



ENTECH
ENGINEERING, INC.

505 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
PHONE (719) 531-5599
FAX (719) 531-5238

September 28, 2021

Forest Lakes Residential Development, Filing 6
2138 Flying Horse Club Drive
Colorado Springs, CO 80921

Attn: Jim Boulton

Re: Density Testing – Sanitary Sewer
Forest Lakes Residential Development, Filing 6
Colorado Springs, Colorado
Report No. 11, Tests 434–488

Dear Mr. Boulton,

As requested, personnel of Entech Engineering, Inc. have performed density testing at the above referenced site.

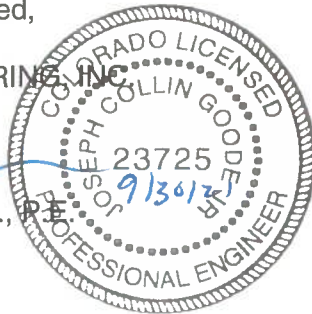
Density testing on this site was performed on September 13, 2021. The density testing indicates that the materials have been adequately compacted at the depths and in the locations noted. Results of the density tests are enclosed with this letter.

We trust that this has provided you with the information you require. Should you have any questions or need further information, please do not hesitate to contact us.

Respectfully Submitted,

ENTECH ENGINEERING, INC.


Joseph C. Goode, Jr., P.E.
President



JCG/bk

Enclosure

Entech Job No. 201326

F:\AA projects\2020\201326-FLRD-Forest Lakes F6-110-ConMat\201326_2cl11.docx

Client: FLRD #6	Entech Job #: 201326.2	Proctor Value Key: M = modified, ASTM D-1557
Project: Forest Lakes Residential Development, Filing 6	Tested By: B. Ooley/J. Claton	S = standard, ASTM D-698
Subject: Sanitary Sewer	Report Date: 09-30-2021	T = AASHTO, T-180

Test #	Location	Testing Date	Percent Compaction	Percent Required	Percent Moisture	Soil Type	Proctor Type/Value	Pass/Fail
434	1' north of Sanitary sewer manhole #12 on Timber Trek Way, 14' below grade.	9/13/21	98	98	8.1	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
435	1' south of Sanitary sewer manhole #12 on Timber Trek Way, 12' below grade.	9/13/21	98	98	7.9	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
436	1' west of Sanitary sewer manhole #12 on Timber Trek Way, 10' below grade.	9/13/21	98	98	6.4	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
437	1' east of Sanitary sewer manhole #12 on Timber Trek Way, 8' below grade.	9/13/21	99	95	7.2	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
438	Main station # 4+10 on Timber Trek Way, 14' below grade.	9/13/21	98	98	7.2	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
439	Main station # 4+10 on Timber Trek Way, 12' below grade.	9/13/21	98	98	7.1	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
440	Main station # 4+10 on Timber Trek Way, 10' below grade.	9/13/21	99	98	6.4	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
441	Main station # 4+10 on Timber Trek Way, 8' below grade.	9/13/21	98	98	8.2	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
442	Main station # 4+10 on Timber Trek Way, 6' below grade.	9/14/21	96	95	7.9	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
443	Main station #4+10 on Timber Trek Way, 4' below grade.	9/14/21	95	95	7.5	SM	M - 130.3 @ 7.6	<input type="checkbox"/>

Comments:

Scope of Observation: PERIODIC; CONTRACTOR'S OR CLIENT'S REPRESENTATIVE ADVISED

All dimensions are approximate. Cl. = Centerline



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FIELD DENSITY RESULTS

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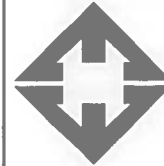
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Test #	Test Location	Testing Date	Percent Compaction	Percent Required	Percent Moisture	Soil Type	Proctor Type/Value	Pass/Fail
444	Main station #4+10 on Timber Trek Way, 2' below grade.	9/14/21	97	95	6.9	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
445	Main station #4+10 on Timber Trek Way, at grade.	9/14/21	96	95	6.9	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
446	2' north of Sanitary sewer manhole #12 on Timber Trek Way, 6' below grade.	9/14/21	97	95	6.5	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
447	2' east of Sanitary sewer manhole #12 on Timber Trek Way, 4' below grade.	9/14/21	96	95	6.9	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
448	2' south of Sanitary sewer manhole #12 on Timber Trek Way, 2' below grade.	9/14/21	96	95	6.7	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
449	2' west of Sanitary sewer manhole #12 on Timber Trek Way, at grade.	9/14/21	95	95	7.2	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
450	Sanitary Services to lot #51 on South Mesa Top Drive, 16' below grade.	9/15/21	98	98	7.1	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
451	Sanitary Services to lot #51 on South Mesa Top Drive, 14' below grade.	9/15/21	98	98	6.2	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
452	Sanitary Services to lot #51 on South Mesa Top Drive, 12' below grade.	9/15/21	98	98	5.8	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
453	Sanitary Services to lot #51 on South Mesa Top Drive, 10' below grade.	9/15/21	99	98	5.7	SM	M - 130.3 @ 7.6	<input type="checkbox"/>

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Test #	Location	Testing Date	Percent Compaction	Percent Required	Percent Moisture	Soil Type	Proctor Type/Value	Pass/Fail
454	Sanitary Services to lot #50 on South Mesa Top Drive, 16' below grade.	9/15/21	99	98	8.1	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
455	Sanitary Services to lot #50 on South Mesa Top Drive, 14' below grade.	9/15/21	99	98	7.9	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
456	Sanitary Services to lot #50 on South Mesa Top Drive, 12' below grade.	9/15/21	98	98	7.2	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
457	Sanitary Services to lot #50 on South Mesa Top Drive, 10' below grade.	9/15/21	98	98	6.9	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
458	Sanitary Services to lot #50 on South Mesa Top Drive, 8' below grade.	9/16/21	97	95	7.5	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
459	Sanitary Services to lot #50 on South Mesa Top Drive, 6' below grade.	9/16/21	96	95	7.0	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
460	Sanitary Services to lot #50 on South Mesa Top Drive, 4' below grade.	9/16/21	97	95	6.4	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
461	Sanitary Services to lot #50 on South Mesa Top Drive, 2' below grade.	9/16/21	96	95	7.3	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
462	Sanitary Services to lot #50 on South Mesa Top Drive, at grade.	9/16/21	96	95	7.8	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
463	Sanitary Services to lot #51 on South Mesa Top Drive, 8' below grade.	9/16/21	96	95	6.0	SM	M - 130.3 @ 7.6	<input type="checkbox"/>

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Test #	Test Location	Testing Date	Percent Compaction	Percent Required	Percent Moisture	Soil Type	Proctor Type/Value	Pass/Fail
464	Sanitary Services to lot #51 on South Mesa Top Drive, 6' below grade.	9/16/21	96	95	7.1	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
465	Sanitary Services to lot #51 on South Mesa Top Drive, 4' below grade.	9/16/21	95	95	6.4	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
466	Sanitary Services to lot #51 on South Mesa Top Drive, 2' below grade.	9/16/21	97	95	7.2	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
467	Sanitary Services to lot #51 on South Mesa Top Drive, at grade.	9/16/21	99	95	7.5	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
468	Sanitary Services to lot #49 on South Mesa Top Drive, 16' below grade.	9/17/21	99	98	7.1	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
469	Sanitary Services to lot #49 on South Mesa Top Drive, 14' below grade.	9/17/21	98	98	6.4	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
470	Sanitary Services to lot #49 on South Mesa Top Drive, 12' below grade.	9/17/21	99	98	9.2	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
471	Sanitary Services to lot #49 on South Mesa Top Drive, 10' below grade.	9/17/21	98	98	8.5	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
472	Sanitary Main Station #12 + 75 on South Mesa Top Drive, 21' below grade.	9/17/21	99	98	8.1	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
473	Sanitary Main Station #12 + 75 on South Mesa Top Drive, 19' below grade.	9/17/21	99	98	8.4	SM	M - 130.3 @ 7.6	<input type="checkbox"/>

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Test #	Test Location	Testing Date	Percent Compaction	Percent Required	Percent Moisture	Soil Type	Proctor Type/Value	Pass/Fail
474	Sanitary Main Station #12 + 75 on South Mesa Top Drive, 17' below grade.	9/17/21	99	98	7.9	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
475	Sanitary Main Station #12 + 75 on South Mesa Top Drive, 15' below grade.	9/17/21	98	98	7.7	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
476	Sanitary Main Station #12 + 75 on South Mesa Top Drive, 13' below grade.	9/17/21	98	98	6.9	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
477	Sanitary Main Station #12 + 75 on South Mesa Top Drive, 11' below grade.	9/17/21	99	98	8.0	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
478	Sanitary Main Station #12 + 75 on South Mesa Top Drive, 9' below grade.	9/18/21	96	95	7.4	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
479	Sanitary Main Station #12 + 75 on South Mesa Top Drive, 7' below grade.	9/18/21	95	95	6.7	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
480	Sanitary Main Station #12 + 75 on South Mesa Top Drive, 5' below grade.	9/18/21	97	95	7.1	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
481	Sanitary Main Station #12 + 75 on South Mesa Top Drive, 3' below grade.	9/18/21	98	95	7.5	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
482	Sanitary Services to lot #49 on South Mesa Top Drive, 8' below grade.	9/18/21	97	95	8.1	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
483	Sanitary Services to lot #49 on South Mesa Top Drive, 6' below grade.	9/18/21	96	95	7.9	SM	M - 130.3 @ 7.6	<input type="checkbox"/>

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Test #	Test Location	Testing Date	Percent Compaction	Percent Required	Percent Moisture	Soil Type	Proctor Type/Value	Pass/Fail
484	Sanitary Services to lot #49 on South Mesa Top Drive, 4' below grade.	9/18/21	96	95	8.7	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
485	Sanitary Services to lot #49 on South Mesa Top Drive, 2' below grade.	9/18/21	95	95	9.4	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
486	Sanitary Services to lot #49 on South Mesa Top Drive, at grade.	9/18/21	95	95	8.3	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
487	Sanitary Main Station #12 + 75 on South Mesa Top Drive, 1' below grade	9/18/21	96	95	7.4	SM	M - 130.3 @ 7.6	<input type="checkbox"/>
488	Sanitary Main Station #12 + 75 on South Mesa Top Drive, at grade	9/18/21	97	95	8.6	SM	M - 130.3 @ 7.6	<input type="checkbox"/>

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