

# GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND  
ENVIRONMENTAL CONSULTANTS

*A Practicing ASFE Member Firm*



May 22, 2007

Ace Designs and Construction Management  
3683 King Street, Suite 113  
Alexandria, VA 22302

Attn: Mr. Mike Diggs

Re: Grandview Estates  
Construction Observation and Testing Services  
Retaining Wall #1  
Washington, D.C.  
GTA Project No.: 060660

Dear Mr. Diggs:

This letter transmits results of construction observation and testing services for the construction of the modular block retaining wall, Retaining Wall #1, at the referenced project. The testing was periodically performed from May 9, 2006 to August 9, 2006.

The scope of our observation services included foundation observations, in-place density testing and observation of material installation associated with the retaining wall. Retaining wall plans prepared by GTA dated March 23, 2005 and revisions dated May 31, 2006, were referenced during this phase of the construction services. GTA also referenced our geotechnical report dated April 5, 2005 during construction.

GTA observed the preparation of the subgrade prior to the construction of the leveling pad. Soils at the foundation subgrade were coastal plains soils consisting primarily of sandy clay and clayey sand. Due to the presence of groundwater and soft soils, portions of the foundation subgrade were overexcavated up to six feet in depth and grade was reestablished with AASHTO #57 stone that was wrapped in a filter fabric. GTA observed that the dimensions of the excavations for the stone leveling pad foundation for the wall were in general compliance with the plans.

GTA observed that the geogrid reinforced zone behind the modular units was backfilled with AASHTO #57 stone wrapped in filter fabric as specified. The required drainage stone, pipes, and filter fabric were installed in general accordance with the approved plans. The specified geo-grid reinforcement was installed horizontally within the #57 stone backfill, connected to the concrete wall units then pulled taut prior to backfilling.

14280 Park Center Drive, Suite A, Laurel, Maryland 20707 (410) 792-9446 (301) 470-4470 Fax: (410) 792-7395

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Our representatives observed placement of fill soils within house pads in the retained backfill zone of the retaining wall and performed in-place density testing. In-place density test results are tabulated on the attached sheet based on ASTM D-698, (AASHTO T-99), the Standard Proctor. Moisture-density curves were developed in our laboratory and adjusted in the field for the material used as fill which typically consisted of brown sandy clay and clayey sand. Test locations are referenced by the retaining wall station number and the corresponding lot number as well as the approximate elevation. GTA confirms that at least one passing test meeting the project requirements of 97 percent of the maximum dry density for the wall backfill, as determined by ASTM D-698, (AASHTO T-99), the Standard Proctor was achieved for each lift of controlled fill constructed under GTA's observations.

Based on our observations, it is GTA's professional opinion that leveling pad, backfill, drainage materials and geo-grid reinforcement of the subject retaining wall was constructed in general accordance with the approved plans.

This report has been prepared for the exclusive use of Ace Designs and Construction Management pursuant to the agreement between GTA and Ace Designs and Construction Management dated May 9, 2006 and in accordance with generally accepted engineering practices. All terms and conditions set forth in the agreement are incorporated herein. No warranty, express or implied is made herein. Use and reproduction of this report by any other person is unauthorized.

Thank you for the opportunity to be of assistance. Please contact our office at 410-792-9446 if you have questions or require additional information.

Sincerely,  
**GEO-TECHNOLOGY ASSOCIATES, INC.**

  
Scott J. Taylor, P.E.  
Associate



# FIELD DENSITY SUMMARY

PROJECT NAME: Grandview Estates

PROJECT NUMBER: '060660

COMPACTION STANDARD: STANDARD PROCTOR: ASTM D-698, AASHTO T-99

TEST NUMBER	DATE	RECHECK OF TEST NUMBER	LOCATION	ELEVATION (ft)	MOISTURE CONTENT (%)	WET DENSITY (pcf)	DRY DENSITY (pcf)	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	PERCENT COMPACTION	PERCENT REQUIRED	REMARKS
1	07/12/06		Retaining Wall #1: Sta.2+48, Lots 13-18	127.4	14.9	134.2	116.8	118.7	13.4	98.4	97.0	
2	07/12/06		Retaining Wall #1: Sta.2+15, Lots 19-23	127.4	15.6	125.1	108.2	118.7	13.4	91.2	97.0	Failed
3	07/12/06	2	Retaining Wall #1: Sta.2+15, Lots 19-23	127.4	15.3	122.1	105.9	118.7	13.4	89.2	97.0	Failed
4	07/12/06	3	Retaining Wall #1: Sta.2+15, Lots 19-23	127.4	14.8	133.4	116.2	118.7	13.4	97.9	97.0	
5	07/12/06		Retaining Wall #1: Sta.2+45, Lots 13-18	128.7	14.2	131.0	114.7	118.7	13.4	96.6	97.0	Accepted
6	07/12/06		Retaining Wall #1: Sta.2+05, Lots 19-23	128.7	14.5	132.9	116.1	118.7	13.4	97.8	97.0	
7	07/17/06		Retaining Wall #1: Sta. 2+25, Lots 19-23	130.7	16.0	133.3	114.9	118.7	13.4	96.8	97.0	Accepted
8	07/17/06		Retaining Wall #1: Sta.1+25, Lots 19-23	130.7	17.9	131.8	111.8	118.7	13.4	94.2	97.0	Failed
9	07/17/06	8	Retaining Wall #1: Sta.1+25, Lots 19-23	130.7	15.8	134.0	115.7	118.7	13.4	97.5	97.0	
10	07/18/06		Retaining Wall #1: Sta.1+65, Lots 19-23	131.5	15.4	125.5	108.8	118.7	13.4	91.6	97.0	Failed
11	07/18/06	10	Retaining Wall #1: Sta.1+65, Lots 19-23	131.5	15.6	132.6	114.7	118.7	13.4	96.6	97.0	Accepted
12	07/18/06		Retaining Wall #1: Sta.1+65, Lots 19-23	132.0	15.1	127.0	110.3	118.7	13.4	93.0	97.0	Failed
13	07/18/06	12	Retaining Wall #1: Sta.1+65, Lots 19-23	132.0	14.3	131.3	114.9	118.7	13.4	96.8	97.0	Accepted
14	07/19/06		Retaining Wall #1: Sta.2+40, Lots 13-18	131.6	14.0	135.2	118.6	118.7	13.4	99.9	97.0	
15	07/19/06		Retaining Wall #1: Sta.2+20, Lots 13-18	131.6	12.8	132.0	117.0	118.7	13.4	98.6	97.0	
16	07/19/06		Retaining Wall #1: Sta.1+90, Lots 19-23	131.6	13.5	131.4	115.8	118.7	13.4	97.5	97.0	
17	07/19/06		Retaining Wall #1: Sta.1+45, Lots 19-23	131.6	11.6	133.2	119.4	118.7	13.4	100.6	97.0	
18	07/19/06		Retaining Wall #1: Sta.3+60, Lots 8-12	134.3	16.1	130.7	112.6	115.5	14.0	97.5	97.0	
19	07/19/06		Retaining Wall #1: Sta.3+60, Lots 8-12	134.3	15.5	130.6	113.1	115.5	14.0	97.9	97.0	
20	07/19/06		Retaining Wall #1: Sta.2+40, Lots 13-18	132.2	13.2	129.0	114.0	115.5	14.0	98.7	97.0	

Geo-Technology Associates, Inc.  
Geotechnical and Environmental Consultants  
Laurel, Maryland

COMPUTED BY: \_\_\_\_\_  
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# FIELD DENSITY SUMMARY

PROJECT NAME: Grandview Estates

PROJECT NUMBER: '060660

COMPACTION STANDARD: STANDARD PROCTOR: ASTM D-698, AASHTO T-99

TEST NUMBER	DATE	RECHECK OF TEST NUMBER	LOCATION	ELEVATION (ft)	MOISTURE CONTENT (%)	WET DENSITY (pcf)	DRY DENSITY (pcf)	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	PERCENT COMPACTION	PERCENT REQUIRED	REMARKS
21	07/19/06		Retaining Wall #1: Sta.2+20, Lots 13-18	132.2	14.8	127.8	111.3	115.5	14.0	96.4	97.0	Failed
22	07/19/06		Retaining Wall #1: Sta.2+40, Lots 13-18	132.2	13.8	129.8	114.1	115.5	14.0	98.8	97.0	
23	07/19/06	21	Retaining Wall #1: Sta.2+20, Lots 13-18	132.2	14.5	128.5	112.2	115.5	14.0	97.2	97.0	
24	07/20/06		Retaining Wall #1: Sta.2+40, Lots 13-18	133.3	14.8	132.3	115.2	118.5	13.0	97.3	97.0	
25	07/20/06		Retaining Wall #1: Sta.1+40, Lots 19-23	133.3	15.8	133.5	115.3	118.5	13.0	97.3	97.0	
26	07/20/06		Retaining Wall #1: Sta.2+30, Lots 13-18	133.3	12.6	129.4	114.9	118.5	13.0	97.0	97.0	
27	07/20/06		Retaining Wall #1: Sta.1+80, Lots 19-23	133.3	14.2	133.0	116.5	118.5	13.0	98.3	97.0	
28	07/20/06		Retaining Wall #1: Sta.2+00, Lots 19-23	134.7	14.7	124.5	108.5	111.8	14.4	97.1	97.0	
29	07/20/06		Retaining Wall #1: Sta.1+70, Lots 19-23	134.7	15.1	128.2	111.4	111.8	14.4	99.6	97.0	
30	07/20/06		Retaining Wall #1: Sta.1+30, Lots 19-23	134.7	13.5	125.1	110.2	111.8	14.4	98.6	97.0	
31	07/20/06		Retaining Wall #1: Sta.2+15, Lots 13-18	134.7	15.3	124.8	108.2	111.8	14.4	96.8	97.0	Accepted
32	07/20/06		Retaining Wall #1: Sta.3+90, Lots 8-12	134.7	15.3	132.8	115.2	118.5	13.0	97.2	97.0	
33	07/20/06		Retaining Wall #1: Sta.3+40, Lots 8-12	134.7	16.3	134.0	115.2	118.5	13.0	97.2	97.0	
34	07/20/06		Retaining Wall #1: Sta.3+50, Lots 8-12	134.7	15.8	133.8	115.5	118.5	13.0	97.5	97.0	
35	07/20/06		Retaining Wall #1: Sta.3+25, Lots 8-12	134.7	15.4	135.2	117.2	118.5	13.0	98.9	97.0	
36	07/20/06		Retaining Wall #1: Sta.4+00, Lots 8-12	134.7	14.4	132.4	115.7	118.5	13.0	97.7	97.0	
37	07/21/06		Retaining Wall #1: Sta.4+00, Lots 8-12	135.5	17.6	130.0	110.5	111.8	14.5	98.9	97.0	
38	07/21/06		Retaining Wall #1: Sta.3+70, Lots 8-12	135.5	18.1	126.2	106.9	111.8	14.5	95.6	97.0	Failed
39	07/21/06	38	Retaining Wall #1: Sta.3+70, Lots 8-12	135.5	13.1	126.2	111.6	111.8	14.5	99.8	97.0	
40	07/21/06		Retaining Wall #1: Sta.3+20, Lots 13-18	135.5	14.7	127.2	110.9	111.8	14.5	99.2	97.0	

Geo-Technology Associates, Inc.  
Geotechnical and Environmental Consultants  
Laurel, Maryland

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CHECKED BY: \_\_\_\_\_

# FIELD DENSITY SUMMARY

PROJECT NAME: Grandview Estates

PROJECT NUMBER: '060660

COMPACTION STANDARD: STANDARD PROCTOR: ASTM D-698, AASHTO T-99

TEST NUMBER	DATE	RECHECK OF TEST NUMBER	LOCATION	ELEVATION (ft)	MOISTURE CONTENT (%)	WET DENSITY (pcf)	DRY DENSITY (pcf)	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	PERCENT COMPACTION	PERCENT REQUIRED	REMARKS
41	07/21/06		Retaining Wall #1: Sta.4+20, Lots 8-12	135.5	14.4	126.8	110.8	111.8	14.5	99.1	97.0	
42	07/21/06		Retaining Wall #1: Sta.1+75, Lots 19-23	135.5	15.6	134.3	116.2	118.5	13.0	98.0	97.0	
43	07/24/06		Retaining Wall #1: Sta.4+20, Lots 8-12	135.5	14.8	129.8	113.1	117.0	13.5	96.6	97.0	Accepted
44	07/24/06		Retaining Wall #1: Sta.3+40, Lots 8-12	135.5	15.7	125.4	108.4	117.0	13.5	92.6	97.0	Failed
45	07/24/06		Retaining Wall #1: Sta.4+18, Lots 8-12	135.5	14.7	129.6	113.0	117.0	13.5	96.6	97.0	Accepted
46	07/24/06		Retaining Wall #1: Sta.3+80, Lots 8-12	135.5	15.4	130.5	113.1	117.0	13.5	96.7	97.0	Accepted
47	07/24/06	44	Retaining Wall #1: Sta.3+40, Lots 8-12	135.5	14.6	131.2	114.5	117.0	13.5	97.9	97.0	
48	07/24/06		Retaining Wall #1: Sta.3+30, Lots 8-12	136.1	15.4	128.9	111.7	117.0	13.5	95.5	97.0	Failed
49	07/24/06		Retaining Wall #1: Sta.3+80, Lots 8-12	136.1	15.3	130.2	112.9	117.0	13.5	96.5	97.0	Accepted
50	07/24/06		Retaining Wall #1: Sta.4+10, Lots 8-12	136.1	14.5	130.6	114.1	117.0	13.5	97.5	97.0	
51	07/24/06		Retaining Wall #1: Sta.4+30, Lots 8-12	136.1	14.1	130.1	114.0	117.0	13.5	97.5	97.0	
52	07/24/06	48	Retaining Wall #1: Sta.3+30, Lots 8-12	136.1	12.5	130.9	116.4	117.0	13.5	99.4	97.0	
53	07/24/06		Retaining Wall #1: Sta.2+25, Lots 13-18	135.4	15.4	131.8	114.2	117.0	13.5	97.6	97.0	
54	07/24/06		Retaining Wall #1: Sta.1+90, Lots 19-23	135.4	14.9	130.7	113.8	117.0	13.5	97.2	97.0	
55	07/24/06		Retaining Wall #1: Sta.1+50, Lots 19-23	135.4	14.5	131.0	114.4	117.0	13.5	97.8	97.0	
56	07/24/06		Retaining Wall #1: Sta.1+15, Lots 19-23	135.4	15.2	132.8	115.3	117.0	13.5	98.5	97.0	
57	07/24/06		Retaining Wall #1: Sta.2+40, Lots 13-18	136.1	15.5	135.1	117.0	117.0	13.5	100.0	97.0	
58	07/24/06		Retaining Wall #1: Sta.2+00, Lots 19-23	136.1	14.3	131.3	114.9	117.0	13.5	98.2	97.0	
59	07/24/06		Retaining Wall #1: Sta.1+50, Lots 19-23	136.1	15.4	131.6	114.0	117.0	13.5	97.5	97.0	
60	07/24/06		Retaining Wall #1: Sta.1+20, Lots 19-23	136.1	14.9	130.5	113.6	117.0	13.5	97.1	97.0	

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Geotechnical and Environmental Consultants  
Laurel, Maryland

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# FIELD DENSITY SUMMARY

PROJECT NAME: Grandview Estates

PROJECT NUMBER: '060660

COMPACTION STANDARD: STANDARD PROCTOR: ASTM D-698, AASHTO T-99

TEST NUMBER	DATE	RECHECK OF TEST NUMBER	LOCATION	ELEVATION (ft)	MOISTURE CONTENT (%)	WET DENSITY (pcf)	DRY DENSITY (pcf)	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	PERCENT COMPACTION	PERCENT REQUIRED	REMARKS
61	07/24/06		Retaining Wall #1: Sta.4+10, Lots 8-12	137.0	14.1	130.6	114.5	118.5	13.0	96.6	97.0	Accepted
62	07/24/06		Retaining Wall #1: Sta.3+80, Lots 8-12	137.0	14.7	136.0	118.6	118.5	13.0	100.1	97.0	
63	07/24/06		Retaining Wall #1: Sta.3+40, Lots 8-12	137.0	13.4	132.6	116.9	118.5	13.0	98.7	97.0	
64	07/24/06		Retaining Wall #1: Sta.4+30, Lots 8-12	137.0	13.6	132.0	116.2	118.5	13.0	98.1	97.0	
65	07/25/06		Retaining Wall #1: Sta.2+50, Lots 8-12	137.0	14.2	136.5	119.5	118.5	13.0	100.9	97.0	
66	07/25/06		Retaining Wall #1: Sta.2+25, Lots 13-18	137.0	17.5	134.5	114.5	118.5	13.0	96.6	97.0	Accepted
67	07/25/06		Retaining Wall #1: Sta.4+35, Lots 8-12	137.0	12.9	130.7	115.8	116.4	9.0	99.5	97.0	
68	07/25/06		Retaining Wall #1: Sta.4+15, Lots 8-12	137.0	14.1	132.9	116.5	116.4	9.0	100.1	97.0	
69	07/25/06		Retaining Wall #1: Sta.3+75, Lots 8-12	137.0	13.0	129.0	114.2	116.4	9.0	98.1	97.0	
70	07/25/06		Retaining Wall #1: Sta.3+50, Lots 8-12	137.0	14.3	130.2	113.9	116.4	9.0	97.9	97.0	
71	07/26/06		Retaining Wall #1: Sta.1+30, Lots 19-23	138.0	16.4	122.2	105.0	113.0	14.0	92.9	97.0	Failed
72	07/26/06		Retaining Wall #1: Sta.1+90, Lots 19-23	138.0	14.8	126.7	110.4	113.0	14.0	97.7	97.0	
73	07/26/06		Retaining Wall #1: Sta.2+40, Lots 13-18	138.0	15.3	127.5	110.6	113.0	14.0	97.9	97.0	
74	07/26/06		Retaining Wall #1: Sta.3+00, Lots 8-12	138.0	16.7	130.7	112.0	113.0	14.0	99.1	97.0	
75	07/26/06	71	Retaining Wall #1: Sta.1+30, Lots 19-23	138.0	17.1	126.8	108.3	113.0	14.0	95.8	97.0	Failed
76	07/26/06	75	Retaining Wall #1: Sta.1+30, Lots 19-23	138.0	15.3	127.5	110.6	113.0	14.0	97.9	97.0	
77	07/26/06		Retaining Wall #1: Sta.3+80, Lots 8-12	138.0	16.7	130.7	112.0	113.0	14.0	99.1	97.0	
78	07/26/06		Retaining Wall #1: Sta.3+40, Lots 8-12	138.0	14.0	128.8	113.0	113.0	14.0	100.0	97.0	

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Geotechnical and Environmental Consultants  
Laurel, Maryland

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CHECKED BY: \_\_\_\_\_

# FIELD DENSITY SUMMARY

PROJECT NAME: Grandview Estates

PROJECT NUMBER: '060660

COMPACTION STANDARD: STANDARD PROCTOR: ASTM D-698, AASHTO T-99

TEST NUMBER	DATE	RECHECK OF TEST NUMBER	LOCATION	ELEVATION (ft)	MOISTURE CONTENT (%)	WET DENSITY (pcf)	DRY DENSITY (pcf)	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	PERCENT COMPACTION	PERCENT REQUIRED	REMARKS
79	07/26/06		Retaining Wall #1: Sta.4+00, Lots 8-12	138.0	15.2	128.1	111.2	113.0	14.0	98.4	97.0	
80	07/26/06		Retaining Wall #1: Sta.4+25, Lots 8-12	138.0	16.1	129.0	111.1	113.0	14.0	98.3	97.0	
81	07/26/06		Retaining Wall #1: Sta.1+30, Lots 19-23	139.0	15.1	119.9	104.2	107.0	17.0	97.4	97.0	
82	07/26/06		Retaining Wall #1: Sta.2+15, Lots 13-18	139.0	16.5	122.7	105.3	107.0	17.0	98.4	97.0	
83	07/26/06		Retaining Wall #1: Sta.3+00, Lots 8-12	139.0	15.2	120.5	104.6	107.0	17.0	97.8	97.0	
84	07/26/06		Retaining Wall #1: Sta.3+50, Lots 8-12	139.0	14.1	121.8	106.7	107.0	17.0	99.8	97.0	
85	07/27/06		Retaining Wall #1: Sta.3+25, Lots 8-12	139.0	13.5	126.5	111.5	113.0	14.0	98.6	97.0	
86	07/27/06		Retaining Wall #1: Sta.2+75, Lots 13-18	139.0	18.0	125.8	106.6	113.0	14.0	94.3	97.0	Failed
87	07/27/06		Retaining Wall #1: Sta.1+75, Lots 19-23	139.0	17.2	120.0	102.4	113.0	14.0	90.6	97.0	Failed
88	07/27/06		Retaining Wall #1: Sta.2+25, Lots 13-18	139.0	15.4	120.2	104.2	113.0	14.0	92.2	97.0	Failed
89	07/27/06		Retaining Wall #1: Sta.2+50, Lots 8-12	139.0	15.8	129.2	111.6	113.0	14.0	98.7	97.0	
90	07/27/06		Retaining Wall #1: Sta.3+00, Lots 8-12	139.0	16.2	129.0	111.0	113.0	14.0	98.2	97.0	
91	07/27/06		Retaining Wall #1: Sta.3+40, Lots 8-12	139.0	16.9	128.8	110.2	113.0	14.0	97.5	97.0	
92	07/27/06		Retaining Wall #1: Sta.3+75, Lots 8-12	139.0	16.3	126.9	109.1	113.0	14.0	96.6	97.0	Accepted
93	07/28/06	86	Retaining Wall #1: Sta.2+75, Lots 13-18	139.0	13.0	128.4	113.7	113.0	14.0	100.6	97.0	
94	07/28/06	87	Retaining Wall #1: Sta.1+75, Lots 19-23	139.0	12.9	126.6	112.2	113.0	14.0	99.3	97.0	
95	07/28/06	88	Retaining Wall #1: Sta.2+25, Lots 13-18	139.0	13.2	126.5	111.8	113.0	14.0	98.9	97.0	
96	07/28/06		Retaining Wall #1: Sta.0+75, Lot 24	140.0	13.5	126.0	111.0	113.0	14.0	98.2	97.0	
97	07/28/06		Retaining Wall #1: Sta.1+75, Lots 19-23	140.0	17.3	125.5	107.0	113.0	14.0	94.7	97.0	Failed
98	07/28/06	97	Retaining Wall #1: Sta.1+75, Lots 19-23	140.0	15.5	126.4	109.5	113.0	14.0	96.9	97.0	Accepted

Geo-Technology Associates, Inc.  
Geotechnical and Environmental Consultants  
Laurel, Maryland

COMPUTED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_

# FIELD DENSITY SUMMARY

PROJECT NAME: Grandview Estates

PROJECT NUMBER: '060660

COMPACTION STANDARD: STANDARD PROCTOR: ASTM D-698, AASHTO T-99

TEST NUMBER	DATE	RECHECK OF TEST NUMBER	LOCATION	ELEVATION (ft)	MOISTURE CONTENT (%)	WET DENSITY (pcf)	DRY DENSITY (pcf)	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	PERCENT COMPACTION	PERCENT REQUIRED	REMARKS
99	07/28/06		Retaining Wall #1: Sta.2+75, Lots 13-18	140.0	15.2	126.8	110.1	113.0	14.0	97.4	97.0	
100	07/28/06		Retaining Wall #1: Sta.3+75, Lots 8-12	140.0	14.6	130.3	113.7	113.0	14.0	100.6	97.0	
101	07/28/06		Retaining Wall #1: Sta.4+25, Lots 8-12	140.0	14.5	128.7	112.5	113.0	14.0	99.5	97.0	
102	08/01/06		Retaining Wall #1: Sta.3+75, Lots 8-12	144.0	11.9	124.3	111.1	117.5	11.5	94.5	97.0	Failed
103	08/01/06		Retaining Wall #1: Sta.3+50, Lots 8-12	144.0	13.3	125.2	110.5	117.5	11.5	94.0	97.0	Failed
104	08/01/06		Retaining Wall #1: Sta.1+75, Lots 19-23	144.0	15.5	120.3	104.2	117.5	11.5	88.6	97.0	Failed
105	08/01/06	104	Retaining Wall #1: Sta.1+75, Lots 19-23	144.0	15.0	122.3	106.3	117.5	11.5	90.5	97.0	Failed
106	08/02/06		Retaining Wall #1: Sta.0+50, Lot 24	136.7	14.2	130.9	114.6	117.5	11.5	97.6	97.0	
107	08/02/06		Retaining Wall #1: Sta.0+50, Lot 24	138.0	14.8	131.2	114.3	117.5	11.5	97.3	97.0	
108	08/04/06		Retaining Wall #1: Sta.4+10, Lots 8-12	144.0	12.2	130.7	116.5	117.0	13.5	99.6	97.0	
109	08/04/06	102	Retaining Wall #1: Sta.3+75, Lots 8-12	144.0	12.7	129.3	114.7	117.0	13.5	98.1	97.0	
110	08/04/06	103	Retaining Wall #1: Sta.3+50, Lots 8-12	144.0	14.2	129.0	113.0	117.0	13.5	96.5	97.0	Accepted
111	08/04/06		Retaining Wall #1: Sta.3+20, Lots 13-18	144.0	13.9	129.3	113.5	117.0	13.5	97.0	97.0	
112	08/04/06		Retaining Wall #1: Sta.2+90, Lots 13-18	144.0	12.8	129.8	115.1	117.0	13.5	98.4	97.0	
113	08/04/06		Retaining Wall #1: Sta.2+60, Lots 13-18	144.0	13.1	130.5	115.4	117.0	13.5	98.6	97.0	
114	08/04/06	105	Retaining Wall #1: Sta.2+20, Lots 13-18	144.0	15.4	131.1	113.6	117.0	13.5	97.1	97.0	
115	08/08/06		Retaining Wall #1: Sta.3+85, Lots 8-12	145.0	14.5	133.8	116.9	119.2	11.0	98.0	97.0	
116	08/08/06		Retaining Wall #1: Sta.3+50, Lots 8-12	145.0	15.7	135.1	116.8	119.2	11.0	98.0	97.0	
117	08/08/06		Retaining Wall #1: Sta.3+00, Lots 8-12	145.0	15.2	133.8	116.1	119.2	11.0	97.4	97.0	
118	08/08/06		Retaining Wall #1: Sta.2+50, Lots 8-12	145.0	14.5	133.5	116.6	119.2	11.0	97.8	97.0	

Geo-Technology Associates, Inc.  
Geotechnical and Environmental Consultants  
Laurel, Maryland

COMPUTED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_

# FIELD DENSITY SUMMARY

PROJECT NAME: Grandview Estates

PROJECT NUMBER: '060660

COMPACTION STANDARD: STANDARD PROCTOR: ASTM D-698, AASHTO T-99

TEST NUMBER	DATE	RECHECK OF TEST NUMBER	LOCATION	ELEVATION (ft)	MOISTURE CONTENT (%)	WET DENSITY (pcf)	DRY DENSITY (pcf)	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	PERCENT COMPACTION	PERCENT REQUIRED	REMARKS
119	08/08/06		Retaining Wall #1: Sta.2+00, Lots 19-23	145.0	15.3	131.5	114.1	119.2	11.0	95.7	97.0	Failed
120	08/08/06	119	Retaining Wall #1: Sta.2+00, Lots 19-23	145.0	15.1	133.7	116.2	119.2	11.0	97.4	97.0	
121	08/08/06		Retaining Wall #1: Sta.2+25, Lots 13-18	145.0	15.8	138.4	119.5	119.2	11.0	100.3	97.0	
122	08/08/06		Retaining Wall #1: Sta.2+75, Lots 13-18	145.0	13.6	132.0	116.2	119.2	11.0	97.5	97.0	
123	08/08/06		Retaining Wall #1: Sta.3+25, Lots 8-12	145.0	14.2	133.3	116.7	119.2	11.0	97.9	97.0	