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landscape architects • surveyors

700 Nilles Road  
Fairfield, Ohio 45014  
P 513.829.2149  
F 513.829.2457

[www.bayerbecker.com](http://www.bayerbecker.com)

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*INTEGRITY                      QUALITY                      SERVICE                      CONTINUOUS IMPROVEMENT*

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April 26, 2007

Ms. Teresa Barnes, P.E.  
Butler County Engineer's Office  
1921 Fairgrove Avenue  
Hamilton, Ohio 45011

Re: Chesterwood Village Phase 2 Storm Sewer Calculations

Dear Teresa,

Enclosed please find one (1) copy of the drainage calculations and one (1) copy of the drainage maps for the above referenced project for your review. The drainage calculations show the proposed storm for the Phase 2 part of the project as well as the existing storm.

The proposed stormsewer has sufficient capacity for the proposed drainage areas. However, these proposed drainage areas have been altered from the original design and now there are four (4) areas where the existing storm sewer does not have sufficient capacity. These areas specifically are as follows: drainage area EX 2 to EX 1, drainage area EX 1 to E, drainage area E to EX CB, and drainage area CB 2 to MH 1. The first three areas listed are located on the northside of the property. The last area is located on the southwest of the property. The existing pipe capacities are very close to being sufficient. The capacity deficiencies range in value from a high of 1.21 CFS to a low of 0.11 CFS.

Due to this lack of capacity, we analyzed the hydraulic gradeline of each corresponding stormsewer system to determine if the stormwater would still be pushed through the system and remain in the pipes and inlets without being surcharged. These calculations are shown in the drainage calculations. As can be seen in the calculations, the storm will remain within the pipes and inlets. Therefore, with the lack of capacity in the existing pipes being negligible and combined with the fact there has never been a problem with the stormsewer in this area, we feel the stormsewer as designed is acceptable.

If you should have any further questions or comments, please do not hesitate to contact us.

Sincerely,

Jeff Glowka, P.E.

Cc: File

**RECEIVED**  
APR 26 2007  
BY:

J:\2007\07F014-000\Admin\Correspondence\07F-014-000 Barnes 070425 StormsewercalcstoBCEO.doc

700 Nilles Road  
Fairfield, OH 45014

14 East Eighth Street  
Covington, KY 41011

6900 Tylersville Road  
Mason, OH 45040

777 Eads Pkwy., Suite C  
Lawrenceburg, IN 47025

(REV. 11/05)

NOTE: Building permit issued prior  
to review of required information  
(allowed < 1 day; which was previously  
booked @ a seminar)

∴ holding CO for as-builts : fountain  
maintenance plan