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PER- AND POLY-FLUOROALKYL SUBSTANCES PILOT TEST SUMMARY REPORT 175 NEWPORT WAY NORTHWEST ISSAQUAH, WASHINGTON

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For:
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175 Newport Way Northwest
Issaquah, Washington 98027

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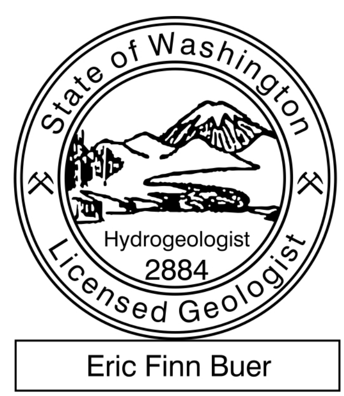

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

ACULS	anticipated cleanup levels
AFFF	aqueous film-forming foam
ALS	ALS Environmental-Kelso of Kelso, Washington
bgs	below ground surface
Ecology	Washington State Department of Ecology
EFR	Eastside Fire & Rescue
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
IAA	Interagency Agreement No. C2100056 dated March 29, 2021 between the Washington State Department of Ecology and Eastside Fire & Rescue
long-chain PFAS	perfluoroalkyl carboxylic acids with eight or more carbons (seven or more carbons are perfluorinated), and perfluoralkane sulfonates with six or more carbons (six or more carbons are perfluorinated)
Median Strip AFFF Training Area	the historical aqueous film-forming foam training area on the northern portion of the Property on what is now a grass median strip
µg/l	microgram per liter
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
NAVD88	North American Vertical Datum of 1988
NWN AFFF Training Area	the historical aqueous film-forming foam training area on the western portion of the Property on what is now a gravel lot
PFAS	per- and poly-fluoroalkyl substances
PFBS	perfluorobutane sulfonic acid
PFHxS	perfluorohexane sulfonic acid
PMFs	passive flux meters
PFNA	perfluorononanoic acid

PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonic acid
PRB	permeable reactive barrier
Property	the property at 175 Newport Way Northwest in Issaquah, Washington
Report	Per- and Poly-Fluoroalkyl Substances Pilot Test Summary Report, 175 Newport Way Northwest, Issaquah, Washington dated June 17, 2022 prepared by Farallon Consulting, L.L.C. (this document)
SALs	Washington State Department of Health State Action Levels
short-chain PFAS	perfluoroalkyl carboxylic acids with seven or fewer carbons (up to six carbons are perfluorinated), and perfluoroalkane sulfonates with five or fewer carbons (up to five carbons are perfluorinated)
SOPs	standard operating procedures
Study	Lower Issaquah Valley Per- and Poly-Fluoroalkyl Substances Additional Characterization Study conducted June 2021 through February 2022
Work Plan	*Per- and Poly-Fluoroalkyl Substances Characterization Study Work Plan Addendum, Lower Issaquah Valley, Issaquah, Washington* dated July 6, 2021 prepared by Farallon Consulting, L.L.C.

GLOSSARY OF TERMS

deep groundwater	groundwater encountered at depths greater than 120 feet below ground surface
intermediate groundwater	groundwater encountered at depths from 60 feet below ground surface to a maximum depth of 120 feet below ground surface
shallow groundwater	groundwater encountered at depths from approximately 5 feet below ground surface to a maximum depth of 60 feet below ground surface
vadose zone	the unsaturated portion of the soil column. Water present in the vadose zone typically is under pressure of less than or equal to 1 atmosphere; the vadose zone is limited above by the ground surface, and below by the zone of saturation where all pore space is filled with water (i.e., the water table)

EXECUTIVE SUMMARY

Farallon Consulting, L.L.C. has prepared this Pilot Test Summary Report on behalf of Eastside Fire & Rescue to summarize work performed, analytical results, and pilot test performance results for the pilot test performed at 175 Newport Way Northwest in Issaquah, Washington (herein referred to as the Property). The scope of work described in this report was performed to further refine the nature and extent of per- and poly-fluoroalkyl substances (PFAS) impacts in the subsurface on select portions of the Property, and to complete pilot testing of a permeable reactive barrier as an effective treatment technology for PFAS in groundwater.

Additional characterization and groundwater monitoring performed at the Property confirmed the continuous presence of a basement silt unit underlying the entirety of the Property and dipping to the east. Shallow groundwater at the Property flows east under the western portion of the Property and previously identified historical aqueous film-forming foam (AFFF) training areas, including the area on the western portion of the Property on what is now a gravel lot (NWN AFFF Training Area), and the narrower area on the northern portion of the Property identified on what is now a grass median strip. Shallow groundwater flow transitions to the north on the eastern portion of the Property. Vertical gradients in shallow groundwater were downward in the central and eastern portion of the Property.

PFAS were not detected in soil samples at concentrations exceeding anticipated cleanup levels (ACULs) for soil in direct contact in an industrial exposure scenario, the applicable scenario for the Property. The highest concentrations of PFAS detected during additional soil sampling were proximate to the western Property boundary in the central portion of the NWN AFFF Training Area, where the bulk of AFFF training was suspected to have occurred. PFAS were detected at concentrations exceeding ACULs for protection of unsaturated and saturated groundwater during additional soil sampling conducted proximate to the western Property boundary. Further evaluation of soil impacts west of the NWN AFFF Training Area therefore is recommended.

Concentrations of PFAS in shallow groundwater in AFFF training areas demonstrated a positive correlation with groundwater elevations, indicating the presence of a smear zone in both AFFF training areas on the Property, which continues to act as a source to groundwater during seasonal periods of saturation. Concentrations of PFAS in groundwater attenuate with migration away (both laterally and vertically) from confirmed sources.

Pilot testing comprised construction of a subsurface permeable reactive barrier (PRB) using Plumestop and performance groundwater monitoring to evaluate changes in PFAS between locations up- and down-gradient of the PRB. Monthly performance monitoring was performed from December 2021 through February 2022. Final PRB construction treated an area in the saturated subsurface interval approximately 15 feet wide, 55 feet long, and 10 feet thick from approximately 14 to 25 feet below ground surface. The PRB was constructed directly on top of the previously identified basement silt contact to the top of shallow groundwater as observed in monitoring well NWN-MW10, which was used for performance monitoring. Observations during construction indicated successful placement of Plumestop within the PRB to meet design criteria for continuous subsurface coverage of the treatment interval.

A steep decline in PFAS concentrations in groundwater at monitoring well NWN-MW10, located immediately down-gradient of the PRB, was noted during PRB performance monitoring. All reported concentrations of PFAS having Washington State Department of Health State Action Levels (SALs) (i.e., PFBS, PFHxS, PFOA, PFOS, and PFNA) declined by an order of magnitude or more, indicating effective removal of PFAS from groundwater and retention by the PRB. Concentrations of PFHxS and PFOA, which exceeded SALs prior to PRB construction, declined to less than SALs during the performance monitoring period. Concentrations of PFNA declined from 0.17 micrograms per liter (µg/l) immediately prior to PRB installation to less than the laboratory method reporting limit at the end of the performance monitoring period. Concentrations of PFOS in groundwater, which were the highest of the PFAS quantitated, declined by approximately two orders of magnitude, from a maximum concentration of 2.6 µg/l to approximately 0.026 µg/l, approaching the SAL of 0.015 µg/l. Reductions in PFOS concentrations in groundwater at monitoring well NWN-MW10 were sustained throughout the monitoring period, and did not show a response to changes in groundwater elevation.

Performance monitoring results indicate that injected activated carbon products such as Plumestop provide a technically feasible treatment technology for PFAS in groundwater at the Property. Subsurface conditions are conducive to construction of a full-scale barrier to immobilize PFAS in the subsurface, reducing their long-term mobility and impacts to groundwater. Complete cleanup alternatives were not evaluated as part of the current scope of work, but will be developed through a future Feasibility Study that will evaluate additional remedial technologies potentially including the following in addition to potential construction of a full-scale PRB: capping, limited source-removal, and off-Property disposal.

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this Pilot Test Summary Report (Report) on behalf of Eastside Fire & Rescue (EFR) to summarize work performed, analytical results, and pilot test performance results for the 175 Newport Way Northwest per- and poly-fluoroalkyl substances (PFAS) additional characterization study conducted from June 2021 through February 2022 (Study). This Report was prepared to satisfy final reporting requirements identified by Task 4 of Interagency Agreement No. C2100056 dated March 29, 2021 between the Washington State Department of Ecology (Ecology) and EFR (IAA). The Study was performed as part of an ongoing joint effort by EFR, Ecology, and the City of Issaquah to evaluate and reduce potential future impacts to human health and the environment associated with historical releases of PFAS.

The overall purpose of the Study was to: collect relevant characterization data to establish baseline subsurface conditions at the property at 175 Newport Way Northwest in Issaquah, Washington (herein referred to as the Property); supplement a pilot test design to evaluate suitable remedial technology for on-Property release of PFAS; and perform and evaluate a pilot test of the selected remedial technology. Prior to performing the planned investigation and pilot test, Farallon (2021c) prepared the *Per- and Poly-Fluoroalkyl Substances Characterization Study, 2021 Work Plan Addendum, Lower Issaquah Valley, Issaquah, Washington* dated July 6, 2021 for EFR (Work Plan), specific to the 2021 scope of work described in the IAA, to structure and guide investigation work. A copy of the Work Plan is provided in Appendix A. A draft of the Work Plan was reviewed and approved by EFR, Ecology, and the City of Issaquah in March 2021 prior to commencement of field investigation work, and finalized in July 2021. Study field investigation work was conducted between June 10, 2021 and February 17, 2022.

1.1 PURPOSE

This Report meets the reporting requirements identified under Task 4 of the IAA to document additional characterization and pilot test installation and performance results. This Report documents:

- Characterization and groundwater monitoring analytical results, elevations, flow directions, and calculated gradients; and
- Final pilot test design details, final construction observations and measurements, and overall efficacy during the period of initial performance monitoring.

1.2 REPORT ORGANIZATION

This Report summarizes the results from previous investigations, and presents the results from the Study conducted by Farallon. The report is organized into the following sections:

- **Section 2**, **Background**, provides an overview of the regional and Property setting, geology, and hydrogeology; the Study objectives; the parameters of interest; and regulatory criteria.

- **Section 3**, **Study Description**, describes the work elements performed, including the Study objectives, field and laboratory procedures, the Study scope of work, and management of investigation-derived waste.
- **Section 4**, **Study Results**, summarizes the results from additional soil and groundwater characterization and pilot test and performance monitoring.
- **Section 5, Data Gaps,** describes data gaps that were identified or remain to be addressed after the conclusion of the Study.
- **Section 6, Quality Assurance and Quality Control,** provides an evaluation of the quality assurance and quality control criteria for the Study.
- **Section 7**, **Conclusions**, provides Farallon's conclusions regarding Property geology and hydrogeology, additional characterization, pilot test results, and Study performance.
- **Section 8**, **References**, provides a list of the documents cited in this Report.
- **Section 9**, **Limitations**, presents Farallon's standard limitations associated with conducting the work described herein and preparing this Report.

2.0 BACKGROUND

This section provides an overview of the Lower Issaquah Valley and Property setting, geology, and hydrogeology; the Study objectives; the parameters of interest; and regulatory criteria. Additional background information was provided in previous summary reports (Farallon 2019, 2021b).

2.1 LOWER ISSAQUAH VALLEY SETTING AND GEOLOGY

The Study area is in the Lower Issaquah Valley, east of Seattle and south of Lake Sammamish, in Issaquah, King County, Washington. Valley floor elevations range from approximately 40 to 160 feet North American Vertical Datum of 1988. The Lower Issaquah Valley is roughly bisected by Issaquah Creek, which runs longitudinally along the valley floor and flows north into Lake Sammamish. Average annual precipitation ranges from 33 to 81 inches, with an average of 5 to 8 inches per month from October through March (National Oceanic and Atmospheric Administration 2022).

The Puget Sound region is underlain by Quaternary sediments deposited by multiple glacial episodes. Deposition occurred during glacial advances and retreats, which created the existing subsurface conditions. The regional sediments consist primarily of interlayered and/or sequential deposits of alluvial clays, silts, and sands that typically are situated over deposits of glacial till that consist of silty sand to sandy silt with gravel. Outwash sediments consisting of sands, silts, clays, and gravels were deposited by rivers, streams, and post-glacial lakes during the glacial retreats, and have been largely over-consolidated by the overriding ice sheets (Galster and Laprade 1991).

The geology of the Lower Issaquah Valley comprises a series of interbedded sand-gravel and silt-clay layers overlying the bedrock units that form the adjacent foothills east and west of the Lower Issaquah Valley. As described in previous work plans and summary reporting (Farallon 2019, 2020, 2021a, 2021b), three groundwater-bearing zones pertinent to the investigation of the nature and extent of PFAS have been identified in the Lower Issaquah Valley:

- Shallow groundwater, encountered to a maximum depth of 60 feet below ground surface (bgs);
- Intermediate groundwater, encountered between depths of 60 and 120 feet bgs, which includes a poorly graded brown sand unit; and
- Deep groundwater, encountered at depths greater than 120 feet bgs.

Drinking water production wells operated by the City of Issaquah and the Sammamish Plateau Water and Sewer District are screened in both intermediate (wells COI-PW04, SP-PW07, and SP-PW08) and deep groundwater (wells COI-PW05 and SP-PW09). PFAS were detected in production wells screened in both intermediate and deep groundwater beginning in 2015.

2.2 PROPERTY GEOLOGY AND HYDROGEOLOGY

The Property consists of King County Parcel No. 2824069165 at 175 Newport Way Northwest in Issaquah, Washington. This Property serves as the location of the headquarters facility for EFR (Figure 1). Observed groundwater elevations at the Property are shown on Figure 2. A graphical cross section of the Property subsurface is presented on Figure 3. Monitoring well construction details and identifiers are provided in Table 1.

Study borings and historical boring locations are shown on Figure 1. The Study focused primarily on a historical aqueous film-forming foam (AFFF) training area on the western portion of the Property on what is now a gravel lot (NWN AFFF Training Area). Previous studies identified an additional historical AFFF training area on the northern portion of the Property on what is now a grass median strip (Median Strip AFFF Training Area), although the reported frequency is suspected to be significantly less than that on the western portion of the Property. The Median Strip AFFF Training Area was previously sampled using multi-incremental soil sampling methodology, and was assigned the identifier DU-05.

Based on Study field observations by Farallon, the Property is underlain by discontinuous silt beds ranging in thickness from approximately 5 to 10 feet followed by coarse sand and gravel. This stratigraphy was observed in borings and monitoring wells on the western and northern portions of the Property, extending east past monitoring well NWN-MW03. A continuous hard gray silt (referred to as "basement silt") was observed under the NWN AFFF Training Area. The silt continues eastward with a dip of approximately 7 degrees from horizontal past monitoring well NWN-MW09, where it was encountered at a depth of 53 feet bgs (Figures 3 and 4). The basement silt was observed in the boring for monitoring well NWN-MW09 to the maximum depth explored of 95 feet bgs, but was not encountered in the boring for monitoring well NWN-MW08 to the east (Figure 3), suggesting that it continues to dip to the east and increase in depth below other units in the Lower Issaquah Valley. Additional borings NWN-MW10, NWN-MW12, and NWN-MW14 installed as part of the Study confirmed the presence of basement silt beneath the NWN AFFF Training Area (Figure 4). Surficial silt and silty sand were not observed on the eastern portion of the Property; rather, coarse sand and gravel was observed from the ground surface to a depth of 55 feet bgs where an approximately 13-foot-thick gray silt was encountered overlying a silty sand to the maximum depth explored of 94 feet bgs (Figure 3).

Shallow groundwater was encountered at a depth of approximately 15 to 18 feet bgs under the NWN AFFF Training Area (Table 2). Shallow groundwater consistently flows to the east-northeast under the NWN AFF Training Area with gradients ranging from 0.053 (July 2021) to 0.064 (February 2022) foot per foot. Shallow groundwater flow on the eastern portion of the Property flows approximately north, with gradients ranging from 0.006 to 0.007 foot per foot. Depth to groundwater measurements and calculated groundwater elevations are provided in Table 2. Intermediate groundwater is not present under most of the Property, but was previously observed at monitoring well NWN-MW08 (Figure 2). Intermediate groundwater was previously observed to flow primarily to the northwest from the location of monitoring well NWN-MW08 (Farallon 2021b).

Vertical gradients were calculated for well pairs NWN-MW03/NWN-MW09 (both shallow wells) and NWN-MW02/NWN-MW08 (a shallow/intermediate well pair). Reported vertical gradients for well pair NWN-MW02/NWN-MW08 were downward, at approximately 0.004 to 0.020 foot per vertical foot. Reported vertical gradients for well pair NWN-MW03/NWN-MW09 were downward, at approximately 0.008 to 0.046 foot per vertical foot.

2.3 PARAMETERS OF INTEREST

Study parameters of interest for soil and groundwater included short-chain PFAS and long-chain PFAS. Ecology refers to short-chain PFAS as perfluoroalkyl carboxylic acids with seven or fewer carbons (up to six carbons are perfluorinated), and perfluoroalkane sulfonates with five or fewer carbons (up to five carbons are perfluorinated). Ecology refers to long-chain PFAS as perfluoroalkyl carboxylic acids with eight or more carbons (seven or more carbons are perfluorinated), and perfluoralkane sulfonates with six or more carbons (six or more carbons are perfluorinated).

Consistent with Ecology’s designations, short-chain PFAS presented in this Report are:[1]

- Perfluorobutanoic acid;
- Perfluorobutane sulfonic acid (PFBS);
- Perfluorohexanoic acid;
- Perfluorohexane sulfonic acid (PFHxS);
- Perfluoroheptanoic acid; and
- Perfluorohepane sulfonic acid.

Long-chain PFAS presented in this Report are:

- Perfluorooctanoic acid (PFOA);
- Perfluorooctane sulfonic acid (PFOS);
- Perfluorononanoic acid (PFNA);
- Perfluorodecanoic acid;
- Perfluoroundecanoic acid; and
- Perfluorododecanoic acid.

Soil and groundwater samples were analyzed for the parameters of interest using Modified U.S. Environmental Protection Agency (EPA) Method 537 by ALS Environmental-Kelso of Kelso, Washington (ALS), who was selected to provide analytical services for the Study. EPA Methods 537 and 537.1 are EPA-approved analytical methods for finished drinking water. Modified EPA

[1] Conventional product chemical names are provided here consistent with the acronyms and terminology used in the Ecology (2021a) PFAS Chemical Action Plan. Ionic forms of these analytes typically are encountered in the environment.

Method 537 is not a standardized analytical method for soil or groundwater. Modifications to EPA Method 537 are made on a laboratory-by-laboratory basis. ALS modifications included additional sample preparation steps to reduce or eliminate matrix interference for soil and groundwater samples and addition of isotope dilution to improve quantitation of individual compounds.

At the time the Study was performed, the leading standard for evaluating laboratory analytical procedures recommended by Ecology was the U.S. Department of Defense and U.S. Department of Energy (2019) Quality Systems Manual Version 5.3 and associated quality control document requirements (Ecology 2021). Samples for the Study were analyzed by ALS, who has maintained current Department of Defense Environmental Laboratory Accreditation throughout the investigation process.

2.4 REGULATORY CRITERIA

The Washington State Department of Health (2021) finalized State Action Levels (SALs) for PFAS in drinking water in 2021. Final SALs were adopted in November 2021. SALs set numerical criteria that, when exceeded in drinking water, require additional monitoring and public notification by the service water supplier. Following finalization of SAL numerical criteria by the Washington State Department of Health, Ecology (2021a) concluded that PFAS are hazardous substances under the Washington State Model Toxics Control Act Cleanup Regulation (MTCA).

Although SALs are not an enforceable standard, they are considered relevant and appropriate criteria for potential cleanup and restoration of potable groundwater (Ecology 2022). Therefore, SALs were used as the numerical criteria to evaluate groundwater quality. Ecology (2022) prepared numerical criteria for soil that are protective of the soil to groundwater migration pathway and for direct contact with soil, based on toxicity used by the Washington State Department of Health to develop SALs (herein referred to as anticipated cleanup levels [ACULs]), which were applied for evaluation of soil analytical results.[2] The Property currently is zoned for use as a Community Facility (zoning code CF-F) and is used for vehicle maintenance, and headquarters administrative uses and fire-training; these uses are anticipated to continue into the foreseeable future. Therefore, soil cleanup levels for industrial use are considered protective for the Property.

[2] Cleanup levels were published in the Ecology Cleanup Level and Risk Calculation Database in July 2022 after completion of this scope of work and evaluation of analytical results. Applying ACULs is consistent with the Study Work Plan.

3.0 STUDY DESCRIPTION

This section presents the Study objectives identified in the Work Plan, field and laboratory procedures, the Study scope of work, and management of investigation-derived waste.

3.1 STUDY OBJECTIVES

The overall goals for the current phase of work were to further refine the nature and extent of PFAS impacts in the subsurface in and proximate to the NWN AFFF Training Area, and to evaluate the constructability and performance of a colloidal activated carbon PRB.

Complete Study objectives were to:

- Perform limited additional characterization of the NWN AFFF Training Area subsurface through additional soil and groundwater sampling;
- Install additional monitoring wells to evaluate the efficacy of the proposed pilot test injection program, and to establish baseline groundwater quality conditions;
- Perform a pilot test in the NWN AFFF Training Area to treat PFAS-impacted soil and groundwater;
- Evaluate the effectiveness of the selected treatment and pilot test by performing groundwater monitoring following treatment, and comparing changes in groundwater quality to baseline conditions and SALs; and
- Provide recommendations for potential future full-scale remediation of the NWN AFFF Training Area and other areas of interest as appropriate based on pilot test performance.

The Study originally included bench-scale column testing of multiple carbon products, and selection of one product for pilot testing. Extended discussion with both the analytical laboratory and remediation product suppliers ultimately indicated that column testing with multiple products was not feasible, and the scope of the IAA therefore was amended. IAA budget originally allocated for benchtop testing was applied directly to pilot testing.

3.2 FIELD AND LABORATORY PROCEDURES

Field procedures to be applied during the Study were identified and described in Section 4 of the Work Plan prior to commencement of field sampling. Samples were collected in accordance with Work Plan standard operating procedures (SOPs).

3.2.1 Soil Sampling

Soil samples were collected and handled in accordance with the requirements of the Work Plan. Samples were collected from discrete depth intervals during drilling at the Property to characterize the subsurface distribution of PFAS at select locations. The samples were collected directly from retrieved soil cores in accordance with Farallon SOP SL-01, Soil Core Sampling, using pre-cleaned disposable field sampling equipment.

3.2.2 Groundwater Sampling

For all locations and monitoring events, groundwater sampling was performed in accordance with Farallon SOP GW-03, Groundwater Level Measurement in Monitoring Wells, and SOP GW-04, Low-Flow Groundwater Sampling Procedures. Sampling included allowing for equilibration with the ambient atmosphere before groundwater levels were gauged, and purging monitoring wells until groundwater monitoring field parameters stabilized. The pump intake was placed in the center of the screened interval if the screen was submerged, or in the center of the water column if the screen extended above the water table.

3.2.3 Laboratory Analysis

Discrete soil and groundwater samples collected during field investigation and groundwater monitoring events were collected directly into pre-cleaned laboratory-supplied containers, placed on ice, and delivered under standard chain-of-custody protocols to ALS for analysis for PFAS by Modified EPA Method 537.

3.3 STUDY SCOPE OF WORK

The completed scope for the Study consisted of: additional characterization of the NWN AFFF Training Area, which involved additional discrete soil sampling and installation of additional permanent monitoring wells; installation of the pilot test PRB, and performance monitoring. Each of these scope elements is described in detail below.

3.3.1 NWN AFFF Training Area Additional Characterization

Additional characterization was undertaken in the NWN AFFF Training Area to further evaluate impacts to soil, and to further evaluate impacts to shallow groundwater and seasonal fluctuations that may affect pilot test design. Additional characterization comprised:

- Advancing direct-push borings (monitoring wells NWN-MW13, NWN-MW15, and NWN-MW16 and borings NWN-R19 through NWN-R22) to a maximum depth of 20 feet bgs to perform additional discrete soil sampling for PFAS;
- Advancing borings (monitoring wells NWN-MW10, NWN-MW12, and NWN-MW14) to a maximum depth of 30 feet bgs to perform additional discrete soil sampling for PFAS, and to confirm the presence and depth of basement silt;
- Collecting soil samples during drilling at depths of 3, 5, and/or 10 feet bgs for analysis by Modified EPA Method 537;
- Installing passive flux meters in groundwater monitoring wells NWN-MW10, NWN-MW14, NWN-MW13, and NWN-MW02 to evaluate groundwater flow velocities and PFAS flux in groundwater; and
- Performing two baseline groundwater monitoring events at the new and existing groundwater monitoring wells.

3.3.1.1 Work Performed

Borings and monitoring wells were installed by Anderson Environmental Consulting of Kelso, Washington using a direct-push drill rig to a maximum depth of 30 feet bgs on June 15, 2021 through June 17, 2021. Monitoring wells NWN-MW10 and NWN-MW12 through NWN-MW16 were constructed, developed, gauged, and sampled in accordance with the Work Plan and Farallon SOPs GW-01 and GW-02. Groundwater sampling was performed consistent with the practices described in Section 3.2.2. Baseline groundwater monitoring events were conducted in September and October 2021.

3.3.1.2 Rationale

Additional monitoring wells and borings were installed to further refine the nature and extent of PFAS impacts to soil and groundwater in the NWN AFFF Training Area and immediately down-gradient.

3.3.1.3 Deviations from Work Plan and Corrective Actions

No corrective actions were required.

3.3.2 Pilot Test Permeable Reactive Barrier Installation

Farallon designed a full-scale pilot test to install a PRB using activated colloidal carbon on the eastern down-gradient edge of the NWN AFFF Training Area. Farallon coordinated with a remediation contractor to prepare a preliminary design that included injection locations, target elevations, and target injection masses. Farallon observed the construction of the PRB, and documented final construction details and verification results. Following completion of the PRB installation, Farallon performed performance monitoring over a period of approximately 4 months.

3.3.2.1 Work Performed

PRB design was performed in coordination with Regenesis Remediation Services Inc. of San Clemente California in July 2021. PRB construction was performed from October 19 through 22, 2021. Farallon contracted with Regenesis Remediation Services Inc. to perform the PRB installation. Farallon staff observed the injections, and monitored injection volumes and pressures, and for any surface returns.

Additional data collection to support PRB design included installation and analysis of passive flux meters (PFMs) at four locations, and groundwater sampling for conventional geochemical parameters and total petroleum hydrocarbons. PFMs were installed in two intervals of monitoring wells NWN-MW10 and NWN-MW14 on July 30, 2021, and removed from the wells on August 12, 2021. A second set of PFMs was installed at monitoring wells NWN-MW02 and NWN-MW13 on August 12, 2021, and removed on September 1, 2021.

3.3.2.2 Rationale

The PRB pilot test was developed and performed based on previous evaluation of subsurface conditions and suitable remedial technologies documented in the Source

Remediation Plan (Farallon 2021a), to further evaluate passive treatment system constructability and efficacy on the Property. The NWN AFFF Training Area was identified as well-suited for PRB as the remedial approach. Farallon performed the pilot test to test the efficacy of the PRB method's ability to reduce the concentrations and potential migration of PFAS in groundwater from the NWN AFFF Training Area.

PFMs were installed to obtain quantitative measurements to evaluate groundwater flow velocity and total PFAS flux in groundwater across the eastern boundary of the NWN AFFF Training Area. Petroleum hydrocarbon and conventional geochemical parameter sampling was performed to evaluate groundwater chemistry and competition of sorption sites in the PRB. Both sets of measurements were used to support estimating total injected mass required for the PRB.

3.3.2.3 Deviations from Work Plan and Corrective Actions

IAA No. C2100056 originally included column testing of multiple treatment reagents, followed by full-scale testing of the reagent with the best bench-scale performance. Column testing was ultimately found to be impractical due to schedule requirements, total estimated costs to perform the test, and difficulty securing reagent provider cooperation. IAA No. C2100056 therefore was amended, and the budget originally allocated for bench-scale column testing was re-allocated for PRB construction and performance monitoring.

The PRB injection interval was originally planned at 14 to 30 feet bgs. However, refusal was frequently encountered at approximately 25 feet bgs across the PRB area due to the presence of basement silt and/or dense gravel. The injection interval therefore was modified, and the total injected volume was adjusted as needed, described in Section 4, Study Results.

3.3.3 Performance Monitoring

Pilot test performance monitoring comprised groundwater monitoring events conducted prior to PRB construction, and after the PRB was completed to evaluate changes in groundwater quality.

3.3.3.1 Work Performed

Baseline and performance groundwater monitoring events were conducted between September 2021 and February 2022 (Table 4). Groundwater sampling was performed consistent with the Work Plan; samples were analyzed for PFAS by Modified EPA Method 537.

3.3.3.2 Rationale

Baseline and performance groundwater monitoring provides empirical data to evaluate groundwater quality prior to and following PRB construction, and changes in groundwater quality between up- and down-gradient locations.

3.3.3.3 Deviations from Work Plan and Corrective Actions

The PFMs were constructed in 5-foot segments that originally were intended to be stacked within well screens to evaluate a 10-foot saturated interval. Due to the low groundwater conditions at the time of installation, a full 10-foot saturated interval was not present. Therefore, only 5-foot segments were installed, and additional locations NWN-MW02 and NWN-MW14 were selected for evaluation. The second set of PFMs was installed on August 12, 2021 and removed on September 1, 2021. PFMs were allowed to remain in the subsurface for 2 weeks rather than the originally estimated 1 week.

The Work Plan also called for performance monitoring 1 week, 1 month, and 3 months after the pilot test. The performance monitoring schedule was updated to 1, 2, and 3 months following PRB construction to allow time for measurable effects in groundwater quality to occur and flow to down-gradient performance monitoring locations (e.g., monitoring well NWN-MW10).

3.4 INVESTIGATION-DERIVED WASTE

Soil cuttings and wastewater generated during the additional characterization, pilot test, and performance monitoring were placed into 55-gallon drums temporarily stored on the Property, and profiled for removal. Farallon observed removal of the investigation-derived waste by Advanced Chemical Transport, Inc. of Tacoma, Washington. Drums were transported to the US. Ecology Subtitle C treatment facility and landfill in Grand View, Idaho for final treatment and disposal.

4.0 STUDY RESULTS

The results from additional soil and groundwater characterization and pilot test and performance monitoring are presented in this section. Groundwater elevations are shown on Figure 2 and reported in Table 2. Table 3 reports vertical gradients in groundwater. Table 4 presents a summary of groundwater sampling by location. Updated soil analytical results are presented on Figure 5 and Tables 5 and 6. Summary groundwater analytical results for PFAS for individual monitoring events are presented on Figures 6 and 7A through 7I and in Tables 7 and 8. Elevation contours are shown on Figures 7A through 7I. Quality control sample results for PFAS sampling are presented in Tables 9 and 10. General chemistry analytical results are provided in Table 11. The final PRB injection plan is presented on Figure 8. PRB injection records are presented in Table 12.

Boring and monitoring well construction logs are provided in Appendix B. Complete laboratory analytical reports are provided in Appendix C (separate from this Report). PFM and conventional sampling results are presented in Appendix D. Time series graphs of PFOS concentrations in groundwater are presented in Appendix E.

4.1 NWN AFFF TRAINING AREA ADDITIONAL CHARACTERIZATION

PFAS, including PFBS, PFHxS, PFOA, PFOS, and/or PFNA, were detected at concentrations exceeding ACULs in shallow soil in and on the western margin of the NWN AFFF Training Area (Figure 5). PFAS also were detected at concentrations exceeding SALs in shallow groundwater in the NWN AFFF Training Area and down-gradient to the east and northeast (Figures 6 and 7A through 7I).

4.1.1 Soil

PFBS, PFHxS, PFOS, PFOA, and/or PFNA were detected at concentrations exceeding ACULs for unsaturated and saturated soil in all discrete soil samples collected in the NWN AFFF Training Area (Figure 5). Concentrations and the total number of exceedances declined in samples collected east of the NWN AFFF Training Area (e.g., locations NWN-MW15 and NWN-MW16), but frequently remained exceeding ACULs (Figure 5; Tables 5 and 6). No reported PFAS concentrations in soil exceeded ACULs for direct contact in an industrial exposure scenario (see Section 2.4). The highest reported PFAS concentrations detected at new sampling locations were in near-surface (i.e., less than 10 feet bgs) soil samples collected from the central portion of the NWN AFFF Training Area, where the bulk of AFFF training exercises are suspected to have occurred. Reported concentrations of PFAS in soil samples collected on the western edge of the NWN AFFF Training Area generally were lower than those in the central portion of the NWN AFFF Training Area, but still exceeded ACULs for unsaturated and saturated soil.

4.1.2 Groundwater

Groundwater elevations and calculated groundwater contours, approximate flow direction, and gradients were similar to those previously observed at the Property (Figures 7 through 7I). Shallow groundwater flows east-northeast under the NWN AFFF Training Area before transitioning to northerly flow under the eastern portion of the Property. Shallow groundwater gradients for easterly flow were calculated to range from approximately 0.019 to 0.047 foot per foot and northerly groundwater flow gradients from 0.006 to 0.069 foot per foot. Intermediate groundwater is not present under most of the Property due to the presence of the basement silt unit, described in Section 2.2, Property Geology and Hydrogeology.

Vertical gradients were calculated to evaluate vertical migration between shallow and intermediate groundwater, and in shallow groundwater (monitoring well pair NWN-MW03/NWN-MW09). Calculated vertical gradients between monitoring wells NWN-MW03 and NWN-MW09 were downward, between 0.008 and 0.046 vertical foot per foot, indicating a downward flow of shallow groundwater (Table 3). Calculated vertical gradients between monitoring wells NWN-MW02 in shallow groundwater and NWN-MW08 in intermediate groundwater were downward, between 0.004 and 0.020 vertical foot per foot (Table 3).

PFM results indicate an average Darcy groundwater flow velocity of approximately 6 centimeters per day across the majority of the Property (Appendix D). A lower average Darcy groundwater flow velocity of 3.4 centimeters per day was reported for the PFM installed in monitoring well NWN-MW13 on the western edge of the Property. Average Darcy groundwater velocities were measured to be 6.4 centimeters per day at monitoring well NWN-MW14, 5.9 centimeters per day at monitoring well NWN-MW10, 3.4 centimeters per day at monitoring well NWN-MW13, and 5.8 centimeters per day at monitoring well NWN-MW02. PFMs were used to calculate the well average mass flux for select PFAS compounds (Appendix D). Calculated average mass fluxes were highest for PFOS and fluorotelomer sulfonic acids (FTS) (e.g., 6:2 FTS and 8:2 FTS). Individual PFM subsample results indicated that average PFAS mass fluxes were highest at the groundwater-vadose zone interface, and decreased with depth (Appendix D). Estimated mass fluxes for PFOS, which were the highest of any PFAS reported, ranged from 35.7 micrograms per square meter per day in up-gradient monitoring well NWN-MW02 to 649 micrograms per square meter per day in monitoring well NWN-MW10, down-gradient of the NWN AFFF Training Area.

Concentrations of PFAS in groundwater were highest in the NWN AFFF Training Area (i.e., monitoring wells NWN-MW04, NWN-MW05, NWN-MW06, and NWN-MW10). PFAS concentrations in groundwater samples collected from up-gradient wells (NWN-MW01 and NWN-MW13) were lower than those in AFFF training areas, including the Median Strip AFFF Training Area. SAL exceedances for PFHxS, PFOA, PFOS, and PFNA generally were co-located. PFBS was reported at a concentration exceeding the SAL in only a single sample, collected from monitoring well NWN-MW07 in January 2022 (Table 7).

Concentrations of PFAS in shallow groundwater correlated positively with groundwater elevation (Appendix E), indicating that shallow soil in both AFFF training areas on the Property continues to act as a source to groundwater during seasonal periods of saturation. Although groundwater sampling was not conducted off the Property as part of the current scope of work, previous monitoring at locations down-gradient of the Property indicated that PFAS concentrations attenuate with distance from the identified sources.

Analytical results for conventional analytes and petroleum hydrocarbons reported moderate to low alkalinity, hardness, total and dissolved calcium, and organic carbon. Sampling for total petroleum hydrocarbons reported a single detection of oil-range organics at a concentration of 280 micrograms per liter (µg/l) in monitoring well NWN-MW14. All other analyses for petroleum hydrocarbons were reported non-detect at the laboratory practical quantitation limit (Table 11).

4.2 PILOT TEST AND PERFORMANCE MONITORING

The pilot test comprised construction of a subsurface PRB using Plumestop, and performance groundwater monitoring to evaluate changes in PFAS between locations up- and down-gradient of the PRB. The PRB was anticipated to bind PFAS in-place to an activated carbon matrix, reducing their mobility in the subsurface, resulting in decreases in reported PFAS concentrations in groundwater collected from down-gradient monitoring wells. Maximum contaminant flux values reported from PFM sampling were used as the basis for design of the PRB.

4.2.1 Permeable Reactive Barrier Construction

Final PRB design included injection at 21 locations in the target depth interval of approximately 14 to 25 feet bgs, from the basement silt contact to the top of shallow groundwater as previously measured in monitoring well NWN-MW10. Final dimensions of the PRB were 15 feet wide by 55 feet long, oriented north-south (Figure 6). Injections were performed using a 1.5-inch-diameter direct-push injection tool string with a 3-foot-long sheathed injection screen. Injection points were driven using a 78-series direct-push drill rig. Plumestop reagent was mixed on the Property to a final concentration of 24,000 milligrams concentrate per liter solution, and was injected at rates of 3.5 to 7 gallons per minute.

Well head injection pressures typically ranged from 10 to 25 pounds per square inch, although pressures of 70 pounds per square inch or more were occasionally recorded at intervals close to basement silt. Surface returns were not observed. Plumestop placement was confirmed through post-injection coring in the PRB, where visual staining of soil with carbon was observed. Real-time monitoring of subsurface distribution of Plumestop also was performed at a temporary piezometer in the central portion of the PRB and at down-gradient monitoring well NWN-MW10 (Figure 8).

Due to the presence of basement silt at a depth of approximately 25 feet bgs, the final PRB treatment interval was reduced from the originally planned 16 vertical feet to 11 vertical feet, covering the saturated interval observed at monitoring well NWN-MW10 (Figure 3). The final dimensions of the PRB were increased by 10 linear feet from the originally planned 42 feet to 55 feet, and the concentration of the injection solution was increased from a design concentration of approximately 22,000 milligrams concentrate per liter to the final injected concentration of 24,000 milligrams concentrate per liter. The increased injected concentration is anticipated to extend the overall performance life of the PRB from the estimated baseline 15-year design by providing additional sorption capacity.

Field observations of PRB construction indicated that the coarse sand and gravel present in the saturated subsurface below both the NWN AFFF Training Area and the Median Strip AFFF Training Area are suitable for treatment with injected remedial solution. Field verification tests indicated that PRB construction achieved the intended radius of influence, and provided comprehensive coverage of the saturated subsurface without posing serious construction challenges (e.g., refusal to accept injections, high pressure/low flow injection monitoring, surface returns). Due to the coarse nature of the sand and gravel in the saturated subsurface of the Property, a more-powerful direct-push drill rig or permanently installed remediation wells may be required for deeper design depths.

4.2.2 Performance Monitoring

A steep decline in concentrations of PFAS in groundwater at monitoring well NWN-MW10, located immediately down-gradient of the PRB, was reported during PRB performance monitoring between October 2021 and February 2022. All reported concentrations of PFAS having SALs (i.e., PFBS, PFHxS, PFOA, PFOS, and PFNA) declined by an order of magnitude or more (Tables 7 and 8; Appendix E). Concentrations of PFHxS, and PFOS in groundwater, which exceeded SALs prior to PRB construction, declined to less than SALs in the sampling event following PRB injections. PFHxS concentrations in groundwater remained below the SAL in the subsequent two monitoring events. PFOS concentrations rebounded slightly but overall reductions were sustained and concentrations were limited to 2 to 3 times the SAL value in the subsequent two monitoring events (Table 8). Concentrations of PFNA declined from 0.17 µg/l in October 2021 prior to PRB installation to less than the laboratory method reporting limit at the end of the performance monitoring period in February 2022.

Concentrations of PFOS declined by approximately two orders of magnitude, from a maximum concentration of 2.6 µg/l in September 2021 to approximately 0.026 µg/l in February 2022, approaching the SAL of 0.015 µg/l (Appendix E). The reduction in PFOS concentrations in groundwater at monitoring well NWN-MW10 was sustained throughout the monitoring period, and did not show a response to changes in groundwater elevation. Conversely, neither the decline in PFOS concentrations measured in monitoring well NWN-MW10 nor the de-coupling between groundwater elevation and reported PFOS concentrations was noted for PFOS (or other PFAS) in groundwater samples collected from monitoring wells in the NWN AFFF Training Area up-gradient of the PRB (e.g., monitoring wells NWN-MW04, NWN-MW12).

Concentrations of PFAS measured in groundwater collected from monitoring well NWN-MW06, cross-gradient to the PRB, declined relative to analytical results for samples collected prior to PRB construction. However, the overall reductions were not as significant as those observed in samples collected from monitoring well NWN-MW10, directly down-gradient of the PRB. Concentrations of PFAS in groundwater also continued to show some response to changes in groundwater elevation during the performance monitoring period. The analytical results indicate that PFAS concentrations in groundwater at monitoring well NWN-MW06 have been measurably reduced by the PRB; however, because of its position relative to the zone of treatment (proximate but also cross-gradient) and the untreated up-gradient source in in the NWN AFFF Training Area, the effects were damped when compared with the down-gradient monitoring wells results.

PFAS concentrations measured in groundwater at monitoring well NWN-MW07, down-gradient of monitoring well NWN-MW10, continued to respond to changes in groundwater elevation. PFAS concentrations reported in groundwater samples collected from monitoring well NWN-MW07 during the final performance monitoring event, conducted in February 2022, indicate that improvement in down-gradient water quality may have reached this location, although additional sampling is required to confirm a long-term reduction in PFAS concentrations at this location. No observable effects on PFAS concentrations in groundwater were reported in samples collected from monitoring wells NWN-MW03 and NWN-MW09, located in the median strip where additional AFFF impact to groundwater previously was identified.

5.0 DATA GAPS

Data gaps at the Property associated with the PFAS "site" as defined under MTCA that were identified or remain to be addressed after the conclusion of the Study are discussed below.

- Concentrations of PFAS detected in groundwater collected from monitoring well NWN-MW13, located on the western edge and up-gradient of the NWN AFFF Training Area, exceeded SALs. Additional PFAS impacts associated with historical AFFF training may be present in the subsurface west of the NWN AFFF Training Area. The lack of bounding of PFAS impacts in soil and groundwater west of the Property represents a data gap. Additional discrete soil sampling west of the NWN AFFF Training Area is recommended to address this data gap.
- PFAS impacts to soil and groundwater may exist under buildings on the north-adjacent property (205 Newport Way Northwest). The lack of data for the north-adjacent property has been identified as a data gap. Additional evaluation of potential source material through installation of a shallow/intermediate well pair north of the 205 Newport Way Northwest property is recommended to address this data gap.

6.0 QUALITY ASSURANCE AND QUALITY CONTROL

Raw analytical data received from ALS were evaluated for the data quality indicators precision, accuracy, representativeness, comparability, completeness, and sensitivity in accordance with the criteria identified in the Work Plan. Based on the measurement quality objectives presented in the Work Plan and summarized below, the analytical results presented in this Report are considered usable and representative of environmental conditions, and may be reported as final data. Analytical results for the quality assurance and quality control samples equipment rinsate blanks, and field blanks are presented in Tables 9 and 10. Complete laboratory analytical reports are provided in Appendix C.

6.1 PRECISION

Precision for PFAS measurements having SALs was evaluated through calculation of the relative percent difference between analytical results for the following field sample/field duplicate sample pairs:

- Primary sample NWN-MW10-20210901 and field duplicate NWN-MW99-20210901;
- Primary sample NWN-MW10-20211018 and field duplicate NWN-MW99-20211018;
- Primary sample NWN-MW10-20211209 and field duplicate NWN-MW99-20211209;
- Primary sample NWN-MW10-20220118 and field duplicate NWN-MW99-20220118; and
- Primary sample NWN-MW10-20220217 and field duplicate NWN-MW99-20220217.

All relative percent difference values for PFAS primary and field duplicate sample results were less than the target value of 40 percent for results detected at five times the laboratory method reporting limit.

6.2 ACCURACY

Accuracy for PFOA and PFOS measurements was evaluated using the laboratory spike percent recovery reported by ALS for each sample. Trip blanks, rinsate blanks, and field blanks also were analyzed to assess sample cross-contamination during collection and/or potential contamination during transport. ALS also ran laboratory method blanks with each sample delivery group to assess sample cross-contamination following receipt at the laboratory and subsequent preparation for analysis.

Target control limits were set by ALS. Samples whose analytical precision may have been affected by matrix interference or other effects outside of standard control limits were flagged as estimates (i.e., a "J" flag was applied by the laboratory). Laboratory case narratives identified a limited number of instances in which analytical result data quality may have been affected; however, the potential bias or variability in analytical results (flagged as estimates) were not significant when compared to reported PFAS detections or SALs. No results were rejected by the analytical laboratory.

PFOA and PFOS were detected in three rinsate blanks and two trip blanks over the course of data collection (Tables 9 and 10). Reported detections were estimated at less than 1 part per trillion in all blanks (i.e., less than 0.001 µg/l). No analytical results were identified in either sample delivery group where blank contamination was reported at concentrations that approached SALs and would potentially result in a reported exceedance due to analytical error.

Quality control analytical results indicated the following:

- Field collection methods did not introduce PFAS into media sampled at concentrations that would affect either the validity or the interpretation of final analytical results;
- Field decontamination procedures were adequate to reduce the presence of PFAS on reusable field equipment to concentrations less than the laboratory method reporting limit;
- Disposable field equipment such as groundwater sample tubing did not introduce PFAS into samples at concentrations exceeding the laboratory method reporting limit; and
- Collection and transport of samples packaged in coolers with wet ice to maintain proper preservation did not introduce PFAS into samples at concentrations that may affect either the validity or the interpretation of final analytical results.

6.3 REPRESENTATIVENESS AND COMPARABILITY

Samples were collected using standard methods in accordance with the requirements of the Work Plan, and were analyzed by an analytical laboratory having current certification from the U.S. Department of Defense Environmental Laboratory Accreditation Program for PFAS in soil and groundwater by Modified EPA Method 537 (U.S. Department of Defense and U.S. Department of Energy 2019. These practices satisfy the Work Plan requirements for representativeness and comparability.

6.4 COMPLETENESS

Completeness is defined as the percentage of measurements judged to be valid. Results are considered valid if they are not rejected during data review and validation. None of the analytical results were rejected as part of the data review and validation and quality assurance/quality control process. The Study therefore meets the Work Plan target for completeness.

6.5 SENSITIVITY

Modified EPA Method 537 achieved project sensitivity standards by maintaining method detection limits sufficiently low to evaluate concentrations of PFAS in soil and groundwater relative to ACULs and SALs, including those for unrestricted land use, protection of groundwater from unsaturated soil, and groundwater. The analytical results generated through the Study field characterization program therefore meet the Work Plan requirements for sensitivity.

7.0 CONCLUSIONS

Farallon has prepared this Report on behalf of EFR to summarize work performed, analytical results, and performance results for the pilot test conducted at the Property. Additional sampling was performed to: further refine the nature and extent of PFAS impacts in the subsurface at the NWN AFFF Training Area; document baseline conditions prior to pilot testing; inform the pilot test design; and evaluate pilot test efficacy. Work was performed in accordance with the Work Plan approved in March 2021. Field investigation work, including PRB pilot testing, was conducted between June 10, 2021 and February 17, 2022.

Ecology has identified PFAS as hazardous substances under MTCA. The field investigation and pilot testing were performed consistent with the requirements of MTCA, as established in Chapter 173-340 of the Washington Administrative Code. At the time investigation work was completed, Ecology had not published soil or groundwater cleanup levels in the Cleanup Levels and Risk Calculation Database[3]; however, Ecology has calculated ACULs for soil, and identified SALs as relevant and appropriate standards for groundwater. Therefore, these standards were used to evaluate PFAS concentrations in soil and groundwater. This section provides Farallon's conclusions regarding Property geology and hydrogeology, additional characterization, pilot test results, and Study performance Detailed discussion of the work performed and results was provided in preceding sections.

7.1 PROPERTY GEOLOGY AND HYDROGEOLOGY

Observed lithology at the Property was consistent with that noted during previous evaluations of the subsurface. Advancement of additional borings confirmed that basement silt, previously identified at borings NWN-R01 and NWN-R02 and monitoring wells NWN-MW04 and NWN-MW09 (Figures 3 and 4), is continuously present under the NWN AFFF Training Area. Additional monitoring wells installed in the eastern portion of the NWN AFFF Training Area and farther east on the Property (e.g., monitoring wells NWN-MW15 and NWN-MW16) further refined and added control to groundwater flow directions and gradients on the Property.

Depths to shallow groundwater at the Property fluctuated seasonally. Depths to groundwater of between approximately 13 and 25 feet bgs (approximately 65 to 75 feet North American Vertical Datum of 1988) were reported during low-water conditions in early fall (Figure 2). Groundwater elevations rose during late fall and winter periods to depths of between 1 and 17 feet bgs (approximately 71 to 82 feet North American Vertical Datum of 1988). Shallow groundwater flows to the east under the NWN AFFF Training Area, and transitions to a northerly flow on the eastern portion of the Property. Calculated shallow groundwater gradients ranged from approximately 0.019 to 0.047 foot per foot on the eastern portion of the Property during the Study period. Vertical gradients calculated for monitoring well pairs NWN-MW02/NWN-MW08 and NWN-MW03/NWN-MW03 indicated downward migration of shallow groundwater on both the central and eastern portions of the Property (Table 3). Calculated vertical gradients were downward, and calculated at between 0.011 and 0.046 foot per vertical foot. Intermediate

[3] Cleanup levels were published in the Ecology Cleanup Level and Risk Calculation Database in July 2022.

groundwater is not present on the western portion of the Property due to presence of the basement silt unit.

7.2 ADDITIONAL CHARACTERIZATION

PFAS were not reported at concentrations exceeding ACULs for direct contact in an industrial exposure scenario in any soil sample. The highest concentrations of PFAS were detected in the central portion of the NWN AFFF Training Area and declined toward the edges, with the lowest concentrations detected proximate to the southern edge of the NWN AFFF Training Area. PFAS concentrations exceeding ACULs for protection of unsaturated and saturated groundwater were detected in soil during additional sampling conducted proximate to the western Property boundary. Additional evaluation of soil impacts west of the NWN AFFF Training Area is therefore recommended.

Concentrations of PFAS in groundwater were highest in the NWN AFFF Training Area, which has the longest and most frequent history of use. PFAS concentrations in groundwater samples collected from up-gradient wells were lower than those in AFFF training areas, including the Median Strip AFFF Training Area. SAL exceedances for PFHxS, PFOA, PFOS, and PFNA generally were co-located in both training areas.

Concentrations of PFAS detected in shallow groundwater correlated positively with groundwater elevation, indicating that shallow soil in both AFFF training areas continues to act as a source to groundwater during seasonal periods of saturation. Groundwater elevation monitoring indicated fluctuations in groundwater elevation of up to approximately 10 vertical feet, which likely has created a smear zone of residual contamination that seasonally re-contaminates groundwater at the Property. Concentrations of PFAS in groundwater attenuate with migration away (both laterally and vertically) from confirmed sources.

Analytical results for PFMs reported Darcy groundwater flow velocities of approximately 6 centimeters per day across the majority of the Property, and slightly lower flow velocities at the western edge of the Property (e.g., monitoring well NWN-MW13). Calculated average mass fluxes were highest for PFOS and fluorotelomer sulfonic acids (e.g., 6:2 FTS and 8:2 FTS). Estimated mass fluxes for PFOS, which were the highest of any PFAS reported, ranged from 0.0357 micrograms per square meter per day in up-gradient monitoring well NWN-MW02 to 649 micrograms per square meter per day in monitoring well NWN-MW10, down-gradient of the NWN AFFF Training Area. Analytical results for conventional analytes and total petroleum hydrocarbons indicated that water quality on the Property was conducive to PRB treatment for PFAS, and that competition for sorption sites by non-PFAS analytes in groundwater was minimal.

7.3 PILOT TEST RESULTS

Study pilot testing comprised construction of a subsurface PRB using Plumestop, and performance groundwater monitoring to evaluate changes in PFAS between locations up- and down-gradient of the PRB. Monthly performance monitoring was performed from December 2021 through February 2022. Final PRB construction included injection at 21 locations in the target depth interval of approximately 14 to 25 feet bgs, from the basement silt contact to the top of shallow groundwater as observed in monitoring well NWN-MW10. The final barrier dimensions were 15 feet wide by 55 feet long, oriented north-south (Figure 6). Injections were performed using direct-push injection tooling through a 3-foot-long sheathed injection screen. Plumestop was mixed on the Property to a final concentration of 24,000 milligrams concentrate per liter solution, and was injected at rates of 3.5 to 7 gallons per minute. Plumestop placement was verified through confirmation coring and monitoring in temporary piezometers and proximate monitoring wells. Observations during construction indicated successful placement of Plumestop within the PRB, and confirmed the estimated working radius of influence of approximately 3.3 feet.

PRB performance monitoring reported a steep decline in concentrations of PFAS in groundwater at monitoring well NWN-MW10, immediately down-gradient of the PRB. Reported concentrations of all PFAS having SALs (i.e., PFBS, PFHxS, PFOA, PFOS, and PFNA) declined by an order of magnitude or more (Tables 7 and 8; Appendix E). Concentrations of PFHxS, which exceeded SALs prior to PRB construction, declined to less than SALs during the performance monitoring period. Concentrations of PFOS, which initially exceeded the SAL, dropped to less than the SAL immediately following PRB construction before rebounding slightly. Overall reductions in PFOS concentrations were sustained, and reported detections were limited to approximately 2 and 3 times the SAL in the final two performance monitoring events. Concentrations of PFNA declined from 0.17 µg/l immediately prior to PRB installation to less than the laboratory method reporting limit at the end of the performance monitoring period.

Concentrations of PFOS in groundwater, which were the highest of the PFAS quantitated, declined by approximately two orders of magnitude from a maximum concentration of 2.6 µg/l to approximately 0.026 µg/l, approaching the SAL of 0.015 µg/l (Appendix E). The reduction in PFOS concentrations in groundwater at monitoring well NWN-MW10 was sustained throughout the monitoring period, and did not show a response to changes in groundwater elevation.

Historically, PFOS concentrations in groundwater were positively correlated with groundwater elevation, consistent with the suspected smear zone within the range of seasonal groundwater fluctuations. However, following completion of the PRB, concentrations of PFOS (and PFAS) reported in groundwater samples collected from monitoring well NWN-MW10 cease to correlate with changes in groundwater elevation. Conversely, monitoring wells up-gradient of the PRB continued to reflect the positive correlation between PFAS concentrations and groundwater elevation.

Performance monitoring results indicate that injected colloidal activated carbon products such as Plumestop provide a technically feasible treatment technology for PFAS in groundwater at the Property. Additional steps to further enhance overall performance may include construction of a wider PRB and/or reducing concentrations of PFAS entering the zone of treatment through source removal, capping, or other means such as mechanical soil mixing of carbon amendments in the source area. Subsurface conditions are conducive to construction of a full-scale barrier to immobilize PFAS in the subsurface, reducing their long-term mobility and impacts to groundwater. Complete cleanup alternatives, which were not evaluated as part of the current scope of work, will be developed through a future Feasibility Study that will evaluate additional remedial technologies potentially including, in addition to potential construction of a full-scale PRB, capping and limited source removal and disposal off the Property.

7.4 STUDY PERFORMANCE

The overall purpose of the Study was to further assess potential impacts of PFAS associated with AFFF training exercises to soil and groundwater at the NWN AFFF Training Area, and to perform and evaluate a PRB pilot test. This overall purpose was satisfied through: additional sampling and analysis in accordance with the Work Plan; construction of the PRB; and performance monitoring for groundwater following PRB construction. Specific Study objectives were met through the following Study components:

- Performing additional characterization of the NWN AFFF Training Area subsurface through the advancement and sampling of borings NWN-R19 through NWN-R22, NWN-MW10, and NWN-MW12 through NWN-MW16;
- Installing a PRB using Plumestop colloidal activated carbon in October 2021;
- Conducting performance groundwater monitoring to evaluate the treatment efficacy of the PRB in removing PFAS from groundwater flowing through the treatment zone; and
- Providing recommendations for full-scale treatment using PRB and other technologies, as appropriate.

Study results met Work Plan requirements for quality assurance and quality control. The satisfaction of the specific Study objectives with final data concludes this phase of work.

8.0 REFERENCES

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9.0 LIMITATIONS

9.1 GENERAL LIMITATIONS

The conclusions contained in this report/assessment are based on professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location. The conclusions contained herein are subject to the following inherent limitations:

- **Accuracy of Information**. Farallon obtained, reviewed, and evaluated certain information used in this report/assessment from sources that were believed to be reliable. Farallon's conclusions, opinions, and recommendations are based in part on such information. Farallon's services did not include verification of its accuracy or authenticity. Should the information upon which Farallon relied prove to be inaccurate or unreliable, Farallon reserves the right to amend or revise its conclusions, opinions, and/or recommendations.
- **Reconnaissance and/or Characterization**. Farallon performed a reconnaissance and/or characterization of the Site that is the subject of this report/assessment to document current conditions. Farallon focused on areas deemed more likely to exhibit hazardous materials conditions. Contamination may exist in other areas of the that were not investigated or were inaccessible. Activities beyond Farallon's control could change the nature and extent of impacts at any time after the completion of this report/assessment.

For the foregoing reasons, Farallon cannot and does not warrant or guarantee any specific location is free of hazardous or potentially hazardous substances or conditions, or that latent or undiscovered conditions will not become evident in the future. Farallon's observations, findings, and opinions can be considered valid only as of the date of the report.

This report/assessment has been prepared in accordance with the contract for services between Farallon and Eastside Fire & Rescue, and currently accepted industry standards. No other warranties, representations, or certifications are made.

9.2 LIMITATION ON RELIANCE BY THIRD PARTIES

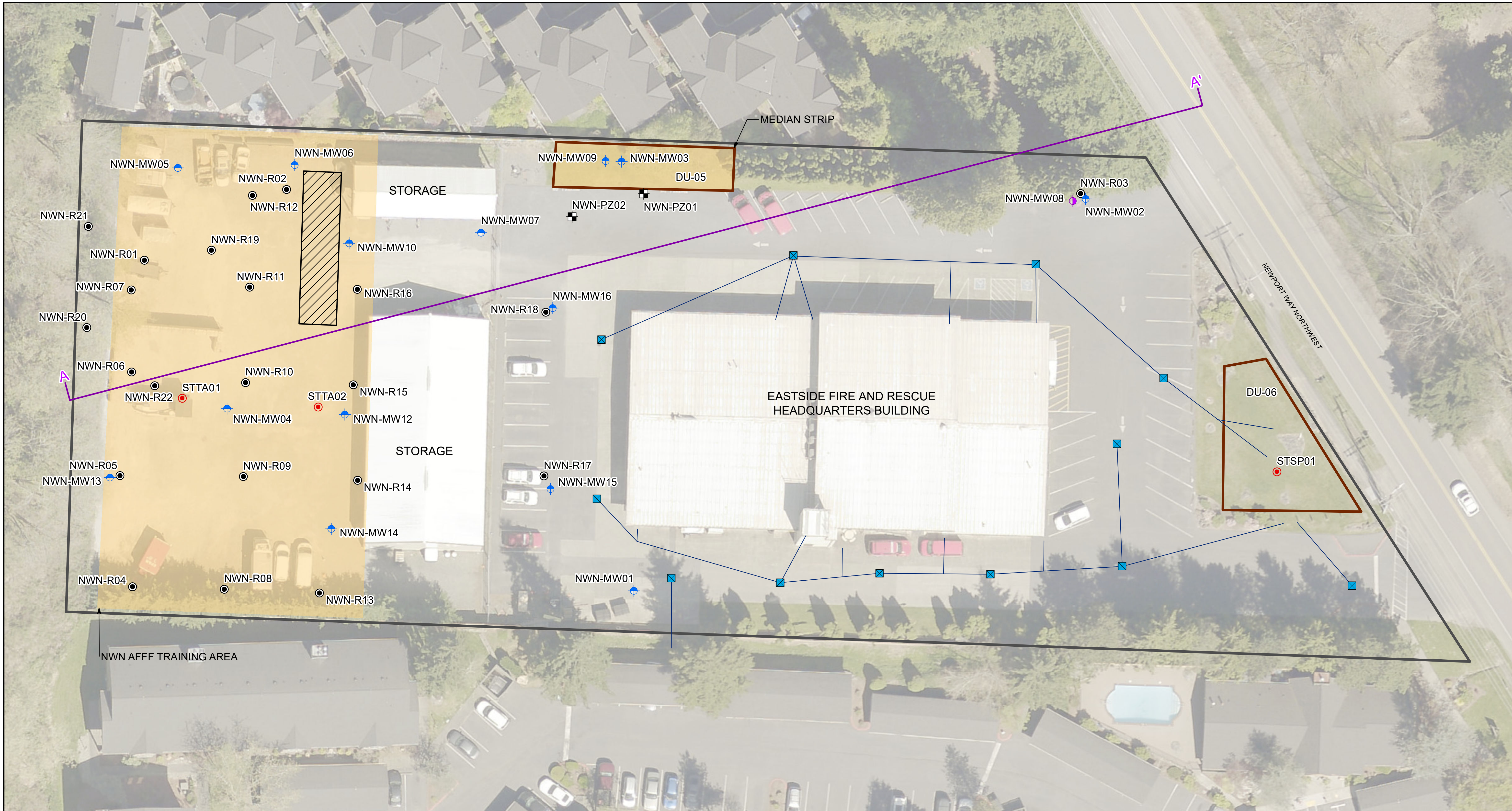
Reliance by third parties is prohibited. This report/assessment has been prepared for the exclusive use of the Eastside Fire & Rescue to address the unique needs of Eastside Fire & Rescue at a specific point in time. Any party provided a copy of this report by Eastside Fire & Rescue is subject to the same limitations as Eastside Fire & Rescue.

This is not a general grant of reliance. Any unauthorized use, interpretation, or reliance on this report/assessment is at the sole risk of that party, and Farallon will have no liability for such unauthorized use, interpretation, or reliance.

FIGURES

PER- AND POLY-FLUOROALKYL SUBSTANCES
PILOT STUDY SUMMARY REPORT
175 Newport Way Northwest
Issaquah, Washington

Farallon PN: 1754-005



LEGEND

- BORING
- GEOSYNTEC SAMPLE
- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- PIEZOMETER
- CATCH BASIN
- STORMWATER LINE
- PROPERTY BOUNDARY
- MULTI-INCREMENTAL SAMPLING DECISION UNIT
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- PILOT TEST PERMEABLE REACTIVE BARRIER
- A A' LINE OF CROSS-SECTION

0 40
SCALE IN FEET

N

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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FIGURE 1

175 NEWPORT WAY NORTHWEST PROPERTY PLAN
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-005

Drawn By: jjones | Checked By: EB | Date: 6/1/2022 | Disc Reference:

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LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- PIEZOMETER
- PILOT TEST PERMEABLE REACTIVE BARRIER
- PROPERTY BOUNDARY

9/01/2021 | 73.37 SAMPLE DATE | GROUNDWATER ELEVATION MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988

APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

N

0 40

SCALE IN FEET

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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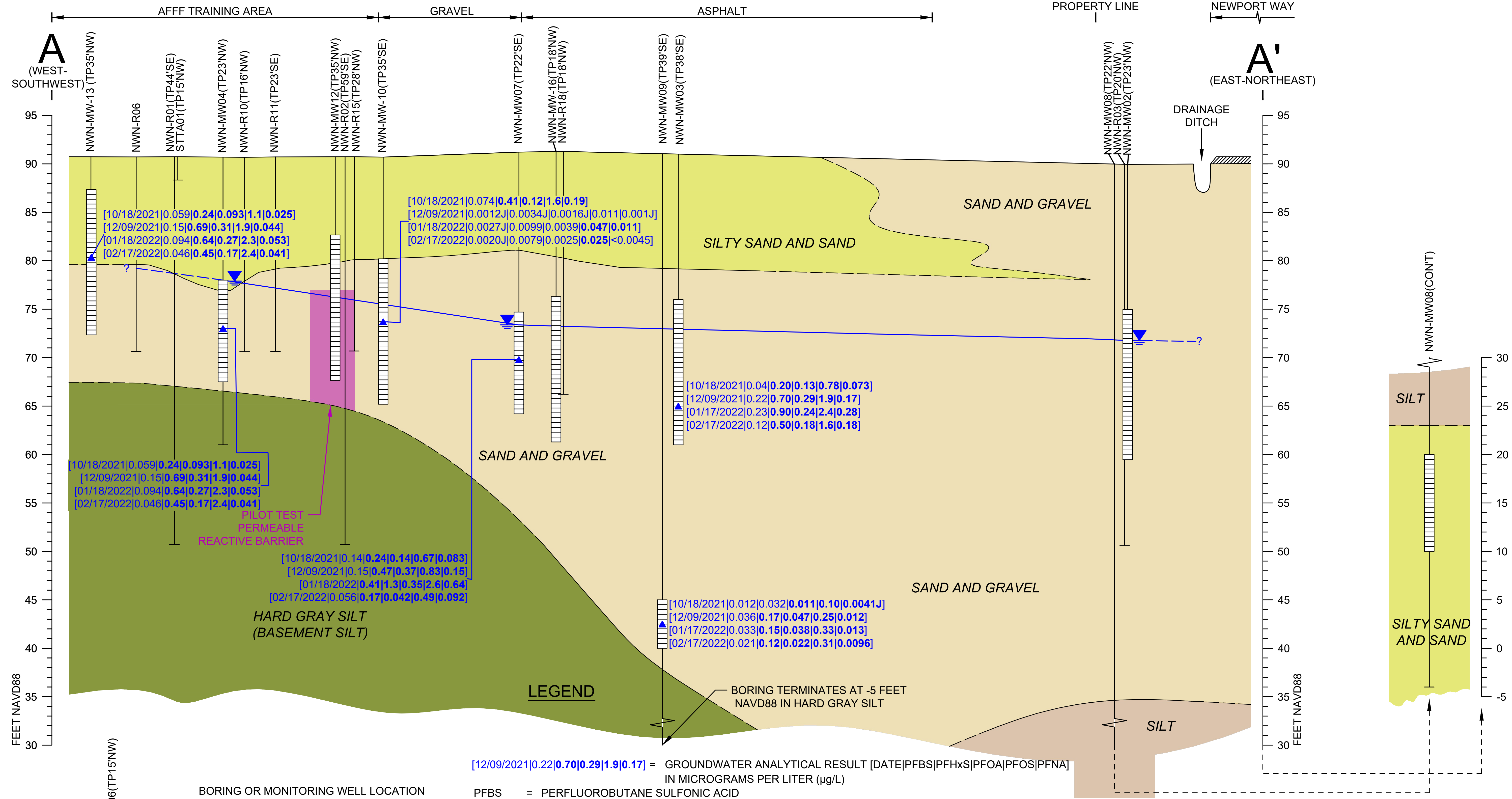
FIGURE 2

GROUNDWATER ELEVATIONS
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON

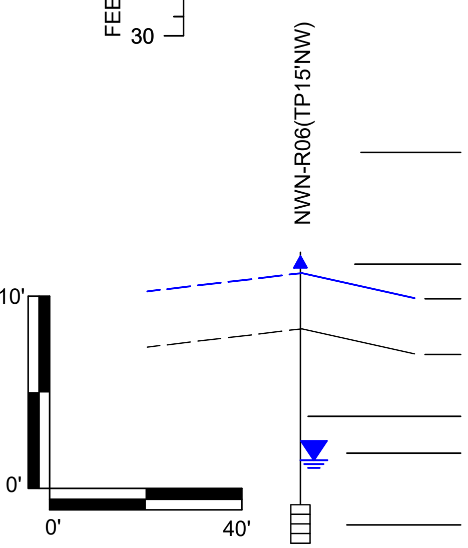
FARALLON PN: 1754-005

Drawn By: lmurock | Checked By: EB | Date: 7/28/2022 | Disc Reference:

Q:\Projects\1754 EastsideFireRescue\1754-005 175 Newport Way NW\Mapfiles\004_SiteUpdate_2021-11\Figure-02_GroundwaterElevations.mxd



LEGEND



BORING OR MONITORING WELL LOCATION TRANSPOSED (TP) IN FEET, NORTHWEST (NW) OR SOUTHEAST (SE), TO CROSS-SECTION LINE

GROUNDWATER SAMPLE

GROUNDWATER LEVEL (DASHED WHERE INFERRED)

STRATIGRAPHIC CONTACT (DASHED WHERE INFERRED)

BLANK CASING OR BORING

GROUNDWATER ELEVATION (APRIL 13, 2020)

WELL SCREEN

[12/09/2021|0.22|**0.70**|**0.29**|**1.9**|**0.17**] = GROUNDWATER ANALYTICAL RESULT [DATE|PFBS|PFHxS|PFOA|PFOS|PFNA] IN MICROGRAMS PER LITER (µg/L)

PFBS = PERFLUOROBUTANE SULFONIC ACID
PFHxS = PERFLUOROHEXANE SULFONIC ACID
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
PFNA = PERFLUORONONANOIC ACID
J = DENOTES RESULT IS AN ESTIMATE
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT
BOLD = DENOTES CONCENTRATIONS THAT EXCEED APPLICABLE WASHINGTON STATE DEPARTMENT OF ECOLOGY INVESTIGATORY LEVELS
NAVD88 = NORTH AMERICAN VERTICAL DATUM OF 1988
AFFF = AQUEOUS FILM FORMING FOAM

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

NOTES (CON'T):
3. STANDARD PRODUCT NAMES ARE PROVIDED FOR PFOS AND PFOA. BOTH COMPOUNDS WILL BE IN THEIR IONIC FORM WHEN ENCOUNTERED IN THE ENVIRONMENT.
4. ADDITIONAL ANALYTICAL DATA AVAILABLE IN REPORT TABLES.

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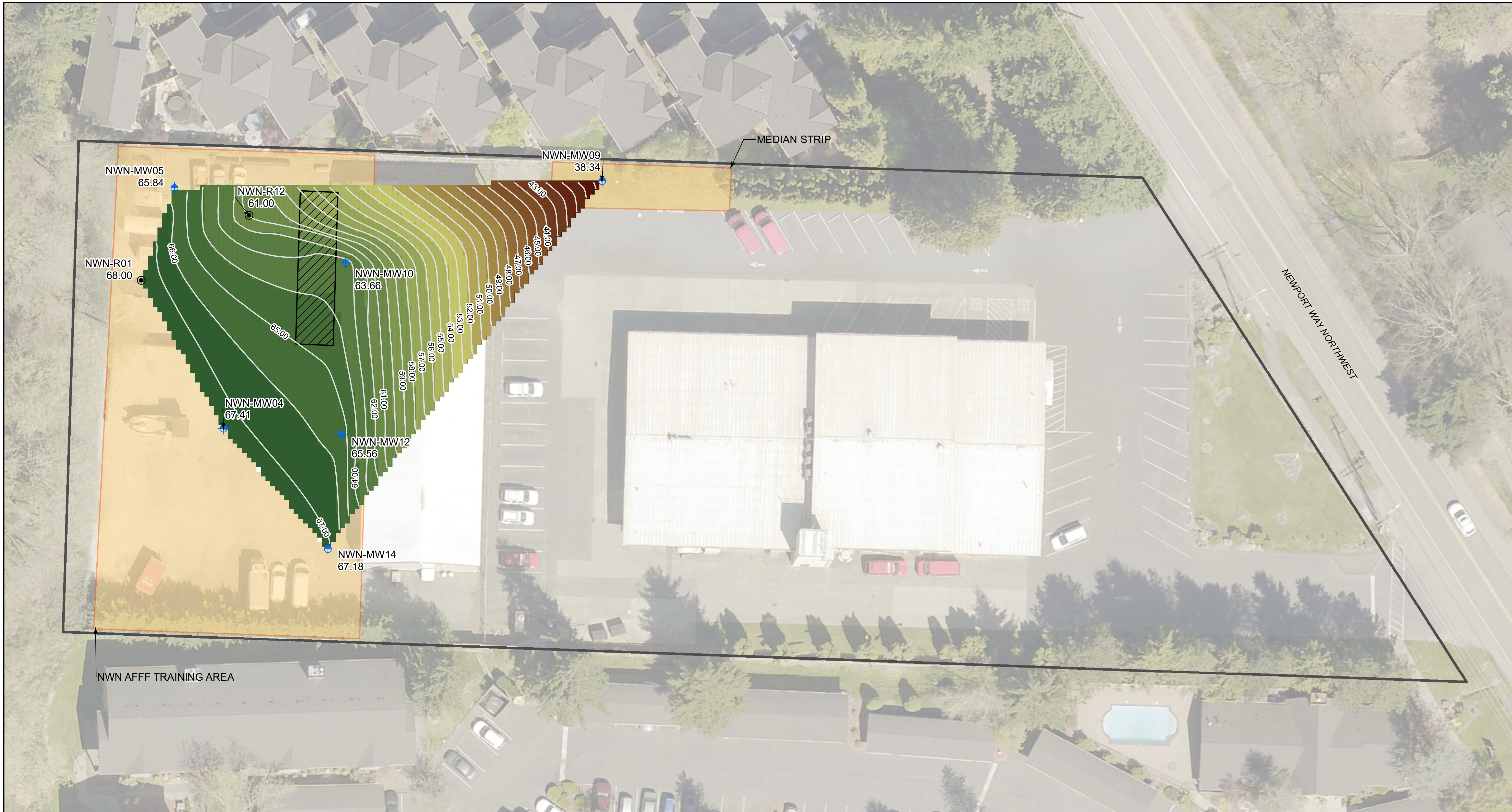
Drawn By: NM   Checked By: EB

FIGURE 3

CROSS SECTION A-A'
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-005

R:\Projects\1754-005\CAD\1754-005 X Section A-A.dwg 7/29/2022 9:23 AM (Nick Miller)



LEGEND

- BORING
- SHALLOW MONITORING WELL
- PILOT TEST PERMEABLE REACTIVE BARRIER
- PROPERTY BOUNDARY
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA

67.00 — INTERPOLATED ELEVATION CONTOUR OF HARD GRAY SILT

67.41 — ELEVATION OF CONTACT OF HARD GRAY SURFACE IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988

68.00' – 38.34' — INTERPOLATED ELEVATION OF CONTACT OF HARD GRAY SURFACE (NAVD88)

N

0 40
SCALE IN FEET

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FIGURE 4

ELEVATION OF HARD GRAY SILT CONTACT
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-005

Drawn By: jjones | Checked By: EB | Date: 6/1/2022 | Disc Reference:
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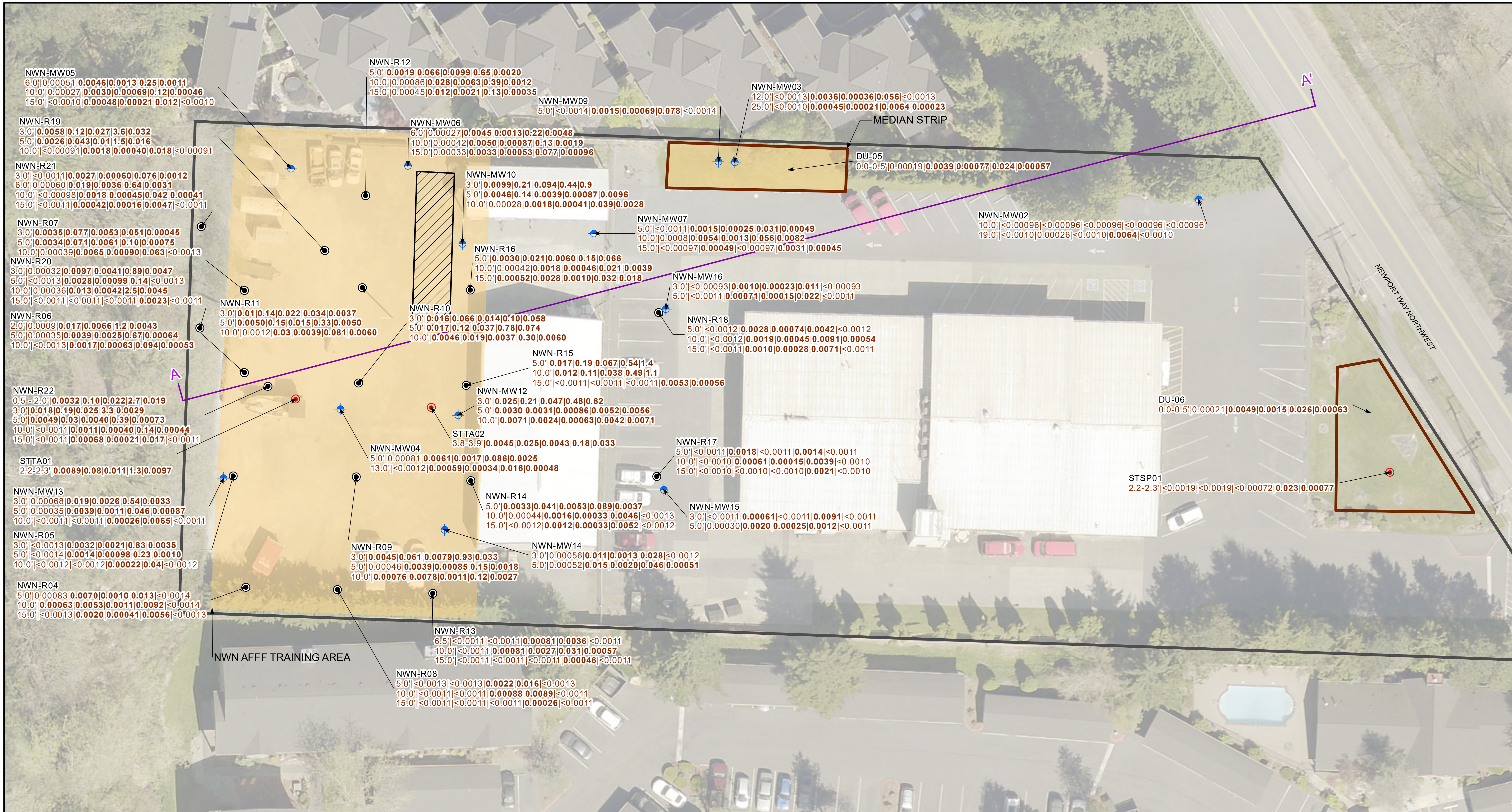

LEGEND

- BORING
- GEOSYNTEC SAMPLE
- SHALLOW MONITORING WELL
- PILOT TEST PERMEABLE REACTIVE BARRIER
- PROPERTY BOUNDARY
- MULTI-INCREMENTAL SAMPLING DECISION UNIT (DU)
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- A A' LINE OF CROSS-SECTION

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH IN FEET BELOW GROUND SURFACE (BGS) | PFBS | PFHxS | PFOA | PFOS | PFNA
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION CLEANUP LEVEL.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED.
PFAS = PER- AND POLYFLUOROALKYL SUBSTANCES
PFBS = PERFLUOROBUTANE SULFONIC ACID
PFHXS = PERFLUOROHEXANE SULFONIC ACID
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
PFNA = PERFLUORONONANOIC ACID

0 40
SCALE IN FEET

N

NOTES:
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FIGURE 5

SOIL ANALYTICAL RESULTS
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-005

Drawn By: vpehlivan | Checked By: EB | Date: 6/17/2022 | Disc Reference:
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LEGEND

- BORING
- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- PILOT TEST PERMEABLE REACTIVE BARRIER
- PROPERTY BOUNDARY
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA

NOTES:

SAMPLE RESULTS HIGHLIGHTED IN GREEN REPRESENT RECONNAISSANCE BORING TEMPORARY WELL GROUNDWATER RESULTS

SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS

DATE SAMPLED, DEPTH, AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | DEPTH IN FEET BELOW GROUND SURFACE* | PFBS | PFHxS | PFOA | PFOS | PFNA

ANALYTICAL RESULTS IN MICROGRAMS PER LITER

* = WHERE A GROUNDWATER SAMPLE DEPTH WAS PROVIDED AS A DEPTH INTERVAL, THE MIDPOINT OF THE SAMPLE INTERVAL IS SHOWN ON THIS FIGURE.

PFAS = PER- AND POLYFLUOROALKYL SUBSTANCES
PFBS = PERFLUOROBUTANE SULFONIC ACID
PFHXS = PERFLUOROHEXANE SULFONIC ACID
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
PFNA = PERFLUORONONANOIC ACID
BOLD = DENOTES CONCENTRATIONS THAT EXCEED WASHINGTON DEPARTMENT OF HEALTH STATE ACTION LEVEL.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE

N

0 40
SCALE IN FEET

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FIGURE 6

GROUNDWATER ANALYTICAL RESULTS FOR PFAS
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-005

Drawn By: lmurock | Checked By: VT | Date: 7/28/2022 | Disc Reference:

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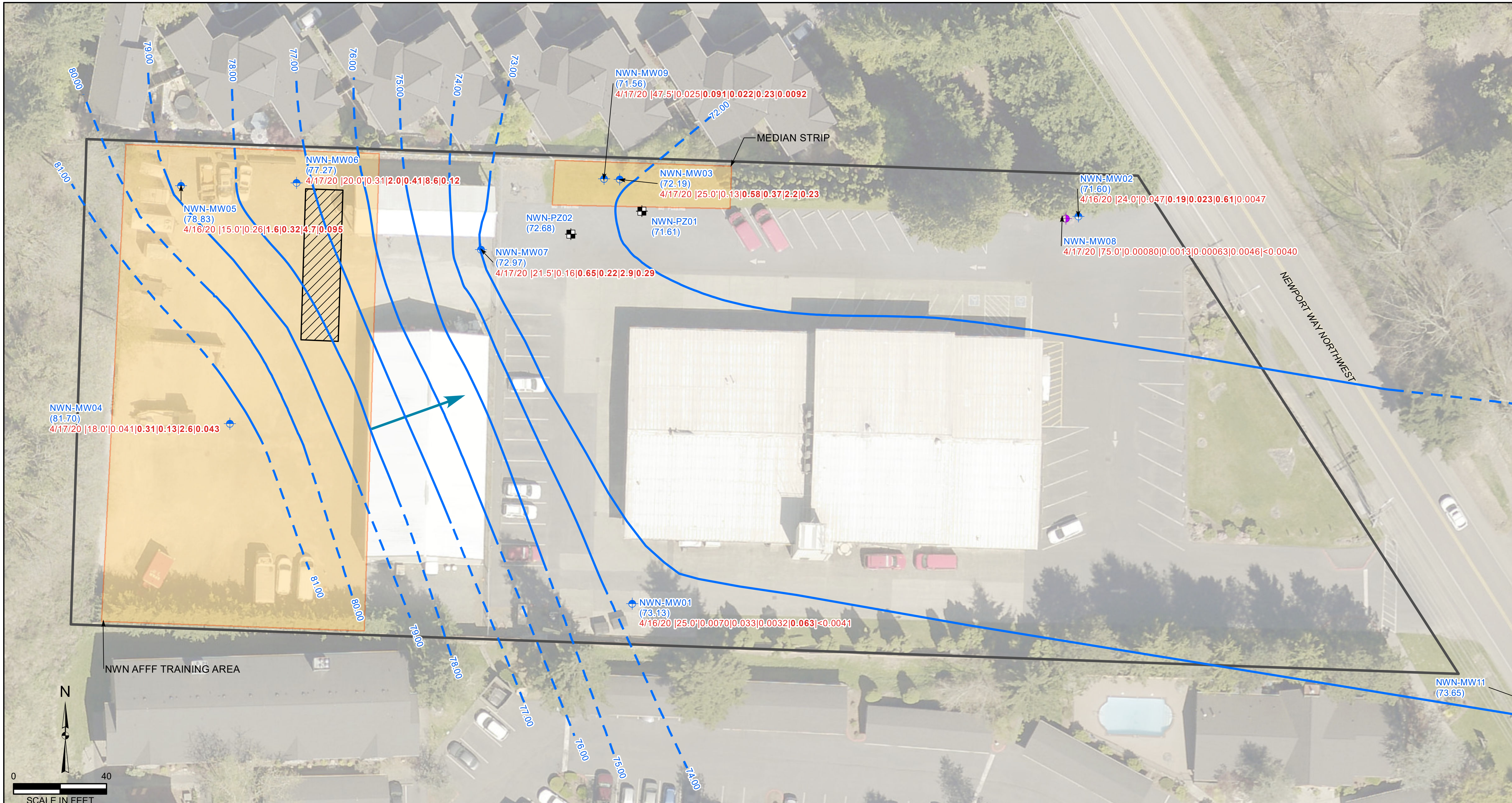

LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- PIEZOMETER
- PILOT TEST PERMEABLE REACTIVE BARRIER
- PROPERTY BOUNDARY
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

81.00 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)

(81.70) GROUNDWATER ELEVATION (04/13/20) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988

NOTES:
SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS
DATE SAMPLED, DEPTH, AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | DEPTH IN FEET BELOW GROUND SURFACE* | PFBS | PFHxS | PFOA | PFOS | PFNA
ANALYTICAL RESULTS IN MICROGRAMS PER LITER
* = WHERE A GROUNDWATER SAMPLE DEPTH WAS PROVIDED AS A DEPTH INTERVAL, THE MIDPOINT OF THE SAMPLE INTERVAL IS SHOWN ON THIS FIGURE.

PFAS = PER- AND POLYFLUOROALKYL SUBSTANCES
PFBS = PERFLUOROBUTANE SULFONIC ACID
PFHXS = PERFLUOROHEXANE SULFONIC ACID
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
PFNA = PERFLUORONONANOIC ACID
BOLD = DENOTES CONCENTRATIONS THAT EXCEED WASHINGTON DEPARTMENT OF HEALTH STATE ACTION LEVEL.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE

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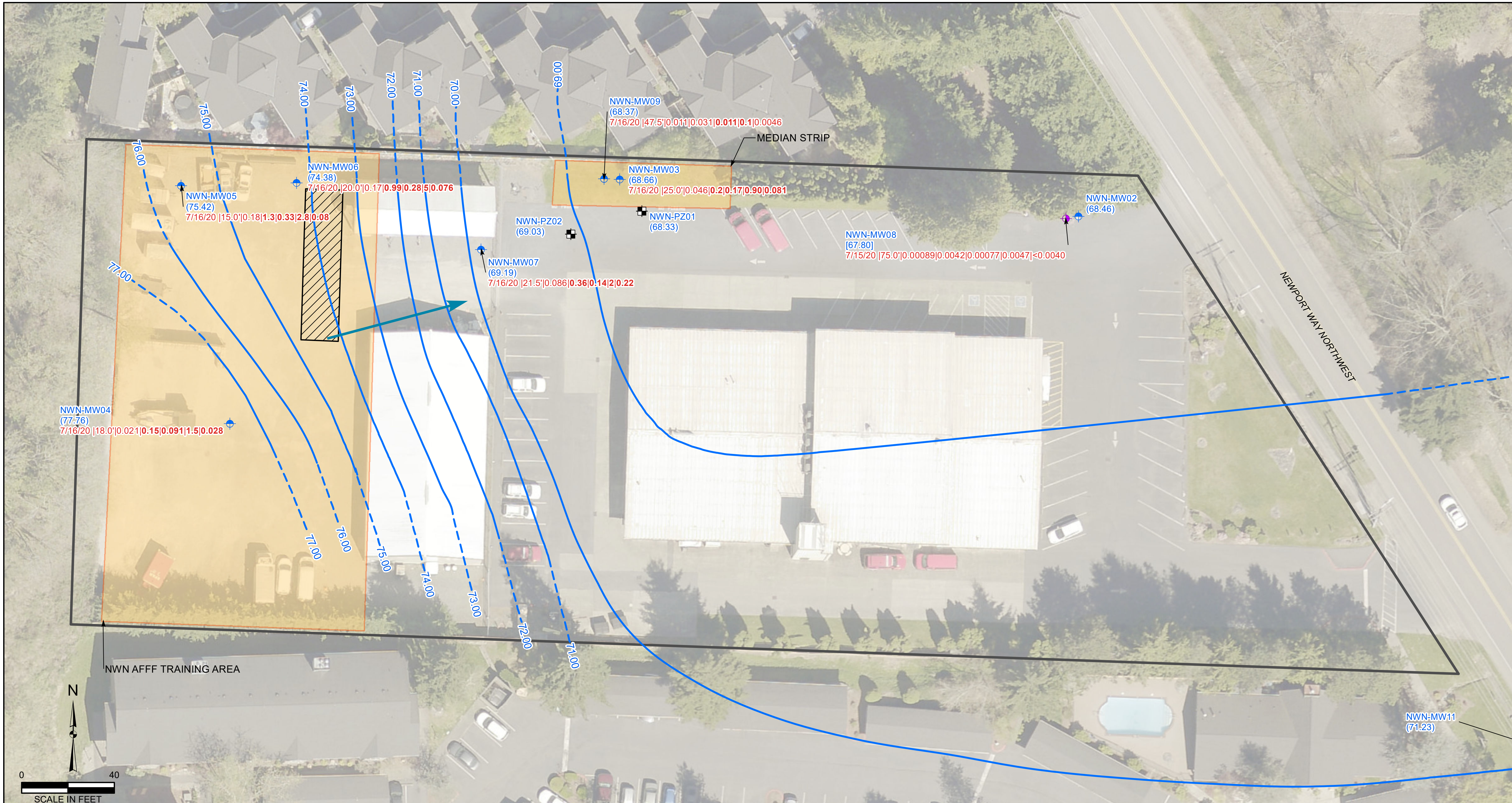
FIGURE 7A

GROUNDWATER ANALYTICAL RESULTS AND SHALLOW GROUNDWATER ELEVATIONS - APRIL 2020
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON
FARALLON PN: 1754-005

Drawn By: jjones | Checked By: EB | Date: 6/1/2022 | Disc Reference:
Q:\Projects\1754 EastsideFireRescue\1754-005 175 Newport Way NW\Mapfiles\004_SiteUpdate_2021-11\Figure-07A_NWN_GW_Elv_2020-04.mxd



LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WEL
- PIEZOMETER
- PILOT TEST PERMEABLE REACTIVE BARRIER
- PROPERTY BOUNDARY
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

78.00 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)

(77.76) GROUNDWATER ELEVATION (07/13/20) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988

[67.18] ELEVATION NOT USED IN CONTOUR DETERMINATION

NOTES:
INTERMEDIATE MONITORING WELLS NOT USED IN CONTOUR DETERMINATION
SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS
DATE SAMPLED, DEPTH, AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | DEPTH IN FEET BELOW GROUND SURFACE* | PFBS | PFHxS | PFOA | PFOS | PFNA
ANALYTICAL RESULTS IN MICROGRAMS PER LITER
* = WHERE A GROUNDWATER SAMPLE DEPTH WAS PROVIDED AS A DEPTH INTERVAL, THE MIDPOINT OF THE SAMPLE INTERVAL IS SHOWN ON THIS FIGURE.

PFAS = PER- AND POLYFLUOROALKYL SUBSTANCES
PFBS = PERFLUOROBUTANE SULFONIC ACID
PFHXS = PERFLUOROHEXANE SULFONIC ACID
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
PFNA = PERFLUORONONANOIC ACID
BOLD = DENOTES CONCENTRATIONS THAT EXCEED WASHINGTON DEPARTMENT OF HEALTH STATE ACTION LEVEL.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE

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FIGURE 7B
GROUNDWATER ANALYTICAL RESULTS AND SHALLOW GROUNDWATER ELEVATIONS - JULY 2020
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON
FARALLON PN: 1754-005

Drawn By: jjones | Checked By: EB | Date: 6/1/2022 | Disc Reference:
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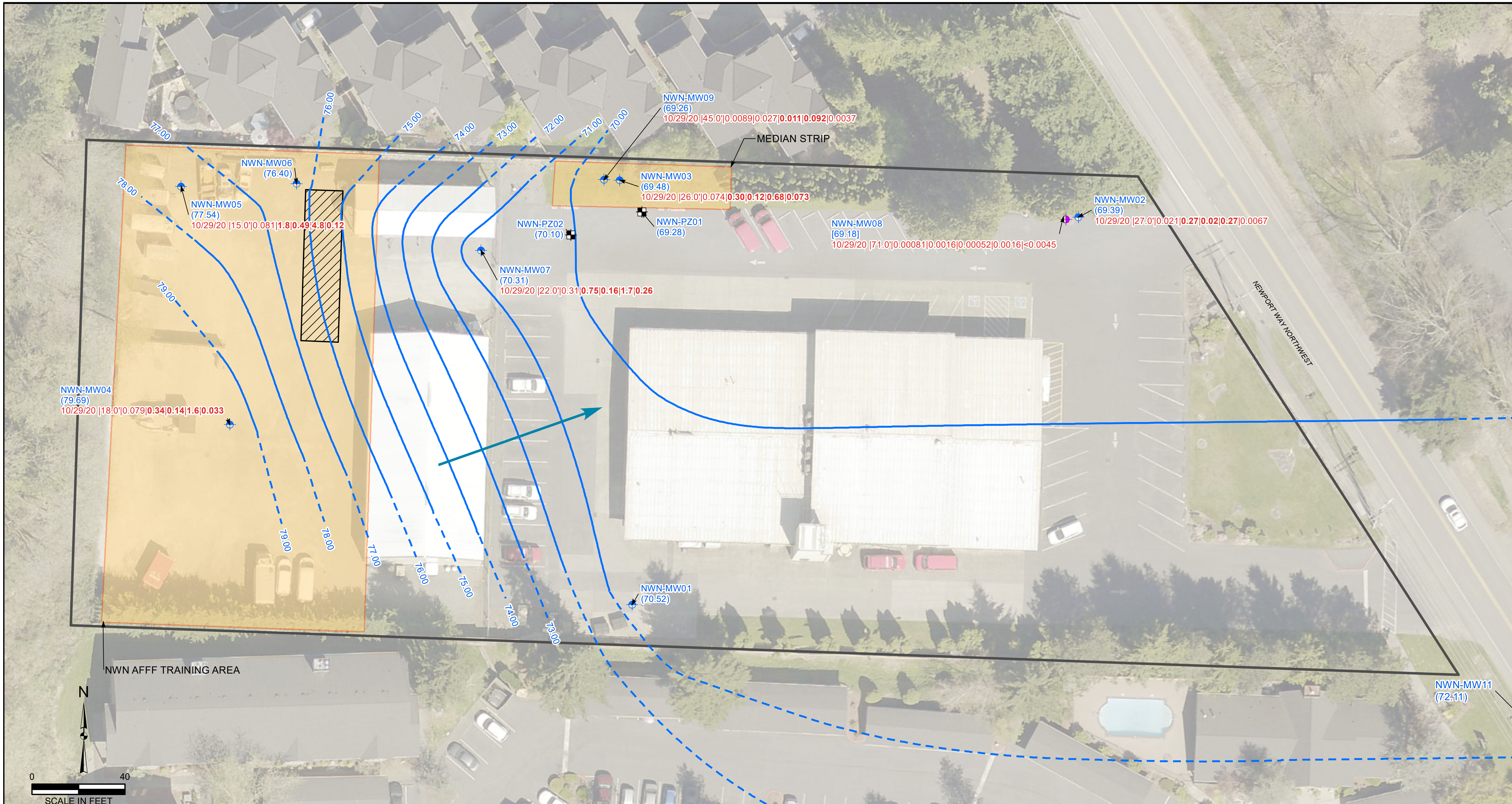

LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- PIEZOMETER
- PILOT TEST PERMEABLE REACTIVE BARRIER
- PROPERTY BOUNDARY
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

78.00 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)

(81.70) GROUNDWATER ELEVATION (10/29/20) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988

[69.18] GROUNDWATER ELEVATION NOT USED IN CONTOUR DETERMINATION

NOTES:
INTERMEDIATE MONITORING WELL NOT USED IN CONTOUR DETERMINATION
SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS
DATE SAMPLED, DEPTH, AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | DEPTH IN FEET BELOW GROUND SURFACE* | PFBS | PFHxS | PFOA | PFOS | PFNA
ANALYTICAL RESULTS IN MICROGRAMS PER LITER
* = WHERE A GROUNDWATER SAMPLE DEPTH WAS PROVIDED AS A DEPTH INTERVAL, THE MIDPOINT OF THE SAMPLE INTERVAL IS SHOWN ON THIS FIGURE.

PFAS = PER- AND POLYFLUOROALKYL SUBSTANCES
PFBS = PERFLUOROBUTANE SULFONIC ACID
PFHXS = PERFLUOROHEXANE SULFONIC ACID
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
PFNA = PERFLUORONONANOIC ACID
BOLD = DENOTES CONCENTRATIONS THAT EXCEED WASHINGTON DEPARTMENT OF HEALTH STATE ACTION LEVEL.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE

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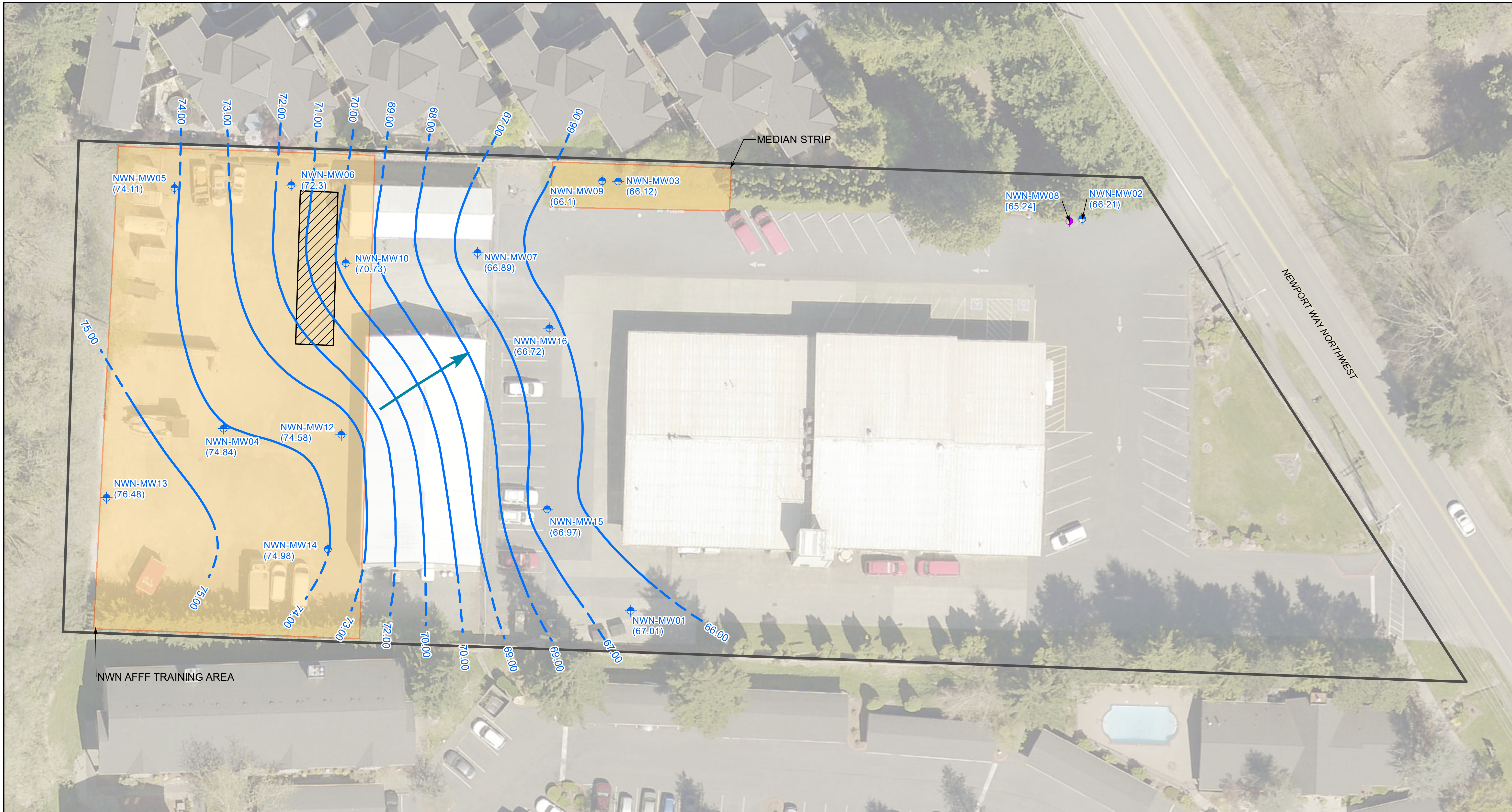
FIGURE 7C

GROUNDWATER ANALYTICAL RESULTS AND SHALLOW GROUNDWATER ELEVATIONS - OCTOBER 2020
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON
FARALLON PN: 1754-005

Drawn By: jjones | Checked By: EB | Date: 6/1/2022 | Disc Reference:
Q:\Projects\1754 EastsideFireRescue\1754-005 175 Newport Way NW\Mapfiles\004_SiteUpdate_2021-11\Figure-07C_NWN_GW_Elv_2020-10.mxd



LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- PILOT TEST PERMEABLE REACTIVE BARRIER
- PROPERTY BOUNDARY
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW
- 75.00 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- (75.86) GROUNDWATER ELEVATION (07/29/21) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988
- [65.24] GROUNDWATER ELEVATION NOT USED IN CONTOUR DETERMINATION

0 40
SCALE IN FEET

N

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FIGURE 7D

SHALLOW GROUNDWATER ELEVATIONS - JULY 2021
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-005

Drawn By: jjones | Checked By: EB | Date: 6/1/2022 | Disc Reference:

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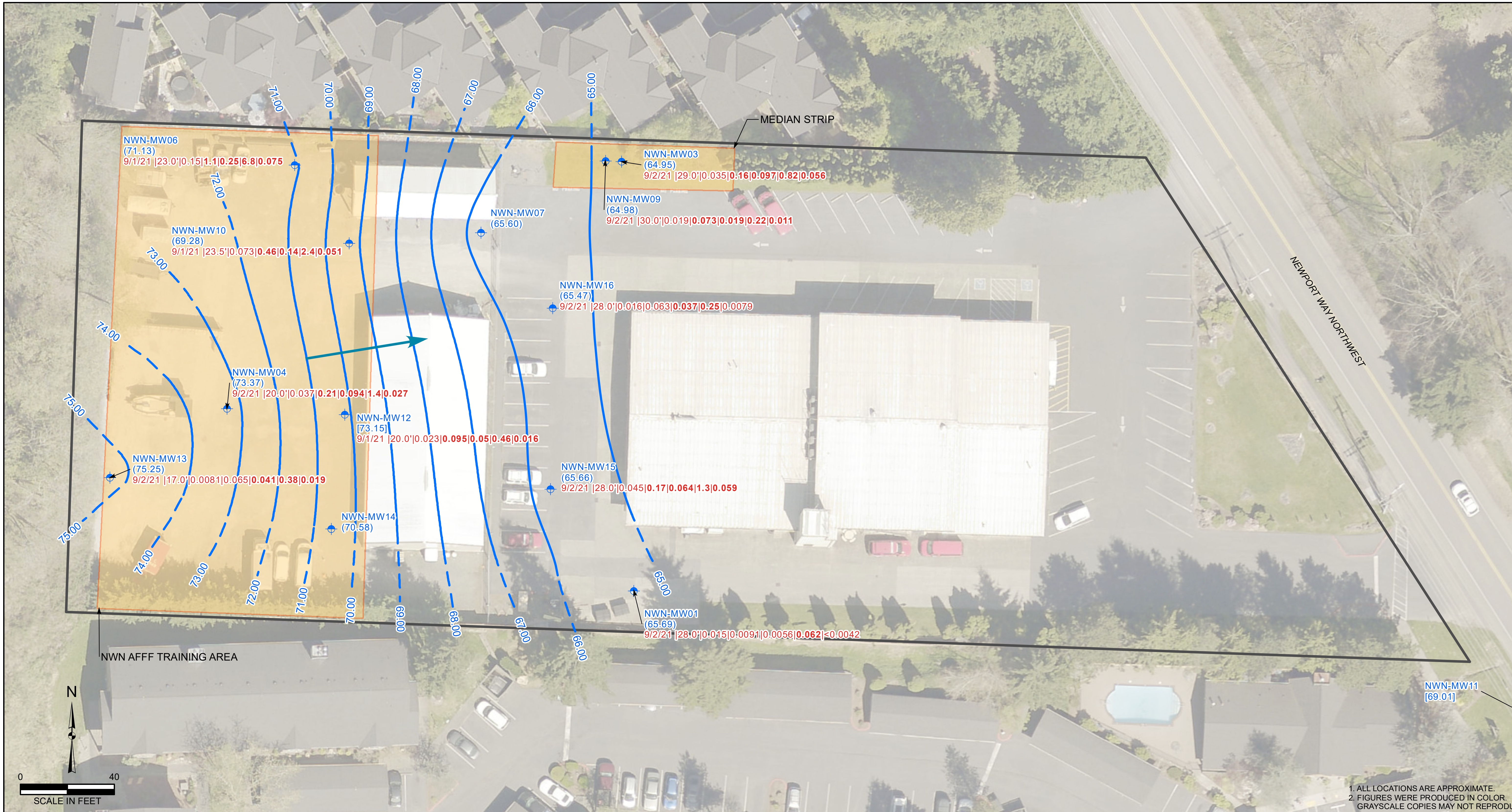

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LEGEND

- SHALLOW MONITORING WELL
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- PROPERTY BOUNDARY
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

78.00 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
(81.70) GROUNDWATER ELEVATION (09/02/21) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988
[69.01] ELEVATION NOT USED IN CONTOUR DETERMINATION

NOTES:
SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS
DATE SAMPLED, DEPTH, AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | DEPTH IN FEET BELOW GROUND SURFACE* | PFBS | PFHxS | PFOA | PFOS | PFNA
ANALYTICAL RESULTS IN MICROGRAMS PER LITER
* = WHERE A GROUNDWATER SAMPLE DEPTH WAS PROVIDED AS A DEPTH INTERVAL, THE MIDPOINT OF THE SAMPLE INTERVAL IS SHOWN ON THIS FIGURE.

PFAS = PER- AND POLYFLUOROALKYL SUBSTANCES
PFBS = PERFLUOROBUTANE SULFONIC ACID
PFHXS = PERFLUOROHEXANE SULFONIC ACID
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
PFNA = PERFLUORONONANOIC ACID
BOLD = DENOTES CONCENTRATIONS THAT EXCEED WASHINGTON DEPARTMENT OF HEALTH STATE ACTION LEVEL.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE

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FIGURE 7E

GROUNDWATER ANALYTICAL RESULTS AND SHALLOW GROUNDWATER ELEVATIONS - SEPTEMBER 2021
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON
FARALLON PN: 1754-005

Drawn By: jjones | Checked By: EB | Date: 6/1/2022 | Disc Reference:
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LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- PIEZOMETER
- PROPERTY BOUNDARY
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- PILOT TEST PERMEABLE REACTIVE BARRIER
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

[NM] NOT MEASURED

(79.70) GROUNDWATER ELEVATION (10/18/21) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988

GROUNDWATER FLOW DIRECTION BASED ON PREVIOUSLY OBSERVED MEASUREMENTS FOR THE ENTIRE WELL FIELD.

SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS

DATE SAMPLED, DEPTH, AND CONCENTRATIONS REPORTED AS: SAMPLE DATE | DEPTH IN FEET BELOW GROUND SURFACE* | PFBS | PFHxS | PFOA | PFOS | PFNA

ANALYTICAL RESULTS IN MICROGRAMS PER LITER

* = WHERE A GROUNDWATER SAMPLE DEPTH WAS PROVIDED AS A DEPTH INTERVAL, THE MIDPOINT OF THE SAMPLE INTERVAL IS SHOWN ON THIS FIGURE.

PFAS = PER- AND POLYFLUOROALKYL SUBSTANCES
PFBS = PERFLUOROBUTANE SULFONIC ACID
PFHXS = PERFLUOROHEXANE SULFONIC ACID
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
PFNA = PERFLUORONONANOIC ACID
BOLD = DENOTES CONCENTRATIONS THAT EXCEED WASHINGTON DEPARTMENT OF HEALTH STATE ACTION LEVEL.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE

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FIGURE 7F

GROUNDWATER ANALYTICAL RESULTS AND SHALLOW GROUNDWATER ELEVATIONS - OCTOBER, 2021
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON
FARALLON PN: 1754-005

Drawn By: jjones | Checked By: EB | Date: 6/1/2022 | Disc Reference:

Q:\Projects\1754 EastsideFireRescue\1754-005 175 Newport Way NW\Mapfiles\004_SiteUpdate_2021-11\Figure-07F_NWN_GW_Elv_2021-10.mxd

1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- PIEZOMETER
- PROPERTY BOUNDARY
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- PILOT TEST PERMEABLE REACTIVE BARRIER
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

[NM] NOT MEASURED

(88.26) GROUNDWATER ELEVATION (12/9/21) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988

GROUNDWATER FLOW DIRECTION BASED ON PREVIOUSLY OBSERVED MEASUREMENTS FOR THE ENTIRE WELL FIELD.

SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS

DATE SAMPLED, DEPTH, AND CONCENTRATIONS REPORTED AS: SAMPLE DATE | DEPTH IN FEET BELOW GROUND SURFACE* | PFBS | PFHxS | PFOA | PFOS | PFNA

ANALYTICAL RESULTS IN MICROGRAMS PER LITER

* = WHERE A GROUNDWATER SAMPLE DEPTH WAS PROVIDED AS A DEPTH INTERVAL, THE MIDPOINT OF THE SAMPLE INTERVAL IS SHOWN ON THIS FIGURE.

PFAS = PER- AND POLYFLUOROALKYL SUBSTANCES
PFBS = PERFLUOROBUTANE SULFONIC ACID
PFHXS = PERFLUOROHEXANE SULFONIC ACID
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
PFNA = PERFLUORONONANOIC ACID
BOLD = DENOTES CONCENTRATIONS THAT EXCEED WASHINGTON DEPARTMENT OF HEALTH STATE ACTION LEVEL.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE

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FIGURE 7G

GROUNDWATER ANALYTICAL RESULTS AND SHALLOW GROUNDWATER ELEVATIONS - DECEMBER, 2021
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON
FARALLON PN: 1754-005

Drawn By: jjones | Checked By: EB | Date: 6/1/2022 | Disc Reference:

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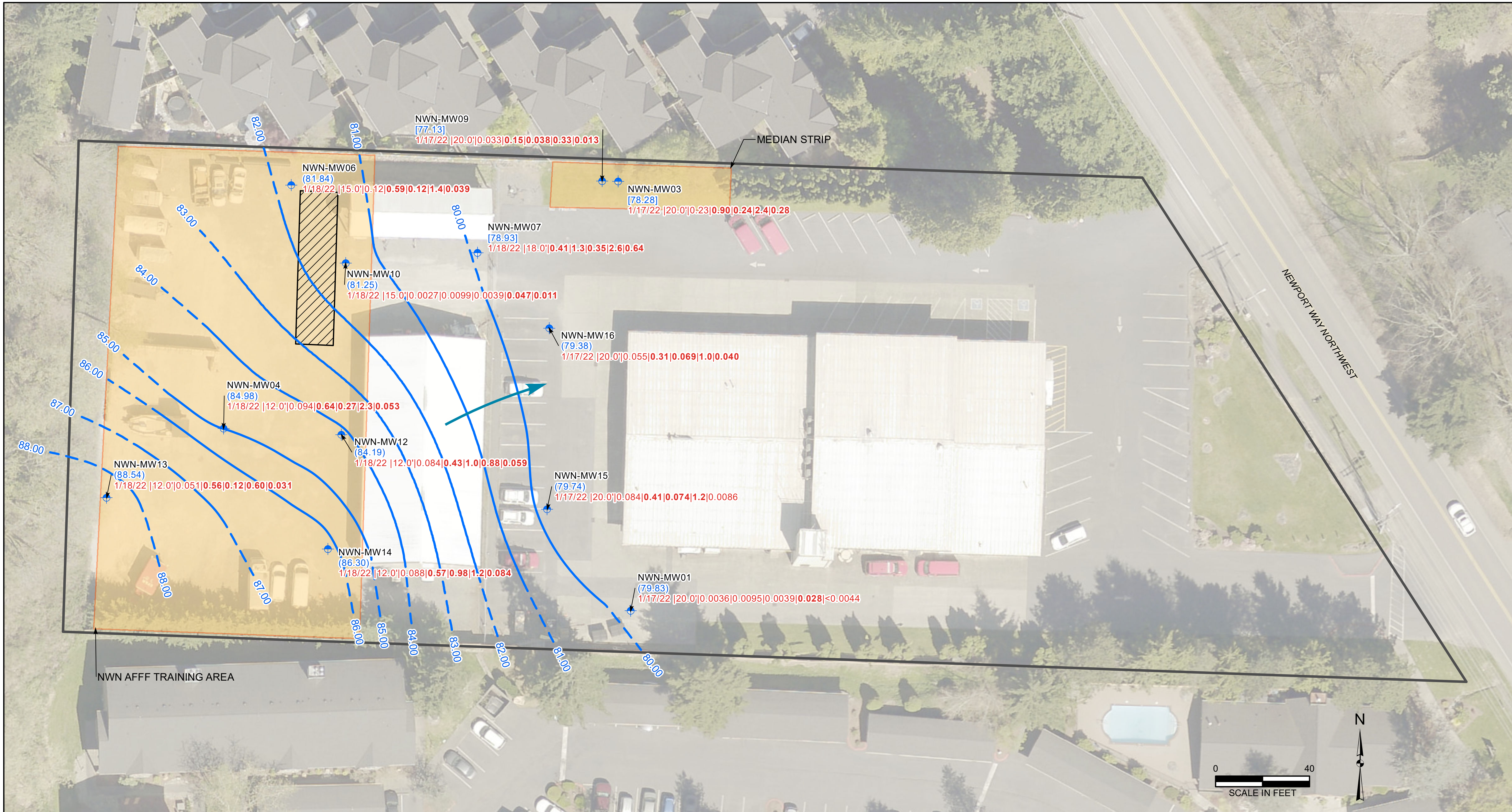

LEGEND

- SHALLOW MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- PILOT TEST PERMEABLE REACTIVE BARRIER
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

88.00 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)

(88.54) GROUNDWATER ELEVATION (1/17/22) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988

[77.13] GROUNDWATER ELEVATION NOT USED IN CONTOUR DETERMINATION

NOTES:
INTERMEDIATE MONITORING WELL NOT USED IN CONTOUR DETERMINATION
SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS
DATE SAMPLED, DEPTH, AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | DEPTH IN FEET BELOW GROUND SURFACE | PFBS | PFHxS | PFOA | PFOS | PFNA
ANALYTICAL RESULTS IN MICROGRAMS PER LITER

PFAS = PER- AND POLYFLUOROALKYL SUBSTANCES
PFBS = PERFLUOROBUTANE SULFONIC ACID
PFHXS = PERFLUOROHEXANE SULFONIC ACID
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
PFNA = PERFLUORONONANOIC ACID
BOLD = DENOTES CONCENTRATIONS THAT EXCEED WASHINGTON DEPARTMENT OF HEALTH STATE ACTION LEVEL.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE

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FIGURE 7H

GROUNDWATER ANALYTICAL RESULTS AND SHALLOW GROUNDWATER ELEVATIONS -JANUARY 2022
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-005

Drawn By: jjones | Checked By: EB | Date: 6/1/2022 | Disc Reference:
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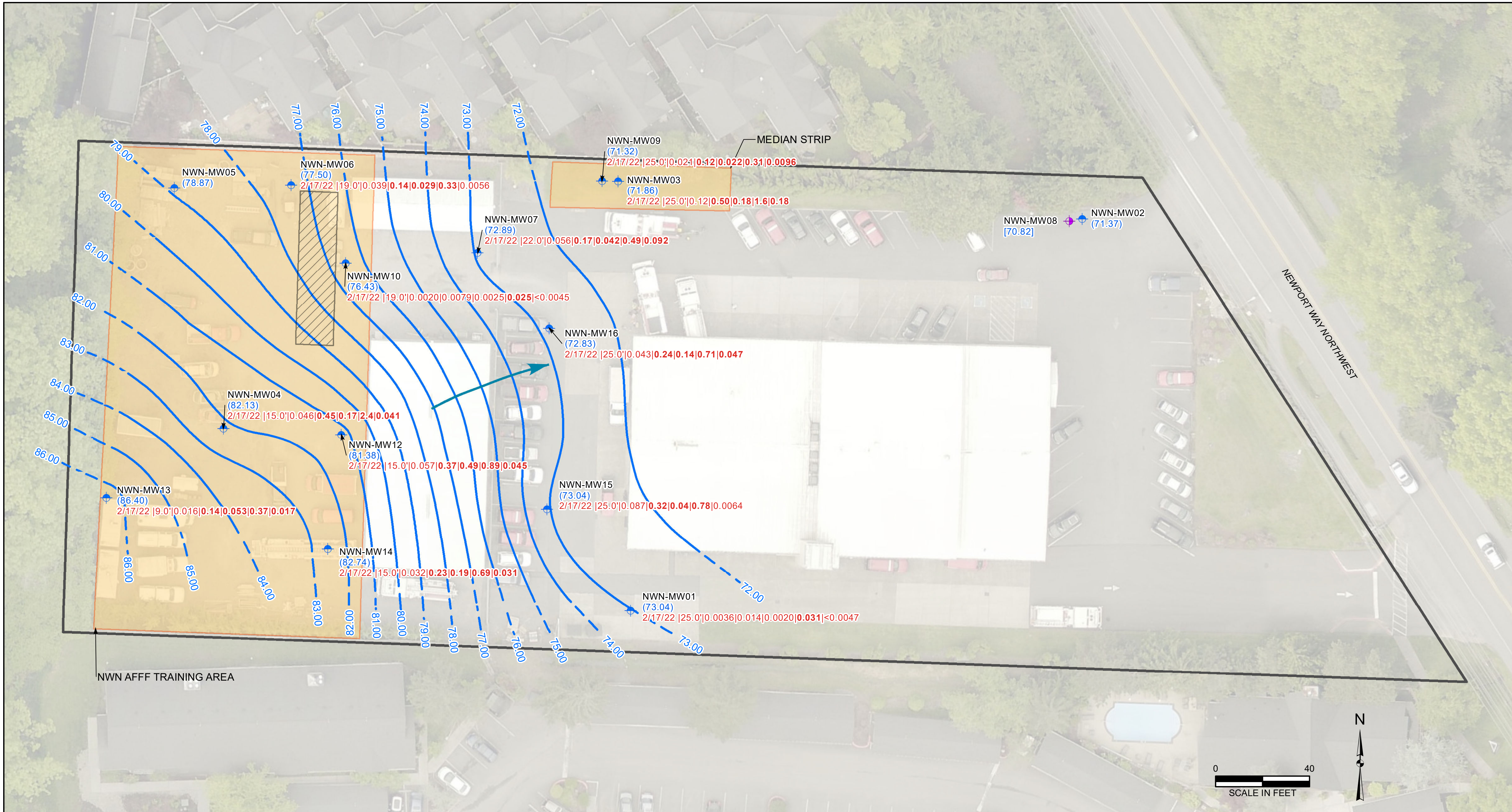

LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- PILOT TEST PERMEABLE REACTIVE BARRIER
- 78.00 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- (86.40) GROUNDWATER ELEVATION (2/17/22) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

NOTES:
[ ] INTERMEDIATE MONITORING WELL NOT USED IN CONTOUR DETERMINATION
SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS
DATE SAMPLED, DEPTH, AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | DEPTH IN FEET BELOW GROUND SURFACE | PFBS | PFHxS | PFOA | PFOS | PFNA
ANALYTICAL RESULTS IN MICROGRAMS PER LITER

PFAS = PER- AND POLYFLUOROALKYL SUBSTANCES
PFBS = PERFLUOROBUTANE SULFONIC ACID
PFHXS = PERFLUOROHEXANE SULFONIC ACID
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
PFNA = PERFLUORONONANOIC ACID
BOLD = DENOTES CONCENTRATIONS THAT EXCEED WASHINGTON DEPARTMENT OF HEALTH STATE ACTION LEVEL.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE

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FIGURE 7I

GROUNDWATER ANALYTICAL RESULTS AND SHALLOW GROUNDWATER ELEVATIONS -FEBRUARY 2022
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-005

Drawn By: jjones | Checked By: EB | Date: 6/1/2022 | Disc Reference:

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LEGEND

- INJECTION POINT
- BORING
- GEOSYNTEC SAMPLE
- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- TEMPORARY PIEZOMETER
- PIEZOMETER
- CONFIRMATION CORE
- GROUNDWATER FLOW DIRECTION
- RADIUS OF INFLUENCE (3')
- PILOT TEST PERMEABLE REACTIVE BARRIER
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- PROPERTY BOUNDARY

NOTES:
PFM = PASSIVE FLUX METER

N

0 30
SCALE IN FEET

NOTES:
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2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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FIGURE 8

PILOT TEST INJECTION PLAN
PILOT TEST SUMMARY REPORT
175 NEWPORT WAY NORTHWEST
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-005

Drawn By: lmurock | Checked By: EB | Date: 7/28/2022 | Disc Reference:

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TABLES

PER- AND POLY-FLUOROALKYL SUBSTANCES
PILOT STUDY SUMMARY REPORT
175 Newport Way Northwest
Issaquah, Washington

Farallon PN: 1754-005

Table 1
Monitoring Well Construction Details
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Well ID	Well Owner	Ground Surface Elevation (feet NAVD88)	Top of Casing Elevation (feet NAVD88)	Top of Screen (feet bgs)	Bottom of Screen (feet bgs)	Screened Length (feet)	Screen Top Elevation (feet NAVD88)	Screen Bottom Elevation (feet NAVD88)
175 Newport Way Northwest								
NWN-MW01	Eastside Fire & Rescue	90.93	90.69	15	30	15	75.69	60.69
NWN-MW02	Eastside Fire & Rescue	90.04	89.84	15	30	15	74.84	59.84
NWN-MW03	Eastside Fire & Rescue	91.60	91.35	15	30	15	76.35	61.35
NWN-MW04	Eastside Fire & Rescue	90.68	90.41	13	23	10	77.41	67.41
NWN-MW05	Eastside Fire & Rescue	90.65	90.34	7	17	10	83.34	73.34
NWN-MW06	Eastside Fire & Rescue	91.19	90.98	15	25	10	75.98	65.98
NWN-MW07	Eastside Fire & Rescue	91.28	90.89	16.5	26.5	10	74.39	64.39
NWN-MW08	Eastside Fire & Rescue	90.37	89.95	70	80	10	19.95	9.95
NWN-MW09	Eastside Fire & Rescue	91.63	91.29	45	50	5	46.29	41.29
NWN-PZ01	Eastside Fire & Rescue	91.20	90.76	20	30	10	70.76	60.76
NWN-PZ02	Eastside Fire & Rescue	90.99	90.44	20	30	10	70.44	60.44
NWN-MW10	Eastside Fire & Rescue	91.04	90.66	10	25	15	80.66	65.66
NWN-MW11	Eastside Fire & Rescue	90.91	90.58	15	25	10	75.58	65.58
NWN-MW12	Eastside Fire & Rescue	91.04	90.56	8	23	15	82.56	67.56
NWN-MW13	Eastside Fire & Rescue	90.28	89.9	3	18	15	86.9	71.9
NWN-MW14	Eastside Fire & Rescue	91.01	90.68	7	22	15	83.68	68.68
NWN-MW15	Eastside Fire & Rescue	90.77	90.37	15	30	15	75.37	60.37
NWN-MW16	Eastside Fire & Rescue	90.87	90.55	15	30	15	75.55	60.55

NOTES:
bgs = below ground surface
NAVD88 = North American Vertical Datum of 1988

Table 2
Summary of Groundwater Elevation Data
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sampling Location	Zone	Date Measured	Well Head Elevation (feet)[1]	Depth to Water (feet)[2]	Groundwater Elevation (feet)[1]
NWN-MW01	Shallow	1/17/2022	90.69	10.86	79.83
		2/17/2022		17.65	73.04
NWN-MW02	Shallow	2/17/2022	89.84	18.47	71.37
NWN-MW03	Shallow	1/17/2022	91.35	13.07	78.28
		2/17/2022		19.49	71.86
NWN-MW04	Shallow	1/18/2022	90.41	5.43	84.98
		2/17/2022		8.28	82.13
NWN-MW05	Shallow	2/17/2022	90.34	11.47	78.87
NWN-MW06	Shallow	1/18/2022	90.98	9.14	81.84
		2/17/2022		13.48	77.50
NWN-MW07	Shallow	1/18/2022	90.89	11.96	78.93
		2/17/2022		18.00	72.89
NWN-MW08	Intermediate	2/17/2022	89.95	19.13	70.82
NWN-MW09	Shallow	1/17/2022	91.29	14.16	77.13
		2/17/2022		19.97	71.32
NWN-MW10	Shallow	1/18/2022	90.66	9.41	81.25
		2/17/2022		14.23	76.43
NWN-MW11	Shallow	2/17/2022	90.58	17.26	73.32
NWN-MW12	Shallow	1/18/2022	90.56	6.37	84.19
		2/17/2022		9.18	81.38
NWN-MW13	Shallow	1/18/2022	89.80	1.26	88.54
		2/17/2022		3.40	86.40
NWN-MW14	Shallow	1/18/2022	90.68	4.38	86.30
		2/17/2022		7.94	82.74
NWN-MW15	Shallow	1/17/2022	90.37	10.63	79.74
		2/17/2022		17.33	73.04
NWN-MW16	Shallow	1/17/2022	90.55	11.17	79.38
		2/17/2022		17.72	72.83

NOTES:

[1] In feet referenced to North American Vertical Datum of 1988 (NAVD88) unless otherwise noted.

[2] In feet below top of well casing.

Table 3
Summary of Vertical Gradients
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Well Pair	Zone	Measurement Date	Middle of Screened Interval Elevation (feet)[1]		Groundwater Elevation (feet)[1]		Groundwater Elevation Head Differential (feet)	Gradient	
			Upper	Lower	Upper Screen	Lower Screen		Vertical Gradient	Direction
175 Newport Way Northwest									
NWN-MW02 and NWN-MW08	Shallow to Intermediate	4/13/2020	65.72	14.95	71.60	71.08	0.52	-0.010	DOWN
		7/14/2020	64.15		68.46	67.80	0.66	-0.013	DOWN
		10/26/2020	64.615		69.39	69.18	0.21	-0.004	DOWN
		9/29/2021	63.125		66.21	65.24	0.97	-0.020	DOWN
		8/12/2021	62.88		65.72	64.79	0.93	-0.019	DOWN
		2/17/2022	65.705		71.37	70.82	0.55	-0.011	DOWN
NWN-MW03 and MW09	Shallow to Shallow	12/9/2021	68.265	43.79	75.18	74.05	1.13	-0.046	DOWN
		1/17/2022	69.815		78.28	77.13	1.15	-0.016	DOWN
		2/17/2022	66.605		71.86	71.32	0.54	-0.008	DOWN

NOTES:

[1] Elevations in feet North American Vertical Datum of 1988. Where the water table intersected the screened interval of shallow zone wells, the "Middle of Screened Interval Eevation" was calculated as the mid-point between the top of the saturated zone and the bottom of the screen.

Table 4
Groundwater Sampling Summary
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

				Sample Count and Type											
Associated Area of Interest	**Sampling Location**	**Location Type**	**Screened Interval**	**March 2020**	**April 2020**	**July 2020**	**October 2020**	**July 2021**	**September 2021**	**October 2021**	**December 2021**	**January 2022**	**February 2022**	**Field Duplicate Location[1]**	**Pump Type**
175 Newport Way Northwest															
175 Newport Way Northwest	NWN-MW01	Shallow Well	15-30	X	--	--	--	--	X	--	--	--	--	--	Peristaltic
	NWN-MW02	Shallow Well	15-30	X	--	--	X	--	X	--	--	--	--	--	Peristaltic
	NWN-MW03	Shallow Well	15-30	X	--	X	X	--	X	X	X	X	X	--	Peristaltic
	NWN-MW04	Shallow Well	13-23	X	--	X	X	--	X	X	X	X	X	X	Peristaltic
	NWN-MW05	Shallow Well	7-17	X	X	X	X	--	--	--	--	--	--	--	Peristaltic
	NWN-MW06	Shallow Well	15-25	X	X	X	--	--	X	X	X	X	X	--	Peristaltic
	NWN-MW07	Shallow Well	16.5-26.5	X	X	X	X	--	--	X	X	X	X	--	Peristaltic
	NWN-MW08	Intermediate Well	70-80	X	X	X	X	--	--	--	--	--	--	--	Peristaltic
	NWN-MW09	Shallow Well	45-50	X	X	X	X	--	X	X	X	X	X	--	Peristaltic
	NWN-PZ01	Piezometer	20-30	X	--	--	--	--	--	--	--	--	--	--	Peristaltic
	NWN-PZ02	Piezometer	20-30	X	--	--	--	--	--	--	--	--	--	--	Peristaltic
	NWN-MW10	Shallow Well	10-25	--	--	--	--	X	X	X	X	X	X	--	Peristaltic
	NWN-MW12	Shallow Well	8-23	--	--	--	--	--	X	X	X	X	X	--	Peristaltic
	NWN-MW13	Shallow Well	3-18	--	--	--	--	--	X	X	X	X	X	--	Peristaltic
	NWN-MW14	Shallow Well	8-23	--	--	--	--	X	--	--	--	--	--	--	Peristaltic
	NWN-MW15	Shallow Well	15-30	--	--	--	--	--	X	--	--	--	--	--	Peristaltic
	NWN-MW16	Shallow Well	15-30	--	--	--	--	--	X	--	--	--	--	--	Peristaltic
			Total Samples Collected	**Gauging Only**	**5**	**7**	**7**	**2**	**11**	**8**	**8**	**8**	**8**	**--**	**--**

NOTES:

-- denotes no samples proposed for the identified location.
X denotes sample collection
[1]Quality control locations were assigned a unique station identifier, and samples were submitted blind to the laboratory.

Table 5
Soil Analytical Results for Short-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]					
							Perfluorobutanoic Acid	Perfluorobutane Sulfonic Acid	Perfluorohexanoic Acid	Perfluorohexane Sulfonic Acid	Perfluoroheptanoic Acid	Perfluoroheptane Sulfonic Acid
2016 Hydrogeological Characterization Investigation												
175 Newport Way Northwest												
STSP01	Geosyntec	7/22/2016	COI-STSP01-20160722	Discrete	Unsaturated	2.2 - 2.3	---	< 0.0019	0.00058	< 0.0019	< 0.00072	---
STTA01	Geosyntec	7/22/2016	COI-STTA01-20160722	Discrete	Unsaturated	2.2 - 2.3	---	**0.0089**	0.03	**0.08**	0.0051	---
STTA02	Geosyntec	7/22/2016	COI-STTA02-20160722	Discrete	Unsaturated	3.8 - 3.9	---	**0.0045**	0.015	**0.025**	0.0021	---
	Geosyntec	7/22/2016	COI-STTA02-20160722-DUP	Discrete	Unsaturated	3.8 - 3.9	---	**0.0054**	0.019	**0.029**	0.0024	---
2018 Subsurface Investigation												
175 Newport Way Northwest												
DU-05	Farallon	8/14/2018	DU-05-COMPOSITE	MI	Unsaturated	0.0 - 0.5	0.00061 J	0.00019 J	0.00068 J	**0.0039**	< 0.0010	< 0.0010
DU-06	Farallon	8/15/2018	DU-06 COMPOSITE	MI	Unsaturated	0.0 - 0.5	0.00088 J	0.00021 J	0.0014	**0.0049**	0.00043 J	0.00042 J
NWN-MW02	Farallon	10/18/2018	NWN-MW02-181018-10	Discrete	Unsaturated	10.0	< 0.00096	< 0.00096	< 0.00096	< 0.00096	< 0.00096	< 0.00096
	Farallon	10/18/2018	NWN-MW02-181018-19	Discrete	Unsaturated	19.0	< 0.0010	< 0.0010	< 0.0010	0.00026 J	< 0.0010	< 0.0010
NWN-MW03	Farallon	10/18/2018	NWN-MW03-181018-12	Discrete	Unsaturated	12.0	< 0.0013	< 0.0013	0.00039 J	**0.0036**	< 0.0013	< 0.0013
	Farallon	10/18/2018	NWN-MW03-181018-25	Discrete	Unsaturated	25.0	< 0.0010	< 0.0010	0.00028 J	**0.00045 J**	< 0.0010	< 0.0010
NWN-MW04	Farallon	10/19/2018	NWN-MW04-181019-5	Discrete	Unsaturated	5.0	0.00068 J	0.00081 J	0.0039	**0.0061**	0.00060 J	0.00054 J
	Farallon	10/19/2018	NWN-MW04-181019-DUP	Discrete	Unsaturated	5.0	0.00044 J	0.00073 J	0.0025	**0.0049**	0.00050 J	0.00069 J
	Farallon	10/19/2018	NWN-MW04-181019-13	Discrete	Unsaturated	13.0	< 0.0012	< 0.0012	0.00027 J	**0.00059 J**	< 0.0012	< 0.0012
NWN-R04	Farallon	3/18/2020	NWN-R04-200318-5.0	Discrete	Unsaturated	5.0	0.0016	0.00083 J	0.0081	**0.0070**	0.0016	0.00026 J
	Farallon	3/18/2020	NWN-R04-200318-10.0	Discrete	Saturated	10.0	0.0013 J	**0.00063 J**	0.0065	**0.0053**	0.0014 J	0.00030 J
	Farallon	3/18/2020	NWN-R04-200318-15.0	Discrete	Saturated	15.0	0.00051 J	< 0.0013	0.0025	**0.0020**	0.00065 J	0.00014 J
NWN-R05	Farallon	3/20/2020	NWN-R05-200320-3.0	Discrete	Unsaturated	3.0	0.00092 J	< 0.0013	0.0032	**0.0032**	0.00088 J	0.00093 J
	Farallon	3/20/2020	NWN-R05-200320-5.0	Discrete	Saturated	5.0	< 0.0014	< 0.0014	0.0013 J	**0.0014 J**	0.00052 J	0.00027 J
	Farallon	3/20/2020	NWN-R05-200320-10.0	Discrete	Saturated	10.0	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012
NWN-R06	Farallon	3/20/2020	NWN-R06-200320-2.0	Discrete	Unsaturated	2.0	0.0018	0.00090 J	0.0083	**0.017**	0.0023	0.0052
	Farallon	3/20/2020	NWN-R06-200320-5.0	Discrete	Unsaturated	5.0	0.00059 J	0.00035 J	0.0019	**0.0039**	0.00067 J	0.00063 J
	Farallon	3/20/2020	NWN-R06-200320-10.0	Discrete	Saturated	10.0	< 0.0013	< 0.0013	0.00071 J	**0.0017**	0.00044 J	0.00029 J
NWN-R07	Farallon	3/20/2020	NWN-R07-200320-3.0	Discrete	Unsaturated	3.0	0.0022	**0.0035**	0.011	**0.077**	0.0032	0.0090
	Farallon	3/20/2020	NWN-R07-200320-5.0	Discrete	Unsaturated	5.0	0.0020	**0.0034**	0.011	**0.071**	0.0031	0.0098
	Farallon	3/20/2020	NWN-R07-200320-10.0	Discrete	Unsaturated	10.0	< 0.0013	0.00039 J	0.0016	**0.0065**	0.00047 J	0.0011 J
NWN-R08	Farallon	3/18/2020	NWN-R08-200318-5.0	Discrete	Unsaturated	5.0	0.0014	< 0.0013	0.0053	< 0.0013	0.0014	0.00015 J
	Farallon	3/18/2020	NWN-R08-200318-10.0	Discrete	Saturated	10.0	< 0.0011	< 0.0011	0.00073 J	< 0.0011	0.00045 J	< 0.0011
	Farallon	3/18/2020	NWN-R08-200318-15.0	Discrete	Saturated	15.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
NWN-R09	Farallon	3/20/2020	NWN-R09-200320-3.0	Discrete	Unsaturated	3.0	0.0051	**0.0045**	0.037	**0.061**	0.0054	0.018
	Farallon	3/20/2020	NWN-R09-200320-5.0	Discrete	Unsaturated	5.0	0.00062 J	0.00046 J	0.0043	**0.0039**	0.00034 J	0.00050 J
	Farallon	3/20/2020	NWN-R09-200320-10.0	Discrete	Saturated	10.0	0.0011 J	**0.00076 J**	0.0064	**0.0078**	0.0010 J	0.0013 J
Anticipated MTCA Cleanup Level: Residential Direct Contact[3]							**NE**	**24**	**NE**	**0.776**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Industrial Direct Contact[3]							**NE**	**1,050**	**NE**	**33.95**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Vadose Zone[3]							**NE**	**0.0018**	**NE**	**0.00041**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Saturated Zone[3]							**NE**	**0.00012**	**NE**	**0.000026**	**NE**	**NE**

Table 5
Soil Analytical Results for Short-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]					
							Perfluorobutanoic Acid	Perfluorobutane Sulfonic Acid	Perfluorohexanoic Acid	Perfluorohexane Sulfonic Acid	Perfluoroheptanoic Acid	Perfluoroheptane Sulfonic Acid
2020 Subsurface Investigation												
175 Newport Way Northwest Area												
NWN-R10	Farallon	3/20/2020	NWN-R10-200320-3.0	Discrete	Unsaturated	3.0	0.010	**0.016**	0.066	**0.066**	0.0095	0.0030
	Farallon	3/20/2020	NWN-R10-200320-5.0	Discrete	Unsaturated	5.0	0.0096	**0.017**	0.06	**0.12**	0.013	0.014
	Farallon	3/20/2020	NWN-R10-200320-10.0	Discrete	Unsaturated	10.0	0.0029	**0.0046**	0.015	**0.019**	0.0027	0.0026
NWN-R11	Farallon	3/20/2020	NWN-R11-200320-3.0	Discrete	Unsaturated	3.0	0.0063	**0.01**	0.037	**0.14**	0.0089	0.0068
	Farallon	3/20/2020	NWN-R11-200320-5.0	Discrete	Unsaturated	5.0	0.0036	**0.0050**	0.025	**0.15**	0.012	0.012
	Farallon	3/20/2020	NWN-R11-200320-10.0	Discrete	Unsaturated	10.0	0.00098	0.0012	0.0057	**0.03**	0.0016	0.0028
NWN-R12	Farallon	3/23/2020	NWN-R12-200323-5.0	Discrete	Unsaturated	5.0	0.0011	**0.0019**	0.0085	**0.066**	0.0028	0.0083
	Farallon	3/23/2020	NWN-R12-200323-10.0	Discrete	Unsaturated	10.0	0.00057 J	0.00086 J	0.0040	**0.028**	0.0011	0.0052
	Farallon	3/23/2020	NWN-R12-200323-15.0	Discrete	Unsaturated	15.0	0.00039 J	0.00045 J	0.0020	**0.012**	0.00065 J	0.0013
NWN-R13	Farallon	3/18/2020	NWN-R13-200318-6.5	Discrete	Unsaturated	6.5	0.00051 J	< 0.0011	0.0024	< 0.0011	0.00078 J	< 0.0011
	Farallon	3/18/2020	NWN-R13-200318-10.0	Discrete	Saturated	10.0	0.0020	< 0.0011	0.010	**0.00081 J**	0.0028	0.00032 J
	Farallon	3/18/2020	NWN-R13-200318-15.0	Discrete	Saturated	15.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
NWN-R14	Farallon	3/19/2020	NWN-R14-200319-5.0	Discrete	Unsaturated	5.0	0.0014	**0.0033**	0.0091	**0.041**	0.0022	0.0038
	Farallon	3/19/2020	NWN-R14-200319-10.0	Discrete	Unsaturated	10.0	< 0.0013	0.00044 J	0.0011 J	**0.0016**	0.00027 J	0.000090 J
	Farallon	3/19/2020	NWN-R14-200319-15.0	Discrete	Saturated	15.0	< 0.0012	< 0.0012	0.00096 J	**0.0012**	< 0.0012	0.000080 J
NWN-R15	Farallon	3/19/2020	NWN-R15-200319-5.0	Discrete	Unsaturated	5.0	0.0091	**0.017**	0.049	**0.19**	0.018	0.025
	Farallon	3/19/2020	NWN-R15-200319-10.0	Discrete	Unsaturated	10.0	0.0053	**0.012**	0.029	**0.11**	0.011	0.014
	Farallon	3/19/2020	NWN-R15-200319-15.0	Discrete	Saturated	15.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
NWN-R16	Farallon	3/19/2020	NWN-R16-200319-5.0	Discrete	Unsaturated	5.0	0.0019	**0.0030**	0.011	**0.021**	0.0038	0.0013
	Farallon	3/19/2020	NWN-R16-200319-10.0	Discrete	Unsaturated	10.0	< 0.0010	0.00042 J	0.0015	**0.0018**	0.00028 J	0.00014 J
	Farallon	3/19/2020	NWN-R16-200319-15.0	Discrete	Saturated	15.0	< 0.0010	**0.00052 J**	0.0020	**0.0028**	0.00074 J	0.00026 J
NWN-R17	Farallon	3/19/2020	NWN-R17-200319-5.0	Discrete	Unsaturated	5.0	< 0.0011	< 0.0011	0.00037 J	**0.0018**	< 0.0011	< 0.0011
	Farallon	3/19/2020	NWN-R17-200319-10.0	Discrete	Unsaturated	10.0	< 0.0010	< 0.0010	< 0.0010	**0.00061 J**	< 0.0010	0.00012 J
	Farallon	3/19/2020	NWN-R17-200319-15.0	Discrete	Unsaturated	15.0	< 0.0010	< 0.0010	0.00049 J	< 0.0010	< 0.0010	< 0.0010
NWN-R18	Farallon	3/19/2020	NWN-R18-200319-5.0	Discrete	Unsaturated	5.0	< 0.0012	< 0.0012	0.00043 J	**0.0028**	0.00028 J	0.00038 J
	Farallon	3/19/2020	NWN-R18-200319-10.0	Discrete	Unsaturated	10.0	< 0.0012	< 0.0012	0.00064 J	**0.0019**	0.00032 J	0.00036 J
	Farallon	3/19/2020	NWN-R18-200319-15.0	Discrete	Unsaturated	15.0	< 0.0011	< 0.0011	< 0.0011	**0.0010 J**	0.00022 J	0.00014 J
NWN-MW05	Farallon	3/23/2020	NWN-MW05-200323-6.0	Discrete	Unsaturated	6.0	0.00057 J	0.00051 J	0.0031	**0.0046**	0.00078 J	0.0018
	Farallon	3/23/2020	NWN-MW05-200323-10.0	Discrete	Unsaturated	10.0	< 0.00082	0.00027 J	0.0016	**0.0030**	0.00043 J	0.00052 J
	Farallon	3/23/2020	NWN-MW05-200323-15.0	Discrete	Unsaturated	15.0	< 0.0010	< 0.0010	< 0.0010	**0.00048 J**	< 0.0010	0.000083 J
NWN-MW06	Farallon	3/23/2020	NWN-MW06-200323-6.0	Discrete	Unsaturated	6.0	< 0.00096	0.00027 J	0.00088 J	**0.0045**	0.00035 J	0.0018
	Farallon	3/23/2020	NWN-MW06-200323-10.0	Discrete	Unsaturated	10.0	< 0.0010	0.00042 J	0.00065 J	**0.0050**	0.00041 J	0.0011
	Farallon	3/23/2020	NWN-MW06-200323-15.0	Discrete	Unsaturated	15.0	< 0.00084	0.00033 J	0.00065 J	**0.0033**	0.00028 J	0.00071 J
NWN-MW07	Farallon	3/30/2020	NWN-MW07_200330-5	Discrete	Unsaturated	5.0	< 0.0011	< 0.0011	0.00036 J	**0.0015**	< 0.0011	0.00039 J
	Farallon	3/30/2020	NWN-MW07_200330-10	Discrete	Unsaturated	10.0	0.00047 J	0.00080 J	0.0021	**0.0054**	0.00039 J	0.00053 J
	Farallon	3/30/2020	NWN-MW07_200330-15	Discrete	Unsaturated	15.0	< 0.00097	< 0.00097	0.00037 J	**0.00049 J**	< 0.00097	< 0.00097
NWN-MW09	Farallon	3/19/2020	NWN-MW09-200319-5	Discrete	Unsaturated	5.0	< 0.0014	< 0.0014	0.00056 J	**0.0015**	< 0.0014	0.00033 J
Anticipated MTCA Cleanup Level: Residential Direct Contact[3]							**NE**	**24**	**NE**	**0.776**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Industrial Direct Contact[3]							**NE**	**1,050**	**NE**	**33.95**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Vadose Zone[3]							**NE**	**0.0018**	**NE**	**0.00041**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Saturated Zone[3]							**NE**	**0.00012**	**NE**	**0.000026**	**NE**	**NE**

Table 5
Soil Analytical Results for Short-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]					
							Perfluorobutanoic Acid	Perfluorobutane Sulfonic Acid	Perfluorohexanoic Acid	Perfluorohexane Sulfonic Acid	Perfluoroheptanoic Acid	Perfluoroheptane Sulfonic Acid
2021 Subsurface Investigation												
175 Newport Way Northwest												
NWN-MW10	Farallon	6/15/2021	NWN-MW10-3	Discrete	Unsaturated	3.0	0.0037	**0.0099**	0.032	**0.21**	0.016	0.05
	Farallon	6/15/2021	NWN-MW10-5	Discrete	Unsaturated	5.0	0.0019	**0.0046**	0.019	**0.14**	0.028	0.00031 J
	Farallon	6/15/2021	NWN-MW10-10	Discrete	Unsaturated	10.0	< 0.0010	0.00028 J	0.00067 J	**0.0018**	0.00034 J	0.00029 J
NWN-MW12	Farallon	6/15/2021	NWN-MW12-3	Discrete	Unsaturated	3.0	0.0018	**0.025**	0.065	**0.21**	0.024	0.015
	Farallon	6/15/2021	NWN-MW12-5	Discrete	Unsaturated	5.0	0.0016	**0.0030**	0.0049	**0.0031**	0.00096 J	0.00020 J
	Farallon	6/15/2021	NWN-MW12-10	Discrete	Unsaturated	10.0	0.0036	**0.0071**	0.0095	**0.0024**	0.0013 J	0.00013 J
NWN-MW13	Farallon	6/15/2021	NWN-MW13-3	Discrete	Unsaturated	3.0	0.0018	0.00068 J	0.0031	**0.019**	0.0017	0.00093 J
	Farallon	6/15/2021	NWN-MW13-5	Discrete	Unsaturated	5.0	0.0010 J	0.00035 J	0.0022	**0.0039**	0.0012 J	0.00026 J
	Farallon	6/15/2021	NWN-MW13-10	Discrete	Unsaturated	10.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
NWN-MW14	Farallon	6/15/2021	NWN-MW14-3	Discrete	Unsaturated	3.0	< 0.0012	0.00056 J	0.0018	**0.011**	0.00048 J	0.0018
	Farallon	6/15/2021	NWN-MW14-5	Discrete	Unsaturated	5.0	< 0.0011	0.00052 J	0.0018	**0.015**	0.00036 J	0.0021
	Farallon	6/15/2021	NWN-MW144-5	Discrete	Unsaturated	5.0	< 0.0011	0.00052 J	0.0015	**0.012**	0.00037 J	0.0013
NWN-MW15	Farallon	6/17/2021	NWN-MW15-3	Discrete	Unsaturated	3.0	< 0.0011	< 0.0011	< 0.0011	**0.00061 J**	< 0.0011	0.00014 J
	Farallon	6/17/2021	NWN-MW15-5	Discrete	Unsaturated	5.0	< 0.0011	0.00030 J	0.00072 J	**0.0020**	0.00024 J	0.000072 J
NWN-MW16	Farallon	6/17/2021	NWN-MW11-3	Discrete	Unsaturated	3.0	< 0.00093	< 0.00093	0.00034 J	**0.0010**	< 0.00093	0.00021 J
	Farallon	6/17/2021	NWN-MW11-5	Discrete	Unsaturated	5.0	< 0.0011	< 0.0011	< 0.0011	**0.00071 J**	0.00021 J	0.000088 J
	Farallon	6/17/2021	NWN-MW111-5	Discrete	Unsaturated	5.0	< 0.0012	< 0.0012	< 0.0012	**0.00063 J**	< 0.0012	0.00018 J
NWN-R19	Farallon	6/15/2021	NWN-R19-3	Discrete	Unsaturated	3.0	0.0055	**0.0058**	0.035	**0.12**	0.008	0.052
	Farallon	6/15/2021	NWN-R19-5	Discrete	Unsaturated	5.0	0.0024	**0.0026**	0.014	**0.043**	0.0031	0.014
	Farallon	6/15/2021	NWN-R19-10	Discrete	Unsaturated	10.0	< 0.00091	< 0.00091	0.00085 J	**0.0018**	< 0.00091	0.00026 J
NWN-R20	Farallon	6/15/2021	NWN-R20-3	Discrete	Unsaturated	3.0	0.00069 J	0.00032 J	0.0027	**0.0097**	0.0011	0.0022
	Farallon	6/15/2021	NWN-R20-5	Discrete	Unsaturated	5.0	< 0.0013	< 0.0013	0.0018	**0.0028**	0.00058 J	0.00086 J
	Farallon	6/15/2021	NWN-R20-10	Discrete	Unsaturated	10.0	0.00064 J	0.00036 J	0.0027	**0.013**	0.00087 J	0.01
	Farallon	6/15/2021	NWN-R20-15	Discrete	Unsaturated	15.0	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
NWN-R21	Farallon	6/15/2021	NWN-R21-3	Discrete	Unsaturated	3.0	0.00043 J	< 0.0011	0.00094 J	**0.0027**	0.00056 J	0.00048 J
	Farallon	6/15/2021	NWN-R21-6	Discrete	Unsaturated	6.0	< 0.0011	0.00060 J	0.0020	**0.019**	0.0018	0.0066
	Farallon	6/15/2021	NWN-R211-6	Discrete	Unsaturated	6.0	< 0.0010	0.0014	0.0033	**0.023**	0.0022	0.0062
	Farallon	6/15/2021	NWN-R21-10	Discrete	Unsaturated	10.0	< 0.00098	< 0.00098	0.00052 J	**0.0018**	0.00034 J	0.00033 J
	Farallon	6/15/2021	NWN-R21-15	Discrete	Saturated	15.0	< 0.0011	< 0.0011	< 0.0011	**0.00042 J**	< 0.0011	< 0.0011
Anticipated MTCA Cleanup Level: Residential Direct Contact[3]							**NE**	**24**	**NE**	**0.776**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Industrial Direct Contact[3]							**NE**	**1,050**	**NE**	**33.95**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Vadose Zone[3]							**NE**	**0.0018**	**NE**	**0.00041**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Saturated Zone[3]							**NE**	**0.00012**	**NE**	**0.000026**	**NE**	**NE**

Table 5
Soil Analytical Results for Short-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2]					
							Perfluorobutanoic Acid	Perfluorobutane Sulfonic Acid	Perfluorohexanoic Acid	Perfluorohexane Sulfonic Acid	Perfluoroheptanoic Acid	Perfluoroheptane Sulfonic Acid
175 Newport Way Northwest												
NWN-R22	Farallon	6/15/2021	NWN-R22-0.5-2.0-H	Discrete	Unsaturated	0.5 - 2.0	0.0027	**0.0032**	0.012	**0.10**	0.0052	0.024
	Farallon	6/15/2021	NWN-R22-3	Discrete	Unsaturated	3.0	0.0081	**0.018**	0.04	**0.19**	0.013	0.036
	Farallon	6/15/2021	NWN-R22-5	Discrete	Unsaturated	5.0	0.0028	**0.0049**	0.014	**0.03**	0.0031	0.0044
	Farallon	6/15/2021	NWN-R22-10	Discrete	Unsaturated	10.0	< 0.0011	< 0.0011	0.00045 J	**0.0011** J	0.00023 J	0.00029 J
	Farallon	6/15/2021	NWN-R22-15	Discrete	Unsaturated	15.0	< 0.0011	< 0.0011	0.00054 J	**0.00068** J	< 0.0011	0.00011 J
Anticipated MTCA Cleanup Level: Residential Direct Contact[3]							**NE**	**24**	**NE**	**0.776**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Industrial Direct Contact[3]							**NE**	**1,050**	**NE**	**33.95**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Vadose Zone[3]							**NE**	**0.0018**	**NE**	**0.00041**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Saturated Zone[3]							**NE**	**0.00012**	**NE**	**0.000026**	**NE**	**NE**

NOTES:

Results in **bold** and highlighted yellow denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

— denotes sample not analyzed.

[1]Depth in feet below ground surface.

[2]Samples collected in 2016 analyzed by U.S. Environmental Protection Agency (EPA) Method 537; samples collected in 2018 analyzed by EPA Method 537 Modified.

[3]Anticipated Washington State Model Toxics Control Act Cleanup Regulation (MTCA) cleanup levels provided in an email regarding Anticipated Cleanup Levels for PFAS dated March 2, 2022 from P. Tomlinson of the Washington State Department of Ecology to E. Buer of Farallon.

Farallon = Farallon Consulting, L.L.C.

Geosyntec = Geosyntec Consultants, Inc.

J = result is an estimate

NE = not established

PFAS = per- and poly-fluoroalkyl substances

Table 6
Soil Analytical Results for Long-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2] Perfluorooctanoic Acid	Perfluorooctane Sulfonic Acid	Perfluorononanoic Acid	Perfluorodecanoic Acid	Perfluorodecane Sulfonic Acid	Perfluoroundecanoic Acid	Perfluorododecanoic Acid
2016 Hydrogeological Characterization Investigation													
175 Newport Way Northwest													
STSP01	Geosyntec	7/22/2016	COI-STSP01-20160722	Discrete	Unsaturated	2.2 - 2.3	< 0.00072	**0.023**	**0.00077**	0.0012	---	0.001	< 0.00096
STTA01	Geosyntec	7/22/2016	COI-STTA01-20160722	Discrete	Unsaturated	2.2 - 2.3	**0.011**	**1.3**	**0.0097**	< 0.00054	---	0.0028	< 0.0011
STTA02	Geosyntec	7/22/2016	COI-STTA02-20160722	Discrete	Unsaturated	3.8 - 3.9	**0.0043**	**0.18**	**0.033**	0.0039	---	0.036	< 0.0011
	Geosyntec	7/22/2016	COI-STTA02-20160722-DUP	Discrete	Unsaturated	3.8 - 3.9	**0.0052**	**0.25**	**0.043**	0.0045	---	0.063	< 0.0012
2018 Subsurface Investigation													
175 Newport Way Northwest													
DU-05	Farallon	8/14/2018	DU-05-COMPOSITE	MI	Unsaturated	0.0 - 0.5	**0.00077 J**	**0.024**	**0.00057 J**	0.00039 J	0.00087 J	0.00069 J	< 0.0010
DU-06	Farallon	8/15/2018	DU-06 COMPOSITE	MI	Unsaturated	0.0 - 0.5	**0.0015**	**0.026**	**0.00063 J**	0.00093 J	0.0019	0.0023	0.0010
NWN-MW02	Farallon	10/18/2018	NWN-MW02-181018-10	Discrete	Unsaturated	10.0	< 0.00096	< 0.00096	< 0.00096	< 0.00096	< 0.00096	< 0.00096	< 0.00096
	Farallon	10/18/2018	NWN-MW02-181018-19	Discrete	Unsaturated	19.0	< 0.0010	**0.0064**	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
NWN-MW03	Farallon	10/18/2018	NWN-MW03-181018-12	Discrete	Unsaturated	12.0	**0.00036 J**	**0.056**	< 0.0013	< 0.0013	< 0.0013	< 0.0013	< 0.0013
	Farallon	10/18/2018	NWN-MW03-181018-25	Discrete	Unsaturated	25.0	**0.00021 J**	**0.0064**	**0.00023 J**	< 0.0010	< 0.0010	0.0012	< 0.0010
NWN-MW04	Farallon	10/19/2018	NWN-MW04-181019-5	Discrete	Unsaturated	5.0	**0.0017**	**0.086**	**0.0025**	< 0.0013	< 0.0013	0.0023	< 0.0013
	Farallon	10/19/2018	NWN-MW04-181019-DUP	Discrete	Unsaturated	5.0	**0.0015**	**0.088**	**0.0019**	< 0.0014	< 0.0014	0.0019	< 0.0014
	Farallon	10/19/2018	NWN-MW04-181019-13	Discrete	Unsaturated	13.0	**0.00034 J**	**0.016**	**0.00048 J**	< 0.0012	0.00029 J	0.0039	< 0.0012
2020 Subsurface Investigation													
175 Newport Way Northwest													
NWN-R04	Farallon	3/18/2020	NWN-R04-200318-5.0	Discrete	Unsaturated	5.0	**0.0010 J**	**0.013**	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014
	Farallon	3/18/2020	NWN-R04-200318-10.0	Discrete	Saturated	10.0	**0.0011 J**	**0.0092**	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014
	Farallon	3/18/2020	NWN-R04-200318-15.0	Discrete	Saturated	15.0	**0.00041 J**	**0.0056**	< 0.0013	< 0.0013	< 0.0013	< 0.0013	< 0.0013
NWN-R05	Farallon	3/20/2020	NWN-R05-200320-3.0	Discrete	Unsaturated	3.0	**0.0021**	**0.83**	**0.0035**	0.00049 J	< 0.0013	0.0015	< 0.0013
	Farallon	3/20/2020	NWN-R05-200320-5.0	Discrete	Saturated	5.0	**0.00098 J**	**0.23**	**0.0010 J**	0.00040 J	0.00067 J	0.0050	< 0.0014
	Farallon	3/20/2020	NWN-R05-200320-10.0	Discrete	Saturated	10.0	**0.00022 J**	**0.04**	< 0.0012	< 0.0012	< 0.0012	0.0019	< 0.0012
NWN-R06	Farallon	3/20/2020	NWN-R06-200320-2.0	Discrete	Unsaturated	2.0	**0.0066**	**1.2**	**0.0043**	< 0.0014	< 0.0014	< 0.0014	< 0.0014
	Farallon	3/20/2020	NWN-R06-200320-5.0	Discrete	Unsaturated	5.0	**0.0025**	**0.67**	**0.00064 J**	0.00060 J	< 0.0013	0.0044	< 0.0013
	Farallon	3/20/2020	NWN-R06-200320-10.0	Discrete	Saturated	10.0	**0.00063 J**	**0.094**	**0.00053 J**	0.0014	0.00053 J	0.0036	0.00089 J
NWN-R07	Farallon	3/20/2020	NWN-R07-200320-3.0	Discrete	Unsaturated	3.0	**0.0053**	**0.051**	**0.00045 J**	< 0.0013	< 0.0013	< 0.0013	< 0.0013
	Farallon	3/20/2020	NWN-R07-200320-5.0	Discrete	Unsaturated	5.0	**0.0061**	**0.10**	**0.00075 J**	< 0.0014	< 0.0014	< 0.0014	< 0.0014
	Farallon	3/20/2020	NWN-R07-200320-10.0	Discrete	Unsaturated	10.0	**0.00090 J**	**0.063**	< 0.0013	< 0.0013	0.00023 J	0.00076 J	0.00054 J
NWN-R08	Farallon	3/18/2020	NWN-R08-200318-5.0	Discrete	Unsaturated	5.0	**0.0022**	**0.016**	< 0.0013	< 0.0013	< 0.0013	< 0.0013	< 0.0013
	Farallon	3/18/2020	NWN-R08-200318-10.0	Discrete	Saturated	10.0	**0.00088 J**	**0.0089**	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
	Farallon	3/18/2020	NWN-R08-200318-15.0	Discrete	Saturated	15.0	< 0.0011	**0.00026 J**	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
NWN-R09	Farallon	3/20/2020	NWN-R09-200320-3.0	Discrete	Unsaturated	3.0	**0.0079**	**0.93**	**0.033**	0.00039 J	< 0.0014	< 0.0014	< 0.0014
	Farallon	3/20/2020	NWN-R09-200320-5.0	Discrete	Unsaturated	5.0	**0.00085 J**	**0.15**	**0.0018**	< 0.0013	< 0.0013	0.00057 J	< 0.0013
	Farallon	3/20/2020	NWN-R09-200320-10.0	Discrete	Saturated	10.0	**0.0011 J**	**0.12**	**0.0027**	< 0.0013	< 0.0013	0.00088 J	< 0.0013
Anticipated MTCA Cleanup Level: Residential Direct Contact[3]							**0.24**	**0.24**	**0.2**	**NE**	**NE**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Industrial Direct Contact[3]							**10.5**	**10.5**	**8.75**	**NE**	**NE**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Vadose Zone[3]							**0.000063**	**0.00017**	**0.00008**	**NE**	**NE**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Saturated Zone[3]							**0.000004**	**0.000010**	**0.000005**	**NE**	**NE**	**NE**	**NE**

Table 6
Soil Analytical Results for Long-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

							Analytical Results (milligrams per kilogram)[2]						
Sample Location	**Sampled By**	**Sample Date**	**Sample Identification**	**Sample Type**	**Zone**	**Sample Depth (feet)[1]**	**Perfluorooctanoic Acid**	**Perfluorooctane Sulfonic Acid**	**Perfluorononanoic Acid**	**Perfluorodecanoic Acid**	**Perfluorodecane Sulfonic Acid**	**Perfluoroundecanoic Acid**	**Perfluorododecanoic Acid**
175 Newport Way Northwest													
NWN-R10	Farallon	3/20/2020	NWN-R10-200320-3.0	Discrete	Unsaturated	3.0	**0.014**	**0.10**	**0.058**	0.0028	< 0.0013	0.043	< 0.0013
	Farallon	3/20/2020	NWN-R10-200320-5.0	Discrete	Unsaturated	5.0	**0.037**	**0.78**	**0.074**	0.0027	0.00030 J	0.069	0.0011 J
	Farallon	3/20/2020	NWN-R10-200320-10.0	Discrete	Unsaturated	10.0	**0.0037**	**0.30**	**0.0060**	0.0016	0.00024 J	0.0078	0.0013
NWN-R11	Farallon	3/20/2020	NWN-R11-200320-3.0	Discrete	Unsaturated	3.0	**0.022**	**0.034**	**0.0037**	< 0.00093	< 0.00093	0.00082 J	< 0.00093
	Farallon	3/20/2020	NWN-R11-200320-5.0	Discrete	Unsaturated	5.0	**0.015**	**0.33**	**0.0050**	< 0.00092	< 0.00092	0.00050 J	< 0.00092
	Farallon	3/20/2020	NWN-R11-200320-10.0	Discrete	Unsaturated	10.0	**0.0039**	**0.081**	**0.0060**	< 0.00093	< 0.00093	0.0012	< 0.00093
NWN-R12	Farallon	3/23/2020	NWN-R12-200323-5.0	Discrete	Unsaturated	5.0	**0.0099**	**0.65**	**0.0020**	< 0.00098	< 0.00098	< 0.00098	< 0.00098
	Farallon	3/23/2020	NWN-R12-200323-10.0	Discrete	Unsaturated	10.0	**0.0063**	**0.39**	**0.0012**	< 0.00095	< 0.00095	0.00049 J	< 0.00095
	Farallon	3/23/2020	NWN-R12-200323-15.0	Discrete	Unsaturated	15.0	**0.0021**	**0.13**	**0.00035 J**	< 0.00095	< 0.00095	0.00087 J	< 0.00095
NWN-R13	Farallon	3/18/2020	NWN-R13-200318-6.5	Discrete	Unsaturated	6.5	**0.00081 J**	**0.0036**	< 0.0011	0.00032 J	< 0.0011	< 0.0011	< 0.0011
	Farallon	3/18/2020	NWN-R13-200318-10.0	Discrete	Saturated	10.0	**0.0027**	**0.031**	**0.00057 J**	0.00030 J	< 0.0011	< 0.0011	< 0.0011
	Farallon	3/18/2020	NWN-R13-200318-15.0	Discrete	Saturated	15.0	< 0.0011	**0.00046 J**	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
NWN-R14	Farallon	3/19/2020	NWN-R14-200319-5.0	Discrete	Unsaturated	5.0	**0.0053**	**0.089**	**0.0037**	< 0.0012	< 0.0012	< 0.0012	< 0.0012
	Farallon	3/19/2020	NWN-R14-200319-10.0	Discrete	Unsaturated	10.0	**0.00033 J**	**0.0046**	< 0.0013	< 0.0013	< 0.0013	< 0.0013	< 0.0013
	Farallon	3/19/2020	NWN-R14-200319-15.0	Discrete	Saturated	15.0	**0.00033 J**	**0.0052**	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012
NWN-R15	Farallon	3/19/2020	NWN-R15-200319-5.0	Discrete	Unsaturated	5.0	**0.067**	**0.54**	**1.4**	0.0056	< 0.0013	0.061	0.0021
	Farallon	3/19/2020	NWN-R15-200319-10.0	Discrete	Unsaturated	10.0	**0.038**	**0.49**	**1.1**	0.0062	< 0.0012	0.064	0.0016
	Farallon	3/19/2020	NWN-R15-200319-15.0	Discrete	Saturated	15.0	< 0.0011	**0.0053**	**0.00056 J**	< 0.0011	< 0.0011	0.0020	< 0.0011
NWN-R16	Farallon	3/19/2020	NWN-R16-200319-5.0	Discrete	Unsaturated	5.0	**0.0060**	**0.15**	**0.066**	0.0024	0.00024 J	0.055	0.0025
	Farallon	3/19/2020	NWN-R16-200319-10.0	Discrete	Unsaturated	10.0	**0.00046 J**	**0.021**	**0.0039**	< 0.0010	< 0.0010	0.0038	0.00050 J
	Farallon	3/19/2020	NWN-R16-200319-15.0	Discrete	Saturated	15.0	**0.0010**	**0.032**	**0.018**	0.00041 J	< 0.0010	0.0072	0.00047 J
NWN-R17	Farallon	3/19/2020	NWN-R17-200319-5.0	Discrete	Unsaturated	5.0	< 0.0011	**0.0014**	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
	Farallon	3/19/2020	NWN-R17-200319-10.0	Discrete	Unsaturated	10.0	**0.00015 J**	**0.0039**	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Farallon	3/19/2020	NWN-R17-200319-15.0	Discrete	Unsaturated	15.0	< 0.0010	**0.0021**	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
NWN-R18	Farallon	3/19/2020	NWN-R18-200319-5.0	Discrete	Unsaturated	5.0	**0.00074 J**	**0.0042**	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012
	Farallon	3/19/2020	NWN-R18-200319-10.0	Discrete	Unsaturated	10.0	**0.00045 J**	**0.0091**	**0.00054 J**	< 0.0012	< 0.0012	< 0.0012	< 0.0012
	Farallon	3/19/2020	NWN-R18-200319-15.0	Discrete	Unsaturated	15.0	**0.00028 J**	**0.0071**	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
NWN-MW05	Farallon	3/23/2020	NWN-MW05-200323-6.0	Discrete	Unsaturated	6.0	**0.0013**	**0.25**	**0.0011**	< 0.00097	< 0.00097	0.0026	< 0.00097
	Farallon	3/23/2020	NWN-MW05-200323-10.0	Discrete	Unsaturated	10.0	**0.00069 J**	**0.12**	**0.00046 J**	< 0.00082	0.00019 J	0.0040	< 0.00082
	Farallon	3/23/2020	NWN-MW05-200323-15.0	Discrete	Unsaturated	15.0	**0.00021 J**	**0.012**	< 0.0010	< 0.0010	< 0.0010	0.0019	< 0.0010
NWN-MW06	Farallon	3/23/2020	NWN-MW06-200323-6.0	Discrete	Unsaturated	6.0	**0.0013**	**0.22**	**0.0048**	0.0017	< 0.00096	0.027	0.00032 J
	Farallon	3/23/2020	NWN-MW06-200323-10.0	Discrete	Unsaturated	10.0	**0.00087 J**	**0.13**	**0.0019**	0.00075 J	< 0.0010	0.019	0.00063 J
	Farallon	3/23/2020	NWN-MW06-200323-15.0	Discrete	Unsaturated	15.0	**0.00053 J**	**0.077**	**0.00096**	0.00062 J	< 0.00084	0.0091	0.00031 J
NWN-MW07	Farallon	3/30/2020	NWN-MW07_200330-5	Discrete	Unsaturated	5.0	**0.00025 J**	**0.031**	**0.00049 J**	0.00038 J	< 0.0011	< 0.0011	< 0.0011
	Farallon	3/30/2020	NWN-MW07_200330-10	Discrete	Unsaturated	10.0	**0.0013**	**0.056**	**0.0082**	0.00061 J	< 0.0012	< 0.0012	< 0.0012
	Farallon	3/30/2020	NWN-MW07_200330-15	Discrete	Unsaturated	15.0	< 0.00097	**0.0031**	**0.00045 J**	< 0.00097	< 0.00097	< 0.00097	< 0.00097
NWN-MW09	Farallon	3/19/2020	NWN-MW09-200319-5	Discrete	Unsaturated	5.0	**0.00069 J**	**0.078**	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014
Anticipated MTCA Cleanup Level: Residential Direct Contact[3]							**0.24**	**0.24**	**0.2**	**NE**	**NE**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Industrial Direct Contact[3]							**10.5**	**10.5**	**8.75**	**NE**	**NE**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Vadose Zone[3]							**0.000063**	**0.00017**	**0.00008**	**NE**	**NE**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Saturated Zone[3]							**0.000004**	**0.000010**	**0.000005**	**NE**	**NE**	**NE**	**NE**

Table 6
Soil Analytical Results for Long-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[2] Perfluorooctanoic Acid	Perfluorooctane Sulfonic Acid	Perfluorononanoic Acid	Perfluorodecanoic Acid	Perfluorodecane Sulfonic Acid	Perfluoroundecanoic Acid	Perfluorododecanoic Acid
2021 Subsurface Investigation													
175 Newport Way Northwest													
NWN-MW10	Farallon	6/15/2021	NWN-MW10-3	Discrete	Unsaturated	3.0	**0.094**	**0.44**	**0.9**	0.0013	< 0.0011	0.0098	0.00041 J
	Farallon	6/15/2021	NWN-MW10-5	Discrete	Unsaturated	5.0	**0.0039**	**0.00087 J**	**0.0096**	< 0.0011	< 0.0011	< 0.0011	< 0.0011
	Farallon	6/15/2021	NWN-MW10-10	Discrete	Unsaturated	10.0	**0.00041 J**	**0.039**	**0.0028**	< 0.0010	< 0.0010	0.0013	< 0.0010
NWN-MW12	Farallon	6/15/2021	NWN-MW12-3	Discrete	Unsaturated	3.0	**0.047**	**0.48**	**0.62**	0.013	< 0.0013	0.23	0.0013 J
	Farallon	6/15/2021	NWN-MW12-5	Discrete	Unsaturated	5.0	**0.00086 J**	**0.0052**	**0.0056**	< 0.0012	< 0.0012	0.00099 J	< 0.0012
	Farallon	6/15/2021	NWN-MW12-10	Discrete	Unsaturated	10.0	**0.00063 J**	**0.0042**	**0.0071**	< 0.0014	< 0.0014	0.00039 J	< 0.0014
NWN-MW13	Farallon	6/15/2021	NWN-MW13-3	Discrete	Unsaturated	3.0	**0.0026**	**0.54**	**0.0033**	0.00090 J	< 0.0012	0.0028	< 0.0012
	Farallon	6/15/2021	NWN-MW13-5	Discrete	Unsaturated	5.0	**0.0011 J**	**0.046**	**0.00087 J**	< 0.0013	0.00058 J	0.0042	0.00063 J
	Farallon	6/15/2021	NWN-MW13-10	Discrete	Unsaturated	10.0	**0.00026 J**	**0.0065**	< 0.0011	0.00031 J	< 0.0011	0.0022	< 0.0011
NWN-MW14	Farallon	6/15/2021	NWN-MW14-3	Discrete	Unsaturated	3.0	**0.0013**	**0.028**	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012
	Farallon	6/15/2021	NWN-MW14-5	Discrete	Unsaturated	5.0	**0.0020**	**0.046**	**0.00051 J**	< 0.0011	< 0.0011	< 0.0011	< 0.0011
	Farallon	6/15/2021	NWN-MW144-5	Discrete	Unsaturated	5.0	**0.0014**	**0.041**	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
NWN-MW15	Farallon	6/17/2021	NWN-MW15-3	Discrete	Unsaturated	3.0	< 0.0011	**0.0091**	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
	Farallon	6/17/2021	NWN-MW15-5	Discrete	Unsaturated	5.0	**0.00025 J**	**0.0012**	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
NWN-MW16	Farallon	6/17/2021	NWN-MW11-3	Discrete	Unsaturated	3.0	**0.00023 J**	**0.011**	< 0.00093	< 0.00093	< 0.00093	0.00033 J	< 0.00093
	Farallon	6/17/2021	NWN-MW11-5	Discrete	Unsaturated	5.0	**0.00015 J**	**0.022**	< 0.0011	< 0.0011	< 0.0011	0.0011	< 0.0011
	Farallon	6/17/2021	NWN-MW111-5	Discrete	Unsaturated	5.0	**0.00022 J**	**0.054**	< 0.0012	< 0.0012	< 0.0012	0.00098 J	< 0.0012
NWN-R19	Farallon	6/15/2021	NWN-R19-3	Discrete	Unsaturated	3.0	**0.027**	**3.6**	**0.032**	0.0069	0.0020	0.16	0.0028
	Farallon	6/15/2021	NWN-R19-5	Discrete	Unsaturated	5.0	**0.01**	**1.5**	**0.016**	0.0065	< 0.0011	0.14	0.00054 J
	Farallon	6/15/2021	NWN-R19-10	Discrete	Unsaturated	10.0	**0.00040 J**	**0.018**	< 0.00091	< 0.00091	< 0.00091	0.00086 J	< 0.00091
NWN-R20	Farallon	6/15/2021	NWN-R20-3	Discrete	Unsaturated	3.0	**0.0041**	**0.89**	**0.0047**	0.0029	0.00079 J	0.0072	0.00076 J
	Farallon	6/15/2021	NWN-R20-5	Discrete	Unsaturated	5.0	**0.00099 J**	**0.14**	< 0.0013	< 0.0013	< 0.0013	0.0017	< 0.0013
	Farallon	6/15/2021	NWN-R20-10	Discrete	Unsaturated	10.0	**0.0042**	**2.5**	**0.0045**	0.00049 J	< 0.0014	< 0.0014	< 0.0014
	Farallon	6/15/2021	NWN-R20-15	Discrete	Unsaturated	15.0	< 0.0011	**0.0023**	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
NWN-R21	Farallon	6/15/2021	NWN-R21-3	Discrete	Unsaturated	3.0	**0.00060 J**	**0.076**	**0.0012**	0.00088 J	0.0013	0.0020	0.00056 J
	Farallon	6/15/2021	NWN-R21-6	Discrete	Unsaturated	6.0	**0.0036**	**0.64**	**0.0031**	0.00067 J	0.00026 J	0.00081 J	< 0.0011
	Farallon	6/15/2021	NWN-R211-6	Discrete	Unsaturated	6.0	**0.0042**	**0.35**	**0.0022**	0.00039 J	< 0.0010	0.00042 J	< 0.0010
	Farallon	6/15/2021	NWN-R21-10	Discrete	Unsaturated	10.0	**0.00045 J**	**0.042**	**0.00041 J**	< 0.00098	< 0.00098	0.00070 J	< 0.00098
	Farallon	6/15/2021	NWN-R21-15	Discrete	Saturated	15.0	**0.00016 J**	**0.0047**	< 0.0011	< 0.0011	< 0.0011	0.0011 J	< 0.0011
NWN-R22	Farallon	6/15/2021	NWN-R22-0.5-2.0-H	Discrete	Unsaturated	0.5 - 2.0	**0.022**	**2.7**	**0.019**	0.0018	0.0047	0.0029	0.00067 J
	Farallon	6/15/2021	NWN-R22-3	Discrete	Unsaturated	3.0	**0.025**	**3.3**	**0.0029**	< 0.0015	0.00043 J	0.00060 J	< 0.0015
	Farallon	6/15/2021	NWN-R22-5	Discrete	Unsaturated	5.0	**0.0040**	**0.39**	**0.00073 J**	< 0.0013	0.00052 J	0.0028	< 0.0013
	Farallon	6/15/2021	NWN-R22-10	Discrete	Unsaturated	10.0	**0.00040 J**	**0.14**	**0.00044 J**	0.00065 J	< 0.0011	0.012	< 0.0011
	Farallon	6/15/2021	NWN-R22-15	Discrete	Unsaturated	15.0	**0.00021 J**	**0.017**	< 0.0011	< 0.0011	< 0.0011	0.0023	< 0.0011
Anticipated MTCA Cleanup Level: Residential Direct Contact[3]							**0.24**	**0.24**	**0.2**	**NE**	**NE**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Industrial Direct Contact[3]							**10.5**	**10.5**	**8.75**	**NE**	**NE**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Vadose Zone[3]							**0.000063**	**0.00017**	**0.00008**	**NE**	**NE**	**NE**	**NE**
Anticipated MTCA Cleanup Level: Soil Leaching to Groundwater-Saturated Zone[3]							**0.000004**	**0.000010**	**0.000005**	**NE**	**NE**	**NE**	**NE**

NOTES:

Results in **bold** and highlighted yellow denote concentrations exceeding applicable cleanup levels.
< denotes analyte not detected at or exceeding the reporting limit listed.
— denotes sample not analyzed.
[1]Depth in feet below ground surface.
[2]Analyzed by U.S. Environmental Protection Agency Method 537 Modified.
[3]Anticipated Washington State Model Toxics Control Act Cleanup Regulation (MTCA) cleanup levels provided in an email regarding Anticipated Cleanup Levels for PFAS dated March 2, 2022 from P. Tomlinson of the Washington State Department of Ecology to

Farallon = Farallon Consulting, L.L.C.
Geosyntec = Geosyntec Consultants, Inc.
J = result is an estimate
NE = not established
PFAS = per- and poly-fluoroalkyl substances

Table 7
Groundwater Analytical Results for Short-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]					
					Perfluorobutanoic Acid	Perfluorobutane Sulfonic Acid	Perfluorohexanoic Acid	Perfluorohexane Sulfonic Acid	Perfluoroheptanoic Acid	Perfluoroheptane Sulfonic Acid
175 Newport Way Northwest										
NWN-MW01	Farallon	10/26/2018	NWN-MW01-181026	24.0	0.0078 J	0.0072	0.023	0.013	0.0069	< 0.0042
	Farallon	4/16/2020	NWN-MW01-200416	25.0	0.0028 J	0.0070	< 0.0092	0.033	0.0022 J	0.00091 J
	Farallon	9/2/2021	NWN-MW01-20210902	28.0	0.0043	0.015	< 0.0092	0.0091	0.0031 J	0.00088 J
	Farallon	1/17/2022	NWN-MW01-20220117	20.0	< 0.0044	0.0036 J	< 0.0092	0.0095	0.0023 J	0.00052 J
	Farallon	2/17/2022	NWN-MW01-20220217	25.0	0.0013 J	0.0036 J	< 0.0094	0.014	0.0014 J	0.00047 J
NWN-MW02	Farallon	10/26/2018	NWN-MW02-181026	26.0	0.0066 J	0.012	0.0097	**0.14**	0.0061	0.0021 J
	Farallon	4/16/2020	NWN-MW02-200416	24.0	0.017	0.047	0.051	**0.19**	0.020	0.010
	Farallon	10/29/2020	NWN-MW02-102920	27.0	0.021	0.021	0.042	**0.27**	0.02	0.0051
NWN-MW03	Farallon	10/26/2018	NWN-MW03-181026	26.0	0.17	0.061	0.55	**0.26**	0.17	0.013
	Farallon	4/17/2020	NWN-MW03-200417	25.0	0.22	0.13	0.96	**0.58**	0.26	0.028
	Farallon	7/16/2020	NWN-MW03-200716		0.11	0.046	0.48	**0.20**	0.13	0.011
	Farallon	10/29/2020	NWN-MW03-102920	26.0	0.16	0.074	0.44	**0.30**	0.14	0.012
	Farallon	9/2/2021	NWN-MW03-20210902	29.0	0.088	0.035	0.3	**0.16**	0.12	0.0085
	Farallon	10/18/2021	NWN-MW03-20211018	27.0	0.12	0.04	0.36	**0.20**	0.14	0.011
	Farallon	12/9/2021	NWN-MW03-20211209	22.0	0.24	0.22	0.76	**0.70**	0.21	0.041
	Farallon	1/17/2022	NWN-MW03-20220117	20.0	0.25	0.23	0.84	**0.90**	0.26	0.037
	Farallon	2/17/2022	NWN-MW03-20220217	25.0	0.21	0.12	0.76	**0.50**	0.26	0.018
NWN-MW04	Farallon	10/26/2018	NWN-MW04-181026	13.0 - 23.0	0.17	0.14	0.67	**0.61**	0.16	0.043
	Farallon	10/26/2018	NWN-MW04-181026-DUP		0.17	0.13	0.67	**0.65**	0.17	0.038
	Farallon	4/17/2020	NWN-MW04-200417	18.0	0.065	0.041	0.24	**0.31**	0.11	0.025
	Farallon	4/17/2020	NWN-MW44-200417		0.064	0.039	0.24	**0.27**	0.093	0.024
	Farallon	7/16/2020	NWN-MW04-200716		0.055	0.021	0.19	**0.15**	0.062	0.0098
	Farallon	7/16/2020	NWN-MW44-200716		0.053	0.023	0.19	**0.15**	0.074	0.0095
	Farallon	10/29/2020	NWN-MW04-102920		0.15	0.079	0.45	**0.34**	0.16	0.015
	Farallon	10/29/2020	NWN-MW44-102920		0.46	0.28	0.48	**0.32**	0.21	0.016
	Farallon	9/2/2021	NWN-MW04-20210902	20.0	0.064	0.037	0.22	**0.21**	0.10	0.012
	Farallon	10/18/2021	NWN-MW04-20211018	16.0	0.087	0.059	0.22	**0.24**	0.14	0.0097
	Farallon	12/9/2021	NWN-MW04-20211209	12.0	0.20	0.15	0.61	**0.69**	0.23	0.03
	Farallon	1/18/2022	NWN-MW04-20220118		0.20	0.094	0.56	**0.64**	0.26	0.035
	Farallon	2/17/2022	NWN-MW04-20220217	15.0	0.11	0.046	0.36	**0.45**	0.17	0.022
NWN-MW05	Farallon	4/16/2020	NWN-MW05-200416	15.0	0.19	0.26	0.49	**1.6**	0.24	0.081
	Farallon	7/16/2020	NWN-MW05-200716		0.21	0.18	0.58	**1.3**	0.23	0.067
	Farallon	10/29/2020	NWN-MW05-102920		0.48	0.081	1.1	**1.8**	0.46	0.084
NWN-MW06	Farallon	4/17/2020	NWN-MW06-200417	20.0	0.24	0.31	0.79	**2.0**	0.29	0.13
	Farallon	7/16/2020	NWN-MW06-200716		0.15	0.17	0.49	**0.99**	0.18	0.069
	Farallon	9/1/2021	NWN-MW06-20210901	23.0	0.14	0.15	0.44	**1.1**	0.19	0.072
	Farallon	10/18/2021	NWN-MW06-20211018	20.0	0.15	0.14	0.43	**1.0** H*	0.22	0.045
	Farallon	12/9/2021	NWN-MW06-20211209	18.0	0.15	0.016	0.063	**0.072**	0.012	0.0039 J
	Farallon	1/18/2022	NWN-MW06-20220118	15.0	0.30	0.12	0.38	**0.59**	0.12	0.029
	Farallon	2/17/2022	NWN-MW06-20220217	19.0	0.29	0.039	0.19	**0.14**	0.041	0.0042 J
State Action Level[3]					**NE**	**0.345**	**NE**	**0.065**	**NE**	**NE**

Table 7
Groundwater Analytical Results for Short-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]					
					Perfluorobutanoic Acid	Perfluorobutane Sulfonic Acid	Perfluorohexanoic Acid	Perfluorohexane Sulfonic Acid	Perfluoroheptanoic Acid	Perfluoroheptane Sulfonic Acid
NWN-MW07	Farallon	4/17/2020	NWN-MW07-200417	21.5	0.17	0.16	0.74	**0.65**	0.22	0.044
	Farallon	4/17/2020	NWN-MW77-200417		0.16	0.16	0.70	**0.64**	0.21	0.041
	Farallon	7/16/2020	NWN-MW07-200716		0.10	0.086	0.43	**0.36**	0.12	0.025
	Farallon	10/29/2020	NWN-MW07-102920	22.0	0.31	0.31	1.2	**0.75**	0.26	0.026
	Farallon	10/18/2021	NWN-MW07-20211018	25.0	0.16	0.14	0.52	**0.24**	0.17	0.014
	Farallon	12/9/2021	NWN-MW07-20211209	18.0	0.21	0.15	0.8	**0.47**	0.20	0.021
	Farallon	1/18/2022	NWN-MW07-20220118		0.33	**0.41**	1.5	**1.3**	0.39	0.057
	Farallon	2/17/2022	NWN-MW07-20220217	22.0	0.14	0.056	0.28	**0.17**	0.076	0.0049
NWN-MW08	Farallon	4/17/2020	NWN-MW08-200417	75.0	< 0.0040	0.00080 J	< 0.0092	0.0013 J	< 0.0040	< 0.0040
	Farallon	7/15/2020	NWN-MW08-200715		0.00062 J	0.00089 J	< 0.0092	0.0042	< 0.0040	< 0.0040
	Farallon	10/29/2020	NWN-MW08-102920	71.0	0.00045 J	0.00081 J	< 0.0092	0.0016 J	< 0.0045	< 0.0045
NWN-MW09	Farallon	4/17/2020	NWN-MW09-200417	47.5	0.029	0.025	0.099	**0.091**	0.04	0.0041
	Farallon	7/16/2020	NWN-MW09-200716		0.012	0.011	0.038	0.031	0.013	0.0017 J
	Farallon	10/29/2020	NWN-MW09-102920	45.0	0.011	0.0089	0.024	0.027	0.0095	0.0013 J
	Farallon	9/2/2021	NWN-MW09-20210902	30.0	0.026	0.019	0.077	**0.073**	0.033	0.0031 J
	Farallon	10/18/2021	NWN-MW09-20211018	24.0	0.012	0.012	0.035	0.032	0.016	0.0017 J
	Farallon	12/9/2021	NWN-MW09-20211209	22.0	0.046	0.036	0.14	**0.17**	0.043	0.0053
	Farallon	1/17/2022	NWN-MW09-22020117	20.0	0.038	0.033	0.12	**0.15**	0.06	0.0048
	Farallon	2/17/2022	NWN-MW09-20220217	25.0	0.029	0.021	0.095	**0.12**	0.042	0.0031 J
NWN-MW10	Farallon	9/1/2021	NWN-MW10-20210901	23.5	0.092	0.073	0.30	**0.46**	0.13	0.028
	Farallon	9/1/2021	NWN-MW99-20210901		0.097	0.076	0.32	**0.49**	0.13	0.030
	Farallon	10/18/2021	NWN-MW10-20211018	22.0	0.11	0.074	0.36	**0.41**	0.14	0.022
	Farallon	10/18/2021	NWN-MW-99-20211018		0.099	0.073	0.33	**0.37**	0.14	0.02
	Farallon	12/9/2021	NWN-MW10-20211209	18.0	0.042	0.0012 J	< 0.0092	0.0034 J	0.0016 J	< 0.0044
	Farallon	12/9/2021	NWN-MW99-20211209		0.04	0.00087 J	< 0.0092	0.0043	< 0.0043	< 0.0043
	Farallon	1/18/2022	NWN-MW10-20220118	15.0	0.055	0.0027 J	0.011	0.0099	0.0026 J	0.00099 J
	Farallon	1/18/2022	NWN-MW99-20220118		0.057	0.0031 J	0.012	0.012	0.0027 J	0.00089 J
	Farallon	2/17/2022	NWN-MW10-20220217	19.0	0.062	0.0020 J	0.017	0.0079	0.0037 J	< 0.0045
	Farallon	2/17/2022	NWN-MW99-20220217		0.067	0.0020 J	0.019	0.0085	0.0040 J	< 0.0045
NWN-MW12	Farallon	9/1/2021	NWN-MW12-20210901	20.0	0.047	0.023	0.18	**0.095**	0.064	0.0051
	Farallon	10/18/2021	NWN-MW12-20211018	18.0	0.096	0.084	0.33	**0.34**	0.12	0.013
	Farallon	12/9/2021	NWN-MW12-20211209	12.0	0.27	0.071	1.0	**0.33**	0.30	0.012
	Farallon	1/18/2022	NWN-MW12-20220118		0.34	0.084	1.6	**0.43**	0.49	0.013
	Farallon	2/17/2022	NWN-MW12-20220217	15.0	0.21	0.057	0.81	**0.37**	0.31	0.012
NWN-MW13	Farallon	9/2/2021	NWN-MW13-20210902	17.0	0.029 J	0.0081	0.084	0.065	0.055	0.0037 J
	Farallon	10/18/2021	NWN-MW13-20211018	14.0	0.12	0.049	0.26	**0.24**	0.19	0.0057
	Farallon	12/9/2021	NWN-MW13-20211209	12.0	0.085	0.066	0.21	**0.52**	0.11	0.0098
	Farallon	1/18/2022	NWN-MW13-20220118		0.076	0.051	0.16	**0.56**	0.13	0.012
	Farallon	2/17/2022	NWN-MW13-20220217	9.0	0.033	0.016	0.081	**0.14**	0.069	0.0025 J
State Action Level[3]					**NE**	**0.345**	**NE**	**0.065**	**NE**	**NE**

Table 7
Groundwater Analytical Results for Short-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]					
					Perfluorobutanoic Acid	Perfluorobutane Sulfonic Acid	Perfluorohexanoic Acid	Perfluorohexane Sulfonic Acid	Perfluoroheptanoic Acid	Perfluoroheptane Sulfonic Acid
NWN-MW14	Farallon	1/18/2022	NWN-MW14-20220118	12.0	0.32	0.088	1.6	**0.57**	0.42	0.019
	Farallon	2/17/2022	NWN-MW14-20220217	15.0	0.11	0.032	0.44	**0.23**	0.19	0.0072
NWN-MW15	Farallon	9/2/2021	NWN-MW15-20210902	28.0	0.066	0.045	0.25	**0.17**	0.074	0.011
	Farallon	1/17/2022	NWN-MW15-20220117	20.0	0.062	0.084	0.17	**0.41**	0.066	0.018
	Farallon	2/17/2022	NWN-MW15-20220217	25.0	0.054	0.087	0.19	**0.32**	0.062	0.013
NWN-MW16	Farallon	9/2/2021	NWN-MW16-20210902	28.0	0.05	0.016	0.15	0.063	0.069	0.0024 J
	Farallon	1/17/2022	NWN-MW16-20220117	20.0	0.061	0.055	0.20	**0.31**	0.083	0.016
	Farallon	2/17/2022	NWN-MW16-20220217	25.0	0.11	0.043	0.46	**0.24**	0.19	0.0086
B-4	Farallon	7/16/2020	B-4-200716	20.0 - 30.0	0.00094 J	0.0052	< 0.0092	0.014	< 0.0040	0.00062 J
B-2	Farallon	10/29/2020	B-2-102920	25.0	0.0019 J	0.0024 J	< 0.0092	0.0032 J	< 0.0043	< 0.0043
State Action Level[3]					**NE**	**0.345**	**NE**	**0.065**	**NE**	**NE**

NOTES:

Results in **bold** and highlighted yellow denote concentrations exceeding applicable action and cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Depth in feet below ground surface.

[2]Samples collected in 2016 analyzed by U.S. Environmental Protection Agency (EPA) Method 537; samples collected in 2018, 2020, and 2021 analyzed by Modified EPA Method 537.

[3]*Recommended State Action Levels for Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water: Approach, Methods, and Supporting Information* dated August 1, 2021 prepared by the Washington State Department of Health.

Farallon = Farallon Consulting, L.L.C.

H* = Re-analysis at a dilution was required; the re-analysis was performed past the recommended holding time

J = result is an estimate

NE = not established

PFAS = per- and poly-fluoroalkyl substances

Table 8
Groundwater Analytical Results for Long-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]						
					Perfluorooctanoic Acid	Perfluorooctane Sulfonic Acid	Perfluorononanoic Acid	Perfluorodecanoic Acid	Perfluorodecane Sulfonic Acid	Perfluoroundecanoic Acid	Perfluorododecanoic Acid
175 Newport Way Northwest											
NWN-MW01	Farallon	10/26/2018	NWN-MW01-181026	24.0	**0.012** J	**0.052**	0.0030 J	0.00094 J	< 0.0042	< 0.0042	< 0.0042
	Farallon	4/16/2020	NWN-MW01-200416	25.0	0.0032	**0.063**	< 0.0041	< 0.0041	< 0.0041	< 0.0041	< 0.0041
	Farallon	9/2/2021	NWN-MW01-20210902	28.0	0.0056	**0.062**	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
	Farallon	1/17/2022	NWN-MW01-20220117	20.0	0.0039	**0.028**	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044
	Farallon	2/17/2022	NWN-MW01-20220217	25.0	0.0020	**0.031**	< 0.0047	< 0.0047	< 0.0047	< 0.0047	< 0.0047
NWN-MW02	Farallon	10/26/2018	NWN-MW02-181026	26.0	0.0091	**0.086**	0.0043	0.0029 J	< 0.0042	0.0027 J	< 0.0042
	Farallon	4/16/2020	NWN-MW02-200416	24.0	**0.023**	**0.61**	0.0047	0.0013 J	< 0.0040	< 0.0040	< 0.0040
	Farallon	10/29/2020	NWN-MW02-102920	27.0	**0.020**	**0.27**	0.0067	0.0035 J	< 0.0045	0.0025 J	< 0.0045
NWN-MW03	Farallon	10/26/2018	NWN-MW03-181026	26.0	**0.16**	**1.0**	**0.13**	0.0081	< 0.0042	0.057	< 0.0042
	Farallon	4/17/2020	NWN-MW03-200417	25.0	**0.37**	**2.2**	**0.23**	0.011	< 0.0040	0.049	< 0.0040
	Farallon	7/16/2020	NWN-MW03-200716		**0.17**	**0.90**	**0.081**	0.0056	< 0.0040	0.034	< 0.0040
	Farallon	10/29/2020	NWN-MW03-102920	26.0	**0.12**	**0.68**	**0.073**	0.0056	< 0.0042	0.029	< 0.0042
	Farallon	9/2/2021	NWN-MW03-20210902	29.0	**0.097**	**0.82**	**0.056**	0.0046	< 0.0042	0.023	< 0.0042
	Farallon	10/18/2021	NWN-MW03-20211018	27.0	**0.13**	**0.78** H*	**0.073**	0.0058	< 0.0045	0.034	< 0.0045
	Farallon	12/9/2021	NWN-MW03-20211209	22.0	**0.29**	**1.9**	**0.17**	0.0089	< 0.0045	0.05	< 0.0045
	Farallon	1/17/2022	NWN-MW03-20220117	20.0	**0.24**	**2.4**	**0.28**	0.0099	< 0.0044	0.047	< 0.0044
	Farallon	2/17/2022	NWN-MW03-20220217	25.0	**0.18**	**1.6**	**0.18**	0.0077	< 0.0046	0.034	< 0.0046
NWN-MW04	Farallon	10/26/2018	NWN-MW04-181026	13.0 - 23.0	**0.20**	**2.2**	**0.057**	0.017	< 0.0042	0.062	< 0.0042
	Farallon	10/26/2018	NWN-MW04-181026-DUP		**0.21**	**2.4**	**0.057**	0.016	< 0.0042	0.061	< 0.0042
	Farallon	4/17/2020	NWN-MW04-200417	18.0	**0.13**	**2.6**	**0.043**	0.013	0.00059 J	0.040	< 0.0040
	Farallon	4/17/2020	NWN-MW44-200417		**0.13**	**2.7**	**0.042**	0.012	0.00061 J	0.041	< 0.0040
	Farallon	7/16/2020	NWN-MW04-200716		**0.091**	**1.5**	**0.028**	0.011	0.0012 J	0.038	< 0.0041
	Farallon	7/16/2020	NWN-MW44-200716		**0.089**	**1.3**	**0.025**	0.010	0.00075 J	0.038	< 0.0042
	Farallon	10/29/2020	NWN-MW04-102920		**0.14**	**1.6**	**0.033**	0.012	0.0048 J	0.037	< 0.0044
	Farallon	10/29/2020	NWN-MW44-102920		**0.15**	**1.7**	**0.036**	0.012	0.00071 J	0.033	< 0.0043
	Farallon	9/2/2021	NWN-MW04-20210902	20.0	**0.094**	**1.4**	**0.027**	0.0083	0.00082 J	0.034	< 0.0042
	Farallon	10/18/2021	NWN-MW04-20211018	16.0	**0.093**	**1.1** H*	**0.025**	0.0094	0.00095 J	0.031	< 0.0044
	Farallon	12/9/2021	NWN-MW04-20211209	12.0	**0.31**	**1.9**	**0.044**	0.012	< 0.0045	0.037	< 0.0045
	Farallon	1/18/2022	NWN-MW04-20220118		**0.27**	**2.3**	**0.053**	0.013	< 0.0044	0.041	< 0.0044
	Farallon	2/17/2022	NWN-MW04-20220217	15.0	**0.17**	**2.4**	**0.041**	0.013	0.0012 J	0.036	< 0.0045
NWN-MW05	Farallon	4/16/2020	NWN-MW05-200416	15.0	**0.32**	**4.7**	**0.095**	0.033	0.0016 J	0.040	< 0.0040
	Farallon	7/16/2020	NWN-MW05-200716		**0.33**	**2.8**	**0.080**	0.015	0.0018 J	0.023	< 0.0039
	Farallon	10/29/2020	NWN-MW05-102920		**0.49**	**4.8**	**0.12**	0.040	0.0040 J	0.057	< 0.0045
State Action Level[3]					**0.010**	**0.015**	**0.014**	**NE**	**NE**	**NE**	**NE**

Table 8
Groundwater Analytical Results for Long-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]						
					Perfluorooctanoic Acid	Perfluorooctane Sulfonic Acid	Perfluorononanoic Acid	Perfluorodecanoic Acid	Perfluorodecane Sulfonic Acid	Perfluoroundecanoic Acid	Perfluorododecanoic Acid
175 Newport Way Northwest											
NWN-MW06	Farallon	4/17/2020	NWN-MW06-200417	20.0	**0.41**	**8.6**	**0.12**	0.033	0.0022 J	0.12	0.0016 J
	Farallon	7/16/2020	NWN-MW06-200716		**0.28**	**5.0**	**0.076**	0.026	0.0034 J	0.11	< 0.0039
	Farallon	9/1/2021	NWN-MW06-20210901	23.0	**0.25**	**6.8**	**0.075**	0.023	0.0047	0.081	< 0.0042
	Farallon	10/18/2021	NWN-MW06-20211018	20.0	**0.21**	**3.5** H*	**0.059**	0.019	0.0024 J	0.059	< 0.0043
	Farallon	12/9/2021	NWN-MW06-20211209	18.0	**0.019**	**0.23**	0.0058	< 0.0044	0.00039 J	0.0038 J	< 0.0044
	Farallon	1/18/2022	NWN-MW06-20220118	15.0	**0.12**	**1.4**	**0.039**	0.0040 J	< 0.0045	0.012	< 0.0045
	Farallon	2/17/2022	NWN-MW06-20220217	19.0	**0.029**	**0.33**	0.0056	< 0.0045	< 0.0045	0.0037 J	< 0.0045
NWN-MW07	Farallon	4/17/2020	NWN-MW07-200417	21.5	**0.22**	**2.9**	**0.29**	0.014	< 0.0041	0.053	< 0.0041
	Farallon	4/17/2020	NWN-MW77-200417		**0.21**	**3.0**	**0.27**	0.013	< 0.0041	0.051	< 0.0041
	Farallon	7/16/2020	NWN-MW07-200716		**0.14**	**2.0**	**0.22**	0.012	< 0.0041	0.097	< 0.0041
	Farallon	10/29/2020	NWN-MW07-102920	22.0	**0.16**	**1.7**	**0.26**	0.011	< 0.0044	0.071	< 0.0044
	Farallon	10/18/2021	NWN-MW07-20211018	25.0	**0.14**	**0.67** H*	**0.083**	0.0034 J	< 0.0045	0.015	< 0.0045
	Farallon	12/9/2021	NWN-MW07-20211209	18.0	**0.37**	**0.83**	**0.15**	0.0070	< 0.0045	0.020	< 0.0045
	Farallon	1/18/2022	NWN-MW07-20220118		**0.35**	**2.6**	**0.64**	0.015	< 0.0044	0.037	< 0.0044
	Farallon	2/17/2022	NWN-MW07-20220217	22.0	**0.042**	**0.49**	**0.092**	0.0035 J	< 0.0045	0.012	< 0.0045
NWN-MW08	Farallon	4/17/2020	NWN-MW08-200417	75.0	0.00063 J	0.0046	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	7/15/2020	NWN-MW08-200715		0.00077 J	0.0047	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	10/29/2020	NWN-MW08-102920	71.0	0.00052 J	0.0016 J	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
NWN-MW09	Farallon	4/17/2020	NWN-MW09-200417	47.5	**0.022**	**0.23**	**0.0092**	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	7/16/2020	NWN-MW09-200716		**0.011**	**0.10**	0.0046	< 0.0041	< 0.0041	< 0.0041	< 0.0041
	Farallon	10/29/2020	NWN-MW09-102920	45.0	**0.011**	**0.092**	0.0037 J	< 0.0043	< 0.0043	< 0.0043	< 0.0043
	Farallon	9/2/2021	NWN-MW09-20210902	30.0	**0.019**	**0.22**	**0.011**	< 0.0042	< 0.0042	< 0.0042	< 0.0042
	Farallon	10/18/2021	NWN-MW09-20211018	24.0	**0.011**	**0.10** H*	0.0041 J	< 0.0045	< 0.0045	< 0.0045	< 0.0045
	Farallon	12/9/2021	NWN-MW09-20211209	22.0	**0.047**	**0.25**	**0.012**	0.0013 J	< 0.0044	< 0.0044	< 0.0044
	Farallon	1/17/2022	NWN-MW09-22020117	20.0	**0.038**	**0.33**	**0.013**	< 0.0045	< 0.0045	< 0.0045	< 0.0045
	Farallon	2/17/2022	NWN-MW09-20220217	25.0	**0.022**	**0.31**	**0.0096**	< 0.0046	< 0.0046	< 0.0046	< 0.0046
NWN-MW10	Farallon	9/1/2021	NWN-MW10-20210901	23.5	**0.14**	**2.4**	**0.051**	0.0094	0.00060 J	0.053	< 0.0042
	Farallon	9/1/2021	NWN-MW99-20210901		**0.14**	**2.6**	**0.057**	0.010	0.00084 J	0.055	< 0.0044
	Farallon	10/18/2021	NWN-MW10-20211018	22.0	**0.12**	**1.6** H*	**0.19**	0.0066	0.00042 J	0.034	< 0.0045
	Farallon	10/18/2021	NWN-MW-99-20211018		**0.11**	**1.2** H*	**0.17**	0.0064	0.00033 J	0.03	< 0.0045
	Farallon	12/9/2021	NWN-MW10-20211209	18.0	0.0016 J	0.011	0.0018 J	< 0.0044	< 0.0044	< 0.0044	< 0.0044
	Farallon	12/9/2021	NWN-MW99-20211209		0.0011 J	0.011	0.0015 J	< 0.0043	< 0.0043	< 0.0043	< 0.0043
	Farallon	1/18/2022	NWN-MW10-20220118	15.0	0.0039	**0.047**	**0.011**	< 0.0045	< 0.0045	0.0017 J	< 0.0045
	Farallon	1/18/2022	NWN-MW99-20220118		0.0036	**0.054**	**0.014**	< 0.0045	< 0.0045	0.0020 J	< 0.0045
	Farallon	2/17/2022	NWN-MW10-20220217	19.0	0.0025	**0.025**	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
	Farallon	2/17/2022	NWN-MW99-20220217		0.0027	**0.026**	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
State Action Level[3]					**0.010**	**0.015**	**0.009**	**NE**	**NE**	**NE**	**NE**

Table 8
Groundwater Analytical Results for Long-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]						
					Perfluorooctanoic Acid	Perfluorooctane Sulfonic Acid	Perfluorononanoic Acid	Perfluorodecanoic Acid	Perfluorodecane Sulfonic Acid	Perfluoroundecanoic Acid	Perfluorododecanoic Acid
NWN-MW12	Farallon	9/1/2021	NWN-MW12-20210901	20	**0.05**	**0.46**	**0.016**	0.0025 J	< 0.0042	0.0024 J	< 0.0042
	Farallon	10/18/2021	NWN-MW12-20211018	18.0	**0.097**	**0.65** H*	**0.024**	0.0036 J	< 0.0043	0.0035 J	< 0.0043
	Farallon	12/9/2021	NWN-MW12-20211209	12.0	**0.60**	**0.84**	**0.055**	0.01	< 0.0045	0.0039 J	< 0.0045
	Farallon	1/18/2022	NWN-MW12-20220118		**1.0**	**0.88**	**0.059**	0.012	< 0.0045	0.0023 J	< 0.0045
	Farallon	2/17/2022	NWN-MW12-20220217	15.0	**0.49**	**0.89**	**0.045**	0.0093	< 0.0045	0.0018 J	< 0.0045
NWN-MW13	Farallon	9/2/2021	NWN-MW13-20210902	17	**0.041**	**0.38**	**0.019**	0.0045 J	0.00035 J	0.012	< 0.0045
	Farallon	10/18/2021	NWN-MW13-20211018	14.0	**0.14**	**0.48**	**0.026**	0.0087	0.00066 J	0.016	< 0.0045
	Farallon	12/9/2021	NWN-MW13-20211209	12.0	**0.17**	**0.75**	**0.03**	0.015	0.00048 J	0.041	< 0.0045
	Farallon	1/18/2022	NWN-MW13-20220118		**0.12**	**0.60**	**0.031**	0.014	< 0.0045	0.043	< 0.0045
	Farallon	2/17/2022	NWN-MW13-20220217	9.0	**0.053**	**0.37**	**0.017**	0.0088	0.00039 J	0.018	< 0.0045
NWN-MW14	Farallon	1/18/2022	NWN-MW14-20220118	12.0	**0.98**	**1.2**	**0.084**	0.029	< 0.0045	0.0026 J	< 0.0045
	Farallon	2/17/2022	NWN-MW14-20220217	15.0	**0.19**	**0.69**	**0.031**	0.01	< 0.0045	< 0.0045	< 0.0045
NWN-MW15	Farallon	9/2/2021	NWN-MW15-20210902	28.0	**0.064**	**1.3**	**0.059**	0.0043	< 0.0042	0.0049	< 0.0042
	Farallon	1/17/2022	NWN-MW15-20220117	20.0	**0.074**	**1.2**	0.0086	< 0.0044	< 0.0044	< 0.0044	< 0.0044
	Farallon	2/17/2022	NWN-MW15-20220217	25.0	**0.04**	**0.78**	0.0064	< 0.0048	< 0.0048	< 0.0048	< 0.0048
NWN-MW16	Farallon	9/2/2021	NWN-MW16-20210902	28.0	**0.037**	**0.25**	0.0079	< 0.0042	< 0.0042	0.0051	< 0.0042
	Farallon	1/17/2022	NWN-MW16-20220117	20.0	**0.069**	**1.0**	**0.040**	0.0031 J	< 0.0045	0.018	< 0.0045
	Farallon	2/17/2022	NWN-MW16-20220217	25.0	**0.14**	**0.71**	**0.047**	0.0039 J	< 0.0045	0.028	< 0.0045
B-4	Farallon	7/16/2020	B-4-200716	20.0 - 30.0	0.00078 J	0.012	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
B-2	Farallon	10/29/2020	B-2-102920	25.0	0.00077 J	0.0036 J	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043
State Action Level[3]					**0.010**	**0.015**	**0.009**	**NE**	**NE**	**NE**	**NE**

NOTES:

Results in **bold** and highlighted yellow denote concentrations exceeding applicable action and cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

— denotes sample not analyzed.

[1]Depth in feet below ground surface.

[2]Samples collected in 2016 analyzed by U.S. Environmental Protection Agency (EPA) Method 537; samples collected in 2018, 2020, and 2021 analyzed by EPA Method 537 Modified.

[3]*Recommended State Action Levels for Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water: Approach, Methods, and Supporting Information* dated August 1, 2021 prepared by the Washington State Department of Health.

Farallon = Farallon Consulting, L.L.C.

Geosyntec = Geosyntec Consultants, Inc.

H* = Re-analysis at a dilution was required; the re-analysis was performed past the recommended holding time

HWA = HWA Geosciences Inc.

J = result is an estimate

NE = not established

PFAS = per- and poly-fluoroalkyl substances

Table 9
Field QC Sample Analytical Results for Short-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Type	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]					
				Perfluorobutanoic Acid	Perfluorobutane Sulfonic Acid	Perfluorohexanoic Acid	Perfluorohexane Sulfonic Acid	Perfluoroheptanoic Acid	Perfluoroheptane Sulfonic Acid
Field Blank Samples									
Field Blank	Farallon	6/15/2021	FB_01_20210615	< 0.0047	< 0.0047	< 0.0094	< 0.0047	< 0.0047	< 0.0047
Rinsate Blank Samples									
Rinsate Blank	Farallon	6/16/2021	RB_01_20210616	< 0.0043	< 0.0043	< 0.0092	< 0.0043	< 0.0043	< 0.0043
Rinsate Blank	Farallon	9/1/2021	RINSATE-20210901	< 0.0042	< 0.0042	< 0.0092	< 0.0042	< 0.0042	< 0.0042
Rinsate Blank	Farallon	10/18/2021	RINSATE01-20211018	< 0.0045	< 0.0045	< 0.0092	< 0.0045	< 0.0045	< 0.0045
Rinsate Blank	Farallon	12/9/2021	RINSATE BLANK 01-20211209	< 0.0044	< 0.0044	< 0.0092	< 0.0044	< 0.0044	< 0.0044
Rinsate Blank	Farallon	1/17/2022	RINSATE BLANK 01-20220117	< 0.0044	< 0.0044	< 0.0092	< 0.0044	< 0.0044	< 0.0044
Rinsate Blank	Farallon	2/17/2022	RINSATE BLANK 01-20220217	< 0.0046	< 0.0046	< 0.0093	< 0.0046	< 0.0046	< 0.0046
Trip Blank Samples									
Trip Blank	Farallon	6/17/2021	TB_01_20210617	< 0.0043	< 0.0043	< 0.0092	< 0.0043	< 0.0043	< 0.0043
Trip Blank	Farallon	6/17/2021	TB_02_20210617	< 0.0044	< 0.0044	< 0.0092	< 0.0044	< 0.0044	< 0.0044
Trip Blank	Farallon	9/2/2021	TRIP BLANK-20210902	0.0013 J	< 0.0045	< 0.0092	< 0.0045	< 0.0045	< 0.0045
Trip Blank	Farallon	10/18/2021	TRIP BLANK 01-20211018	< 0.0046	< 0.0046	< 0.0093	< 0.0046	< 0.0046	< 0.0046
Trip Blank	Farallon	12/9/2021	TRIP BLANK01-20211209	< 0.0045	< 0.0045	< 0.0092	< 0.0045	< 0.0045	< 0.0045
Trip Blank	Farallon	1/18/2022	TRIP BLANK 01-20220118	< 0.0045	< 0.0045	< 0.0092	< 0.0045	< 0.0045	< 0.0045
Trip Blank	Farallon	2/17/2022	TRIP BLANK 01-20220217	< 0.0049	< 0.0049	< 0.0098	< 0.0049	< 0.0049	< 0.0049
State Action Level[2]				**NE**	**0.345**	**NE**	**0.065**	**NE**	**NE**

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Analyzed by U.S. Environmental Protection Agency Method 537 Modified.

[2]*Recommended State Action Levels for Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water: Approach, Methods, and Supporting Information* dated August 1, 2021 prepared by the Washington State Department of Health.

Farallon = Farallon Consulting, L.L.C.

NE = not established

PFAS = per- and poly-fluoroalkyl substances

QC = quality control

Table 10
Field QC Sample Analytical Results for Long-Chain PFAS
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Type	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]						
				Perfluorooctanoic Acid	Perfluorooctane Sulfonic Acid	Perfluorononanoic Acid	Perfluorodecanoic Acid	Perfluorodecane Sulfonic Acid	Perfluoroundecanoic Acid	Perfluorododecanoic Acid
Field Blank Samples										
Field Blank	Farallon	6/15/2021	FB_01_20210615	< 0.0019	< 0.0047	< 0.0047	< 0.0047	< 0.0047	< 0.0047	< 0.0047
Rinsate Blank Samples										
Rinsate Blank	Farallon	6/16/2021	RB_01_20210616	< 0.0017	0.0042	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043
Rinsate Blank	Farallon	9/1/2021	RINSATE-20210901	0.00087 J	0.00079 J	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
Rinsate Blank	Farallon	10/18/2021	RINSATE01-20211018	< 0.0018	0.00073 J	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
Rinsate Blank	Farallon	12/9/2021	RINSATE BLANK 01-20211209	< 0.0018	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044
Rinsate Blank	Farallon	1/17/2022	RINSATE BLANK 01-20220117	0.00082 J	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044
Rinsate Blank	Farallon	2/17/2022	RINSATE BLANK 01-20220217	< 0.0019	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046
Trip Blank Samples										
Trip Blank	Farallon	6/17/2021	TB_01_20210617	< 0.0017	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043
Trip Blank	Farallon	6/17/2021	TB_02_20210617	< 0.0018	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044
Trip Blank	Farallon	9/2/2021	TRIP BLANK-20210902	0.00077 J	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
Trip Blank	Farallon	10/18/2021	TRIP BLANK 01-20211018	< 0.0019	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046	< 0.0046
Trip Blank	Farallon	12/9/2021	TRIP BLANK01-20211209	< 0.0018	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
Trip Blank	Farallon	1/18/2022	TRIP BLANK 01-20220118	0.00059 J	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
Trip Blank	Farallon	2/17/2022	TRIP BLANK 01-20220217	< 0.002	< 0.0049	< 0.0049	< 0.0049	< 0.0049	< 0.0049	< 0.0049
State Action Level[2]				**0.010**	**0.015**	**0.009**	**NE**	**NE**	**NE**	**NE**

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Analyzed by U.S. Environmental Protection Agency Method 537 Modified.

[2]*Recommended State Action Levels for Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water: Approach, Methods, and Supporting Information* dated August 1, 2021 prepared by the Washington State Department of Health.

Farallon = Farallon Consulting, L.L.C.
J = result is an estimate
NE = not established
PFAS = per- and poly-fluoroalkyl substances
QC = quality control

Table 11
Groundwater General Chemistry Analytical Results
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Sample Location			**NWN-MW10**	**NWN-MW14**
Sample Identification			**NWN-MW10-20210730**	**NWN-MW14-20210730**
Sample Date			**7/30/2021**	**7/30/2021**
Parameter	**Analytical Units**	**MTCA Cleanup Levels[1]**		
Total Petroleum Hydrocarbons				
Gasoline-range Organics[2]	µg/l	**800/1,000[3]**	< 100	< 100
Diesel-Range Organics[4]	µg/l	**500**	< 210	< 210
Oil-Range Organics[4]	µg/l	**500**	< 210	280
Geochemical Parameters				
Alkalinity[5]	mg/l-CaCO3	**NE**	65	87
Hardness[6]	mg/l-CaCO3	**NE**	63	76
Total Calcium[7]	mg/l	**NE**	15	18
Dissolved Calcium[7]	mg/l	**NE**	14	16
Total Organic Carbon[8]	mg/l	**NE**	1.3	1.3
Dissolved Organic Carbon[8]	mg/l	**NE**	1.6	1.3

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as amended 2013.

[2]Analyzed by Northwest Method NWTPH-Gx.

[3]Cleanup level is 800 micrograms per liter if benzene is detected, and 1,000 micrograms per liter if benzene is not detected.

[4]Analyzed by Northwest Method NWTPH-Dx.

[5]Analyzed by U.S. Environmental Protection Agency (EPA) Method 310.2.

[6]Analyzed by EPA Method 200.7/Standard Method 2340B.

[7]Analyzed by EPA Method 6010D.

[8]Analyzed by Standard Method 5310B.

µg/l = micrograms per liter
mg/l = milligrams per liter
mg/l-CaCO3 = milligrams per liter as calcium carbonate
NE = not established

Table 12
PRB Injection Summary
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Injection Point	Date	Injection Location (ft bgs)	Sustained Pressure (psi)	Average Flow Rate (gpm)	Total Injection Volume (gallons)	PlumeStop (gallons)	PlumeStop (pounds)	Water (gallons)	Total Injection Volume (gallons)	Comments
IP-01	10/20/2021	24-22	150	0.0	0	63	572	557	620	Expendable tip; refusal at 24 ft bgs; high PSI, no flow
		22-20	15	5.2	234					
		20-18	10	4.4	128					
		18-16	15	6.9	128					
		16-14	5	5.2	130					
IP-02	10/20/2021	25-22	30	4.5	232	63	574	558	622	3-foot screen; refusal at 25 ft bgs
	10/21/2021	22-19	5	4.0	145					
		19-16	30	5.0	145					
		16-14	15	6.5	100					
IP-03	10/21/2021	24-21	30	6.3	180	58	529	461	520	3-foot screen; refusal at 24 ft bgs
	10/22/2021	21-18	20	5.8	145					
		18-15	5	4.3	145					
		15-14	5	4.7	50					
IP-04	10/21/2021	27-24	40	4.6	50	64	580	506	570	3-foot screen; refusal at 25 ft bgs
		24-21	15	4.5	180					
		21-18	10	5.5	145					
		18-15	15	6.7	145					
		15-14	20	7.7	50					
IP-05	10/22/2021	24-22	20	5.0	95	94	854	461	520	2-foot screen; refusal at 23 ft bgs
		22-20	30	5.8	95					
		20-18	5	6.0	95					
		18-16	5	5.5	95					
		16-14	5	4.5	140					
IP-06	10/20/2021	24-21	70	3.8	232	58	528	513	572	3-foot screen; refusal at 24 ft bgs
	10/21/2021	21-18	5	4.0	145					
		18-15	15	5.5	145					
		15-14	15	5.8	50					
IP-07	10/22/2021	24-21	40	5.2	180	94	854	461	520	Expendable tip; refusal at 24 ft bgs; broken screen, re-drill location
		21-18	25	6.4	145					
		18-15	5	6.3	195					

Table 12
PRB Injection Summary
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Injection Point	Date	Injection Location (ft bgs)	Sustained Pressure (psi)	Average Flow Rate (gpm)	Total Injection Volume (gallons)	PlumeStop (gallons)	PlumeStop (pounds)	Water (gallons)	Total Injection Volume (gallons)	Comments
IP-08	10/20/2021	21-18	30	5.2	468	63	572	557	620	3-foot screen; refusal at 21 ft bgs
		18-15	15	5.5	116					
		15-14	15	5.0	36					
IP-09	10/22/2021	24-22	130	3.7	95	94	854	461	520	Expendable tip; refusal at 24 ft bgs
		22-20	50	4.7	95					
		20-18	5	5.5	95					
		18-16	5	4.5	95					
		16-14	5	5.2	140					
IP-10	10/21/2021	24-21	55	4.1	180	58	529	461	520	3-foot screen; refusal at 24 ft bgs
		21-18	30	6.5	145					
		18-15	5	5.3	145					
		15-14	5	3.5	50					
IP-11	10/21/2021	24-21	40	5.7	180	68	620	541	610	3-foot screen; refusal at 23 ft bgs
		21-18	30	7.4	220					
		18-15	25	7.1	145					
		15-14	15	5.6	65					
IP-12	10/22/2021	24-21	50	4.1	180	94	854	461	520	3-foot screen; refusal at 24 ft bgs
		21-18	25	6.3	145					
		18-15	5	5.8	195					
IP-13	10/22/2021	24-21	55	5.3	180	58	529	461	520	3-foot screen; refusal at 24 ft bgs
		21-18	30	6.2	145					
		18-15	5	4.5	145					
		15-14	5	5.5	50					
IP-14	10/19/2021	24-21	40	3.4	116	39	357	347	387	3-foot screen; refusal at 24 ft bgs
		21-18	5	3.8	116					
		18-15	5	3.5	116					
		15-14	5	3.0	39					
IP-15	10/21/2021	24-21	80	4.7	180	58	529	461	520	3-foot screen; refusal at 23 ft bgs
		21-18	10	5.6	145					
		18-15	5	6.8	145					
		15-14	15	6.1	50					

Table 12
PRB Injection Summary
Pilot Test Summary Report
Issaquah, Washington
Farallon PN: 1754-005

Injection Point	Date	Injection Location (ft bgs)	Sustained Pressure (psi)	Average Flow Rate (gpm)	Total Injection Volume (gallons)	PlumeStop (gallons)	PlumeStop (pounds)	Water (gallons)	Total Injection Volume (gallons)	Comments
IP-16	10/20/2021	24-21	**25**	4.5	116	47	428	416	464	3-foot screen; refusal at 24 ft bgs
		21-18	50	5.5	116					
		18-15	30	6.8	116					
		15-14	15	5.5	116					
IP-17	10/22/2021	24-21	25	4.5	180	58	529	461	520	3-foot screen; refusal at 24 ft bgs
		21-18	20	5.5	145					
		18-15	30	6.8	145					
		15-14	15	5.5	50					
IP-18	10/20/2021	24-21	60	6.5	232	51	464	541	503	3-foot screen; Refusal at 24 ft bgs
		21-18	15	4.0	116					
		18-15	35	5.7	116					
		15-14	40	4.7	39					
IP-19	10/21/2021	16-14	70	3.2	95	58	529	461	520	Pressure-activated probe; top-down injection
		18-16	115	1.7	95					
		20-18	125	3.5	95					
		22-20	95	2.6	95					
		24-22	140	1.0	140					
IP-20	10/19/2021	24-21	70	3.6	116	39	357	347	387	3-foot screen; refusal at 24 ft bgs
		21-18	5	3.8	116					
		18-15	5	3.5	116					
		15-14	5	3.0	39					
IP-21	10/19/2021	24-22	90	2.6	78	40	360	350	390	Expendable tip; refusal at 24 ft bgs
		22-20	30	2.7	78					
	10/20/2021	20-18	60	3.2	78					
		18-16	30	3.2	78					
		16-14	5	4.0	78					

NOTES:
ft bgs = feet below ground surface
gpm = gallons per minute
PRB = permeable reactive barrier
psi = pounds per square inch