EXHIBIT X
GEOTECHNICAL ENGINEERING REPORT – ADDENDUM II PREPARED
BY TERRACON, DATED SEPTEMBER 14, 2014
September 18, 2014

American Tower Corporation
12830 SW Park Way
Portland, Oregon 97225

Attn: Mr. Kevin Arnold
P: (603) 708-1072
E: Kevin.Arnold@AmericanTower.com

Re: Geotechnical Engineering Report – Addendum II
Proposed Cellular Tower
ATC #281865, AT&T #SN4931
2605 Mukilteo Speedway
Mukilteo, Snohomish County, Washington
Terracon Project No. 81145034

Dear Mr. Arnold:

This letter is an addendum to, and should be used in conjunction with, both our Geotechnical Engineering Report and our subsequent Report Addendum for the project, dated August 18, 2014 and August 27, 2014, respectively. The purpose of this letter is to provide further discussion of our previous recommendations concerning a setback from the steep slope adjacent to the proposed tower lease area and the recommended depth of shallow foundations. The following discussion is based on communication with the City of Mukilteo and review of both the previous Geotechnical Engineering Report prepared by David Evans and Associates, Inc. (DEA) in December, 1999 for residential development adjacent to the site and the Request for Additional Information letter from the City of Mukilteo dated July 25, 2014.

Comment 6 of the City of Mukilteo letter noted above addresses recommendations provided by DEA in their 1999 geotechnical report concerning the steep slope setback and maximum footing depths. DEA's report addresses four lots proposed for the Alice Merrill Short Plat, with lot numbers increasing from North to South. Lot 1, the northernmost portion of the property, includes the existing house at 2605 Mukilteo Speedway and the currently proposed tower.

At the time of the DEA report, new construction was only planned for lots 2, 3, and 4. As such, DEA's recommendations were limited to these lots. These recommendations included steep slope setbacks of 25 feet for lots 3 and 4 and 30 feet for lot 2. The increased setback for lot 2 appears to have been based on an observed slope failure near the base of the slope, below lot 2. Based on their visual reconnaissance, DEA concluded that this slope failure was the result of groundwater seepage at the contact between a medium dense silt layer and the very dense glacial till. DEA also notes that trees near the bottom of the slope indicate recent and long-term
movement of the slope, though trees near the top of the slope do not show evidence of recent or historical movement.

Based on the information presented above, it is our opinion that the DEA recommendations provided in their 1999 geotechnical report were reasonable for the proposed residential construction based on the extents of their explorations. However, the proposed tower appears to be within lot 1 as described by DEA and outside of their recommendations for lots 2 through 4. The conditions noted in the DEA report on lot 2 were not observed below lot 1 in our recent observations of the slope conditions. Based on the information presented in our previous report and addendum, it is our opinion that a 25-foot wide buffer from the top of the steep slope adjacent to the lease-site and foundation parameters as presented in our August 18, 2014 geotechnical report and our August 27, 2014 addendum are sufficient to avoid an adverse impact on the stability of the existing steep slope.

Comments 6 and 7 of the City of Mukilteo letter request information regarding the footing depths for the proposed tower and reference a statement made in the 1999 DEA report. DEA’s 1999 report states in the introductory paragraph following the report heading Recommendations that “The project will include minimal excavations for the placement of single family residences and should not extend to depths greater than 3 feet below the existing grade.” We interpret this introductory sentence as stating an expectation of the planned residential construction which forms the basis of the recommendations that follow, rather than a recommendation to limit the depth of footing. We note that the 1999 DEA report does not make a specific recommendation for footing depth in the subsequent recommendations sections of the report under the report headings of Site Preparation, Excavation Considerations, or Foundation Support. Furthermore, we are aware of no technical justification for limiting the depth of footing to less than 3 feet below existing grade and no justification for limiting the depth of footing is included in the DEA report. We do note that the depth of DEA’s explorations on the site was only 3 feet and stating an expectation in the report that the footings will be shallower than that depth is probably appropriate.

We observed very dense silty sand soils to the full 33-foot depth of our exploration at the proposed tower location. As a general rule, and assuming relatively uniform soil conditions, the impact to the stability of an adjacent slope decreases with increasing footing depth. Based on the conditions encountered in our boring, our August 18 geotechnical report includes a recommendation for a concrete tower footing to bear a minimum of 4 feet below existing site grades.

Current plans show the new impervious area within the lease site to be limited to the equipment shelter and tower foundation. The remainder of the lease site is proposed to be covered in gravel. We recommend the gravel surfacing conform to the requirements for Ballast as noted in section 9-03.9(1) or 9-03.9(2) of the 2014 Washington State Department of Transportation (WSDOT) standard specifications. Aggregate meeting these specifications would allow stormwater to infiltrate through the gravel surfacing to the native subgrade and approximately
follow its current, natural drainage path. If additional impervious area is planned, such as paving of the lease area, we recommend a system be installed to collect stormwater and tightly line it to either a stormwater system or to an appropriate discharge at the base of the hill.

We appreciate the opportunity to perform these services for you. Please contact us if you have questions regarding this information or if we can provide any additional services.

Sincerely,
Terracon Consultants

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Senior Staff Engineer

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