

GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS

A Practicing Geoprofessional Business Association Member Firm



February 20, 2020

Toll Brothers, Inc.
516 North Newtown Street Road
Newtown Square, Pennsylvania 19073

Attn: Mr. Michael A. Downs, P.E.

Re: Additional Preliminary On-Site Wastewater Disposal Feasibility Evaluation
Crebilly Farm
Westtown Township, Chester County, Pennsylvania

Mr. Downs:

In accordance with our Agreement dated July 10, 2016, Geo-Technology Associates, Inc. (GTA) has performed additional preliminary on-site wastewater feasibility evaluation for the proposed residential subdivision, located on the Crebilly Farm property in Westtown Township, Chester County, Pennsylvania. This letter is an addendum to GTA's Report of Preliminary On-Site Wastewater Feasibility Evaluation dated March 27, 2017 (GTA 2017). GTA also prepared an initial Addendum to the March 27, 2017 Report, dated April 13, 2017 (GTA 2017a). Please see GTA (2017 and 2017a) for additional information regarding our evaluation including with regard to soils, hydrogeology, discussion, conclusions, recommendations, limitations, etc.

GTA understands that two proposed effluent disposal areas in the northern portion of the site, identified on the October 7, 2016 plan entitled *Overall Open Space Plan for Crebilly Farm*, were impacted by a site re-design. These two areas are in the vicinity of previous Test Pits TP-511, TP-511-1, TP-512, and TP-512-1 (see GTA, 2017a). The purpose of this additional evaluation was to evaluate the suitability of subsurface conditions in the northeastern portion of the site for wastewater disposal via drip irrigation, for potential replacement of the aforementioned impacted areas.

The additional evaluation consisted of test pit exploration and soil profile evaluation at the 4 locations indicated on the *Test Pit Location Plan*, attached to this letter. Test pits TP-19-1, -19-2, and -19-3 were excavated on August 8, 2019, and TP-20-1 was excavated on January 24, 2020. Soil profile summaries for each of the test pits are also attached. Preliminary percolation testing was also performed within selected test pits, and the results of the testing are also indicated on the attached soil profile summaries. Test pits ranged in depth from about 6 to 9 feet below the existing ground surface (ft bgs).

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Toll Brothers, Inc.

Re: ***Add. Preliminary On-Site Wastewater Disposal Feasibility Evaluation – Crebilly Farm***

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Encountered soil textures were generally sandy loam to loam with relatively well-developed soil structure, and secondary permeability pathways associated with root and annelid activity, etc. Preliminary percolation test rates generally were about 1.03 inches per hour (in/hr) within TP-19-3, 4.29 in/hr within TP-19-1, and 5.45 in/hr within TP-20-1. Observed soil conditions within the four test pits and preliminary percolation test rates, indicate that soils in the proposed disposal area are generally suitable for wastewater disposal via drip irrigation. The four Test Pits TP-19-1, TP-19-2, TP-19-3, TP-20-1 with satisfactory soil conditions indicate that the newly evaluated area is larger than the aforementioned two impacted areas.

The results of this supplemental preliminary evaluation support our conclusion in GTA (2017), i.e., “Based upon the results of this preliminary evaluation, it is our opinion that on-site wastewater disposal of the proposed flows is feasible for implementation at the site...”. The Limitations indicated in GTA (2017) apply to this preliminary evaluation. As noted in GTA (2017), additional soil and hydrogeologic evaluation will be necessary at the site to evaluate the required size and configuration of the initial system and the required area for initial system accommodation.

Thank you for the opportunity to assist you with this project. Should you have any questions or require any additional information, please contact our office at (410) 515-9446.

Sincerely,

GEO-TECHNOLOGY ASSOCIATES, INC.



Paul S. Scott, P.G.

Vice President

PSS/gmm

31161348x1

\\PSMC-DATA\gta\Shared\Aquifer\Reports\2016 Projects\31161348 Crebilly Farm\2020 Work\31161348.Crebilly. ww prelim addendum2.doc

Attachments:

Test Pit Location Plan (*1 sheet*)

Soil Profile Summaries (*1 page*)

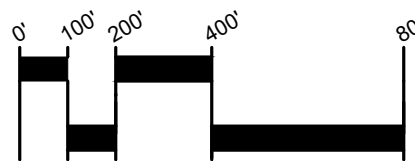


SOURCE: PLAN ADAPTED FROM A PLAN PROVIDED TO GTA ON JANUARY 17, 2020 BY ESE CONSULTANTS, INC.

LEGEND



APPROXIMATE LOCATIONS OF TEST PITS FOR WASTEWATER SUITABILITY



SCALE: 1"=400'



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TEST PIT LOCATION PLAN

CREBILLY FARM

CHESTER COUNTY, PENNSYLVANIA

JOB NO. 31161348X1	SCALE: 1"=400'	DATE: JAN 2020	DRAWN BY: GMM	REVIEW BY: PSS	FIGURE: 1 OF 1
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TP-19-1

0-6": Topsoil

6-13": Brown sandy loam

13-34": Brown micaceous loamy sand, with weathered rock fragments

34-48": Brown sandy loam, some mica

48-112": Brown moist loamy sand with weathered rock fragments

Refusal at 112"

Percolation Test Depth: 22"

Estimated Rate: 4.29 in/hr

TP-19-2

0-6": Topsoil

6-14": Orange loamy sand, some mica and weathered rock fragments

14-24": Brown sandy loam, some mica and weathered rock fragments, lithochromic coloration

24-36": Orange micaceous loamy sand with weathered rock fragments

36-72": Orange sand and highly weathered rock

No Percolation Test

TP-19-3

0-4": Topsoil

6-10": Dark brown sandy clay loam

10-24": Brown to orange sandy loam

24-72": Brown to orange sandy clay loam

Percolation Test Depth: 24"

Estimated Rate: 1.03 in/hr

TP-20-1

0-5": Topsoil

5-19": Brown loamy sand, some mica

19-26": Grey micaceous loamy sand with weathered rock fragments

26-31": Orange micaceous loamy sand with weathered rock fragments

31-48": Grey micaceous loamy sand with weathered rock fragments

Percolation Test Depth: 28"

Estimated Rate: 5.45 in/hr