

GEOTECHNIQUES

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June 17, 2011
Project No. 1003.019

Ventura County Community College District
c/o The JCM Group
103 Durley Avenue
Camarillo, California 93010

Attention: Mr. Gary Kuppenbender

Subject: Final Compaction Report, Pool Abandonment and Electrical Enclosure Pad
Ventura College Ventura, California

Dear Mr. Kuppenbender:

This report summarizes geotechnical observations and field compaction test results for subgrade preparation for the electrical enclosure building pad and for fill placement in the former pool, pipe tunnel, and surge pit excavations, and in former locker and equipment building areas. The layout of the former pool facility and new electrical enclosure are shown on Plate 1 - Compaction Test Location Plan. Enclosure subgrade preparation and pool backfill specifications were prepared by Geotechniques¹.

Subgrade preparation at the former pool site was performed between mid-October 2010 and early March 2011, using a Caterpillar 345C excavator for removal of foundation demolition debris including the upper 1 to 2 feet of piles and debris-laden subgrade materials within a contiguous area outlined by the pool and adjacent locker room and equipment buildings footprint. The deeper removal bottoms were located in the immediate vicinity of the former surge pit at the northern end of the equipment building, the deep northwestern quadrant of the pool, and the adjacent underground viewing room and pipe tunnel connecting to the surge pit. Shoring was installed along the northwestern corner of the removal area, in the surge pit area, to provide excavation support to a depth of about 20 feet, or generally to about El. 183 feet.

Subgrade materials well-over optimum moisture content were exposed in isolated areas of the excavation bottom along the western section of the deep end of the pool. Those areas were mixed with recycled aggregate base materials and/or replaced with dryer excavated materials prior to compaction with a large sheepsfoot wheel attachment on the excavator.

Excavation bottoms were established at about 1 to 2 feet below the local pool bottom elevation and after the top of piles were cut off and surrounding disturbed soils were compacted with the sheepsfoot mounted on the excavator. The removal bottoms were compacted using the

¹ Geotechniques (2010), "Specifications Section 31 2000, Earthmoving, Aquatic Facilities Demolition, Ventura College, Ventura California," dated June 10.

sheepsfoot wheel attached to the excavator, and in more accessible areas, by wheel-rolling with a fully-loaded Caterpillar 950G loader. Mirafi 500X was placed about 1 to 1½ feet below the typical excavation bottom elevation in localized areas requiring stabilization, followed by about 18 inches of recycled aggregate base compacted to between 90 and 95 percent of the maximum dry density as determined by ASTM D1557. Stabilization of the excavation bottom was confined to an area in the northwestern quadrant of the site, along the southern half of the equipment building and eastward beneath the former pool deck area.

The compacted excavation bottom to receive the geogrid-reinforced compacted fill mat was established at about El. 194 feet at central portion of site, with a slight slope (about ½ percent) down to the southwest.

Construction of Three-Layer Geogrid-Reinforced Compacted Soil Mat

A three-layer geogrid reinforced compacted fill mat was constructed across the pool and building removal areas. The geogrid-reinforced compacted fill mat was constructed in two sections, the eastern half, generally coinciding with the long axis of the pool and 6-foot-wide prefabricated tunnels removed adjacent to the north and east perimeters; and the western half, consisting of the northwest quadrant of the pool and adjacent locker room and equipment buildings.

The geogrid-reinforced compacted fill mat consisted of a minimum 6-inch thick basal aggregate base layer constructed at about El. 194 feet, followed by three layers of Tensar BX1200, separated by 18 inches of aggregate base compacted to a minimum of 95 percent of the maximum dry density. A 6-inch thick layer of aggregate base materials compacted to a minimum of 95 percent of the maximum dry density was placed over the top geogrid layer, at about El. 197.5 feet, followed by fill materials to finish grades, consisting of stockpiled excavated materials from the project site and other construction sites on the campus, such as the Theater and Health Sciences Center.

Fill Materials and Compaction

Fill materials were placed, spread, and moisture conditioned in fairly uniform, loose lifts, typically about 8 inches thick, and then compacted with a BOMAG BW 213 PDH-3 sheepsfoot and with wheel-rolling with a fully-loaded Caterpillar 950G loader. General fill materials consisting of clayey silt and imported silty sand were placed above 6 inches above the top layer of geogrid, or above El. 198 feet, to finish subgrade elevations.

According to project specifications, aggregate base materials in the geogrid zone and general fill materials in the electrical enclosure pad subgrade were to be compacted to a minimum of 95 percent of maximum dry density. Fill materials for utility trench backfill and pavement and sidewalk subgrade outside building areas were to be compacted to a minimum of 90 percent of maximum dry density. Trench backfill around conduits in the electrical enclosure area consisted of concrete with a minimum 28-day compressive strength of 2,500 pounds per square inch (psi). Neat cement was pumped through perforated PVC into the pea gravel annulus around the shoring beams and below the removal bottom elevations. The pea gravel and loosened soil around and adjacent to the beams and shoring plates were mitigated by excavation and recompaction of 4-foot wide trenches excavated to the removal bottom elevations using the Caterpillar 345C excavator and a sheepsfoot attachment.

Moisture-Density Relationships

Laboratory dry density versus moisture content (Proctor) curves were determined, in general accordance with ASTM Test Method D 1557, on samples of materials used for select and general fill. Proctor curves were used to estimate the optimum moisture content and maximum dry density. Maximum dry density values were used as a reference to estimate relative compaction values for field density tests. Laboratory test results are summarized in Table 1 – Summary of Laboratory Maximum Densities.

Density Testing

Field testing of in-place soil densities and moisture contents was performed using nuclear testing methods in accordance with standard test methods ASTM D2922 and D3017. Field density test results obtained during compaction operations are summarized in Table 2 – Summary of Field Density Test Results, and the corresponding test locations are shown on Plate 1. Test locations were estimated by sighting and pacing from nearby survey control stakes established by the Contractor and should only be considered as accurate as that method implies.

Conclusions

Geotechniques has provided geotechnical observation and field density testing during subgrade preparation and geogrid-reinforced compacted fill mat construction operations at the former Aquatic Facility demolition site. We have prepared this report to present the results of those tests. Test results present the density and moisture only at the specific locations and elevations tested. Test results along with observations of the progression of work provide the basis of our professional opinion. To the best of our knowledge and belief, we feel that the work has been performed in accordance with the intent of the referenced specifications and plans² prepared for the project site.

General Conditions

We make no warranty, express or implied, except that our services were performed in accordance with generally accepted engineering principles at this time and location.

As used herein, the term "observation" implies only that we: 1) intermittently visited the site to observe and test the portions of the construction that we were authorized to observe; and 2) provided opinions based on those observations and tests with respect to compliance with the project specifications and our geotechnical recommendations.

With any construction, there are statistical variations in uniformity and in the accuracy of tests used to measure quality. As compared with manufactured products, field construction usually has wider fluctuations in both product and test results. Thus, even with careful observation and testing, it cannot be said that all parts of the project comply with the project specifications. Therefore, our opinion, based on observations and test data, means only that we performed our services in such a manner as to have reasonable certainty that the work generally complies with the project specifications.

² KBZ Architects (2010), "Grading Plan, Ventura College Aquatic Facilities Demolition," Job No. 09-072, sheet A1.1, dated July 2.

Closure

We appreciate the opportunity to provide our services to Ventura County Community College District on this project. If you have any questions regarding information provided in report, please contact the undersigned.

Sincerely,

GEOTECHNIQUES



Carole Wockner

Associate Engineer

R.C.E. No. 74407, exp. 9/30/11

Attachments: Table 1 - Summary of Laboratory Maximum Densities

Table 2 - Summary of Field Density Test Results

Plate 1 - Compaction Test Location Plan

Copies submitted: Addressee (PDF)

TABLE 1
Summary of Laboratory Maximum Densities
Ventura College Aquatic Facilities Demolition

Soil Number	Description	Maximum Dry Density (pcf)	Optimum Moisture (%)
1	Light to medium brown clayey silt	122	11.5
2	Medium to dark brown very clayey silt with gravel	128	11.5
3	Recycled aggregate base (produced onsite crushing)	121	12
4	Light to medium red-brown well-graded sand with gravel (imported)	132	10
5	Medium brown silty fine to medium sand (imported)	124	9.5
6	Light brown fine to medium sand (imported)	122	9

**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	Location/Elev.	Curve No.	Max Den	% MC	Dry Den	% RC	Notes
13-Oct-10							
	1 Pool removal bottom, per plan, El. 188.5'	1	122	10.1	115.8	95	
14-Oct-10							
	2 Pool removal bottom, per plan, El. 181'	1	122	19.5	102.9	84	a
	3 Pool removal bottom, per plan, El. 182'	1	122	13.8	114.3	94	
	4 Pool removal bottom, per plan, El. 181.5'	1	122	14.3	112.4	92	b-2
	5 Pool removal bottom, per plan, El. 182.5'	1	122	12.6	114.8	94	
	6 Pool removal bottom, per plan, El. 184'	1	122	11.6	105.9	87	a
	7 Pool removal bottom, per plan, El. 184'	1	122	12.4	112.4	92	b-6
	8 Pool backfill, per plan, El. 185'	1	122	12.0	116.3	95	
	9 Pool backfill, per plan, El. 185.5'	1	122	8.2	117.5	96	
	10 Pool backfill, per plan, El. 186.5'	1	122	9.4	115.7	95	
	11 Pool backfill, per plan, El. 188'	1	122	9.4	120.0	98	
15-Oct-10							
	12 Pool backfill, per plan, El. 187'	1	122	11.1	116.1	95	
	13 Pool backfill, per plan, El. 188'	1	122	9.8	121.4	100	
	14 Pool backfill, per plan, El. 188'	1	122	10.2	113.2	93	
	15 Pool backfill, per plan, El. 188'	1	122	14.6	109.5	90	
29-Oct-10							
	16 Pool backfill, per plan, El. 184.5'	1	122	12.3	110.4	90	
	17 Pool backfill, per plan, El. 186.5'	1	122	16.7	109.7	90	
	18 Pool backfill, per plan, El. 188.5'	1	122	14.4	114.5	94	
1-Nov-10							
	19 Pool backfill, per plan, El. 189.5'	1	122	16.5	110.8	91	
	20 Pool backfill, per plan, El. 191.5'	1	122	13.8	114.4	94	
	21 Pool backfill, per plan, El. 193'	1	122	15.3	115.0	94	
	22 Pool backfill, per plan, El. 194'	1	122	16.1	111.8	92	
3-Nov-10							
	23 Pool backfill, per plan, El. 183.5'	1	122	15.9	109.3	90	
	24 Pool backfill, per plan, El. 185'	1	122	17.1	110.8	91	
	25 Pool backfill, per plan, El. 187'	1	122	17.0	110.8	91	
	26 Pool backfill, per plan, El. 188.5'	1	122	14.4	113.8	93	
	27 Pool backfill, per plan, El. 189.5'	1	122	15.6	113.6	93	
	28 Pool backfill, per plan, El. 191'	1	122	14.9	112.7	92	
	29 Pool backfill, per plan, El. 192.5'	1	122	14.2	114.2	94	

KEY to NOTES:

a - test did not meet minimum density requirement

b - area of failing test reworked and retested. Retest meets minimum density requirement.

**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	No.	Location/Elev.	Curve No.	Max Den	% MC	Dry Den	% RC	Notes
4-Nov-10								
	30	Pool backfill, per plan, El. 180'	1	122	14.2	113.1	93	
	31	Pool backfill, per plan, El. 182'	1	122	13.7	114.8	94	
	32	Pool backfill, per plan, El. 184'	1	122	14.2	114.9	94	
	33	Pool backfill, per plan, El. 186'	1	122	14.8	114.1	94	
	34	Pool backfill, per plan, El. 188'	1	122	14.3	113.0	93	
	35	Pool backfill, per plan, El. 189.5'	1	122	11.9	118.5	97	
	36	Pool backfill, per plan, El. 191.5'	1	122	13.8	115.5	95	
	37	Pool backfill, per plan, El. 193.5'	1	122	14.3	111.5	91	
1-Dec-10								
	38	Electric Enclosure, per plan, 6' BTF	1	122	13.5	115.8	95	
	39	Electric Enclosure, per plan, 5' BTF	1	122	14.5	115.4	95	
	40	Electric Enclosure, per plan, 4' BTF	1	122	13.8	116.4	95	
	41	Electric Enclosure, per plan, 3' BTF	2	128	12.0	121.0	95	
	42	Electric Enclosure, per plan, 1.5' BTF	2	128	11.1	121.6	95	
	43	Electric Enclosure, per plan, 5.5' BTF	1	122	10.6	117.3	96	
	44	Electric Enclosure, per plan, 4.5' BTF	1	122	13.6	116.1	95	
	45	Electric Enclosure, per plan, 3.5' BTF	1	122	12.9	115.3	95	
	46	Electric Enclosure, per plan, 2' BTF	1	122	12.7	115.8	95	
10-Dec-10								
	47	Pool excavation bottom, per plan, El. 186.5'	1	122	8.6	116.2	95	
	48	Pool excavation bottom, per plan, El. 188.5'	1	122	11.2	118.1	97	
	49	Pool excavation bottom, per plan, El. 186.5'	1	122	12.2	117.0	96	
13-Dec-10								
	50	Pool excavation backfill, per plan, El. 191'	1	122	11.9	118.5	97	
	51	Pool excavation backfill, per plan, El. 190'	1	122	14.8	111.9	92	
	52	Pool excavation backfill, per plan, El. 191'	1	122	13.3	114.7	94	
	53	Pool excavation backfill, per plan, El. 191'	1	122	13.8	107.1	88	a
	54	Pool excavation backfill, per plan, El. 191'	1	122	14.4	109.6	90	
	55	Pool excavation backfill, per plan, El. 191'	1	122	12.8	109.5	90	b-49
	56	Pool excavation backfill, per plan, El. 191'	1	122	11.5	115.3	95	
	57	Pool excavation backfill, per plan, El. 191'	1	122	11.2	108.5	89	a
	58	Pool excavation backfill, per plan, El. 191'	1	122	10.3	113.1	93	b-53
	59	Pool excavation backfill, per plan, El. 191'	1	122	16.4	113.4	93	

KEY to NOTES:

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**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	No.	Location/Elev.	No.	Max Den	% MC	Dry Den	% RC	Notes
14-Dec-10								
	60	Removal bottom, per plan, El. 193.5'	1	122	16.5	110.0	90	
	61	Removal bottom, per plan, El. 192.5'	1	122	12.8	106.2	87	a
	62	Removal bottom, per plan, El. 192.5'	1	122	13.5	112.3	92	b-57
	63	Removal bottom, per plan, El. 193.5'	1	122	9.9	112.3	92	
	64	Removal bottom, per plan, El. 193.5'	1	122	10.5	111.0	91	
	65	Removal bottom, per plan, El. 193.5'	1	122	8.6	116.2	95	
	66	Removal bottom, per plan, El. 193.5'	1	122	10.1	112.4	92	
	67	Removal bottom, per plan, El. 193.5'	1	122	8.2	114.4	94	
15-Dec-10								
	68	Bottom of pool removal, per plan, El. 193.5'	1	122	12.3	110.4	90	
	69	Bottom of pool removal, per plan, El. 193.5'	1	122	11.3	114.8	94	
	70	Bottom of pool removal, per plan, El. 193.5'	1	122	10.7	115.9	95	
	71	Bottom of pool removal, per plan, El. 193.5'	1	122	9.7	113.9	93	
	72	Bottom of pool removal, per plan, El. 193.5'	1	122	10.6	108.9	89	a
	73	Bottom of pool removal, per plan, El. 193.5'	1	122	9.8	105.8	87	a
	74	Bottom of pool removal, per plan, El. 193.5'	1	122	11.7	113.1	93	b-69
	75	Bottom of pool removal, per plan, El. 193.5'	1	122	11.4	114.2	94	b-68
	76	Pile removal pit, per plan, El. 193.5'	1	122	13.3	112.6	92	
	77	Pile removal pit, per plan, El. 193.5'	1	122	12.2	116.4	95	
	78	Pile removal pit, per plan, El. 193.5'	1	122	11.5	116.8	96	
	79	Pile removal pit, per plan, El. 193.5'	1	122	12.0	117.0	96	
16-Dec-11								
	80	Basal base course, per plan, El. 194'	3	121	10.8	111.8	92	
	81	Basal base course, per plan, El. 194'	3	121	12.1	112.7	93	
	82	Basal base course, per plan, El. 194'	3	121	11.0	115.9	96	
	83	Basal base course, per plan, El. 194'	3	121	10.9	112.5	93	
	84	Basal base course, per plan, El. 194'	3	121	11.5	113.3	94	
	85	Basal base course, per plan, El. 194'	3	121	11.2	114.5	95	
	86	Basal base course, per plan, El. 194'	3	121	10.6	120.6	100	
	87	Basal base course, per plan, El. 194'	3	121	10.6	111.8	92	
	88	Basal base course, per plan, El. 194'	3	121	12.8	116.5	96	

KEY to NOTES:

a - test did not meet minimum density requirement

b - area of failing test reworked and retested. Retest meets minimum density requirement.

**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	No.	Location/Elev.	No.	Max Den	% MC	Dry Den	% RC	Notes
17-Dec-10								
	89	1st lift base over lower grid, per plan, El. 194.5'	3	121	12.0	119.7	99	
	90	1st lift base over lower grid, per plan, El. 194.5'	3	121	12.9	119.7	99	
	91	1st lift base over lower grid, per plan, El. 194.5'	3	121	11.5	120.0	99	
	92	1st lift base over lower grid, per plan, El. 194.5'	3	121	13.2	118.0	98	
	93	1st lift base over lower grid, per plan, El. 194.5'	3	121	13.4	116.4	96	
	94	1st lift base over lower grid, per plan, El. 194.5'	3	121	13.0	118.4	98	
	95	2nd lift base over lower grid, per plan, El. 195'	3	121	12.3	120.3	99	
	96	2nd lift base over lower grid, per plan, El. 195'	3	121	13.0	119.5	99	
	97	2nd lift base over lower grid, per plan, El. 195'	3	121	14.3	118.7	98	
	98	2nd lift base over lower grid, per plan, El. 195'	3	121	12.2	120.7	100	
	99	2nd lift base over lower grid, per plan, El. 195'	3	121	13.4	119.5	99	
	100	2nd lift base over lower grid, per plan, El. 195'	3	121	13.0	118.6	98	
	101	2nd lift base over lower grid, per plan, El. 195'	3	121	11.8	120.4	100	
	102	2nd lift base over lower grid, per plan, El. 195'	3	121	11.7	120.1	99	
28-Dec-10								
	103	2nd lift base over lower grid, per plan, El. 195'	3	121	13.4	115.9	96	
	104	2nd lift base over lower grid, per plan, El. 195'	3	121	12.6	115.8	96	
	105	2nd lift base over lower grid, per plan, El. 195'	3	121	12.0	116.2	96	
	106	2nd lift base over lower grid, per plan, El. 195'	3	121	13.0	116.4	96	
	107	1st lift base over middle grid, per plan, El. 195.5'	3	121	12.8	121.1	100	
	108	1st lift base over middle grid, per plan, El. 195.5'	3	121	12.8	120.0	99	
	109	1st lift base over middle grid, per plan, El. 195.5'	3	121	10.5	117.2	97	
	110	1st lift base over middle grid, per plan, El. 195.5'	3	121	12.6	120.2	99	
	111	1st lift base over middle grid, per plan, El. 195.5'	3	121	13.9	118.2	98	
	112	1st lift base over middle grid, per plan, El. 195.5'	3	121	13.4	118.0	98	
	113	1st lift base over middle grid, per plan, El. 195.5'	3	121	14.0	119.3	99	
	114	1st lift base over middle grid, per plan, El. 195.5'	3	121	12.9	120.6	100	
	115	1st lift base over middle grid, per plan, El. 195.5'	3	121	13.3	118.3	98	
	116	1st lift base over middle grid, per plan, El. 195.5'	3	121	14.3	117.8	97	
	117	1st lift base over middle grid, per plan, El. 195.5'	3	121	14.1	119.6	99	

KEY to NOTES:

a - test did not meet minimum density requirement

b - area of failing test reworked and retested. Retest meets minimum density requirement.

**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	No.	Location/Elev.	No.	Max Den	% MC	Dry Den	% RC	Notes
30-Dec-10								
	118	2nd lift base over middle grid, per plan, El. 196.25'	3	121	13.1	118.3	98	
	119	2nd lift base over middle grid, per plan, El. 196.25'	3	121	12.9	119.0	98	
	120	2nd lift base over middle grid, per plan, El. 196.25'	3	121	11.9	120.6	100	
	121	2nd lift base over middle grid, per plan, El. 196.25'	3	121	12.2	120.1	99	
	122	2nd lift base over middle grid, per plan, El. 196.25'	3	121	12.7	115.1	95	
	123	2nd lift base over middle grid, per plan, El. 196.25'	3	121	11.5	114.8	95	
	124	2nd lift base over middle grid, per plan, El. 196.25'	3	121	12.0	115.8	96	
	125	2nd lift base over middle grid, per plan, El. 196.25'	3	121	12.8	116.2	96	
	126	2nd lift base over middle grid, per plan, El. 196.25'	3	121	13.9	117.4	97	
	127	2nd lift base over middle grid, per plan, El. 196.25'	3	121	12.4	119.5	99	
31-Dec-10								
	128	Base over top geogrid layer, per plan, El. 197.25'	3	121	12.4	119.9	99	
	129	Base over top geogrid layer, per plan, El. 197.25'	3	121	12.3	116.4	96	
	130	Base over top geogrid layer, per plan, El. 197.25'	3	121	12.1	119.3	99	
	131	Base over top geogrid layer, per plan, El. 197.25'	3	121	11.5	118.4	98	
	132	Base over top geogrid layer, per plan, El. 197.25'	3	121	12.7	119.2	99	
7-Jan-11								
	133	Fill above geogrid zone, per plan, El. 198'	1	122	12.8	115.9	95	
	134	Fill above geogrid zone, per plan, El. 198'	1	122	12.4	115.9	95	
	135	Fill above geogrid zone, per plan, El. 198'	1	122	11.9	111.3	91	a
	136	Fill above geogrid zone, per plan, El. 198'	1	122	13.7	115.3	95	
	137	Fill above geogrid zone, per plan, El. 198'	1	122	13.0	118.1	97	
	138	Fill above geogrid zone, per plan, El. 198'	1	122	12.8	116.3	95	b-135
	139	Fill above geogrid zone, per plan, El. 198'	1	122	12.8	113.9	93	
8-Jan-11								
	140	Fill above geogrid zone, per plan, El. 199'	1	122	15.5	110.3	90	a
	141	Fill above geogrid zone, per plan, El. 199'	1	122	13.2	115.9	95	
	142	Fill above geogrid zone, per plan, El. 199'	1	122	14.0	113.3	93	
	143	Fill above geogrid zone, per plan, El. 199'	1	122	14.5	115.2	94	b-140
	144	Fill above geogrid zone, per plan, El. 199'	1	122	13.9	115.3	95	
	145	Fill above geogrid zone, per plan, El. 199'	1	122	14.6	115.3	95	
	146	Fill above geogrid zone, per plan, El. 199'	1	122	14.0	115.9	95	
	147	Fill above geogrid zone, per plan, El. 199'	1	122	14.7	115.9	95	
	148	Fill above geogrid zone, per plan, El. 199'	1	122	14.0	116.4	95	

KEY to NOTES:

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**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	No.	Location/Elev.	Curve No.	Max Den	% MC	Dry Den	% RC	Notes
10-Jan-11								
	149	Fill above geogrid zone, per plan, El. 199.5'	1	122	12.8	116.8	96	
	150	Fill above geogrid zone, per plan, El. 199.5'	1	122	15.0	114.9	94	
	151	Fill above geogrid zone, per plan, El. 199.5'	1	122	14.3	116.2	95	
	152	Fill above geogrid zone, per plan, El. 199.5'	1	122	12.8	120.2	99	
	153	Fill above geogrid zone, per plan, El. 199.5'	1	122	13.1	115.4	95	
	154	Fill above geogrid zone, per plan, El. 199.5'	1	122	12.7	119.6	98	
	155	Fill above geogrid zone, per plan, El. 199.5'	1	122	12.2	117.7	96	
	156	Fill above geogrid zone, per plan, El. 199.5'	1	122	13.1	116.2	95	
	157	Fill above geogrid zone, per plan, El. 199.5'	1	122	13.6	117.1	96	
	158	Fill above geogrid zone, per plan, El. 199.5'	1	122	13.3	115.3	95	
	159	Fill above geogrid zone, per plan, El. 199.5'	1	122	12.1	120.7	99	
	160	Fill above geogrid zone, per plan, El. 199.5'	1	122	12.6	121.1	99	
	161	Fill above geogrid zone, per plan, El. 199.5'	1	122	14.0	116.0	95	
	162	Fill above geogrid zone, per plan, El. 199.5'	1	122	15.2	114.5	94	
11-Jan-11								
	163	Fill above geogrid zone, per plan, El. 200.5'	1	122	13.1	118.8	97	
	164	Fill above geogrid zone, per plan, El. 200.5'	1	122	12.7	119.3	98	
	165	Fill above geogrid zone, per plan, El. 200.5'	1	122	10.4	120.7	99	
	166	Fill above geogrid zone, per plan, El. 200.5'	1	122	12.4	119.6	98	
	167	Fill above geogrid zone, per plan, El. 200.5'	1	122	13.0	117.3	96	
	167	Fill above geogrid zone, per plan, El. 201.25'	1	122	13.3	117.1	96	
11-Jan-11								
	169	Fill above geogrid zone, per plan, El. 201.25'	1	122	12.6	119.2	98	
	170	Fill above geogrid zone, per plan, El. 201.25'	1	122	13.0	118.8	97	
	171	Fill above geogrid zone, per plan, El. 201.25'	1	122	12.4	118.2	97	
	172	West pool facility excavation, per plan, El. 193.75'	3	121	12.9	115.0	95	
	173	West pool facility excavation, per plan, El. 193.75'	3	121	12.8	116.3	96	
	174	West pool facility excavation, per plan, El. 193.75'	3	121	10.6	118.8	98	
13-Jan-11								
	175	West pool facility excavation, per plan, El. 193.75'	3	121	10.6	117.7	97	
	176	West pool facility excavation, per plan, El. 193.75'	3	121	9.6	120.7	100	
	177	West pool facility excavation, per plan, El. 193.75'	3	121	10.3	114.6	95	
	178	West pool facility excavation, per plan, El. 193.75'	3	121	10.6	120.4	100	
	179	West pool facility excavation, per plan, El. 193.75'	3	121	13.2	116.0	96	

KEY to NOTES:

a - test did not meet minimum density requirement

b - area of failing test reworked and retested. Retest meets minimum density requirement.

**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	No.	Location/Elev.	Curve No.	Max Den	% MC	Dry Den	% RC	Notes
14-Jan-11								
	180	West pool facility excavation, per plan, El. 193.75'	3	121	12.1	117.6	97	
	181	West pool facility excavation, per plan, El. 193.75'	3	121	11.3	120.6	100	
	182	West pool facility excavation, per plan, El. 193.75'	3	121	10.2	118.0	98	
	183	West pool facility excavation, per plan, El. 193.75'	3	121	10.7	112.8	93	a
	184	West pool facility excavation, per plan, El. 193.75'	3	121	10.4	115.3	95	
	185	West pool facility excavation, per plan, El. 193.75'	3	121	9.7	114.6	95	
	186	West pool facility excavation, per plan, El. 193.75'	3	121	10.3	114.8	95	b-183
	187	West pool facility excavation, per plan, El. 193.75'	3	121	11.4	115.2	95	
	188	West pool facility excavation, per plan, El. 193.75'	3	121	11.1	116.0	96	
17-Jan-11								
	189	West pool facility excavation, per plan, El. 194.5'	3	121	13.1	119.8	99	
	190	West pool facility excavation, per plan, El. 194.5'	3	121	12.0	117.3	97	
	191	West pool facility excavation, per plan, El. 194.5'	3	121	15.7	118.1	98	
	192	West pool facility excavation, per plan, El. 194.5'	3	121	13.2	117.8	97	
	193	West pool facility excavation, per plan, El. 194.5'	3	121	11.5	117.8	97	
	194	West pool facility excavation, per plan, El. 194.5'	3	121	11.7	119.8	99	
	195	West pool facility excavation, per plan, El. 194.5'	3	121	10.2	116.2	96	
	196	West pool facility excavation, per plan, El. 194.5'	3	121	11.3	120.1	99	
	197	West pool facility excavation, per plan, El. 194.5'	1	122	10.5	115.9	95	
	198	West pool facility excavation, per plan, El. 194.5'	3	121	10.8	120.0	99	
	199	West pool facility excavation, per plan, El. 195.25'	3	121	13.8	117.4	97	
	200	West pool facility excavation, per plan, El. 195.25'	3	121	12.9	114.9	95	
	201	West pool facility excavation, per plan, El. 195.25'	3	121	11.1	117.3	97	
	202	West pool facility excavation, per plan, El. 195.25'	3	121	12.1	118.2	98	
	203	West pool facility excavation, per plan, El. 195.25'	3	121	13.4	118.6	98	
	203	West pool facility excavation, per plan, El. 195.25'	3	121	12.4	120.1	99	
17-Jan-11								
	205	West pool facility excavation, per plan, El. 195.25'	3	121	11.3	119.6	99	
	206	West pool facility excavation, per plan, El. 195.25'	1	122	12.2	117.0	96	

KEY to NOTES:

a - test did not meet minimum density requirement

b - area of failing test reworked and retested. Retest meets minimum density requirement.

**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	No.	Location/Elev.	Curve No.	Max Den	% MC	Dry Den	% RC	Notes
19-Jan-11								
	207	West pool facility excavation, per plan, El. 196'	3	121	13.1	116.9	97	
	208	West pool facility excavation, per plan, El. 196'	3	121	15.5	116.6	96	
	209	West pool facility excavation, per plan, El. 196'	3	121	12.6	118.7	98	
	210	West pool facility excavation, per plan, El. 196'	3	121	12.1	120.6	100	
	211	West pool facility excavation, per plan, El. 196'	3	121	11.4	122.2	101	
	212	West pool facility excavation, per plan, El. 196'	3	121	14.7	116.8	97	
	213	West pool facility excavation, per plan, El. 196'	3	121	13.6	116.9	97	
	214	West pool facility excavation, per plan, El. 196'	3	121	12.9	121.1	100	
	215	West pool facility excavation, per plan, El. 196'	3	121	11.2	120.2	99	
	216	West pool facility excavation, per plan, El. 196'	3	121	15.3	117.9	97	
	217	West pool facility excavation, per plan, El. 196'	3	121	12.0	119.0	98	
	218	West pool facility excavation, per plan, El. 196'	3	121	12.3	118.3	98	
20-Jan-11								
	219	West pool facility excavation, per plan, El. 196.75'	4	132	7.5	124.8	95	
	220	West pool facility excavation, per plan, El. 196.75'	4	132	8.1	131.1	99	
	221	West pool facility excavation, per plan, El. 196.75'	4	132	10.2	124.8	95	
	222	West pool facility excavation, per plan, El. 196.75'	4	132	5.6	128.4	97	
	223	West pool facility excavation, per plan, El. 196.75'	3	121	13.9	119.2	99	
	224	West pool facility excavation, per plan, El. 196.75'	4	132	7.2	128.7	98	
	225	West pool facility excavation, per plan, El. 196.75'	4	132	6.0	128.1	97	
	226	West pool facility excavation, per plan, El. 196.75'	4	132	8.9	124.8	95	
	227	West pool facility excavation, per plan, El. 196.75'	4	132	7.3	127.5	97	
	228	West pool facility excavation, per plan, El. 196.75'	4	132	12.5	125.2	95	
	229	West pool facility excavation, per plan, El. 196.75'	1	122	13.5	115.3	95	
	230	West pool facility excavation, per plan, El. 196.75'	4	132	5.5	127.6	97	
	231	West pool facility excavation, per plan, El. 196.75'	4	132	6.1	127.1	96	
	232	West pool facility excavation, per plan, El. 196.75'	4	132	6.8	130.1	99	
	233	West pool facility excavation, per plan, El. 196.75'	3	121	11.3	117.6	97	
	234	West pool facility excavation, per plan, El. 196.75'	1	122	11.3	119.6	98	
21-Jan-11								
	235	West pool facility excavation, per plan, El. 197.25'	4	132	8.2	130.9	99	
	236	West pool facility excavation, per plan, El. 197.25'	4	132	7.5	129.0	98	
	237	West pool facility excavation, per plan, El. 197.25'	4	132	6.8	116.8	88	a
	238	West pool facility excavation, per plan, El. 197.25'	4	132	8.7	124.1	94	a
	239	West pool facility excavation, per plan, El. 197.25'	4	132	9.4	124.9	95	
	240	West pool facility excavation, per plan, El. 197.25'	1	122	12.8	115.5	95	
	241	West pool facility excavation, per plan, El. 197.25'	4	132	6.5	128.3	97	

KEY to NOTES:

a - test did not meet minimum density requirement

b - area of failing test reworked and retested. Retest meets minimum density requirement.

**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	No.	Location/Elev.	Curve No.	Max Den	% MC	Dry Den	% RC	Notes
21-Jan-11								
	242	West pool facility excavation, per plan, El. 197.25'	1	122	13.1	112.8	92	a
	243	West pool facility excavation, per plan, El. 197.25'	4	132	6.8	131.2	99	
	244	West pool facility excavation, per plan, El. 197.25'	4	132	10.0	129.5	98	
	245	West pool facility excavation, per plan, El. 197.25'	4	132	6.2	126.6	96	
	246	West pool facility excavation, per plan, El. 197.25'	3	122	7.3	121.3	99	
	247	West pool facility excavation, per plan, El. 197.25'	4	132	7.8	128.6	97	b-238
	248	West pool facility excavation, per plan, El. 197.25'	4	132	8.5	130.6	99	
	249	West pool facility excavation, per plan, El. 197.25'	1	122	12.4	116.7	96	
	250	West pool facility excavation, per plan, El. 197.25'	1	122	12.4	116.6	96	b-242
	251	West pool facility excavation, per plan, El. 197.25'	4	132	7.9	128.8	98	b-237
	252	West pool facility excavation, per plan, El. 197.25'	4	132	9.1	128.2	97	
	253	West pool facility excavation, per plan, El. 197.25'	3	121	10.6	115.9	96	
24-Jan-11								
	254	West pool facility excavation, per plan, El. 198'	1	122	11.1	120.3	99	
	255	West pool facility excavation, per plan, El. 198'	1	122	11.7	117.3	96	
	256	West pool facility excavation, per plan, El. 198'	1	122	12.2	120.2	99	
	257	West pool facility excavation, per plan, El. 198'	1	122	12.6	118.3	97	
	258	West pool facility excavation, per plan, El. 198'	1	122	12.1	118.8	97	
	259	West pool facility excavation, per plan, El. 198'	2	128	9.7	123.6	97	
25-Jan-11								
	260	West pool facility excavation, per plan, El. 199'	1	122	13.3	115.7	95	
	261	West pool facility excavation, per plan, El. 199'	5	124	12.5	119.2	96	
	262	West pool facility excavation, per plan, El. 199'	5	124	12.8	119.8	97	
	263	West pool facility excavation, per plan, El. 199'	5	124	12.5	120.8	97	
	264	West pool facility excavation, per plan, El. 199'	5	124	12.1	120.8	97	
	265	West pool facility excavation, per plan, El. 199'	5	124	11.9	118.1	95	
	266	West pool facility excavation, per plan, El. 199'	5	124	12.2	117.4	95	
	267	West pool facility excavation, per plan, El. 199'	5	124	12.7	120.2	97	
	268	West pool facility excavation, per plan, El. 199'	5	124	13.7	117.2	95	
	269	West pool facility excavation, per plan, El. 199'	5	124	13.3	117.2	95	
	270	West pool facility excavation, per plan, El. 199'	5	124	12.9	117.7	95	
	271	West pool facility excavation, per plan, El. 199'	5	124	12.3	119.1	96	
	272	West pool facility excavation, per plan, El. 199'	5	124	12.9	118.4	95	
26-Jan-11								
	273	West pool facility excavation, per plan, El. 200'	1	122	11.9	116.4	95	
	274	West pool facility excavation, per plan, El. 200'	5	124	11.1	120.6	97	
	275	West pool facility excavation, per plan, El. 200'	5	124	11.9	118.4	95	
	276	West pool facility excavation, per plan, El. 200'	5	124	11.1	119.6	96	
	277	West pool facility excavation, per plan, El. 200'	5	124	8.1	117.2	95	

KEY to NOTES:

a - test did not meet minimum density requirement

b - area of failing test reworked and retested. Retest meets minimum density requirement.

**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	Location/Elev.	Curve No.	Max Den	% MC	Dry Den	% RC	Notes
26-Jan-11							
	278 West pool facility excavation, per plan, El. 200'	5	124	10.7	120.7	97	
	279 West pool facility excavation, per plan, El. 200'	5	124	11.7	117.9	95	
	280 West pool facility excavation, per plan, El. 200'	5	124	10.7	118.7	96	
	281 West pool facility excavation, per plan, El. 200'	5	124	8.1	117.0	94	
	282 West pool facility excavation, per plan, El. 200'	5	124	10.6	117.4	95	
	283 West side elec encasement, per plan, El. 197'	1	122	14.5	111.5	91	
	284 East side elec encasement, per plan, El. 197.5'	1	122	13.8	117.5	96	
	285 West side elec encasement, per plan, El. 198'	1	122	15.0	114.3	94	
	286 West side elec encasement, per plan, El. 199'	1	122	13.8	113.8	93	
	287 Center elec encasement per plan, El. 199.5'	1	122	11.0	120.7	99	
28-Jan-11							
	288 West pool facility excavation, per plan, El. 201.5'	2	128	10.2	123.5	96	
	289 West pool facility excavation, per plan, El. 201.5'	2	128	10.3	122.7	96	
	290 West pool facility excavation, per plan, El. 201.5'	2	128	11.5	123.0	96	
	291 West pool facility excavation, per plan, El. 201.5'	2	128	11.8	121.6	95	
	292 West pool facility excavation, per plan, El. 201.5'	2	128	9.4	126.7	99	
	293 West pool facility excavation, per plan, El. 201.5'	2	128	9.2	122.1	95	
	294 West pool facility excavation, per plan, El. 201.5'	5	124	11.1	120.6	97	
31-Jan-11							
	295 West pool facility excavation, per plan, El. 203'	5	124	12.7	119.7	97	
	296 West pool facility excavation, per plan, El. 203'	5	124	13.3	119.1	96	
	297 West pool facility excavation, per plan, El. 203'	5	124	13.2	117.2	95	
	298 West pool facility excavation, per plan, El. 203'	5	124	12.8	116.5	94	
	299 West pool facility excavation, per plan, El. 202'	5	124	12.3	121.0	98	
	300 West pool facility excavation, per plan, El. 202.5'	5	124	12.2	122.4	99	
	301 West pool facility excavation, per plan, El. 202.5'	5	124	12.4	120.9	98	
	302 West pool facility excavation, per plan, El. 202.5'	5	124	12.2	117.5	95	
8-Feb-11							
	303 Former EQ room, per plan, El. 193'	1	122	17.0	110.3	90	a
	304 Former EQ room, per plan, El. 193'	1	122	15.7	115.5	95	b-303
	305 Com backfill over encasement, per plan, El. 202'	1	122	15.7	115.2	94	
	306 Former EQ room, per plan, El. 194.5'	1	122	13.8	116.1	95	
	307 Former EQ room, per plan, El. 196.5'	1	122	14.3	116.9	96	
	308 Former EQ room, per plan, El. 198.5'	1	122	15.5	115.2	94	
	309 Former EQ room, per plan, El. 200.5'	1	122	10.7	121.0	99	
	310 Former EQ room, per plan, El. 201.5'	1	122	10.0	122.0	100	
	311 Former EQ room, per plan, El. 202.5'	1	122	9.6	118.9	97	
	312 Shoring beam shaft trench, per plan, El. 195.5'	1	122	14.9	111.8	92	

KEY to NOTES:

a - test did not meet minimum density requirement

b - area of failing test reworked and retested. Retest meets minimum density requirement.

**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	No.	Location/Elev.	Curve No.	Max Den	% MC	Dry Den	% RC	Notes
8-Feb-11	313	Shoring beam shaft trench, per plan, El. 197'	1	122	14.9	111.6	91	
	314	Shoring beam shaft trench, per plan, El. 198'	1	122	14.5	112.3	92	
	315	Shoring beam shaft trench, per plan, El. 199'	1	122	9.5	117.9	97	
	316	Shoring beam shaft trench, per plan, El. 197'	1	122	14.3	113.9	93	
	317	Shoring beam shaft trench, per plan, El. 198'	1	122	15.0	112.4	92	
	318	Shoring beam shaft trench, per plan, El. 199.5'	1	122	12.4	118.4	97	
9-Feb-11	319	Shoring beam slot trench, per plan, El. 199.5	1	122	14.7	114.0	93	
10-Feb-11	320	Fill around electric enclosure, per plan, 4' BFF (EE	5	124	10.5	119.5	96	
	321	Fill around electric enclosure, per plan, 3' BFF (EE	5	124	7.7	120.3	97	
	322	Fill around electric enclosure, per plan, 2' BFF (EE	5	124	8.0	120.7	97	
	323	Fill around electric enclosure, per plan, 1' BSG	5	124	7.6	116.7	94	
	324	Fill around electric enclosure, per plan, 2' BFF (EE	5	124	8.5	118.1	95	
	325	Fill around electric enclosure, per plan, 1' BSG	5	124	8.3	121.1	98	
11-Feb-11	326	Shoring beam shaft trench, per plan, 1' BSG	5	124	9.7	117.5	95	
	327	Shoring beam shaft trench, per plan, 1' BSG	5	124	10.1	119.2	96	
14-Feb-11	328	Elec trench bedding, per plan	6	122	5.9	106.0	87	a
	329	Pool facility, per plan, FSG	5	124	10.2	118.8	96	
	330	Pool facility, per plan, FSG	5	124	8.9	116.5	94	
	331	Pool facility, per plan, FSG	5	124	9.7	115.1	93	
	332	Pool facility, per plan, FSG	5	124	10.4	119.4	96	
	333	Pool facility, per plan, FSG	5	124	9.6	116.1	94	
	334	Pool facility, per plan, FSG	5	124	10.1	120.3	97	
	335	Pool facility, per plan, FSG	5	124	9.9	116.3	94	
15-Feb-11	336	Elec trench bedding, per plan	6	122	5.1	109.9	90	b-328
	337	Elec trench pipe zone, per plan	6	122	5.2	113.1	93	
	338	Elec trench pipe zone, per plan	6	122	7.0	113.7	93	
	339	Elec trench backfill, per plan, 2' BSG	1	122	14.5	106.9	88	a
	340	Elec trench backfill, per plan, 2' BSG	1	122	18.7	108.0	89	a
	341	Elec trench backfill, per plan, 2' BSG	1	122	13.6	110.2	90	b-339
	342	Elec trench backfill, per plan, 2' BSG	1	122	14.2	115.9	95	b-340
	343	Elec trench backfill, per plan, 1.5' BSG	1	122	14.0	110.7	91	
	344	Elec trench backfill, per plan, 1.5' BSG	1	122	15.4	112.3	92	
	345	Elec trench backfill, per plan, 2' BSG	1	122	17.6	110.9	91	

KEY to NOTES:

a - test did not meet minimum density requirement

b - area of failing test reworked and retested. Retest meets minimum density requirement.

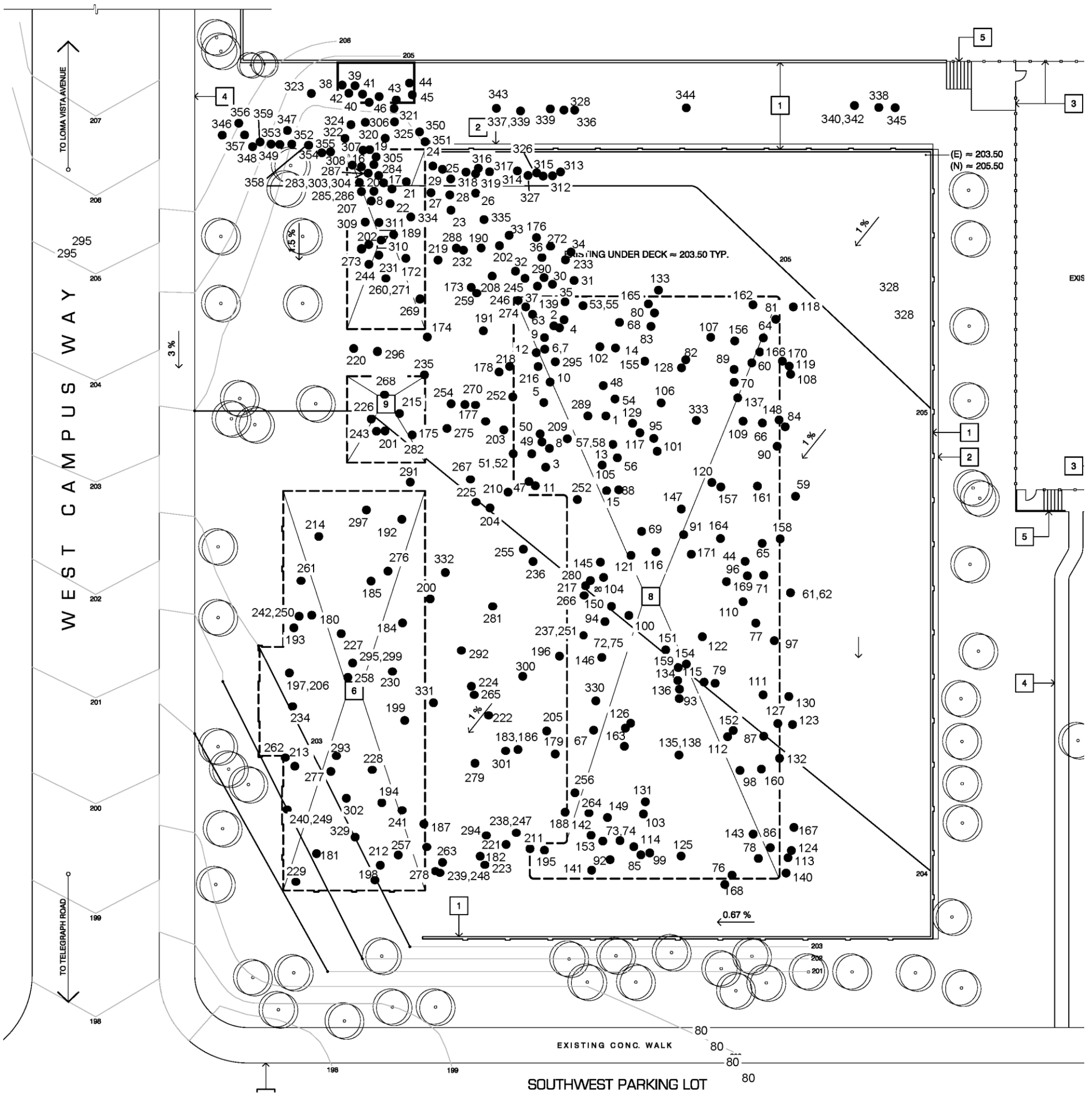
**TABLE 2 - FIELD
 DENSITY TEST RESULTS
 Rough Grading - Aquatic Facilities Demolition
 Ventura College**

Date	Location/Elev.	Curve No.	Max Den	% MC	Dry Den	% RC	Notes
1-Mar-11							
	346 EE S/W subgrade, per plan	4	132	8.3	126.0	95	
	347 EE S/W subgrade, per plan	4	132	8.4	129.2	98	
	348 slope below south side of S/W, per plan	2	128	8.9	114.6	90	a
	349 slope below south side of S/W, per plan	2	128	10.5	105.7	83	a
	350 east stair landing, per plan, base	3	121	17.6	109.5	90	
	351 east stair landing, per plan, base	3	121	18.5	109.7	91	
	352 slope below south side of S/W, per plan, 3' BSG	2	128	10.2	123.5	96	b-346
	353 slope below south side of S/W, per plan, 2.25' BSG	2	128	10.5	121.1	95	b-347
	354 slope below south side of S/W, per plan, 3' BSG	2	128	10.1	123.9	97	
	355 slope below south side of S/W, per plan, 2' BSG	2	128	11.3	124.7	97	
2-Mar-11							
	356 EE S/W subgrade, per plan	2	128	7.8	122.7	96	
	357 EE S/W subgrade, per plan	2	128	9.6	122.0	95	
	358 EE S/W subgrade, per plan	2	128	8.2	118.6	93	
	359 EE S/W subgrade, per plan	1	128	10.5	118.1	92	

KEY to NOTES:

a - test did not meet minimum density requirement

b - area of failing test reworked and retested. Retest meets minimum density requirement.



SCALE: 1" = 30'



**COMPACTION TEST LOCATION PLAN
AQUATICS FACILITIES DEMOLITION
VENTURA COLLEGE
Ventura, California**