	1.26
27.50	0.52	0.59	5.00	0.00	1.26	1.26
27.55	0.52	0.59	5.00	0.00	1.25	1.25
27.60	0.52	0.59	5.00	0.00	1.25	1.25
27.65	0.52	0.59	5.00	0.00	1.25	1.25
27.70	0.52	0.59	5.00	0.00	1.24	1.24
27.75	0.52	0.59	5.00	0.00	1.24	1.24
27.80	0.52	0.59	5.00	0.00	1.24	1.24
27.85	0.52	0.59	5.00	0.00	1.23	1.23
27.90	0.52	0.59	5.00	0.00	1.23	1.23
27.95	0.52	0.59	5.00	0.00	1.23	1.23
28.00	0.52	0.59	5.00	0.00	1.22	1.22
28.05	0.52	0.59	5.00	0.00	1.22	1.22
28.10	0.52	0.59	5.00	0.00	1.22	1.22
28.15	0.52	0.59	5.00	0.00	1.22	1.22
28.20	0.52	0.59	5.00	0.00	1.21	1.21
28.25	0.52	0.59	5.00	0.00	1.21	1.21
28.30	0.52	0.59	5.00	0.00	1.21	1.21
28.35	0.52	0.59	5.00	0.00	1.21	1.21
28.40	0.52	0.59	5.00	0.00	1.20	1.20
28.45	0.52	0.59	5.00	0.00	1.20	1.20
28.50	0.52	0.58	5.00	0.00	1.20	1.20
28.55	0.52	0.58	5.00	0.00	1.20	1.20
28.60	0.52	0.58	5.00	0.00	1.19	1.19
28.65	0.52	0.58	5.00	0.00	1.19	1.19
28.70	0.52	0.58	5.00	0.00	1.19	1.19
28.75	0.52	0.58	5.00	0.00	1.19	1.19

28.80	0.52	0.58	5.00	0.00	1.18	1.18
28.85	0.52	0.58	5.00	0.00	1.18	1.18
28.90	0.52	0.58	5.00	0.00	1.18	1.18
28.95	0.52	0.58	5.00	0.00	1.18	1.18
29.00	0.52	0.58	5.00	0.00	1.17	1.17
29.05	0.52	0.58	5.00	0.00	1.17	1.17
29.10	0.52	0.58	5.00	0.00	1.17	1.17
29.15	0.52	0.58	5.00	0.00	1.17	1.17
29.20	0.52	0.58	5.00	0.00	1.17	1.17
29.25	0.52	0.58	5.00	0.00	1.16	1.16
29.30	0.52	0.58	5.00	0.00	1.16	1.16
29.35	0.52	0.58	5.00	0.00	1.16	1.16
29.40	0.52	0.58	5.00	0.00	1.16	1.16
29.45	0.52	0.58	5.00	0.00	1.16	1.16
29.50	0.52	0.58	5.00	0.00	1.15	1.15
29.55	0.52	0.58	5.00	0.00	1.15	1.15
29.60	0.52	0.58	5.00	0.00	1.15	1.15
29.65	0.52	0.58	5.00	0.00	1.15	1.15
29.70	0.52	0.58	5.00	0.00	1.15	1.15
29.75	0.52	0.58	5.00	0.00	1.14	1.14
29.80	0.52	0.58	5.00	0.00	1.14	1.14
29.85	0.52	0.58	5.00	0.00	1.14	1.14
29.90	0.52	0.58	5.00	0.00	1.14	1.14
29.95	0.52	0.58	5.00	0.00	1.14	1.14
30.00	0.52	0.58	5.00	0.00	1.14	1.14
30.05	0.52	0.58	5.00	0.00	1.13	1.13
30.10	0.52	0.58	5.00	0.00	1.13	1.13
30.15	0.52	0.58	5.00	0.00	1.13	1.13
30.20	0.52	0.58	5.00	0.00	1.13	1.13
30.25	0.52	0.58	5.00	0.00	1.13	1.13
30.30	0.52	0.58	5.00	0.00	1.13	1.13
30.35	0.52	0.58	5.00	0.00	1.12	1.12
30.40	0.52	0.58	5.00	0.00	1.12	1.12
30.45	0.52	0.58	5.00	0.00	1.12	1.12
30.50	0.52	0.58	5.00	0.00	1.12	1.12
30.55	0.52	0.58	5.00	0.00	1.12	1.12
30.60	0.52	0.58	5.00	0.00	1.11	1.11
30.65	0.52	0.58	5.00	0.00	1.11	1.11
30.70	0.52	0.58	5.00	0.00	1.11	1.11
30.75	0.52	0.58	5.00	0.00	1.11	1.11
30.80	0.52	0.58	5.00	0.00	1.11	1.11
30.85	0.52	0.58	5.00	0.00	1.10	1.10
30.90	0.52	0.58	5.00	0.00	1.10	1.10
30.95	0.52	0.58	5.00	0.00	1.10	1.10
31.00	0.52	0.58	5.00	0.00	1.10	1.10
31.05	0.52	0.58	5.00	0.00	1.10	1.10
31.10	0.52	0.58	5.00	0.00	1.09	1.09
31.15	0.52	0.58	5.00	0.00	1.09	1.09
31.20	0.52	0.58	5.00	0.00	1.09	1.09
31.25	0.52	0.58	5.00	0.00	1.09	1.09

31.30	0.52	0.58	5.00	0.00	1.08	1.08
31.35	0.52	0.58	5.00	0.00	1.08	1.08
31.40	0.52	0.58	5.00	0.00	1.08	1.08
31.45	0.52	0.58	5.00	0.00	1.08	1.08
31.50	0.52	0.58	5.00	0.00	1.07	1.07
31.55	0.52	0.57	5.00	0.00	1.07	1.07
31.60	0.52	0.57	5.00	0.00	1.07	1.07
31.65	0.52	0.57	5.00	0.00	1.07	1.07
31.70	0.52	0.57	5.00	0.00	1.06	1.06
31.75	0.52	0.57	5.00	0.00	1.06	1.06
31.80	0.52	0.57	5.00	0.00	1.06	1.06
31.85	0.52	0.57	5.00	0.00	1.06	1.06
31.90	0.52	0.57	5.00	0.00	1.05	1.05
31.95	0.52	0.57	5.00	0.00	1.05	1.05
32.00	0.52	0.57	5.00	0.00	1.05	1.05
32.05	0.52	0.57	5.00	0.00	1.04	1.04
32.10	0.52	0.57	5.00	0.00	1.04	1.04
32.15	0.52	0.57	5.00	0.00	1.04	1.04
32.20	0.52	0.57	5.00	0.00	1.04	1.04
32.25	0.52	0.57	5.00	0.00	1.03	1.03
32.30	0.52	0.57	5.00	0.00	1.03	1.03
32.35	0.52	0.57	5.00	0.00	1.03	1.03
32.40	0.52	0.57	5.00	0.00	1.02	1.02
32.45	0.52	0.57	5.00	0.00	1.02	1.02
32.50	0.52	0.57	5.00	0.00	1.02	1.02
32.55	0.52	0.57	5.00	0.00	1.01	1.01
32.60	0.52	0.57	5.00	0.00	1.01	1.01
32.65	0.52	0.57	5.00	0.00	1.01	1.01
32.70	0.52	0.57	5.00	0.00	1.00	1.00
32.75	0.52	0.57	5.00	0.00	1.00	1.00
32.80	0.51	0.57	5.00	0.00	1.00	1.00
32.85	0.51	0.57	5.00	0.00	0.99	0.99
32.90	0.51	0.57	5.00	0.00	0.99	0.99
32.95	0.51	0.57	5.00	0.00	0.99	0.99
33.00	0.51	0.57	5.00	0.00	0.98	0.98
33.05	0.51	0.57	5.00	0.00	0.98	0.98
33.10	0.51	0.57	5.00	0.00	0.98	0.98
33.15	0.51	0.57	5.00	0.00	0.97	0.97
33.20	0.51	0.57	5.00	0.00	0.97	0.97
33.25	0.51	0.57	5.00	0.00	0.96	0.96
33.30	0.51	0.57	5.00	0.00	0.96	0.96
33.35	0.51	0.57	5.00	0.00	0.96	0.96
33.40	0.51	0.57	5.00	0.00	0.95	0.95
33.45	0.51	0.57	5.00	0.00	0.95	0.95
33.50	0.51	0.56	5.00	0.00	0.95	0.95
33.55	0.51	0.56	5.00	0.00	0.94	0.94
33.60	0.51	0.56	5.00	0.00	0.94	0.94
33.65	0.51	0.56	5.00	0.00	0.93	0.93
33.70	0.51	0.56	5.00	0.00	0.93	0.93
33.75	0.51	0.56	5.00	0.00	0.92	0.92

33.80	0.51	0.56	5.00	0.00	0.92	0.92
33.85	0.51	0.56	5.00	0.00	0.92	0.92
33.90	0.51	0.56	5.00	0.00	0.91	0.91
33.95	0.51	0.56	5.00	0.00	0.91	0.91
34.00	0.51	0.56	5.00	0.00	0.90	0.90
34.05	0.51	0.56	5.00	0.00	0.90	0.90
34.10	0.51	0.56	5.00	0.00	0.89	0.89
34.15	0.51	0.56	5.00	0.00	0.89	0.89
34.20	0.51	0.56	5.00	0.00	0.88	0.88
34.25	0.51	0.56	5.00	0.00	0.88	0.88
34.30	0.51	0.56	5.00	0.00	0.87	0.87
34.35	0.51	0.56	5.00	0.00	0.87	0.87
34.40	0.51	0.56	5.00	0.00	0.86	0.86
34.45	0.51	0.56	5.00	0.00	0.86	0.86
34.50	0.51	0.56	5.00	0.00	0.85	0.85
34.55	0.51	0.56	5.00	0.00	0.85	0.85
34.60	0.51	0.56	5.00	0.00	0.84	0.84
34.65	0.51	0.56	5.00	0.00	0.84	0.84
34.70	0.51	0.56	5.00	0.00	0.83	0.83
34.75	0.51	0.56	5.00	0.00	0.83	0.83
34.80	0.51	0.56	5.00	0.00	0.82	0.82
34.85	0.49	0.56	5.00	0.00	0.82	0.82
34.90	0.46	0.56	5.00	0.00	0.81	0.81
34.95	0.45	0.56	5.00	0.00	0.80	0.80
35.00	0.43	0.56	5.00	0.00	0.80	0.80
35.05	0.43	0.56	5.00	0.00	0.79	0.79
35.10	0.43	0.56	5.00	0.00	0.79	0.79
35.15	0.44	0.56	5.00	0.00	0.78	0.78
35.20	0.44	0.56	5.00	0.00	0.78	0.78
35.25	0.45	0.56	5.00	0.00	0.77	0.77
35.30	0.46	0.56	5.00	0.00	0.76	0.76
35.35	0.47	0.56	5.00	0.00	0.76	0.76
35.40	0.49	0.56	5.00	0.00	0.75	0.75
35.45	0.51	0.55	5.00	0.00	0.75	0.75
35.50	0.51	0.55	5.00	0.00	0.74	0.74
35.55	0.51	0.55	5.00	0.00	0.74	0.74
35.60	0.51	0.55	5.00	0.00	0.73	0.73
35.65	0.51	0.55	5.00	0.00	0.72	0.72
35.70	0.51	0.55	5.00	0.00	0.72	0.72
35.75	0.51	0.55	5.00	0.00	0.71	0.71
35.80	0.51	0.55	5.00	0.00	0.71	0.71
35.85	0.51	0.55	5.00	0.00	0.70	0.70
35.90	0.51	0.55	5.00	0.00	0.70	0.70
35.95	0.51	0.55	5.00	0.00	0.69	0.69
36.00	0.51	0.55	5.00	0.00	0.69	0.69
36.05	0.51	0.55	5.00	0.00	0.68	0.68
36.10	0.51	0.55	5.00	0.00	0.67	0.67
36.15	0.51	0.55	5.00	0.00	0.67	0.67
36.20	0.51	0.55	5.00	0.00	0.66	0.66
36.25	0.51	0.55	5.00	0.00	0.66	0.66

36.30	0.51	0.55	5.00	0.00	0.65	0.65
36.35	0.51	0.55	5.00	0.00	0.65	0.65
36.40	0.51	0.55	5.00	0.00	0.64	0.64
36.45	0.51	0.55	5.00	0.00	0.64	0.64
36.50	0.51	0.55	5.00	0.00	0.63	0.63
36.55	0.50	0.55	5.00	0.00	0.63	0.63
36.60	0.50	0.55	5.00	0.00	0.62	0.62
36.65	0.50	0.55	5.00	0.00	0.62	0.62
36.70	0.50	0.55	5.00	0.00	0.61	0.61
36.75	0.50	0.55	5.00	0.00	0.61	0.61
36.80	0.50	0.55	5.00	0.00	0.60	0.60
36.85	0.50	0.55	5.00	0.00	0.60	0.60
36.90	0.50	0.55	5.00	0.00	0.59	0.59
36.95	0.50	0.55	5.00	0.00	0.59	0.59
37.00	0.50	0.55	5.00	0.00	0.58	0.58
37.05	0.50	0.55	5.00	0.00	0.58	0.58
37.10	0.50	0.55	5.00	0.00	0.57	0.57
37.15	0.50	0.55	5.00	0.00	0.57	0.57
37.20	0.50	0.55	5.00	0.00	0.56	0.56
37.25	0.50	0.55	5.00	0.00	0.56	0.56
37.30	0.50	0.55	5.00	0.00	0.55	0.55
37.35	0.50	0.55	5.00	0.00	0.55	0.55
37.40	0.50	0.54	5.00	0.00	0.54	0.54
37.45	0.50	0.54	5.00	0.00	0.54	0.54
37.50	0.50	0.54	5.00	0.00	0.53	0.53
37.55	0.50	0.54	5.00	0.00	0.53	0.53
37.60	0.50	0.54	5.00	0.00	0.52	0.52
37.65	0.50	0.54	5.00	0.00	0.52	0.52
37.70	0.50	0.54	5.00	0.00	0.51	0.51
37.75	0.50	0.54	5.00	0.00	0.51	0.51
37.80	0.50	0.54	5.00	0.00	0.50	0.50
37.85	0.50	0.54	5.00	0.00	0.50	0.50
37.90	0.50	0.54	5.00	0.00	0.49	0.49
37.95	0.50	0.54	5.00	0.00	0.49	0.49
38.00	0.50	0.54	5.00	0.00	0.49	0.49
38.05	0.50	0.54	5.00	0.00	0.48	0.48
38.10	0.50	0.54	5.00	0.00	0.48	0.48
38.15	0.50	0.54	5.00	0.00	0.47	0.47
38.20	0.50	0.54	5.00	0.00	0.47	0.47
38.25	0.50	0.54	5.00	0.00	0.46	0.46
38.30	0.50	0.54	5.00	0.00	0.46	0.46
38.35	0.50	0.54	5.00	0.00	0.45	0.45
38.40	0.50	0.54	5.00	0.00	0.45	0.45
38.45	0.50	0.54	5.00	0.00	0.44	0.44
38.50	0.50	0.54	5.00	0.00	0.44	0.44
38.55	0.50	0.54	5.00	0.00	0.44	0.44
38.60	0.50	0.54	5.00	0.00	0.43	0.43
38.65	0.50	0.54	5.00	0.00	0.43	0.43
38.70	0.50	0.54	5.00	0.00	0.42	0.42
38.75	0.50	0.54	5.00	0.00	0.42	0.42

38.80	0.50	0.54	5.00	0.00	0.41	0.41
38.85	0.50	0.54	5.00	0.00	0.41	0.41
38.90	0.50	0.54	5.00	0.00	0.41	0.41
38.95	0.50	0.54	5.00	0.00	0.40	0.40
39.00	0.50	0.54	5.00	0.00	0.40	0.40
39.05	0.50	0.54	5.00	0.00	0.39	0.39
39.10	0.50	0.54	5.00	0.00	0.39	0.39
39.15	0.50	0.54	5.00	0.00	0.38	0.38
39.20	0.50	0.54	5.00	0.00	0.38	0.38
39.25	0.50	0.54	5.00	0.00	0.38	0.38
39.30	0.50	0.54	5.00	0.00	0.37	0.37
39.35	0.50	0.53	5.00	0.00	0.37	0.37
39.40	0.50	0.53	5.00	0.00	0.36	0.36
39.45	0.50	0.53	5.00	0.00	0.36	0.36
39.50	0.50	0.53	5.00	0.00	0.36	0.36
39.55	0.50	0.53	5.00	0.00	0.35	0.35
39.60	0.50	0.53	5.00	0.00	0.35	0.35
39.65	0.50	0.53	5.00	0.00	0.34	0.34
39.70	0.50	0.53	5.00	0.00	0.34	0.34
39.75	0.50	0.53	5.00	0.00	0.34	0.34
39.80	0.50	0.53	5.00	0.00	0.33	0.33
39.85	0.50	0.53	5.00	0.00	0.33	0.33
39.90	0.50	0.53	5.00	0.00	0.32	0.32
39.95	0.50	0.53	5.00	0.00	0.32	0.32
40.00	0.50	0.53	5.00	0.00	0.32	0.32
40.05	0.50	0.53	5.00	0.00	0.31	0.31
40.10	0.49	0.53	5.00	0.00	0.31	0.31
40.15	0.49	0.53	5.00	0.00	0.31	0.31
40.20	0.49	0.53	5.00	0.00	0.30	0.30
40.25	0.49	0.53	5.00	0.00	0.30	0.30
40.30	0.49	0.53	5.00	0.00	0.29	0.29
40.35	0.49	0.53	5.00	0.00	0.29	0.29
40.40	0.49	0.53	5.00	0.00	0.29	0.29
40.45	0.49	0.53	5.00	0.00	0.28	0.28
40.50	0.49	0.53	5.00	0.00	0.28	0.28
40.55	0.49	0.53	5.00	0.00	0.27	0.27
40.60	0.49	0.53	5.00	0.00	0.27	0.27
40.65	0.49	0.53	5.00	0.00	0.27	0.27
40.70	0.49	0.53	5.00	0.00	0.26	0.26
40.75	0.49	0.53	5.00	0.00	0.26	0.26
40.80	0.49	0.53	5.00	0.00	0.25	0.25
40.85	0.49	0.53	5.00	0.00	0.25	0.25
40.90	0.49	0.53	5.00	0.00	0.25	0.25
40.95	0.49	0.53	5.00	0.00	0.24	0.24
41.00	0.49	0.53	5.00	0.00	0.24	0.24
41.05	0.49	0.53	5.00	0.00	0.23	0.23
41.10	0.49	0.53	5.00	0.00	0.23	0.23
41.15	0.49	0.53	5.00	0.00	0.23	0.23
41.20	0.49	0.53	5.00	0.00	0.22	0.22
41.25	0.49	0.53	5.00	0.00	0.22	0.22

41.30	0.49	0.53	5.00	0.00	0.21	0.21
41.35	0.49	0.52	5.00	0.00	0.21	0.21
41.40	0.49	0.52	5.00	0.00	0.21	0.21
41.45	0.49	0.52	5.00	0.00	0.20	0.20
41.50	0.49	0.52	5.00	0.00	0.20	0.20
41.55	0.49	0.52	5.00	0.00	0.19	0.19
41.60	0.49	0.52	5.00	0.00	0.19	0.19
41.65	0.49	0.52	5.00	0.00	0.19	0.19
41.70	0.49	0.52	5.00	0.00	0.18	0.18
41.75	0.49	0.52	5.00	0.00	0.18	0.18
41.80	0.49	0.52	5.00	0.00	0.17	0.17
41.85	0.49	0.52	5.00	0.00	0.17	0.17
41.90	0.49	0.52	5.00	0.00	0.17	0.17
41.95	0.49	0.52	5.00	0.00	0.16	0.16
42.00	0.49	0.52	5.00	0.00	0.16	0.16
42.05	0.49	0.52	5.00	0.00	0.15	0.15
42.10	0.49	0.52	5.00	0.00	0.15	0.15
42.15	0.49	0.52	5.00	0.00	0.15	0.15
42.20	0.49	0.52	5.00	0.00	0.14	0.14
42.25	0.49	0.52	5.00	0.00	0.14	0.14
42.30	0.49	0.52	5.00	0.00	0.13	0.13
42.35	0.49	0.52	5.00	0.00	0.13	0.13
42.40	0.49	0.52	5.00	0.00	0.12	0.12
42.45	0.49	0.52	5.00	0.00	0.12	0.12
42.50	0.49	0.52	5.00	0.00	0.12	0.12
42.55	0.49	0.52	5.00	0.00	0.11	0.11
42.60	0.49	0.52	5.00	0.00	0.11	0.11
42.65	0.49	0.52	5.00	0.00	0.10	0.10
42.70	0.49	0.52	5.00	0.00	0.10	0.10
42.75	0.49	0.52	5.00	0.00	0.10	0.10
42.80	0.49	0.52	5.00	0.00	0.09	0.09
42.85	0.49	0.52	5.00	0.00	0.09	0.09
42.90	0.49	0.52	5.00	0.00	0.08	0.08
42.95	0.49	0.52	5.00	0.00	0.08	0.08
43.00	0.49	0.52	5.00	0.00	0.08	0.08
43.05	0.49	0.52	5.00	0.00	0.07	0.07
43.10	0.49	0.52	5.00	0.00	0.07	0.07
43.15	0.49	0.52	5.00	0.00	0.06	0.06
43.20	0.49	0.52	5.00	0.00	0.06	0.06
43.25	0.49	0.52	5.00	0.00	0.05	0.05
43.30	0.49	0.51	5.00	0.00	0.05	0.05
43.35	0.49	0.51	5.00	0.00	0.05	0.05
43.40	0.49	0.51	5.00	0.00	0.05	0.05
43.45	0.49	0.51	5.00	0.00	0.05	0.05
43.50	0.49	0.51	5.00	0.00	0.04	0.04
43.55	0.49	0.51	5.00	0.00	0.04	0.04
43.60	0.48	0.51	5.00	0.00	0.04	0.04
43.65	0.48	0.51	5.00	0.00	0.04	0.04
43.70	0.48	0.51	5.00	0.00	0.04	0.04
43.75	0.48	0.51	5.00	0.00	0.04	0.04

43.80	0.48	0.51	5.00	0.00	0.03	0.03
43.85	0.48	0.51	5.00	0.00	0.03	0.03
43.90	0.48	0.51	5.00	0.00	0.03	0.03
43.95	0.48	0.51	5.00	0.00	0.03	0.03
44.00	0.48	0.51	5.00	0.00	0.03	0.03
44.05	0.48	0.51	5.00	0.00	0.03	0.03
44.10	0.48	0.51	5.00	0.00	0.03	0.03
44.15	0.48	0.51	5.00	0.00	0.02	0.02
44.20	0.48	0.51	5.00	0.00	0.02	0.02
44.25	0.48	0.51	5.00	0.00	0.02	0.02
44.30	0.48	0.51	5.00	0.00	0.02	0.02
44.35	0.48	0.51	5.00	0.00	0.02	0.02
44.40	0.48	0.51	5.00	0.00	0.02	0.02
44.45	0.48	0.51	5.00	0.00	0.02	0.02
44.50	0.48	0.51	5.00	0.00	0.01	0.01
44.55	0.48	0.51	5.00	0.00	0.01	0.01
44.60	0.48	0.51	5.00	0.00	0.01	0.01
44.65	0.48	0.51	5.00	0.00	0.01	0.01
44.70	0.48	0.51	5.00	0.00	0.01	0.01
44.75	0.48	0.51	5.00	0.00	0.01	0.01
44.80	0.48	0.51	5.00	0.00	0.00	0.00
44.85	0.48	0.51	5.00	0.00	0.00	0.00
44.90	0.48	0.51	5.00	0.00	0.00	0.00
44.95	0.48	0.51	5.00	0.00	0.00	0.00
45.00	0.48	0.51	5.00	0.00	0.00	0.00
45.05	2.00	0.51	5.00	0.00	0.00	0.00
45.10	2.00	0.51	5.00	0.00	0.00	0.00
45.15	2.00	0.51	5.00	0.00	0.00	0.00
45.20	2.00	0.51	5.00	0.00	0.00	0.00
45.25	2.00	0.50	5.00	0.00	0.00	0.00
45.30	2.00	0.50	5.00	0.00	0.00	0.00
45.35	2.00	0.50	5.00	0.00	0.00	0.00
45.40	2.00	0.50	5.00	0.00	0.00	0.00
45.45	2.00	0.50	5.00	0.00	0.00	0.00
45.50	2.00	0.50	5.00	0.00	0.00	0.00
45.55	2.00	0.50	5.00	0.00	0.00	0.00
45.60	2.00	0.50	5.00	0.00	0.00	0.00
45.65	2.00	0.50	5.00	0.00	0.00	0.00
45.70	2.00	0.50	5.00	0.00	0.00	0.00
45.75	2.00	0.50	5.00	0.00	0.00	0.00
45.80	2.00	0.50	5.00	0.00	0.00	0.00
45.85	2.00	0.50	5.00	0.00	0.00	0.00
45.90	2.00	0.50	5.00	0.00	0.00	0.00
45.95	2.00	0.50	5.00	0.00	0.00	0.00
46.00	2.00	0.50	5.00	0.00	0.00	0.00
46.05	2.00	0.50	5.00	0.00	0.00	0.00
46.10	2.00	0.50	5.00	0.00	0.00	0.00
46.15	2.00	0.50	5.00	0.00	0.00	0.00
46.20	2.00	0.50	5.00	0.00	0.00	0.00
46.25	2.00	0.50	5.00	0.00	0.00	0.00

51.30	2.00	0.49	5.00	0.00	0.00	0.00
51.35	2.00	0.49	5.00	0.00	0.00	0.00
51.40	2.00	0.49	5.00	0.00	0.00	0.00
51.45	2.00	0.49	5.00	0.00	0.00	0.00
51.50	2.00	0.49	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/ft²)

CRRm Cyclic resistance ratio from soils

CSRsf Cyclic stress ratio induced by a given earthquake (with user request factor of safety)

F.S. Factor of Safety against liquefaction, F.S.=CRRm/CSRsf

S_sat Settlement from saturated sands

S_dry Settlement from Unsaturated Sands

S_all Total Settlement from Saturated and Unsaturated Sands

NoLiq No-Liquefy Soils