APPROVED
MAY 21 2020
BOARD OF RECREATION
AND PARK COMMISSIONERS

BOARD REPORT **NO.** 20-086

DATE May 21, 2020 C.D. 4

BOARD OF RECREATION AND PARK COMMISSIONERS

SUBJECT: VAN NUYS SHERMAN OAKS RECREATION CENTER SPORTS COURT LIGHTING (W.O. #E170513) PROJECT (AKA PROP K SPORTS LIGHTING IMPROVEMENT: VAN NUYS SHERMAN OAKS RECREATION CENTER) – APPROVAL OF FINAL PLANS; CATEGORICAL EXEMPTION FROM THE PROVISIONS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) PURSUANT TO ARTICLE III, SECTION 1, CLASS 1(1) [EXTERIOR ALTERATION OF EXISTING PUBLIC STRUCTURES INVOLVING MINOR CONSTRUCTION WITH NO OR NEGLIGIBLE EXPANSION OF USE], CLASS 1(4) [REHABILITATION OF DETERIORATED EQUIPMENT TO MEET CURRENT STANDARDS OF PUBLIC SAFETY] AND CLASS 1(12) [OUTDOOR LIGHTING FOR SECURITY AND OPERATION] OF CITY CEQA GUIDELINES AND ARTICLE 19, SECTION 15301(d) OF CALIFORNIA CEQA GUIDELINES.

AP Diaz		S. Piña-Cortez	
H. Fujita		for * C. Santo Domingo	DF
V. Israel		N. Williams	

M. Shull
General Manager

Approved X Disapproved ______ Withdrawn ______

RECOMMENDATIONS

1. Approve the final plans, substantially in the form on file in the Board of Recreation and Park Commissioners (Board) Office and as attached to this Report, for the proposed Van Nuys Sherman Oaks Recreation Center Sports Court Lighting (W.O. #E170513) Project (AKA Prop K Sports Lighting Improvement: Van Nuys Sherman Oaks Recreation Center) (Project);

2. Determine that the proposed Project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Article III, Section 1, Class 1(1) [Exterior alteration of existing public structures involving minor construction with no or negligible expansion of use], Class 1(4) [Rehabilitation of deteriorated equipment to meet current standards of public safety] and Class 1(12) [Outdoor lighting for security and operation] of City CEQA Guidelines and Article 19, Section 15301(d) of California CEQA Guidelines, and direct Department of Recreation and Parks (RAP) staff to file a Notice of Exemption (NOE) with the City and the Los Angeles County Clerk's Office;

3. Authorize the Chief Accounting Employee or design to prepare a check to the Los Angeles County Clerk, in the amount of $75.00 for the purpose of filing NOE; and,

4. Authorize RAP's Chief Accounting Employee or designee to make technical corrections as necessary to carry out the intent of this Report.

SUMMARY

Van Nuys Sherman Oaks Recreation Center is located at 14201 Huston Street, Sherman Oaks, CA 91423 in Council District 4. This recreation center includes a picnic area, tennis and basketball courts, soccer fields, swimming pool, children's play area, ball diamonds, and a gymnasium. Approximately 3,200 City residents live within a one-half mile walking distance of this recreation center.

The proposed Project is a Proposition K – L.A. for Kids Program Competitive Grant (9^{th} Cycle) (Prop K) funded project. The scope of work consists of replacing existing lighting at eight (8) tennis courts with new, Light Emitting Diode (LED) light fixtures and adding three (3) new light poles with LED light fixtures at two (2) basketball courts. This will provide improved quality of lighting, with reduced spillover of light onto adjacent properties and/or other areas of the recreation center. The new LED light fixtures will also reduce operational costs, by reducing energy consumption relative to current electrical usage. After review by RAP and Bureau of Engineering (BOE) staff, it was determined that the work can be completed by RAP pre-qualified contractors and BOE will provide construction management services.

A geotechnical investigation was conducted to determine the feasibility of this proposed Project, and the findings are documented in Attachment No. 2. As stated in the geotechnical report, it was determined that the proposed Project is feasible from a geotechnical standpoint.

BOE prepared the plans and specifications, and obtained all the necessary approvals for the proposed Project. As required by Prop K, three (3) Local Volunteer Neighborhood Oversight Committee (LVNOC) meetings were conducted. The first LVNOC meeting was on June 18, 2019. The second and third LVNOC meetings were conducted on the same date of August 29, 2019. The community, the LVNOC and Office of Council District 4 are in full support of the proposed Project.

Funding for the proposed Project is available from the following funds and accounts:

FUNDING SOURCE	FUND/DEPT./ACCT. NO.
Proposition K	43K/10/10PPBD
Proposition K	43K/10/10RPAD

TREES AND SHADE

Since this proposed Project focuses on improving lighting for evening recreation activities, no trees will be removed and any existing trees near the proposed location(s) of new light standards will be protected during construction. Additional trees and shade structures are not part of the proposed scope of work for the Project.

ENVIRONMENTAL IMPACT

The proposed Project consists of exterior alteration of existing public structures involving minor construction with no or negligible expansion of use, rehabilitation of deteriorated equipment to meet current standards of public safety and outdoor lighting for security and operation. As such, RAP staff recommends that the Board determine that it is exempt from the provisions of CEQA pursuant to Article III, Section 1, Class 1(1), Class 1(4) and Class 1(12) of City CEQA Guidelines and Article 19, Section 15301(d) of California CEQA Guidelines. An NOE will be filed with the Los Angeles County Clerk upon approval by the Board.

FISCAL IMPACT

There is no immediate fiscal impact to RAP's General Fund. The proposed Project should reduce long term maintenance and operational costs, as it will replace existing, higher energy use sports court lighting systems with new, energy efficient LED lighting systems.

STRATEGIC PLAN INITIATIVES AND GOALS

Approval of this Board Report advances RAP's Strategic Plan by supporting:

Goal No. 5: Ensure an environmentally sustainable park system
Outcome No. 1: Decreased energy consumption and achieve a smaller carbon footprint
Result: The installation of the proposed LED lighting systems will decrease energy consumption resulting in a more sustainable park system.

This Report was prepared by Erick Chang, Project Manager, and reviewed by Neil Drucker, Assistant Division Head/ Proposition K Program Manager; Steven Fierce, Principal Architect, Architectural Division, BOE; and Darryl Ford, Superintendent, Planning, Maintenance and Construction Branch, RAP.

LIST OF ATTACHMENT(S)

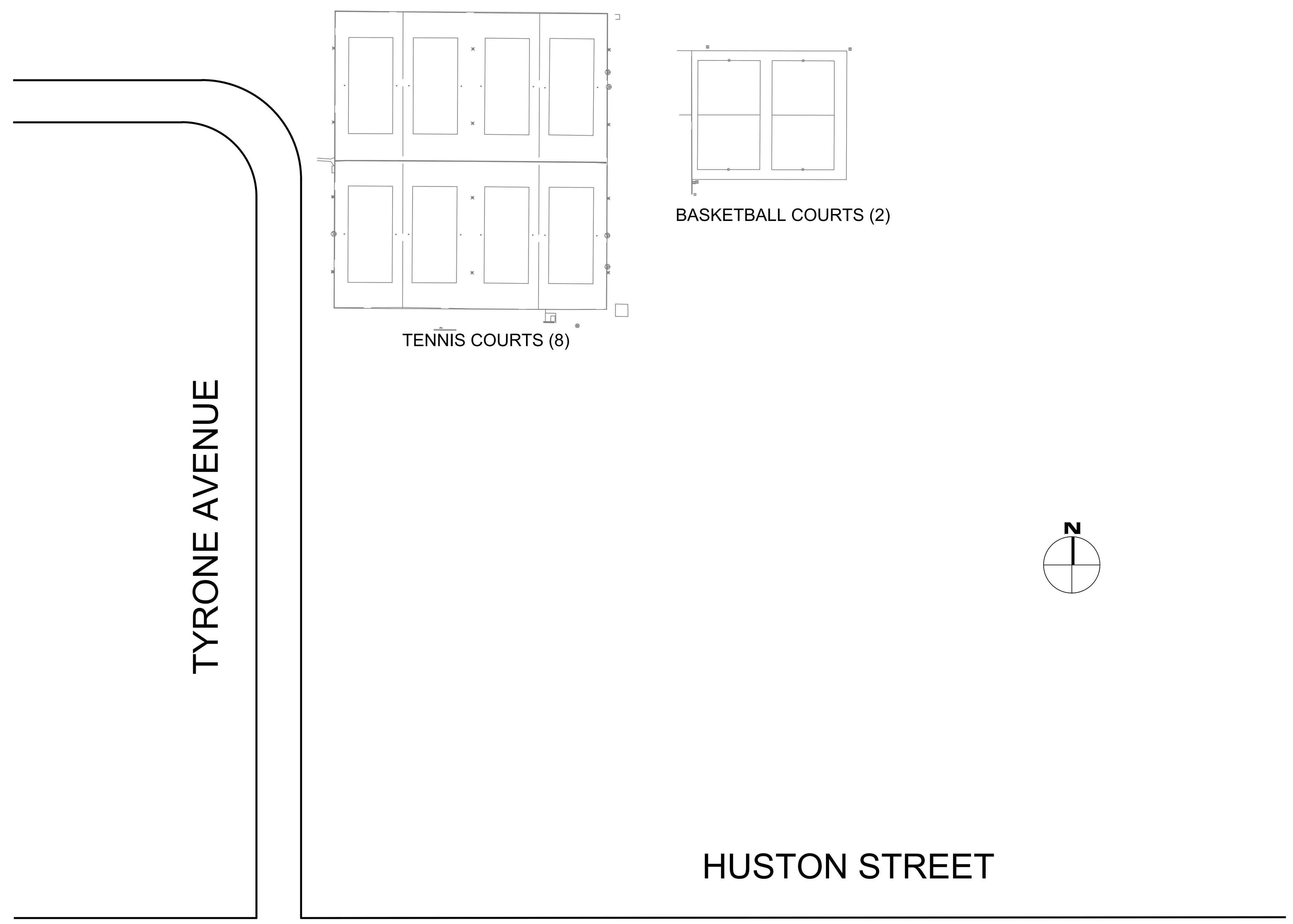
1) Final Plans for Van Nuys Sherman Oaks Recreation Center Sports Court Lighting Project (aka Prop K Sports Lighting Improvements: Van Nuys Sherman Oaks Recreation Center)

2) Geotechnical Report for Van Nuys Sherman Oaks Recreation Center Sports Court Lighting Project.

Attachment 1

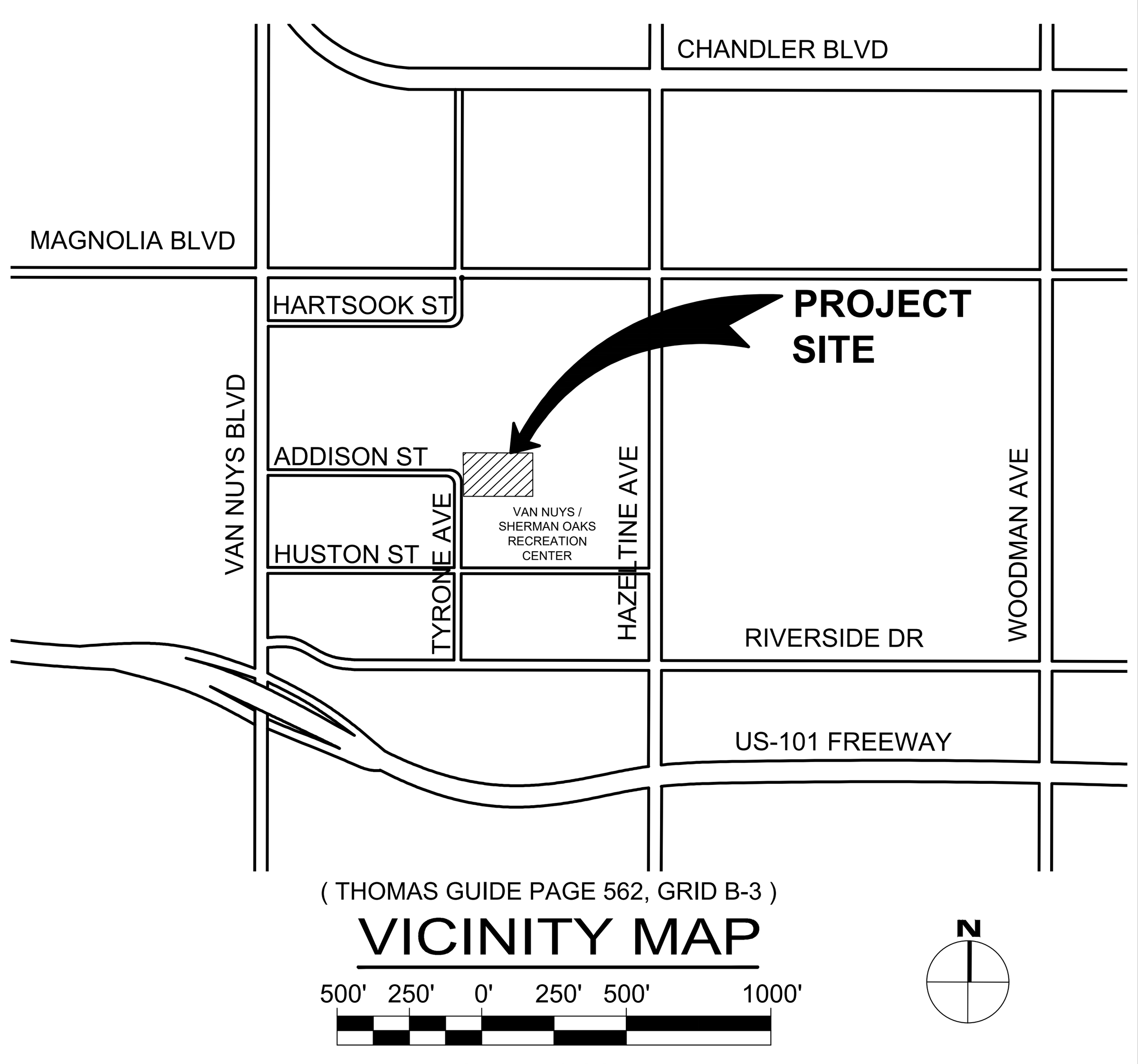
CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

PROP K SPORTS LIGHTING IMPROVEMENT: VAN NUYS SHERMAN OAKS RECREATION CENTER



DEPARTMENT OF RECREATION AND PARKS
MICHAEL SHULL
GENERAL MANAGER
221 N. FIGUEROA STREET, 4TH FLOOR
LOS ANGELES, CA 90012

PROJECT MANAGEMENT	PROJECT TEAM		CONSTRUCTION MANAGEMENT
DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING ARCHITECTURAL DIVISION **NEIL DRUCKER** INTERIM DIVISION HEAD **RICHARD CAMPBELL** PROJECT MANAGER 1149 SOUTH BROADWAY, 8TH FLOOR LOS ANGELES, CA 90015 (213) 847- 4715 (213) 847- 4715 (FAX) RICHARD.CAMPBELL@LACITY.ORG	SURVEY:	**DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING SURVEY DIVISION** **ROBERT NIELSON** CHIEF SURVEYOR	**DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING CONSTRUCTION MANAGEMENT DIVISION** **JOSE FUENTES** GROUP MANAGER 1149 SOUTH BROADWAY, 8TH FLOOR LOS ANGELES, CA 90015
	GEOTECHNICAL:	**DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING GROUP** **PATRICK J. SCHMIDT** GROUP MANAGER 1149 SOUTH BROADWAY, SUITE 120 LOS ANGELES, CA 90015	
	ELECTRICAL AND STRUCTURAL DESIGN:	**PSOMAS** **ARIEF NAFTALI, PE, TE** **DOUGLAS FREDERICKS, PE** PROJECT MANAGER 555 SOUTH FLOWER STREET, SUITE 4300 LOS ANGELES, CA 90017	



(THOMAS GUIDE PAGE 562, GRID B-3)

VICINITY MAP

PLANS PREPARED BY:
PSOMAS
555 South Flower Street, Suite 4300
Los Angeles, CA 90071
(213) 223-1400 Fax (213) 223-1444

ENGINEERING
CITY OF LOS ANGELES

REGISTERED PROFESSIONAL ENGINEER GARY LEE MOORE No. C-49446 CIVIL STATE OF CALIFORNIA

* THIS PLAN WAS ELECTRONICALLY SIGNED AND STAMPED

BUREAU OF ENGINEERING
VERTICAL CONTROL: BM # 11-04189 AND 11-03448 NAVD88 2000 ADJ
HORIZONTAL CONTROL: U.S.G.S. DATUM EFFECTIVE JULY 1, 1925
SHEET TITLE: TITLE SHEET
PROJECT: VAN NUYS SHERMAN OAKS RECREATION CENTER LIGHTING IMPROVEMENTS
ADDRESS: 14201 HUSTON STREET, LOS ANGELES, CA 91423

DEPARTMENT OF PUBLIC WORKS
NO. REVISIONS: DATE: BY:
CIP NO.
INDEX NO. **MF300479**

CITY OF LOS ANGELES
GARY LEE MOORE, P.E., ENV SP
CITY ENGINEER 01/22/2020 DATE
DEPUTY CITY ENGINEER/PROGRAM MANAGER
CITY ENGINEER 01/22/2020 DATE

WORK ORDER NO. E170513D
SHEET NO. TTL-1
SHEET 1 OF 6 SHEETS

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATES (DESIGN STAGE ONLY)

Sheet Version 4.0

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Attachment 2

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
Bureau of Engineering
GEOTECHNICAL ENGINEERING DIVISION

December 28, 2017

VAN NUYS SHERMAN OAKS RECREATION CENTER – SPORTSFIELD LIGHTING
14201 HUSTON STREET
W.O. E170513D **GED FILE NO. 17-170**

1.0 INTRODUCTION

The Los Angeles Department of Public Works, Bureau of Engineering, Geotechnical Engineering Division (GED) has prepared this report to provide design and construction recommendations for the project. The project site, as shown on Figure 1 – Vicinity Map, is located east of the Addison Street and Tyrone Avenue intersection in the Sherman Oaks area of Los Angeles. The project site is within the existing Van Nuys Sherman Oaks Recreation Center at 14201 Huston Street.

2.0 PROJECT DESCRIPTION

The project site currently contains twelve (12) existing 40-foot light poles surrounding the tennis court area. The existing light pole locations within the project site are presented on Figure 2 – Site Location Map. The project includes installing four new light-emitting diode (LED) light poles to illuminate the basketball court area located east of the tennis courts (see Figure 2 for proposed new light pole locations). The project also includes replacing the light fixtures on the twelve existing tennis court lights with LEDs. If the fixtures on the existing tennis court light poles cannot easily be replaced, the existing poles will likely be demolished, and new LED light poles will be installed. We understand the proposed LED light poles will be approximately 40 feet high; however, the recommendations in this report are applicable for light poles up to 70 feet high.

3.0 GEOTECHNICAL INVESTIGATION

Our geotechnical investigation consisted of field exploration and laboratory testing. The field exploration and laboratory testing was completed by Geotechnical Professionals Inc. (GPI). A copy of GPI's data report is included in Appendix A of this report. The findings and recommendations in this report are based on the information presented in GPI's report. The GED has reviewed their report, concurs with the information contained in it, and accepts responsibility for the use of its contents.

3.1 SUBSURFACE CONDITIONS

GPI drilled four hollow-stem auger (HSA) borings, each to a depth of approximately 21½ feet below ground surface (bgs). The boring locations are presented on Figure 2 – Site Plan, in GPI's data report (Appendix A).

Uncertified fill, approximately 2½ feet thick, was encountered in all four borings. The fill is comprised of variable soil types, including sandy silt, sand, lean clay and silty sand. The boring logs indicate the composition of the native soil is also variable. The native soil in the west portion of the site (VN-1 and VN-2) consists of interbedded sandy lean clay, sandy silt, clayey sand, and silty sand. The native soil in the east portion of the site (VN-3 and VN-4) mostly consists of sandy lean clay to a depth of 7½ feet bgs. The underlying native soil is consistent with Borings VN-1 and VN-2. The field Standard Penetration Test blow counts indicate the granular native soils are generally medium dense and the fine grained native soils are generally stiff to very stiff.

Groundwater was not encountered in any of the four borings to the maximum explored depth of 21½ feet bgs. Groundwater levels are expected to fluctuate with seasonal rainfalls, dry weather (i.e. drought conditions), and pumping activities in the vicinity of the site. Nevertheless, groundwater is not expected to affect construction of the proposed light pole foundations.

3.2 LABORATORY TEST RESULTS

The laboratory testing program consisted of in-situ moisture content and dry density, fines content (percent passing the No. 200 sieve), direct shear, unconsolidated undrained (UU) triaxial, expansion index, and Atterberg Limits.

The dry density and moisture content of the native soil ranges from approximately 99 to 122 pounds per cubic foot (pcf) and 3.9 to 23.8 percent, respectively. The total unit weight of the native soil ranges from about 107 to 135 pcf with an average value of about 121 pcf. The expansion index of the clayey fill material in the upper 3 feet of VN-3 was found to be 37. Based on this value, this material is assumed to have a low expansion (i.e. shrink-swell) potential. The results of the Atterberg Limits tests indicate the plasticity index (PI) of the native sandy clay material at a depth of approximately 5 feet bgs is between 22 and 24. The fines content of the native soils was found to be between 57 and 68 percent, which indicates these materials are mostly fine grained.

Unconsolidated undrained (UU) triaxial tests were performed on two relatively undisturbed samples of the sandy lean clay from VN-3 and VN-4. The test results indicate the ultimate undrained shear strength of this material ranges from approximately 6,280 and 2,680 pounds per square foot (psf), respectively.

Three direct shear tests were performed on relatively undisturbed samples of the native soil. The sample depths ranged from approximately 5.0 and 15.0 feet bgs. The samples tested in VN-1, VN-2, and VN-3 consisted of sandy silt, clayey sand, and silty sand, respectively. The results indicate the ultimate friction angle and cohesion value ranges from 34 to 35 degrees and 143 to 223 psf, respectively.

4.0 RECOMMENDATIONS

Based on the results of the geotechnical investigation, the proposed project is considered feasible from a geotechnical standpoint provided the recommendations presented in this report are incorporated into the design and construction. If changes in the design are made, or if changed conditions are encountered during construction, the GED shall be notified. Supplemental recommendations may be required.

4.1 SITE PREPARATION

Site preparation may initially involve the demolition of the existing lighting fixtures, including their foundations. Following demolition, the construction area should be cleared of any vegetation and stripped of miscellaneous debris and other deleterious material. Organic matter and other material that may interfere with construction should be removed.

4.2 NEW LIGHT POLE FOUNDATIONS

We recommend new light poles be supported on cast-in-drilled-hole (CIDH) piles. Piles shall be spaced a minimum distance of 3 pile diameters on center, and the minimum diameter shall be 30 inches. Based on the light pole plan, as presented in Figure 2, the minimum spacing requirement will be met.

4.2.1 2017 LABC Seismic Design Parameters

Seismic design parameters for the project are provided in accordance with the 2017 Los Angeles Building Code (LABC). Latitude 34.16115°N and Longitude 118.44429°W coordinates were used for the site location.

Seismic Design Parameters

Parameter	Value	Reference
Site Class	D	ASCE 7-10 Table 20.3-1
S_S	2.254	ASCE 7-10 Figure 22-1
S_1	0.779	ASCE 7-10 Figure 22-2
S_{MS}	2.254	ASCE 7-10 Equation 11.4-1
S_{M1}	1.168	ASCE 7-10 Equation 11.4-2
S_{DS}	1.502	ASCE 7-10 Equation 11.4-3
S_{D1}	0.779	ASCE 7-10 Equation 11.4-4
T_O (seconds)	0.104	ASCE 7-10 Chapter 11
T_S (seconds)	0.519	ASCE 7-10 Chapter 11

4.2.2 Axial Capacity in Compression

The minimum pile embedment depth shall be 10 feet below the lowest adjacent grade. The actual depths may be deeper and will likely depend on the lateral load analysis, which shall be performed by the structural engineer. The axial capacity may be designed assuming an allowable adhesion value of 400 psf. All frictional resistance in the upper 2½ feet shall be neglected.

The total settlement is not expected to exceed ½-inch provided the piles are properly constructed (see Section 4.2.5).

4.2.3 Axial Capacity in Tension

The allowable axial tensile capacity may be assumed to be ½ the axial capacity in compression. The weight of the concrete shaft may be added to the tensile capacity.

4.2.4 Lateral Load Behavior

The lateral load behavior of a CIDH pile was evaluated using the LPILE (Ensoft, 2016) software program. LPILE (2016) uses load deflection (p-y) curves to approximate the relationship between soil resistance and pile deflection. The lateral load behavior was evaluated for a free head deflection of ½-inch. Also, we assumed a perfectly elastic pile and a cracked section. The modulus of elasticity for the cracked section was estimated to be 1802500 pounds per square inch (i.e. FS = 2).

The main inputs in the LPILE software for each soil layer are the unit weight and soil shear strength. The existing fill in the upper 2½ foot layer was assumed to behave as "sand" with a total unit weight of 98 pounds per cubic foot (pcf), an effective friction angle of 20 degrees, and no cohesion. A request for modification of building ordinances for deriving lateral support from the existing uncertified fill will be submitted concurrently with this report. The existing native soil was assumed to behave as "stiff clay without free water" with a total unit weight of 120 pcf, and an undrained shear strength of 1,500 psf. The results of the LPILE analyses are presented in Appendix B of this report.

4.2.5 CIDH Pile Construction

We expect the CIDH piles can be drilled using conventional equipment. Due to the relatively cohesive nature of the soil, caving is not anticipated. However, if caving is encountered, steel casing shall be used to support the sides of the pile excavations. If casing is installed, the inside diameter of the casing shall be at least as large as the diameter of the piles. Drilling shall be completed within the casing.

The contractor shall remove loose soil (i.e. slough) from the bottom of the pile excavation. The drilled holes shall be plumb to within a tolerance of 2 percent. Upon completion of drilling, secure covers shall be placed over the excavations. Concrete placement shall be completed within 12 hours of drilling and drilled holes shall not be left open overnight. CIDH pile excavations shall be observed and approved by the GED during drilling and prior to installation of the pole itself.

Depending on the final depths and construction methods, concrete placement by the pump and tremie method may be required. Concrete shall not be allowed to free fall more than 6 feet. Concrete placement shall be performed in a manner such that it does not hit the side of the drilled hole.

If temporary casing is utilized, it shall be raised slowly during concrete placement as the drilled hole is filled with concrete. The bottom of the casing shall remain a minimum of 3 feet below the level of concrete during the pour.

5.0 CLOSURE

If you have any questions about this report, please contact Joy Welling at (213) 847-0492.

REGISTERED PROFESSIONAL ENGINEER
EASTON RENE FORCIER
No. GE 2948
Exp. 9-30-18
GEOTECHNICAL
STATE OF CALIFORNIA

12-28-17

Joy Welling, EIT 1557786
Civil Engineering Associate I

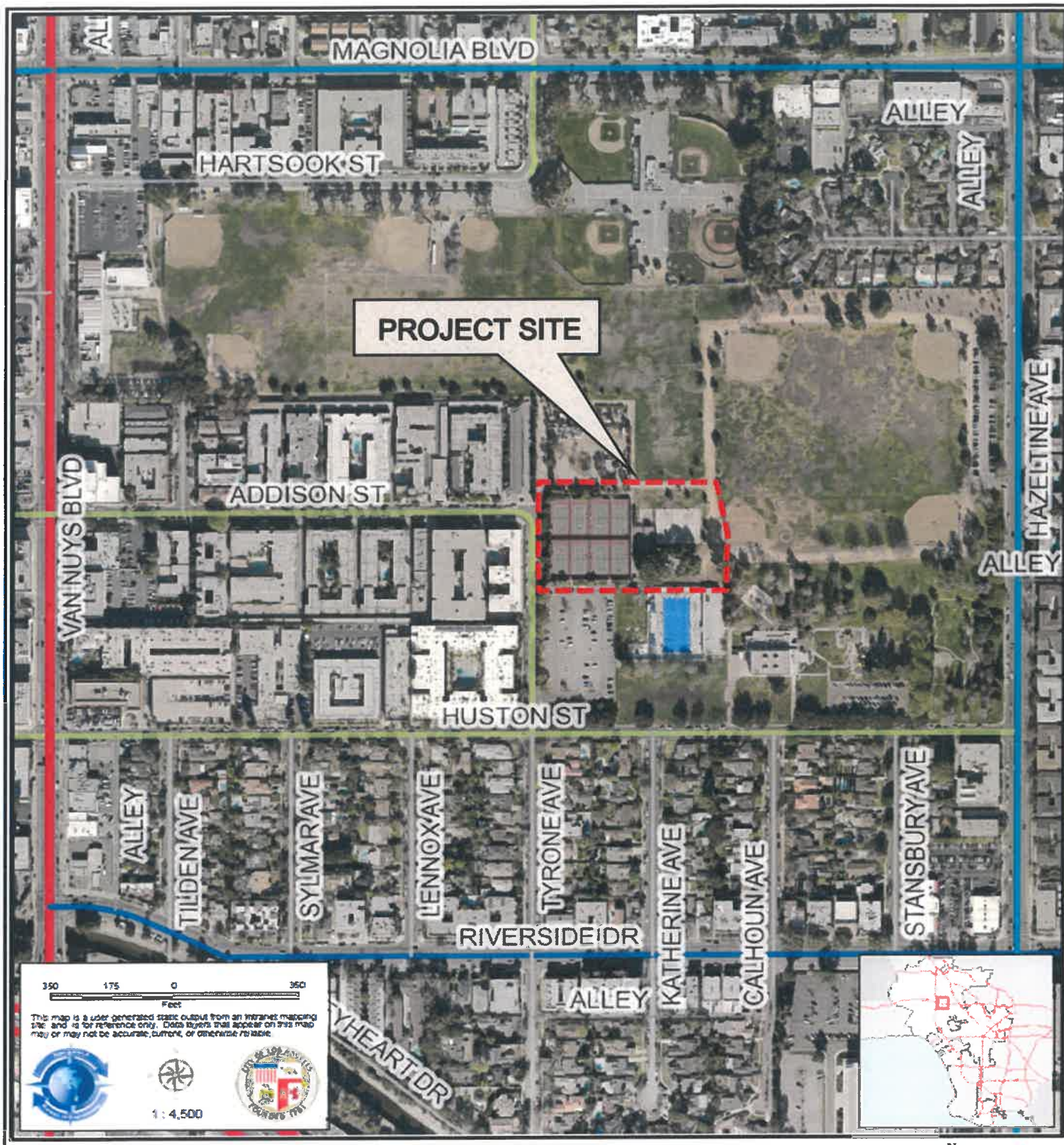
12-28-17

Easton Forcier, GE 2948
Geotechnical Engineer II

Figure 1 – Vicinity Map
Figure 2 – Site Location Map
Appendix A – Data Report by Geotechnical Professionals, Inc.
Appendix B – LPILE Results

Q:\PROJECTS\2017\17-170 Van Nuys Sherman Oaks Rec Center Sports Lighting\Reports\Report Text.docx

Figures



Reference: NavigateLA

VICINITY MAP

N
W O
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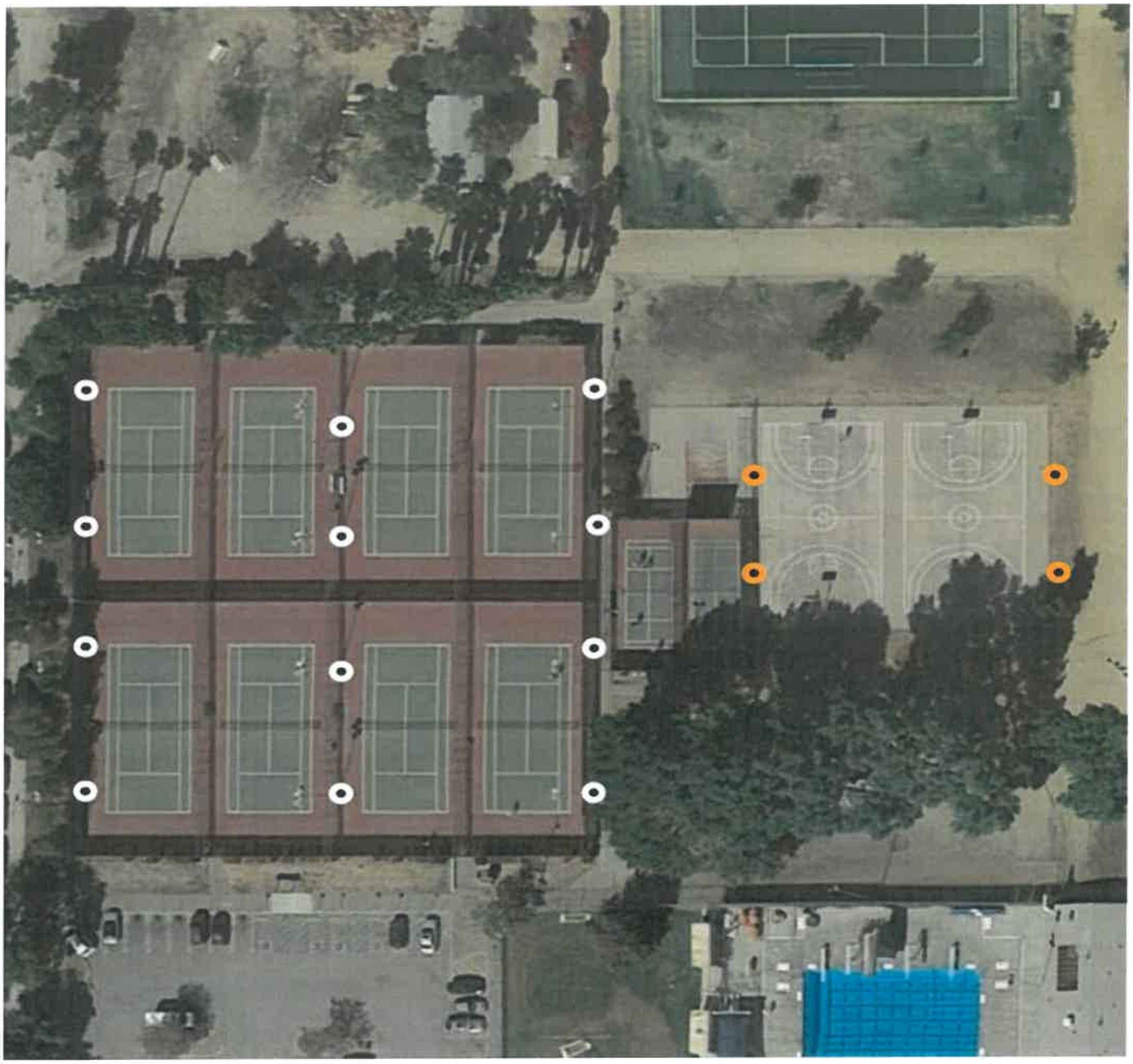
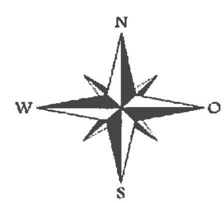
Van Nuys - Sherman Oaks Recreation Center 14201 Huston Street Los Angeles, CA 91423	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GEO) GED FILE NO.: 17-170 DATE: DECEMBER 2017	Figure No. 1



LEGEND:

Existing tennis court lighting ~ 40-feet high

Proposed new poles LED lights



SITE LOCATION MAP

Van Nuys - Sherman Oaks Recreation Center 14201 Huston Street Los Angeles, CA 91423	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GEO) GED FILE NO.: 17-170 DATE: DECEMBER 2017	Figure No. 2

Appendix A

Geotechnical Professionals Inc.

Data Report

October 20, 2017

City of Los Angeles
Department of Public Works Bureau of Engineering
Geotechnical Engineering Group
1149 South Broadway, Suite 120
Los Angeles, California 90015

Attention: Mr. Patrick J. Schmidt
Acting Group Manager

Subject: Data Report
Geotechnical Investigation for
Van Nuys Sherman Oaks Recreation Center Sports Lighting Project
14201 Huston Street
Los Angeles, California
Contract No. C-121601, TOS No. 17-170
Work Order No. E170513D
GPI Project No. 2500.08I

Dear Mr. Schmidt:

This report presents geotechnical data from a subsurface field investigation and laboratory testing performed by Geotechnical Professionals Inc. (GPI) for the subject project. The site location is presented in Figure 1.

SCOPE OF WORK

The scope of the geotechnical investigation presented in this report was developed by the Geotechnical Engineering Group (GEO) of the City of Los Angeles Department of Public Works, as outlined in Task Order Solicitation No. 17-170 and further updated by GEO staff. We understand that GEO will review the data from this investigation and will be responsible for geotechnical recommendations for the subject project, as the Geotechnical Engineer of Record.

The geotechnical field investigation included four hollow-stem auger borings to depths of 21½ feet below site grades. The locations of the subsurface explorations were selected by GEO and marked in the field with GPI on September 7, 2017. The approximate locations are presented in Figure 2. A detailed description of field drilling procedures for the hollow-stem auger borings and logs are presented in Appendix A.

Geotechnical laboratory testing, as requested by GEO, included the following types and number of tests:

- 16 Moisture and Density (ASTM D 2216)
- 6 Percent Passing No. 200 Sieve (ASTM D 1140)
- 2 Atterberg Limits (ASTM D 4318)

- 3 sets Direct Shear Tests (ASTM D 3080)
- 2 Unconsolidated Undrained Triaxial Test (ASTM D 2850)
- 1 Expansion Index (ASTM D 4829)

A detailed description of laboratory test procedures and results are presented in Appendix B.

CONCLUDING REMARKS

GPI warrants that the services covered by this report were performed as requested by GEO, in accordance with the standard procedures indicated, and with the standard of care of the geotechnical engineering profession in Southern California at this time. No other warranty or representation is included or intended in this report.

We appreciate the opportunity of offering our services on this project. Do not hesitate to call us if you have any questions on the contents of this report.

Respectfully submitted by,
Geotechnical Professionals Inc.

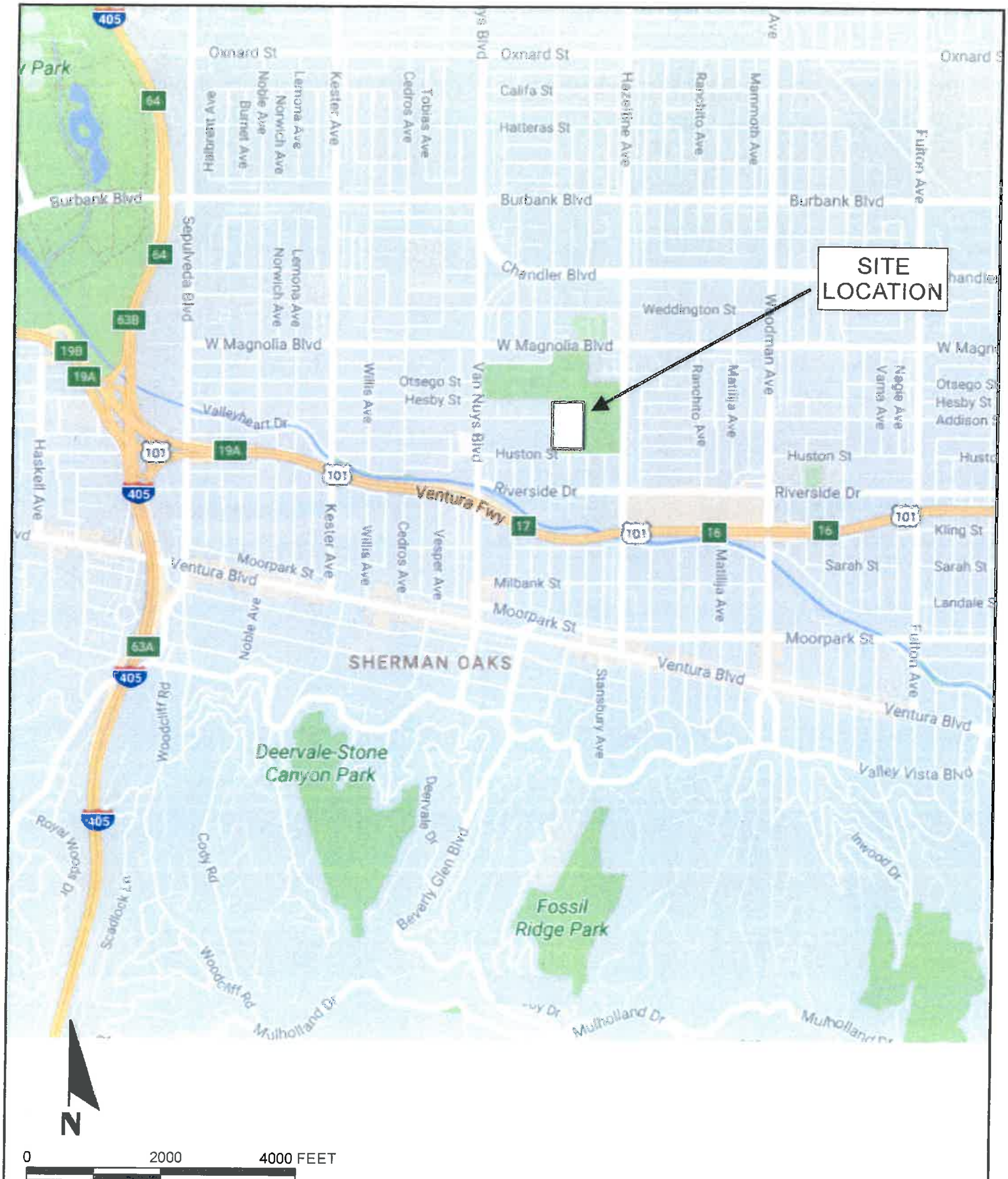
REGISTERED PROFESSIONAL ENGINEER
DONALD A. CORDS
No. GE 2529
GEOTECHNICAL
STATE OF CALIFORNIA

OCT 20 2017

Donald A. Cords, G.E.
Principal

DAC:sph

Attachments:	Figure 1	- Site Location Map
	Figure 2	- Site Plan
	Appendix A	- Exploratory Borings
	Appendix B	- Laboratory Test Results



BASE PLAN REPRODUCED FROM GOOGLE MAPS © 2017

GEOTECHNICAL PROFESSIONALS, INC.

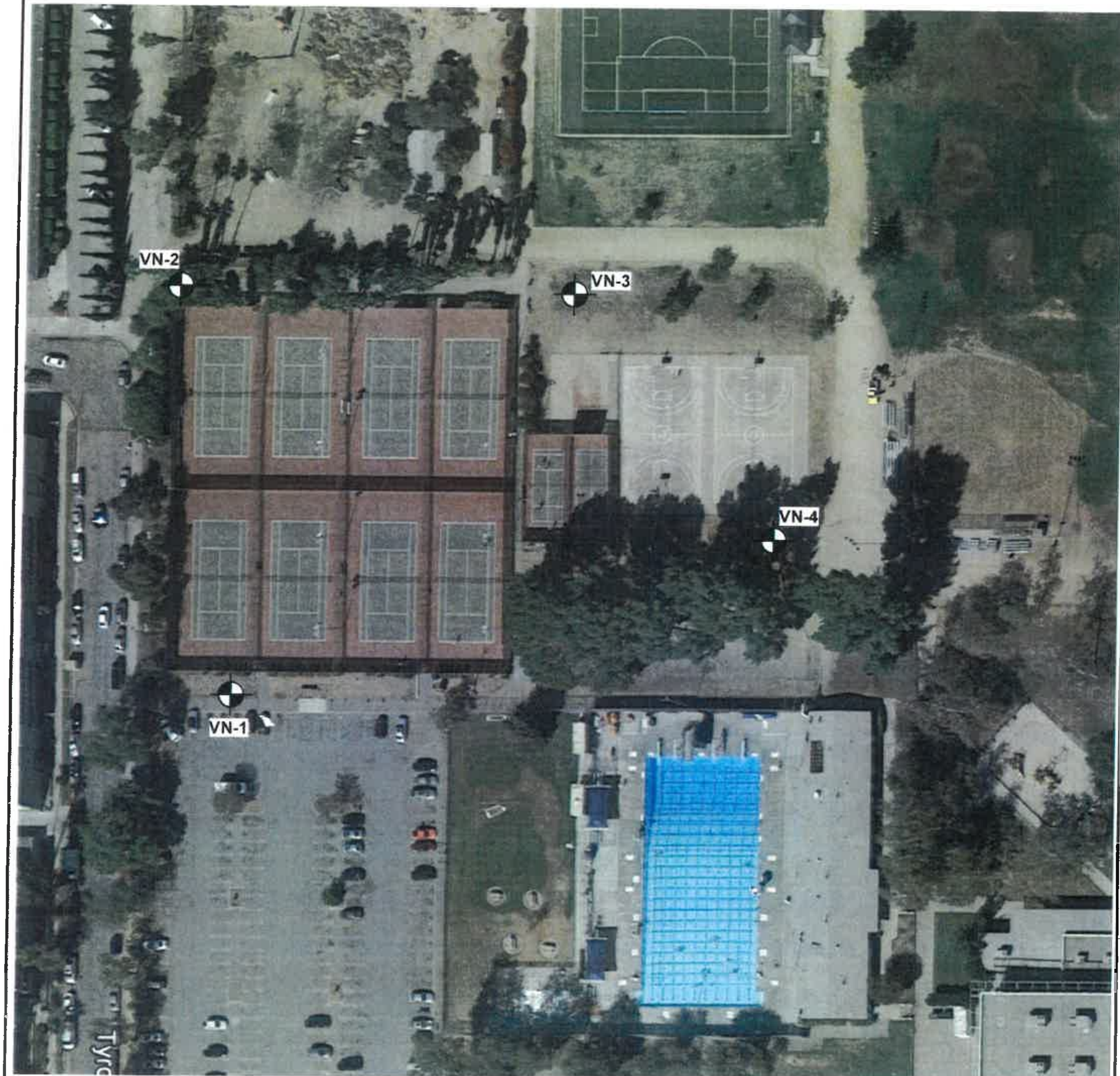
VAN NUYS SHERMAN OAKS REC CENTER

GPI PROJECT NO.: 2500.08I | SCALE: 1" = 2000'

SITE LOCATION MAP

FIGURE 1

APPENDIX A



N

0 100 200 FEET

EXPLANATION

VN-4 APPROXIMATE LOCATION AND NUMBER OF EXPLORATORY BORINGS

GPI GEOTECHNICAL PROFESSIONALS, INC.

VAN NUYS SHERMAN OAKS REC CENTER

GPI PROJECT NO.: 2500.08I | SCALE: 1" = 100'

SITE PLAN

FIGURE 2

APPENDIX A

EXPLORATORY BORINGS

The subsurface conditions at the site were investigated by drilling and sampling four hollow-stem auger borings. The borings were advanced to depths of 21 to 21½ feet below the existing ground surface. The borings were performed with a truck mounted hollow-stem auger drill rig.

The locations of the explorations are shown on the Site Plan, Figure 2. The latitude/longitude and Northing/Easting of each boring location at the site are as follows:

Boring No.	Latitude	Longitude	UTM Easting	UTM Northing	UTM Zone
VN-1	34° 9' 38.33"	-118° 26' 38.80"	366885.89	3780910.40	11S
VN-2	34° 9' 41.14"	-118° 26' 39.22"	366876.15	3780997.39	11S
VN-3	34° 9' 40.99"	-118° 26' 36.11"	366955.73	3780991.38	11S
VN-4	33° 9' 39.45"	-118° 26' 34.38"	366999.31	3780943.51	11S

The latitude and longitude of the location were determined based on a handheld NAD 83 Coordinate System Global Positional System unit. The Universal Transverse Mercator (UTM) Easting/Northing locations were converted from the latitude/longitude.

Relatively undisturbed samples were obtained using a brass-ring lined sampler (ASTM D 3550) and split-spoon sampler by means of the Standard Penetration Test (SPT, ASTM D 6066). The brass-rings have an inside diameter of 2.42 inches. The ring samples were driven into the soil by a 140-pound hammer dropping 30 inches. The number of blows needed to drive the sampler into the soil was recorded as the penetration resistance. The spoon sampler was driven into the soil by a 140-pound hammer dropping 30 inches, employing the "free-fall" hammer described above. After an initial seating drive of 6 inches, the number of blows needed to drive the sampler into the soil a depth of 12 inches was recorded as the penetration resistance. These values are the raw uncorrected blowcounts.

Bulk samples of the soils within the upper 3 feet were obtained at all boring locations.

The field explorations for the investigation were performed under the continuous technical supervision of GPI's representative, who visually inspected the site, maintained detailed logs of the borings, classified the soils encountered, and obtained relatively undisturbed samples for examination and laboratory testing. The soils encountered in the borings were classified in the field and through further examination in the laboratory in accordance with the Unified Soils Classification System. Detailed logs of the borings are presented in Figures A-1 to A-4 in this appendix. Laboratory test results of moisture content and dry density are presented on the logs. For other laboratory tests, the type of test performed is shown with the following abbreviations:

DS – Direct Shear Test
UU – Unconsolidated Undrained Triaxial Test
#200 – Percent Passing No. 200 Sieve
AL – Atterberg Limits
EI – Expansion Index

Soil samples were screened for organic vapors using a photo-ionization detector (Mini-Rae 2000). Organic vapors were not detected above 50 ppm for any of the samples.

Upon completion of the borings, the boreholes were backfilled with soil cuttings. The ground surface elevations, as shown on the boring logs, at the exploration locations were estimated from topographic maps contained within NavigateLA website and should be considered to be very approximate.

LAB TESTING	PID	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS	ELEVATION (FEET)
							This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	
					B	0	Fill: **SANDY SILT (ML)** dark brown, dry	
	1			21	S		Natural: **SILTY SAND (SM)** reddish brown, dry, medium dense	
							CLAYEY SILT (ML) brown, slightly moist, stiff	655
DS #200	0	11.4	121	22	D	5	**SANDY SILT (ML)** brown, moist, stiff to very stiff	
	0			36	S		**CLAYEY SAND (SC)** brown and grey, moist, medium dense	
	0	13.0	112	24	D	10	**SANDY CLAY (CL)** brown with red veins, moist, very stiff @ 12.5 feet, stiff to very stiff	650
	0			22	S		**SANDY SILT (ML)** brown, slightly moist, stiff to very stiff	
	0	5.3	107	29	D	15	**SILTY SAND (SM)** brown, slightly moist, medium dense	645
	0			27	S		**SANDY SILT (ML)** brown, slightly moist, very stiff	
						20		640
	4	7.6	99	49	D			

Total Depth 21.5 feet
Latitude: 34.160646
Longitude: -118.444111

SAMPLE TYPES
- [C] Rock Core
- [S] Standard Split Spoon
- [D] Drive Sample
- [B] Bulk Sample
- [T] Tube Sample

DATE DRILLED:
9-26-17
EQUIPMENT USED:
8" Hollow Stem Auger
GROUNDWATER LEVEL:
Not Encountered

GPI

PROJECT NO.: 2500.08I
VAN NUYS/SHERMAN OAKS

LOG OF BORING NO. VN-1

FIGURE A-1

LAB TESTING	PID	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLE TYPE	DEPTH (FEET)	*DESCRIPTION OF SUBSURFACE MATERIALS* This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	ELEVATION (FEET)
					B	0	2-Inch AC over No BASE Fill: **SAND (SP)** light brown, slightly moist	
	0	3.9	107	21	D		Natural: **SILTY SAND (SM)** brown, slightly moist, medium dense, with gravel	655
AL #200	0			25	S	5	**SANDY CLAY (CL)** light brown, slightly moist, very stiff	
DS	0	10.9	122	20	D		**CLAYEY SAND (SC)** brown, slightly moist, medium dense	650
#200	4			7	S	10	**SANDY SILT (MH)** brown, moist, firm	
	0	14.4	111	22	D		@ 12.5 feet, stiff	645
	0			13	S	15		
							SILTY CLAY (CL) brown, moist, stiff	
	0	23.8	103	24	D		**SANDY SILT (ML)** brown, very moist, stiff	640
	0			18	S	20		

Total Depth 21.5 feet
Latitude: 34.161429
Longitude: -118.444229

SAMPLE TYPES
- [C] Rock Core
- [S] Standard Split Spoon
- [D] Drive Sample
- [B] Bulk Sample
- [T] Tube Sample

DATE DRILLED:
9-26-17

EQUIPMENT USED:
8" Hollow Stem Auger

GROUNDWATER LEVEL:
Not Encountered

GPI

PROJECT NO.: 2500.08I
VAN NUYS/SHERMAN OAKS

LOG OF BORING NO. VN-2

FIGURE A-2

LAB TESTING	PID	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS	ELEVATION (FEET)
					B	0	Fill: **SILTY CLAY (CL)** dark brown, dry	
EI								
#200	0			25	S		Natural: **SANDY CLAY (CL)** brown, dry, very stiff	655
UU	0	11.0	113	22	D	5	@ 5 feet, slightly moist, stiff	
	0			22	S		**CLAYEY SAND (SC)** brown, slightly moist, medium dense	650
	0	3.9	121	32	D	10	**SILTY SAND (SM)** greyish brown, dry, medium dense, with gravel	
							SILTY CLAY (CL) brown, slightly moist, very stiff	
	0			24	S		**SILTY SAND (SM)** brown, moist, medium dense	645
DS	0	10.4 6.8	103 105	24	D	15		
	0			31	S		**SANDY SILT (ML)** brown, slightly moist, hard, with clay	640
	0	8.8	106	40	D	20	@ 20 feet, very stiff	
							SAND with SILT (SP-SM) greyish brown, slightly moist, medium dense	

This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Total Depth 21.5 feet
Latitude: 34.161385
Longitude: -118.443365

SAMPLE TYPES
- [C] Rock Core
- [S] Standard Split Spoon
- [D] Drive Sample
- [B] Bulk Sample
- [T] Tube Sample

DATE DRILLED:
9-26-17

EQUIPMENT USED:
8" Hollow Stem Auger

GROUNDWATER LEVEL:
Not Encountered

GPI

PROJECT NO.: 2500.08I
VAN NUYS/SHERMAN OAKS

LOG OF BORING NO. VN-3

FIGURE A-3

LAB TESTING	PID	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLE TYPE	DEPTH (FEET)	*DESCRIPTION OF SUBSURFACE MATERIALS* This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	ELEVATION (FEET)
					B	0	Fill: **SILTY SAND (SM)** light brown, slightly moist	
UU	0	6.7	104	28	D		Natural: **SANDY CLAY (CL)** brown, dry, very stiff	655
AL #200	0			20	S	5		
	0	9.2	117	23	D		**CLAYEY SAND (SC)** brown, moist, medium dense	650
#200	0			12	S	10	**SANDY SILT (ML)** brown, slightly moist, firm to stiff	
	0	14.4	106	31	D		**SANDY CLAY (CL)** brown, moist, very stiff	645
	0			39	S	15	**CLAYEY SILT (ML)** brown, moist, hard **SANDY SILT (ML)** brown, moist, hard	
	0	22.0	99	30	D		**CLAYEY SILT (ML)** brown with orange and black, wet, very stiff	640
	0			20	S	20	@ 20 feet, brown	

Total Depth 21.5 feet
Latitude: 34.160959
Longitude: -118.442885

SAMPLE TYPES
- [C] Rock Core
- [S] Standard Split Spoon
- [D] Drive Sample
- [B] Bulk Sample
- [T] Tube Sample

DATE DRILLED:
9-26-17

EQUIPMENT USED:
8" Hollow Stem Auger

GROUNDWATER LEVEL:
Not Encountered

GPI

PROJECT NO.: 2500.08I
VAN NUYS/SHERMAN OAKS

LOG OF BORING NO. VN-4

FIGURE A-4

APPENDIX B

APPENDIX B

LABORATORY TESTS

INTRODUCTION

Representative undisturbed soil samples and bulk samples were carefully packaged in the field and sealed to prevent moisture loss. The samples were then transported to our Cypress office for examination and testing assignments. Laboratory tests were performed on selected representative samples as an aid in classifying the soils and to evaluate the physical properties of the soils affecting foundation design and construction procedures. Detailed descriptions of the laboratory tests are presented below under the appropriate test headings. Test results are presented on the boring logs and in the figures that follow.

MOISTURE CONTENT AND DRY DENSITY

Moisture content and dry density were determined from a number of the ring samples. The samples were first trimmed to obtain volume and wet weight and then were dried in accordance with ASTM D 2216. After drying, the weight of each sample was measured, and moisture content and dry density were calculated. Moisture content and dry density values are presented on the boring logs in Appendix A.

ATTERBERG LIMITS

Liquid and plastic limits were determined for selected samples in accordance with ASTM D 4318. The results of the Atterberg Limits tests are presented in Figure B-1.

PERCENT PASSING NO. 200 SIEVE

Six soil samples were dried, weighed, soaked in water until individual soil particles were separated, and then washed on the No. 200 sieve. That portion of the material retained on the No. 200 sieve was oven-dried and weighed to determine the percentage of the material passing the No. 200 sieve. A summary of the percentages passing the No. 200 sieve is presented below.

BORING NO.	DEPTH (ft)	SOIL DESCRIPTION	PERCENT PASSING No. 200 SIEVE
VN-1	5	Sandy Silt (ML)	57
VN-2	5	Sandy Clay (CL)	57
VN-2	10	Sandy Silt (ML)	63
VN-3	2.5	Sandy Clay (CL)	67
VN-4	5	Sandy Clay (CL)	61
VN-4	10	Sandy Silt (ML)	68

DIRECT SHEAR

Direct shear tests were performed on undisturbed samples in accordance with ASTM D 3080. The samples were placed in the shear machine, and a normal load was applied. The samples were inundated for at least 4 hours, allowed to consolidate, and then were sheared to failure at a strain rate of 0.002 inches per minute. The tests were repeated on additional test specimens under increased normal loads. Shear stress and sample deformation were monitored throughout the test. The testing was performed by MGTL Inc. on a soil samples provided by GPI. The results of the direct shear tests are presented in Figures B-2 to B-4.

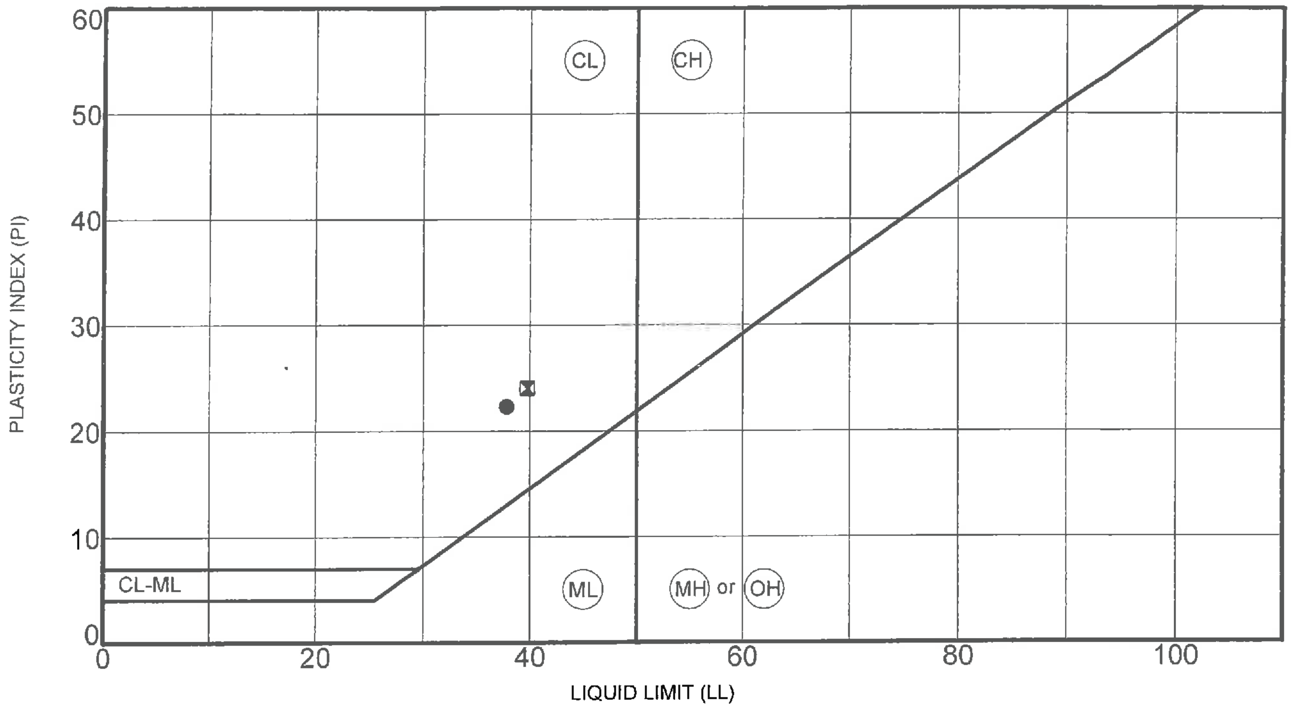
UNCONSOLIDATED UNDRAINED TRIAXIAL TESTS

Unconsolidated undrained triaxial tests were performed on two samples of cohesive soils in accordance with ASTM D 2850. The testing was performed by A.P. Engineer on a soil samples provided by GPI. Detailed test results are presented in Figures B-5 and B-6.

EXPANSION INDEX

One expansion index test was performed in accordance with D 4829 on a composite bulk sample, representative of the soils in the upper 3 feet of the site. The test results are presented below:

BORING NO.	DEPTH (ft)	SOIL DESCRIPTION	EXPANSION INDEX
VN-3	0-3	Silty Clay (CL)	37



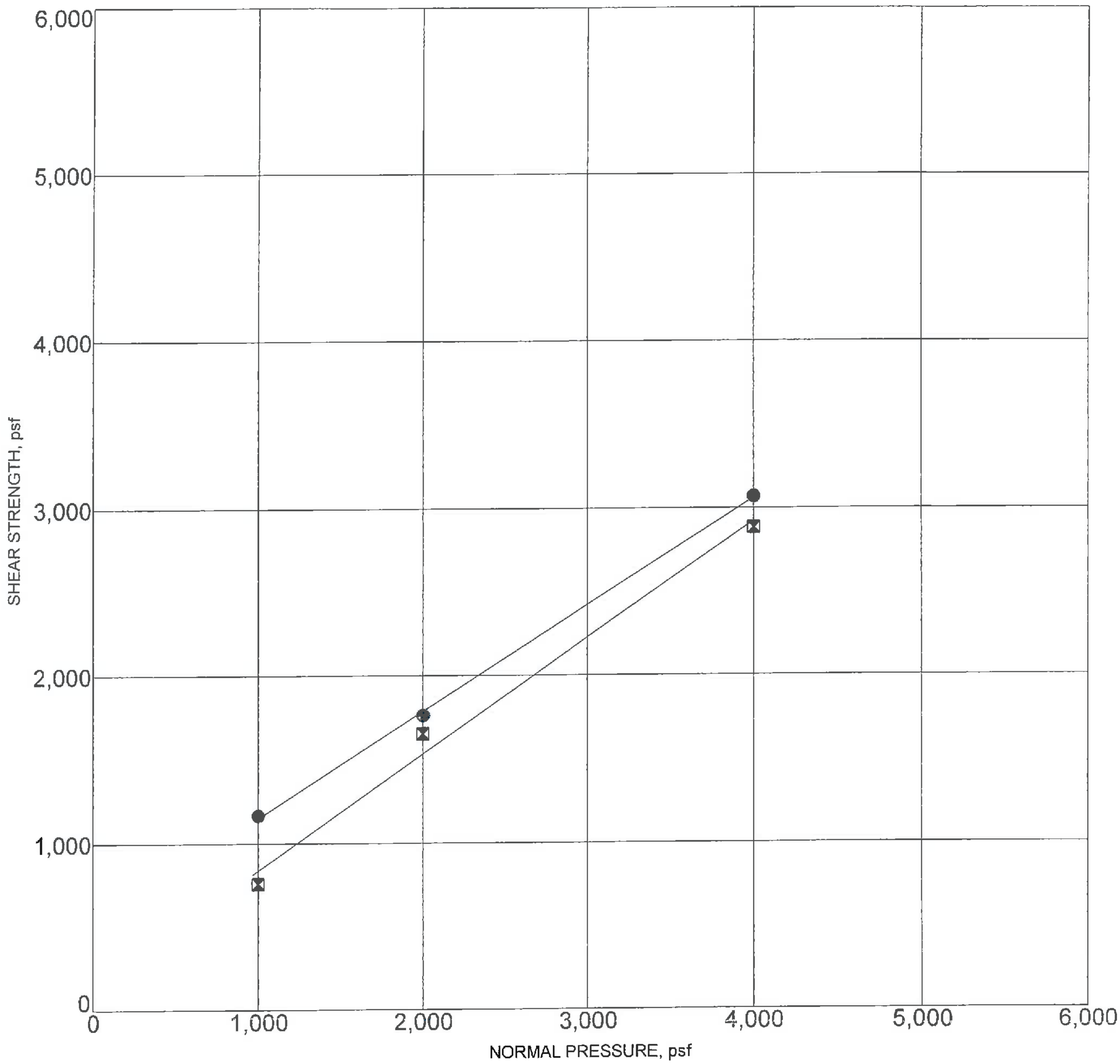
	SAMPLE LOCATION		LL	PL	PI	Fines, %	Classification
●	VN-2	5.0	38	15	22		SANDY CLAY (CL)
⊠	VN-4	5.0	40	16	24		SANDY CLAY (CL)

PROJECT: VAN NUYS/SHERMAN OAKS

PROJECT NO. 2500.08I

ATTERBERG LIMITS TEST RESULTS

FIGURE B-1



● **PEAK STRENGTH**
Friction Angle= 32 degrees
Cohesion= 516 psf

☒ **ULTIMATE STRENGTH**
Friction Angle= 35 degrees
Cohesion= 143 psf

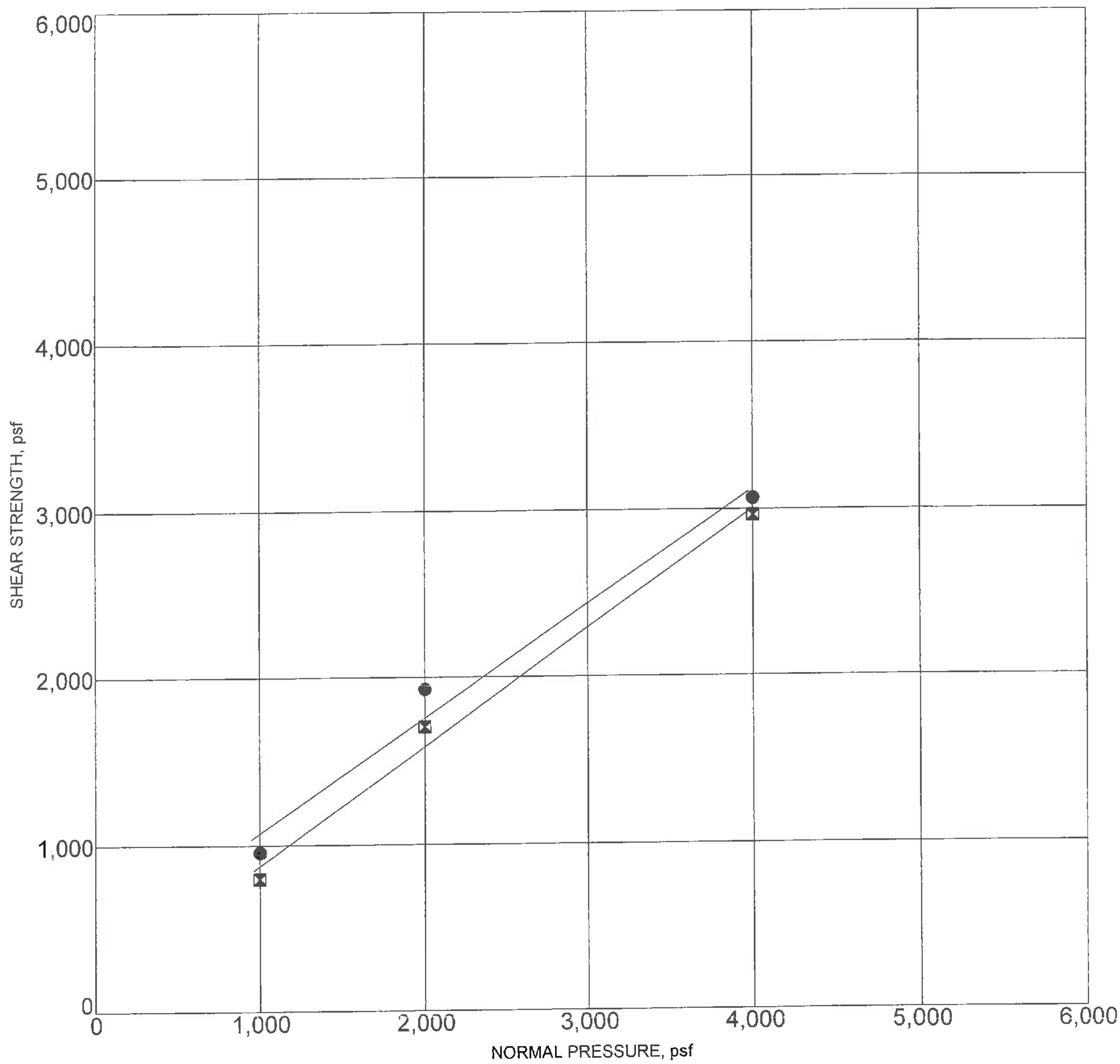
Sample Location		Classification	DD,pcf	MC,%
VN-1	5.0	SANDY SILT (ML)	121	11.4

PROJECT: VAN NUYS/SHERMAN OAKS PROJECT NO.2500.08I

GPI

DIRECT SHEAR TEST RESULTS

FIGURE B-2



● **PEAK STRENGTH**
Friction Angle= 34 degrees
Cohesion= 390 psf

☒ **ULTIMATE STRENGTH**
Friction Angle= 35 degrees
Cohesion= 167 psf

Sample Location		Classification	DD,pcf	MC,%
VN-2	7.5	CLAYEY SAND (SC)	122	10.9

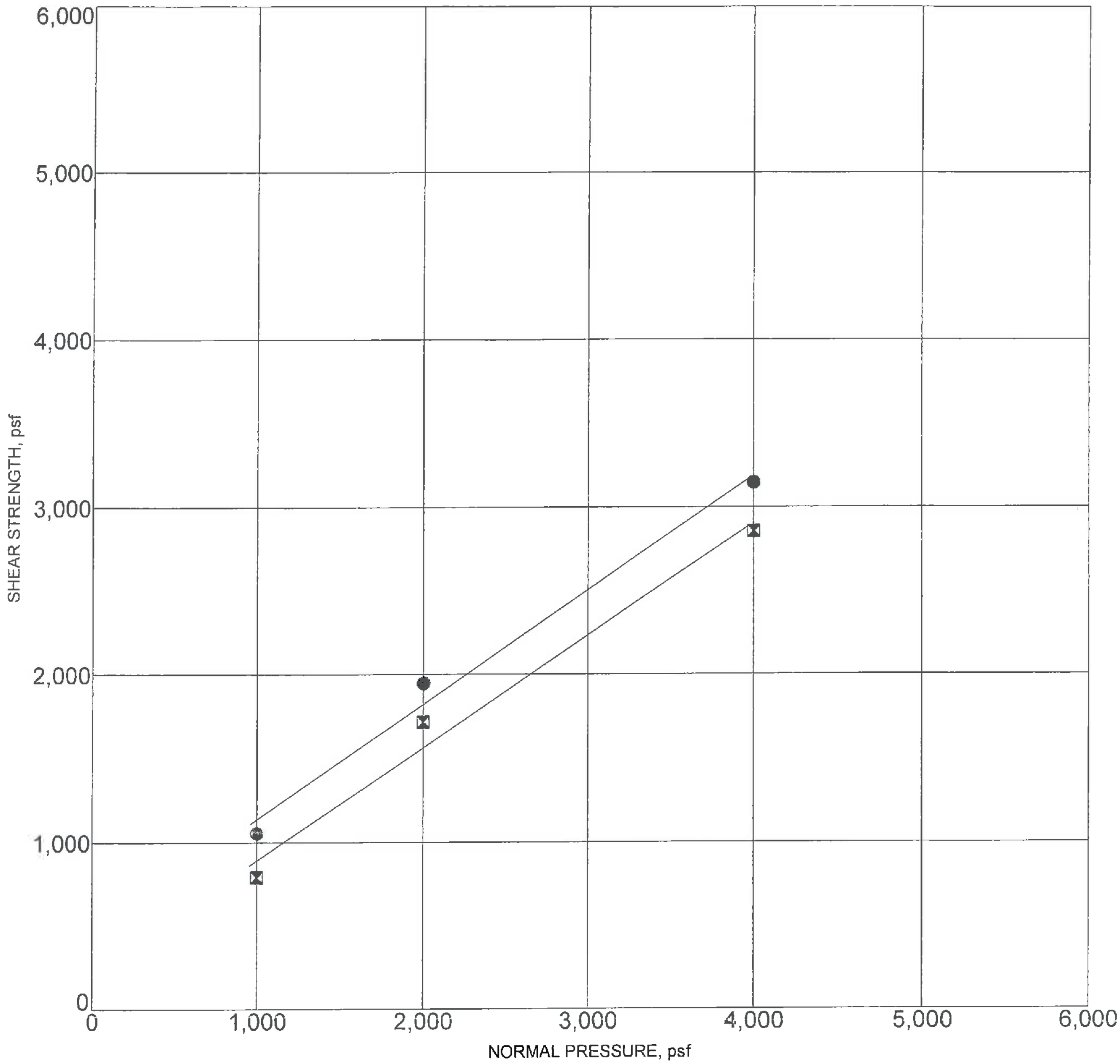
PROJECT: VAN NUYS/SHERMAN OAKS

PROJECT NO.2500.08I

GPI

DIRECT SHEAR TEST RESULTS

FIGURE B-3



PEAK STRENGTH
Friction Angle= 34 degrees
Cohesion= 456 psf

ULTIMATE STRENGTH
Friction Angle= 34 degrees
Cohesion= 223 psf

Sample Location		Classification	DD,pcf	MC,%
VN-3	15.0	SILTY SAND (SM)	103	10.4

PROJECT: VAN NUYS/SHERMAN OAKS

PROJECT NO.2500.08I

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DIRECT SHEAR TEST RESULTS

FIGURE B-4

AP Engineering and Testing, Inc.
DBE|MBE|SBE
2607 Pomona Boulevard | Pomona, CA 91768
t. 909.869.6316 | f. 909.869.6318 | www.aplaboratory.com

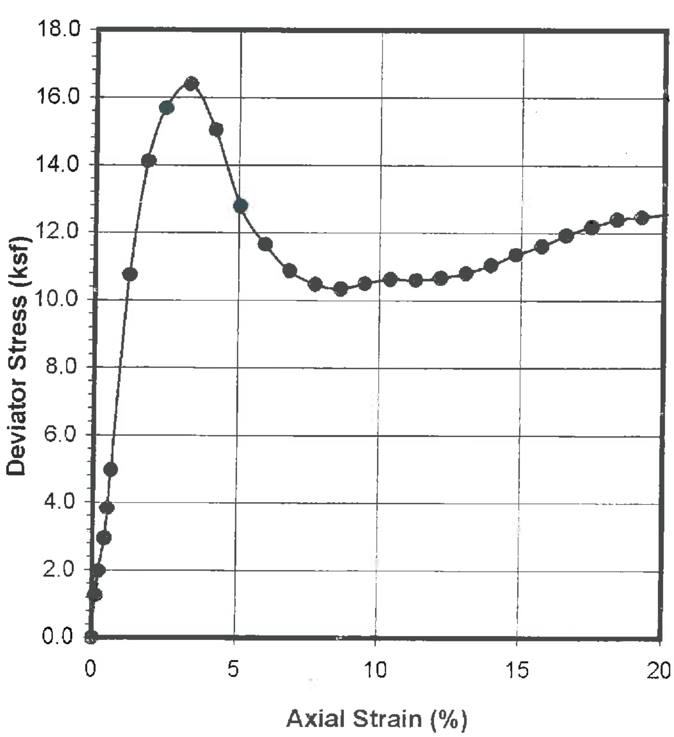
UNCONSOLIDATED UNDRAINED TRIAXIAL TEST (UU,Q)
ASTM D 2850

Client Name:	Geotechnical Professionals, Inc.	Tested By:	ST
		Date:	10/10/17
Project Name:	Van Nuys/Sherman Oaks Lighting Project	Checked by:	AP
		Date:	10/10/17
Project No.:	2500.08I		
Boring No.:	VN-3		
Sample No.:	-	Depth (feet):	5
Soil Description	Sandy Clay	Sample Type:	Mod. Cal.

Sample Diameter (inch):	2.415	Wet Unit Weight (pcf):	128.3
Sample Height (inch):	4.981	Dry Unit Weight (pcf):	115.1
Sample Weight (g):	769.03	Moisture Content (%):	11.5
Wt. of Wet Soil+Container (g):	715.28	Void Ratio for Gs=2.7:	0.46
Wt. of Dry Soil+Container (g):	699.84	% Saturation:	66.9
Wt. of Container (g):	565.55		

TEST DATA

Cell Pressure (ksf):	0.72
Back Pressure (ksf):	0.0
Tested Total Confining Pressure (ksf):	0.72
Shear Rate (%/min):	0.3
Maximum Deviator Stress (ksf):	16.39
Ultimate Deviator Stress (ksf):	12.56
Ultimate Undrained Shear Strength (ksf):	6.28
Axial Strain @ Maximum Stress (%)	3.28



Load (lbs)	Def. (inch)	Area (sq.in)	Deviator Stress (ksf)	Axial Strain (%)
0	0.000	4.58	0.00	0.00
40	0.005	4.59	1.26	0.10
63	0.010	4.59	1.98	0.20
94	0.020	4.60	2.94	0.40
122	0.025	4.60	3.82	0.50
159	0.030	4.61	4.97	0.60
346	0.060	4.64	10.75	1.20
457	0.090	4.66	14.11	1.81
511	0.120	4.69	15.68	2.41
539	0.163	4.74	16.39	3.28
499	0.208	4.78	15.03	4.17
428	0.252	4.82	12.77	5.06
394	0.297	4.87	11.65	5.95
371	0.340	4.92	10.87	6.83
361	0.385	4.96	10.47	7.73
360	0.430	5.01	10.34	8.64
369	0.473	5.06	10.50	9.50
377	0.518	5.11	10.62	10.39
380	0.562	5.16	10.60	11.28
386	0.606	5.21	10.66	12.16
395	0.650	5.27	10.80	13.05
408	0.695	5.32	11.04	13.94
424	0.738	5.38	11.36	14.81
438	0.783	5.43	11.61	15.72
455	0.826	5.49	11.93	16.58
469	0.869	5.55	12.17	17.45
483	0.914	5.61	12.40	18.34
491	0.957	5.67	12.47	19.21
500	1.001	5.73	12.56	20.09

FIGURE B-5

AP Engineering and Testing, Inc.
DBE|MBE|SBE
2607 Pomona Boulevard | Pomona, CA 91768
t. 909.869.6316 | f. 909.869.6318 | www.aplaboratory.com

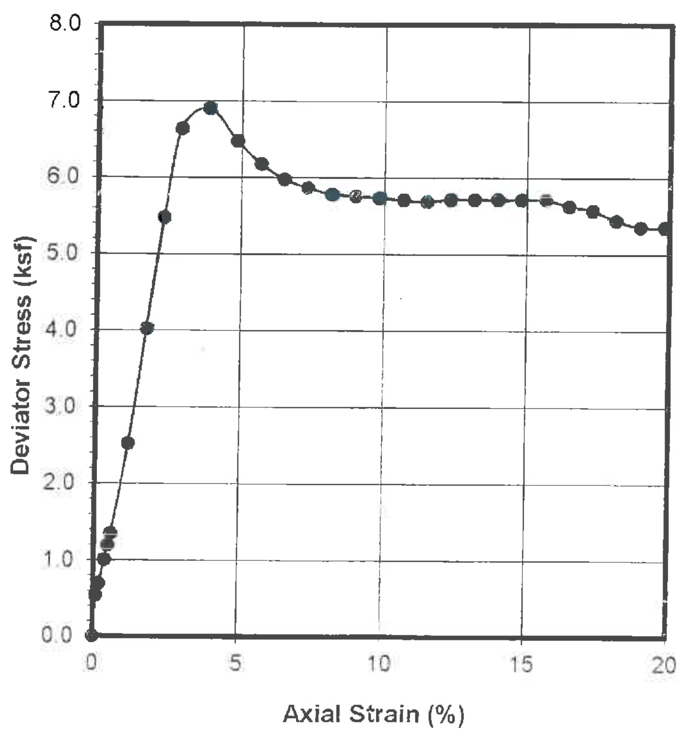
UNCONSOLIDATED UNDRAINED TRIAXIAL TEST (UU,Q)
ASTM D 2850

Client Name:	Geotechnical Professionals, Inc.	Tested By:	ST
Project Name:	Van Nuys/Sherman Oaks Lighting Project	Checked by:	AP
Project No.:	2500.081	Date (tested):	10/19/17
Boring No.:	VN-4	Date (checked):	10/20/17
Sample No.:	-	Depth (feet):	2.5
Soil Description	Sandy Clay	Sample Type:	Mod. Cal.

Sample Diameter (inch):	2.413	Wet Unit Weight (pcf):	106.8
Sample Height (inch):	5.183	Dry Unit Weight (pcf):	100.2
Sample Weight (g):	665.19	Moisture Content (%):	6.6
Wt. of Wet Soil+Container (g):	552.14	Void Ratio for Gs=2.7:	0.68
Wt. of Dry Soil+Container (g):	526.81	% Saturation:	26.2
Wt. of Container (g):	144.24		

TEST DATA

Cell Pressure (ksf):	0.72
Back Pressure (ksf):	0.0
Tested Total Confining Pressure (ksf):	0.72
Shear Rate (%/min):	0.3
Maximum Deviator Stress (ksf):	6.90
Ultimate Deviator Stress (ksf):	5.35
Ultimate Undrained Shear Strength (ksf):	2.68
Axial Strain @ Maximum Stress (%)	3.86

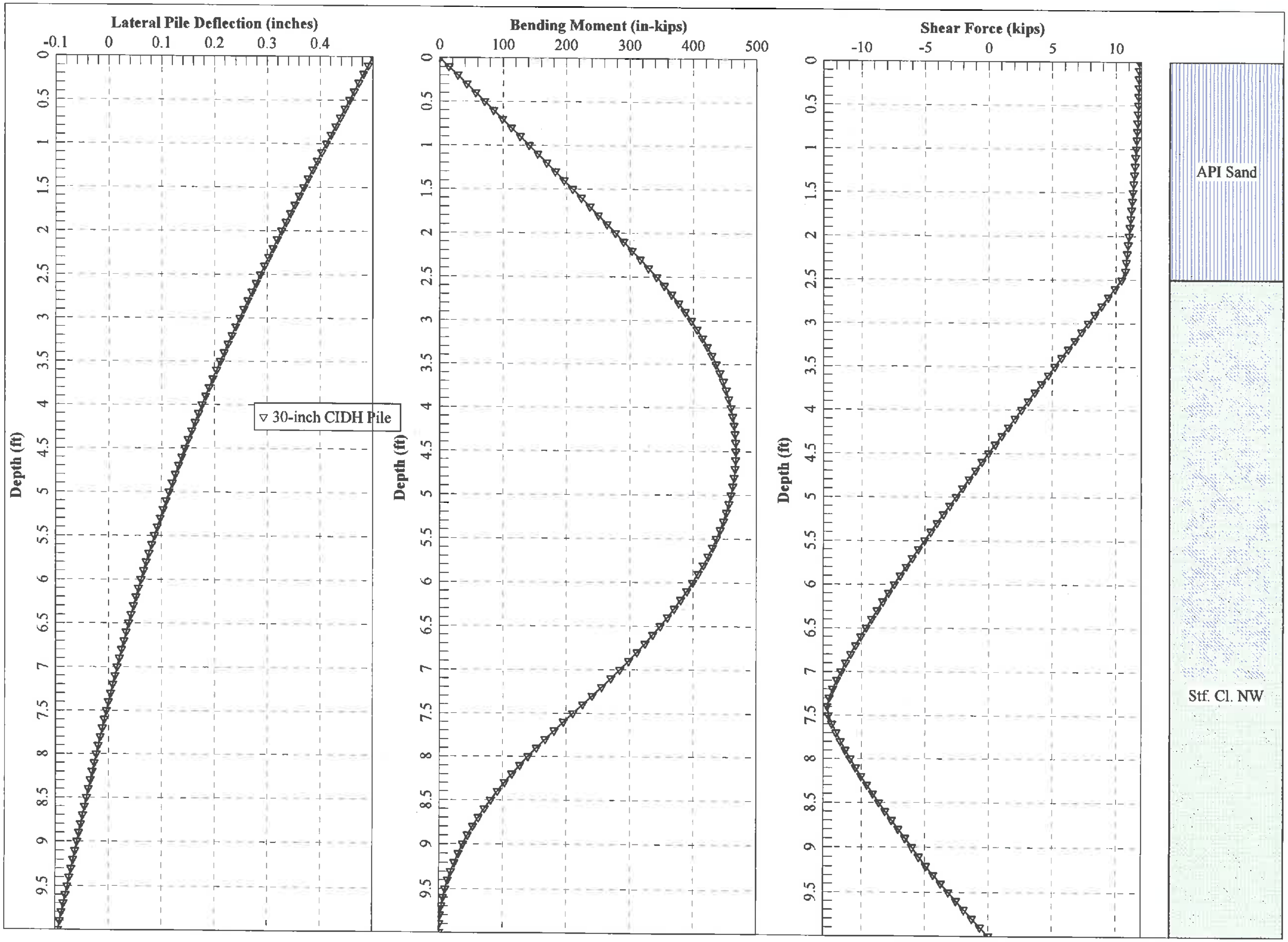


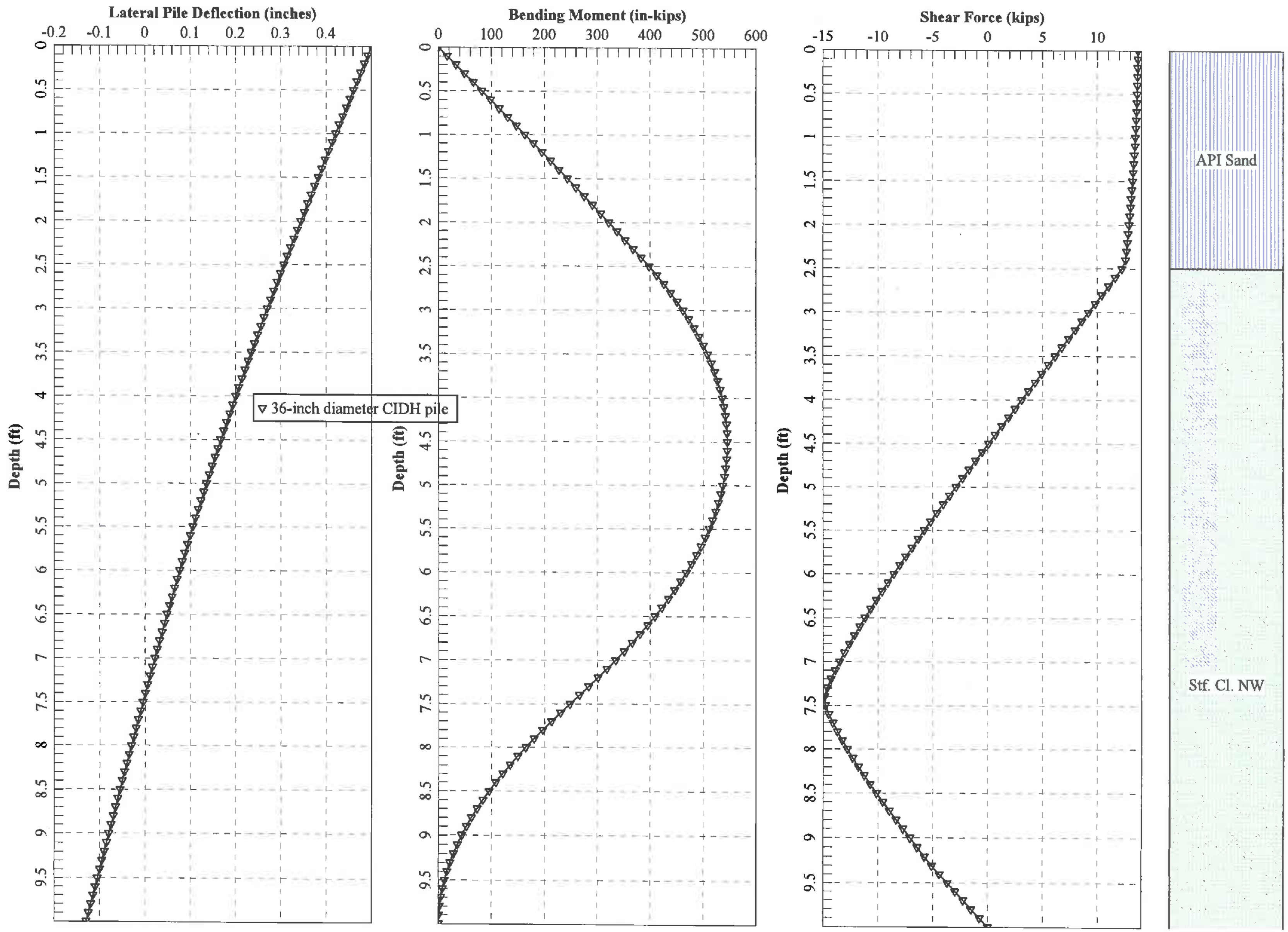
Load (lbs)	Def. (inch)	Area (sq.in)	Deviator Stress (ksf)	Axial Strain (%)
0	0.000	4.57	0.00	0.00
17	0.005	4.58	0.53	0.10
22	0.010	4.58	0.69	0.19
32	0.020	4.59	1.00	0.39
38	0.025	4.60	1.19	0.48
43	0.030	4.60	1.35	0.58
81	0.060	4.63	2.52	1.16
130	0.090	4.65	4.02	1.74
178	0.120	4.68	5.48	2.32
217	0.150	4.71	6.64	2.89
228	0.200	4.76	6.90	3.86
216	0.251	4.81	6.47	4.84
208	0.294	4.85	6.18	5.67
203	0.337	4.89	5.98	6.49
201	0.379	4.93	5.87	7.31
200	0.423	4.98	5.78	8.16
201	0.466	5.03	5.76	9.00
202	0.509	5.07	5.74	9.82
203	0.553	5.12	5.71	10.67
204	0.596	5.17	5.69	11.50
207	0.639	5.22	5.71	12.32
209	0.682	5.27	5.72	13.16
211	0.725	5.32	5.72	13.98
213	0.768	5.37	5.71	14.81
215	0.811	5.42	5.71	15.65
214	0.854	5.48	5.63	16.48
214	0.897	5.53	5.57	17.30
211	0.940	5.59	5.44	18.13
210	0.984	5.64	5.36	18.98
212	1.027	5.70	5.35	19.82

FIGURE B-6

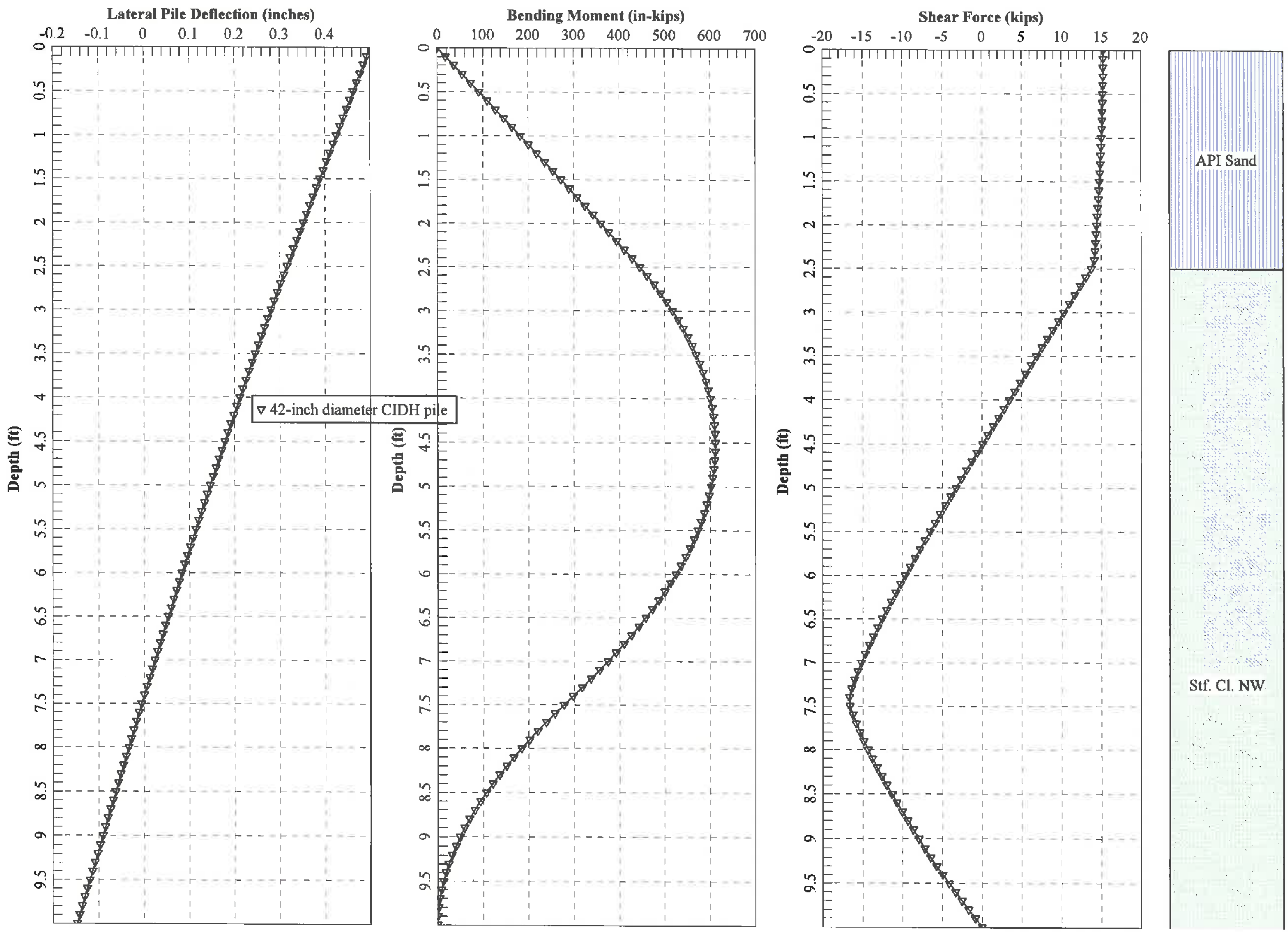
Appendix B

LPILE Results


Lateral Pile Deflection (inches)
Bending Moment (in-kips)
Shear Force (kips)
Depth (ft)
▽ 30-inch CIDH Pile
API Sand
Stf. Cl. NW



Lateral Pile Deflection (inches)
Bending Moment (in-kips)
Shear Force (kips)
Depth (ft)
▽ 36-inch diameter CIDH pile
API Sand
Stf. Cl. NW



Lateral Pile Deflection (inches)
Bending Moment (in-kips)
Shear Force (kips)
Depth (ft)
▽ 42-inch diameter CIDH pile
API Sand
Stf. Cl. NW