EXHIBIT I
LEACHLINE PERCOLATION TEST

SITE PLAN NO. PLAN 19-00029

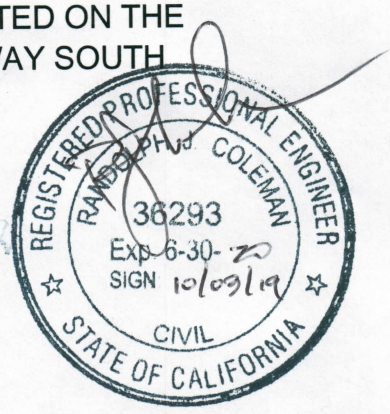
November 2019

ALTEC ENGINEERING CORP.
19531 Hwy 18
Apple Valley, CA 92307
760-242-9900

October 4, 2019

LEACHLINE PERCOLATION TEST
A PORTION OF APN 0472-131-17

PROPOSED MANUFACTURING SITE LOCATED ON THE
WEST SIDE OF NATIONAL TRIALS HIGHWAY SOUTH
OF AIR EXPRESSWAY
IN VICTORVILLE, CA.



PREPARED AT THE REQUEST OF:

MARTINEX OKAMOTO ARCHITECTS
15487 Seneca Road, #203
Victorville, CA. 92392

W.O. NO. 19-174

1. DESCRIPTION OF SITE AND PROPOSAL

1.0 The County of San Bernardino was contacted by e-mail on 8/27/2019 prior to the excavation date (8/30/2019) and the test date (8/30/2019).

1.1 Prepared for: Martinez Okamoto Architects
15487 Seneca Road, #203
Victorville, CA. 92392

1.2 Location of Land:

a) See attached Drawings No. 1 through 5. Property has been surveyed.

1.3 Proposed Development:

a) Manufacturing Facility with portable office building.

b) 1 Lot, ±14.1 gross acres. Area covered by this report covers approximately 0.50 acres (Drawing #5).

c) Septic tank and leachline systems.

d) No grading for the building pad has been completed. It is anticipated that there will be cuts and fills of up to less than 2 feet.

1.4 Description of Site and Surroundings:

a) There are no existing structures on the site. The existing slope of the area tested is approximately 4% to the east. There has been some grading done on the site.

b) There are no natural drainage courses that cross the site.

c) Site is void of vegetation.

d) There are industrial businesses across National Trails Highway to the east, a restaurant to the south, and vacant land to the west and north. These businesses are on private septic systems utilizing either seepage pits or leachlines.

e) There are no existing wells on the site.

f) There are no rock outcroppings on the site.

g) Based upon information from the Mojave Water Agency, the depth to groundwater is approximately 70 feet.

h) There are no features on the site that may affect sewage disposal by leachlines on this site.

i) The site has not been graded. Although grading will be necessary to finish the project, the information contained in this report will remain valid.

2. EQUIPMENT

Backhoe with 24" bucket, 6" posthole digger, and several 6" diameter by 13" long pieces of perforated pipe, measuring tape, gravel and shovel.

3. METHODOLOGY AND PROCEDURES

3.1 Borings/trenches Location: See attached Drawing No. 4. Test holes were dug at the locations shown on the drawing. Locations were chosen based upon possible disposal field locations.

3.2 Soil characteristics: Based upon the exploratory trenches, it has been determined that "favorable" soil conditions exist on the site.

3.3 Boring/Trench Results: See attached log (Drawing 6)

3.4 Number of Tests for Leachlines: 4 dug and 4 tested

3.4.1 Test holes were dug at depths of 4' to 6' below the anticipated final grade. 6" diameter by 13" deep holes were used. All loose material was removed from these holes. 2" of gravel was placed in the holes and the perforated pipe placed over the gravel. Hole number 1 did not meet the "sandy soil requirements". All of the holes were presoaked with 5 gallons of water prior to testing.

3.4.2 Continuous presoak method used.

3.4.3 **Leachline test results:**

See attached Drawings 8 through 11.

3.5 Seepage Pit Test Holes: None performed.

4. RESULTS

4.1 Soils Strata:

The soil types encountered on the site were uniform. The strata consists mainly of fine grained silty sand over coarse to fine grained sand. See attached trench log, Drawing 6.

A sieve analysis was performed on one representative sample of the soils to determine the percentage of fines. The percentage of fines was found to be 9%. See attached drawing 7.

4.2 Test Results:

The test results were not uniform in all of the four test locations. The slowest percolation rate will be used for the design of the system.

See attached Test Data Summary Drawings 8 through 11.

5. DESIGN

5.1 General Criteria:

The average for the test across the site 3.8 mpi. The slowest percolation rate was 10.0 mpi. The recommended design rate for this project is 10.0 mpi.

5.2 Recommended design rate is 1.25 ft^2/gal/day.

5.3 Septic Tank Size(s) required are as follows:

The recommended design rate is 1.25 ft^2/gal/day. This equates to the following lengths of leachline required:

Based upon the fixture unit information provided by the developer (see above table), a minimum 750 gallon septic tank is required (Table H 201.1(1) 2016 CPC). The design flow rate for the system shall be 750/1.5 = 500 gallons. This equates to the following lengths of leachline required:

1.25 ft^2/gal/day - 500 Gal Effluent
1.25*500/7 = 90 feet

6. SYSTEM PLOT

See attached typical system layout Drawing No. 12.

7. GENERAL DISCUSSION AND REQUIREMENTS

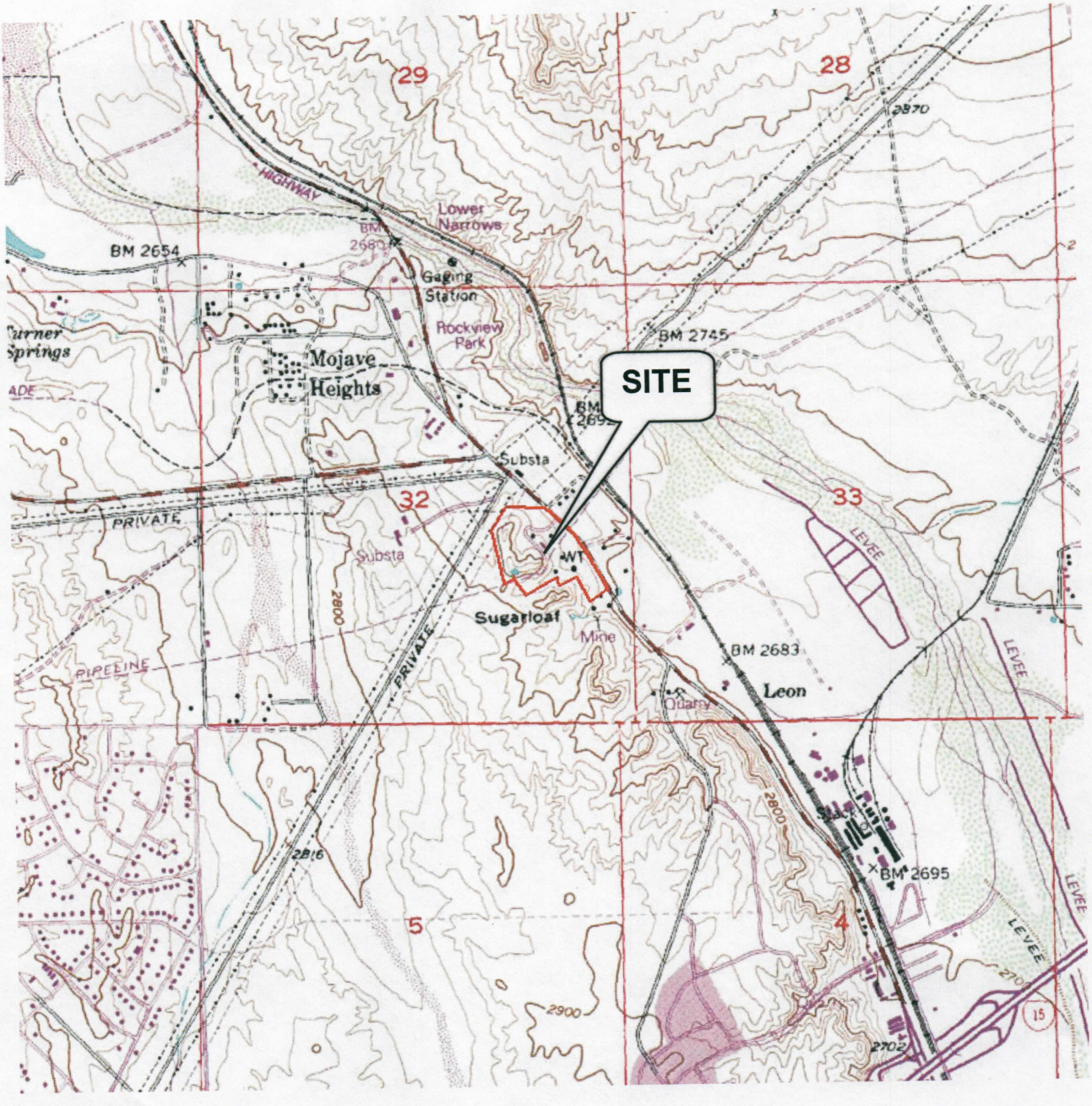
This lot has sufficient area to handle the anticipated liquid waste without creating a nuisance or contaminating the groundwater.

10/03/19

RANDOLPH J. COLEMAN, RCE 36293 Exp. 6-30-2020

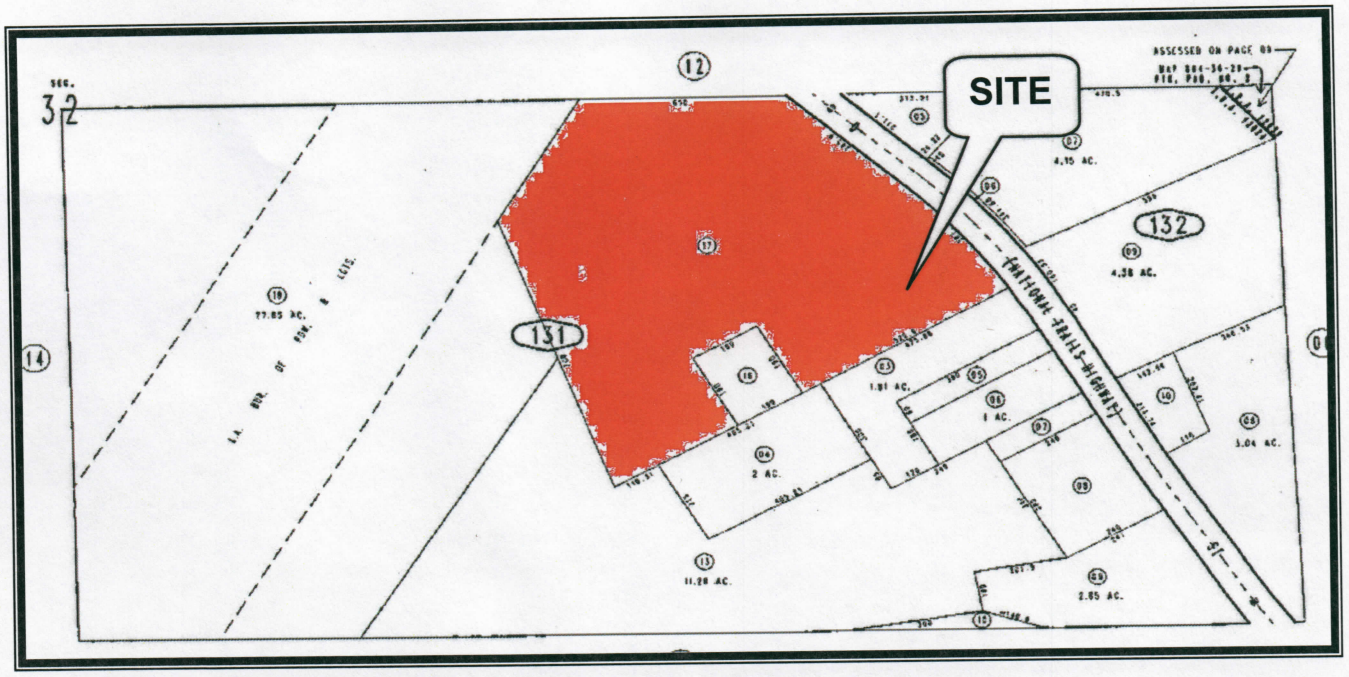
LOCATION MAP

DRAWING 1

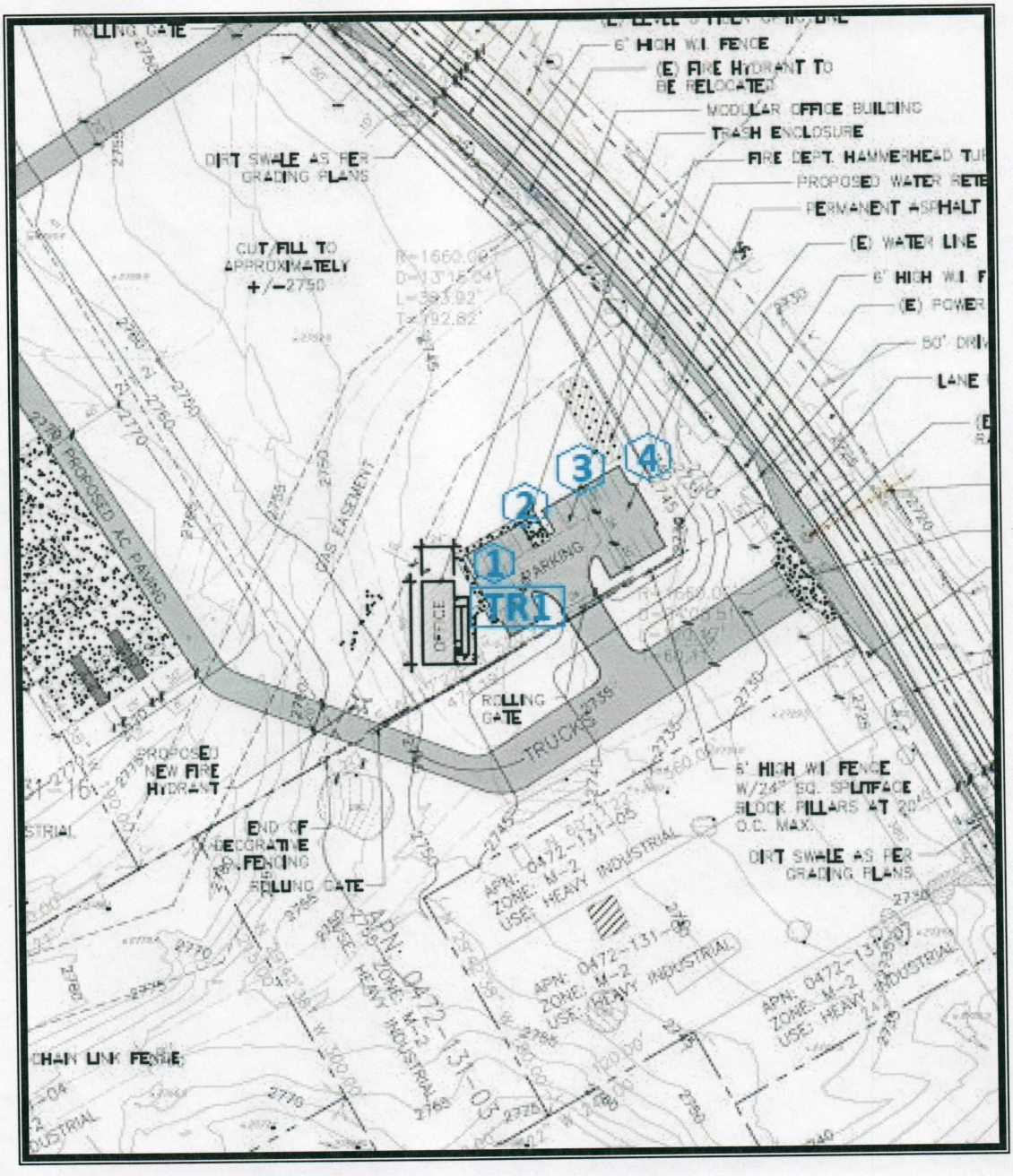


USGS QUAD SHEET

DRAWING 2

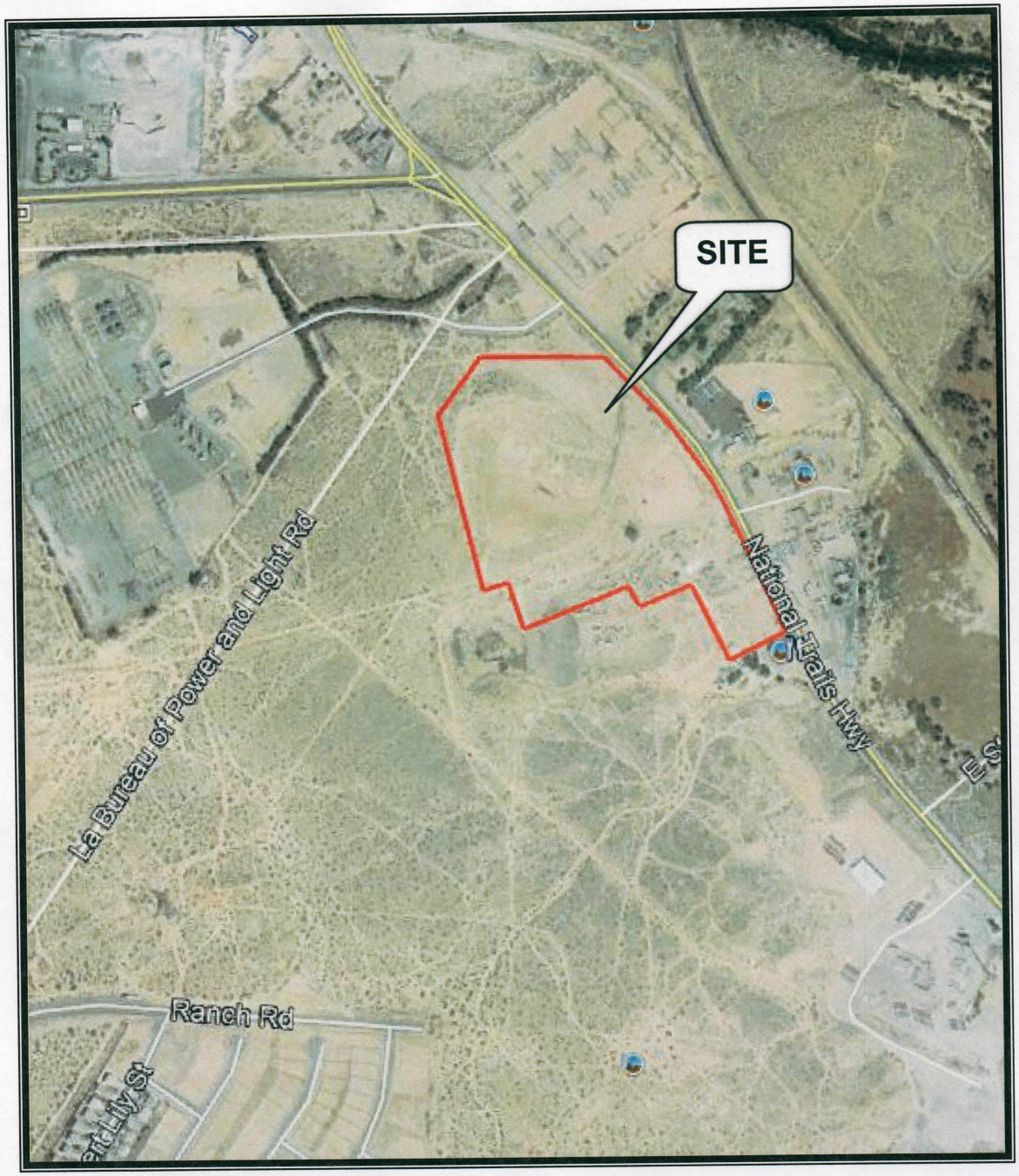


ASSESSORS PARCEL MAP - 0472-131-17-0000
DRAWING 3



EXPLORATORY TRENCH/TEST LOCATION

DRAWING 4



AERIAL PHOTOGRAPH - AUGUST, 2018

DRAWING 5

Altec Engineering, Inc.
19531 Highway 18
Apple Valley, CA 92307

(760) 242-9900
Fax (760) 242-9918
Altec1Eng@gmail.com

TRENCH LOG

TRENCH NO. 2

DEPTH FT	IN PLACE DENSITY (PCF)	MOISTURE (%)	PERCENT COMPACTION	CLASSIF.	
1					Medium to Fine Silty Sand, Gray, Some Trash, Dry, Medium dense
2					
3					Fine Silty Sand, Gray, Dry Medium Dense
4					
5					
6					
7					
8					
9					
10					
11					BOTTOM OF TRENCH
12					NO GROUNDWATER
13					NO VOIDS
14					
15					

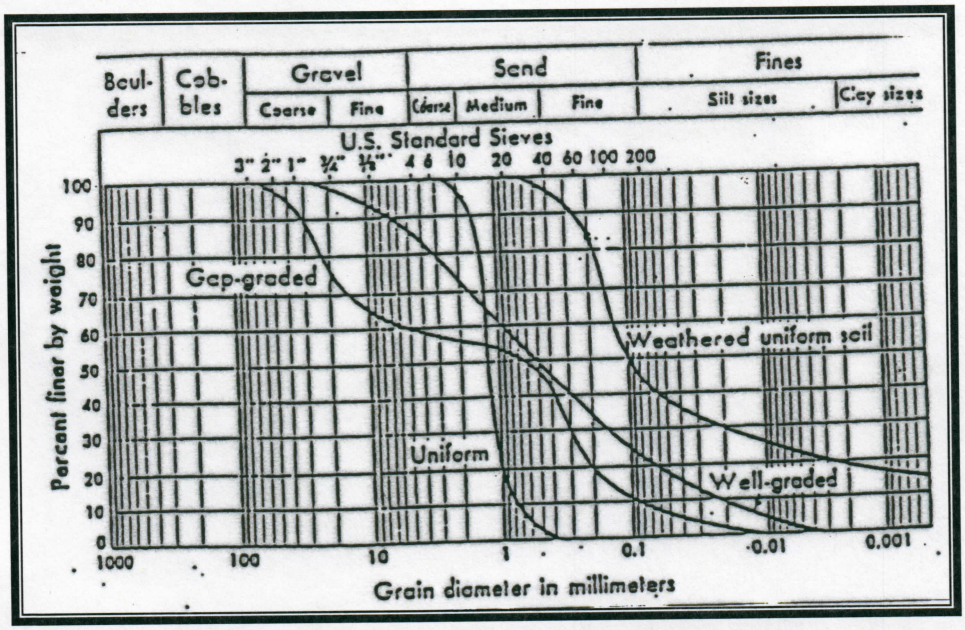
DRAWING 6

SIEVE ANALYSIS RESULTS

SAMPLE # 1 SAMPLE DEPTH 5.0' BORING/TRENCH # 3

SIEVE #	WEIGHT RETAINED	% RETAINED	% PASSING
4	0.01	1.0	99.0
10	0.04	4.0	96.0
20	0.19	22.0	78.0
40	0.36	41.0	59.0
80	0.62	70.0	30.0
100	0.66	75.0	25.0
200	0.80	91.0	9.0
PAN	0.88	100.0	0.0

TOTAL SAMPLE WEIGHT 0.88 LBS.
PERCENT FINES 9.0%



DRAWING 7

PERCOLATION TEST DATA - LEACH LINES

Project:	**APN 0472-131-17**		Excavate Date:	9/27/2019
Owner:	**Martinez Okamoto Architects**		Test Date:	9/27/2019
By:	**RH**			
Test No.	**1**			
Lot No.				
Test Number	Elapsed Time (Min)	Drop Measured From 8" Above The Bottom Of The Hole (IN)	Rate (Min/In)	
1	10	2.00	5.00	
2	10	1.62	6.17	
3	10	1.38	7.25	
4	10	1.12	8.93	
5	10	1.00	10.00	
6	10	1.00	10.00	
7	10	1.00	10.00	
8	10	1.00	10.00	
		FINAL RATE	**10.00**	
Dimension of Hole:		6" x 13"		
Hole #:	1			
Presoak Time:		5 Gallons - 60 Minutes		
Soil Type Encountered:		Fine Silty Sand		

*NOTE: Last 2 Readings Should Not Vary More Than 1/16 Inch

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Drawing #8

PERCOLATION TEST DATA - LEACH LINES

Project:	**APN 0472-131-17**	Excavate Date:	9/27/2019
Owner:	**Martinez Okamoto Architects**	Test Date:	9/27/2019
By:	**RH**		
Test No.	**2**		
Lot No.			

Test Number	Elapsed Time (Min)	Drop Measured From 8" Above The Bottom Of The Hole (IN)	Rate (Min/In)
1	10	5.25	1.90
2	10	4.50	2.22
3	10	4.25	2.35
4	10	4.00	2.50
5	10	3.88	2.58
6	10	3.88	2.58
7	10	3.88	2.58
8	10	3.88	2.58
		FINAL RATE	**2.58**

Dimension of Hole:	
Hole #:	2
Presoak Time:	5 Gallons - 30 Minutes
Soil Type Encountered:	Fine Silty Sand

*NOTE: Last 2 Readings Should Not Vary More Than 1/16 Inch

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PERCOLATION TEST DATA - LEACH LINES

Project:	**APN 0472-131-17**		Excavate Date:	9/27/2019
Owner:	**Martinez Okamoto Architects**		Test Date:	9/27/2019
By:	**RH**			
Test No.	**3**			
Lot No.				
Test Number	Elapsed Time (Min)	Drop Measured From 8" Above The Bottom Of The Hole (IN)	Rate (Min/In)	
1	10	8.00	1.25	
2	10	8.00	1.25	
3	10	8.00	1.25	
4	10	7.75	1.29	
5	10	7.63	1.31	
6	10	7.50	1.33	
7	10	7.50	1.33	
8	10	7.50	1.33	
		FINAL RATE	**1.33**	
Dimension of Hole:				
Hole #:	3			
Presoak Time:		5 Gallons - 15 Minutes		
Soil Type Encountered:		Coarse to Fine Sand		
*NOTE: Last 2 Readings Should Not Vary More Than 1/16 Inch				

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Drawing #10

PERCOLATION TEST DATA - LEACH LINES				
Project:	**APN 0472-131-17**		Excavate Date:	9/27/2019
Owner:	**Martinez Okamoto Architects**		Test Date:	9/27/2019
By:	**RH**			
Test No.	**4**			
Lot No.				
Test Number	Elapsed Time (Min)	Drop Measured From 8" Above The Bottom Of The Hole (IN)	Rate (Min/In)	
1	10	8.00	1.25	
2	10	8.00	1.25	
3	10	8.00	1.25	
4	10	8.00	1.25	
5	10	7.88	1.27	
6	10	7.88	1.27	
7	10	7.88	1.27	
8	10	7.88	1.27	
		FINAL RATE	**1.27**	
Dimension of Hole:				
Hole #:	3			
Presoak Time:		5 Gallons - 15 Minutes		
Soil Type Encountered:		Coarse to Fine Sand		
*NOTE: Last 2 Readings Should Not Vary More Than 1/16 Inch				

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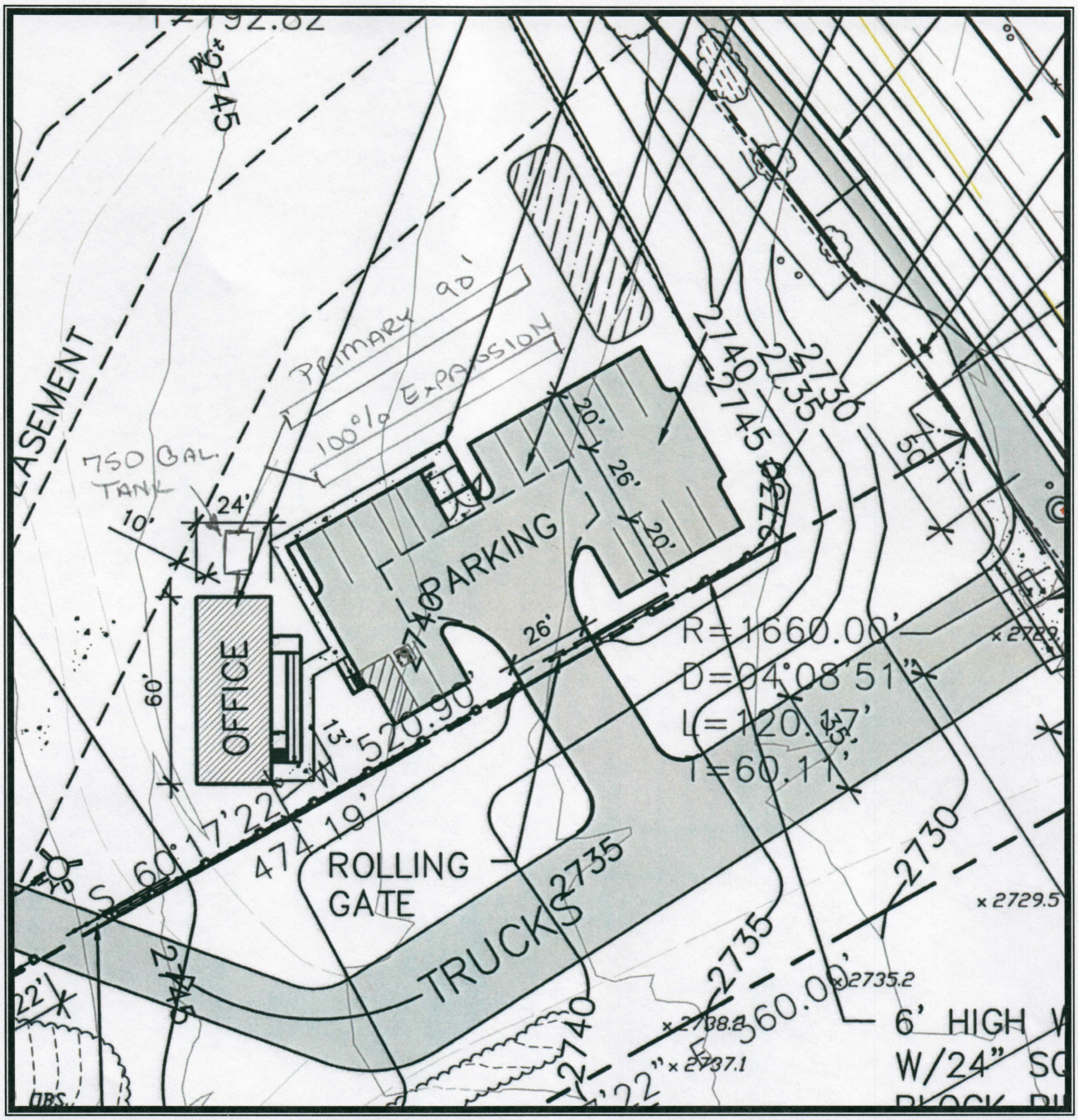

SYSTEM LAYOUT

DRAWING 12