Richard W. Howard, Jr., P.E. Russell T. Posthauer, Jr., P.E. Michael J. Lillis, P.E. Richard A. Bunnell, R.L.S. Ronald J. George, P.E. R.LS. Steven C. Sullivan, P.E. Matthew Scully, P.E. Ralph A. Klass, P.E., L.E.P. Paul J. Connelly, L.E.P. Roderick E. Cameron, R..LA., AICP Abigail Adams, R.L.A



40 Old New Milford Road Brookfield, CT 06804 (203) 775-6207 Fax (203) 775-3628 mail@ccaengineering.com

33 Village Green Drive Litchfield, CT 06759 (860) 567-3179 Fax (860) 567-1716 cca_litchfield@snet.net

July 20, 2010

Re:

Nicholas and Caroline Daifotis
239 Brushy Ridge Road
New Canaan, CT 06840
Email: nicholas.daifotis@rbccm.com



CONNECTICUT SITING COUNCIL

SITING COUNCIL Engineering Review Cell Tower Bell Road and 55 Popple Swamp Road Cornwall, CT

Dear Mr. Daifotis:

We have received a set of engineering plans prepared by Centek Engineering for Cellco Partnership d/b/a/ Verizon Wireless dated 3/29/10 with an updated "Partial Site Plan/Grading Plan, sheet C-1A with a latest revision of 6/7/10".

We are also in receipt of the following document: "Stormwater Drainage Analysis, 16 Bell Road Extension, Cornwall, CT, August 2009", prepared by Martinez Couch & Associates, LLC and provided by Centek Engineering on July 15, 2010.

As requested, we have reviewed the documents supplied to us by others in relation to your concerns of storm water runoff from the proposed cell tower access road onto your property located at 55 Popple Swamp Road. Representatives of CCA, LLC have also attended an on-site visit with the following people on Tuesday, July 13, 2010: Sean Hayden, CCS (hired by Cornwall for his review), Gordon Ridgway, First Selectman, Karen Nelson – Zoning Enforcement Officer/Land Use Administrator, a P&Z commission member, an IW commission member and the adjoining property owner to the south, Frank Thalen.

Based on our preliminary review of the plans, drainage analysis and site visit, it is our opinion, that the construction of the cell tower and access drive as currently proposed is not likely to impact your property. Based on this fact, we have stopped our review of the plans and documents at this time. Please find below some of our preliminary comments that may be assistance to others:

• The drainage area maps cutoff the upper reaches of the watershed adjacent to drainage area E-1. In speaking with the drainage engineering company representative, Mr. Couch, his explanation was that the report includes only on-site drainage areas and not off-site

areas. In this instance the flows computed and provided are lower than if the entire drainage area was included, however the percentage increase is likely conservative. If we are to continue a review of the project additional information with regard to the total drainage areas will be required and Mr. Couch offered to provide the information.

- The drainage analysis includes only the summary sheets and does not include the individual hydrographs for the drainage areas. In order to review the calculations, the backup information is required.
- Drainage calculations state the driveway is bituminous concrete on grades exceeding 8 percent. This conflicts with the current site plan. The current site plans references a reinforced gravel driveway. In our opinion, reinforced gravel driveways with 20 percent or more grades, may continually erode and not stabilize especially on curves. Maintenance due to erosion is likely after intensive rainfall events. We recommend a more permanent solution such as course pavement, permeable pavement or one of the many paving stone solutions. Although more expensive initially, providing a more permanent long-term solution is advised.
- The drainage analysis indicates on the E-1 drainage area table provided, there is approximately a 2.5 to 0.4 percent increase in runoff dependent upon the stabilization used for the side slopes. Based on the E-2 drainage area table provided, there is approximately an 8.5 to 5 percent increase in runoff dependent upon the stabilization used for the side slopes. We do not agree with the statement made that the increase in flow is insignificant. We do agree with the statement that engineering controls are available to address this increase. Additional controls and analysis are suggested to reduce and control the additional runoff.
- The existing 24 inch and 8 inch culverts are specified to be replaced with new culverts. No calculations are included to confirm that the pipes are properly sized. The U.S.G.S. maps of the area indicate two watercourses which cross the access drive (as shown on the maps in the drainage analysis). The culverts for both of the watercourses should be designed to accommodate the flows, headwater should be checked and a full culvert analysis should be provided for each crossing.

Please feel free to contact us should you require further services.

Sincerely,

Richard W. Howard, P.E.

President