STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

RE: APPLICATION BY T-MOBILE NORTHEAST LLC FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR A TELECOMMUNICATIONS FACILITY AT 158 EDISON ROAD IN THE TOWN OF TRUMBULL, CONNECTICUT

DOCKET NO. 421

Date: February 28, 2012

SECOND SUPPLEMENTAL PRE-FILED TESTIMONY OF MICHAEL P. LIBERTINE

Q19. Did you prepare or supervise the preparation of your supplemental pre-filed testimony, including the photographic-simulations appended thereto (Exhibit B.10)?

A19. Yes.

Q20. Do you have any additions, corrections or modifications to your supplemental pre-filed testimony, including the photographic-simulations appended thereto (Exhibit B.10)?

A20. No.

Q21. Is your supplemental pre-filed testimony, including the photographic-simulations appended thereto (Exhibit B.10), true and accurate to the best of your knowledge?

A21. Yes.

Q22. Do you adopt the information contained in your supplemental pre-filed testimony, including the photographic-simulations appended thereto (Exhibit B.10), as part of your testimony in this Docket?

A22. Yes.

Q23. With regard to the view in Photographic Simulation View 8 and View 9 the simulated tower appears much darker in view 8 than it does in view 9. This "fading" of the simulated tower is even more pronounced in view 10 and view 3, why?

A23. The simulations are designed to portray representative views under the varied lighting conditions encountered when the photographs were taken. The four views identified in the question provide examples of the variability associated with diurnal sun/cloud patterns and other atmospheric conditions that influence the color and brightness of the sky and how objects may appear from different angles. The following factors collectively create diverse conditions: (1) time of day; (2) the height and angle of the sun; (3) its position relative to the subject; (4) camera positions; and (5) the amount of cloud cover. The trees in the above-identified photographs indicate how varied objects can appear based on these factors.

The color value of the proposed telecommunications facility proposed by T-Mobile Northeast LLC ("T-Mobile") in this Docket ("Facility") changes from photo to photo to match the environment. View 8 is from a location that generally looked into the sun at the time the shot was taken, which creates a silhouette effect of those objects photographed. For example, the trees are close to black because of this influence, as is the façade of the house. View 9 was taken during a cloudy period, but the primary light source was not facing the camera; as a result, focal features are not as influenced by the shadow effect seen in View 8. In View 10, skies are clear and deep blue, with unobstructed sunshine behind the position of the photographer. These conditions create a brighter illumination of the features viewed in the foreground. View 3 has scattered cloud cover but is overall fairly bright. One reason views 10 and 3 may

appear "faded" is because the proposed monopole is located behind a significant amount of tree cover.

Q24. What photosimulation software was utilized in simulating the proposed tower?

A24. The software used to create the simulations consisted of a combination of AutoCAD, ArcGIS, Google Earth, Google Sketchup, NXT Irender and Adobe Photoshop. The 3D Model takes into account the location of the sun. Sun location is driven by the time of day and location of the photograph. Time and location of each photo is recorded in the field. Shadows and light on the proposed Facility is determined by the sun's (light source's) overall influence upon it.

Q25. Is there a control or setting that the user of the software identified in the previous Interrogatory which controls the color or relative dark or light nature of the photosimulated tower?

A25. The software program(s) used to create the photographic simulations do allow the user to manually adjust the lightness/darkness of objects in a picture by percentage.

Q26. If so, what settings were chosen for each photosimulation? How were the setting chosen?

A26. Initially, the photographic simulations were prepared using a setting of 100 percent density. The settings were then adjusted to account for the variables listed in response to Question 23, above (question 1 on the written cross-examination submitted by Citizens Against Trumbull Tower ["CATT"]). Specific settings are determined by the time and location corresponding to each individual photograph.

Q27. The photographer of Photosimulation View 9 chose to depict the proposed tower with the house at #20 Merwyn Street blocking the lower half of the tower. Why?

A27. This angle was representative of the views from in front of this house from the street. This location depicts the least obstructed view of both the existing lattice tower and the proposed Facility from that general area on Merwyn Street. The house to the left is taller than the house at 20 Merwyn Street and, therefore, the house to the left would create a more prominent obstruction of views of the proposed Facility. There is a stand of trees to the right of 20 Merwyn Street, which would obstruct large portions of the existing tower and the proposed Facility.

Q28. The photograph 20 Merwyn Street (View 9) and all of the houses were taken from the front of the house while many homeowners will have a view from the side, the back porch, kitchen and bedroom windows. For example, attached hereto as Ex. 1 shows a view of the existing tower (and thus the approximate location of the proposed tower) from the side of 20 Merwyn Street. Would that have not been a more fair and accurate representation of the full visual impact at that home location?

A28. No. The photograph in Exhibit 1 to CATT's written cross-examination appears to be from an angle where vegetation blocks a significant portion of the tower, which points to one of the challenges in presenting the simulations. In View 9, moving to the right would have created more obstructions of the proposed Facility because of the existing trees in the right of the photograph. Moving to the left side of the house, as in the photograph in Exhibit 1, creates a similar effect. The "visual impact" of any proposed development is a personal judgment. The combination of the photographic simulations and the viewshed map are intended to depict the nature of the visual impact, if any.

Q29. In View 9 depicting the existing lattice work tower, it is true that the photograph could have been taken a few feet to the right where the trees would have obscured the existing lattice work tower completely or a few feet to the left where the house would have blocked a larger portion of the existing lattice work tower. Was this not done to show more of the existing tower and less of the proposed tower?

A29. No. The photograph (View 9) was not taken from a precise spot to highlight or obscure an object intentionally. As stated above (Questions 28 and 29), this viewpoint is a fair representation from that area. The same criticism could have been made had the location for the photograph shifted either to the right (where those trees would have also substantially hidden the proposed Facility to a much larger degree than the house) or to the left (where the utility infrastructure and neighboring roofline would have been in the immediate foreground of the photo and obscured the view).

Q30. In View 4 did the photographer intend to make the telephone poles and street signage the most prominent feature of the View at that location?

A30. No. From that location (and in View 6), the telephone poles and signage are the most prominent features in the foreground. There was no intention to create any type of image other than what existed at the time the photograph was taken. This location provided one of the few relatively unobstructed views of the proposed facility along that portion of Main Street.

Q31. What assumptions for tree height were used in developing the visual impact study map?

A31. The average tree height in the Study Area was estimated at 60 feet above ground level. This information is contained in the Visual Resource Evaluation ("VRE") Report (Tab M of the Application).

Q32. Upon what factual basis (what data was used) was that tree height determined?

A32. During the course of the balloon floats, several trees were randomly surveyed using a hand-held infrared laser and Suunto clinometer to ascertain their heights. These measurements determined an average tree height throughout the 2-mile study area detailed in the VRE ("Study Area"). Twelve years of evaluation throughout Connecticut have yielded the following conclusion: the tree canopy height in the State is fairly uniform and varies from about 55 feet to in excess of 80 feet (where eastern white pine becomes a dominant component of the forest type, average tree heights can be greater). This general uniformity is most likely the result of historic state-wide clear cutting of forests for charcoal production in the late 1800s and early 1900s. Currently, 69 percent of Connecticut's forests are characterized as mature (USDA Resource Bulletin NE-160, 2004).

Q33. Some of the homes in the study area for the visual impact are built above street level. All the photosims were shot at street level. What effort is made to depict the view more accurately from the level of the homeowner on the ground and living floors of the homes above street level?

A33. No attempt was made to depict views from within the houses in the Study Area. As stated in the VRE Report, photographs are obtained from publicly-accessible locations. I cannot respond to the unsubstantiated statement regarding the raised elevation of unspecified residences within the Study Area.

Q34. Assuming T-Mobile utilized a flagpole configuration, as proposed by CATT, what would be the potential visual impact of such a configuration?

A34. There are three principal concerns regarding the flagpole configuration for the site of the proposed Facility: (1) as Mr. Heffernan testified, such a configuration would require raising the Facility's height to meet T-Mobile's coverage objectives and would, in my opinion, increase the Facility's visibility footprint, potentially increasing that footprint as much as 50 percent in total acreage throughout the Study Area; (2) the opaque shroud which would cover the Town's equipment would be more visible than the currently proposed configuration; and (3) T-Mobile has worked closely with the State Historic Preservation Office ("SHPO") and SHPO has approved the current design. It is my experience that faux flagpoles/brown sticks are not SHPO's preference. Ultimately, a flagpole configuration would not significantly reduce the overall visibility, particularly since T-Mobile has already designed the Facility for close-contact arrays, thereby minimizing the full platform effect.

Q35. In your professional opinion, would a view of the sky over the Town's Police Department, in a developed area of the Town, constitute a natural resource of the State?

A35. No.

Q36. In your professional opinion, would the proposed Facility have a detrimental impact on views of the sky over the Town's Police Department, in a developed area of the Town?

A35. No. The areas surrounding the site of the proposed Facility are densely populated, with the residences closely spaced. Many views of the sky from a particular

location would likely include some visual distractions on the periphery, such as rooflines, chimneys, overhead wires, etc. The reality is that, some residents will have views of portions of the proposed Facility but several of those residents, as well as others, likely have views of the Town's Police Department, commercial structures, the current lattice tower, and/or the Merritt Parkway.

{SPACE LEFT BLANK INTENTIONALLY}

Michael P. Libertine

Michael P. Libertine

Sworn and subscribed to before me this
24th day of February, 2012.

Notary Public
My Commission expires

CINDY ST. MARTIN
NOTARY PUBLIC
MY COMMISSION EXPIRES JULY 31, 2014