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DEPARTMENT OF ECOLOGY
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December 29, 2017

MR. TRENT MUMMERY
1420 EAST MADISON, LLC
1420 FIFTH AVENUE, SUITE 2200
SEATTLE, WA 98101

Re: No Further Action at the following Site:

- **Site Name:** Taco Time Northwest Restaurant
- **Site Address:** 1420 East Madison Street, Seattle, WA
- **Facility/Site No.:** 5460498
- **VCP Project No.:** NW2954
- **Cleanup Site ID No.:** 811

Dear Mr. Mummery:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the **Taco Time Northwest Restaurant** 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?

NO. Ecology has determined that no 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:

- Diesel (TPH-D) and oil-range (TPH-O) total petroleum hydrocarbons into the Soil, and diesel range total petroleum hydrocarbons into the Ground Water;

- Ethylene dichloride (EDC; also known as 1,2-dichloroethane, or DCA) into the Ground Water.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

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. SoundEarth Strategies, Inc., 2017. *Addendum to Cleanup Action Report, Broadcast Apartments Property, 1420 East Madison Street, Seattle, Washington.* January 26.

2. SoundEarth Strategies, Inc., 2016. *Cleanup Action Report, Madison TT Property (VCP #NW1621), 1420 East Madison Street, Seattle, Washington.* August 17.

3. SoundEarth Strategies, Inc., 2014. *Cleanup Action Plan Addendum, Madison TT Property (VCP #NW1621), 1420 East Madison Street, Seattle, Washington.* July 2.

4. Associated Earth Sciences, Inc., 2014. *Subsurface Exploration Review, Geologic Hazard, and Preliminary Geotechnical Engineering Report, Madison Mixed-Use Building, 1420 East Madison Street, Seattle, Washington.* May 15.

5. Environmental Associates, Inc., 2012. *Revised Work Plan – Proposed Independent Cleanup Plan, Taco Time Northwest, 1420 East Madison Street, Seattle, WA.* July 13.

6. TechSolve Environmental, Inc., 2011. *Remedial Investigation Summary, Feasibility Study (FS), and Cleanup Action Plan for Taco Time Northwest Restaurant, 1420 East Madison Street, Seattle, Washington.* August 4.

7. G-Logics, Inc., 2010. *Well Installation and Groundwater Sampling, Taco Time Property, 1420 East Madison Street, Seattle, WA.* September 15.

8. G-Logics, Inc., 2010. *Well Installation and Groundwater Sampling, Taco Time Property, 1420 East Madison Street, Seattle, WA.* April 16.

9. G-Logics, Inc., 2009. *Groundwater Monitoring – August 2009, Taco Time Property, 1420 East Madison Street, Seattle, WA 98122.* November 2.

10. G-Logics, Inc., 2009. *Subsurface Assessment, Taco Time Property, 1420 East Madison Street, Seattle, WA 98122.* March 2.

11. GeoScience Management, Inc., 2006. *Monitoring Well Installation and Sampling, Taco Time Restaurant, 1420 East Madison Street, Seattle, Washington.* July 26.

12. Noll Environmental, Inc., 2005. *Results of Phase II Environmental Site Assessment, Taco Time Property Site, 1420 East Madison Street, Seattle, Washington 98122.* November 2.

13. Geotech Consultants, Inc., 2003. *Limited Phase 2 Environmental Site Assessment, Proposed Madison Street Apartments, 1420 East Madison Street, Seattle, Washington.* July 30.

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 calling the NWRO resource contact at (425) 649-7235 or sending an email to: nwro_public_request@ecy.wa.gov.

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 **no 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 sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.**

The Site is located on a single tax parcel in Seattle's Capitol Hill neighborhood on which historical commercial land uses included a former rug cleaner and dye works, a former foundry and sheet metal shops, laundries and cleaners, a garage and a tavern. These former land uses were all prior to operation of the former Taco Time restaurant from 1965 to 2010.

Soil and ground water on the Site were investigated and characterized using test pits, soil borings and monitoring wells. The contaminants of concern are TPH-D and TPH-O in

soil and TPH-D and EDC in ground water. The TPH-D and TPH-O in soil is partially related to the presence of three former underground storage tanks used to store heating oil. TPH-D was detected in 2009 and 2012 in one monitoring well (MW-10) at concentrations just above the Method A cleanup level.

The source of EDC in ground water is unknown but is likely attributable to past uses of the Property. The EDC was not found in selected soil or soil vapor samples collected on the Site that were analyzed for EDC.

EDC concentrations first detected in ground water in Site monitoring wells in 2006 decreased by an order of magnitude by 2012. By 2014, EDC concentrations had decreased further but still exceeded Method A in monitoring wells MW01, MW05, MW06, MW07 and MW08. In a final sampling round in 2015, EDC was just above Method A in two Site wells.

Cleanup of the Site removed all soil and shallow ground water contaminated with TPH-D and EDC.

2. Establishment of cleanup standards.

Ecology has determined that the cleanup levels and points of compliance you established for the Site **meet** the substantive requirements of MTCA.

Soil

Cleanup Levels: The Site does not meet the MTCA definition of an industrial property; therefore soil cleanup levels suitable for unrestricted land use are appropriate. Ground water at this Site has been impacted by the identified releases. Soil cleanup levels based on the leaching pathway (protection of ground water) and protection of direct contact are appropriate. MTCA Method A cleanup levels were selected for soil at the Site. Ecology concurs for these two exposure pathways.

Point of Compliance: The standard point of compliance for soil at the Site is throughout the Site.

Ground Water

Cleanup Levels: The highest beneficial use for ground water under MTCA is considered to be as a drinking water source, unless it can be demonstrated that the ground water is not potable. Cleanup levels protective of potable use are therefore the default. Either Method A or B cleanup levels can be used for this purpose. MTCA Method A cleanup levels for ground water were proposed. Ecology concurs for this exposure pathway.

Point of Compliance: The point of compliance for ground water is throughout the Site from the uppermost point of saturation to the lowest depth that could be potentially impacted.

Air

Cleanup Levels: Air cleanup levels are considered unnecessary to protect against vapor intrusion into the building constructed on the Property or existing buildings on adjacent properties. Soil and ground water containing Site contaminants at concentrations exceeding MTCA Method A have been removed from the Property.

Point of Compliance: The point of compliance for air is ambient air is throughout the Site.

3. Selection of cleanup action.

Ecology has determined the cleanup action you selected for the Site **meets** the substantive requirements of MTCA.

The selected cleanup action consisted of a 2016 mass excavation extending from lot-line to lot-line and to a maximum depth of 31 feet below the ground surface (bgs). This depth corresponds to a minimum elevation of the excavation bottom of 341 feet above mean sea level. Temporary perimeter shoring was installed to enable the complete removal of all contaminated soil.

4. Cleanup.

Ecology has determined the cleanup you performed **meets** the cleanup standards established for the Site.

Prior to any excavation activities conducted on the Site, ground water was remediated at the beginning of Site redevelopment (in May and September 2014) using in-situ chemical oxidation (ISCO) in existing monitoring wells to reduce EDC concentrations that exceeded the Method A cleanup level. The ISCO event consisted of injecting hydrogen peroxide-activated sodium persulfate into monitoring wells MW01, MW05 and MW08 as an aqueous solution.

Following the injections, ground water sampling was conducted at the Site to monitor and confirm the effectiveness of the cleanup action on ground water. Compliance monitoring on a quarterly basis was conducted twice using monitoring wells MW01, MW05, MW08,

MW09 and MW16. EDC concentrations in these wells were significantly less than before the injections but still above the Method A cleanup level.

Beginning in 2016, a remedial excavation was conducted from lot-line to lot-line to maximum depths of 27 to 42 feet bgs; the bottom elevation of the remedial excavation was 341 feet above mean sea level (amsl). The excavation removed the contaminated soil and the shallow perched water-bearing zone on the Property which had occurred at depths of approximately 13 to 18 feet bgs.

Construction dewatering began in February 2016 after installation of four temporary dewatering wells (DW01 through DW04). The dewatering wells were constructed of 12-inch diameter, Schedule 40 PVC screened from 20 to 40 feet bgs except for DW04 which was screened from 16 to 36 feet bgs. In April 2015, a fifth dewatering well, DW05, was installed using 14-inch diameter casing screened from 5 to 20 feet bgs.

After continuously wet conditions were encountered in areas of the excavation floor, a perimeter construction (temporary) dewatering system was installed. The perimeter dewatering system consisted of 2-inch diameter, Schedule 40 PVC wells installed at an angle at 6-foot intervals around the perimeter and connected to a header pipe leading to a pump in the northwest corner of the Property. The construction dewatering wells pumped at a combined rate of approximately 10,000 gallons per day (~7 gallons per minute) beginning in March 2016. All water produced during dewatering was discharged into the sewer system.

Performance soil samples were collected from the floor of the excavation in areas of known or suspected impacted soil, the sidewalls and bottoms of UST areas and soil stockpiles for waste profiling. The performance soil samples were analyzed for petroleum hydrocarbons and chlorinated volatile organic compounds including EDC.

Confirmation soil samples were collected from the excavation floor directly beneath performance samples or any prior samples containing Site contaminants exceeding Method A. Confirmation soil samples were analyzed for petroleum hydrocarbons. And indicated that all soil containing exceedences of TPH-D and TPH-O had been removed from the Property. The contaminated soil was disposed of at a Cemex facility in Everett, Washington.

During construction of the Broadcast Apartments, a permanent dewatering system was installed below the underground parking garage as the floor of the garage was constructed below the water table. The permanent dewatering system consists of drainage panels installed along basement walls and sub-slab piping that collects shallow ground water migrating onto the Property in a sump with a pump set about 40 feet bgs.

The collected water is pumped out of the sump and discharged into the sanitary sewer system.

The permanent dewatering system prevents the migration of upgradient and cross-gradient shallow ground water onto the Property. Because of the limited thickness of the glacial till as a confining unit and the vertical proximity of the deeper water bearing zone, there is likely upward leakance of deeper ground water that is then also captured by the permanent dewatering system. This induced upward gradient, if present, insures further protection of the regional aquifer beneath the Site.

Listing of the Site

Based on this opinion, Ecology will remove the Site from our Confirmed and Suspected Contaminated Sites List.

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).

Termination of Agreement

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (#2954).

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 or the termination of the Agreement, please contact me by phone at (425) 649-7064 or e-mail at heather.vick@ecy.wa.gov.

Sincerely,

Heather Vick, LHg
NWRO Toxics Cleanup Program

Enclosure (1): A – Description and Diagrams of the Site

cc: Charles Cacek, SoundEarth Strategies, Inc.
Sonia Fernandez, VCP Coordinator, Ecology
Matt Alexander, VCP Financial Manager, Ecology

Enclosure A

Description and Diagrams of the Site

Site Description

This section provides Ecology's interpretation and understanding of Site conditions, and forms the basis for the opinions expressed in the body of the letter.

Site: The Site is defined as releases of total petroleum hydrocarbons in the diesel (TPH-D) and oil (TPH-O) ranges to soil and ground water, and ethylene dichloride (EDC) into ground water at 1420 East Madison Street in Seattle, WA (Property). The Property consists of two adjoining, irregularly-shaped King County tax parcels (1728800075 and 1728800080) totaling 0.28 acre in size. The Property and the Site are shown on the attached Site Diagrams.

Area Description: The Property is situated in the Capital Hill neighborhood, directly east of downtown Seattle. The area is completely developed, and dominated by commercial business operations and residential condominiums. The Property is bordered by the Paramount Apartments and alley to the north, 15th Avenue to the east, East Madison Street to the south, and the First African Methodist Episcopal Church parking lot to the west.

Property History and Current Use: The Property was first developed before 1893 with three commercial store buildings. By 1906, the Property was further developed with several one-story commercial structures. The Property was occupied by commercial businesses including a laundry/dry cleaner, rug cleaner/dye works, laundry/sheet-metal shop, foundry/sheet-metal shop, a tavern and several automobile service/repair businesses until 1963 when the existing buildings were removed. The Property was the location of a laundry (Jaw Low Laundry) as early as 1942; Lew Garden hand laundry was listed as being on the Property in 1948.

In 1965, a 1916-square foot, one-story building was constructed for a Taco Time restaurant on the western parcel which operated from 1965 through 2010 when the building was demolished. Beginning in 2015, the Property was redeveloped as the Broadcast Apartments, a 6-story building with retail on the first floor and five floors of apartments above. The apartment building has two floors of underground parking. The current use of the Property is for a multi-story, mixed-use building.

Sources of Contamination: The sources of the contamination detected at the Property have not been determined. However, potential contamination sources consist of releases of petroleum hydrocarbons and chlorinated solvents associated with the various historical commercial operations at the Property.

The Property is divided into the following three primary source/contaminant type areas:

- Area 1 - Northeast of the former restaurant building: Elevated concentrations of diesel-range petroleum hydrocarbons occur in soil at depths of 10 to 15 feet bgs. No contaminants of concern were detected in ground water in this area except that TPH-D was detected once in MW-10 slightly above the MTCA Method A cleanup level. The source of the contamination has not been determined. It is likely from leaks and spills associated with historical on-Site activities.

- Area 2 - Northwest corner of the Property: Elevated concentrations of TPH-D and TPH-O occur in soil within the upper 4 feet of the subsurface. The source of the contamination

has not been determined. It is likely from leaks and spills associated with historical on-site activities. Ground water downgradient of this area has not been analyzed for TPH-D and TPH-O.

- Area 3 - South-central area of the Property: Ground water in this portion of the Site is contaminated with EDC. During the August 2012 ground water sampling event, 8 of the 15 existing monitoring wells were sampled with EDC concentrations ranging from 7 to 9.9 µg/L. However, EDC was not detected in any soil samples analyzed for it collected to a maximum depth of 50 feet bgs. No other chlorinated solvents were detected in soil, ground water or soil vapor samples collected in this area. The occurrence of EDC in ground water is most likely associated with historical operations on this portion of the Property including a dyeworks, laundry and sheet metal shop. Based on the ground water monitoring data, EDC-contaminated ground water had not migrated off-Property to the west prior to redevelopment.

Three previously unidentified underground storage tanks (USTs) were encountered on the Property during excavation activities in 2016 and identified as UST01, UST02 and UST03. Information about the USTs is provided in the table below.

UST No.	Location on Property	Capacity	Suspected Former Contents
UST01	Central	300 gallons	Heating oil
UST02	Western	675 gallons	Heating oil
UST03	Northern	2,000 gallons	Heating oil

The USTs were removed and related contaminated soil removed. Soil contaminated with TPH-D and TPH-O at concentrations exceeding Method A were encountered. The soil contamination in exceedance of Method A extended to depths of 19 feet bgs. The contaminated soil was excavated and soil confirmation samples were collected that indicated compliance with Method A cleanup levels.

Physiographic Setting: The Site is located within the Puget Sound Lowland physiographic province, a north-south trending structural and topographic depression that is bordered to the west by the Olympic Mountains, and to the east by the Cascade Mountain foothills. The Puget Sound Lowland is underlain by Tertiary volcanic and sedimentary bedrock, and has been filled to the present day land surface with Pleistocene glacial and nonglacial sediments.

The Site and surrounding area are within the Capitol Hill upland physiographic subdivision of metropolitan Seattle. The Site is at an elevation of about 365 feet above sea level and slopes to the southwest.

Surface/Storm Water System: Surface water runoff in the area is collected in municipal storm drains. The closest surface water body is Elliot Bay in Puget Sound, located approximately 0.75 mile to the southwest.

Ecological Setting: The area is heavily developed primarily with commercial land uses, with most surfaces either paved and/or covered by buildings. There is little terrestrial habitat in the area that would attract wildlife.

Geology: Subsurface materials consist of approximately 5 to 10 feet of fill materials, overlying glacial till to depths of approximately 20 to 30 feet below the ground surface (bgs). A transitional zone of interbedded glacial till/glacial outwash underlies the glacial till to approximately 40 feet bgs. Underlying this transitional zone is sand (Advance outwash) to the maximum depth explored on the Property, which was 40.5 feet bgs.

Ground Water: Two water-bearing zones occur beneath the Property. A shallow perched water-bearing zone is present from approximately 13 to 18 feet bgs. Ground water in the perched zone at the Site flows to the west and west-southwest. Ground water also occurs in a deeper water-bearing zone within the Advance outwash deposits underlying the glacial till, generally under confined or semi-confined conditions; the flow direction in the deeper water-bearing zone on the Site was not determined. The depth to water in the deeper water-bearing zone is estimated to be approximately 31 feet bgs.

Water Supply: The City of Seattle provides drinking water for the Site area from the Cedar and Tolt River watersheds. According to Ecology's well log database, there are no drinking water wells within 0.5 mile of the Property.

Nature and Extent of Contamination – Soil: In 2003, three soil borings (B-1 through B-3) were advanced to depths of approximately 40 feet bgs with ground water occurring at 22 to 30 feet bgs. Boring B-1 was advanced at the south end of a former rug cleaner and dye works, boring B-2 was in the northeast corner of a former laundry and cleaning business and B-3 was advanced on the west side of a former garage. In addition, B-3 was advanced downgradient of the Site. No odors, stains or obvious signs of contamination were observed. One soil sample was collected at 2.5 to 4 feet bgs from each boring; the samples were analyzed for total petroleum hydrocarbons in the gasoline range (TPH-G), TPH-D, TPH-O and BTEX with no detections with the exception of 180 mg/kg TPH-D and 860 mg/kg TPH-O in the sample from B-3. The soil samples were also analyzed for volatile organic compounds VOCs with no detections.

In 2005, five geoprobe borings (SB-1 through SB-5) were advanced to depths of 11.5 to 16 feet bgs with no ground water encountered. One sample from each boring was tested for TPH-G, TPH-D, TPH-O and halogenated volatile organic compounds (HVOCs). A soil sample collected

at 3.5 feet bgs in SB-3 contained TPH-D and TPH-O at concentrations below the Method A cleanup levels.

In 2006, a ground-penetrating radar survey was conducted to assess the presence of USTs. Two geophysical anomalies were detected in the southeast corner of the parking lot but no USTs were found.

In 2008, 11 soil borings (GL-1 through GL-11) were advanced using direct-push drilling methods. The borings were sited to provide additional characterization of areas where elevated concentrations of EDC had occurred in ground water. In addition, borings GL-8 through GL-11 were also advanced to further assess petroleum hydrocarbon impacts that were initially encountered in boring GL-6.

In 2009, five deep borings (GB-1 through GB-5) were advanced to depths ranging from 20 to 50.5 feet bgs. Four of the deep borings (GB-2 through GB-5) were completed as monitoring wells MW-7 through MW-10 respectively.

In February 2014, three test pits (TP01 through TP03) were excavated in the north central, southwestern and southeastern portions of the Property. The test pits were excavated to depths of 18 to 20 feet bgs and observed for soil characteristics, indications of contamination and the presence of shallow ground water. Test pit TP02 was also excavated to evaluate if a UST corresponding to a geophysical anomaly was present but no UST was found. In TP01, a strong hydrocarbon odor was observed in soil encountered at 18.5 feet bgs. However, no soil samples were collected. The test pits were left open for 30 minutes to observe potential shallow ground water seepage. In TP01, some ground water seepage was observed at 18 to 19 feet bgs but no measurable accumulation occurred within the time period suggesting a discontinuous lens. No ground water was observed in the other two test pits.

In October 2015, two additional test pits (TP04 and TP05) were excavated. TP04 was excavated in the central portion of the Property just south of TP104. TP05 was excavated north of TP101. The primary purpose of completing test pits TP04 and TP05 was to assess perched groundwater conditions in the excavations for benefit of the earthwork contractor prior to mass excavation, and to collect samples for metals analyses for soil disposal profiling. Soil samples from each of the two test pits contained TPH-G and TPH-D at concentrations exceeding Method A.

Nature and Extent of Contamination – Ground Water: Grab ground water samples were first collected on the Site in 2003 from three soil borings (B-1 through B-3) drilled to about 40 feet bgs in which ground water was encountered at depths of 22 to 30 feet bgs. The ground water samples were analyzed for petroleum hydrocarbons, BTEX and VOCs. Ground water in soil borings B-1 and B-3 contained EDC at concentrations exceeding the Method A cleanup level of

5 µg/L; toluene and xylenes were detected in the sample from B-3 at concentrations well below the Method A cleanup levels.

A total of 16 monitoring wells have been installed on the Site. In 2006, monitoring wells MW-1 through MW-3 were installed adjacent to soil borings B-1 and B-3 in which DCA was detected and screened from 25 to 35 feet bgs. EDC was detected in MW-1 at 53 µg/L and in MW-3 at 3 µg/L. No other VOCs were detected in any of the samples and the results were considered comparable to the 2003 ground water sampling results. MW-1 was resampled in February 2006 and found to contain DCA at 69 µg/L exceeding Method A.

Monitoring wells MW-4 through MW-6 were installed in 2006 at the south end of the former laundry and sheet metal shop.

Ground water samples were collected from MW-1 through MW-6 in 2006. The samples were analyzed for petroleum hydrocarbons (MW-4 through MW-6 only) and VOCs. Only EDC was present at concentrations ranging from 6 to 61 µg/L in MW-1, MW-4, MW-5 and MW-6. These concentrations exceeded the Method A cleanup level. EDC was later detected in MW-8 in 2007 and 2010 at concentrations ranging from 8.2 to 8.4 µg/L.

Monitoring wells MW-7 through MW-13 were installed in 2009 to further delineate dissolved EDC. EDC was detected above the Method A cleanup level in MW-8 only (7.6 µg/L). As a result, in 2010, monitoring wells MW-14 and MW-15 were installed upgradient of MW-6 and MW-8. No EDC was detected in any ground water samples collected from these wells.

In 2014, monitoring well MW-16 was installed in the sidewalk along the East Madison Street right-of-way, directly south of the Property.

Based on data collected in monitoring wells MW-11 and MW-16, the dissolved EDC plume did not extend beyond the southern Property boundary.

After Property redevelopment activities were initiated, a round of compliance ground water monitoring was conducted in March 2015 in wells in the downgradient portion of the Site in an area that was not hydraulically affected by the construction dewatering. Two wells (MW05 and MW08) still contained EDC at concentrations just above Method A.

Nature and Extent of Contamination – Air: In 2008, 17 vapor probes (VP-1 through VP-17) were drilled on the Site using direct-push methods. The vapor probe locations were sited based on previous occurrences of EDC in ground water some of which exceeded the Method A cleanup level. Soil gas samples from the vapor probes were analyzed for VOCs with none detected.

Soil and Groundwater Contamination: The Property can be divided into the following three primary source/contaminant type areas:

- Area 1 - Northeast of the former restaurant building: Elevated concentrations of diesel-range petroleum hydrocarbons occur in soil at depths of 10 to 15 feet bgs. No contaminants of concern were detected in ground water in this area except that TPH-D was detected twice in MW-10 at concentrations just above the MTCA Method A cleanup level. The source of the contamination is likely UST-1 which was upgradient of MW-10.

- Area 2 - Northwest corner of the Property: Elevated concentrations of TPH-D and TPH-O occur in soil within the upper 4 feet of the subsurface. The source of the contamination has not been determined. It is likely from leaks and spills associated with historical on-site activities. Ground water downgradient of this area has not been analyzed for TPH-D and TPH-O.

- Area 3 - South-central area of the Property: Ground water on the Site was contaminated with EDC. During the August 2012 ground water sampling event, 8 of the 15 existing monitoring wells were sampled. EDC concentrations in ground water ranged from 7 to 9.9 µg/L. However, EDC was not detected in any soil samples collected to a maximum depth of 50 feet bgs. No other chlorinated solvents were detected in soil, ground water or soil vapor samples collected in this area. It is likely that the presence of EDC in ground water is associated with historical operations on this portion of the Property. Based on the ground water monitoring data, EDC-contaminated ground water has not migrated off-Property to the west and west/southwest, the downgradient direction.

Ground water samples were collected in Site monitoring wells in 2014 and 2015. The samples were analyzed for EDC only with samples from two wells (MW-11 and MW-16) also analyzed for sulfate. During that period, monitoring wells MW-1, MW-5 and MW-8 contained EDC at concentrations exceeding the Method A cleanup level. Monitoring well MW-11 contained non-detectable levels of sulfate; sulfate in MW-16 ranged from 525 to 1,780 milligrams per liter (mg/L), exceeding the Secondary Maximum Contaminant Level of 250 mg/L.

Site Remediation Activities:

Injections of hydrogen peroxide sodium permanganate as an aqueous solution into Site ground water were conducted in May and September 2014. Three monitoring wells were injected in each event including MW-01, MW-05 and MW-08 in the first event and MW-01, MW-05 and MW-06 in the second event. Monitoring well MW-06 replaced MW-08 in the second event because MW-08 required excessive pressure for acceptance of the injectate solution. The injectate solution was mixed in 150-gallon batches and injected into the wells with a centrifugal

pump which applied pressures between 2 and 30 pounds per square inch. A total of approximately 3,600 gallons of the solution was injected.

Additional Information:

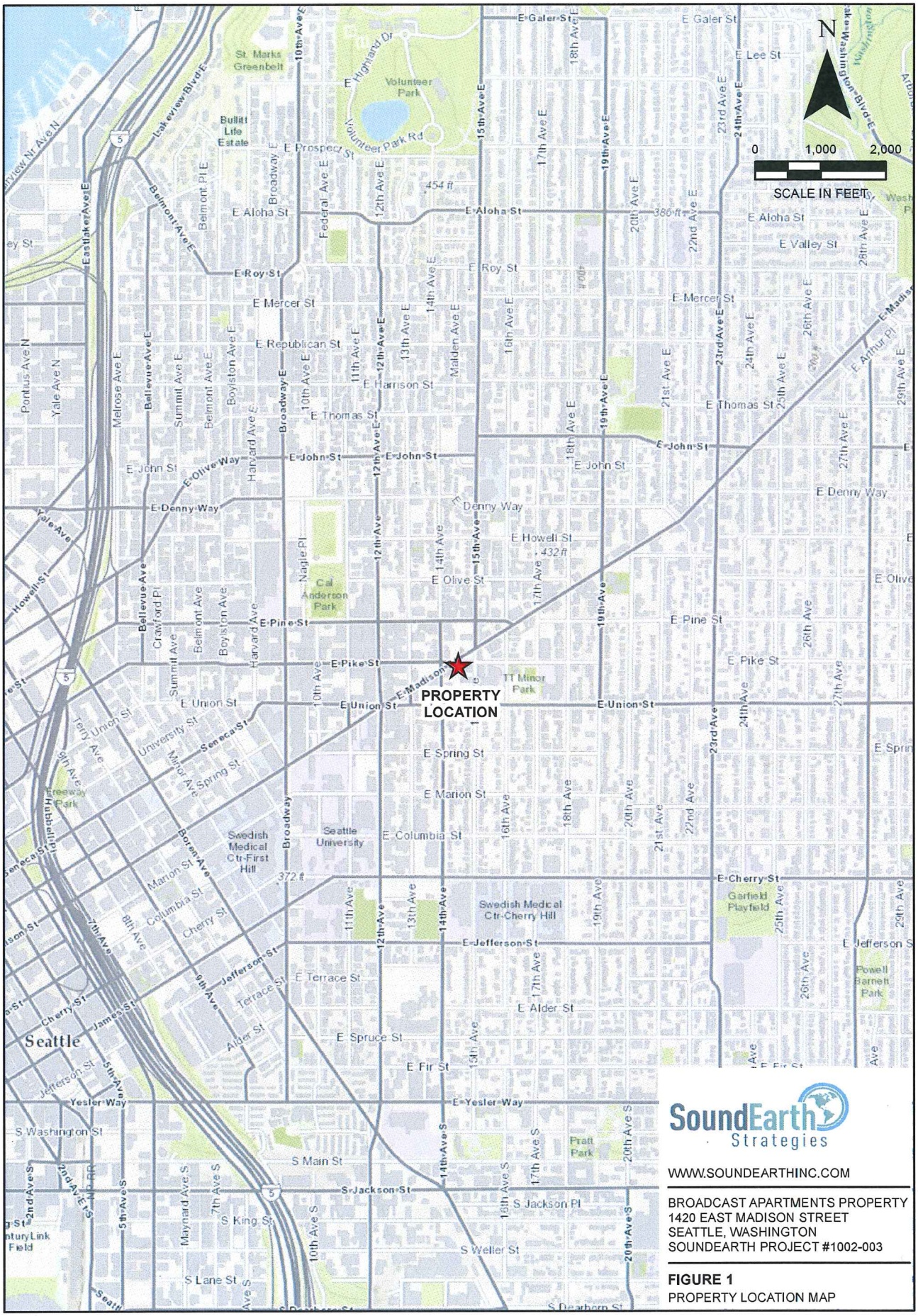
Four temporary dewatering wells (DW01 through DW04) were installed in February 2016. The dewatering wells were constructed of 12-inch diameter, Schedule 40 PVC screened from 20 to 40 feet bgs except for DW04 which was screened from 16 to 36 feet bgs. In April 2015, a fifth dewatering well, DW05, was installed using 14-inch diameter casing screened from 5 to 20 feet bgs.

After continuously wet conditions were encountered in areas of the excavation floor, a perimeter construction (temporary) dewatering system was installed. The perimeter dewatering system consisted of 2-inch diameter, Schedule 40 PVC wells installed at an angle at 6-foot intervals around the perimeter and connected to a header pipe leading to a pump in the northwest corner of the Property. The construction dewatering wells pumped at a combined rate of approximately 10,000 gallons per day (~7 gallons per minute) beginning in March 2016. All water produced during dewatering was discharged into the sewer system.

A permanent dewatering system was installed as part of the building construction. The permanent dewatering system includes drainage panels along the basement walls and sub-slab piping that directs water into a sump. The sump water is then pumped off-Property into the combined sewer system. A copy of an as-built diagram of the permanent dewatering system is included in the Site Diagrams.

Fifteen Site monitoring wells (MW-01 through MW-15) were decommissioned in August 2015. One monitoring well, MW-16, remains immediately south of the Property in the East Madison Street sidewalk. Monitoring well MW-16 was sampled in March, August, September and December 2014 and in March 2015.

Site Diagrams

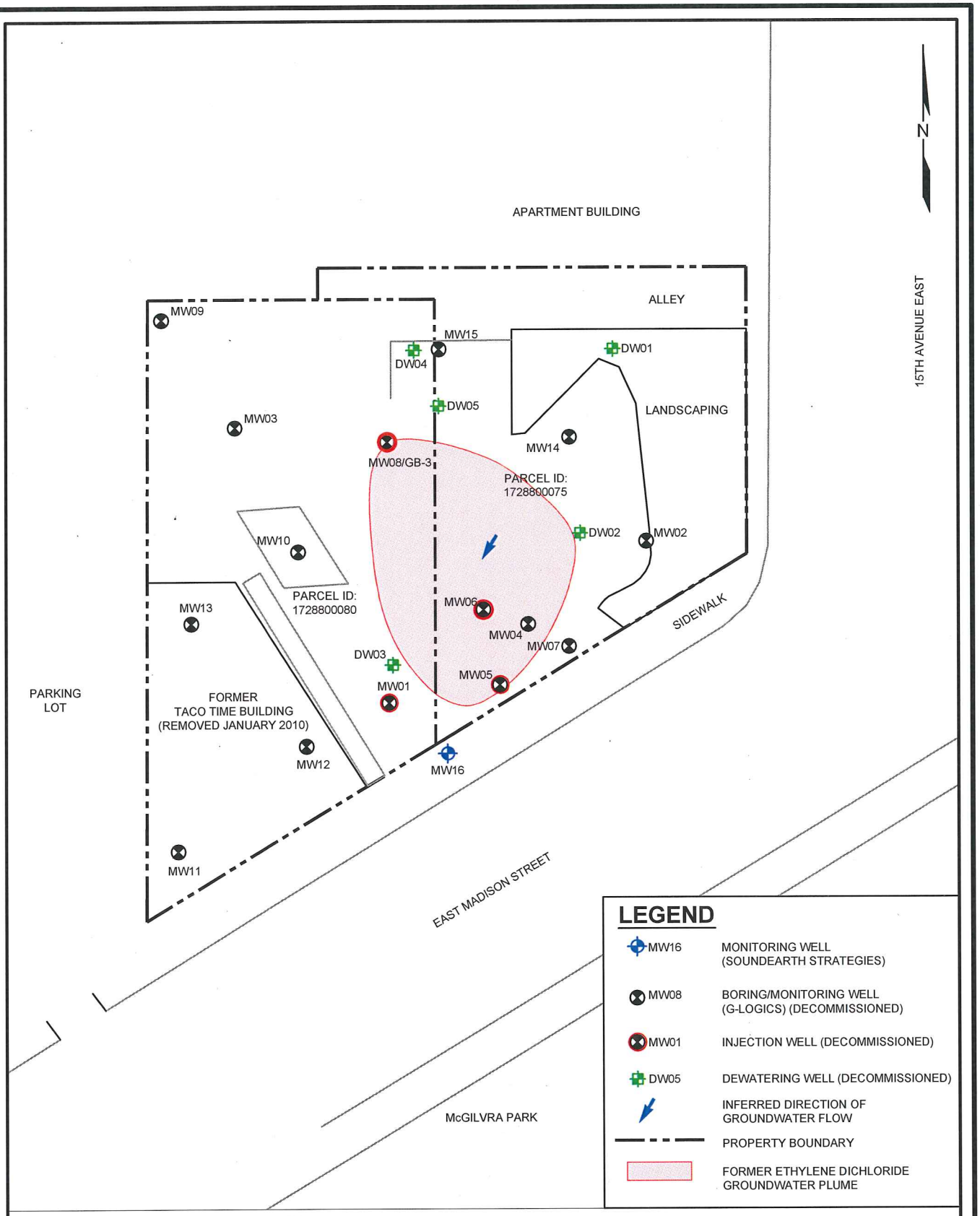


SoundEarth Strategies

WWW.SOUNDEARTHINC.COM

BROADCAST APARTMENTS PROPERTY
1420 EAST MADISON STREET
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #1002-003

FIGURE 1
PROPERTY LOCATION MAP



SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 1/10/17
DRAWN BY: JQC/JME/CD
CHECKED BY: SES
CAD FILE: 1002-003_UIC_SPI

PROJECT NAME: BROADCAST APARTMENTS PROPERTY
PROJECT NUMBER: 1002-003
STREET ADDRESS: 1420 EAST MADISON STREET
CITY, STATE: SEATTLE, WASHINGTON

FIGURE 1
REMEDIAL INJECTION LAYOUT - CHEMICAL OXIDATION

1/26/2017
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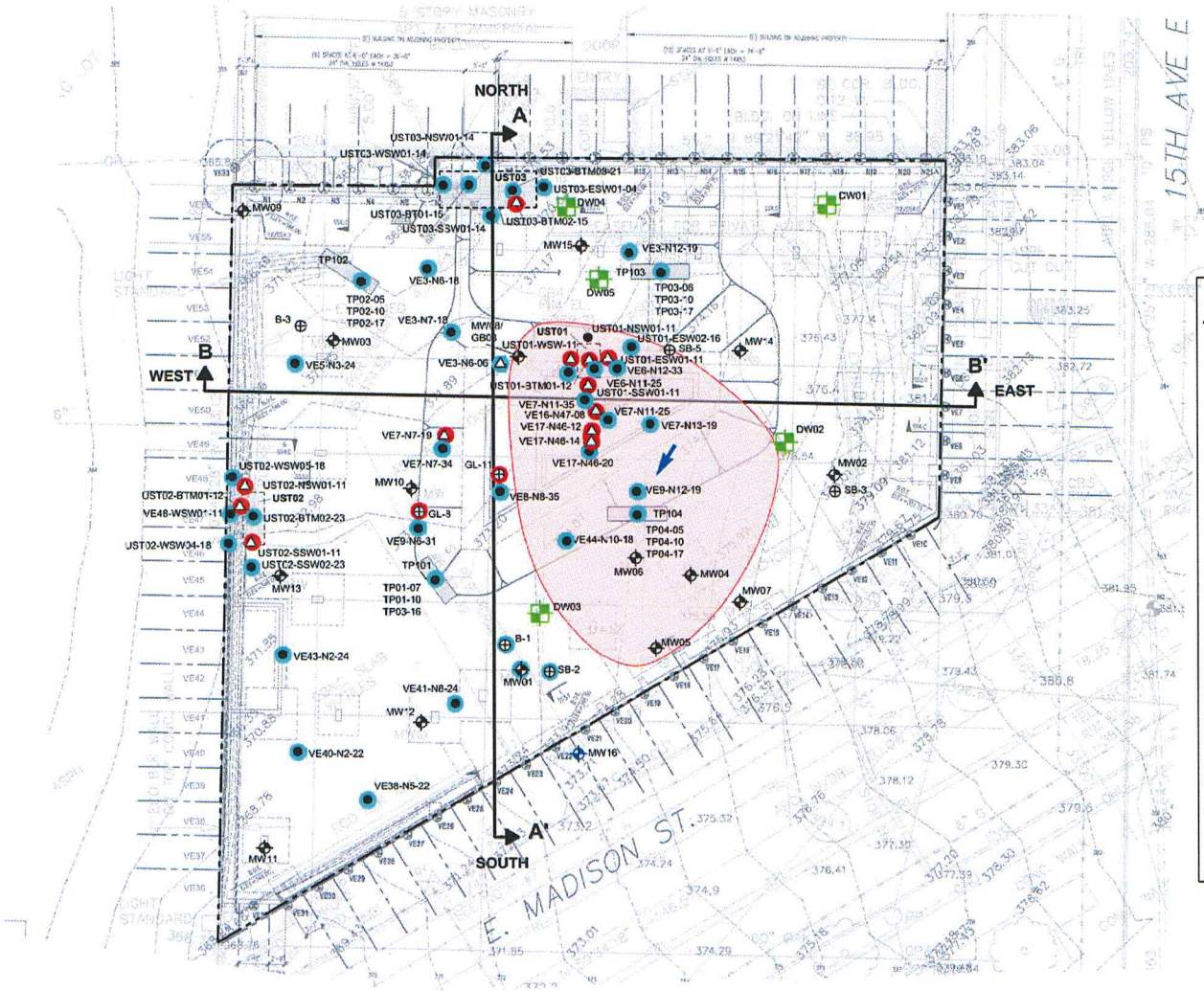

LEGEND

- PROPERTY BOUNDARY
- GROUNDWATER MONITORING WELL
- DEWATERING WELLS
- DECOMMISSIONED GROUNDWATER MONITORING WELL
- B-1 SOIL BORING
- GROUNDWATER FLOW DIRECTION
- A A' CROSS SECTION LOCATION
- UST03 UNDERGROUND STCRAGE TANK
- CONFIRMATION SOIL SAMPLE
- PERFORMANCE SOIL SAMPLE-AREA HAS BEEN OVEREXCAVATED
- RED CLASS 3/4 SOIL DISPOSAL CLASS
- PCS PETROLEUM-CONTAMINATED SOIL
- MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT
- EDC ETHYLENE DICHLORIDE
- TPH TOTAL PETROLEUM HYDROCARBON
- BELOW MTCA CLEANUP LEVEL FOR TPH
- EXCEEDED MTCA CLEANUP LEVEL FOR TPH
- FORMER EDC GROUNDWATER PLUME

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BROADCAST APARTMENTS PROPERTY
1420 EAST MADISON STREET
SEATTLE, WASHINGTCN
SOUNDEARTH PROJECT #1002-003

FIGURE 3
PROPERTY DEVELOPMENT PLAN
SOIL SAMPLING LOCATIONS

7/29/2016

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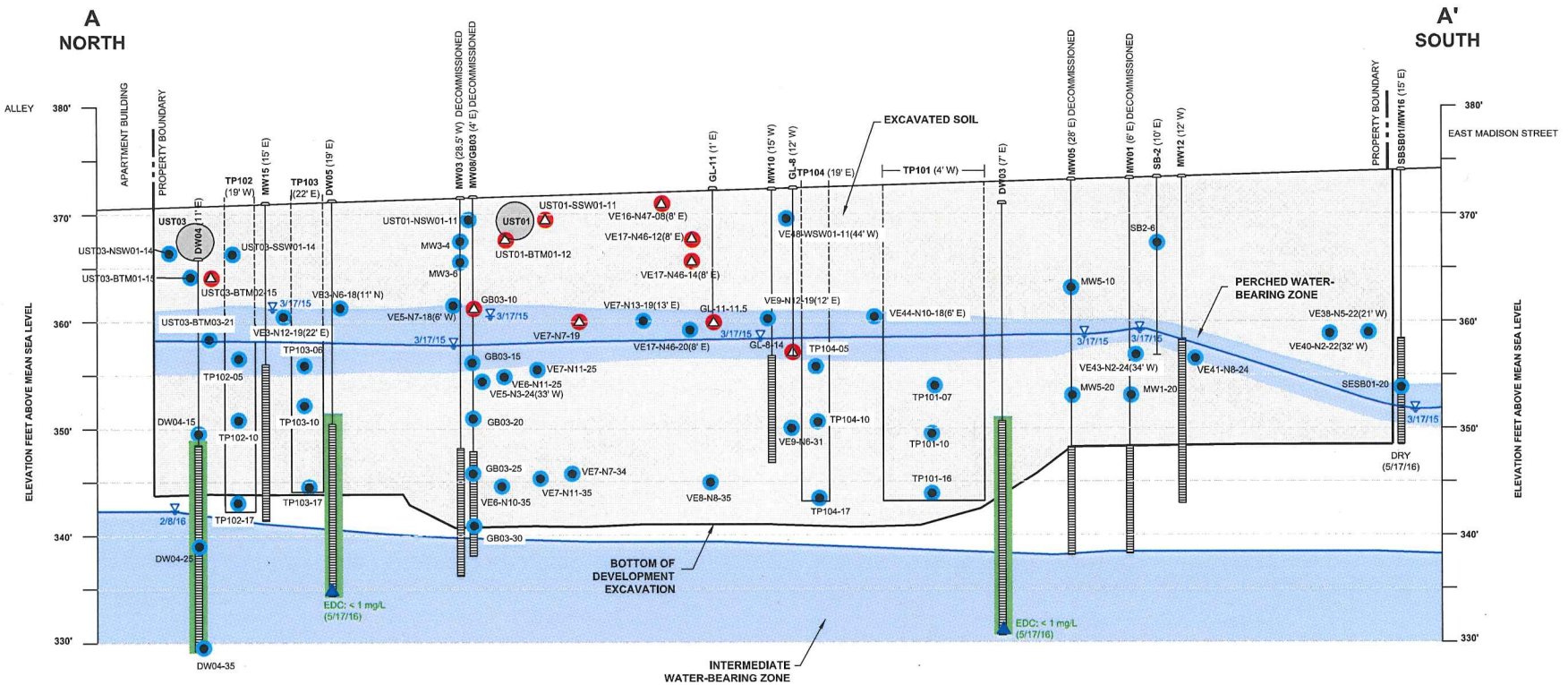

LEGEND

MW3 (28.5' W) OFFSET 28.5 FEET WEST
- BLANK CASING
- GROUNDWATER LEVEL
- WELL SCREEN INTERVAL
- WELL TERMINATION

DW04 (11' E)
- DEWATERING WELL

- CONFIRMATION SOIL SAMPLES
- PERFORMANCE SOIL SAMPLES
- EXCAVATION AREA
- UST01 — UNDERGROUND STORAGE TANK

- GROUNDWATER SAMPLE BELOW MTCA CLEANUP LEVEL FOR EDC
- BELOW MTCA CLEANUP LEVEL FOR TPH
- EXCEEDS MTCA CLEANUP LEVEL FOR TPH

EDC ETHYLENE DICHLORIDE (1,2-DICHLOROETHANE)
MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT
TPH TOTAL PETROLEUM HYDROCARBON

0 5 10
APPROXIMATE SCALE IN FEET

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1420 EAST MADISON STREET
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #1002-003

FIGURE 4
CROSS SECTION A-A'

7/26/2016
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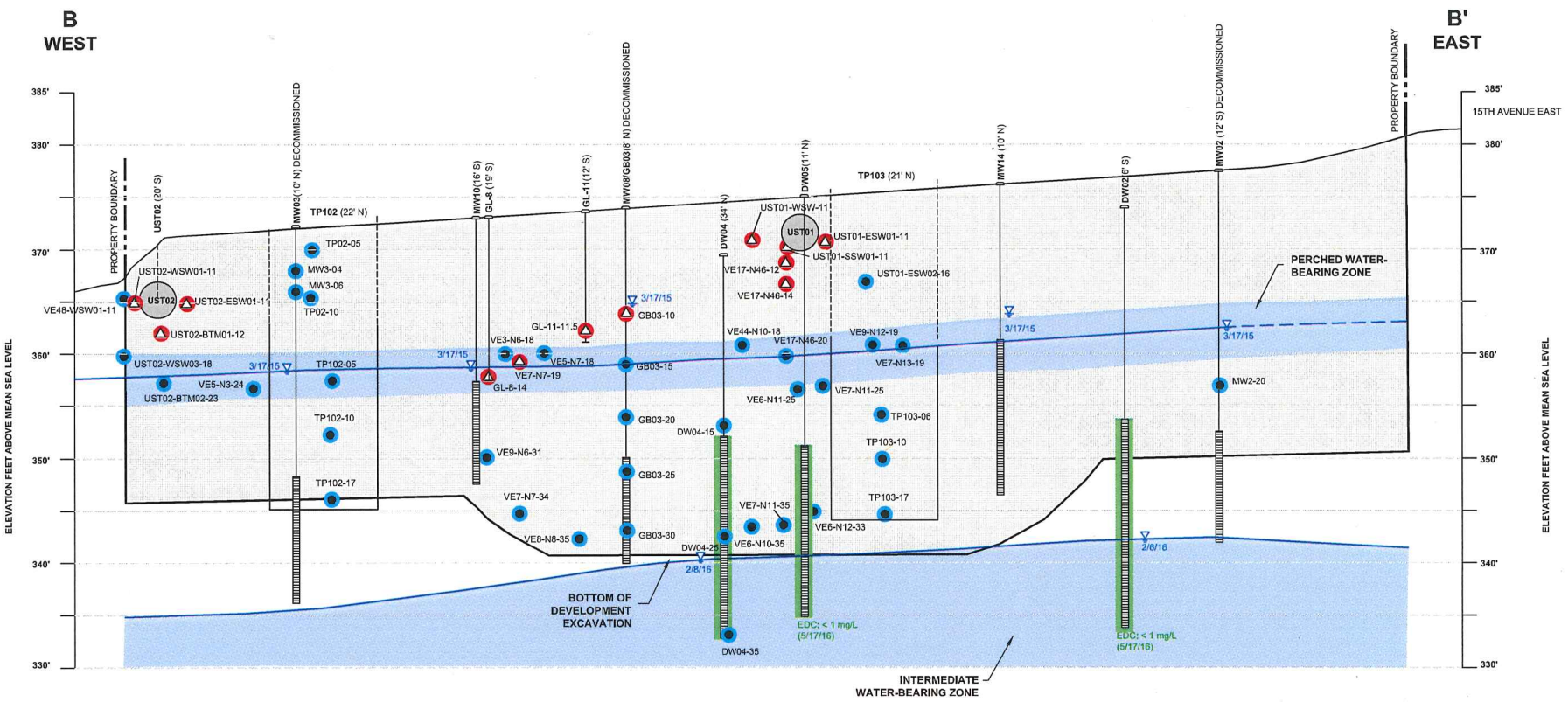

LEGEND

MW2 (12' S) OFFSET 12 FEET SOUTH
- BLANK CASING
- GROUNDWATER LEVEL
- WELL SCREEN INTERVAL
- WELL TERMINATION

DW04 (34' N) DEWATERING WELL

- CONFIRMATION SOIL SAMPLES
- PERFORMANCE SOIL SAMPLES
- EXCAVATION AREA
- UST01 UNDERGROUND STORAGE TANK
- GROUNDWATER SAMPLE BELOW MTCA CLEANUP LEVEL FOR EDC
- BELOW MTCA CLEANUP LEVEL FOR TPH
- EXCEEDS MTCA CLEANUP LEVEL FOR TPH

EDC ETHYLENE DICHLORIDE (1,2-DICHLOROETHANE)
MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT
TPH TOTAL PETROLEUM HYDROCARBON

0 5 10
APPROXIMATE SCALE IN FEET

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SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #1002-003

FIGURE 5
CROSS SECTION B-B'

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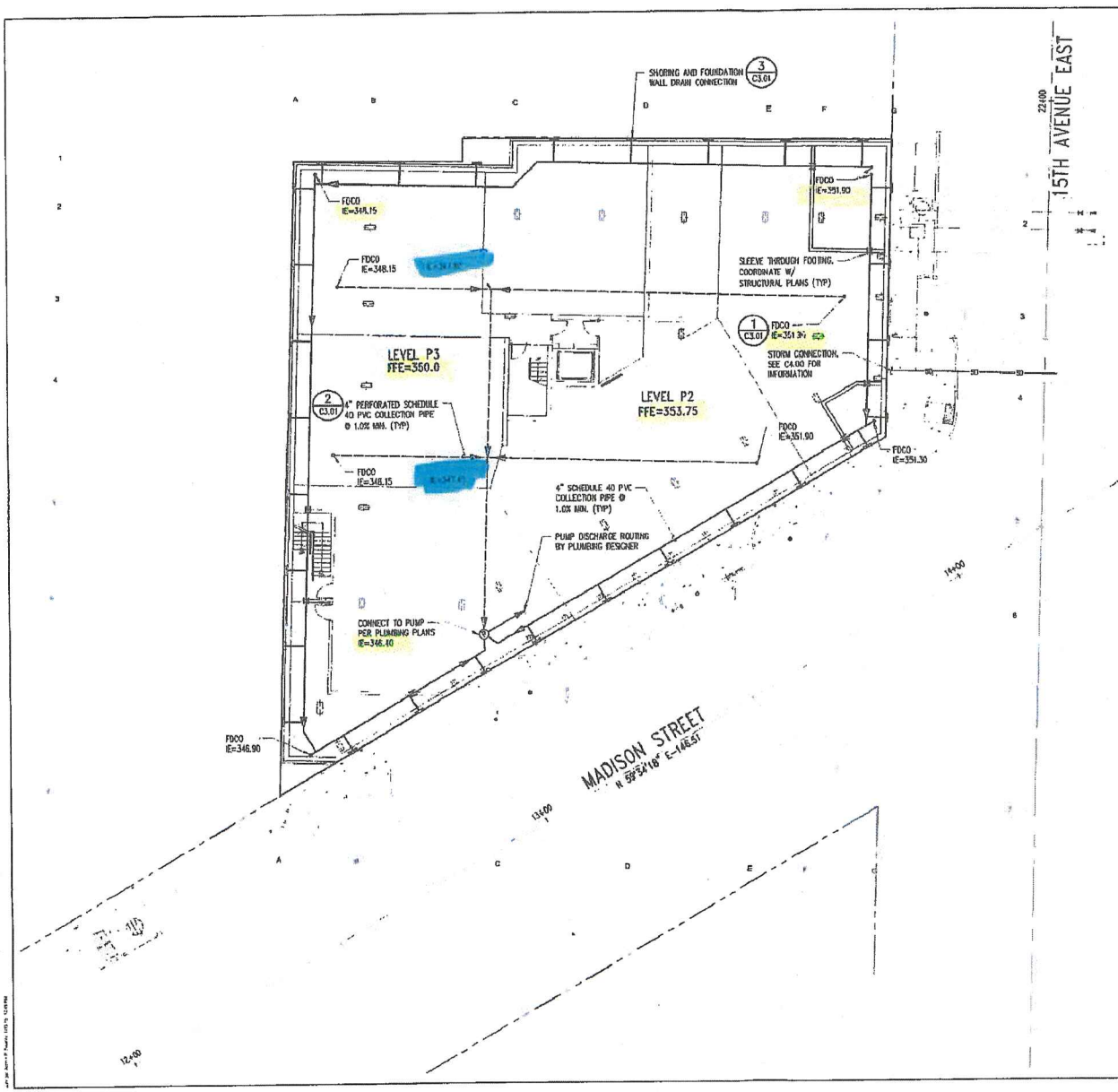


NOTES:

1. SEE SHORING FOR DESIGN OF SHORING SYSTEM
2. SUBSURFACE DRAIN SYSTEM IS INTENDED AS PRECAUTIONARY. ANY GROUNDWATER COLLECTED WILL BE INCIDENTAL AND IS EXPECTED AT LESS THAN 2 GPM. AS SUCH FLOW CONTROL IS NOT REQUIRES PER SPU DIRECTOR'S RULE 2010-13.
3. THIS PLAN MEETS THE MINIMUM REQUIREMENTS FOR GROUNDWATER CONTROL AS RECOMMENDED IN THE GEOTECHNICAL ENGINEERING DESIGN REPORT BY AESI. THE CONTRACTOR SHALL VERIFY LOCATIONS WITH THE OWNER'S GEOTECHNICAL REPRESENTATIVE IN THE FIELD, AND ADJUST OR INCREASE THEM TO OBTAIN FULL COVERAGE FOR GROUNDWATER CONTROL.
4. FOUNDATIONS, FOOTING, AND SHORING ARE SHOWN FOR GRAPHICAL REPRESENTATIONS ONLY. SEE STRUCTURAL AND SHORING FOR INFORMATION.
5. INVERT ELEVATIONS FOR PIPES BELOW SLAB ON GRADE SHALL BE A MINIMUM 22 INCHES BELOW BOTTOM OF SLAB, UNLESS NOTED OTHERWISE.
6. PIPE UNDER BUILDING SLABS SHALL BE SCHEDULE 40 PVC PER ASTM D 2665.
7. CONTRACTOR SHALL PROVIDE SLEEVES, AS REQUIRED, FOR PVC PIPE CROSSING THROUGH OR UNDER CONCRETE WALLS AND FOUNDATION ELEMENTS. CONTRACTOR SHALL COORDINATE THE LOCATION OF SLEEVES WITH THE STRUCTURAL ENGINEER.
8. TRENCHING AND BEDDING FOR SERVICE DRAINS SHALL BE PER COS STD PLANS 284 AND 285.
9. ROOF DRAINS SHALL BE TIGHT LINED INTO A SEPARATE DRAINAGE SYSTEM BY PLUMBING.
10. EXCAVATIONS FOR DRAINAGE SYSTEM THAT EXTEND BELOW THE 1:1 LOAD ZONE OF THE ADJACENT FOOTING SHALL BE BACKFILLED WITH CONTROLLED DENSITY FILL (CDF). SEE STRUCTURAL FOR FOOTING LOCATIONS AND SIZES.
11. ALL STORM DRAIN CATCH BASIN AND MANHOLE OUTLET PIPES SHALL BE FITTED WITH OUTLET TRAPS PER COS STD PLAN 257

LEGEND:

- SOLID WALL DRAIN COLLECTION PIPE
- PERFORATED SCHEDULE 40 PVC COLLECTION PIPE
- FOUNDATION DRAIN CLEANOUT (FDCO)
- (P) SUMP PUMP, SEE PLUMBING

N

0 5 10 20
1 inch = 10 feet

811 Call 811 two business days before you dig

JOHNSON ARCHITECTURE & PLANNING PLLC
2124 THIRD AVENUE, SUITE 200
SEATTLE, WA 98121 206-448-7580

kpff

The Metropolitan Companies, Inc.
1510 14th Ave., Ste B
Seattle WA 98122

NO	DESCRIPTION	DATE

REVISIONS

PROJECT NO: 2014-09 PERMIT #6327097
DATE: 01/30/2015
DRAWN BY: KWP
APPROVAL: TJE, RMK

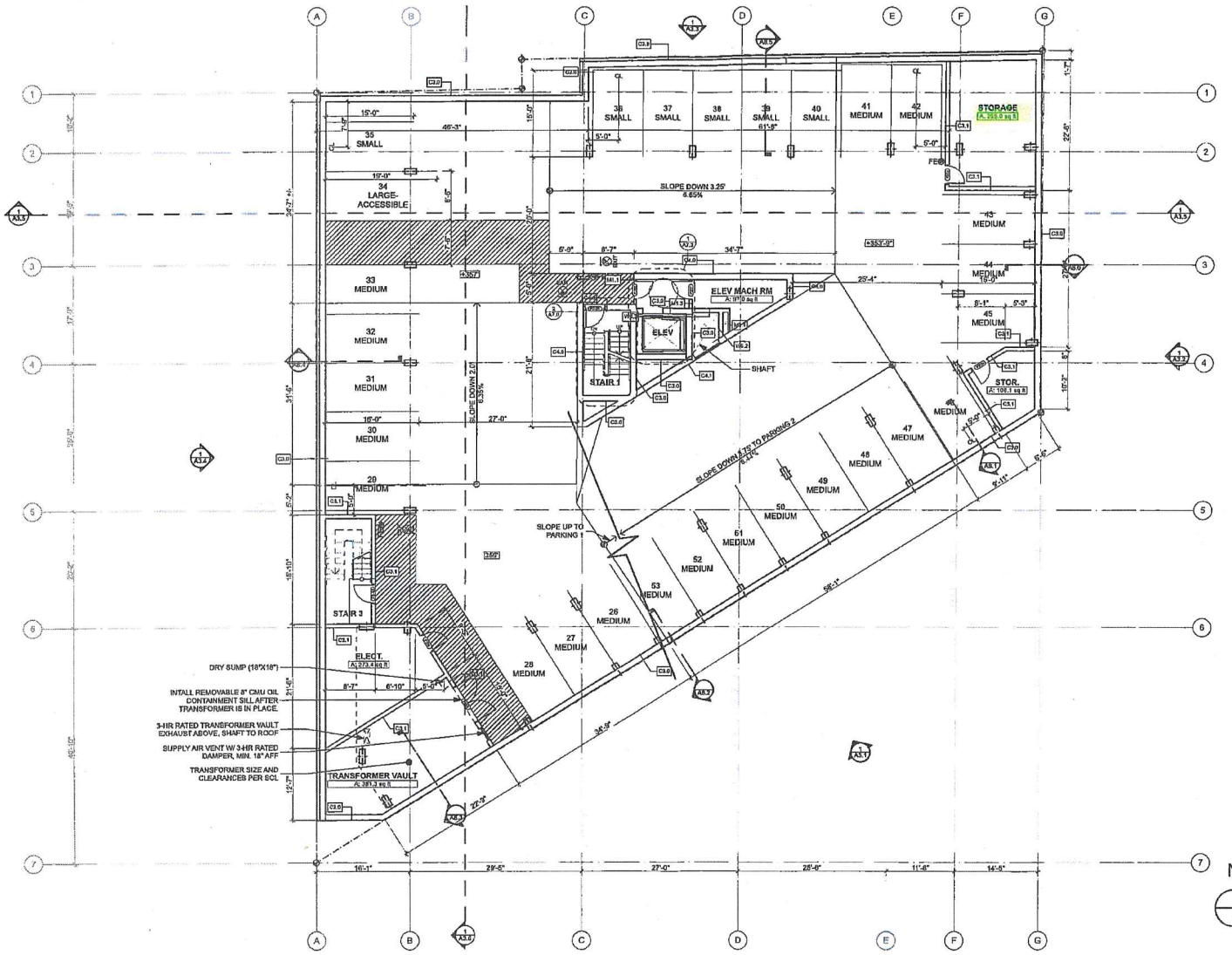
Broadcast Apartments
1420 East Madison St.
Seattle WA 98122

FOUNDATION DRAINAGE PLAN

PERMIT INTAKE

SHEET NO.
C3.00

DPD APPROVAL STAMP



1 PARKING 2
SCALE: 1/8" = 1'-0"

JOHNSON
ARCHITECTURE & PLANNING LLC
2124 THIRD AVENUE, SUITE 200
SEATTLE, WA 98121 206-448-7580

REGISTERED ARCHITECT
STATE OF WASHINGTON

The Metropolitan Companies, Inc.
1510 14th Ave., Ste B
Seattle WA 98122

NOTES:

RESIDENTIAL PARKING: P-2

LARGE - VAN STALL 8'X19' *W/ 8' ACCESS AISLE*	1
MEDIUM - 8'X16'	21
SMALL - 7.5'X16'	6

LEGEND

- FE FIRE EXTINGUISHER
- EXIT EMERGENCY EXIT SIGNAGE/ILLUMINATION
- XX WALL ASSEMBLIES- SEE A9.0 & 9.1
- DOOR NUMBER- SEE A4.0 & 4.1

NOTES:

ALL DOORS TO BE 4" FROM CLOSEST ADJACENT WALL U.O.N.

NO.	DESCRIPTION	DATE

REVISIONS

PROJECT NO: 2014-06 PERMIT #6327097
DATE: 03/03/2015
DRAWN BY: JO, LR, VP
APPROVAL: SJ

Broadcast Apartments
1420 East Madison St.
Seattle WA 98122

P-2 FLOOR PLAN

PERMIT

SHEET NO:
A2.2

DPD APPROVAL STAMP: