STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

June 5, 2019

Cheryl Allen
AT&T Services Inc., EHS-REM
308 S Akard Street
Dallas, TX 75202

Re: Further Action at the following Site:

- **Site Name:** AT&T Wireless NR5 Bothell 920307
- **Site Address:** 20307 North Creek Parkway, Bothell, WA 98012
- **Cleanup Site ID:** 1089
- **Facility/Site No.:** 3706871
- **VCP Project No.:** NW2011

Dear Cheryl Allen:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the AT&T Wireless NR5 Bothell 920307 facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

YES. Ecology has determined that further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- TPH-D, TPH-O into the Soil and Ground Water.
- BTEX into the Ground Water

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcels associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Apex Companies, LLC, *2017 Monitoring Report, AT&T Data Center, 20307 North Creek Parkway, Bothell, Washington 98011*, February 27, 2019.

2. CB&I Environmental & Infrastructure, Inc. (CB&I), *Annual Groundwater and LNPL Monitoring and Extraction Report, 20307 North Creek Parkway, Bothell, Washington 98011*, March 3, 2017.

3. CB&I, *Annual Groundwater Monitoring Report and Four Quarters of Groundwater Pumping, Treatment, and SPH Monitoring – 2014/2015, , AT&T Data Center, 20307 North Creek Parkway, Bothell, Washington 98011*, February 1, 2016.

4. CB&I, *Annual Groundwater Monitoring Report and First Three Quarters of Groundwater Pumping, Treatment, and SPH Monitoring – 2014, AT&T Data Center, 20307 North Creek Parkway, Bothell, Washington 98011,* February 11, 2015.

5. CB&I, *Annual Groundwater Monitoring Report – 2013, AT&T Data Center, 20307 North Creek Parkway, Bothell, Washington 98011*, February 26, 2014.

6. CB&I, *Annual Groundwater Monitoring Report 2012, AT&T Data Center, 20307 North Creek Parkway, Bothell, Washington 98011,* April 2, 2013.

7. CB&I, *Summary Report, Remediation System Installation, Bothell Data Center (WA0058), 20307 North Creek Parkway, Bothell, Washington*, October 4, 2013.

8. Shaw Environmental & Infrastructures, Inc. (Shaw), *Annual 2011Groundwater Monitoring and Sampling Report, 20307 North Creek Parkway, Bothell, Washington*, February 16, 2012.

9. Shaw, *2011 Enhanced Separate-Phase Hydrocarbon Removal and Pilot Test Report, AT&T Data Center, 20307 North Creek Parkway, Bothell, Washington*, April 23, 2012.

10. Shaw, *Bio-Augmentation Pilot Testing and Groundwater Tracking Report, AT&T Data Center, 20307 North Creek Parkway, Bothell, Washington*, March 8, 2011.

11. Shaw, *Semi-Annual Groundwater Monitoring Report – 2010, AT&T Data Center, 20307 North Creek Parkway, Bothell, Washington*, January 2, 2011.

12. Shaw, *Emergency Response and Remedial Activities, AT&T Data Center, 20307 North Creek Parkway, Bothell, Washington,* January 28, 2010.

13. Ecology, *Initial Investigation Field Report, AT&T, 20103 (20307) North Creek Parkway, Bothell, WA 98011-8249*, August 1, 2008.

14. Ecology, *Environmental Report Tracking System (ERTS) #607403, Initial Report, 20103 North Creek Parkway, Bothell, WA*, August 1, 2008.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by completing a Request for Public Record form (https://www.ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests) and emailing it to PublicRecordsOfficer@ecy.wa.gov, or contacting the Public Records Officer at 360-407-6040. A number of these documents are accessible in electronic form from the Site web page https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=1089.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is not sufficient to establish cleanup standards and select a cleanup action.

In August of 2008, an above-ground storage tank along the west wall of the generator building was found to have released approximately 15,000 gallons of diesel fuel. Emergency response was conducted and remedial activities have continued since the

release to limit the extent of contamination. The Site entered the Voluntary Cleanup Program in 2008.

Interim actions have been completed independently, primarily without request for written opinion letters from Ecology. If you wish to remain in VCP, Ecology requests a schedule for completing cleanup at the Site. The schedule for completing cleanup actions should include significant milestones, such as remedial investigation results, quarterly ground water compliance monitoring events, feasibility study evaluations and anticipated submittal of documents and requests for Ecology opinions. Contingencies and alternative approaches should be identified if the cleanup is not progressing within the expected time frame.

Based on your response, Ecology may contact you to discuss whether continuing your participation in VCP is warranted at this time. A decision to terminate your participation will be provided in writing. The VCP Agreement governing this project may be terminated if a response is not received within 30 days of this letter.

To determine a path forward for the Site, a comprehensive Remedial Investigation (RI) report that summarizes all previous investigations and shows the nature and extent of contamination in all media needs to be provided. Cross-sections and plan-view graphics are needed to show the relationship of the Site contamination to current and former Site features, parcel boundaries, Site geology, and points of compliance.

Graphics should include an interpretation of the horizontal and vertical extent of contamination and show data that bounds the extent of contamination. Graphics should also clearly indicate what pre-remediation sample locations are intended to be superseded by post-remediation (confirmation) soil samples. Boring logs for all borings and monitoring wells need to be included with the RI evaluation and appended to the RI to provide a complete evaluation of the geology and hydrogeology at the Site.

Summary tables should include all compounds that have been detected in each media, and the proposed cleanup level for each compound. Please ensure non-detectable levels are noted as 'U' with the numerical laboratory reporting limit are provided rather than 'ND'. Refer to Ecology's RI checklist at the following link: https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-process/Cleanup-options/Voluntary-cleanup-program/Reporting-requirements which provides an understanding of Ecology's expectations for conducting and documenting the RI.

Please ensure soil and ground water samples are analyzed according to Table 830-1 of the MTCA regulation and Table 7.2, page 95, in the ***Guidance for the Remediation of Petroleum Contaminated Sites***, Ecology Publication No. 10-09-057, Revised June 2016.

Ecology did not receive a complete hard copy of the *Emergency Response and Remedial Activities Report* (Shaw, 2010). If available, please submit a hard copy of the appendices for this report and an electronic copy of the entire report.

Approximately 2,449 tons of contaminated soil was excavated. According to the *Emergency Response and Remedial Activities Report* (Shaw, 2010), 40 push probes were advanced to total depths of 10 feet bgs prior to excavation activities to determine the extent of soil impacts. Field screening (a photoionization detector) was used to determine the extent of soil contamination (a zero reading was considered clean). It should be noted that laboratory analysis is needed to confirm field screening results and demonstrate compliance with cleanup levels.

Soil samples were collected from the bottom of the excavation documenting areas where contaminated soil was left in place. Figures clearly illustrating the known vertical and horizontal extent of contamination need to be included in the RI. A cross section that includes the depth of the storm drain line/water line excavation, generator building piezometers and/or observation wells and monitoring well(s) would be useful. It would be valuable to include high and low water table data in the cross section. Any data gaps should be assessed as part of completion of the RI.

Please refer to the following guidance documents during further consideration of the vapor exposure pathway:

Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Revised February 2016. Ecology Publication No. 09-09-047.
https://fortress.wa.gov/ecy/publications/SummaryPages/0909047.html

Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion: Implementation Memorandum No. 14. March 2016. Ecology Publication No. 16-09-046
https://fortress.wa.gov/ecy/publications/SummaryPages/1609046.html

Petroleum Vapor Intrusion (PVI); Updated Screening levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings: Implementation Memorandum No. 18. January 2018. Ecology Publication No. 17-09-043.
https://fortress.wa.gov/ecy/publications/SummaryPages/1709043.html

Frequently Asked Questions (FAQs) Regarding Vapor Intrusion (VI) and Ecology's 2009 Draft VI Guidance: Implementation Memorandum No. 21. November 2018. Ecology Publication No. 18-09-046. https://fortress.wa.gov/ecy/publications/SummaryPages/1809046.html

The locations of the 2017 ambient air samples were collected from the interior of the generator building above the source area. Ecology would refer to these as indoor air samples (see above reference guidance documents). Ecology concurs that additional vapor intrusion assessment that includes indoor and ambient (outdoor) air samples is warranted to determine whether or not the volatile organic compounds detected inside the generator building are due to vapor intrusion.

Electronic submittal of all sampling data into Ecology's Electronic Environmental Information Management (EIM) database is a requirement in order to receive a final Ecology opinion for this Site. Erica Fot (email Erica.Fot@ecy.wa.gov, or via telephone at 360-407-6692) is Ecology's contact and resource on entering data into EIM.

Under Washington State law (Chapters18.43 and18.220 RCW), hydrogeologic and engineering work must be conducted by, or under the supervision of a licensed geologist, hydrogeologist or professional engineer qualified to conduct the work. Any site investigation/cleanup document containing geologic or engineering work must be submitted under the seal of such an appropriately licensed professional.

2. Establishment of cleanup standards.

Cleanup standards have not been developed yet for this Site. Site characterization is a necessary prerequisite to establishing cleanup levels. The proximity of this Site to North Creek need to be considered when establishing cleanup levels. It may be necessary to adjust cleanup levels to be protective of surface water standards. A discussion of the basis for the selected standards should be included in the RI.

A Terrestrial Ecological Evaluation (TEE) is required per WAC 173-340-7490 to determine if cleanup levels that are protective of terrestrial species are applicable to the Site. Additional information on satisfying this requirement can be found at the following link: https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Terrestrial-ecological-evaluation

If it is determined MTCA Method A cleanup levels are appropriate for this Site, it should be noted that the MTCA Method A values were derived using the entire range of TPH fractions present in each type of product, not based on splitting the test results. The

sample diesel and oil fractions should be added together and compared against either the diesel or heavy fuel oil Method A value. In order to demonstrate compliance, the combined laboratory detection limit for TPH-D and TPH-O needs to be less than the MTCA Method A cleanup level.

It should be noted that for soil cleanup levels based on the protection of ground water, the point of compliance is defined as Site-wide throughout the soil profile and may extend below the water table. This is the appropriate point of compliance for the Site.

The standard point of compliance is throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest depth which could potentially be affected.

3. Selection of cleanup action.

Ecology acknowledges the following interim actions have been completed for the Site:

- Spill response which included: diesel fuel removal by vacuum trucks from downstream storm drains; installation of bentonite plugs around the nearby water line and stormwater line, to prevent further migration down the utility corridor at east and west ends of the excavation; and installation of a stormwater bypass upstream of the spill, to divert storm water around the impacted area.

- Excavation of approximately 2,449 tons of contaminated soil and removal of approximately 1,154,099 gallons of light non-aqueous phase liquid (LNAPL) and ground water from the excavation.

- Installation of an impermeable 280 foot liner (LG XPRO® geo 401E liner and geotextile cushion GN200) in the excavation to prevent diesel-contaminated water from entering the backfill of the stormwater line or the line itself.

- Injection of 1,700 gallons of BioSolve® beneath the generator building.

- Hand excavation of the area around the AST.

- Injection of approximately 1,200 pounds of RegenOx PetroCleanze® and 120 pounds of Part A oxidizer into the ground water beneath the generator building.

- Installation and continuous operation of a ground water remediation system to assist in hydrologic control and keep the ground water levels below the liner and/or recover LNAPL.

The completed RI should be the basis for preparation of a Feasibility Study (FS) that meets the MTCA requirements for selection of a cleanup action. See the following Ecology web page for FS report format and content requirements: https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-process/Cleanup-options/Voluntary-cleanup-program/Reporting-requirements.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to

working with you.

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at (425) 649-7097 or e-mail at diane.escobedo@ecy.wa.gov.

Sincerely,

Diane Escobedo
NWRO Toxics Cleanup Program

cc: Greg Rainwater, Apex TITAN, Inc.
John Foxwell, Apex Companies, LLC
Sonia Fernandez, VCP Coordinator