



Geotechnical Exploration, Inc.

SOIL AND FOUNDATION ENGINEERING • GROUNDWATER • ENGINEERING GEOLOGY

28 March 2018

All Right Storage, Inc.
11300 Sorrento Valley Road, Suite 250
San Diego, CA 92121
Attn: Mr. Olivier Andreu

Job No. 14-10558.1

Subject: **Update Geotechnical Investigation and Infiltration Testing**
Cottonwood Self Storage Project
Northwest of State Route 52 and Cottonwood Ave
Santee, California
APN Nos. 383-112-05-00 and 28-00

Dear Mr. Andreu:

In accordance with your request, ***Geotechnical Exploration, Inc.*** has performed an update geotechnical investigation and infiltration testing for the subject project (see Vicinity Map, Figure No. I). We previously performed a preliminary geotechnical investigation for a previously planned project at the site, the results of which were presented in our report dated July 10, 2014. It is our understanding, based on preliminary plans provided to us, that the presently proposed development of the currently vacant 6-acre site will include 3 single-story and 2 three-story self storage buildings with pavements and other associated improvements (see Figure Nos. II and III). The objectives of this update investigation were to evaluate the depth of existing undocumented fill soils along the western and northern property boundaries and to provide supplemental grading and foundation recommendations as needed. The objective of the infiltration testing was to evaluate the subsurface soil infiltration rates in an area that may be used for an infiltration basin.

SCOPE OF SERVICES

Based on the above information, the update geotechnical investigation and infiltration testing consisted of the following:

1. A field subsurface exploration program which consisted of the excavation of six exploratory test pits along the western and northern property boundaries and near the northeast corner of the property to evaluate the depth of existing undocumented fills that require removal and recompaction. The work was performed under the direction of our geologist who supervised, logged and sampled the excavations. In addition, two exploratory excavations were made to perform infiltration testing in a potential area for a storm water infiltration basin. The proposed infiltration testing was conducted in accordance with the City of Santee BMP Design Manual, Appendix C (Geotechnical and Groundwater Investigation Requirements) and Appendix D (Approved Infiltration Rate Assessment Methods).
2. Laboratory testing of samples obtained from the excavations to assist in classification of the materials and to help evaluate the index, strength, compressibility, and expansion properties of the soils encountered.
3. Geotechnical engineering analysis and evaluation of the resulting field and laboratory test data.
4. Preparation of this update geotechnical investigation report presenting the results of our study along with updated design and construction recommendations for the site grading, building foundations, and slab on-



grade construction as warranted. In addition, our infiltration rate findings are provided.

FIELD INVESTIGATION

The field investigation consisted of a surface reconnaissance and a subsurface exploration program using a rubber tired backhoe to investigate and sample the subsurface soils. On March 7, 2018, five exploratory test pits were excavated along the western and northern property boundaries where single-story buildings are planned close to those boundaries, and one exploratory test pit was excavated near the northeast corner of the property where a boring for the previous investigation (Boring B-2) had encountered debris-laden fill to a depth of about 8 feet. The test pits were excavated to a maximum depth of 5 feet. The soils encountered in the exploratory excavations were continuously logged in the field by our geologist and described in accordance with the Unified Soil Classification System (refer to Appendix A). The approximate locations of the exploratory excavations are shown on the Plot Plan, Figure No. IV.

In addition, two exploratory excavations were also made on March 7, 2018, to a maximum depth of 6½ feet in order to perform infiltration testing.

Representative samples were obtained from the exploratory excavations at selected depths appropriate to the investigation. All samples were returned to our laboratory for evaluation and testing.

Exploratory excavation logs have been prepared on the basis of our observations and laboratory test results. Logs of the exploratory test pits and infiltration testing excavations are attached as Figure Nos. Va-h.



SOIL DESCRIPTION

Existing fill soils consisting of loose to medium dense clayey sands were encountered in exploratory Test Pits 1 through 5 to depths of 1 to 3 feet. In Test Pit 6, the fill soils extended to a depth of 4 feet. Existing fill soils, consisting of loose to medium dense clayey sands were also encountered in the infiltration excavations to a depth of 2 feet. The fill soils encountered in Test Pits 1 through 3 appear to be retaining wall backfill along the western property boundary and it appears that the retaining wall is founded on older alluvial soils. The materials encountered beneath the fill soils in all of the exploratory excavations consisted of older alluvial materials, comprised of dense silty and clayey sands, to the maximum depth explored of 6½ feet.

The exploratory test pit and infiltration excavation logs and related information depict subsurface conditions only at the specific locations shown on the site plan and on the particular date designated on the logs. Subsurface conditions at other locations may differ from conditions occurring at these locations. Also, the passage of time may result in changes in the subsurface conditions due to environmental changes.

CONCLUSIONS AND RECOMMENDATIONS

Based on review of our previous investigation at the site, as well as the presently proposed development plans, it is our opinion that the conclusions and recommendations presented in our previous preliminary geotechnical investigation report dated July 10, 2014, remain applicable for the proposed site development with the following exceptions.



1. **Building Pad Grading:** We recommend that the grading for the building pads consist of removal and recompaction of the existing fill soils or to a depth of 3 feet below the pad subgrade levels, whichever is deeper.
2. **Building Foundations:** It is our understanding that the proposed buildings will be supported on mat foundations rather than shallow footing foundations. We recommend that a subgrade modulus (K_{v1}) of 160 tons per cubic foot be used for the mat designs.
3. **Seismic Design:** The seismic design parameters presented in our 2014 report cited the 2013 CBC and the presently proposed project will be constructed in accordance with the 2016 CBC. In that the 2013 and 2016 CBC both utilize ASCE 7-10 for the determination of seismic design parameters, the previously presented parameters remain applicable.

INFILTRATION TESTING

We performed simple open pit falling head testing at two locations on the property at depths of 78 inches at INF-1, and 54 inches at INF-2. Falling head measurements were collected at regular time intervals for a period of 3 hours. The tests were performed per the requirements of the City of Santee Storm Water Standards, BMP Design Manual, in accordance with Appendix D. Both tests were performed in the older alluvial materials underlying the site at shallow depths. Laboratory test results at infiltration test locations INF-1 and INF-2, indicate 42 percent and 56 percent of the soils passed the #200 sieve, respectively.

Testing at location INF-1 revealed a falling head rate of 480 minutes/inch. The testing at INF-2 showed no measurable head drop in the last hour. The simple



open pit falling head test rate results for INF-1 and INF-2 have been converted to infiltration rates using the Porchet Method and indicate infiltration rates of 0.062- and 0.000-inch/hour, respectively, without a factor of safety applied. Refer to Appendix A for the simple open pit test rate results and simple open pit to infiltration rate calculations. Review of the USDA Web Soil Survey Map indicates the site has been assigned to hydrologic soil group (HSG) D. Refer to Appendix B for USDA Web Soil Survey Map.


Based on the results of our simple open pit falling head testing and evaluation of the infiltration rates, it is our professional opinion that the site is not suitable for infiltration BMPs. We also recommend that any bio remediation features be lined with an impermeable liner and drained to the storm drain system.

Our services consist of professional opinions and recommendations made in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied.

This opportunity to be of service is sincerely appreciated. If you have any questions concerning this matter, please contact our office. Reference to our **Job No. 14-10558.1** will help to expedite a response to your inquiries.

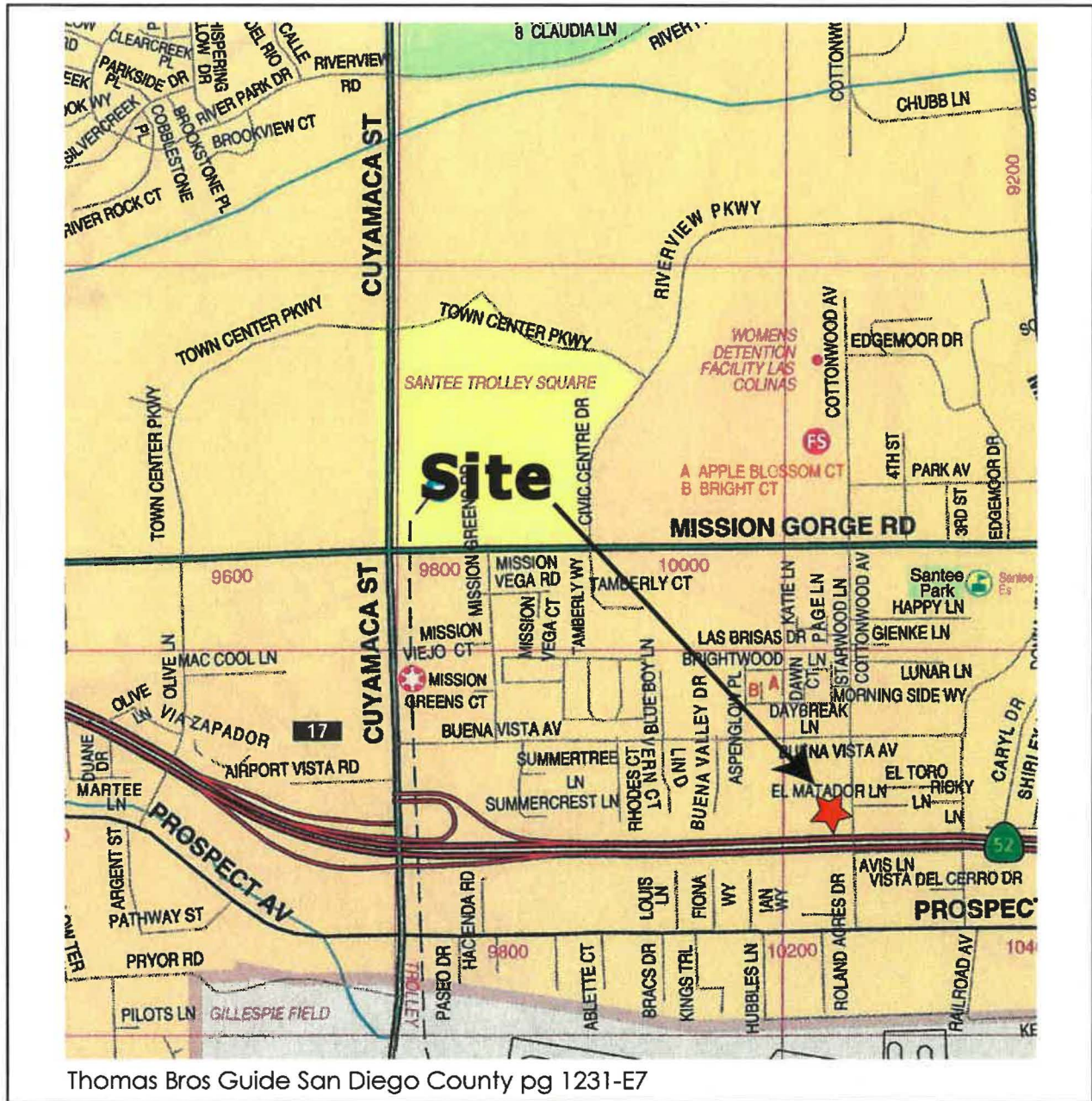
Respectfully submitted,

GEOTECHNICAL EXPLORATION, INC.


Wm. D. Hespeler, G.E. 396
Senior Geotechnical Engineer



VICINITY MAP



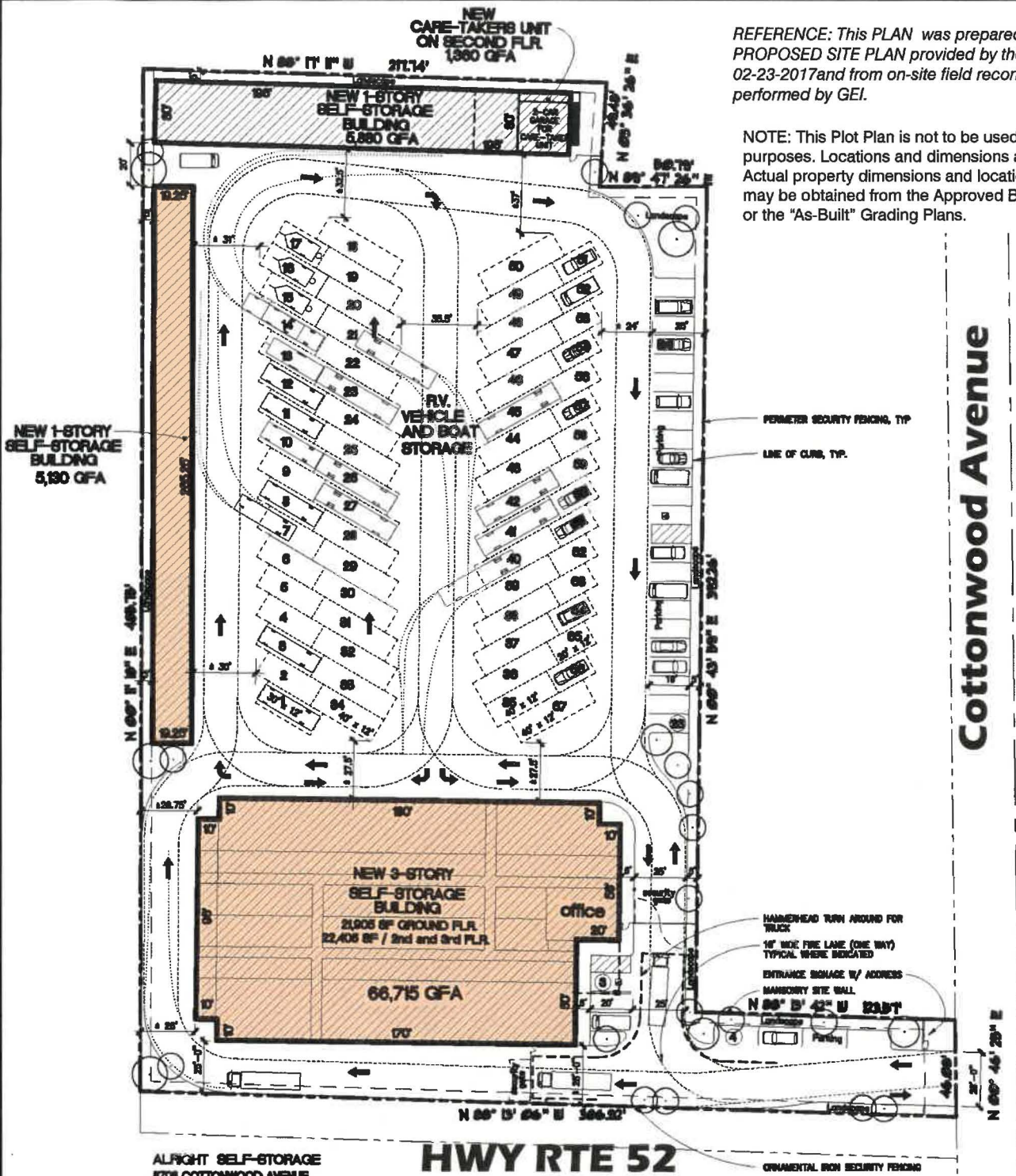
Cottonwood Self Storage
Northwest of State Route 52 and Cottonwood Avenue
Santee, CA.

Figure No. 1
Job No. 14-10558.1



REFERENCE: This PLAN was prepared from an existing PROPOSED SITE PLAN provided by the client dated 02-23-2017 and from on-site field reconnaissance performed by GEI.

NOTE: This Plot Plan is not to be used for legal purposes. Locations and dimensions are approximate. Actual property dimensions and locations of utilities may be obtained from the Approved Building Plans or the "As-Built" Grading Plans.



ALPHIGHT SELF-STORAGE
8708 COTTONWOOD AVENUE

PROPOSED SITE PLAN - PHASE I




Scale
(approximate)

PHAZE 1

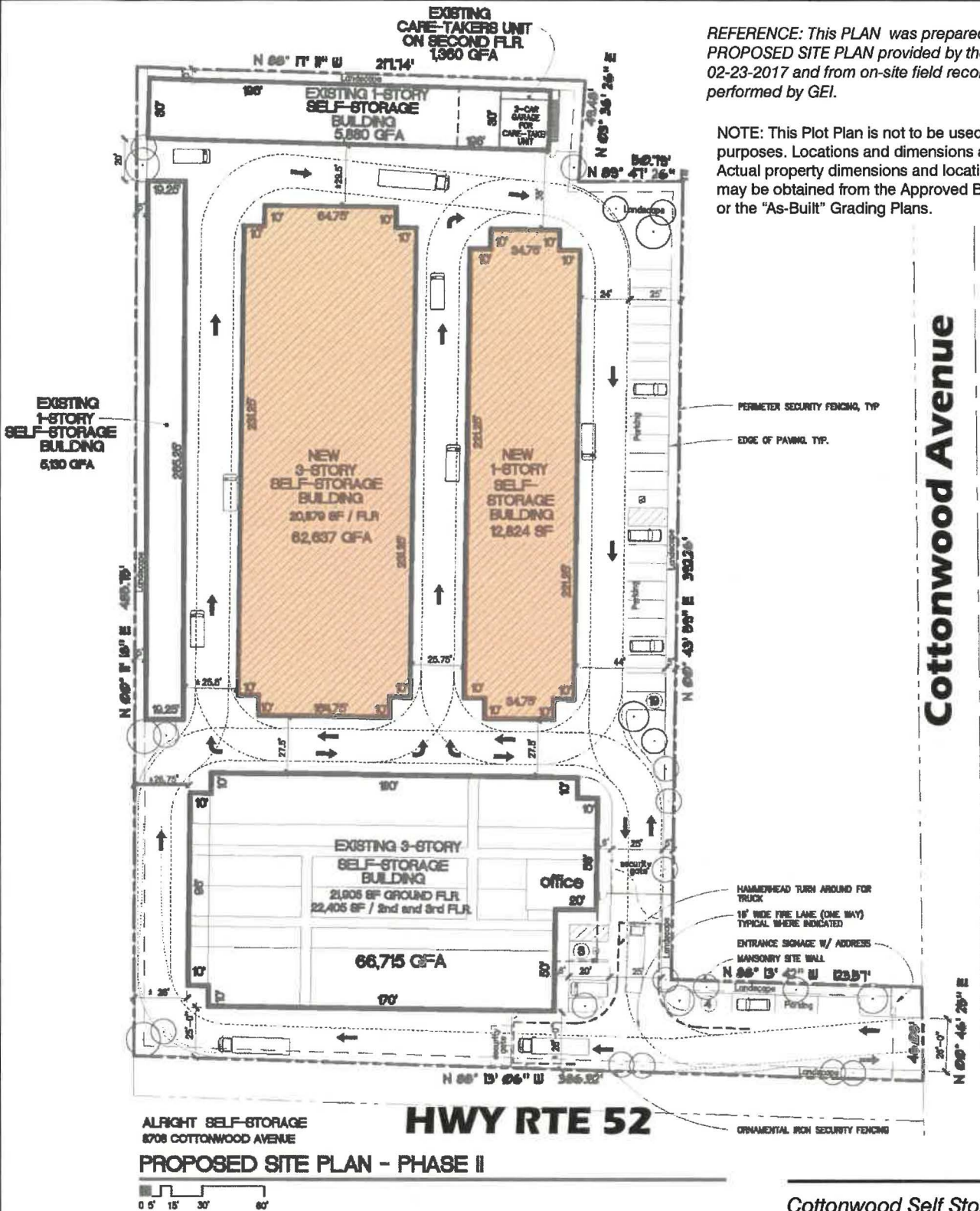
SITE DEVELOPMENT PLAN

Cottonwood Self Storage
Northwest of State Route 52
and Cottonwood Avenue
Santee, CA.
Figure No. II
Job No. 14-10558.1

 **Geotechnical
Exploration, Inc.**
March 2018

REFERENCE: This PLAN was prepared from an existing PROPOSED SITE PLAN provided by the client dated 02-23-2017 and from on-site field reconnaissance performed by GEI.

NOTE: This Plot Plan is not to be used for legal purposes. Locations and dimensions are approximate. Actual property dimensions and locations of utilities may be obtained from the Approved Building Plans or the "As-Built" Grading Plans.

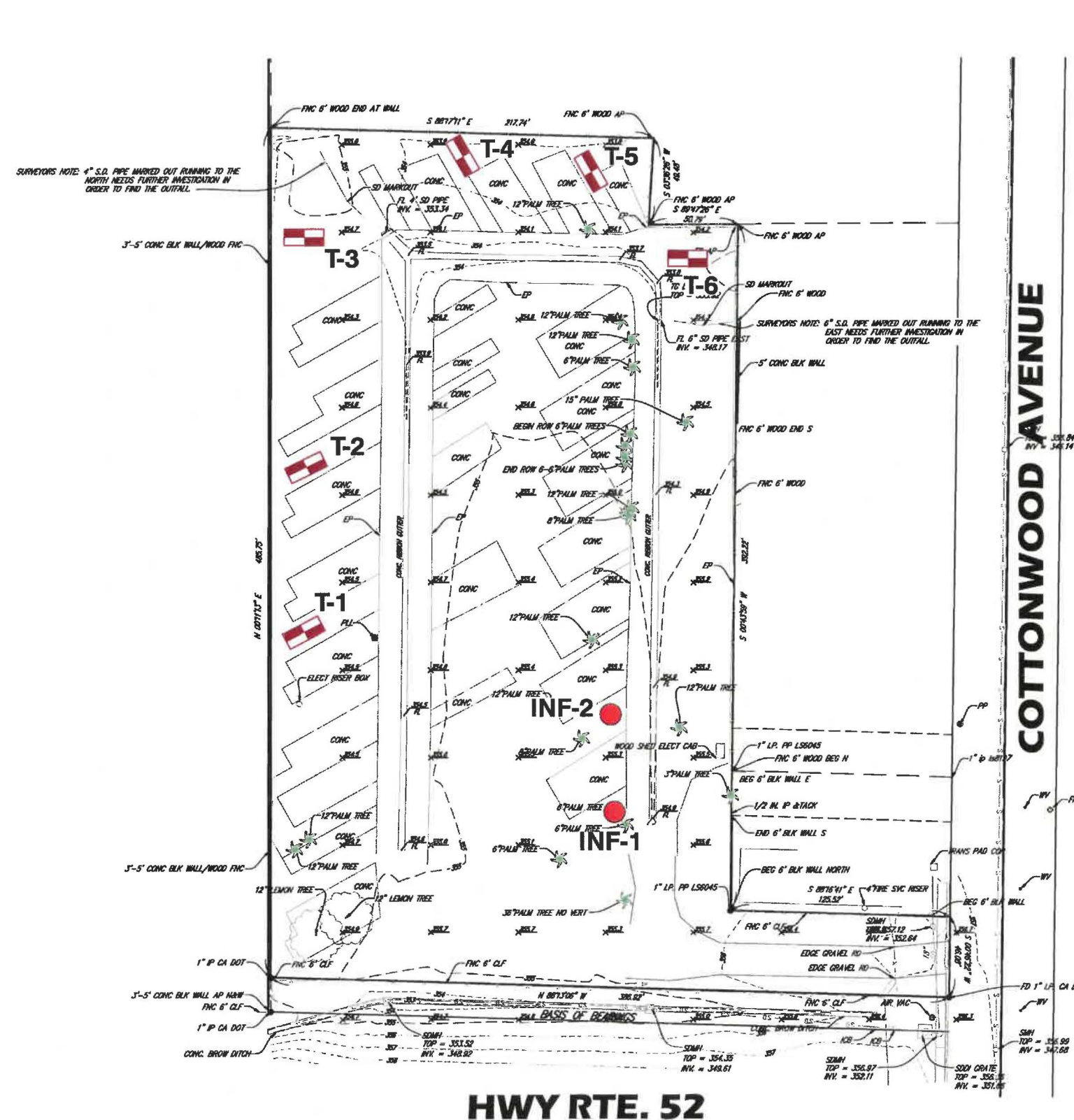


SITE DEVELOPMENT PLAN

Cottonwood Self Storage
Northwest of State Route 52
and Cottonwood Avenue
Santee, CA.
Figure No. III
Job No. 14-10558.1

**Geotechnical
Exploration, Inc.**

March 2018



NOTE: This Plot Plan is not to be used for legal purposes. Locations and dimensions are approximate. Actual property dimensions and locations of utilities may be obtained from the Approved Building Plans or the "As-Built" Grading Plans.

REFERENCE: This Plot Plan was prepared from an existing TOPOGRAPHIC SURVEY provided by EXCEL ENGINEERING dated December 22, 2017 and from on-site field reconnaissance performed by GEI.

EQUIPMENT Rubber-tire Backhoe	DIMENSION & TYPE OF EXCAVATION 12' X 2' X 4' Trench	DATE LOGGED 3-7-18
SURFACE ELEVATION ± 354.5' Mean Sea Level	GROUNDWATER/ SEEPAGE DEPTH Not Encountered	LOGGED BY JAB

DEPTH (feet)	SYMBOL	SAMPLE	FIELD DESCRIPTION AND CLASSIFICATION		IN-PLACE MOISTURE (%)	IN-PLACE DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	MAXIMUM DRY DENSITY (pcf)	DENSITY (% of M.D.)	EXPAN. + CONSOL. (%)	BLOW COUNTS/FT.	SAMPLE O.D. (INCHES)
			DESCRIPTION AND REMARKS (Grain size, Density, Moisture, Color)	U.S.C.S.								
1			CLAYEY SAND , fine- to medium-grained, some glass and concrete debris. Loose to medium dense. Moist. Dark red-brown. FILL (Qaf)	SC								
2			SILTY SAND , fine- to medium-grained. Medium dense. Slightly moist. Light brown. OLDER ALLUVIUM (Qoa)	SM								
3			CLAYEY SAND , fine- to medium-grained. Dense. Moist. Dark red-brown. OLDER ALLUVIUM (Qoa)	SC								
4			Bottom @ 4'									
5												

- PERCHED WATER TABLE
- BULK BAG SAMPLE
- IN-PLACE SAMPLE
- MODIFIED CALIFORNIA SAMPLE
- NUCLEAR FIELD DENSITY TEST
- STANDARD PENETRATION TEST

JOB NAME Cottonwood Self Storage Project		
SITE LOCATION NW of SR 52 and Cottonwood Ave., Santee, CA		
JOB NUMBER 14-10558.1	REVIEWED BY JAB/WDH	LOG No. T-1
FIGURE NUMBER Va	Geotechnical Exploration, Inc.	




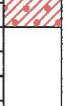
EQUIPMENT Rubber-tire Backhoe	DIMENSION & TYPE OF EXCAVATION 12' X 2' X 4' Trench	DATE LOGGED 3-7-18
SURFACE ELEVATION ± 354.5' Mean Sea Level	GROUNDWATER/ SEEPAGE DEPTH Not Encountered	LOGGED BY JAB

DEPTH (feet)	SYMBOL	SAMPLE	FIELD DESCRIPTION AND CLASSIFICATION		IN-PLACE MOISTURE (%)	IN-PLACE DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	MAXIMUM DRY DENSITY (pcf)	DENSITY (% of M.D.D.)	EXPAN. + CONSOL. (%)	BLOW COUNTS/FT.	SAMPLE O.D. (INCHES)
			DESCRIPTION AND REMARKS (Grain size, Density, Moisture, Color)	U.S.C.S.								
1			CLAYEY SAND , fine- to medium-grained, some glass, brick, tile and concrete debris. Loose to medium dense. Moist. Dark red-brown. FILL (Qaf)	SC								
2			-- @2'- electric, water and sewer throughout trench. CLAYEY SAND , fine- to medium-grained. Dense. Slightly moist to moist. Dark red-brown. OLDER ALLUVIUM (Qoa)	SC								
3												
4												
5			Bottom @ 4'									

- PERCHED WATER TABLE
- BULK BAG SAMPLE
- IN-PLACE SAMPLE
- MODIFIED CALIFORNIA SAMPLE
- NUCLEAR FIELD DENSITY TEST
- STANDARD PENETRATION TEST

JOB NAME Cottonwood Self Storage Project		
SITE LOCATION NW of SR 52 and Cottonwood Ave., Santee, CA		
JOB NUMBER 14-10558.1	REVIEWED BY JAB/WDH	LOG No. T-2
FIGURE NUMBER Vb	Geotechnical Exploration, Inc.	

EQUIPMENT Rubber-tire Backhoe	DIMENSION & TYPE OF EXCAVATION 12' X 2' X 4' Trench	DATE LOGGED 3-7-18
SURFACE ELEVATION ± 354.5' Mean Sea Level	GROUNDWATER/ SEEPAGE DEPTH Not Encountered	LOGGED BY JAB

DEPTH (feet)	SYMBOL	SAMPLE	FIELD DESCRIPTION AND CLASSIFICATION		IN-PLACE MOISTURE (%)	IN-PLACE DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	MAXIMUM DRY DENSITY (pcf)	DENSITY (% of M.D.D.)	EXPAN. + CONSOL. (%)	BLOW COUNTS/FT.	SAMPLE O.D. (INCHES)
			DESCRIPTION AND REMARKS (Grain size, Density, Moisture, Color)	U.S.C.S.								
1			CLAYEY SAND , fine- to medium-grained, some roots. Loose to medium dense. Moist. Dark red-brown. FILL (Qaf)	SC								
2			-- electrical conduit on west end of trench. CLAYEY SAND , fine- to medium-grained, some caliche. Dense. Slightly moist to moist. Dark red-brown. OLDER ALLUVIUM (Qoa)	SC								
3												
4												
5			Bottom @ 4'									



PERCHED WATER TABLE



BULK BAG SAMPLE



IN-PLACE SAMPLE



MODIFIED CALIFORNIA SAMPLE



NUCLEAR FIELD DENSITY TEST



STANDARD PENETRATION TEST

JOB NAME

Cottonwood Self Storage Project

SITE LOCATION

NW of SR 52 and Cottonwood Ave., Santee, CA

JOB NUMBER

14-10558.1

FIGURE NUMBER

Vc

REVIEWED BY

JAB/WDH



**Geotechnical
Exploration, Inc.**







LOG No.


T-3

EQUIPMENT Rubber-tire Backhoe	DIMENSION & TYPE OF EXCAVATION 10' X 2' X 4' Trench	DATE LOGGED 3-7-18
SURFACE ELEVATION ± 354' Mean Sea Level	GROUNDWATER/ SEEPAGE DEPTH Not Encountered	LOGGED BY JAB



DEPTH (feet)	SYMBOL	SAMPLE	FIELD DESCRIPTION AND CLASSIFICATION		IN-PLACE MOISTURE (%)	IN-PLACE DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	MAXIMUM DRY DENSITY (pcf)	DENSITY (% of M.D.D.)	EXPAN. + (%) CONSOL. -	BLOW COUNTS/FT.	SAMPLE O.D. (INCHES)
			DESCRIPTION AND REMARKS (Grain size, Density, Moisture, Color)	U.S.C.S.								
1			CLAYEY SAND , fine- to medium-grained, some trash debris. Loose to medium dense. Moist. Dark red-brown. FILL (Qaf)	SC								
2												
3			CLAYEY SAND , fine- to medium-grained, some caliche. Dense. Moist. Dark red-brown. OLDER ALLUVIUM (Qoa) -- gas/water line @ 3.5' on north end of trench.	SC								
4			Bottom @ 4'									
5												

EXPLORATION LOG 10558.1 COTTONWOOD.GPJ GEO_EXPL.GDT 3/27/18







-  PERCHED WATER TABLE
-  BULK BAG SAMPLE
-  IN-PLACE SAMPLE
-  MODIFIED CALIFORNIA SAMPLE
-  NUCLEAR FIELD DENSITY TEST
-  STANDARD PENETRATION TEST


JOB NAME Cottonwood Self Storage Project		
SITE LOCATION NW of SR 52 and Cottonwood Ave., Santee, CA		
JOB NUMBER 14-10558.1	REVIEWED BY JAB/WDH	LOG No. T-4
FIGURE NUMBER Vd		

EQUIPMENT Rubber-tire Backhoe	DIMENSION & TYPE OF EXCAVATION 11' X 2' X 3' Trench	DATE LOGGED 3-7-18
SURFACE ELEVATION ± 354' Mean Sea Level	GROUNDWATER/ SEEPAGE DEPTH Not Encountered	LOGGED BY JAB

DEPTH (feet)	SYMBOL	SAMPLE	FIELD DESCRIPTION AND CLASSIFICATION		IN-PLACE MOISTURE (%)	IN-PLACE DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	MAXIMUM DRY DENSITY (pcf)	DENSITY (% of M.D.D.)	EXPAN. + CONSOL. (%)	BLOW COUNTS/FT.	SAMPLE O.D. (INCHES)
			DESCRIPTION AND REMARKS (Grain size, Density, Moisture, Color)	U.S.C.S.								
1			CLAYEY SAND , fine- to medium-grained. Loose to medium dense. Moist. Dark red-brown. FILL (Qaf)	SC								
2			CLAYEY SAND , fine- to medium-grained, some pinhole voids, some caliche. Dense. Slightly moist to moist. Dark red-brown. OLDER ALLUVIUM (Qoa) -- electric line @ 2.5' on south end of trench.	SC								
3			Bottom @ 3'									
4												
5												

EXPLORATION LOG 10558.1 COTTONWOOD.GPJ GEO EXPL.GDT 3/27/18

-  PERCHED WATER TABLE
-  BULK BAG SAMPLE
-  IN-PLACE SAMPLE
-  MODIFIED CALIFORNIA SAMPLE
-  NUCLEAR FIELD DENSITY TEST
-  STANDARD PENETRATION TEST


JOB NAME Cottonwood Self Storage Project		
SITE LOCATION NW of SR 52 and Cottonwood Ave., Santee, CA		
JOB NUMBER 14-10558.1	REVIEWED BY JAB/WDH	LOG No. T-5
FIGURE NUMBER Ve		

EQUIPMENT Rubber-tire Backhoe	DIMENSION & TYPE OF EXCAVATION 17' X 2' X 5' Trench	DATE LOGGED 3-7-18
SURFACE ELEVATION ± 354' Mean Sea Level	GROUNDWATER/ SEEPAGE DEPTH Not Encountered	LOGGED BY JAB

DEPTH (feet)	SYMBOL	SAMPLE	FIELD DESCRIPTION AND CLASSIFICATION		IN-PLACE MOISTURE (%)	IN-PLACE DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	MAXIMUM DRY DENSITY (pcf)	DENSITY (% of M.D.D.)	EXPAN. + (% CONSOL. -	BLOW COUNTS/FT.	SAMPLE O.D. (INCHES)
			DESCRIPTION AND REMARKS (Grain size, Density, Moisture, Color)	U.S.C.S.								
			ASPHALT CONCRETE PAVEMENT , 3" thick.									
1			CLAYEY SAND , fine- to medium-grained, trace gravel, some brick and metal pipe debris. Medium dense. Moist. Dark red-brown.	SC								
2			FILL (Qaf)									
3												
4			CLAYEY SAND , fine- to medium-grained. Dense. Slightly moist to moist. Red-brown.	SC								
5			OLDER ALLUVIUM (Qoa)									
6			Bottom @ 5'									

EXPLORATION LOG 10558.1 COTTONWOOD.GPJ GEO EXPL.GDT 3/27/18

- PERCHED WATER TABLE
- BULK BAG SAMPLE
- IN-PLACE SAMPLE
- MODIFIED CALIFORNIA SAMPLE
- NUCLEAR FIELD DENSITY TEST
- STANDARD PENETRATION TEST

JOB NAME Cottonwood Self Storage Project		
SITE LOCATION NW of SR 52 and Cottonwood Ave., Santee, CA		
JOB NUMBER 14-10558.1	REVIEWED BY JAB/WDH	LOG No. T-6
FIGURE NUMBER Vf	 Geotechnical Exploration, Inc.	

EQUIPMENT Rubber-tire Backhoe	DIMENSION & TYPE OF EXCAVATION 12' X 4' X 6.5' Trench	DATE LOGGED 3-7-18
SURFACE ELEVATION ± 355' Mean Sea Level	GROUNDWATER/ SEEPAGE DEPTH Not Encountered	LOGGED BY JAB

DEPTH (feet)	SYMBOL	SAMPLE	FIELD DESCRIPTION AND CLASSIFICATION		U.S.C.S.	IN-PLACE MOISTURE (%)	IN-PLACE DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	MAXIMUM DRY DENSITY (pcf)	DENSITY (% of M.D.D.)	EXPAN. + CONSOL. (%)	BLOW COUNTS/FT.	SAMPLE O.D. (INCHES)
			DESCRIPTION AND REMARKS (Grain size, Density, Moisture, Color)										
1			CLAYEY SAND , fine- to medium-grained, trace asphalt and concrete debris. Medium dense. Slightly moist to moist. Dark red-brown. FILL (Qaf) -- electric lines exposed in northwest corner of trench. -- sewer line exposed in southwest corner of trench.		SC								
2			CLAYEY SAND , fine- to medium-grained. Dense. Slightly moist to moist. Red-brown. OLDER ALLUVIUM (Qoa)		SC								
3													
4													
5													
6		1	Infiltration test conducted from 6' to 6.5'. -- 42% passing #200 sieve.										
7			Bottom @ 6.5'										







EXPLORATION LOG 10558.1 COTTONWOOD.GPJ GEO EXPL.GDT 3/27/18


- PERCHED WATER TABLE
- BULK BAG SAMPLE
- IN-PLACE SAMPLE
- MODIFIED CALIFORNIA SAMPLE
- NUCLEAR FIELD DENSITY TEST
- STANDARD PENETRATION TEST

JOB NAME Cottonwood Self Storage Project		LOG No. INF-1
SITE LOCATION NW of SR 52 and Cottonwood Ave., Santee, CA		
JOB NUMBER 14-10558.1	REVIEWED BY JAB/WDH	
FIGURE NUMBER Vg		

EQUIPMENT Rubber-tire Backhoe	DIMENSION & TYPE OF EXCAVATION 12' X 4' X 4' Trench	DATE LOGGED 3-7-18
SURFACE ELEVATION ± 355' Mean Sea Level	GROUNDWATER/ SEEPAGE DEPTH Not Encountered	LOGGED BY JAB

DEPTH (feet)	SYMBOL	SAMPLE	FIELD DESCRIPTION AND CLASSIFICATION		IN-PLACE MOISTURE (%)	IN-PLACE DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	MAXIMUM DRY DENSITY (pcf)	DENSITY (% of M.D.D.)	EXPAN. + CONSOL. (%)	BLOW COUNTS/FT.	SAMPLE O.D. (INCHES)
			DESCRIPTION AND REMARKS (Grain size, Density, Moisture, Color)	U.S.C.S.								
			SILTY SAND , fine- to medium-grained. Loose. Slightly moist. Gray.	SM								
1			FILL (Qaf) CLAYEY SAND , fine- to medium-grained, trace asphalt and concrete debris. Medium dense. Slightly moist to moist. Red-brown.	SC								
2			FILL (Qaf)									
3			CLAYEY SAND/ SANDY CLAY , fine- to medium-grained, some manganese staining, some pinhole voids, some caliche. Dense/ very stiff. Slightly moist to moist. Dark red-brown.	SC/ CL								
			OLDER ALLUVIUM (Qoa)									
4			Infiltration test conducted from 3.5' to 4'. -- 56% passing #200 sieve.									
5			Bottom @ 4'									

-  PERCHED WATER TABLE
-  BULK BAG SAMPLE
-  IN-PLACE SAMPLE
-  MODIFIED CALIFORNIA SAMPLE
-  NUCLEAR FIELD DENSITY TEST
-  STANDARD PENETRATION TEST

JOB NAME Cottonwood Self Storage Project		
SITE LOCATION NW of SR 52 and Cottonwood Ave., Santee, CA		
JOB NUMBER 14-10558.1	REVIEWED BY JAB/WDH	LOG No.
FIGURE NUMBER Vh		INF-2

APPENDIX A



Simple Open Pit Falling Head Test Sheet

Project Name: Cottonwood Self Storage

Project No. 14-10558.1

Date Excavated: 3/7/18

Test Hole No: INF-1

Tested By: JAB

Soil Classification: SC/CL

Depth of Test Hole: 78"

Test Hole Dia: 24"

[illegible]

Simple Open Pit Falling Head Test Sheet

Project Name: Cottonwood Self Storage

Project No. 14-10558.1

Date Excavated: 3/7/18

Test Hole No: INF-2

Tested By: JAB

Soil Classification: SC/CL

Depth of Test Hole: 54"

Test Hole Dia: 24"

[illegible]

Simple Open Pit Rate to Infiltration Rate Conversion (Porchet Method)

Project Name: Cottonwood Self Storage Calculated By: JAB

Date: 3/19/2018

Project No. 14-10558.1 Checked By:

Date:

Test Hole No: INF-1 **Test Hole Dia:** 24"

Depth of Test Hole: 78"

Porchet Corrections

$$\text{Infiltration rate} = ((\Delta h * 60r) / (\Delta t * (r + 2h_{avg})))$$

[illegible]

Simple Open Pit Rate to Infiltration Rate Conversion (Porchet Method)

Project No. 14-10558.1

Test Hole Dia: 24"

Depth of Test Hole: 54"

Porchet Corrections

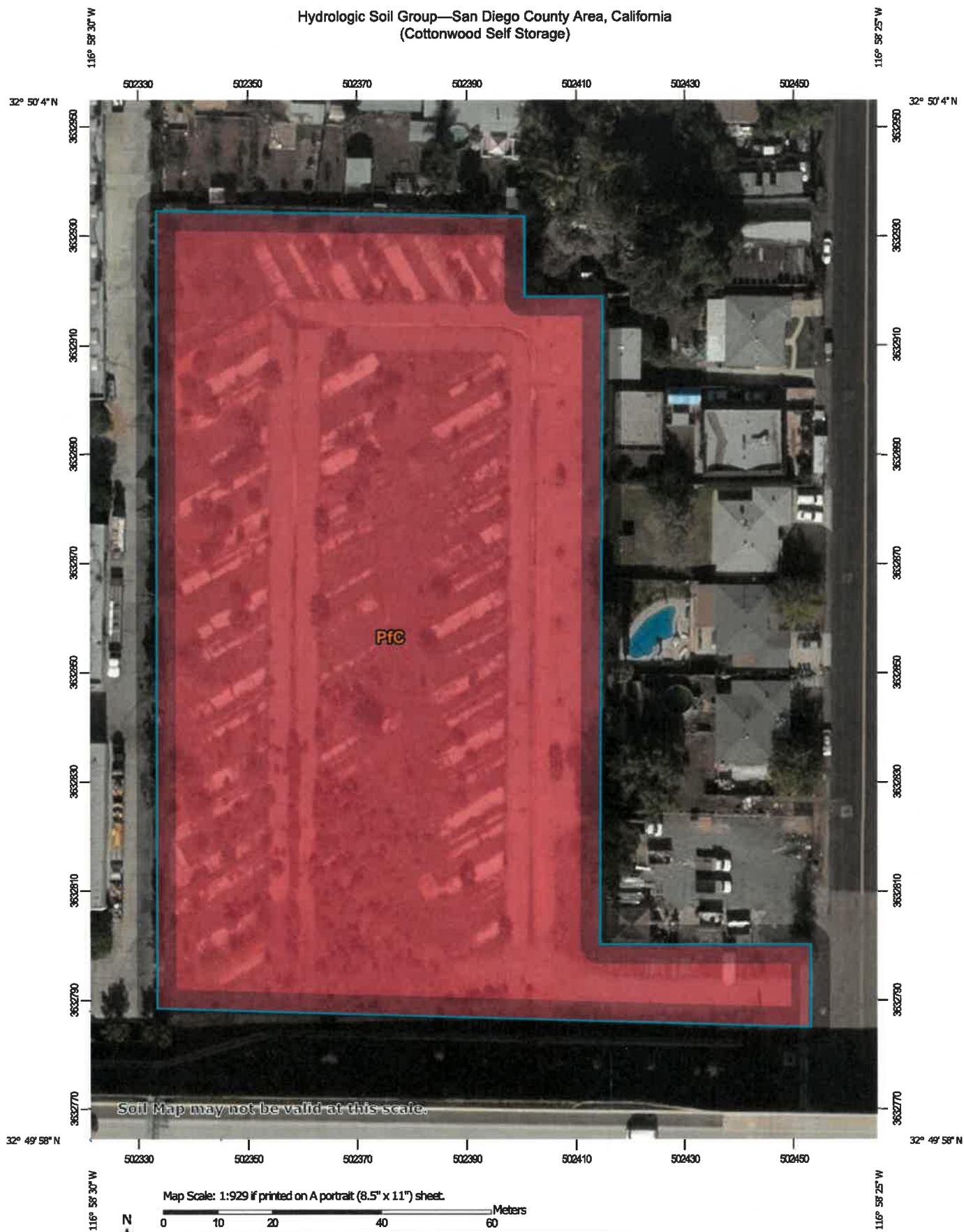
$$\text{Infiltration rate} = ((\Delta h * 60r) / (\Delta t * (r + 2 h_{avg})))$$

[illegible]

APPENDIX B



Hydrologic Soil Group—San Diego County Area, California (Cottonwood Self Storage)



Soil Map may not be valid at this scale.

Map Scale: 1:929 if printed on A portrait (8.5" x 11") sheet.

0 10 20 40 60 Meters

0 45 90 180 270 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

3/26/2018
Page 1 of 4

Hydrologic Soil Group—San Diego County Area, California
(Cottonwood Self Storage)

MAP LEGEND

Area of Interest (AOI)






 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
 Survey Area Data: Version 12, Sep 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 7, 2014—Jan 4, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
PfC	Placentia sandy loam, thick surface, 2 to 9 percent slopes	D	3.0	100.0%
Totals for Area of Interest			3.0	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher