FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle
Oregon
Portland | Baker City
California
Oakland | Irvine

PER- AND POLY-FLUOROALKYL SUBSTANCES ADDITIONAL CHARACTERIZATION STUDY SUMMARY REPORT LOWER ISSAQUAH VALLEY ISSAQUAH, WASHINGTON

Submitted by:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 1754-004

For:
Eastside Fire and Rescue
175 Newport Way Northwest
Issaquah, Washington 98027

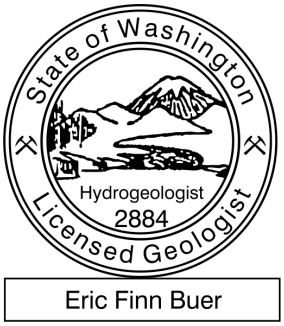
April 14, 2021

Prepared by:

Eric Buer, L.G., L.H.G.
Principal Hydrogeologist

Vincent Tilotta, P.E.
Associate Engineer

Reviewed by:



Clifford T. Schmitt, L.G., L.H.G.
Principal Hydrogeologist

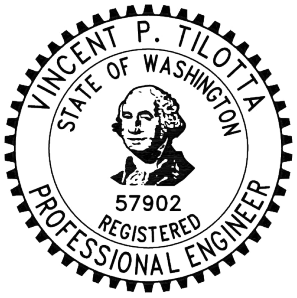


TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

175 Newport Way Northwest	King County Parcel No. 2824069165 at 175 Newport Way Northwest in Issaquah, Washington
2018 Study	Per- and polyfluoroalkyl substances characterization study performed by Eastside Fire and Rescue, the Washington State Department of Ecology, and City of Issaquah from July through December 2018.
2019 Report	*Per- and Poly-Fluoroalkyl Substances Characterization Summary Report, Lower Issaquah Valley, Issaquah, Washington* dated March 2019, prepared by Farallon Consulting, L.L.C. summarizing work performed in the 2018 Study.
AFFF	aqueous film-forming foams
ALS	ALS Environmental-Kelso of Kelso, Washington
bgs	below ground surface
Cascade	Cascade Environmental, LP of Tacoma, Washington
Dodd Field Park	southeastern portion of King County Parcel No. 2824069012 at 555 Northwest Holly Street in Issaquah, Washington
Ecology	Washington State Department of Ecology
EFR	Eastside Fire and Rescue
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
Health	Washington State Department of Health
long-chain PFAS	per- and poly-fluoroalkyl substances with a fully fluorinated tail containing eight or more carbons
Memorial Field	southern portion of King County Parcel No. 5279100070 north of 190 East Sunset Way in Issaquah, Washington
µg/l	microgram per liter
mg/kg	milligram per kilogram

MDL	method detection limit
MRL	method reporting limit
MS	matrix spike
MSD	matrix-spike duplicate
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
NAVD88	North American Vertical Datum of 1988, the vertical datum for measuring elevation
NWN AFFF training area	AFFF training area on the western portion of the 175 Newport Way Northwest area of interest
Parties	Eastside Fire and Rescue, the City of Issaquah, and the Washington State Department of Ecology
PFAS	per- and poly-fluoroalkyl substances
PFBA	perfluorobutanoic acid
PFBS	perfluorobutane sulfonic acid
PFHxA	perfluorohexanoic acid
PFHxS	perfluorohexane sulfonic acid
PFHpA	perfluoroheptanoic acid
PFNA	perfluorononanoic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonic acid
Rainier Trail	central portion of King County Parcel No. 3424069043, including a landscaped median strip constructed over the former rail grade
RPD	relative percent difference
SAL	State Action Levels
short-chain PFAS	per- and poly-fluoroalkyl substances with a fully fluorinated tail containing four to seven carbons

SOP	standard operating procedure
Study	Lower Issaquah Valley Per- and Poly-Fluoroalkyl Substances Additional Characterization Study conducted March through October 2020
Sunset Way Property	King County Parcel No. 2824069148 and 2824069309 located at 200 and 220 West Sunset Way in Issaquah, Washington
WAC	Washington Administrative Code
West Playfield	southwestern portion of King County Parcel No. 2824069012 at 555 Northwest Holly Street in Issaquah, Washington
Work Plan	*Final Per- and Poly-Fluoroalkyl Substances Characterization Study Work Plan Addendum, Lower Issaquah Valley, Issaquah, Washington* dated April 3, 2020, prepared by Farallon Consulting, L.L.C.

GLOSSARY OF TERMS

area of interest	Locations with historical aqueous film-forming foam training areas and the immediately surrounding environs.
AFFF training area	The portion(s) of areas of interest where aqueous film-forming foam was likely applied directly to the ground during training exercises.
conceptual site model	As defined in Section 200 of Chapter 173-340 of the Washington Administrative Code, "a conceptual understanding of a site that identifies potential or suspected sources of hazardous substances, types and concentrations of hazardous substances, potentially contaminated media, and actual and potential exposure pathways and receptors. This model is initially developed during the scoping of the remedial investigation and further refined as additional information is collected on the site. It is a tool used to assist in making decisions at a site."
deep groundwater	Groundwater encountered at depths greater than 120 feet below ground surface.
groundwater	Water encountered below the ground surface. Groundwater samples are collected from permanent monitoring wells constructed in accordance with the applicable standards in WAC 137-160 and may be considered "representative" samples.
groundwater yield	The volume of water discharged from a well measured over a period of time. Typical units are gallons per minute or cubic meters per day.
intermediate groundwater	Groundwater encountered at depths from 60 feet below ground surface to a maximum depth of 120 feet below ground surface.
Investigatory Level	Washington State Department of Ecology numerical criteria based on standard exposure scenarios presented under the Washington State Model Toxics Control Act Cleanup Regulation, and toxicity and chemical property data published by the U.S. Environmental Protection Agency (2014, 2016a, 2016b).

reconnaissance groundwater	Groundwater collected from a boring using a temporary screen. Reconnaissance groundwater samples may have higher turbidity than samples collected from developed monitoring wells, and/or may be collected from the aquifer sampled under "stressed" or non-static conditions depending on the sampling method. They are not considered as representative as groundwater samples collected from a permanent and developed monitoring well that is constructed in accordance with Ecology requirements.
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 is typically 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 (e.g., the water table).

EXECUTIVE SUMMARY

Farallon has prepared this Summary Report on behalf of Eastside Fire and Rescue to summarize the work performed and analytical results for the Lower Issaquah Valley Per- and Polyfluoroalkyl Substances Additional Characterization Study performed from March through October 2020 (Study). Previous investigation work performed from 2016 through 2018 identified five areas of interest in the Lower Issaquah Valley with confirmed historical use of aqueous film-forming foams (AFFF) in firefighting training exercises. This Study was designed to address a series of data gaps previously identified in the Lower Issaquah Valley PFAS Characterization Study performed in 2018 and summarized in the Per- and Polyfluoroalkyl Substances Characterization Summary Report prepared by Farallon (2019) and to develop a preliminary conceptual site model for confirmed Per- and Polyfluoroalkyl Substances (PFAS) releases.

The Study evaluated five areas of interest previously identified where AFFF had been released primarily through training exercises. The scope of work for the Study included:

- Evaluate PFAS impacts to soil and groundwater, subsurface conditions, and migration pathways at previously identified areas of interest;
- Evaluate PFAS impacts to soil and groundwater and subsurface conditions at 175 Newport Way Northwest sufficiently to develop and evaluate feasible source remediation alternatives;
- Further refine the nature and extent of PFAS impacts in shallow and intermediate groundwater and associated seasonal variations at areas of interest and down-gradient locations that may affect drinking water production wells through additional sampling of new and existing monitoring wells;
- Review and document the history of use, including historical business listings and other publicly available information for additional potential up-gradient sources;
- Collect adequate hydrostratigraphic and analytical data to support development of a preliminary conceptual site model and support development of a groundwater model that can be used to evaluate potential source remedial action performance; and
- Collect initial data that can be used to evaluate potential interaction between surface water and groundwater along the primary axis of the Lower Issaquah Valley.

Additional subsurface investigation performed in this Study at the areas of interest confirmed existing stratigraphy and lithologies that were previously observed in 2018 and further delineated key stratigraphic contacts and hydrogeologic units. Study analytical results identified the primary PFAS constituents of concern as perfluorohexane sulfonic acid (PFHxS), perfluorooctane sulfonic acid (PFOS), perfluorooctanoic acid (PFOA), and perfluorononanoic acid (PFNA). PFOS and PFOA were detected at concentrations exceeding Investigatory Levels developed by the Washington State Department of Ecology in shallow and intermediate groundwater samples collected from areas of interest on the western portion of the Lower Issaquah Valley, west-valley down-gradient locations, and in shallow groundwater at Memorial Field on the eastern portion of

the Lower Issaquah Valley. PFHxS, PFOA, PFOS, and PFNA were also detected in shallow and intermediate groundwater samples collected from multiple locations at concentrations that exceed proposed Washington State Department of Health State Action Levels (SALs) for drinking water. Exceedances of the SALs were generally co-located with exceedances of Investigatory Levels, but also occurred at additional locations that were either up-gradient or cross-gradient of impacted areas, expanding their overall extent.

To date, reported concentrations of PFAS in soil are less than the Investigatory Level for direct human contact (residential and industrial exposure scenarios) at all locations evaluated. Confirmed releases of PFAS to soil at concentrations exceeding the Investigatory Levels for protection of groundwater (unsaturated and/or saturated soil), and associated migration and confirmed exceedances of the Investigatory Level for groundwater were confirmed for the West Playfield, Dodd Field, and 175 Newport Way Northwest areas of interest. Confirmed releases at the Memorial Field area of interest AFFF training area have impacted shallow groundwater only. Confirmed soil impacts at the Rainier Trail area exceed Investigatory Levels for unsaturated and saturated soil, and groundwater sampling indicates the migration pathway from soil to shallow groundwater is complete; however, impacts to shallow groundwater have not exceeded either Investigatory Levels or proposed State Action Levels.

Potential human exposure pathways for groundwater include the ingestion pathway. Treatment of raw groundwater prior to entering the City of Issaquah service water system continues to be effective at removing PFAS down to concentrations that are less than analytical laboratory method reporting limits, making the ingestion pathway through service water incomplete. Ingestion of impacted groundwater is possible if groundwater is extracted from the affected areas and used without treatment or is encountered through subsurface excavation work that results in incidental ingestion of untreated groundwater. Both exposure scenarios have limited potential impact to public health and can be mitigated with appropriate planning and corrective actions.

Farallon performed a preliminary screening of currently available remediation technologies for PFAS in soil and groundwater. Recommended remedial technologies were proven, commercially available technologies, including direct excavation, engineering and institutional controls, solidification, and in-situ amendment with activated carbon additives for soil; and activated carbon treatment, subsurface barriers, and localized hydraulic control for groundwater.

Additional characterization of the nature and extent of contamination and identification of source material is still necessary prior to development of source remediation alternatives for the West Playfield, Dodd Field, and Memorial Field areas of interest. Characterization of the 175 Newport Way Northwest area of interest is more complete than at other areas of interest in the Lower Issaquah Valley and was considered sufficient to begin development of a Source Remediation Plan for PFAS-impacted soil and groundwater.

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this Summary Report on behalf of Eastside Fire and Rescue (EFR) to summarize the work performed and analytical results for the Lower Issaquah Valley Per- and Poly-Fluoroalkyl Substances (PFAS) Additional Characterization Study (Study) performed March through October 2020. Farallon performed the Study on behalf of EFR, the City of Issaquah, and the Washington State Department of Ecology (Ecology), collectively referred to as the Parties. The Study was performed under two agreements: an Interagency Agreement between EFR and Ecology (Interagency Agreement No. C2000071); and an Interlocal Agreement between EFR and the City of Issaquah (Interagency Agreement No. C2000069). The overall purpose of the study was to assess potential impacts of PFAS associated with aqueous film-forming foam (AFFF) training exercises to soil and groundwater in the Lower Issaquah Valley (Figure 1). Prior to performing the field investigation, Farallon (2020) prepared the *Final Per- and Poly-Fluoroalkyl Substances Characterization Study Work Plan Addendum, Lower Issaquah Valley, Issaquah, Washington* dated April 3, 2020 (Work Plan) (Appendix A) to structure and guide investigation work. A draft of the Work Plan was reviewed and approved by the Parties on March 6, 2020 prior to commencement of field investigation work. Study field investigation work was conducted between March 10 and October 30, 2020.

The specific Study objectives are presented in Section 3.1 of this Summary Report. The objectives of the Study were developed to build on previous findings from the characterization study completed in 2018 and documented in the Per- and Poly-Fluoroalkyl Substances Characterization Summary Report, Lower Issaquah Valley, Issaquah, Washington dated March 27, 2019 (Farallon 2019) (2019 Report). Work previously documented in the 2019 Report identified five "areas of interest" with confirmed historical use of AFFF in firefighting training exercises (Figure 2).

Additional characterization has focused on the five areas of interest and down-gradient groundwater. Study objectives included characterizing fluctuations in shallow and intermediate groundwater flow characteristics and quality; further evaluating the nature and extent of PFAS in soil and groundwater; performing a preliminary evaluation of other potential up-gradient sources in the Lower Issaquah Valley; and refining the conceptual site model for the Lower Issaquah Valley hydrogeology.

The 2019 Report documented some of the highest observed concentrations of PFAS in soil and groundwater at the 175 Newport Way Northwest area of interest (currently used as the Eastside Fire and Rescue headquarters facility) where AFFF training was performed over a period of approximately 20 years on the western portion of the area of interest on a monthly basis (NWN AFFF training area). Additional detailed characterization of the NWN AFFF training area was performed as part of the Study to support preparation of a Source Remediation Plan to evaluate appropriate cleanup technologies and approaches.

Although PFAS are not currently regulated as hazardous substances under federal or Washington State law, all field investigation work and reporting performed for the Study is consistent with the requirements of the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340).

1.1 PURPOSE

The specific purpose of this Summary Report is to:

- Describe additional characterization work performed at selected areas of interest;
- Describe final sample locations and media, sample quantities, and analytical methods;
- Describe and document deviations from the Work Plan that occurred during characterization work;
- Report analytical results obtained through the characterization work performed as part of the Study;
- Develop and present a preliminary conceptual site model for the Lower Issaquah Valley; and
- Identify preliminary alternatives for confirmed source area(s) remediation.

1.2 REPORT ORGANIZATION

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

- **Section 2**, **Background**, provides a summary of the PFAS history of use and describes the Study area and its surroundings, the project problem statement, the locations where characterization work was performed, parameters of interest, and regulatory criteria.
- **Section 3**, **Study Description**, describes the work elements performed, including objectives, field procedures, and the scope of work performed.
- **Section 4**, **Study Results**, provides a summary of the analytical results and quality assurance and quality control results for samples collected as part of the Study.
- **Section 5**, **Regional Conceptual Site Model**, provides a conceptual site model for the Lower Issaquah Valley based on available investigation results.
- **Section 6**, **Implications for Remediation**, provides a preliminary technology screening and evaluation of the areas of interest and appropriate remedial approaches based on available investigation results.
- **Section 7, Data Gaps,** describes data gaps that have been identified or remain to be addressed after the conclusion of the current Study.
- **Section 8, Quality Assurance and Quality Control,** provides an evaluation of quality assurance and quality control criteria for the Study.
- **Section 9**, **Conclusions**, provides Farallon's conclusions regarding Study results.
- **Section 10**, **References**, provides a list of the documents cited in this Summary Report.
- **Section 11**, **Limitations**, presents Farallon's standard limitations associated with conducting the work described herein and preparing this Summary Report.

2.0 BACKGROUND

This section provides background on PFAS and describes the Study area and its surroundings, the project problem statement, the areas of interest addressed by the Study, parameters of interest, and regulatory criteria.

2.1 PER- AND POLY-FLUOROALKYL SUBSTANCES BACKGROUND

The following sections provide a brief summary of PFAS development and use in AFFF and applicable regulatory history. Additional discussion of current regulatory development is provided in Section 2.6, Regulatory Criteria.

2.1.1 Development and Use in AFFF

PFAS are a class of chemicals that were developed for a wide range of uses, including imparting oil and/or water repellency, formulating firefighting agents, and friction and surface tension reduction, beginning in the 1940s. Due to the unique properties associated with PFAS carbon-fluorine chemistry, these chemicals have found use in a wide array of industries, including aerospace, photographic imaging, metal plating, firefighting, carpet cleaning, food and beverage packaging, automotive, construction, printing, and oil and gas production (ITRC 2017). Since their invention, PFAS have been incorporated into more than 3,000 manmade chemicals (Wang et al. 2017) and have achieved a global environmental distribution and distillation[1] (Lindstrom et al. 2011).

Due to their chemical stability, even at high temperatures, and their surfactant properties associated with the fully fluorinated carbon tail, select PFAS, including perfluorooctanoic acid (PFOS) were used in AFFF formulations for fighting and extinguishing hydrocarbon fuel fires (Moody and Field 1999). Later AFFF formulations used other PFAS species with a non-fluorinated "spacer" such as fluorotelomer sulfonates. The effectiveness of PFAS-bearing AFFF formulations at "knocking down" and smothering hydrocarbon fuel fires resulted in widespread military and domestic use at facilities where such fuels were frequently handled, including municipal airports, petroleum fuel tank farms, and military airfield bases.

Typical AFFF solutions consisted of detergent mixed with water to yield between a 3- and 6-percent solution (Field et al. 2017). Because special handling was needed to generate and deploy AFFF at a fire, regular training to set up and use AFFF firefighting equipment was common among the firefighting entities. Due to the nature of the training exercises, which typically included multiple rounds of equipment setup, practice mixing concentrate and water to the desired proportion with a foam aerator, and uncontrolled release to the ground, AFFF training currently is

[1] Global distillation of persistent organic pollutants describes the accumulation of the pollutant in polar regions, far from any known source. Examples of persistent organic pollutants where global distillation was previously identified include polychlorinated biphenyls, persistent pesticides such as chlorophenothane (aka DDT), and polybrominated diphenyl ethers.

recognized as one of the primary pathways for release of concentrated PFAS to the environment (ITRC 2017).

2.1.2 Regulatory History

Concerns regarding PFAS health effects were first raised in the 1970s when perfluorooctanoic acid (PFOA) was detected in 3M Manufacturing Company worker blood samples, and subsequently in human blood bank samples in 1998. The U.S. Environmental Protection Agency (EPA) (2003) began development of Enforceable Consent Agreements with PFAS manufacturers in 2003 to set in place industry-sponsored testing to identify sources of PFOA in the environment and the pathways for human exposure. In 2009, PFOS and related compounds were listed under the Stockholm Convention on Persistent Organic Pollutants Annex B, which targets listed chemicals for restricted production and use (Lindstrom et al. 2011).

In 2016, EPA (2016c) established lifetime Health Advisory Levels for PFOA and PFOS in drinking water, one of the primary pathways for human exposure, of a combined value of 70 nanograms per liter (0.07 micrograms per liter [µg/l]). The Health Advisory for PFOS identified both cancer and non-cancer health risks associated with increased body burdens of the chemical. Identified risks include cancer of the bladder, colon, thyroid, breast, and prostate; increases in total cholesterol; and changes in thyroid function and hormone levels. Additional risks were identified for fertility and development (EPA 2016a).

Ecology and the Washington State Department of Health (Health) jointly began developing a PFAS Chemical Action Plan to recommend actions to address PFAS in the environment and resulting human impacts in 2016. An interim Chemical Action Plan was released in April 2018 and updated in January 2019. As of the writing of this report, the final Chemical Action Plan is expected to be published in the summer of 2021. Health published proposed State Action Levels[2] for five PFAS in drinking water in 2019 (PFBS, PFHxS, PFOA, PFOS, and PFNA); finalization of the rule is anticipated in 2021. Additional regulatory detail is provided in Section 2.6, Regulatory Criteria, and the Work Plan.

2.2 STUDY AREA AND SURROUNDINGS

The following sections discuss the regional setting, geology, hydrogeology, and groundwater conditions for the Lower Issaquah Valley where the Study was performed. Detailed discussion of individual areas of interest previously described in the 2019 Report, including updates to local geology and hydrogeology based on observations made during the Study, is also provided.

2.2.1 Regional Setting

The Lower Issaquah Valley is east of Seattle and south of Lake Sammamish. Valley floor elevations range from approximately 40 to 160 feet North American Vertical Datum of 1988 (NAVD88). The Lower Issaquah Valley is roughly bisected by Issaquah Creek, which runs longitudinally along the valley floor and flows to the north into Lake Sammamish. The City of

[2] State Action Levels are established for unregulated contaminants in drinking water to protect public health. If a State Action Level is exceeded, public notification and monitoring requirements are triggered.

Issaquah is in the northern portion of the Lower Issaquah Valley (Figure 1). Drinking water for the City of Issaquah is pumped from a system of four wells (two in the northeastern and two in the northwestern portions of the Lower Issaquah Valley, Figure 2) and through service water delivery by the Cascade Water Alliance.

According to the Western Regional Climate Center (2016), the climate of the greater Seattle area, including Puget Sound and the Lower Issaquah Valley, is maritime and characterized by cool summers and mild winters influenced by ocean air. Based on data published for the Snoqualmie Falls, Washington meteorological station (Identification No. 457773), the average annual minimum temperature for the Lower Issaquah Valley is 32 degrees Fahrenheit, and the average annual maximum temperature is 76 degrees Fahrenheit. The average annual precipitation ranges from 33 to 81 inches, with an average of 5 to 8 inches per month from October through March (U.S. Climate Data 2016).

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.

2.2.2 Geology and Hydrogeology

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 to the east and west of the Lower Issaquah Valley. Generalized geologic cross sections for the western portion of the Lower Issaquah Valley, 175 Newport Way Northwest, and the eastern portion of the Lower Issaquah Valley are provided in Figures 3 through 5. Site-specific cross sections prepared as part of the 2019 Report are provided in Appendix B. Regional hydrogeology reflects a history of primarily fluvial and lacustrine deposition comprising sands and gravels, silt, and clay. Based on drilling observations and review of historical boring logs, the following general hydrogeologic units were identified for the Lower Issaquah Valley Study area:

- Surficial deposits of silty sand, silt, and fill material with a maximum thickness of approximately 30 feet (Figure 3). The surficial unit was observed to generally be thinner and discontinuous on the eastern side of the Lower Issaquah Valley (Figure 5).
- A coarse gravel and sand unit with occasional silt interbeds ranging from 40 to more than 100 feet thick. The thickest observed coarse sand and gravel unit was on the eastern portion of the Lower Issaquah Valley proximate to production well SP-PW08 (Figure 5).
- Poorly graded medium to coarse sand that may occur above or below the coarse gravel and sand unit; the maximum thickness of the poorly graded sand has not been identified.
- Silt, or silt and clay with occasional sand interbeds. Silt was observed on the western portion of the Lower Issaquah Valley between the coarse gravel and sand and poorly

graded sand units (Figure 3). Continuous and discontinuous silt and/or clay units were reported in historical boring logs on the eastern portion of the Lower Issaquah Valley (Figure 5).

- Silty sand of an unspecified thickness was reported at depths of more than 80 feet below ground surface (bgs) in historical boring logs on the eastern portion of the Lower Issaquah Valley (Figure 5).
- A hard gray silt that is likely weathered bedrock was observed below the 175 Newport Way Northwest property (Figure 4). This unit dips to the east and may extend further under the Lower Issaquah Valley. However, because this unit was not encountered in the borings for monitoring well COI-MW06, COI-MW07, or NWN-MW08, it is not shown on Figure 3.

2.2.3 Groundwater

Groundwater monitoring well construction details are provided in Table 1. Groundwater elevation data and vertical head differences measured as part of the Study are provided in Tables 2 and 3, respectively. Groundwater potentiometric elevation figures for shallow and intermediate groundwater are provided in Figures 6 through 9c. For the purposes of the Study and clarity of discussion, water-bearing zones identified in the Lower Issaquah Valley have been divided into shallow, intermediate, and deep intervals. Shallow groundwater is encountered at depths between approximately 5 and 60 feet bgs. Intermediate groundwater is encountered at depths between approximately 60 and 120 feet bgs. Deep groundwater is encountered at depths greater than 120 feet bgs. City of Issaquah production well COI-PW04 extracts intermediate groundwater. City of Issaquah production well COI-PW05, screened from a depth of 323 to 405 feet bgs (Table 1), extracts deep groundwater. Previous studies have demonstrated that pumping in production wells operated by the City of Issaquah, the Sammamish Plateau Water and Sewer District, Darigold Inc., and/or other entities may influence the direction of groundwater flow at distances up to 3,000 or more feet from the well (Golder Associates 2016).

Shallow groundwater flows approximately north to north-northwest on the western portion of the Lower Issaquah Valley and approximately northeast on the eastern portion of the valley (Figures 7a through 7d). Intermediate groundwater flows approximately north-northwest on the western portion of the Lower Issaquah Valley and northeast on the eastern portion of the Lower Issaquah Valley (Figures 8a through 8d). Vertical gradients were primarily downward in the southern portion of the Lower Issaquah Valley, downward on the western edge of the valley (Issaquah Valley Elementary well pairs), and neutral to slightly positive in the central and eastern portions of the valley (Dodd Field, Memorial Field, and IES-MW07/COI-MW05 well pair) (Table 3, Figures 9a through 9c).

2.2.4 Surface Water

The main fork of Issaquah Creek runs down the long-axis of the Lower Issaquah Valley, draining to Lake Sammamish. The east fork of Issaquah Creek joins the main approximately 600 feet north of Northwest Dogwood Street (Figures 1 and 2). Both forks of Issaquah Creek reported stages that varied by less than 1 vertical foot during the period gauging measurements were collected (Table 2). The north fork of Issaquah Creek is located north of Interstate-90 near Sammamish

Plateau Water and Sewer District production wells SP-PW07 and SP-PW08 and is beyond the scope of the current Study.

2.2.5 Areas of Interest

Areas of interest with AFFF training areas were identified through environmental sampling and analysis that confirmed releases to soil and/or groundwater at select locations and through interviews with EFR firefighting personnel (Farallon 2016, 2018b, 2019). Details regarding the locations of firefighting training exercises; historical features at the training areas; and AFFF use, storage, and disposal were obtained during these interviews and reconnaissance of each area of interest. Releases of AFFF were confirmed at the following areas of interest (Figure 2):

- West Playfield at Issaquah Valley Elementary (West Playfield);
- Issaquah Valley Elementary East Ballfields (Dodd Field Park);
- North of 190 East Sunset Way (Memorial Field);
- West of 135 East Sunset Way on the former rail grade (Rainier Trail); and
- 175 Newport Way Northwest.

The sections below provide brief descriptions of each area of interest and updated geologic and hydrogeologic conceptual site models based on Study drilling observations. For clarity, locations where interviews and historical information indicate AFFF was released directly onto the ground during training exercises are identified as "AFFF training areas." Areas of interest include both the AFFF training areas and the surrounding environs where soil and groundwater sampling was performed. Locations proximate to the areas of interest are discussed by referencing cardinal direction (e.g., north of, west-adjacent, etc.) or hydrogeologic relationship (e.g., up-gradient, down-gradient, etc.). Because of their proximity and hydrogeologic continuity, the West Playfield and Dodd Field areas of interest are addressed together, as are the Memorial Field and Rainier Trail areas of interest. Specific conditions unique to only one area of interest are identified using only that area's identifier.

Detailed descriptions of each area of interest, including historical information such as frequency of training event setup, estimated mass loading and footprints, surface topography and drainage patterns are provided in Section 2.4, Areas of Interest, of the Final Per- and Polyfluoroalkyl Substances Characterization Study Work Plan dated August 6, 2018 (Farallon 2018b) and in the 2019 Report. Plan views of each area of interest and lines of section for subsurface cross sections generated as part of the 2019 Report are provided in Appendix B. Each area of interest's period of use for AFFF training, the frequency of the training, and the estimated total number of training events are provided in Appendix D. Boring logs and monitoring well construction details for work performed as part of the Study are provided in Appendix E.

2.2.5.1 West Playfield and Dodd Field Park

The West Playfield comprises the southwestern portion of King County Parcel No. 2824069012 at 555 Northwest Holly Street in Issaquah, Washington; and Dodd Field

comprises the southeastern portion of the same parcel (Figure 2). Updated boring and monitoring well locations are presented on Figures 10 and 11.

An AFFF training area was previously identified on the southwestern portion of the property extending radially westward from the fire hydrant south of the Issaquah Elementary School gymnasium building, and on the eastern portion of the property extending radially to the east side of the access driveway across from an existing fire hydrant (Figure 10). The Dodd Field area of interest was formerly covered in blackberries and other unmaintained vegetation prior to grading and development of the current ballfields (Farallon 2019) (Figure 10).

Based on field observations by Farallon, the West Playfield/Dodd Field are underlain by silty sand and silt to a maximum depth of approximately 25 feet bgs. The sand and silt mantle is underlain by well- to poorly graded coarse sands and gravels to a depth between approximately 75 and 85 feet bgs (Figure 3). An approximately 10-foot-thick layer of gray silt with poorly graded sand interbeds of less than 1-foot thickness was observed in the boring for monitoring well IES-MW06 underlain by a poorly graded gray sand to the maximum depth explored of 90 feet bgs. The silt unit was not observed on the northern portion of the West Playfield in the boring for monitoring well IES-MW10 and the boring was terminated in poorly graded sand at a depth of 85 feet bgs (Figure 3).

First-encountered (shallow) groundwater is at a depth of approximately 10 feet bgs (Table 2). Shallow groundwater flows approximately to the north-northwest at the West Playfield/diverges slightly to flow north-northeast at Dodd Field (Figure 10). Intermediate groundwater flows north-northwest under both areas of interest.

2.2.5.2 Memorial Field and Rainier Trail

Memorial Field comprises the southern portion of King County Parcel No. 5279100070 north of 190 East Sunset Way in Issaquah, Washington. Rainier Trail is immediately south of Memorial Field on the central portion of King County Parcel No. 3424069043 west of 135 East Sunset Way on the former rail grade (Figure 2). Updated boring and monitoring well locations are presented on Figures 12 and 13.

An AFFF training area was previously identified at Memorial Field on the southeastern portion of the playfield extending radially to the north and west from the fire hydrant near the current corner of the Fire Station 71 access driveway and 2nd Avenue Northeast (Figure 12). An AFFF training area was previously identified along the former rail grade south of Sunset Way with service water provided by the fire hydrant at the northeastern corner of the parking area. The area has been redeveloped into an irregularly shaped median strip where previous soil and groundwater sampling was performed (Figure 12).

Based on Study field observations by Farallon, Memorial Field and Rainier Trail are underlain by silty sand and silt overlying coarse gravel and sand with variable silt content to the maximum depth explored of 75 feet bgs (Figure 5). No silt units were observed below the surficial deposit in the boring for intermediate groundwater monitoring well MF-

MW04. The boring for monitoring well RT-MW04 terminated in a shallow silt unit that appears to be discontinuous.

First-encountered (shallow) groundwater is at a depth of approximately 35 to 40 feet bgs (Table 2). Shallow groundwater flow under Memorial Field and Rainier Trail ranged from approximately north to east-northeast (Figure 12). Intermediate groundwater flow is poorly defined for both areas of interest, but evaluation of regional intermediate wells suggests flow is to the east. Previous observations at Memorial Field indicated groundwater elevations at this location fluctuate seasonally. Reported groundwater elevations dropped between approximately 6 and 10 feet in elevation from March to July during the Study at both areas of interest with slightly larger fluctuations observed at Rainier Trail. Intermediate groundwater elevations dropped approximately 4 feet during the same time period in monitoring well MF-MW04.

2.2.5.3 175 Newport Way Northwest

The 175 Newport Way Northwest area of interest includes all of King County Parcel No. 2824069165 at 175 Newport Way Northwest in Issaquah, Washington. This area of interest serves as the location of the current headquarters facility for EFR (Figure 2). Updated boring and monitoring well locations, and groundwater elevation contours in the vicinity of this area of interest for the Study monitoring events are presented on Figures 14 through 16.

An AFFF training area was previously identified on the western portion of the 175 Newport Way Northwest property on what is now a gravel lot; some AFFF training was reported on the northern portion of the 175 Newport Way Northwest on what is now a grass median strip, although the reported frequency is suspected to be significantly less than what was performed on the western portion of the Property. A graphical cross-section for 175 Newport Way Northwest is provided in Figure 4. Boring and monitoring well locations are presented on Figures 14, 15a through 15d, and 16. Boring logs from the field investigation are provided in Appendix D.

Based on Study field observations by Farallon, 175 Newport Way Northwest 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 was observed under the NWN AFFF training area; the silt continued eastward with a dip of approximately 7 degrees from horizontal past monitoring well NWN-MW03 where it was encountered at a depth of 53 feet bgs. The hard gray silt was observed to the maximum depth explored in the boring for monitoring well NWN-MW03 of 95 feet bgs (Figure 4), but was not encountered in the boring for monitoring well NWN-MW08 to the east (Figure 3). Surficial silt and silty sand were not observed on the eastern portion of the 175 Newport Way Northwest area of interest with coarse sand and gravel extending from the ground surface to a depth of 55 feet bgs where a 13-foot-thick

gray silt was encountered overlying a silty sand to the maximum depth explored of 94 feet bgs.

First-encountered (shallow) groundwater was encountered at a depth of approximately 15 to 18 feet bgs (Table 2). Shallow groundwater consistently flows to the east on the western portion of the 175 Newport Way Northwest area of interest under the NWN AFFF training area, where flows transition to the north on the eastern portion of the area of interest (Figures 15a through 15d). The 175 Newport Way Northwest area of interest is on the western edge of the intermediate groundwater monitoring well network, and observed intermediate groundwater flow direction east of Newport Way Northwest is primarily to the northwest.

2.3 SUMMARY OF PREVIOUS STUDIES AND EXISTING DATA

Characterization work performed prior to this Study includes monitoring of drinking water production wells COI-PW04 and COI-PW05; installation and sampling of monitoring wells COI-MW01 through COI-MW07 by the City of Issaquah; characterization performed at Memorial Field, Rainier Trail, and 175 Newport Way Northwest by the City of Issaquah; and interview and subsurface investigation work performed in 2018 and summarized in the 2019 Report.

Sampling for PFAS in groundwater pumped from the City of Issaquah production well COI-PW04 began in 2013 as part of the EPA Unregulated Contaminant Monitoring Rule sampling. PFAS, including PFOA and PFOS, were initially detected in groundwater samples at concentrations ranging from 0.00651 to 0.6 µg/l. Subsequent detections of PFOS concentrations in groundwater samples collected by the City of Issaquah from 2014 through 2020 ranged from 0.232 to 0.602 µg/l (Appendix C). Concentrations of PFOS in groundwater samples collected from production well COI-PW04 have declined slightly over time, although they continue to exceed the Investigatory Level for PFOS. Concentrations of PFOA in groundwater samples collected from production well COI-PW04 have remained less than the Investigatory Level throughout the sampling period but periodically exceed the SAL of 0.010 µg/l (Appendix C).

In 2016, the City of Issaquah, with permission from EFR, performed limited characterization of portions of 175 Newport Way Northwest, and of down-gradient locations, to investigate potential sources of PFAS in shallow and intermediate groundwater in the Lower Issaquah Valley. This work included shallow soil sampling and installation of intermediate monitoring wells COI-MW01 through COI-MW07 (Figure 2). Additional sampling performed by the City of Issaquah in 2016 confirmed the presence of PFAS in soil at concentrations exceeding the Investigatory Level for protection of groundwater for unsaturated soil in the eastern portion of the Lower Issaquah Valley proximate to 190 East Sunset Way and west of 135 East Sunset Way (City of Issaquah 2017).

Based on the preliminary findings in 2016, the Parties performed an expanded evaluation of shallow soil, shallow groundwater, and resampling of intermediate groundwater in 2018 to further evaluate potential exposure and/or migration pathways for PFAS at the identified areas of interest.

The results of the 2018 regional characterization study were reported in the 2019 Report. Key findings of the 2019 Report were:

- Concentrations of PFAS in vadose and surficial soil were less than Investigatory Levels for unrestricted (residential and/or industrial) direct contact for all samples analyzed;
- Concentrations of PFAS in unsaturated and saturated vadose zone soil exceeded applicable Investigatory Levels for protection of groundwater in one or more samples for all areas of interest;
- PFAS impacts to shallow groundwater were confirmed at all areas of interest, indicating the soil to groundwater migration pathway is complete at all five identified locations;
- Reported concentrations of PFAS in shallow groundwater for the one monitoring event performed exceeded Investigatory Levels at the West Playfield, Dodd Field, and 175 Newport Way Northwest areas of interest;
- While detected in shallow groundwater, reported concentrations of PFAS for the one monitoring event performed did not exceed Investigatory Levels at the Memorial Field and Rainier Trail areas of interest; and
- PFAS were reported either non-detect at the laboratory method reporting limit (MRL) or less than Investigatory Levels for samples collected from intermediate groundwater monitoring wells COI-MW02, COI-MW03, COI-MW04, and COI-MW07; reported concentrations exceeded the Investigatory Level at monitoring wells COI-MW05 and COI-MW06.

2.4 PROJECT PROBLEM STATEMENT

Previous investigations indicate that the likely primary mechanism for the release of PFAS to the subsurface is the historical use of AFFF during training exercises and firefighting. This Study was designed to further characterize subsurface PFAS impacts at areas of interest. Specific Study objectives identified in the Work Plan included:

- Further evaluate migration pathways between shallow and intermediate groundwater at 175 Newport Way Northwest, Issaquah Elementary School West Playfield/Dodd Field Park, and Memorial Field;
- Evaluate PFAS impacts to soil and groundwater and subsurface conditions (e.g., lithology, hydraulic conductivity, other relevant parameters) at 175 Newport Way Northwest sufficiently to develop and evaluate potential source remediation alternatives for this area of interest;
- Further refine the nature and extent of PFAS impacts in shallow and intermediate groundwater at locations of interest and down-gradient locations on both sides of the Lower Issaquah Valley that may affect drinking water production wells;
- Further refine seasonal fluctuations in shallow and intermediate groundwater elevations and associated potential PFAS transport in shallow and intermediate groundwater on both sides of the Lower Issaquah Valley;

- Review and document the history of use, including historical business listings and other publicly available information for additional potential up-gradient sources, to confirm the potential for PFAS use; and collect shallow groundwater quality data to further evaluate suspected impacts;
- Collect adequate hydrostratigraphic and analytical data to support development of a groundwater model that can be used to evaluate potential source remediation alternative performance; and
- Collect initial data that can be used to evaluate potential interaction between surface water and groundwater along the primary axis of the Lower Issaquah Valley.

2.5 PARAMETERS OF INTEREST

Study parameters of interest for soil and groundwater include short-chain PFAS; and long-chain PFAS, including PFOS and PFOA. In accordance with other publications (ITRC 2020; OECD 2013), 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). Long-chain PFAS refers to 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[3]:

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

Long-chain PFAS presented in this report are:

- Perfluorooctanoic acid (PFOA);
- Perfluorooctane sulfonic acid (PFOS);
- Perfluorononanoic acid (PFNA);
- Perfluorodecanoic acid (PFDA);
- Perfluoroundecanoic acid (PFUnDA); and

[3] Conventional product chemical names are provided here consistent with the acronyms and terminology used in the Ecology Draft Chemical Action Plan (2020). An ionic form of the chemical is most commonly encountered in the environment.

- Perfluorododecanoic acid (PFDoDA).

Soil and groundwater samples were analyzed for the parameters of interest by Modified EPA Method 537 by ALS Environmental-Kelso of Kelso, Washington (ALS), which 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 Method 537 is not a standardized analytical method for soil and/or groundwater. Modifications to EPA Method 537 are made on a lab-by-lab basis; the most common modification is the addition of isotope dilution to improve quantitation of individual compounds.

At the time of this report, the leading standard for evaluating laboratory analytical procedures recommended by Ecology is the Department of Defense Quality Systems Manual Version 5.3 and associated quality control documents requirements (Ecology 2020). Samples for both the characterization work performed in 2018 and this Study were analyzed by ALS. ALS has maintained current Department of Defense Environmental Laboratory Accreditation throughout the investigation process, including compliance with the current Quality Systems Manual Version.

2.6 REGULATORY CRITERIA

PFAS are not currently regulated as hazardous substances under MTCA. For the 2018 Study, Ecology (2018) developed Investigatory Levels that include numerical criteria based on standard MTCA exposure scenarios for groundwater (drinking water scenario), unrestricted (residential) and industrial uses for soil (soil direct contact), and analyte concentrations in saturated and unsaturated soil for protection of groundwater (leaching from soil to groundwater) for PFOS and PFOA. The calculations were performed using reference dose information published by EPA (2014). As previously noted in Section 2.1 at the time of this report's preparation of this Summary Report, Ecology and Health (2020) have released the draft PFAS Chemical Action Plan and draft State Action Levels (SALs) have been published for five PFAS (PFBS, PFHxS, PFOA, PFOS, and PFNA) in drinking water. Minimum risk levels, which can be converted to drinking water concentrations for adults and children, were also released by the Agency for Toxic Substances and Disease Registry (ATSDR) for PFHxS, PFOA, PFOS, and PFNA (ATSDR 2018).

The applicable criteria at the time of this report's preparation of this Summary Report remain the Investigatory Levels developed in 2018, since the SALs have not been finalized. However, understanding that groundwater in the Lower Issaquah Valley is extracted and treated for use as drinking water (Section 2.2), samples are also compared to SALs for reference and are preliminarily addressed in evaluation of areas of interest and discussion of Study results. For the same reason, this Summary Report references the Investigatory Levels when discussing analytical results for groundwater sampled from both monitoring and production wells even though the standard technically does not apply until after groundwater is (typically) treated and enters a service water system as potential drinking water. Investigatory Levels for soil are provided in Table 3. Investigatory Levels, State Action Levels, and ATSDR minimum risk levels for the adult drinking water exposure scenario are provided in Table 4. For simplicity, where they are addressed as a group, this report refers to Investigatory Levels and SALs as "regulatory criteria" although neither constitutes a current enforceable standard.

Due to the chemical stability and long-term persistence of PFAS, including PFOS and PFOA, in the environment; the relatively low concentrations required to exceed Investigatory Levels for soil and groundwater; and the widespread distribution of multiple compounds; future development of background concentrations in accordance with WAC 173-340-709 for soil and groundwater in the Lower Issaquah Valley will likely be appropriate.

2.6.1 Investigatory Levels for Soil

The Investigatory Level for PFOS, PFOA, and the sum of PFOS and PFOA concentrations in soil for unrestricted (residential) direct contact is 1.6 milligrams per kilogram (mg/kg). The Investigatory Level for PFOS, PFOA, and the sum of PFOS and PFOA concentrations in soil for industrial contact is 70 mg/kg (Table 3).

The Investigatory Levels for PFOS and PFOA for protection of groundwater for unsaturated soil are 0.00080 and 0.00044 mg/kg, respectively. The Investigatory Levels for PFOS and PFOA for protection of groundwater for saturated soil are 0.000046 and 0.000028 mg/kg, respectively. The Investigatory Levels for protection of groundwater for saturated soil are less than current Modified EPA Method 537 reporting limits. Investigatory Levels for short-chain and long-chain PFAS (other than PFOS and PFOA) were not developed for soil or groundwater (Table 3).

2.6.2 Investigatory Levels and State Action Levels for Groundwater

The Investigatory Level for PFOS, PFOA, and the sum of PFOS and PFOA concentrations in groundwater is 0.070 µg/l (Table 4). Since the sum of PFOS and PFOA concentrations will exceed the Investigatory Level by default when either of the two analytes exceeds the standard alone, for clarity the analytical results limit discussion to individual analytes with the exception of when an exceedance is only attained by the sum of PFOS and PFOA concentrations.

Proposed state action levels for drinking water are (Table 4):

- 1.3 µg/l for PFBS;
- 0.070 µg/l for PFHxS;
- 0.010 µg/l for PFOA;
- 0.015 µg/l for PFOS; and
- 0.014 µg/l for PFNA.

3.0 STUDY DESCRIPTION

This section presents the Study objectives identified in the Work Plan, characterization work performed at each area of interest and in the Lower Issaquah Valley, and deviations from the Work Plan that occurred during the field investigation.

3.1 STUDY OBJECTIVES

As stated in Section 2.4, Project Problem Statement, the overall purpose of the Study was to perform additional characterization of confirmed PFAS impacts associated with AFFF training exercises to soil and groundwater in the Lower Issaquah Valley and perform preliminary evaluation of other potential up-gradient sources. While more comprehensive than the data presented in the 2019 Report, some data gaps were anticipated to remain at the end of the Study that may require characterization in the future.

Additional borings and/or monitoring wells were located in, and down-gradient of, areas of interest or co-located with existing sampling locations (e.g., installing shallow and intermediate monitoring wells adjacent to their respective conjugate pairing) to further evaluate vertical stratification of PFAS in groundwater. Limited additional reconnaissance groundwater sampling was performed at 175 Newport Way Northwest and Memorial Field to screen groundwater at depths where monitoring well screens were not installed. Discrete soil samples were collected from borings at 175 Newport Way Northwest where previous characterization results indicated some of the highest concentrations of subsurface PFAS were present to further refine the distribution of PFAS soil for potential future treatment.

Groundwater sampling from new and existing monitoring wells was used to evaluate potential PFAS impacts to groundwater and seasonal variations in PFAS concentrations. Soil, reconnaissance groundwater, and groundwater sample analytical results were compared to Investigatory Levels to evaluate whether potential exposure pathways were complete for the direct contact (soil residential and industrial scenarios) and consumption in drinking water scenarios. Analytical results were also used to evaluate migration pathways in the environment. Groundwater gauging and sampling in shallow, intermediate, and surface water stations was performed to evaluate groundwater flow direction and water quality at a regional scale and potential groundwater-surface water interaction.

3.2 FIELD PROCEDURES

Field procedures applied for Study characterization work were identified and described in Section 4.0, Field Procedures, of the Work Plan prior to the commencement of field sampling. With a limited number of exceptions, groundwater elevation measurements, soil samples, and reconnaissance and groundwater samples were collected in accordance with the Work Plan-identified field and standard operating procedures (SOPs). Work elements that were common to all areas of interest are described below.

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 175 Newport Way Northwest area of interest to characterize the subsurface distribution of PFAS at select locations in accordance with Farallon SOP SL-01 using pre-cleaned, disposable field sampling equipment directly from retrieved soil cores.

3.2.2 Reconnaissance Groundwater Sampling

Reconnaissance groundwater samples were collected from temporary wells screens and purged using EPA-recommended low-flow groundwater sampling methodology; however, due to time constraints some reconnaissance groundwater samples were collected under "stressed" conditions (e.g., higher turbidity was observed in the sample or parameters were not allowed to fully stabilize). As a result, reconnaissance groundwater sample analytical results may be biased high, although the magnitude of the bias cannot be easily quantified. Therefore, while reconnaissance groundwater sample results may be used as a screening tool, they should not be considered representative samples of groundwater quality.

3.2.3 Groundwater Sampling

For all locations and monitoring events, groundwater sampling was performed in accordance with Farallon SOPs GW-03, Groundwater Level Measurement in Monitoring Wells and GW-04, Low-Flow Groundwater Sampling Procedures. Sampling included allowing for equilibration with the ambient atmosphere before gauging groundwater levels 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.

3.2.4 Surface Water Gauging

Surface water gauging was performed on the main fork of Issaquah Creek at four locations (Figure 2). Locations were selected for proximity to existing monitoring or production wells. For each station, a reference location was identified above the maximum anticipated surface water elevation and surveyed. Measurements were made from the reference point down to the water surface to gauge the current elevation.

3.2.5 Laboratory Analysis

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

3.3 STUDY SCOPE OF WORK

Work performed, any deviations from the Work Plan, and corrective actions taken at each area of interest during the Study are described below. Well construction details for all new and existing

monitoring wells considered in the Study are provided in Table 1. Groundwater monitoring wells selected for each monitoring event are provided in Table 5.

3.3.1 West Playfield and Dodd Field Areas of Interest

Field characterization at the West Playfield area of interest included the following elements:

- Installation of one shallow monitoring well, IES-MW08, to a depth of 30 feet bgs (Table 1);
- Installation of three intermediate monitoring wells, IES-MW06, IES-09, and IES-MW10, to a maximum depth of 90 feet bgs (IES-MW06; Table 1);
- Establishing and surveying surface water gauging station STR-02 on Issaquah Creek approximately 200 feet from monitoring well IES-MW09; and
- Completion of four groundwater and surface water gauging and monitoring events at selected monitoring locations (Table 5).

3.3.1.1 Work Performed

New monitoring wells were installed by Cascade Environmental, LP of Tacoma, Washington (Cascade) using a full-size sonic drilling rig to a maximum depth of 90 feet bgs. Monitoring wells IES-MW06 and IES-MW08 through IES-MW10 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 above.

3.3.1.2 Rationale

IES-MW06 was advanced to intermediate groundwater to evaluate vertical gradients and stratification of PFAS in groundwater with existing monitoring well IES-MW01 (Figure 9). Monitoring well IES-MW08 was installed to further evaluate lateral shallow groundwater impacts previously identified at both areas of interest. Intermediate groundwater monitoring wells IES-MW09 and IES-MW10 were installed to evaluate vertical gradients and stratification of PFAS in groundwater with existing monitoring wells IES-MW08 and IES-MW03, respectively (Figures 9 and 10).

3.3.1.3 Deviations from Work Plan and Corrective Actions

The Work Plan included potential collection of up to 12 reconnaissance groundwater samples at the West Playfield/Dodd Field areas of interest. Based on observed drilling conditions (e.g., lack of discrete fine-grained units), the lack of discrete perched groundwater units encountered during the investigation, and the proximate density of wells and shallow/intermediate well pairs, Farallon concluded that collection of reconnaissance groundwater samples in addition to the planned groundwater monitoring samples was not necessary.

3.3.2 Memorial Field and Rainier Trail Areas of Interest

Field characterization at the Memorial Field and Rainier Trail areas of interest included the following elements:

- Installation of one new intermediate groundwater monitoring well, MF-MW04, to a depth of 75 feet bgs; and
- Completion of four groundwater and surface water gauging and monitoring events at selected monitoring locations (Table 5).

3.3.2.1 Work Performed

Intermediate monitoring well MF-MW04 was advanced by Cascade using a full-size sonic drilling rig to a depth of 75 feet bgs. Monitoring well MF-MW04 was 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 above. Monitoring wells selected for each monitoring event are provided in Table 5.

3.3.2.2 Rationale

Boring MF-MW04 was drilled to further evaluate vertical gradients between shallow and intermediate groundwater at Memorial Field and to evaluate groundwater quality where the highest reported concentrations of PFOS and PFOA were previously identified in groundwater samples collected from shallow monitoring well MF-MW02 in 2018. Well construction details are provided in Table 1.

3.3.2.3 Deviations from the Work Plan and Corrective Actions

The Work Plan included potential collection of up to three reconnaissance groundwater samples at intermediate groundwater monitoring well MF-MW04. Based on observed drilling conditions and groundwater units encountered during the investigation, Farallon concluded collection of reconnaissance groundwater samples in addition to the planned groundwater monitoring samples was not necessary.

3.3.3 175 Newport Way Northwest Area of Interest

Field characterization at the 175 Newport Way Northwest area of interest included the following elements:

- Advancing 15 direct-push borings to a maximum depth of 20 feet bgs to collect soil and reconnaissance groundwater samples (9 borings for soil sampling only and 6 borings for soil and reconnaissance groundwater sampling);
- Installation of three shallow monitoring wells, NWN-MW05, NWN-MW06, and NWN-MW-07, to a maximum depth of 26.5 feet bgs (Table 1);
- Installation of two intermediate monitoring wells, NWN-MW08 and NWN-MW09, to a maximum depth of 80 feet bgs (Table 1); and

- Installation of two piezometers screened at depths of approximately 15 to 25 feet bgs, and at 45 to 55 feet bgs for aquifer testing.

3.3.3.1 Work Performed

Direct-push borings were advanced by Cascade using a limited-access track-mounted combination direct-push drilling rig. New monitoring wells were installed by Cascade using a full-size sonic drilling rig to a maximum depth of 80 feet bgs. Monitoring wells NWN-MW05 through NWN-MW09 were constructed, developed, gauged, and sampled in accordance with the Work Plan and Farallon SOPs GW-01 and GW-02. Reconnaissance groundwater sampling was performed using temporary well screens in accordance with the Work Plan and the practices described in Section 3.2.2 above. Groundwater sampling was performed consistent with the practices described in Section 3.2.3 above. Monitoring wells selected for each monitoring event are provided in Table 5.

3.3.3.2 Rationale

Additional characterization work was developed to further refine the nature and extent of PFAS impacts to soil in the NWN AFFF training area with sufficient detail to evaluate potential source remediation alternatives, to further characterize shallow and intermediate groundwater, and to evaluate potential vertical transport of PFAS between shallow and intermediate groundwater.

3.3.3.3 Deviations from Work Plan and Corrective Actions

The following deviations from the Work Plan and corrective actions taken were documented for fieldwork performed at the 175 Newport Way Northwest area of interest:

- Piezometer NWN-PZ02 originally was planned to be a 1- to 2-inch-diameter casing; however, based on field observations of the coarse lithology where shallow groundwater was encountered, the casing diameter was upsized to 4-inch polyvinyl chloride to support future use of a larger pump for potential pilot testing.
- Fewer than the planned 10 reconnaissance groundwater samples were collected during the drilling of borings and monitoring wells. The reduction in the number of samples collected was based on the following observations and/or conditions encountered:
    - Shallow groundwater was not encountered at some boring locations at 175 Newport Way Northwest.
    - New shallow monitoring wells NWN-MW05, NWN-MW06, and NWN-MW02 were screened at the top of the saturated interval, which eliminated the need to collect reconnaissance groundwater samples in this same unit; monitoring well NWN-MW09 was staggered to collect shallow groundwater at a lower interval than monitoring well NWN-MW03, eliminating the need for a reconnaissance groundwater sample in this zone.

- The interval between the base of an existing well screened at the bottom of shallow groundwater (NWN-MW09) and the top of intermediate groundwater zone (NWN-MW08) was limited and no aquitard was observed between the screened intervals; therefore, the technical need for reconnaissance groundwater samples in this zone was reduced.

3.3.4 Newport Way Northwest Sampling

The Parties agreed to sample three shallow monitoring wells installed as part of improvements to Newport Way Northwest in addition to the approved scope of work.

3.3.4.1 Work Performed

Farallon collected samples from shallow monitoring wells B-2, B-4, B-7, and B-12 in the February (B-7, B-12), July (B-4), and October (B-2) 2020 monitoring events.

3.3.4.2 Rationale

The additional monitoring wells were located farther west than the well network identified in the Work Plan. The additional shallow groundwater samples were collected to further refine the nature and extent of PFAS impacts to shallow groundwater.

3.3.4.3 Deviations from Work Plan and Corrective Actions

Performing the work was a deviation from the original Work Plan. The Parties provided concurrence the additional sampling should be performed prior to execution of the additional scope.

3.3.5 Eastern Lower Issaquah Valley Area of Interest

Field characterization of the eastern portion of the Lower Issaquah Valley included the following:

- Installation of two intermediate monitoring wells, RBN-MW01 and RBN-MW02, to a maximum depth of 80 feet bgs (Table 1); and
- Completion of four groundwater and surface water gauging and monitoring events at selected monitoring locations (Table 5).

3.3.5.1 Work Performed

New monitoring wells were installed by Cascade using a full-size sonic drilling rig to a maximum depth of 80 feet bgs. Monitoring wells RBN-MW01 and RBN-MW02 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 3.2.3 above. Groundwater monitoring wells selected for each monitoring event are provided in Table 5.

3.3.5.2 Rationale

Monitoring wells RBN-MW01 and RBN-MW02 were installed to refine the lateral extent of impacts to intermediate groundwater and to evaluate potential cross-valley migration of PFAS in intermediate groundwater that may potentially affect drinking water production wells other than City of Issaquah production well COI-PW04. Intermediate groundwater elevations and samples will also support further evaluation of potential impacts associated with the Memorial Field and Rainier Trail areas of interest.

3.3.5.3 Deviations from the Work Plan and Corrective Actions

Monitoring well installation and sampling was performed in accordance with the Work Plan Section 3.2, Project Objectives and Scope of Work. No corrective action was required as part of area-wide groundwater sampling.

3.3.6 Quality Assurance and Quality Control Samples

Study sampling included collection of quality control samples as part of each sampling and/or monitoring event.

3.3.6.1 Work Performed

In accordance with the Work Plan, Farallon collected quality control samples that included field blanks, rinsate blanks for equipment that came into contact with soil and groundwater, and trip blanks that traveled with each cooler during sample collection and transport. The quality control samples were collected using standard methods and included:

- Field blanks collected by transferring laboratory-certified PFAS-free water from one container to another for the March and October 2020 groundwater monitoring events at the 175 Newport Way Northwest area of interest. Because some of the highest concentrations of PFAS were previously reported at 175 Newport Way, these blanks served as blanks for the Study.
- Rinsate blanks for decontaminated sampling equipment, including the stainless-steel direct-push macrocore and groundwater sampling pump-tubing.
- Trip blanks that traveled with each cooler during sample collection and transport to the laboratory for every monitoring event.
- Field duplicate groundwater samples were also collected from select locations for groundwater sampling at a rate of one quality control sample for every 10 samples collected as specified in the Work Plan. Quality control samples were shipped to ALS under standard chain-of-custody protocols for analysis for PFAS by Modified EPA Method 537.

3.3.6.2 Deviations from the Work Plan and Corrective Actions

- Field duplicate soil samples were not collected or submitted for the 55 discrete soil samples that were collected at the 175 Newport Way Northwest area of interest due to oversight during fieldwork. No corrective action was taken.

3.4 INVESTIGATION-DERIVED WASTE

Soil cuttings, decontamination water, and other wastewater generated during the investigation were temporarily placed in 55-gallon drums stored at the 175 Newport Way Northwest area of interest pending profiling based on soil analytical results. Farallon observed removal of the investigation-derived waste by Clean Earth Environmental Solutions, Inc. of Kent, Washington on July 15, 2020. Wastewater was treated at Clean Earth Environmental Solutions Burlington Environmental treatment, storage, and disposal facility in Kent, Washington. Soil cuttings were shipped to the Subtitle D Waste Management Columbia Ridge Landfill for final disposal.

3.5 EVALUATION OF POTENTIAL UP-GRADIENT SOURCES

PFOS and PFOA were previously detected in shallow reconnaissance groundwater collected from the boring for intermediate monitoring well COI-MW07 at a combined concentration of 0.054 µg/l, slightly less than the Investigatory Level for the sum of PFOS and PFOA. A suspected up-gradient source that was identified as a former commercial upholstery shop was identified at 200 to 220 West Sunset Way (up-gradient of COI-MW07; herein Sunset Way Property) during the course of the 2018 Study. Commercial cleaning, waterproofing, and stain-proofing solutions are known to contain concentrations of PFAS ranging from 1.71 to 8.86 micrograms per gram of liquid (Knepper and Lange 2012). Based on the suspected up-gradient source and reconnaissance groundwater sample results, further evaluation of the potential for an up-gradient release of PFAS was performed.

Based on the reconnaissance groundwater analytical results and suspected history of use, a preliminary records evaluation including review of historical aerial photographs, city directory listings, and available Ecology and Puget Sound Regional Archive files, was performed for the Sunset Way Property in addition to installation and sampling of shallow groundwater monitoring well NWN-MW11.

4.0 STUDY RESULTS

Study soil, reconnaissance groundwater, and monitoring well groundwater sampling analytical results for areas of interest are presented below. Updates to the geologic and hydrogeologic conceptual site models for each area of interest are provided in Section 2.5, Areas of Interest. Groundwater elevations and contours, and analytical results for soil and groundwater at individual areas of interest are presented on Figures 10 through 16. Regional groundwater analytical results are presented on Figures 17 and 18.

Soil analytical results are presented in Tables 7 and 8. Reconnaissance groundwater and groundwater analytical results are presented in Tables 9 through 12. Quality control sample results are presented in Tables 13 and 14. Farallon boring and well construction logs for the Study are provided in Appendix E. Complete laboratory analytical results are provided in Appendix F. Full-size American National Standards Institute D-size figures are provided in Appendix G. Historical boring logs used to evaluate regional geology and hydrogeology are provided in Appendix H.

4.1 WEST PLAYFIELD AND DODD FIELD AREAS OF INTEREST

Study results for the West Playfield/Dodd Field areas of interest are summarized below. PFAS, including PFOS and PFOA, were detected in groundwater samples collected from the West Playfield/Dodd Field areas of interest in shallow and intermediate groundwater at concentrations exceeding Investigatory Levels throughout the monitoring period from March through October 2020. With a limited number of exceptions, exceedances of SALs for PFHxS and PFNA were generally co-located with exceedances of Investigatory Levels. Reported concentrations of PFBS did not exceed SALs in either shallow or intermediate groundwater samples.

4.1.1 Shallow Groundwater

Shallow groundwater was evaluated at the West Playfield/Dodd Field areas of interest using monitoring wells IES-MW01 through IES-MW05, DF-MW01 through DF-MW03, and IES-MW08. Shallow groundwater was encountered at depths of approximately 5 to 11 feet bgs during the Study monitoring period, which equated to a range of shallow groundwater elevations from approximately 62 to 70 feet NAVD88 (Figure 9). Shallow groundwater flow direction on the western portion of the West Playfield area of interest on the western edge of the monitoring well network flows approximately east-northeast (Figures 7b through 7d). Shallow groundwater on the central portion of both areas of interest flows approximately north with gradients ranging from 0.0025 to 0.0032 feet per foot. On the eastern portion of Dodd Field, shallow groundwater transitions to approximately northeast flow (Figures 7b, through 7d, and 10) with gradients ranging from 0.0034 to 0.006 feet per foot.

PFOS was detected in shallow groundwater samples collected from monitoring wells in both areas of interest at concentrations that consistently exceeded the Investigatory Level of 0.070 µg/l by a factor of up to 10 (Figure 11). Reported concentrations ranged from 0.17 (IES-MW01) to 0.59 (IES-MW05) µg/l (Figure 10; Table 12). Reported concentrations of PFOA were individually lower than the Investigatory Level of 0.070 µg/l and generally an order of magnitude less than

reported PFOS concentrations. The highest reported PFOS concentrations in groundwater were in samples collected from the central portions of the two areas of interest at monitoring wells IES-MW04, IES-MW05, and DF-MW02.

PFOS concentrations in groundwater declined on the northeastern, northwestern, and southwest portions of both areas of interest. Reported concentrations of PFOS in groundwater samples from shallow monitoring well IES-MW03 slightly exceeded the Investigatory level in April 2020, but were less than the Investigatory Level in the July and October 2020 monitoring events. However, the combined concentration of PFOS and PFOA of 0.0705 µg/l in the groundwater sample collected from monitoring well IES-MW03 in October 2020 slightly exceeded the Investigatory Level. The concentration of PFOS in the shallow groundwater sample collected from monitoring well IES-MW08 slightly exceeded the Investigatory Level in the April 2020 monitoring event but was less than the Investigatory Level in October 2020, suggesting this well is near the eastern edge of shallow groundwater impacts.

Reported concentrations of PFOS in groundwater collected from hydraulically up-gradient shallow monitoring well IES-MW01 were consistently lower than concentrations reported for samples collected from down-gradient monitoring wells IES-MW03 through IES-MW05, but still exceeded the Investigatory Level of 0.070 µg/l in every monitoring event. The reported concentration of PFOS in the groundwater sample collected in February 2020 from monitoring well B-7 in the Newport Way Northwest right-of-way, west of the West Playfield area of interest also exceeded the Investigatory Level for PFOS. Based on available groundwater elevation monitoring, shallow monitoring well B-7 is hydraulically up-gradient of the West Playfield area of interest (Figure 10; Table 12).

Reported concentrations of PFAS in shallow groundwater exceeded SALs for PFHxS, PFOA, PFOS, and PFNA. PFBS did not exceed the SAL in any of the groundwater samples collected during the Study. In general, PFAS exceedances of SALs were co-located in samples that also exceeded the Investigatory Level for PFOS and the sum of PFOS and PFOA. Analytical results for shallow groundwater collected from monitoring well DF-MW01 did not exceed any Investigatory Levels but did exceed the SAL for PFOS in the October 2020 monitoring event.

4.1.2 Intermediate Groundwater

Intermediate groundwater flow direction was evaluated using monitoring wells IES-MW06, IES-MW09, and IES-MW10 at the West Playfield/Dodd Field areas of interest, and regional monitoring wells NDS-MW02, RBN-MW01, and COI-MW05 (Figures 8a through 8d). Intermediate groundwater flow direction varied by monitoring event but was predominantly to the north-northwest to northwest with gradients ranging from 0.0011 to 0.0024 feet per foot at both areas of interest.

PFOS was detected at concentrations ranging from 1.0 to 1.2 µg/l in the groundwater samples collected from monitoring well IES-MW10, north-northwest and down-gradient of the previously identified AFFF training area at the West Playfield; reported concentrations of PFOA in the same samples ranged from 0.058 to 0.068 µg/l. Reported concentrations of PFAS in intermediate groundwater samples collected from up-gradient monitoring well IES-MW06 and cross-gradient

monitoring well IES-MW09 were lower than those observed in samples from IES-MW10; reported concentrations of PFOS, PFOA, and the sum of PFOS and PFOA in groundwater samples from both wells were less than Investigatory levels.

Concentrations of PFAS in intermediate groundwater samples collected from all three monitoring wells at the West Playfield/Dodd Field areas of interest exceeded SALs for PFHxS, PFOA, PFOS, and PFNA in at least one monitoring event (Table 12). No exceedances of the SAL for PFBS were reported for intermediate groundwater samples collected during the Study (Table 11).

4.1.3 Vertical Gradients and Surface Water

Vertical gradients between shallow and intermediate groundwater were calculated using shallow-intermediate monitoring well pairs IES-MW01/IES-MW06, IES-MW03/IES-MW10, and IES-MW08/IES-MW09 (Table 3; Figures 9a through 9c). Vertical gradients at well pairs IES-MW01/IES-MW06 and IES-MW03/IES-MW10 ranged from 0.006 to 0.037 feet per vertical foot downward (Table 3); the well pairs are south and northwest, respectively, of the West Playfield area of interest (Figures 9a through 9c). Vertical gradients at well pair IES-MW08/IES-MW09 ranged from 0.007 to 0.022 feet per vertical foot upward; the well pair is northeast of Dodd Field area of interest.

Shallow groundwater elevations measured in monitoring well IES-MW08 were compared to surface water elevations at gauging station STR-02 (Table 2). Groundwater elevations were higher than those calculated for surface water by between 0.63 and 1.19 vertical feet in the April and July 2020 monitoring events and slightly lower, by 0.05 vertical feet, in the October 2020 monitoring event.

4.2 MEMORIAL FIELD AND RAINIER TRAIL AREAS OF INTEREST

Study sampling was limited to the west side of the Memorial Field and Rainier Trail areas of interest at shallow monitoring wells MF-MW02, RT-MW01, and RT-MW02 and intermediate groundwater monitoring well MF-MW05 (Figures 11 and 12). PFOS was detected at concentrations exceeding the Investigatory Level in groundwater monitoring samples collected from monitoring well MF-MW02 in the April and October 2020 monitoring events. PFOS and/or PFOA were detected at concentrations exceeding the laboratory method reporting limit (MRL) but less than Investigatory Levels for either PFOS and/or PFOA in the remaining groundwater samples collected from monitoring wells RT-MW01 and RT-MW04 and intermediate monitoring well MF-MW04.

PFNA exceeded the SAL in groundwater samples collected from shallow monitoring well MF-MW02 for both the April and October 2020 monitoring events. PFOS was detected at a concentration exceeding the SAL of 0.015 in the groundwater sample collected in October from monitoring wells RT-MW01 during the Study (Table 12). All other analytical results were less than applicable SALs. Study results for the Memorial Field and Rainier Trail areas of interest are summarized below.

4.2.1 Shallow Groundwater

Shallow groundwater was evaluated at the Memorial Field and Rainier Trail areas of interest using monitoring wells MF-MW01 through MF-MW03, and RT-MW01, RT-MW03, and RT-MW04. Shallow groundwater was encountered at depths of approximately 27 to 40 feet bgs during the Study monitoring period, which equated to a range of shallow groundwater elevations from approximately 59 to 72 feet NAVD88 (Figures 7a through 7d). The seasonal range in groundwater elevations was slightly larger than what was originally observed between the time of the reconnaissance borings and monitoring wells installed in both areas of interest in 2018. Shallow groundwater flow appears to vary seasonally ranging from approximately north-northeast in March 2020; to north in April and July 2020; to northeast in October 2020 (Figure 11). Shallow groundwater gradients ranged from approximately 0.0059 to 0.0085 feet per foot.

PFOS was detected at concentrations of 0.12 and 0.096 µg/l in groundwater samples collected from shallow monitoring well MF-MW02 in the April and October 2020 groundwater monitoring events; both reported concentrations exceed the Investigatory Level for PFOS of 0.070 µg/l (Table 12; Figure 13). Reported concentrations of PFOA were low at all locations sampled, with detections typically only exceeding the laboratory MRL by a few nanograms per liter. Reported concentrations of PFOS increased south to north with the lowest observed detection in the groundwater sample collected from shallow monitoring well RT-MW04.

Reported PFAS concentrations in groundwater did not exceeded SALs for PFBS or PFHxS at any location. Reported concentrations of PFNA in groundwater exceeded the SAL of 0.014 µg/l in both the April and October 2020 monitoring events for shallow groundwater samples collected from monitoring well MF-MW02; these exceedances are co-located with exceedances of the Investigatory Level for PFOS. PFOS concentrations exceeded the SAL of 0.014 µg/l in the shallow groundwater sample collected from monitoring well RT-MW01 on the western portion of the Memorial Field area; no exceedances of the Investigatory Level were reported for this shallow groundwater sample.

4.2.2 Intermediate Groundwater

Intermediate groundwater flow direction was preliminarily evaluated using intermediate monitoring wells RBN-MW02, MF-MW04, and COI-MW07 for the April, July, and October 2020 monitoring events (Figures 8b through 8d). Intermediate groundwater flow was consistently northeast to east (Figure 8b through 8d). Intermediate groundwater gradients ranged from approximately 0.0027 to 0.0047 feet per foot.

PFOS and PFOA were detected in intermediate groundwater samples collected from monitoring well MF-MW04 at low concentrations approaching the laboratory MRL in all three groundwater monitoring events (Table 12; Figure 13). PFAS were not detected at concentrations exceeding a SAL in any of the intermediate groundwater samples collected from monitoring well MF-MW04 (Tables 11 and 12).

4.2.3 Vertical Gradients and Surface Water

Vertical gradients between shallow and intermediate groundwater were calculated using shallow-intermediate monitoring well pair MF-MW02/MF-MW04 (Table 3; Figures 9a through 9c). The well pair is located on the northwestern portion of the Memorial Field area of interest (Figure 12). The vertical gradient was downward in April and July 2020 with values of 0.002 and 0.003 feet per vertical foot, respectively (Table 3). The vertical gradient in October 2020 was upward at 0.012 feet per vertical foot (Table 3). There are no proximate perennial surface water features near the Memorial Field and Rainier Trail areas of interest, so groundwater-surface water interaction was not evaluated at this location.

4.3 175 NEWPORT WAY NORTHWEST AREA OF INTEREST

PFOS and/or PFOA were detected at concentrations exceeding Investigatory Levels in shallow soil, shallow reconnaissance groundwater, and shallow groundwater on the western portion of the area of interest within the NWN AFFF training area and on the northern portion of the 175 Newport Way Northwest area of interest. PFAS concentrations in shallow groundwater declined on the eastern portion of the area of interest in shallow groundwater but exceeded the Investigatory Level for PFOS. Analytical results for samples collected from intermediate groundwater in monitoring well NWN-MW08 on the northeastern corner of the 175 Newport Way Northwest area of interest were less than Investigatory Levels for PFOS and PFOA.

PFHxS, PFOA, PFOS, and PFNA concentrations exceeding SALs in shallow and intermediate groundwater samples were co-located with Investigatory Level exceedances with the exception of the sample collected from shallow monitoring well NWN-MW01 in April 2020, which did not exceed the Investigatory Level for either PFOS or PFOA, but did exceed the SAL for PFOS.

4.3.1 Soil

PFOA and PFOS were detected at concentrations that exceeded applicable Investigatory Levels for unsaturated and saturated soil in nearly every discrete soil sample collected in the NWN AFFF training area. No exceedances of Investigatory Levels for soil direct contact (either residential or industrial exposure scenarios) were reported. In general, the highest concentrations of both PFOS and PFOA reported in the NWN AFFF training area shallow soil were at a depth of 3 to 5 feet bgs (Table 8; Figure 14); concentrations of both analytes declined by up to an order of magnitude between depths of 5 and 15 feet bgs. The maximum reported concentration of PFOS in soil was 1.2 mg/kg in the soil sample collected from boring NWN-R06 at a depth of 2 feet bgs. The next three highest reported concentrations for PFOS in soil, 0.93, 0.83, and 0.65 mg/kg in borings NWN-R09, NWN-R05, and NWN-R12, respectively, were all reported for soil samples collected at depths of 3 to 5 feet bgs (Table 8; Figure 14). PFOA was reported non-detect at the laboratory MRL in a limited number of discrete soil samples but no consistent spatial trend was identified (Table 8; Figure 14).

4.3.2 Shallow Groundwater

Shallow groundwater was evaluated at the 175 Newport Way Northwest area of interest using monitoring wells NWN-MW01 through NWN-MW07, NWN-MW09, and regional shallow

monitoring well NWN-MW11. Shallow groundwater was encountered at depths of approximately 9 to 18 feet bgs on the western portion of the 175 Newport Way Northwest area of interest and 20 to 23 feet bgs on the eastern portion of the area of interest during the Study monitoring period, which equated to a maximum range of shallow groundwater elevations from approximately 68 to 82 feet NAVD88 (Figures 15a through 15d). Shallow groundwater flows east on the western portion of the 175 Newport Way Northwest area of interest and transitions to north flow on the eastern portion of the area of interest. (Figures 15a through 15d). Shallow groundwater gradients for east flow were calculated to range from approximately 0.0043 to 0.0051 feet per foot; north groundwater flow gradients were calculated to range from 0.010 to 0.0127 feet per foot.

Reported concentrations of PFOS in shallow reconnaissance groundwater and groundwater from monitoring wells were highest in the northwestern portion of the NWN AFFF training area (Figure 16). Exceedances of the Investigatory Level ranged from factors from less than 1 (NWN-MW01) to 300 (NWN-R06 reconnaissance groundwater) (Tables 10 and 12). The maximum reported concentration was 21 µg/l reported in the reconnaissance groundwater sample collected from boring NWN-R06 on the western edge of the NWN AFFF training area (Figure 16). Concentrations of PFOS that exceeded the Investigatory Level by a factor of 10 or more were also reported in reconnaissance groundwater samples collected from borings NWN-R01, NWN-R02, NWN-R16, NWN-R18, the boring for monitoring well NWN-MW09, and monitoring wells NWN-MW03, NWN-MW04, NWN-MW05, NWN-MW06, NWN-MW07, and NWN-MW09, all of which are located within, or are proximate to, the NWN AFFF training area (Figure 16).

Exceedances of the Investigatory Level for PFOA in shallow groundwater were generally co-located with PFOS exceedances. PFOA exceeded the Investigatory Level where PFOS did not in reconnaissance groundwater samples collected from borings NWN-R04, NWN-08, and NWN-09 (Figure 13).

Reported PFAS concentrations in groundwater that exceeded SALs for PFHxS, PFOA, PFOS, and PFNA were generally co-located with exceedances of the Investigatory Levels for PFOS and PFOA with the exception of shallow groundwater samples collected from monitoring well NWN-MW01, which did not exceed any Investigatory Levels, but did exceed the SAL for PFOS and/or PFOA (Table 12). Shallow monitoring well NWN-MW01 is hydraulically down- and slightly cross-gradient of the NWN AFFF training area.

4.3.3 Intermediate Groundwater

Due to the presence of the low-yield hard gray silt identified under the western portion of the area of interest, intermediate groundwater is effectively not present under most of the 175 Newport Way Northwest area of interest. Intermediate groundwater flow to the east of the 175 Newport Way Northwest area of interest was evaluated using intermediate monitoring wells NWN-MW08 COI-MW07, COI-MW06, and NDS-MW04 for the April, July, and October 2020 monitoring events. Intermediate groundwater flow direction was consistently to the northeast with an approximate gradient of 0.0024 to 0.003 (Figures 8b through 8d).

PFOS and PFOA were reported at low concentrations approaching the laboratory MRL in the intermediate groundwater samples collected from monitoring well NWN-MW08 for all three

monitoring events (Figure 16). PFAS were not detected at concentrations exceeding an SAL in any of the intermediate groundwater samples collected from monitoring well NWN-MW08 (Tables 11 and 12).

4.3.4 Vertical Gradients and Surface Water

Vertical gradients between shallow and intermediate groundwater were calculated using shallow-intermediate monitoring well pair NWN-MW02/NWN-MW08 (Table 3; Figures 9b through 9d). The vertical gradient was downward in all three monitoring events with values ranging from 0.004 to 0.013 feet per vertical foot (Table 3). There are no proximate perennial surface water features near the 175 Newport Way Northwest area of interest, so direct groundwater-surface water interaction was not evaluated. Vertical gradients observed between 175 Newport Way Northwest monitoring wells and Issaquah Creek gauging station STR-04 are addressed in Section 4.5 Lower Issaquah Regional Groundwater.

4.4 NEWPORT WAY NORTHWEST SAMPLING

PFOS was detected at a concentration of 0.27 µg/l, exceeding the Investigatory Level of 0.070 µg/l, in the groundwater sample collected from shallow monitoring well B-7 during the February 2020 monitoring event. PFOA was detected at a concentration of 0.017 µg/l, greater than the SAL of 0.010 in the same sample. PFOS was also detected in at a concentration of 0.040 to 0.042 µg/l in the groundwater sample and duplicate sample collected from shallow monitoring well B-12 during the February 2020 monitoring event. Both concentrations are less than the Investigatory Level of 0.070 µg/l but exceed the SAL of 0.015 µg/l.

4.5 LOWER ISSAQUAH VALLEY REGIONAL GROUNDWATER

Shallow and intermediate groundwater was evaluated on a regional level at locations up- and down-gradient of areas of interest. A conceptual site model that evaluates both groundwater flow conditions and PFAS fate and transport is provided in Section 5, Regional Conceptual Site Model.

4.5.1 Shallow Groundwater

Regional shallow groundwater flow direction and gradient was evaluated up-gradient of the 175 Newport Way Northwest area of interest (monitoring well NWN-MW11); between the 175 Newport Way Northwest and West Playfield/Dodd Field areas of interest (monitoring wells NDS-MW01 and NDS-MW03) and down-gradient of the West Playfield/Dodd Field areas of interest (well IES-MW07) in conjunction with shallow groundwater wells at each area of interest. Preliminary evaluation of shallow groundwater flow direction and gradient between the west-valley areas of interest (West Playfield, Dodd Field, 175 Newport Way Northwest) and the east-valley areas of interest (Memorial Field, Rainier Trail) was performed by interpolating groundwater elevation contours between the areas of interest (Figures 7a through 7d). Shallow groundwater flows approximately north on the western portion of the Lower Issaquah Valley consistent with the local flow direction observed at the West Playfield/Dodd Field and the eastern portion of the Newport Way Northwest area of interest; gradients ranged from 0.0027 to 0.0032 feet per foot; lower reported gradients were observed during the April and July 2020 monitoring

events. Shallow groundwater under the main fork of Issaquah Creek flowed approximately to the northeast, consistent with the flow direction observed on the eastern portion of Dodd Field area of interest with approximate gradients of 0.0033 to 0.0053 feet per foot.

PFOS was detected at concentrations ranging from 0.49 to 1.3 µg/l in groundwater samples collected from shallow monitoring well NDS-MW01, north of 175 Newport Way Northwest, consistently exceeding the Investigatory Level of 0.070 throughout the monitoring events performed during the Study (Table 12; Figure 17). PFOS was also detected at concentrations exceeding the Investigatory Level in both shallow groundwater samples collected from monitoring well IES-MW07, north of the West Playfield/Dodd Field areas of interest. Reported concentrations of PFOA were individually lower than the Investigatory Level of 0.070 µg/l and generally up to an order of magnitude less than reported PFOS concentrations. Reported concentrations of PFOS and PFOA were less than the Investigatory Level in groundwater samples collected from monitoring wells B-12, NWN-MW11, NDS-MW03, DF-MW01, B-4, and B-2 (Table 12; Figure 17).

Regional exceedances of SALs for PFHxS, PFOA, PFOS, and PFNA in shallow groundwater samples were co-located with exceedances of the Investigatory Levels with the following exceptions:

- The shallow groundwater sample collected from monitoring well NDS-MW03, which exceeded SALs for both PFOS and PFOA; and
- The shallow groundwater sample collected from monitoring well B-12, which exceeded the SAL for PFOS (Table 12).

No exceedances of the SAL for PFBS were reported for regional shallow groundwater samples collected during the Study.

4.5.2 Intermediate Groundwater

Regional intermediate groundwater approximate flow direction and gradients were evaluated using all the available intermediate groundwater wells (Figures 8a through 8d). Intermediate groundwater flow direction varies with location but was consistent on a regional scale between spring (high groundwater) and fall (low groundwater) monitoring events. Regionally, intermediate groundwater flows from south to north. Approximate flow directions at key locations are (from south to north):

- Intermediate groundwater on the south-central and southeastern portions of the Lower Issaquah Valley (monitoring wells COI-MW07, RBN-MW02, and MF-MW04) flows approximately consistently northeast to east with gradients of 0.0027 to 0.0047 feet per foot;
- Intermediate groundwater on the southwestern and west-central portions of the Lower Issaquah Valley (monitoring wells COI-MW07, NWN-MW08, COI-MW06, NDS-MW02, NDS-MW04, IES-MW05, IES-MW10, and IES-MW09) flows approximately north to north-northwest with gradients of 0.0017 to 0.003 feet per foot;

- Intermediate groundwater on the northern portion of the Lower Issaquah Valley (monitoring wells COI-MW05, RBN-MW01, COI-MW04, COI-MW03) flows approximately northwest with gradients of 0.0036 to 0.0053 feet per foot; and
- Intermediate groundwater flow at monitoring wells COI-MW02 to COI-MW03 at the northern end of the Lower Issaquah Valley flowed southwest toward production COI-PW04 in the April, July, and October 2020 monitoring events with gradients ranging from 0.0021 to 0.0033 feet per foot.

  PFOS and/or PFOA were detected at concentrations that exceeded the Investigatory Level in intermediate monitoring wells:

  - COI-MW06 and NDS-MW02 north of the 175 Newport Way Northwest area of interest;
  - Intermediate monitoring wells IES-MW10 and COI-MW05 north of the West Playfield/Dodd Field areas of interest; and
  - Intermediate monitoring well COI-MW03 at the northern end of the Study area (Table 12; Figure 18).

PFOS and/or PFOA were reported at concentrations less than the laboratory MRL but greater than the laboratory method detection limit (MDL)[4] in the following intermediate monitoring wells:

- COI-MW07 up-gradient of the 175 Newport Way Northwest area of interest;
- NWN-MW08 on the northeastern corner of the 175 Newport Way Northwest area of interest;
- NDS-MW04 northeast of the 175 Newport Way Northwest area of interest and southeast of the Dodd Field area of interest;
- IES-MW06 on the up-gradient southern edge of the West Playfield/Dodd Field areas of interest;
- IES-MW09 on the northeastern corner of the Dodd Field area of interest;
- MF-MW04 on the northwestern corner of the Memorial Field area of interest; and
- COI-MW04, RBN-MW01, and RBN-MW02 on the eastern portion of the Lower Issaquah Valley.

Reported concentrations of PFAS in groundwater samples collected from regional intermediate groundwater monitoring wells IES-MW07 and NDS-MW02 exceeded SALs for PFHxS, PFOA, PFOS, and/or PFNA in at least one monitoring event at (Tables 11 and 12). No exceedances of the SAL for PFBS were reported for intermediate groundwater samples collected during the Study (Table 11).

[4] Detections at concentrations less than the laboratory MRL have inherently higher uncertainty in the value reported but are still typically considered "valid" detections and receive an estimated value flag from the analytical laboratory.

4.5.3 Vertical Gradients and Surface Water

Vertical gradients between shallow and intermediate groundwater were calculated using shallow-intermediate monitoring well pairs provided in Table 3 and Figures 8a through 8d. Vertical gradients at well pairs NWN-MW11/COI-MW07, NDS-MW01/COI-MW06, and NDS-MW03/NDS-MW04 ranged from 0.006 to 0.012 feet per vertical foot downward throughout the monitoring events performed during the Study (Table 3). Well pair NWN-MW11/COI-MW07 is south of the 175 Newport Way Northwest area of interest and adjacent to the main fork of Issaquah Creek (Figures 9b through 9d). Both well pairs, NDS-MW01/COI-MW06 and NDS-MW03/NDS-MW04, are between the 175 Newport Way Northwest and West Playfield/Dodd Field areas of interest. Well pair NDS-MW03/NDS-MW04 is approximately 440 feet west of Issaquah Creek (Figures 9b through 9d).

Vertical gradients at well pair IES-MW07/COI-MW05 ranged from 0.003 to 0.007 feet per vertical foot upward during the Study period; the well pair is north of the West Playfield/Dodd Field area of interest and approximately 250 feet west of Issaquah Creek.

Shallow groundwater elevations measured in monitoring well NWN-MW11 were compared to surface water elevations at gauging station STR-04 (Table 2). Groundwater elevations were lower than those calculated for surface water by between 6.7 and 8.9 vertical feet throughout the monitoring events performed during the Study, suggesting Issaquah Creek is losing discharge to groundwater in this reach.

4.6 EVALUATION OF POTENTIAL UP-GRADIENT SOURCES

Results of the additional evaluation of a suspected former commercial upholstery shop at the Sunset Way Property are provided below.

4.6.1 Shallow Groundwater Evaluation

PFAS analytical results for shallow groundwater samples collected from monitoring well NWN-MW11 and intermediate monitoring well COI-MW07 were less than both Investigatory Levels and SALs for all monitoring events. Reported concentrations of PFOS and PFOA frequently only slightly exceeded the laboratory MRL or were flagged as estimated concentrations that were less than the MRL but greater than the laboratory MDL. Reported concentrations of PFOS and PFOA are less than both:

- Reported concentrations for shallow groundwater samples collected from other shallow monitoring wells in the southern portion of the Lower Issaquah Valley (B-12, RT-MW01, and RT-MW04); and
- Concentrations of PFAS previously reported in reconnaissance groundwater at a depth of 22.5 feet bgs collected from the boring for monitoring well COI-MW07.

Because neither shallow nor intermediate groundwater wells are installed up gradient of monitoring wells NWN-MW11 and COI-MW07 a detailed evaluation of groundwater flow toward monitoring wells NWN-MW11 and COI-MW07 cannot be performed. However, based on general

flow directions north of both wells (Section 4.4) both wells are in the general down-gradient location of Sunset Way Property.

4.6.2 Evaluation of Potential Up-Gradient Sources

Farallon reviewed historical aerial photographs, business directories, and Puget Sound Regional archives for the Sunset Way Property (Appendix I). No responsive records were identified for the Sunset Way Property in a public document request to Ecology. Aerial photographs and Puget Sound Regional archive records for the Sunset Way Property indicate residential structures were initially built as early as 1910 that were periodically updated or altered through at least 1971, at which time private residences were still listed in the historical city directory. The historical city directory listing changes to multi-tenant residential in 1973, and on-property buildings appear larger in the 1977 aerial photograph. The approximate configurations of buildings on the Sunset Way Property appear consistent in aerial photographs from 1981 through 2017.

Historical city directory listings for the Sunset Way Property from 1970 through 2018 include Arbor Medical Inc., The Right Stuff, Comsoft Management Systems, Taggart Construction, Mountain Computers Corporation, Morgan & Sampson Coin Operated Machines and Mechanisms, Modus Technology, Ellen Gerace & Associates, Rainier Specialty Services Inc, Streamline International, and multi-tenant residential listings. Other records for the Sunset Way Property include a painting permit from the City of Issaquah and standard assessor records from the Puget Sound Regional Archives. None of the reported listings include names or business classifications that indicate the presence of a historical upholstery, waterproofing, or dye business during the period of record. The available records and analytical data do not support the presence of a potential additional source at the Sunset Way Property.

5.0 REGIONAL CONCEPTUAL SITE MODEL

This section presents a preliminary regional conceptual site model for identified sources of PFAS impacts to shallow and intermediate groundwater, including constituents that exceed regulatory criteria (i.e., Investigatory Levels and SALs), identified source areas, an assessment of fate and transport, and identified exposure pathways.

5.1 PFAS CONSTITUENTS OF INTEREST

Analytical results indicate the PFAS with exceedances of applicable or proposed screening criteria are PFHxS, PFOS, PFOA, and PFNA. PFOS and PFOA were detected at concentrations exceeding Investigatory Levels in soil samples and shallow and intermediate groundwater samples collected from all three areas of interest on the western portion of the Lower Issaquah Valley, and in shallow and intermediate groundwater at down-gradient locations. PFOS and PFOA were detected at concentrations exceeding Investigatory Levels in soil and/or shallow groundwater at the Memorial Field and Rainier Trail areas of interest. Although Investigatory Levels are not available for PFHxS and PFNA, both chemical species were detected in shallow and intermediate groundwater samples collected from multiple locations at concentrations that exceed SALs, generally co-located with samples that exceeded Investigatory Levels. PFBS was not detected in either shallow or intermediate groundwater at concentrations greater than its applicable SAL.

5.2 IDENTIFIED PFAS SOURCES

Reported concentrations of PFOS and PFOA in soil and groundwater, and PFHxS and PFNA in groundwater are the result of application of AFFF to the ground as part of historical training exercises at AFFF training areas.

- Confirmed releases to soil and sources to groundwater are present in the West Playfield/Dodd Field areas of interest associated with historical application of AFFF and wash water at the identified AFFF training areas. Reported concentrations of PFOS and/or PFOA exceed Investigatory Levels for saturated and unsaturated soil in shallow multi-incremental soil samples and discrete soil samples collected from both AFFF training areas (Table 8). Analytical results for shallow groundwater samples collected from locations in and down-gradient of the AFFF training areas exceed Investigatory Levels for PFOS and/or PFOA in groundwater (Figure 17). Analytical results for Intermediate groundwater samples down-gradient of the West Playfield/Dodd Field AFFF training areas (i.e., intermediate monitoring wells IES-MW10 and COI-MW05) also exceed the Investigatory Level for PFOS (Figure 18). Concentrations of PFOS in shallow groundwater (IES-MW02, B-7) compared to intermediate groundwater (IES-MW10) indicate additional source material may be present but has not yet been identified in the West Playfield area of interest (Figures 17 and 18). Additional characterization will be necessary to identify the full nature and extent of impacts to soil and groundwater.
- A confirmed release to soil and source to shallow groundwater is present in the Memorial Field area of interest associated with historical application of AFFF and wash water at the identified AFFF training area. Reported concentrations of PFOS and/or PFOA exceed

Investigatory Levels for unsaturated soil in multi-incremental and discrete soil samples collected from the Memorial Field AFFF training area (Table 8). Analytical results for shallow groundwater samples collected at monitoring well MF-MW02 exceeded the Investigatory Level for PFOS in the April and October 2020 monitoring events. Seasonal variation in groundwater flow direction at Memorial Field indicates shallow groundwater flowed from the Memorial Field AFFF training area toward shallow monitoring well MF-MW02 during the April and July 2020 monitoring events (Figures 7b and 7c). Additional characterization of Memorial Field and up-gradient areas will be necessary to evaluate whether other sources are potentially impacting shallow groundwater at monitoring well MF-MW02. Analytical results for intermediate groundwater samples at monitoring well MF-MW04 were less than Investigatory Levels and SALs (Tables 7 and 8; Figure 12). Intermediate groundwater elevation monitoring during the Study indicates intermediate groundwater flows primarily to the east at Memorial Field; therefore, monitoring well RBN-MW02 is not well positioned to evaluate down-gradient impacts to intermediate groundwater from this area of interest.

- A confirmed release to soil is present in the Rainier Trail area of interest associated with historical application of AFFF and wash water at the identified AFFF training area. Reported concentrations of PFOS and PFOA exceed Investigatory Levels for unsaturated soil in multi-incremental soil samples collected from the Rainier Trail AFFF training area (Table 8). Reported analytical results for shallow groundwater samples collected from monitoring wells RT-MW01, RT-MW03, and RT-MW04 were less than Investigatory Levels for all shallow groundwater samples collected as part of the Study (Figure 12). The analytical results indicate that while the migration pathway for PFAS from soil to groundwater is complete, resulting groundwater impacts reported to date are less than Investigatory Levels. However, PFOS was detected at a concentration that exceeded the SAL in the groundwater sample collected from monitoring well RT-MW01 in October 2020.

- Confirmed PFAS sources to soil and groundwater are present at the NWN AFFF training area associated with historical application of AFFF and wash water. Reported concentrations of PFOS and/or PFOA exceed Investigatory Levels for saturated and unsaturated soil in previously collected discrete soil samples collected from the NWN-AFFF training area and the median strip on the northern portion of the area of interest (Table 8). Analytical results for shallow groundwater samples collected from locations in and down-gradient of the AFFF training area exceed Investigatory Levels for PFOS and PFOA, and exceed SALs for PFHxS and PFNA in groundwater (Figure 16). Analytical results for groundwater samples collected from shallow monitoring well NWN-MW01 during the Study did not exceed Investigatory Levels, but did exceed the SAL for PFOS. Analytical results for intermediate groundwater samples down-gradient of the 175 Newport Way Northwest area of interest (i.e., intermediate monitoring wells COI-MW06 and NDS-MW04) also exceed the Investigatory Level for both analytes and the SAL for PFHxS and PFNA (Figure 18; Tables 11 and 12).

5.3 PFAS FATE AND TRANSPORT

The following routes of migration were identified for PFAS, including PFOS and PFOA:

- Leaching from soil to groundwater; and
- Lateral and vertical transport in groundwater.

Discharge from groundwater to surface water and/or sediment in Issaquah Creek was also identified as a potential route of migration for PFAS due to the neutral to slightly positive vertical gradients observed on the eastern portion of the West Playfield/Dodd Fields areas of interest; however, this migration route has not been confirmed.

5.3.1 West Lower Issaquah Valley

PFAS in soil migrated through the vadose zone by gravity at the time of application as AFFF. Once in the subsurface, PFAS have continued to leach into infiltrating precipitation in the vadose zone at the West Playfield, Dodd Field, and 175 Newport Way Northwest areas of interest, and migrated into shallow groundwater. Additional leaching from soil to groundwater is occurring in saturated soil below the West Playfield, Dodd Field, and 175 Newport Way Northwest areas of interest.

PFAS are present in soil at concentrations exceeding Investigatory Levels at depths ranging from approximately 6 inches (previously evaluated multi-incremental sampling decision units DU-01A, through DU-2B, DU-05, and DU-06) to 25 feet bgs (boring NWN-MW03) at identified areas of interest. Migration to shallow groundwater has resulted in PFAS concentrations that exceed Investigatory Levels by a factor of 100 or more at the NWN AFFF training area and up to 10 at the West Playfield/Dodd Field areas of interest, and down-gradient locations (IES-MW07). Impacted shallow groundwater is migrating east and north from the NWN AFFF training area to impact shallow wells NWN-MW02 and NDS-MW01, respectively, and downward as indicated by vertical gradients calculated at well pairs NWN-MW02/NWN-MW08 and NDS-MW03/NDS-MW04, penetrating the silt below the coarse gravel and sand to reach intermediate groundwater at monitoring well COI-MW06 (Figure 3). PFAS impacts in shallow groundwater collected from monitoring wells NWN-MW01 and B-12 bound the southern extent of shallow impacts at the 175 Newport Way Northwest area of interest. Additional shallow groundwater sampling is recommended to evaluate shallow groundwater impacts between monitoring wells NDS-MW01 and IES-MW01 up-gradient of the West Playfield/Dodd Fields areas of interest. Intermediate groundwater impacts decline below the silt to less than Investigatory Levels at IES-MW08 (Figures 3 and 18). Based on comparison of surface water and shallow groundwater elevations at monitoring well NWN-MW11 and Issaquah Creek gauging station STR-04, Issaquah Creek discharges a portion of its flow to groundwater (i.e., is losing discharge) in this reach.

PFAS impacts to shallow groundwater at the West Playfield/Dodd Field areas of interest are migrating north and downward in the west-central portion of the areas of interest; and northeast in the eastern portion of the areas of interest. Vertical gradients on the central and west portions of the areas of interest are downward as indicated by vertical gradients calculated for well pairs IES-MW01/IES-MW06 and IES-MW03/IES-MW10. Vertical gradients on the northeastern portion of

the Dodd's Fields area of interest calculated at well pair IES-MW08/IES-MW09 are slightly positive potentially limiting downward migration of shallow PFAS releases and impacted groundwater on the northeastern portion of the Dodd Field area of interest (Figures 10 and 17).

Vertical migration of PFAS in shallow groundwater from the areas of interest on the west portion of the Lower Issaquah Valley has impacted intermediate groundwater at concentrations up to 10 times the Investigatory Level at intermediate groundwater monitoring wells IES-MW10, COI-MW03, and COI-MW05. Comparison of shallow groundwater and surface water elevations at monitoring well IES-MW08 and Issaquah Creek gauging station STR-02 indicates Issaquah Creek discharge to groundwater is neutral (i.e., no loss of flow), or slightly gaining, indicating that migration of PFAS-impacted shallow groundwater to surface water (i.e., some discharge of groundwater into Issaquah Creek) is possible. However, this potential migration pathway has not been confirmed with appropriate sampling.

Lateral extents of shallow groundwater impacts on the western portion of the Lower Issaquah Valley are bounded to the west by the presumed weathered bedrock contact identified under the 175 Newport Way Northwest area of interest and to the east by shallow monitoring wells NWN-MW01, NWN-MW11, NDS-MW03, and DF-MW01. The concentration of PFOS in the shallow groundwater sample collected from monitoring well IES-MW08 slightly exceeded the Investigatory Level in the April 2020 monitoring event but dropped to less than the Investigatory Level in October 2020, suggesting this well is near the eastern edge of shallow groundwater impacts. A similar pattern of intermittent, slight exceedances of the Investigatory Level for PFOS in shallow groundwater samples collected in October 2018 and April 2020 was observed in shallow monitoring well IES-MW03. PFOS, PFOA, and the sum of PFOS and PFOA were less than the Investigatory Level in shallow groundwater samples collected in July and October, 2020. The groundwater data from monitoring well IES-MW03 suggests it may be near the western edge of shallow groundwater impacts. Concentrations in shallow groundwater samples collected northwest of monitoring well IES-MW03 (monitoring wells B-4 and B-2) were less than Investigatory Levels (Table 12; Figure 17) bounding shallow groundwater impacts to the west and northwest of the West Playfield/Dodd Fields areas of interest. PFOS concentrations in shallow monitoring well IES-MW07 are approximately 4 times the Investigatory Level; the northern extent of PFAS in shallow groundwater in this portion of the Lower Issaquah Valley has not been bounded.

PFAS impacts to intermediate groundwater in the west Lower Issaquah Valley are bounded to the east by intermediate monitoring wells COI-MW07, NDS-MW04, IES-MW09, RBN-MW01, and COI-MW04. Previous sampling at groundwater monitoring wells COI-TW01 and DG-PW01 also did not report PFAS concentrations in intermediate groundwater that exceeded Investigatory Levels (Figure 18), although these wells were not resampled as part of the Study. The western extent of PFAS impacts to intermediate groundwater is bounded by the presumed weathered bedrock contact; limited additional sampling may further refine the western extent of impacts, potentially moving the boundary east. PFAS impacts to intermediate groundwater extend from 175 Newport Way Northwest to production well COI-PW04. Both PFOS and PFOA concentrations have remained below Investigatory Levels in groundwater samples collected from intermediate groundwater monitoring well IES-MW06, suggesting intermediate groundwater impacts from the

175 Newport Way Northwest may be limited to south of this location. Based on the spatial pattern of PFAS in intermediate groundwater, additional source material impacting intermediate groundwater may be present at the West Playfield/Dodd Fields areas of interest that has not been identified.

5.3.2 East Lower Issaquah Valley

PFAS in soil have migrated through the vadose zone by gravity at the time of application as AFFF, leached into infiltrating precipitation in the subsurface at the Memorial Field and Rainier Trail areas of interest, and migrated into shallow groundwater over subsequent years. Reported concentrations of PFAS in shallow groundwater at the Rainier Trail area of interest, while detected at concentrations exceeding analytical laboratory MRLs, have consistently been less than Investigatory Levels.

Based on the available analytical data, PFAS are present in soil at the Memorial Field and Rainier Trail areas of interest at concentrations exceeding Investigatory Levels at depths ranging from approximately 6 inches (multi-incremental sampling decision units DU-03 and DU-04) to 29 feet bgs (boring MF-R01). Migration to shallow groundwater has resulted in PFAS concentrations that periodically exceed Investigatory Levels by a factor of 10 or more at shallow monitoring well MF-MW02. Impacted shallow groundwater is migrating approximately northeast and likely downward[5] based on horizontal and vertical gradients reported for shallow/intermediate monitoring well pair MF-MW02/MF-MW04. Appropriately located shallow and intermediate monitoring wells are not currently available to evaluate groundwater impacts down-gradient of monitoring well MF-MW02. PFAS impacts to intermediate groundwater at monitoring well MF-MW04 have remained less than the Investigatory Level throughout the Study period, suggesting impacts are limited to shallow groundwater. PFAS concentrations reported in intermediate groundwater collected from monitoring well RBN-MW02, while consistently less than both Investigatory Levels and SALs, are slightly higher than those reported for MF-MW04 to the south, and both NWN-MW08 and COI-MW07 to the southwest. The data indicate minor PFAS impacts to intermediate groundwater at concentrations less than Investigatory Levels are affecting this location from a currently unidentified source.

5.4 POTENTIAL EXPOSURE PATHWAYS

The following section identifies potential human exposure pathways to PFAS-contaminated media where Investigatory Levels have been identified. Investigatory Levels or other applicable criteria have not been established for ecological exposure, so those pathways were not evaluated.

5.4.1 Soil Pathways

Potential exposure pathways to shallow PFAS-contaminated soil include direct contact. Analytical results for all areas of interest evaluated by the Study were less than Investigatory Levels for direct contact with soil; therefore, potential exposure to shallow soil exceeding Investigatory Levels through this pathway are less than levels of concern. No analytical results for any area of interest

[5] Likely net downward movement resulting from longer period of downward vertical gradients than upward.

that exceeded Investigatory Levels for direct contact were identified for deep soil (15 feet or more bgs); therefore, future exposure to deep soil through construction or other excavation activities is also below a level of concern.

5.4.2 Groundwater Pathways

Potential exposure pathways for groundwater currently include the ingestion pathways (i.e., drinking water). Investigatory Levels in raw groundwater extracted by the City of Issaquah production well COI-PW04 exceed Investigatory Levels for PFOS and SALs for PFHxS, PFOA, and PFNA; however, PFHxS, PFOA, PFOS, and PFNA were reported non-detect at the laboratory MRL in treated drinking water, making the pathway incomplete. Ingestion of impacted groundwater is possible where groundwater is extracted and used without treatment. Farallon performed a search of publicly available information provided through Ecology's Water Resources Explorer tool and did not identify any active private wells in the affected area. Incidental ingestion may also occur in limited scenarios where subsurface excavation work results in direct contact with impacted groundwater.

5.4.3 Vapor Pathway

Due to the very low reported vapor pressures and Henry's Constants (where measured), to date no vapor pathways have been identified for the parameters of interest.

6.0 IMPLICATIONS FOR REMEDIATION

PFAS are not currently listed as hazardous substances and therefore not subject to a formal feasibility study. To evaluate implications for remediation, Farallon performed a screening of currently available remedial technologies for PFAS and identified key characteristics that will influence cleanup action technology selection and design for each of the areas of interest.

6.1 EVALUATION OF FEASIBLE REMEDIATION TECHNOLOGIES

Farallon performed a preliminary screening of currently available remediation technologies for PFAS in soil and groundwater. Although potential remedial technologies and associated cleanup actions are not subject to a formal feasibility study at this time, the technology screening was performed based on preliminary evaluation of the criteria identified in MTCA Section 173-340-360(3) to identify permanent solutions to the maximum extent practicable, including protectiveness, permanence, cost, long-term effectiveness, management of short-term risks, technical and administrative implementability, and consideration of public concerns.

6.1.1 Eliminated Technologies

Potential remedial technologies for PFAS that were eliminated fell into one of the following categories:

- Technologies that have been demonstrated to be ineffective for PFAS such as soil vapor extraction and air sparging.
- Technologies that are still experimental or have not been proven at a commercial scale such as ball milling, ethanol flushing, and advanced oxidation/reduction for soil; and sonication, or bioremediation for groundwater.
- Technologies that preliminary evaluation indicated were unsuitable for conditions identified at the areas of interest such as deep excavation below the water table, dynamic groundwater flushing, or pump-and-treat systems to provide hydraulic control for high-concentration PFAS-impacted groundwater.
- Technologies that preliminary evaluation indicated would be cost-prohibitive for the volumes of soil and groundwater under consideration, including off-site incineration, soil washing; and reverse osmosis or filtration technology.

6.1.2 Retained Technologies

Treatment technologies that were retained included proven, commercially available technologies that preliminary evaluation indicated would support development of remedial actions that are both protective of human health and the environment and cost-effective to implement. Retained technologies for soil include:

- Direct excavation and off-site disposal of higher-concentration shallow PFAS-impacted soil;

- Installation of engineering controls such as physical barriers at the surface to reduce or eliminate infiltration of precipitation through unsaturated soil;
- Solidification of contaminated soil to reduce infiltration of precipitation and PFAS mobility;
- In-situ treatment or amendment with activated carbon additives for unsaturated and saturated soil to reduce or eliminate PFAS mobility in the subsurface; and
- Subsurface barriers or structures to enhance treatment or isolate higher-concentration media such as cutoff walls and/or vaults.

Retained technologies for groundwater include:

- Activated carbon treatment using either direct injection technology or direct installation for shallow groundwater to create permeable reaction barriers or retain PFAS in-situ at the point of direct-treatment;
- Subsurface barriers or structures to enhance treatment or isolate higher-concentration media such as cutoff walls, flume-and-gate structures, and similar treatment systems; and
- Localized low-volume hydraulic control using pump-and-treat systems for high-concentration groundwater to prevent migration, dispersion, and dilution that will contaminate larger down-gradient volumes of water.

6.2 WEST PLAYFIELD AND DODD FIELD AREAS OF INTEREST

Potential remediation at the West Playfield/Dodd Field areas of interest would focus on the West Playfield/Dodd Field AFFF training areas on the southwestern and south-central portions of the areas of interest where reported concentrations of PFAS in soil, reconnaissance groundwater, and groundwater are highest. At this time, additional characterization is still needed to identify the full lateral and vertical extent of impacted soil and groundwater, and to identify potential source areas impacting shallow and intermediate groundwater.

6.2.1 Key Characteristics and Contaminant Distribution

Characterization data collected to date for the West Playfield/Dodd Field areas of interest include:

- Highest concentrations of PFAS in soil are within the AFFF training areas between the ground surface and a depth of approximately 23 feet bgs.
- The highest reported concentrations of PFAS in shallow groundwater were in samples collected from shallow monitoring well DF-MW02 within the former Dodd Field AFFF training area.
- The highest reported concentrations of PFAS in intermediate groundwater were in samples collected from intermediate monitoring well IES-MW10, down-gradient of the West Playfield AFFF training area.

- The silty sand and silt mantle at the West Playfield/Dodd Field areas of interest creates slightly confining conditions on the more conductive coarse sand and gravel unit that underlies it.
- The approximately 10-foot-thick gray silt layer present at IES-MW06 at a depth of approximately 70 feet bgs was not observed on the north side and hydraulically down-gradient side of the West Playfield/Dodd Field areas of interest. No other low-permeability hydrogeologic units were identified.
- Vertical groundwater gradients are downward south of the West Playfield/Dodd Field areas of interest and slightly upward on the north side of the areas of interest.

The total number of samples collected relative to the suspected total AFFF training area size at both areas of interest remains relatively low. Additional sampling to delineate the lateral and vertical extent of soil impacts will need to be performed prior to preliminary design of potential remedial actions.

6.2.2 Recommended Soil Technologies

Based on the reported distribution of PFAS in the subsurface and lithologies present, remedial technologies recommended for further evaluation at the West Playfield/Dodd Field areas of interest are:

- Installation of a surface cap or barrier to prevent infiltration of precipitation through PFAS-impacted vadose soil;
- Direct excavation of soil with higher concentrations of PFAS to the shallow water table at a depth of approximately 11 to 12 feet bgs;
- Injection treatment of the saturated sand and gravel interval to an approximate depth of 23 to 25 feet bgs with an adsorptive media to reduce PFAS mobility; and
- Shallow soil amendment up to 5 feet into the shallow water-bearing zone to reduce PFAS mobility in the subsurface.

Due to the conductive nature of the coarse gravel and sand unit at a depth between approximately 25 and 70 feet bgs and the corresponding decline in PFAS concentrations in soil with depth below ground surface, further evaluation of treatment technologies for soil in this saturated interval is not recommended. Additional characterization will be required to identify the full lateral and vertical extent of PFAS-impacted soil acting as a source to groundwater prior to development of a remedial alternative.

6.2.3 Recommended Groundwater Technologies

Based on the reported distribution of PFAS in shallow and intermediate groundwater, technologies recommended for further evaluation at the West Playfield/Dodd Field areas of interest are:

- Activated carbon treatment for shallow groundwater using direct injection technology to a depth of approximately 25 feet bgs; and

- Activated carbon treatment for intermediate groundwater direct injection technology directly below the silt unit identified at a depth of approximately 70 feet bgs.

The observed lithology's open-graded structure is well suited for injected treatments. Localized shallow groundwater hydraulic control was considered for both areas of interest, but is not recommended since the volumes of water required to maintain control will be large and corresponding operations, maintenance, and treatment costs would be commensurately high.

6.3 MEMORIAL FIELD AND RAINIER TRAIL AREAS OF INTEREST

Potential remediation at the Memorial Field and Rainier Trail areas of interest would focus on the area proximate to and up-gradient of shallow monitoring well MF-MW02 where PFOS was previously detected in groundwater at concentrations that exceed the Investigatory Level. At this time, additional characterization is still needed to identify the full lateral and vertical extent of impacted soil and groundwater, and to identify potential source areas impacting shallow groundwater at Memorial Field.

6.3.1 Key Characteristics and Contaminant Distribution

Characterization data collected to date for the Memorial Field and Rainier Trail areas of interest include:

- The highest concentrations of PFAS in soil are in the Memorial Field AFFF training area at a depth within the first 5 feet bgs;
- The highest reported concentrations of PFAS in shallow groundwater were in samples collected from shallow monitoring well MF-MW02 northwest and slightly cross-gradient of the Memorial Field AFFF training area;
- PFAS were not reported at concentrations that exceed Investigatory Levels in intermediate groundwater in samples collected from intermediate monitoring well IES-MW10, down-gradient of the West Playfield AFFF training area;
- A silty sand mantle is present to a depth of approximately 15 feet bgs across both areas of interest underlain by conductive coarse sands and gravels; and
- Vertical groundwater gradients varied between upward and downward at the well pair MF-MW02/MW-MW04.

The highest observed concentrations of PFAS in shallow groundwater do not appear to be directly down-gradient of the Memorial Field AFFF training area. Soil and shallow groundwater sampling at the Rainier Trail AFFF training area also did not identify concentrations of PFAS in either media that would result in the observed PFAS concentrations reported in shallow groundwater at monitoring well MF-MW02. Additional evaluation of the lateral and vertical extent of soil and groundwater impacts will likely be required to identify potential source material or this well.

6.3.2 Recommended Soil Technologies

Based on the reported distribution of PFAS in the subsurface and lithologies present, remedial technologies recommended for further evaluation at the Memorial Field and Rainier Trail areas of interest are:

- Installation of surface cap or barrier to prevent infiltration of precipitation through PFAS-impacted vadose soil;
- Direct excavation of soil with higher concentrations of PFAS to a depth of 5 feet bgs; and
- Shallow soil amendment for unsaturated soil to reduce PFAS mobility in the subsurface.

Additional characterization will be required to identify the lateral and vertical extent of PFAS-impacted soil acting as a source to groundwater prior to development of a remedial alternative. Available data do not indicate treatment of deeper soil intervals is warranted to be protective of intermediate groundwater.

6.3.3 Recommended Groundwater Technologies

Based on the reported distribution of PFAS in shallow and intermediate groundwater, technologies recommended for further evaluation at the Memorial Field area of interest are:

- Activated carbon treatment for shallow groundwater using direct injection technology to a depth of approximately 45 feet bgs.

The observed lithology's open-graded structure is well suited for injected treatments. Similar to the West Playfield/Dodd Field areas of interest, localized shallow groundwater hydraulic control was considered for Memorial Field, but based on the observed lithology, is not recommended since the required volumes of water required to maintain control will be large and the corresponding mass retained would be small.

6.4 175 NEWPORT WAY NORTHWEST

Potential remediation at the 175 Newport Way Northwest area of interest would focus on the NWN AFFF training area on the western portion of the property where observed concentrations of PFAS in soil and groundwater were highest. Soil and groundwater characterization at the 175 Newport Way Northwest area of interest are sufficient to develop a Source Remediation Plan for PFAS-impacted soil and groundwater.

6.4.1 Key Characteristics and Contaminant Distribution

Characterization data collected to date for the 175 Newport Way Northwest Area of Interest includes:

- Concentrations of PFAS in soil, including PFOS and PFOA, generally attenuate with depth below the AFFF Training Area to a depth of approximately 15 feet bgs.

- Reported concentrations of PFAS in soil at a depth of 15 feet bgs in the vadose zone are typically at least an order of magnitude less than those observed in the interval from ground surface to a depth of 5 feet bgs in the vadose zone.
- Subsurface stratigraphy under the NWN AFFF training area comprises a surficial silty sand and sand unit overlying a sand and gravel unit followed by a low-permeability hard gray silt first encountered at a depth of approximately 15 feet bgs on the western portion of the NWN AFFF training area and approximately 30 feet bgs on the eastern portion of the AFFF training area.
- The hard gray silt basement unit has the characteristics to act as a low-permeability aquiclude. No lower groundwater-bearing unit has been identified below the hard gray silt.
- Although hydraulic testing was not performed, the characteristics of the sand and gravel unit suggest it is highly conductive.
- Reported concentrations of PFOS and PFOA in shallow groundwater suggest additional PFAS-impacted soil and groundwater are present west of the NWN AFFF training area.
- Reported concentrations of PFOS and PFOA in shallow groundwater are the same order of magnitude in monitoring wells NWN-MW04, NWN-MW07, and NWN-MW03 (west to east, respectively) before beginning to decline on the eastern portion of the area of interest (Figure 16).
- Downward vertical gradients were observed from shallow to intermediate groundwater using well pairs NWN-MW03/NWN-MW09 and NWN-MW02/NWN-MW08.

6.4.2 Recommended Soil Technologies

Based on the reported distribution of PFAS in the subsurface and lithologies present, remedial technologies recommended for further evaluation at the 175 Newport Way Northwest area of interest are:

- Direct excavation of soil with high concentrations of PFAS to a depth of approximately 10 feet bgs;
- Capping, solidification, or amendment with activated carbon of unsaturated (vadose zone) soil with elevated concentrations of PFAS; and
- Injection treatment of the saturated sand and gravel interval overlying the hard gray silt.

Based on the assessment of the AFFF training area performed to date, adequate information is available to develop a Source Remediation Plan. Some limited additional characterization sufficient to support bench testing of potential treatment products and to evaluate performance of pilot-scale treatment of the AFFF training area is recommended. Based on the results of the bench- and pilot-scale testing, a preliminary full-scale remedial design should be developed.

6.4.3 Recommended Groundwater Technologies

Based on the reported distribution of PFAS in shallow and intermediate groundwater technologies recommended for further evaluation at the 175 Newport Way Northwest area of interest are:

- Direct injection treatment of shallow groundwater below the NWN AFFF training area;
- Construction of a subsurface vault keyed into the hard gray silt to isolate soil and shallow groundwater with the highest reported concentrations of PFAS; and
- Construction of a passive treatment system with activated carbon such as a funnel-and-gate system keyed into the hard gray silt to enhance treatment of shallow groundwater prior to migration and dispersion out of the NWN AFFF training area and ultimately into intermediate groundwater.

Localized hydraulic control for shallow groundwater may be possible at the NWN AFFF training area given the boundary conditions that are present. However, this approach is unlikely to be cost effective when compared with a passive treatment system over the long term for control of PFAS in shallow groundwater.

7.0 DATA GAPS

While the Study was designed to address data gaps previously identified in the 2018 Study, data gaps remain due to the size of the area potentially impacted by PFAS and number of areas of interest. Primary data gaps identified in the Study are:

- The full nature and extent of PFAS releases to soil and groundwater at the West Playfield/Dodd Field areas of interest has not been identified.
- Concentrations of PFAS in shallow groundwater between monitoring wells NDS-MW01 and IES-MW01 up-gradient of the West Playfield/Dodd Fields should be further evaluated. Based on shallow groundwater flow directions and the downward vertical gradients observed at NDS-MW01/COI-MW06, additional shallow source material may be present between the two wells.
- The eastern boundary of shallow groundwater impacts north of the West Playfield/Dodd Field areas of interest is anticipated to be proximate to shallow monitoring well IES-MW08 based on available analytical results but has not been confirmed.
- The migration pathway from shallow groundwater to surface water in the vicinity of IES-MW08 and Issaquah Creek gauging station STR-02 is possible based on the observed vertical gradients and differences in elevation between groundwater and surface water but has not been confirmed.
- PFOS concentrations in intermediate groundwater increase by a factor of approximately 5 to 80 between monitoring wells IES-MW06 and NDS-MW02 up-gradient of the West Playfield/Dodd Field areas of interest and down-gradient of monitoring well IES-MW10. The data appear to indicate an additional source to intermediate groundwater may be present that has not been identified.
- Limited additional sampling may further refine the western extent of intermediate groundwater impacts, potentially moving the boundary east.
- The full nature and extent of PFAS releases to soil and groundwater at the Memorial Field areas of interest, including sampling to identify lateral extents of shallow soil PFAS impacts, has not been identified.
- Additional potential PFAS sources to groundwater at shallow monitoring well MF-MW02 may be present to the southwest that have not been identified.
- Although they remain less than regulatory criteria, PFAS concentrations increase slightly in intermediate groundwater at monitoring well RBN-MW02 compared to surrounding monitoring wells; the source of the increase has not been identified.
- Concentrations of PFAS in soil and groundwater west of the 175 Newport Way Northwest area of interest have not been characterized, but impacts are suspected based on analytical data collected at the area of interest's western boundary.

- Reported concentrations of PFAS in groundwater samples collected from production well COI-PW04 exceed results reported for samples collected from intermediate monitoring well COI-MW03 in multiple monitoring events; screened intervals for the two wells are similar, but the source of the additional PFAS mass has not been identified.

Data gaps should be prioritized and evaluated for inclusion under future scopes of work to ensure any future remedial actions address all potential source material and are designed to address the full nature and extent of impacts identified to date.

8.0 QUALITY ASSURANCE AND QUALITY CONTROL

Raw analytical data received from ALS were evaluated for measurement quality, including 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 quality assurance and quality control samples, including field duplicates, equipment rinsate blanks, and field blanks, are presented in Tables 13 and 14. Complete analytical laboratory reports are provided in Appendix F.

8.1 PRECISION

Precision for PFOA and PFOS measurements was evaluated through calculation of the relative percent difference (RPD) between analytical results for the following field sample and field duplicate sample pairs:

- Primary sample COI-MW06-200416 and field duplicate COI-MW66-200416;
- Primary sample COI-MW06-200715 and field duplicate COI-MW66-200715;
- Primary sample COI-MW06-102920 and field duplicate COI-MW66-102920;
- Primary sample NWN-MW04-200417 and field duplicate NWN-MW44-200417;
- Primary sample NWN-MW04-200716 and field duplicate NWN-MW44-200716; and
- Primary sample NWN-MW04-102920 and field duplicate NWN-MW44-102920.

All RPD values for PFOA and PFOS primary and field duplicate sample results were less than the target value of 40 percent for results detected at 5 times the laboratory practical quantitation limit. The maximum reported RPD was 13.3 percent for PFOS in groundwater samples NWN-MW04-200716 and NWN-MW44-200716.

8.2 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 were also 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.

The Work Plan identified a range of target percent recovery values between 70 and 130 percent for samples analyzed by Modified EPA Method 537. Several individual results fell outside these target recovery values. However, laboratory-established control limits allowed for a wider range of acceptable values (Attachment F). Samples where analytical precision may have been affected by matrix interference or other effects outside of standard control limits were flagged as estimates

(J) by the analytical laboratory. Review of laboratory case narratives identified a limited number of instances where analytical result data quality may have been affected; however, potential bias or variability in analytical results (flagged as estimates) were not significant enough relative to detected values to change sample status compared to Investigatory Levels or SALs. No results were rejected by the analytical lab.

PFOA and PFOS were detected at low concentrations in potable water used for preliminary decontamination of drilling equipment. Both analytes, and other short- and long-chain PFAS were reported non-detect at the laboratory MRL in the rinsate blank collected by Farallon from the fully decontaminated macrocore probe. The rinsate blank collected from groundwater sample tubing also was reported non-detect at the laboratory MRL for short- and long-chain PFAS. PFAS, including PFOA and PFOS, were reported non-detect in all cooler trip blanks and the field blank collected on March 20, 2020.

Quality control analytical results indicate that:

- Field collection methods did not introduce PFOA or PFOS into media sampled;
- Field decontamination procedures were adequate to reduce the presence of PFAS on reusable field equipment to concentrations less than the laboratory MRL;
- Disposable field equipment such as groundwater sample tubing did not introduce PFAS into samples at concentrations exceeding the laboratory MRL; 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 potentially affect analytical results.

8.3 REPRESENTATIVENESS AND COMPARABILITY

Samples were collected using standard methods in accordance with the requirements of the Work Plan and analyzed by an analytical laboratory with a 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 2017). These practices satisfy the Work Plan requirements for representativeness and comparability.

8.4 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 quality assurance/quality control process. The Study therefore meets the Work Plan target for completeness.

8.5 SENSITIVITY

Modified EPA Method 537 achieved project sensitivity standards by maintaining a method detection limit sufficiently low to evaluate concentrations of PFAS in soil and groundwater relative

to Investigatory Levels, 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.

9.0 CONCLUSIONS

Farallon has prepared this Summary Report on behalf of EFR for the Parties to summarize the work performed and analytical results for the Study. Previous work identified five areas of interest with confirmed historical use of AFFF in firefighting training exercises (Figure 2). Following completion of initial Lower Issaquah Valley characterization work in 2019, the Parties planned and performed additional evaluation of shallow vadose soil and groundwater, and intermediate groundwater under the current Study. The Study was designed to further characterize impacts to shallow and intermediate groundwater; further refine the nature and extent of PFAS impacts in the subsurface; perform a preliminary evaluation of other potential up-gradient sources in the Lower Issaquah Valley; and refine the conceptual site model for the Lower Issaquah Valley hydrogeology.

Although PFAS are not regulated as hazardous substances under federal or Washington State law, the field investigation performed for the Study was consistent with the requirements of MTCA, as established in WAC 173-340. If necessary, in the future, data collected as part of the Study can be used to support development and evaluation of future cleanup actions that may be required under Ecology supervision. Study results and key conclusions for each area of interest and region in the Lower Issaquah Valley; a preliminary regional conceptual site model; and implications for remediation are discussed below. Detailed discussion of work performed and complete results are provided in the preceding sections.

9.1 WEST PLAYFIELD AND DODD FIELD PARK AREAS OF INTEREST RESULTS

Observed lithology at the West Playfield/Dodd Field areas of interest was consistent with previous observations and interpretations documented in the 2019 Report. Shallow groundwater was encountered at depths of approximately 5 to 11 feet bgs during the Study monitoring period, which equated to a range of shallow groundwater elevations from approximately 62 to 70 feet NAVD88 (Figure 9; Table 2). Observed shallow groundwater flow directions ranged from north to northeast with gradients of approximately 0.0025 to 0.006 feet per foot. PFOS was detected throughout the monitoring period at concentrations that consistently exceeded the Investigatory Level of 0.070 µg/l. The highest reported PFOS concentrations in groundwater were in samples collected from monitoring wells located within (DF-MW02), and down-gradient of (IES-MW04, IES-MW05) suspected former AFFF training areas. PFOS concentrations in shallow groundwater declined to the northeast, northwest, and southwest of both areas of interest. Analytical data bounds the lateral extents of PFOS impacts to shallow groundwater to the east at monitoring wells NWN-MW11, NDS-MW-03, and DF-MW01. The western extent of shallow groundwater impacts is bounded by an anticipated bedrock contact at the edge of the Lower Issaquah Valley and monitoring well B-4. Concentrations of PFOA did not individually exceed the Investigatory Level in any of the shallow groundwater samples collected.

Intermediate groundwater flowed predominantly north-northwest with gradients ranging from 0.0011 to 0.0024 feet per foot in both the West Playfield/Dodd Field areas of interest. PFOS was detected at concentrations ranging from 1.0 to 1.2 µg/l in the groundwater samples collected from

intermediate monitoring well IES-MW10, north-northwest to west of the previously identified AFFF training areas. Reported PFAS concentrations in up- and cross-gradient intermediate monitoring wells IES-MW06 and IES-MW09 were less than Investigatory Levels. Vertical gradients between shallow and intermediate groundwater varied across the areas of interest with downward gradients observed at the southern and western well pairs (IES-MW01/IES-MW06 and IES-MW03/IES-MW10) and neutral to slightly positive at the eastern well pair closer to Issaquah Creek.

Exceedances of SALs in shallow and intermediate groundwater were primarily co-located with exceedances of Investigatory Levels. However, analytical results for groundwater collected from shallow monitoring wells DF-MW01 and intermediate groundwater monitoring wells IES-MW06 and IES-MW09 all exceeded at least one SAL but did not exceed an Investigatory Level.

9.2 MEMORIAL FIELD AND RAINIER TRAIL AREAS OF INTEREST RESULTS

Observed lithology at the Memorial Field and Rainier Trail areas of interest was consistent with previous observations and interpretations documented in the 2019 Report. Shallow groundwater was encountered at depths of approximately 27 to 40 feet bgs during the Study monitoring period, which equated to a range of shallow groundwater elevations from approximately 59 to 72 feet NAVD88 (Figure 9; Table 2). The seasonal range in groundwater elevations was slightly larger than what was originally observed between the time of the reconnaissance borings and monitoring wells installed in both areas of interest in 2018. Observed shallow groundwater flow varied seasonally ranging from approximately north-northeast in March; to north in April and July 2020; to northeast in October 2020 (Figure 12; Table 2) with gradients of approximately 0.0059 to 0.0085 feet per foot.

Reported concentrations of PFOS increased from south to north with the lowest observed detection from the study in the groundwater sample collected from shallow monitoring well RT-MW04. PFOS was detected at concentrations of 0.12 and 0.096 µg/l in groundwater samples collected from shallow monitoring well MF-MW02 in the April and October 2020 groundwater monitoring events; both reported concentrations exceed the Investigatory Level for PFOS of 0.070 µg/l (Figure 13, Table 12).

Intermediate groundwater flow direction was consistently northeast to east with gradients ranging from 0.0027 to 0.0047 feet per foot (Figures 8b through 8d). PFAS were not detected in intermediate groundwater samples collected from monitoring well MF-MW04 at concentrations exceeding the Investigatory Level. Vertical gradients evaluated using well pair MF-MW02/MF-MW04 varied seasonally with downward gradients observed in April and July 2020 and an upward gradient in October 2020.

Reported PFAS concentrations in groundwater did not exceeded SALs for PFBS or PFHxS at any location. Reported concentrations of PFOS and PFNA in shallow groundwater samples collected from monitoring wells RT-MW01 and MF-MW02, respectively, exceeded the SAL in at least one monitoring event where analytical results did not exceed Investigatory Levels.

9.3 175 NEWPORT WAY NORTHWEST

Observed lithology at the 175 Newport Way Northwest area of interest was consistent with previous observations and interpretations documented in the 2019 Report. Additional drilling further refined the depth and orientation of the contact between the coarse sand and gravel and underlying hard gray silt previously identified on the western portion of the area of interest, dipping to the east.

PFOA and PFOS were detected at concentrations that exceeded applicable Investigatory Levels for unsaturated and saturated soil in nearly every discrete soil sample collected in the NWN AFFF training area. No exceedances of Investigatory Levels for direct contact (either residential or industrial exposure scenarios) were reported. In general, the highest concentrations of both PFOS and PFOA reported in NWN AFFF training area shallow soil were at a depth of 3 to 5 feet bgs (Table 8); concentrations of both analytes declined by up to an order of magnitude between depths of 5 and 15 feet bgs.

Shallow groundwater was encountered at depths of approximately 9 to 18 feet bgs on the western portion of the 175 Newport Way Northwest area of interest and 20 to 23 feet bgs on the eastern portion of the area of interest during the Study monitoring period, which equated to a maximum range of shallow groundwater elevations from approximately 68 to 82 feet NAVD88 (Figure 11; Table 2). Shallow groundwater flows east on the western portion of the 175 Newport Way Northwest area of interest and transitions to north flow on the eastern portion of the area of interest with gradients that range from approximately 0.0043 to 0.0127 feet per foot.

Reported concentrations of PFOS in shallow reconnaissance groundwater and groundwater were highest in the northwestern portion of the NWN AFFF training area. Reported concentrations exceeded Investigatory Levels by factors from less than 1 (NWN-MW01) to 300 (NWN-R06 reconnaissance groundwater) (Tables 10 and 12). With a limited number of exceptions, individual exceedances of the Investigatory Level for PFOS and PFOA in shallow groundwater were co-located (Figure 16; Table 12).

Due to the presence of the continuous hard gray silt identified under the western portion of the area of interest, intermediate groundwater is not present under most of the 175 Newport Way Northwest area of interest. Intermediate groundwater flow to the east of the 175 Newport Way Northwest area of interest flows consistently to the northeast with a reported gradient of 0.0024 to 0.003 feet per foot (Figures 8b through 8d). PFOS and PFOA were reported at concentrations slightly exceeding the laboratory MRL in the intermediate groundwater samples collected from monitoring well NWN-MW08 for all three monitoring events (Figure 16; Table 12). Vertical gradients between shallow and intermediate groundwater were calculated using shallow-intermediate monitoring well pair NWN-MW02/NWN-MW08. The vertical gradient was downward in in all three events with values ranging from 0.004 and 0.013 feet per vertical foot.

Reported PFAS concentrations in groundwater that exceeded SALs for PFHxS, PFOA, PFOS, and PFNA were generally co-located with exceedances of the Investigatory Levels for PFOS and PFOA with the exception of shallow groundwater samples collected from monitoring well NWN-

MW01, which did not exceed any Investigatory Levels, but did exceed the SAL for PFOS and/or PFOA (Table 12). Shallow monitoring well NWN-MW01 is hydraulically down- and slightly cross-gradient of the NWN AFFF training area. PFAS concentrations in shallow groundwater at monitoring wells NWN-MW01 and B-12 bound the southern extent of shallow groundwater impacts at the 175 Newport Way Northwest area of interest. PFAS were not detected at concentrations exceeding a SAL in any of the intermediate groundwater samples collected from monitoring well NWN-MW08 (Tables 11 and 12).

9.4 REGIONAL GROUNDWATER

Shallow and intermediate groundwater was evaluated on a regional level at locations up- and down-gradient of areas of interest to further refine the nature and extent of PFAS impacts to shallow and intermediate groundwater and regional fate and transport conditions potentially affecting drinking water production wells.

Shallow groundwater flows approximately north on the western portion of the Lower Issaquah Valley consistent with the local flow direction observed at the West Playfield/Dodd Field and the eastern portion of the Newport Way Northwest areas of interest. Shallow groundwater under the main fork of Issaquah Creek flows approximately to the northeast, consistent with the flow direction observed on the eastern portion of Dodd Field area of interest.

PFOS was detected at concentrations that exceeded the Investigatory Level of 0.070 µg/l in shallow groundwater samples collected from the areas between the 175 Newport Way Northwest and West Playfield/Dodd Field areas of interest, and north of the West Playfield/Dodd Field areas of interest (Figure 17). Reported concentrations of PFOA were individually lower than the Investigatory Level of 0.070 µg/l and generally up to an order of magnitude or more less than reported PFOS concentrations. East and west extents of shallow groundwater on a regional scale were bounded by monitoring wells B-12, NWN-MW11, NDS-MW03, DF-MW01, B-4, and B-2.

Regional exceedances of SALs for PFHxS, PFOA, PFOS, and PFNA in shallow groundwater samples were generally co-located with exceedances of the Investigatory Levels with the exception of the shallow groundwater sample collected from monitoring well NDS-MW03, which exceeded SALs for both PFOS and PFOA; and the shallow groundwater sample collected from monitoring well B-12, which exceeded the SAL for PFOS (Table 12). No exceedances of the SAL for PFBS were reported for regional shallow groundwater samples collected during the Study.

Regional intermediate groundwater approximate flow direction and gradients were evaluated using all the available intermediate groundwater wells (Figures 8a through 8d). Intermediate groundwater flow direction varies by location within the Lower Issaquah Valley but was consistent between spring (high groundwater) and fall (low groundwater) monitoring events. Regionally, intermediate groundwater flows north to north-northwest on the western portion of the Lower Issaquah Valley and near Issaquah Creek and northeast to east on the southeastern portion of the Lower Issaquah Valley; gradients vary by location and season.

PFOS and/or PFOA were detected at concentrations that exceeded the Investigatory Level for PFOS and PFOA in intermediate monitoring wells COI-MW06 and NDS-MW02 north of the 175 Newport Way Northwest area of interest; intermediate monitoring wells IES-MW10 and COI-MW05 north of the West Playfield/Dodd Field areas of interest; and intermediate monitoring well COI-MW03 at the northern end of the Study area (Figure 18; Table 12). The eastern extent of PFAS impacts to intermediate groundwater was approximately identified by monitoring wells COI-MW04, RBN-MW01, IES-MW09, and NDS-MW04 (Figure 18). PFAS impacts to intermediate groundwater proximate to the Memorial Field and Rainier Trail areas of interest were less than Investigatory Levels.

Reported concentrations of PFAS in groundwater samples collected from regional intermediate groundwater monitoring wells COI-MW05 and NDS-MW02 exceeded SALs for PFHxS, PFOA, PFOS, and/or PFNA in at least one monitoring event (Tables 11 and 12). No exceedances of the SAL for PFBS were reported for intermediate groundwater samples collected during the Study.

Vertical gradients between shallow and intermediate groundwater were calculated using co-located pairs of shallow and intermediate monitoring wells. Vertical gradients on the southern portion of the Lower Issaquah Valley were downward. Vertical gradients at well pair IES-MW07/COI-MW05 in the central portion of the Lower Issaquah Valley were slightly upward. Vertical gradients, combined with shallow groundwater elevations measured at locations proximate to the main fork of Issaquah Creek, suggest the creek loses flow in the southern portion of the valley to groundwater and is neutral to slightly gaining flow in the central and likely northern portions of the Lower Issaquah Valley.

9.5 POTENTIAL UP-GRADIENT SOURCES

Available records and analytical data do not support the potential presence of an additional PFAS source to shallow groundwater at the Sunset Way Property. Results of the potential source evaluation did not identify historical uses, including business listings or other evidence, to support a history of use and disposal of products with high concentrations of PFAS-bearing liquids. No listings for commercial dye, upholstery, or waterproofing businesses were identified. Shallow and intermediate groundwater sampling from the nearest down-gradient monitoring wells did not report PFAS concentrations that exceeded Investigatory Levels or proposed State Action Levels (Tables 1 and 2) and frequently approached the laboratory method reporting limits or were estimated detections slightly less than the method reporting limit. The analytical results do not indicate a proximate up-gradient source is present.

9.6 CONCEPTUAL SITE MODEL

Based on the available analytical results, the primary PFAS constituents of concern are PFHxS, PFOS, PFOA, and PFNA. PFOS and PFOA were detected at concentrations exceeding Investigatory Levels in shallow and intermediate groundwater samples collected in the areas of interest on the western portion of the Lower Issaquah Valley and down-gradient locations, and in shallow groundwater at Memorial Field on the eastern portion of the Lower Issaquah Valley. Although Investigatory Levels are not available for PFHxS and PFNA, both chemical species were

detected at concentrations that exceed SALs in shallow and intermediate groundwater samples collected from multiple locations. Exceedances of the SALs were generally co-located with exceedances of Investigatory Levels, but occasionally occurred at locations that were up-gradient or cross-gradient of confirmed PFAS impacts that otherwise did not exceed the Investigatory Level; effectively increasing the total lateral extent of impacts.

Reported concentrations of PFHxS, PFOS, PFOA, and PFNA in soil and groundwater at areas of interest are the result of historical application of AFFF to the ground at, and surrounding, previously identified AFFF training areas. Confirmed release to soil and sources to shallow and intermediate groundwater include AFFF training areas at the West Playfield, Dodd Field, and 175 Newport Way Northwest areas of interest. Confirmed releases at the Memorial Field area of interest AFFF training area created sources to shallow groundwater; analytical data collected to date does not indicate intermediate groundwater has been impacted. Confirmed PFAS impacts to soil are present in the Rainier Trail area of interest and the migration pathway to shallow groundwater is complete; analytical data collected to date does not indicate shallow or intermediate groundwater has been impacted at concentrations exceeding investigatory levels.

Complete PFAS migration pathways for confirmed releases include leaching from soil to groundwater, and lateral and vertical transport in one or more groundwater bearing zones at the West Playfield, Dodd Field, 175 Newport Way Northwest, and Memorial Field areas of interest. Migration of impacted groundwater to surface water is possible east and north of the West Playfield/Dodd Field areas of interest based on reported shallow groundwater elevations and vertical gradients in groundwater (the creek is identified as neutral to slightly gaining) but analytical data is not available to evaluate whether PFAS impacts are diluted-out at the potential point of discharge thus making the pathway incomplete. Lateral extents of shallow groundwater impacts on the western portion of the Lower Issaquah Valley are bounded to the west by the presumed weathered bedrock contact identified under the 175 Newport Way Northwest area of interest, and to the east by shallow monitoring wells NWN-MW01, NWN-MW11, NDS-MW03, DF-MW01, IES-MW03, and IES-MW08. PFAS impacts to intermediate groundwater in the west Lower Issaquah Valley are bounded by intermediate monitoring wells COI-MW07, NDS-MW04, and IES-MW04.

Analytical results for soil at all areas of interest evaluated by the Study were less than Investigatory Levels for direct contact; therefore, potential exposure pathways to soil exceeding Investigatory Levels are incomplete. Potential exposure pathways for groundwater currently include only the ingestion pathway. PFOS concentrations in raw groundwater extracted by the City of Issaquah production well COI-PW04 exceed the Investigatory Level. Concentrations of PFAS in raw groundwater extracted by production well COI-PW04 also exceed SALs for PFHxS, PFOA, and PFNA; however, these analytes were all reported non-detect at the laboratory MRL in treated drinking water, making the pathway incomplete. Potential ingestion of impacted groundwater is possible where groundwater is extracted and used without treatment; however, no active private wells have been identified within the affected area. Incidental ingestion is also possible where subsurface excavation work results in direct contact with impacted groundwater. Both exposure scenarios have limited potential to impact public health and can be mitigated with appropriate planning and corrective actions.

9.7 IMPLICATIONS FOR REMEDIATION

Farallon performed a preliminary screening of currently available remediation technologies for PFAS in soil and groundwater. Retained remedial technologies included proven, commercially available technologies that preliminary evaluation indicated could be used to develop cleanup actions that are both protective of human health and the environment and cost-effective to implement. Retained technologies for soil include direct excavation, engineering and institutional controls, solidification, and in-situ amendment with activated carbon additives. Retained technologies for groundwater include activated carbon treatment, subsurface barriers, or structures to enhance treatment or isolate higher-concentration media; and localized hydraulic control.

Additional characterization of the nature and extent of contamination and identification of source material is still necessary prior to development of remedial actions for the West Playfield, Dodd Field, and Memorial Field areas of interest. However, preliminary evaluation identified surface barriers, direct excavation, and either direct soil amendment or injected amendment as suitable technologies for the observed distribution of PFAS in soil; and activated carbon treatment as suitable for both shallow and intermediate groundwater.

Characterization of the 175 Newport Way Northwest area of interest is more complete than at other areas of interest in the Lower Issaquah Valley and was considered sufficient to begin development of a Source Remediation Plan for PFAS-impacted soil and groundwater. Proposed remediation would focus on the NWN AFFF training area on the western portion of the property where observed concentrations of PFAS in soil, reconnaissance groundwater, and groundwater were highest. Based on the reported distribution of PFAS in the subsurface and lithologies present, remedial technologies recommended for further evaluation at the 175 Newport Way Northwest area of interest are direct excavation of soil with high concentrations of PFAS to a depth of approximately 10 feet bgs; capping, solidification, or amendment with activated carbon of unsaturated (vadose zone) soil with elevated concentrations of PFAS; and injected treatment of the saturated sand and gravel interval overlying the hard gray silt. Recommended remediation technologies for shallow and intermediate groundwater are direct injection treatment of shallow groundwater below the NWN AFFF training area; and construction of a passive treatment system with activated carbon.

9.8 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 in the Lower Issaquah Valley. The overall purpose of the Study was satisfied through the collection of soil, reconnaissance groundwater, and groundwater samples at, and down-gradient of, confirmed and/or suspected sources in areas of interest identified in the Lower Issaquah Valley. Specific Study objectives were met through the following Study components:

- Further evaluation of migration pathways between shallow and intermediate groundwater at 175 Newport Way Northwest, West Playfield, and Dodd Field Park, and Memorial Field was performed through an expanded subsurface investigation and monitoring program performed March through October 2020;

- PFAS impacts to soil and groundwater and subsurface conditions at 175 Newport Way Northwest were evaluated sufficiently to develop and evaluate potential source remediation alternatives for this area of interest;
- PFAS impacts in shallow and intermediate groundwater at locations of interest and down-gradient locations on both sides of the Lower Issaquah Valley were further evaluated through installation and sampling of additional shallow and intermediate groundwater wells;
- Quarterly groundwater monitoring supported further refining seasonal fluctuations in shallow and intermediate groundwater elevations and associated potential PFAS transport in shallow and intermediate groundwater on both sides of the Lower Issaquah Valley;
- The history of use for identified potential up-gradient sources was reviewed and evaluated;
- Adequate hydrostratigraphic and analytical data were collected to support development of a groundwater model that can be used to evaluate potential source remediation alternative performance; and
- Initial data was collected to evaluate potential interaction between surface water and groundwater along the primary axis of the Lower Issaquah Valley.

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 the Study.

10.0 REFERENCES

Agency for Toxic Substances and Disease Registry (ATSDR). 2018. *Minimum Risk Levels and Environmental Media Evaluation Guides for Perfluoroalkyls.* November.

Associated Earth Sciences Inc. 2018. *Subsurface Exploration, Geologic Hazards, and Preliminary Geotechnical Engineering Report, Issaquah Middle School AT Admin Site, Issaquah, Washington*. Prepared for the Issaquah School District. June 12.

City of Issaquah Public Works Engineering (City of Issaquah). 2017. Memorandum Regarding Soil Sampling Results – East Sunset Way Sites. From Bob York. To Sheldon Lynne, City of Issaquah Public Works Engineering. January 31.

Farallon Consulting, L.L.C. (Farallon). 2016. Interview Regarding Firefighting Training Exercises Between a Representative of Farallon and Bob Butterfield and Kelly Revfem, Representatives of Eastside Fire and Rescue. November 13.

———. 2018a. Interview Regarding Firefighting Training Exercises Between a Representative of Farallon and Bob Butterfield, Representative of Eastside Fire and Rescue. July 23.

———. 2018b. *Final Per- and Poly-Fluoroalkyl Substances Characterization Study Work Plan, Lower Issaquah Valley, Issaquah, Washington*. Prepared for Eastside Fire and Rescue. August 6.

———. 2019. *Final Per- and Poly-Fluoroalkyl Substances Characterization Summary Report, Lower Issaquah Valley, Issaquah, Washington*. Prepared for Eastside Fire and Rescue. March 27.

———. 2020. *Per- and Poly-Fluoroalkyl Substances Characterization Study Work Plan Addendum, Lower Issaquah Valley, Issaquah, Washington*. Prepared for Eastside Fire and Rescue. April 3.

Field, J., Sedlak, D., and Alvarez-Cohen, L. 2017. *Characterization of the Fate and Biotransformation of Fluorochemicals in AFFF-Contaminated Groundwater at Fire/Crash Testing Military Sites*. Oregon State University Corvallis United States. April 10.

Geosyntec Consultants, Inc. 2016. *Hydrogeological Characterization Report, Issaquah, Washington*. Prepared for the City of Issaquah. November.

Golder Associates. 2016. Technical Memorandum Regarding City of Issaquah Well 5 Pumping Test – January 2016. From Andrew Austreng and Michael Klisch. To Jeff Hansen, HDR, Inc., and Bob Anderson, Geosyntec Consultants. March 2.

Houtz, Erika F., et al. 2013. "Persistence of Perfluoroalkyl Acid Precursors in AFFF-Impacted Groundwater and Soil." *Environmental Science & Technology* 47.15: 8187-8195.

Interstate Technology Regulatory Council (ITRC). 2017. *History and Use of Per- and Polyfluoroalkyl Substances (PFAS)*. November.

———. 2020. Naming Conventions and Physical and Chemical Properties of Per- and Polyfluoroalkyl Substances (PFAS). <https://pfas-1.itrcweb.org/fact_sheets_page/PFAS_Fact_Sheet_Naming_Conventions_April2020.pdf>

King County Fire Protection District 10. 2017. *District 10 Policy Manual.* Revised. April.

Knepper, T.P. and F.T. Lange Editors. 2012. *Polyfluorinated Chemicals and Transformation Products Handbook of Environmental Chemistry.* Springer Publishing. New York. p. 35

Lindstrom, A.B., M.J. Styrnar, and E.L. Libelo. 2011. "Polyfluorinated Compounds: Past, Present, and Future." *Environmental Science and Technology* 45.19: 7,954-7,961.

Moody, C.A. and J. Field. 1999. "Determination of Perfluorocarboxylates in Groundwater Impacted by Fire-Fighting Activity." *Environmental Science & Technology* 33.16: 2,800-2,806.

Organization for Economic Cooperation and Development (OECD). 2013. OECD/UNEP Global PFC Group, Synthesis paper on Per- and Polyfluorinated Chemicals (PFCs). <http://www.oecd.org/env/ehs/risk-management/PFC_FINAL-Web.pdf>

Place, Benjamin J., and Jennifer A. Field. 2012. "Identification of Novel Fluorochemicals in Aqueous Film-Forming Foams Used by the US Military." *Environmental Science & Technology* 46.13: 7120-7127.

U.S. Climate Data. 2016. Climate Data for the Snoqualmie Falls, Washington Meteorological Station No. 457773. <https://www.usclimatedata.com/>. (July 16, 2018.)

U.S. Department of Defense. 2017. *Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories*. Version 5.1. Environmental Data Quality Workgroup.

U.S. Environmental Protection Agency (EPA). 2003. *Perfluorooctanoic Acid (PFOA), Fluorinated Telomers; Request for Comment, Solicitation of Interested Parties for Enforceable Consent Agreement Development and Notice of Public Meeting*. EPA Administrative Record OPPT-2003-0012-001. April 16.

———. 2012. *Revisions to the Unregulated Contaminant Monitoring Rule Regulation (UCMR 3) for Public Water Systems*. EPA Administrative Record EPA-HW-OW-2009-0090. May 2.

———. 2014. *Emerging Contaminants – Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)*. EPA No. EPA 505-F-14-001. March.

———. 2016a. *Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS)*. EPA No. 822-R-16-004. May.

———. 2016b. *Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA)*. EPA No. 822-R-16-005. May.

———. 2016c. *Lifetime Health Advisories and Health Effects Support Documents for Perfluorooctanoic Acid and Perfluorooctane Sulfonate*. EPA Administrative Record EPA-HQ-OW-2014-0138. May 25.

———. 2017. *National Functional Guidelines for Organic Superfund Methods Data Review*. OLEM 9355.0-136. EPA-540-R-2017-002. January.

Wang, Z., J.C. DeWitt, C.P. Higgins, and I.T. Cousins. 2017. "A Never-Ending Story of Per- and Poly-Fluoroalkyl Substances (PFASs)?" *Environmental Science & Technology* 51.5: 2,508-2,518.

Washington State Department of Ecology (Ecology). 2018. Investigatory Levels for Perfluoroalkyl Substances. February 9.

———. 2020. *Per- and Polyfluoroalkyl Substances Draft Chemical Action Plan. Draft for Public Comment*. Publication 20-04-035. October.

Western Regional Climate Center. 2016. Greater Seattle Area Climate Data. <https://wrcc.dri.edu/>. (July 16, 2018.)

11.0 LIMITATIONS

11.1 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 Site that were not investigated or were inaccessible. Site activities beyond Farallon's control could change at any time after the completion of this report/assessment.

For the foregoing reasons, Farallon cannot and does not warrant or guarantee that the Site 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 and Rescue, and currently accepted industry standards. No other warranties, representations, or certifications are made.

11.2 LIMITATION ON RELIANCE BY THIRD PARTIES

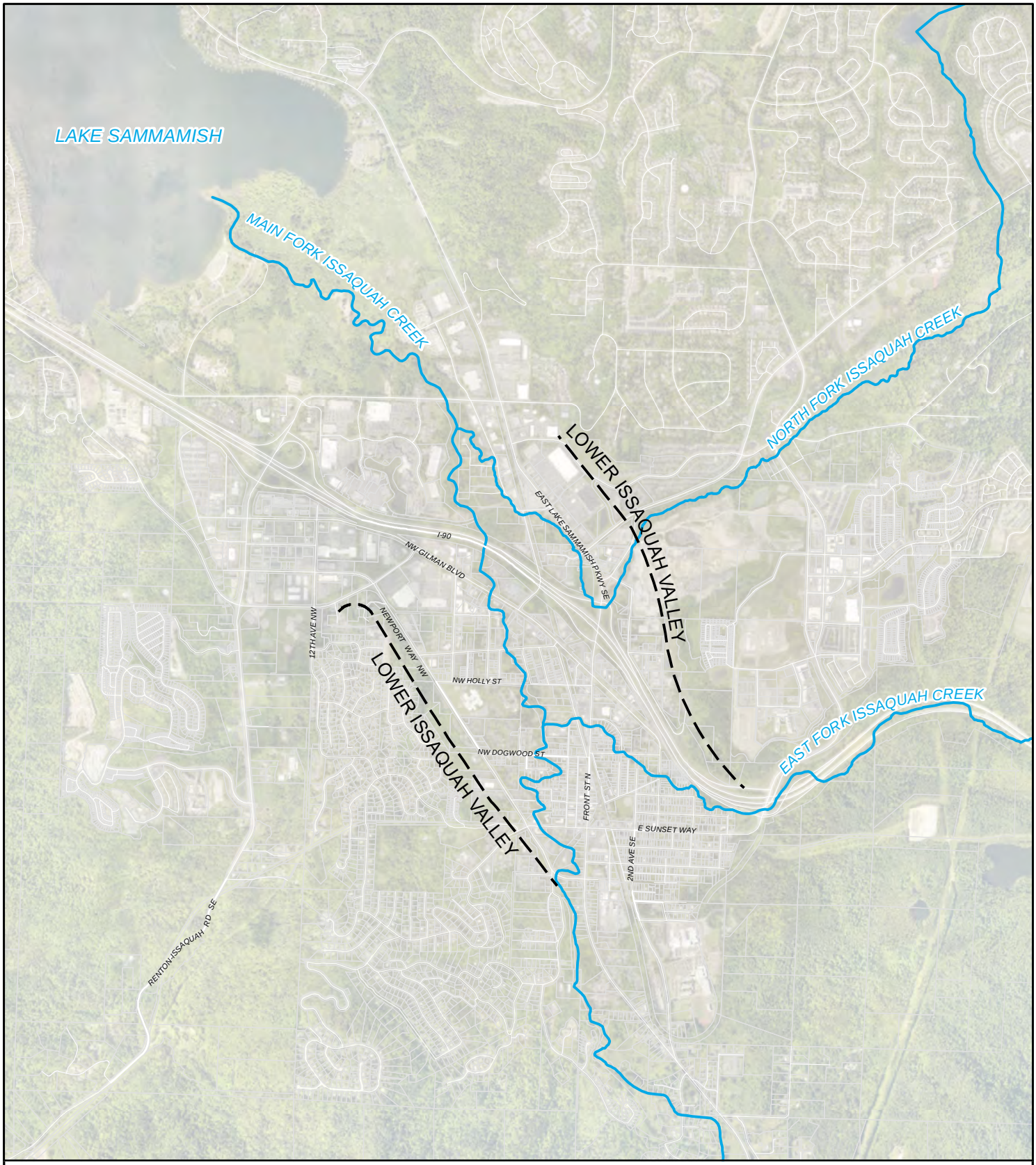
Reliance by third parties is prohibited. This report/assessment has been prepared for the exclusive use of the Eastside Fire and Rescue to address the unique needs of Eastside Fire and Rescue at a specific point in time. Any party provided a copy of this report by Eastside Fire and Rescue is subject to the same limitations as Eastside Fire and 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
CHARACTERIZATION STUDY SUMMARY REPORT
Lower Issaquah Valley
Issaquah, Washington

Farallon PN: 1754-004



LEGEND

- CREEK
- LOWER ISSAQUAH VALLEY

N

0 2,500

SCALE IN FEET

FARALLON CONSULTING

Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

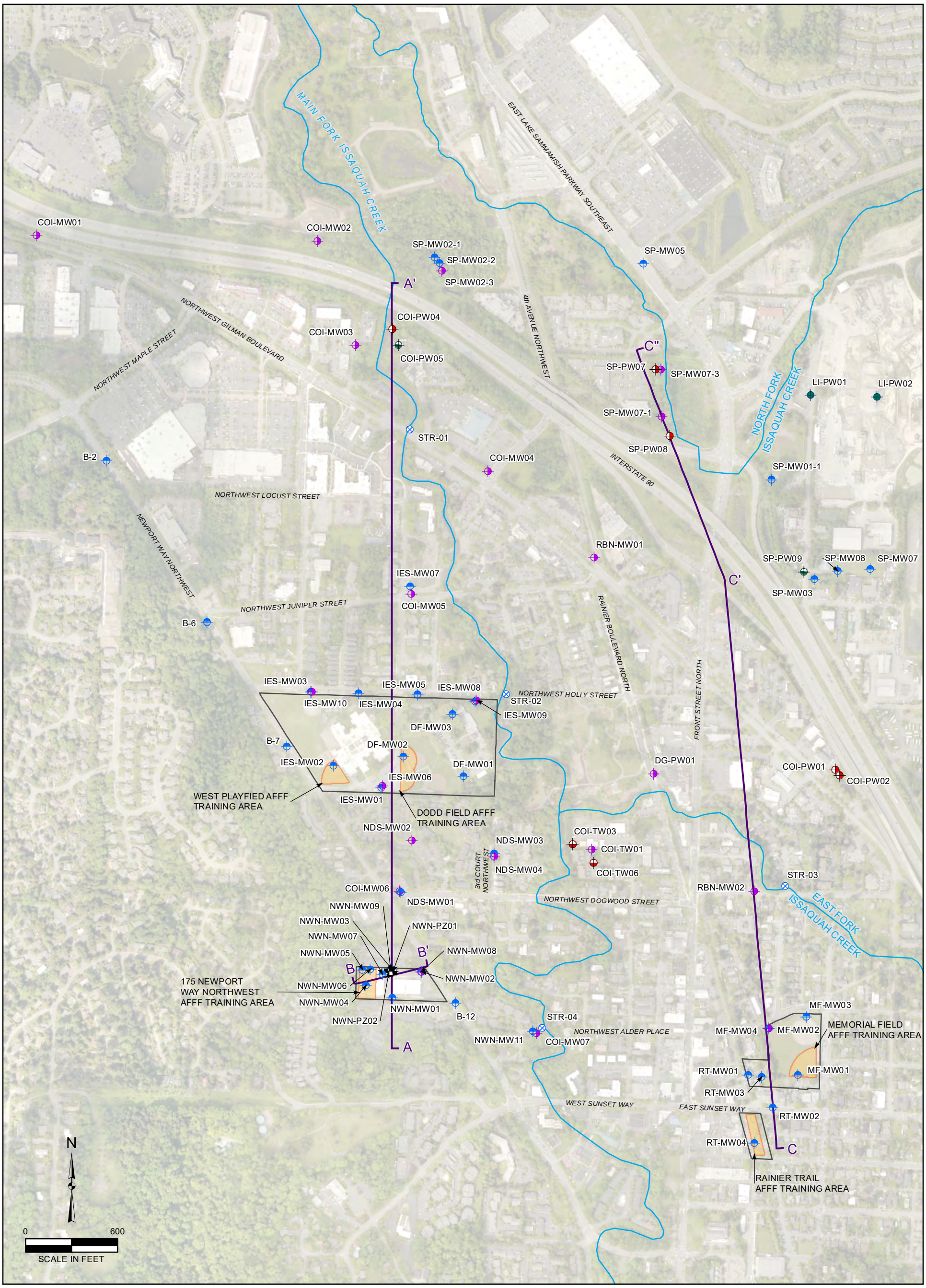
FIGURE 1

ISSAQUAH VALLEY AND VICINITY
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones Checked By: EB Date: 2/5/2021 Disc Reference:

Document Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-01_Vicinity.mxd



LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- DEEP MONITORING WELL
- PIEZOMETER
- STREAM GAUGING STATION
- INTERMEDIATE PRODUCTION WELL
- DEEP PRODUCTION WELL
- PRODUCTION WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- A — A LINE OF CROSS-SECTION

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

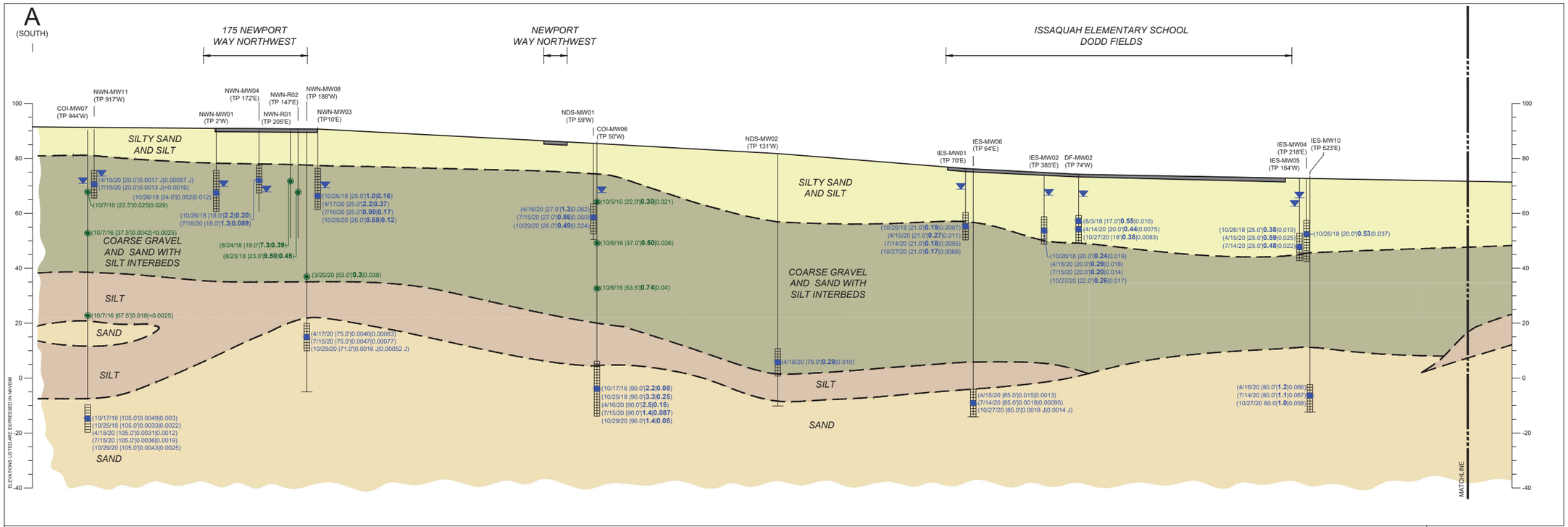
FIGURE 2

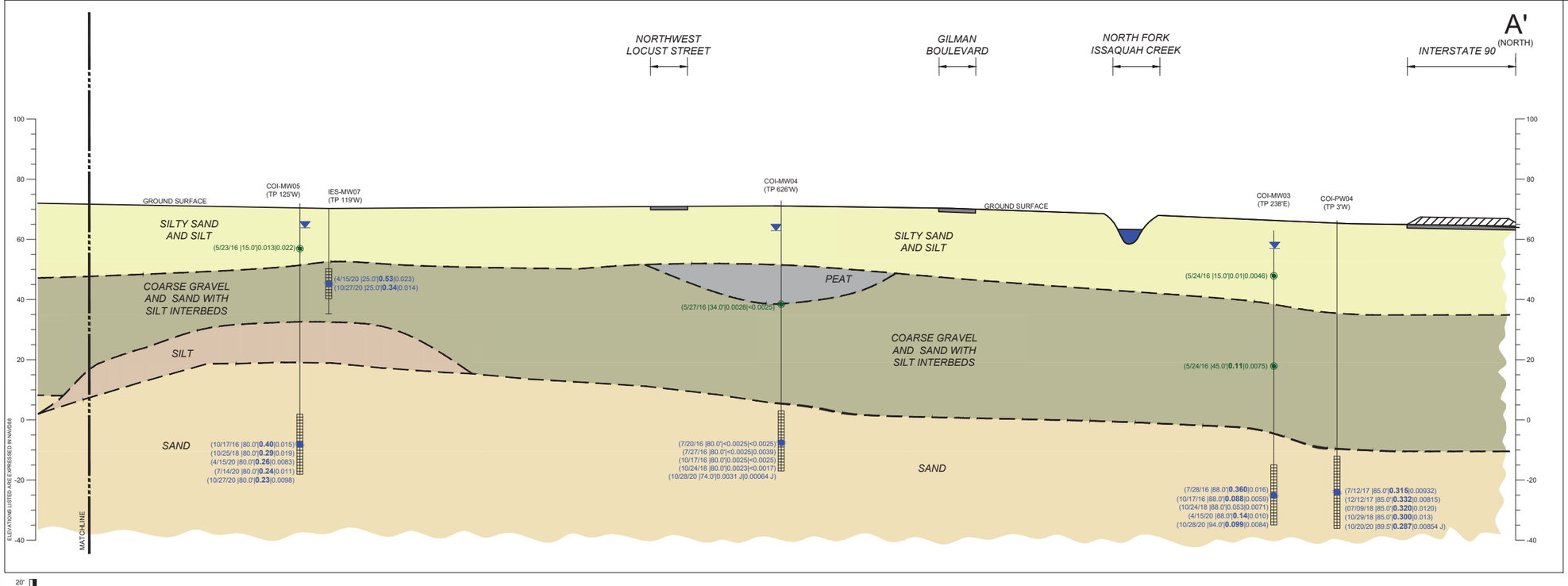
AREAS OF INTEREST
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 4/12/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-02_LIV_AOI.mxd





LEGEND

- IES-MW04 (TP 220'E) — BORING OR MONITORING WELL LOCATION TRANSPOSED (TP) IN FEET, EAST (E) OR WEST (W), TO CROSS-SECTION LINE.
- STRATIGRAPHIC CONTACT/DASHED WHERE INFERRED
- GROUNDWATER LEVEL (10/26/2018)
- RECONNAISSANCE GROUNDWATER SAMPLE
- GROUNDWATER SAMPLE
- WELL SCREEN INTERVAL

<DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED

BOLD	DENOTES CONCENTRATIONS THAT EXCEED APPLICABLE WASHINGTON STATE DEPARTMENT OF ECOLOGY INVESTIGATORY LEVELS
PFOS	PERFLUOROOCTANE SULFONIC ACID
PFOA	PERFLUOROOCTANOIC ACID
BGS	BELOW GROUND SURFACE
J	THE ASSOCIATED ANALYTICAL RESULT IS AN ESTIMATE
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988

(5/26/16 |35.0'|<0.0025|<0.0025) RECONNAISSNCE GROUNDWATER RESULTS LISTED AS (DATE SAMPLED|DEPTH BGS|PFOS|PFOA) IN MICROGRAMS PER LITER

(6/7/16 |88.0'|0.44|0.029) GROUNDWATER RESULTS LISTED AS (DATE SAMPLED|DEPTH BGS|PFOS|PFOA) IN MICROGRAMS PER LITER

ADDITIONAL ANALYTICAL DATA AVAILABLE IN TABLES 8-12 AND ON FIGURES 17 AND 18

NOTES
1) ALL LOCATIONS ARE APPROXIMATE
2) FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION
3) ELEVATIONS LISTED ARE EXPRESSED IN NAVD88
4) STANDARD PRODUCT NAMES ARE PROVIDED FOR PFOS AND PFOA. BOTH COMPOUNDS WILL BE IN THEIR ANIONIC FORM WHEN ENCOUNTERED IN THE ENVIRONMENT.

20' / 0' / 0' / 100'

R:\Projects\1754-004\CAD\1754-004-X-SEC .dwg 2021/04/14 10:49 AM (Nick Miller)

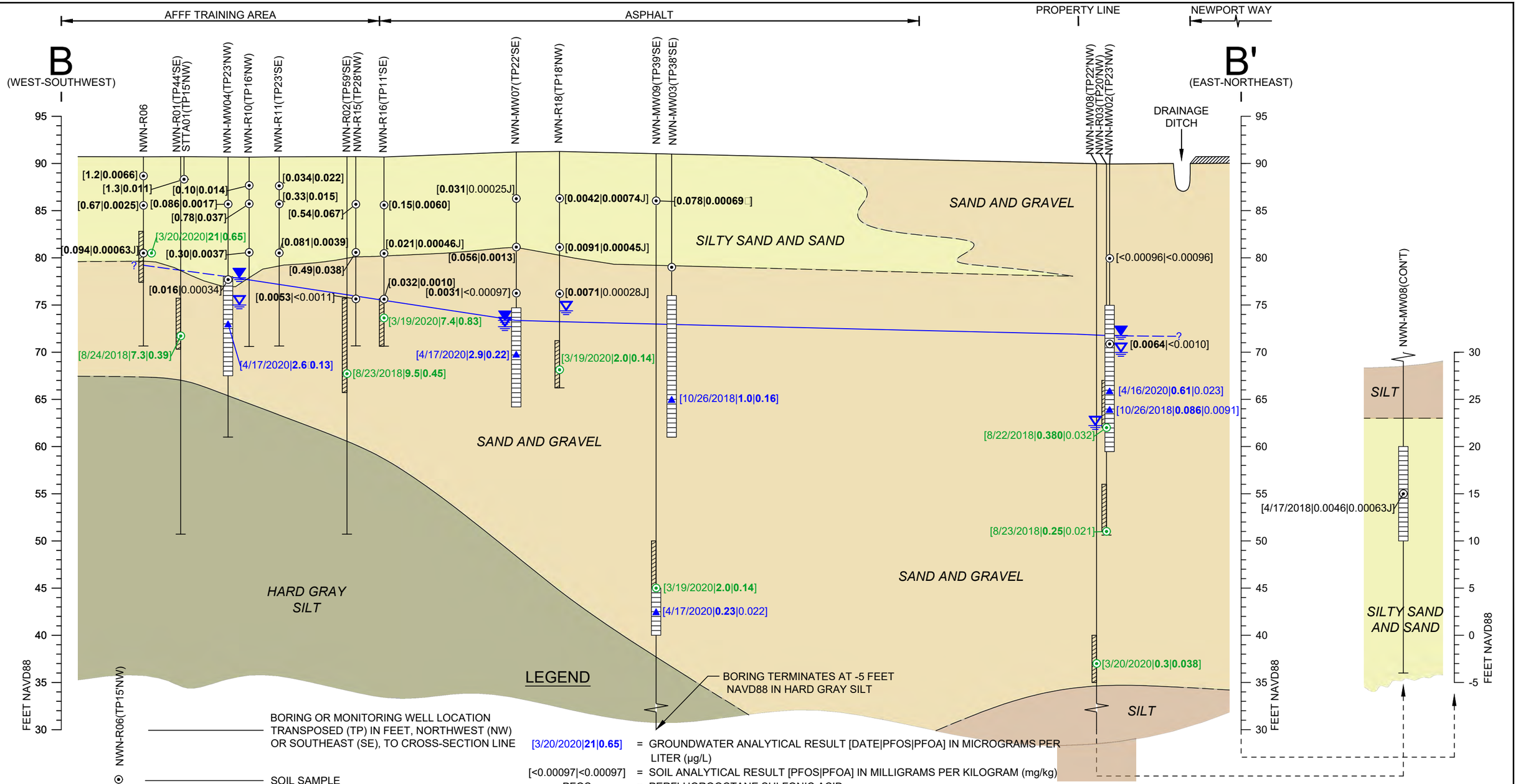
FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com
Washington: Issaquah | Bellingham | Seattle
Oregon: Portland | Baker City
California: Oakland | Folsom | Irvine

FIGURE 3

CROSS SECTION A-A'
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: NM | Checked By: EB | Date:4/13/2021



LEGEND

BORING TERMINATES AT -5 FEET NAVD88 IN HARD GRAY SILT

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

NWN-R06(TP15'NW)

SOIL SAMPLE

RECONNAISSANCE GROUNDWATER SAMPLE

GROUNDWATER SAMPLE

GROUNDWATER LEVEL (DASHED WHERE INFERRED)

STRATIGRAPHIC CONTACT (DASHED WHERE INFERRED)

BLANK CASING OR BORING

GROUNDWATER ELEVATION (APRIL 13, 2020)

GROUNDWATER ELEVATION AT TIME OF DRILLING

RECONNAISSANCE WELL SCREEN

WELL SCREEN

10'
0'
0'
40'

[3/20/2020|**21**|**0.65**] = GROUNDWATER ANALYTICAL RESULT [DATE|PFOS|PFOA] IN MICROGRAMS PER LITER (µg/L)

[<0.00097|<0.00097] = SOIL ANALYTICAL RESULT [PFOS|PFOA] IN MILLIGRAMS PER KILOGRAM (mg/kg)

PFOS = PERFLUOROOCTANE SULFONIC ACID

PFOA = PERFLUOROOCTANOIC 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.
3. STANDARD PRODUCT NAMES ARE PROVIDED FOR PFOS AND PFOA. BOTH COMPOUNDS WILL BE IN THEIR ANIONIC FORM WHEN ENCOUNTERED IN THE ENVIRONMENT.

NOTES (CON'T):

4. ADDITIONAL ANALYTICAL DATA AVAILABLE IN TABLES 8 – 12 AND FIGURES 14 – 16.

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

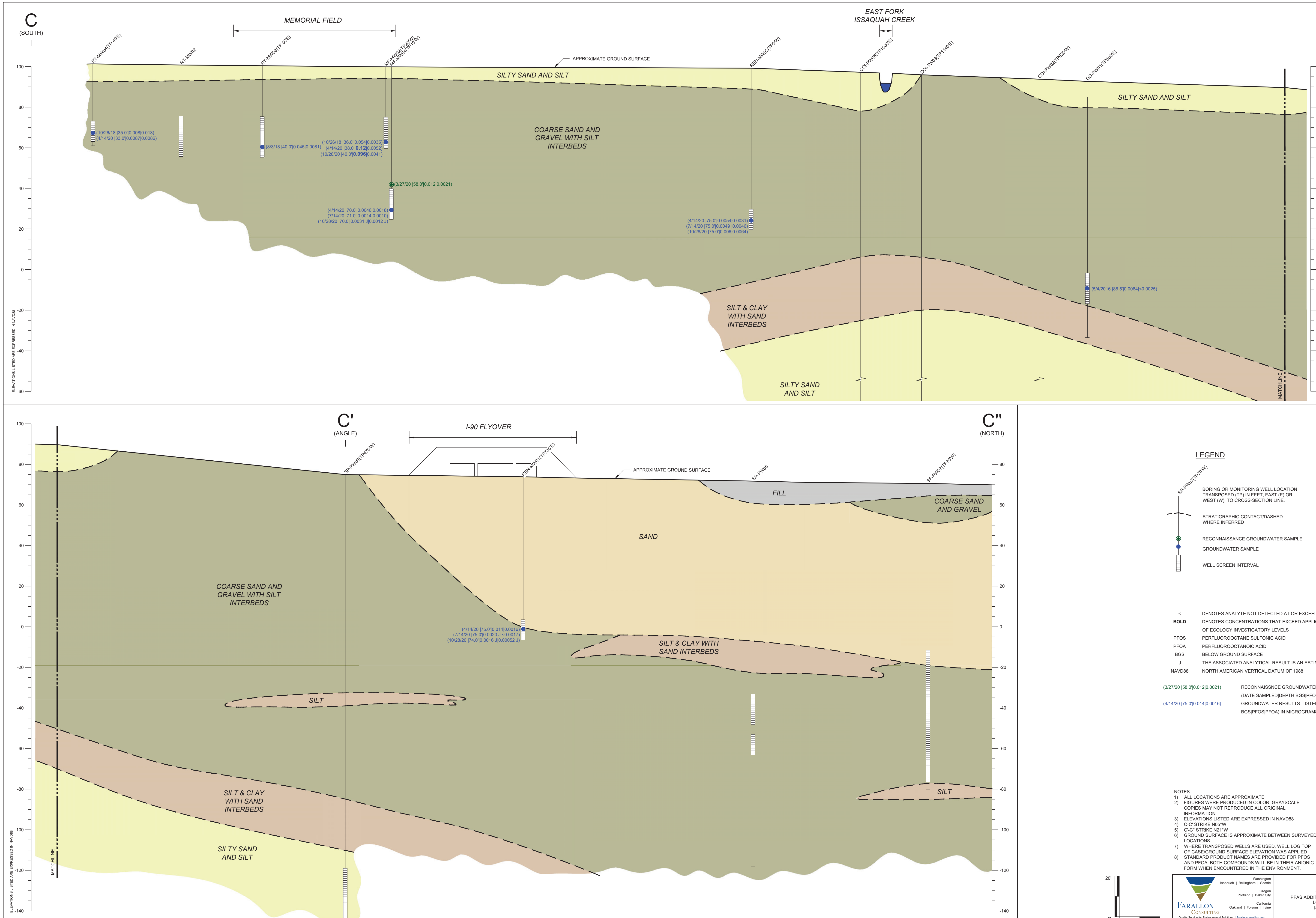
Drawn By: NM Checked By: EB

FIGURE 4

CROSS SECTION B-B'
175 NEWPORT WAY NORTHWEST
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

R:\Projects\1754-004\CAD\1754-004 X Section B-B.dwg 4/13/2021 10:07 AM (Nick Miller)



LEGEND

BORING OR MONITORING WELL LOCATION TRANSPOSED (TP) IN FEET, EAST (E) OR WEST (W), TO CROSS-SECTION LINE.

STRATIGRAPHIC CONTACT/DASHED WHERE INFERRED

RECONNAISSANCE GROUNDWATER SAMPLE

GROUNDWATER SAMPLE

WELL SCREEN INTERVAL

<	DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BOLD	DENOTES CONCENTRATIONS THAT EXCEED APPLICABLE WASHINGTON STATE DEPARTMENT OF ECOLOGY INVESTIGATORY LEVELS
PFOS	PERFLUOROOCTANE SULFONIC ACID
PFOA	PERFLUOROOCTANOIC ACID
BGS	BELOW GROUND SURFACE
J	THE ASSOCIATED ANALYTICAL RESULT IS AN ESTIMATE
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
(3/27/20 |58.0'|0.012|0.0021)	RECONNAISSNCE GROUNDWATER RESULTS LISTED AS (DATE SAMPLED|DEPTH BGS|PFOS|PFOA) IN MICROGRAMS PER LITER
(4/14/20 |75.0'|0.014|0.0016)	GROUNDWATER RESULTS LISTED AS (DATE SAMPLED|DEPTH BGS|PFOS|PFOA) IN MICROGRAMS PER LITER

NOTES
1) ALL LOCATIONS ARE APPROXIMATE
2) FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION
3) ELEVATIONS LISTED ARE EXPRESSED IN NAVD88
4) C-C' STRIKE N05°W
5) C'-C'' STRIKE N21°W
6) GROUND SURFACE IS APPROXIMATE BETWEEN SURVEYED LOCATIONS
7) WHERE TRANSPOSED WELLS ARE USED, WELL LOG TOP OF CASE/GROUND SURFACE ELEVATION WAS APPLIED
8) STANDARD PRODUCT NAMES ARE PROVIDED FOR PFOS AND PFOA. BOTH COMPOUNDS WILL BE IN THEIR ANIONIC FORM WHEN ENCOUNTERED IN THE ENVIRONMENT.

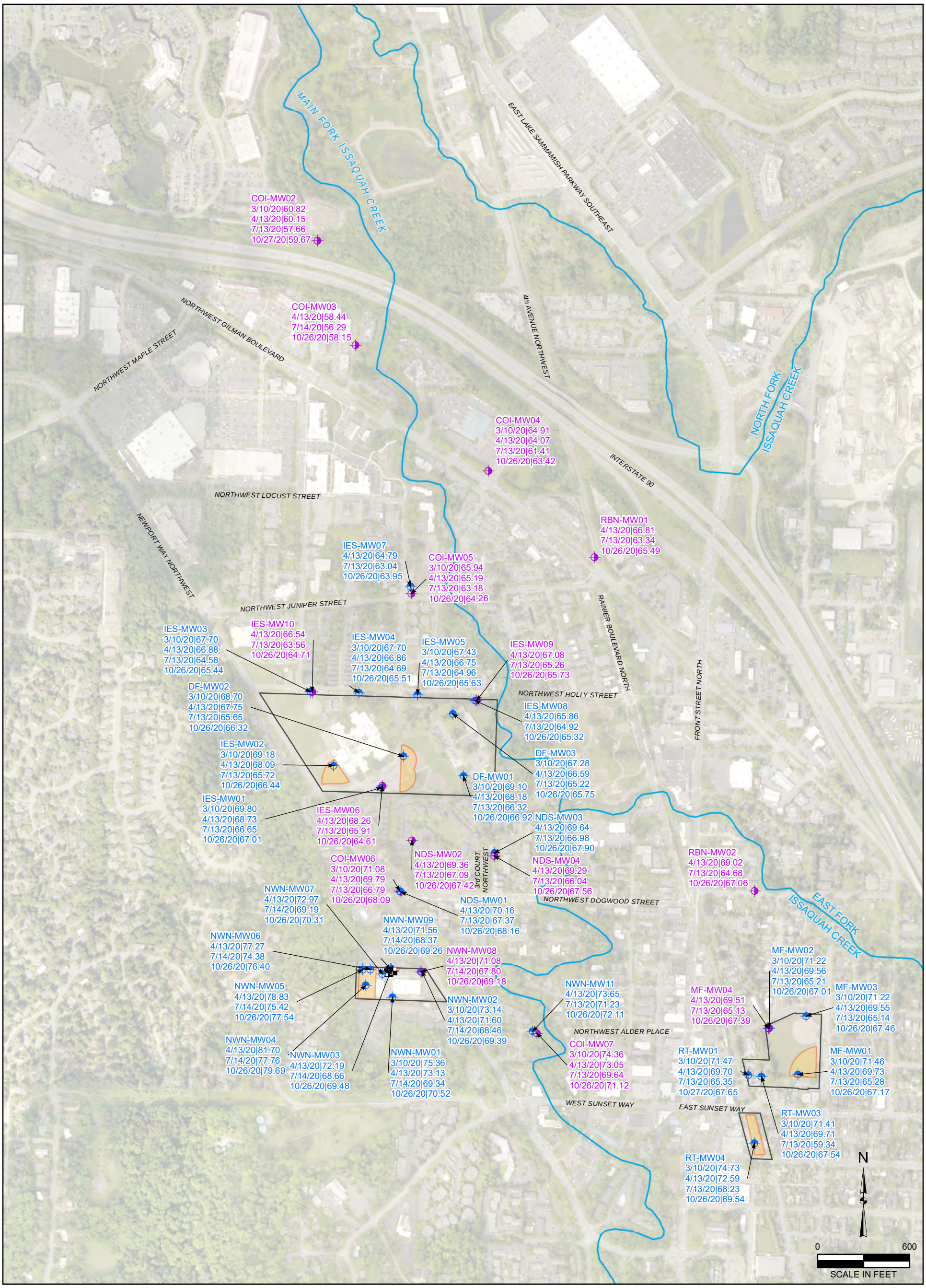
FARALLON CONSULTING
Washington: Issaquah | Bellingham | Seattle
Oregon: Portland | Baker City
California: Oakland | Folsom | Irvine
Quality Service for Environmental Solutions | farallonconsulting.com

Drawn By: NM Checked By: EB

FIGURE 5

CROSS SECTION C-C'-C''
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004



LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- PIEZOMETER
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- (74.73) SHALLOW GROUNDWATER MEASUREMENT DATE AND ELEVATION
- (74.76) INTERMEDIATE GROUNDWATER MEASUREMENT DATE AND ELEVATION
- ELEVATION IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988

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

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

Quality Service for Environmental Solutions | farallonconsulting.com

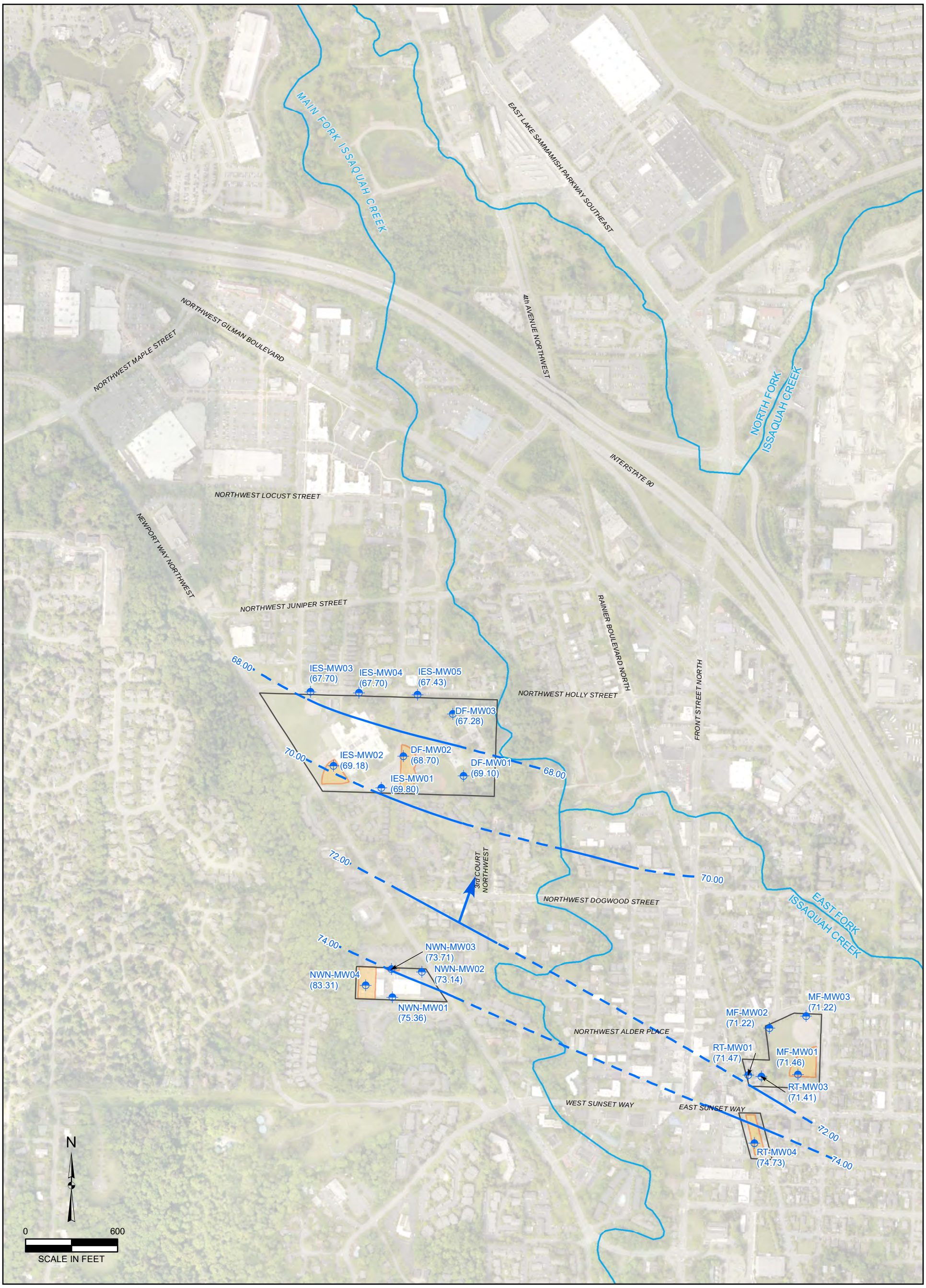
FIGURE 6

GROUNDWATER ELEVATIONS
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-06_GW_Elevations_LIV.mxd



LEGEND

- SHALLOW MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- (74.73) GROUNDWATER ELEVATION (3/10/2020) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988
- 74.00 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

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

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

Quality Service for Environmental Solutions | farallonconsulting.com

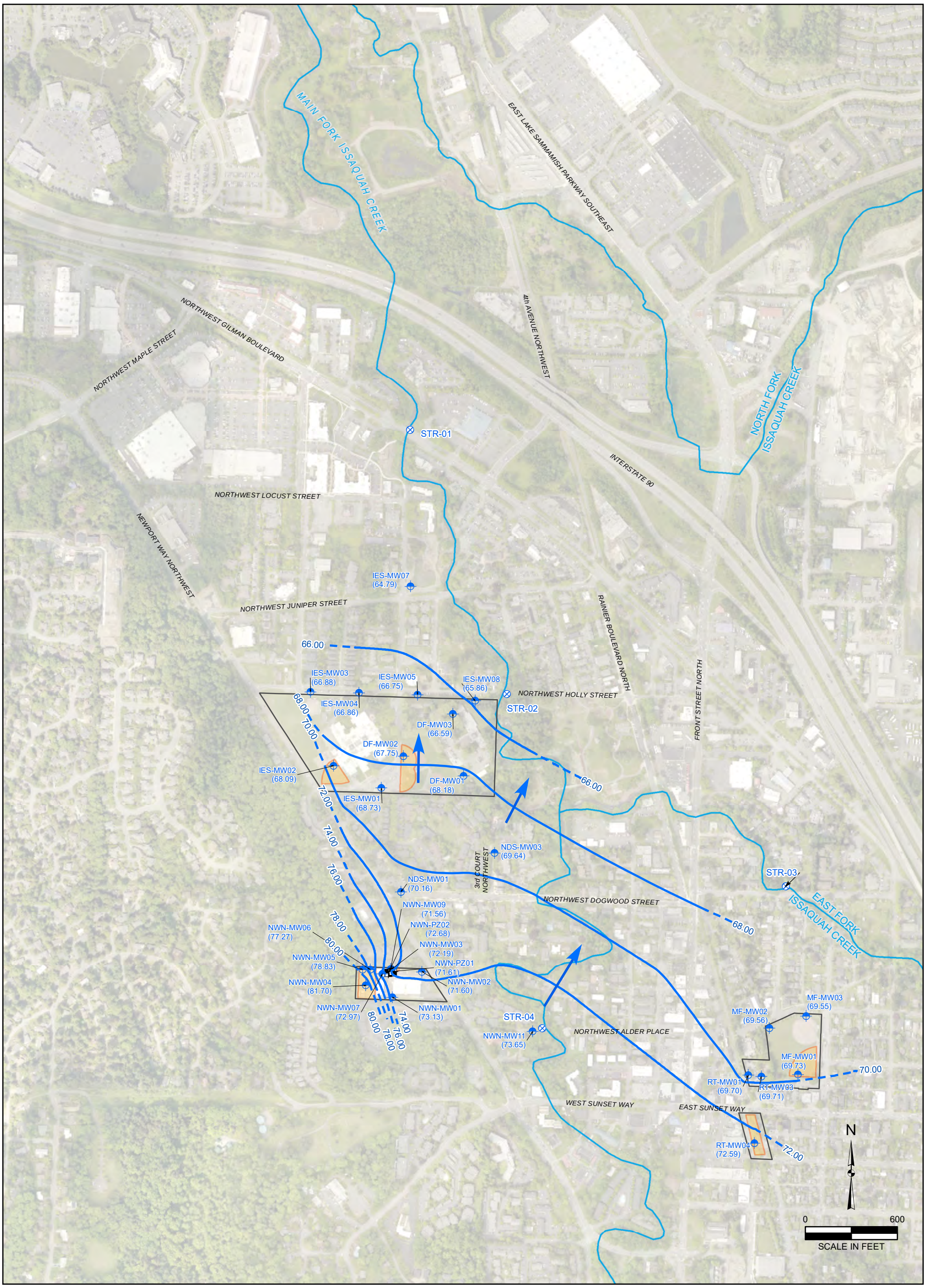
FIGURE 7A

SHALLOW GROUNDWATER ELEVATIONS - MARCH 2020
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-07A_Shallow_GW_Elevations_2020-03.mxd



LEGEND

- SHALLOW MONITORING WELL
- PIEZOMETER
- STREAM GAUGING STATION
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- (81.70) GROUNDWATER ELEVATION (04/13/20) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988
- 78.00 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

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

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

Quality Service for Environmental Solutions | farallonconsulting.com

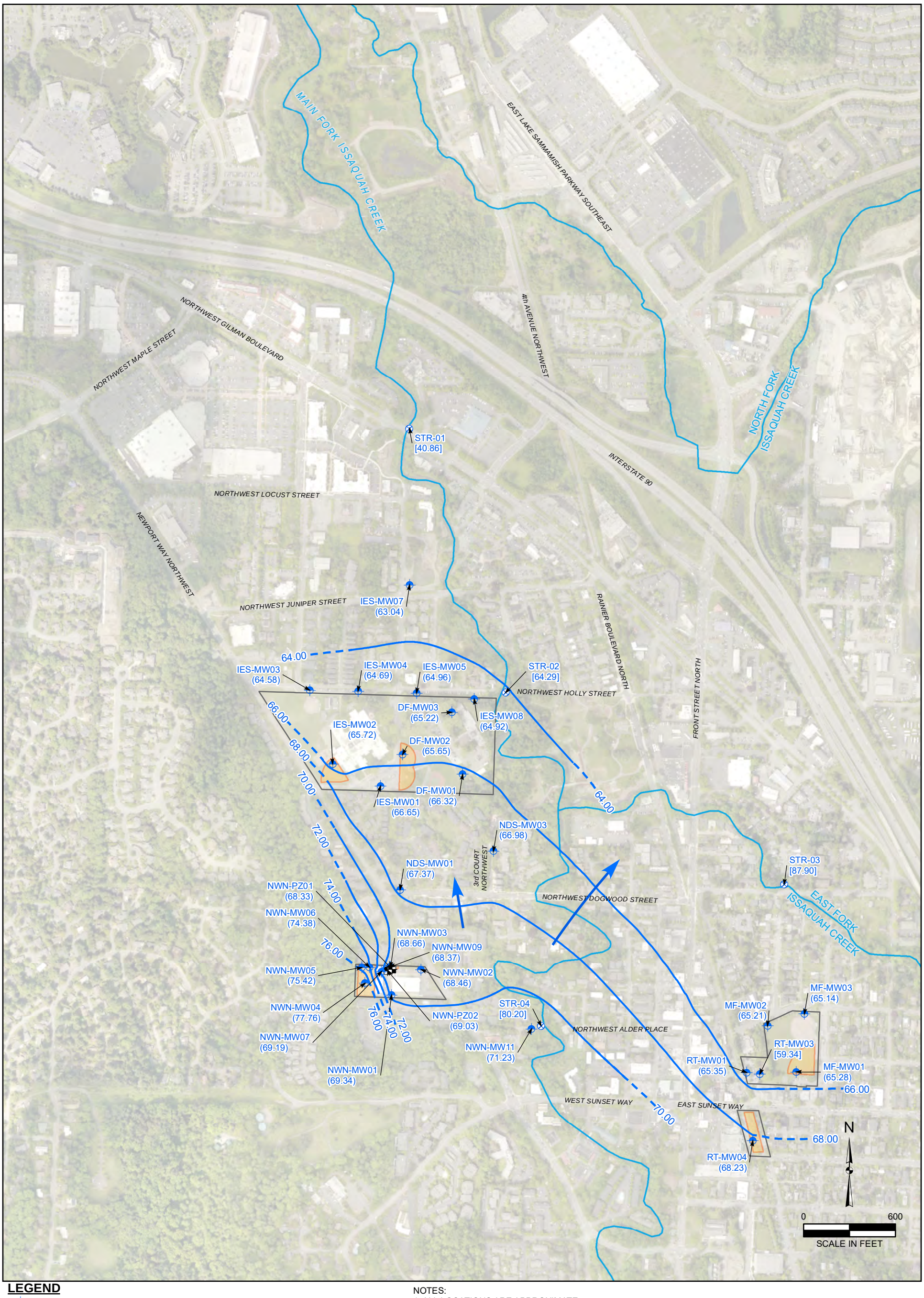
FIGURE 7B

SHALLOW GROUNDWATER AND
SURFACE WATER ELEVATIONS - APRIL 2020
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-07B_GW_Elevations_Shallow_2020-04.mxd



LEGEND

- SHALLOW MONITORING WELL
- PIEZOMETER
- STREAM GAUGING STATION
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- (68.23) GROUNDWATER ELEVATION (07/14/20) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988
- [59.34] GROUNDWATER ELEVATION NOT USED IN CONTOURING
- 68.00 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

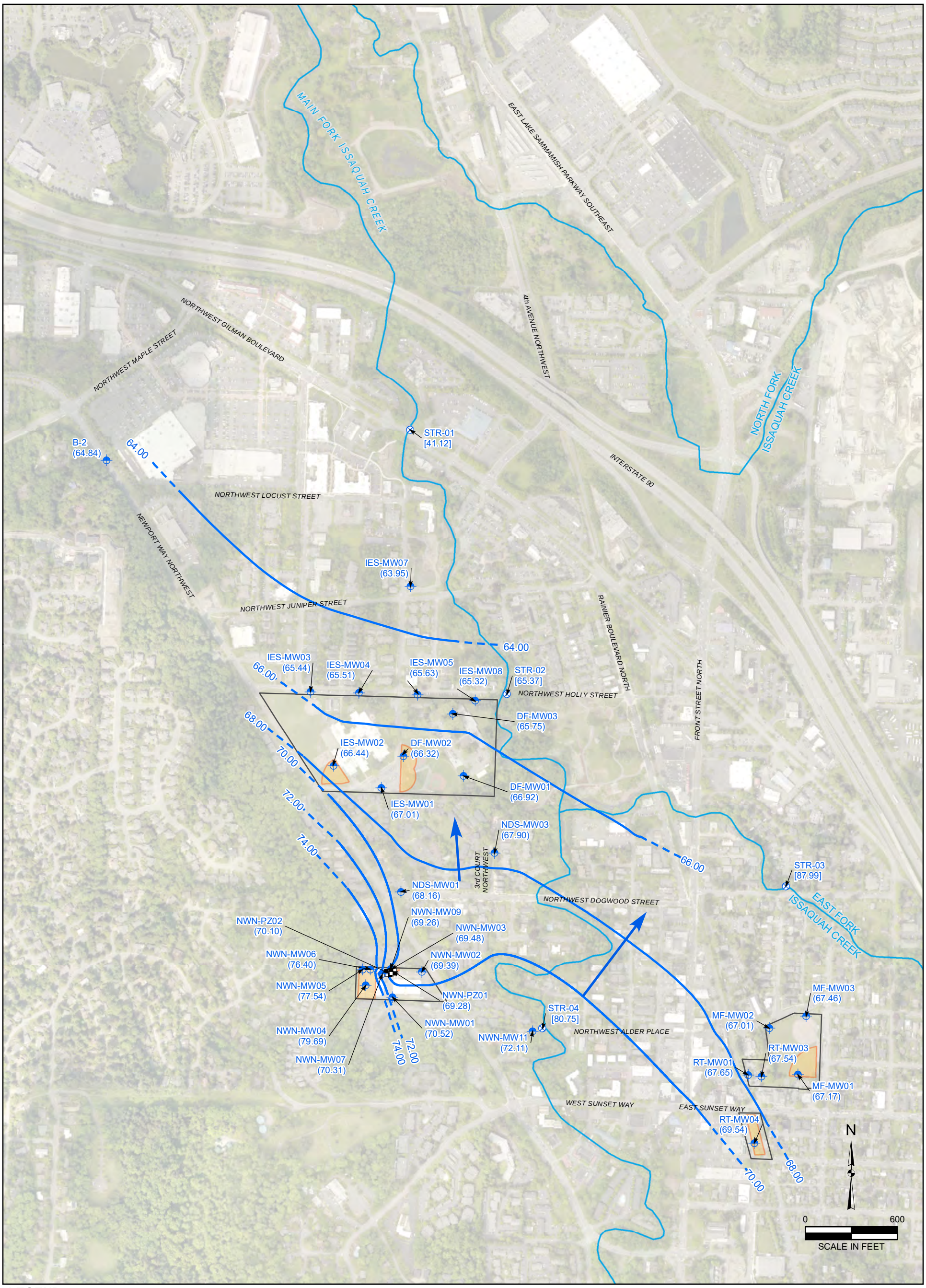
FIGURE 7C

SHALLOW GROUNDWATER AND SURFACE WATER ELEVATIONS - JULY 2020
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-07C_GW_Elevations_Shallow_2020-07.mxd



LEGEND

- SHALLOW MONITORING WELL
- PIEZOMETER
- STREAM GAUGING STATION
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- (70.10) GROUNDWATER ELEVATION (10/26/20 AND 10/27/20) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988
- [41.12] GROUNDWATER ELEVATION NOT USED IN CONTOURING
- 74.00 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

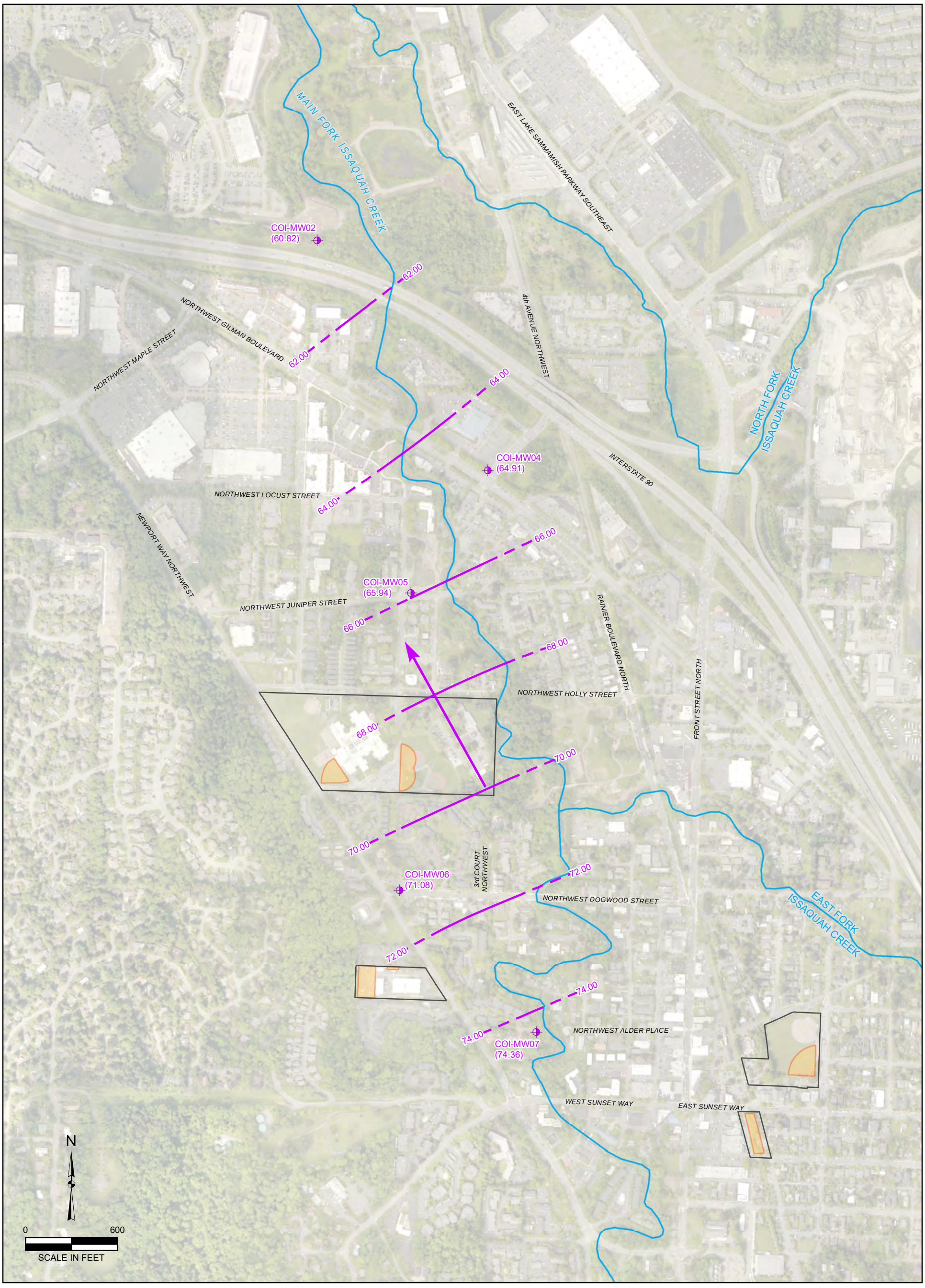
FIGURE 7D

SURFACE WATER AND SHALLOW ZONE GROUNDWATER ELEVATIONS - OCTOBER 2020
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-07D_GW_Elevations_Shallow_2020-10.mxd



LEGEND

- INTERMEDIATE MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- (74.36) INTERMEDIATE GROUNDWATER ELEVATION (3/10/2020) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988
- 74.00 INTERMEDIATE GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE INTERMEDIATE GROUNDWATER FLOW DIRECTION

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

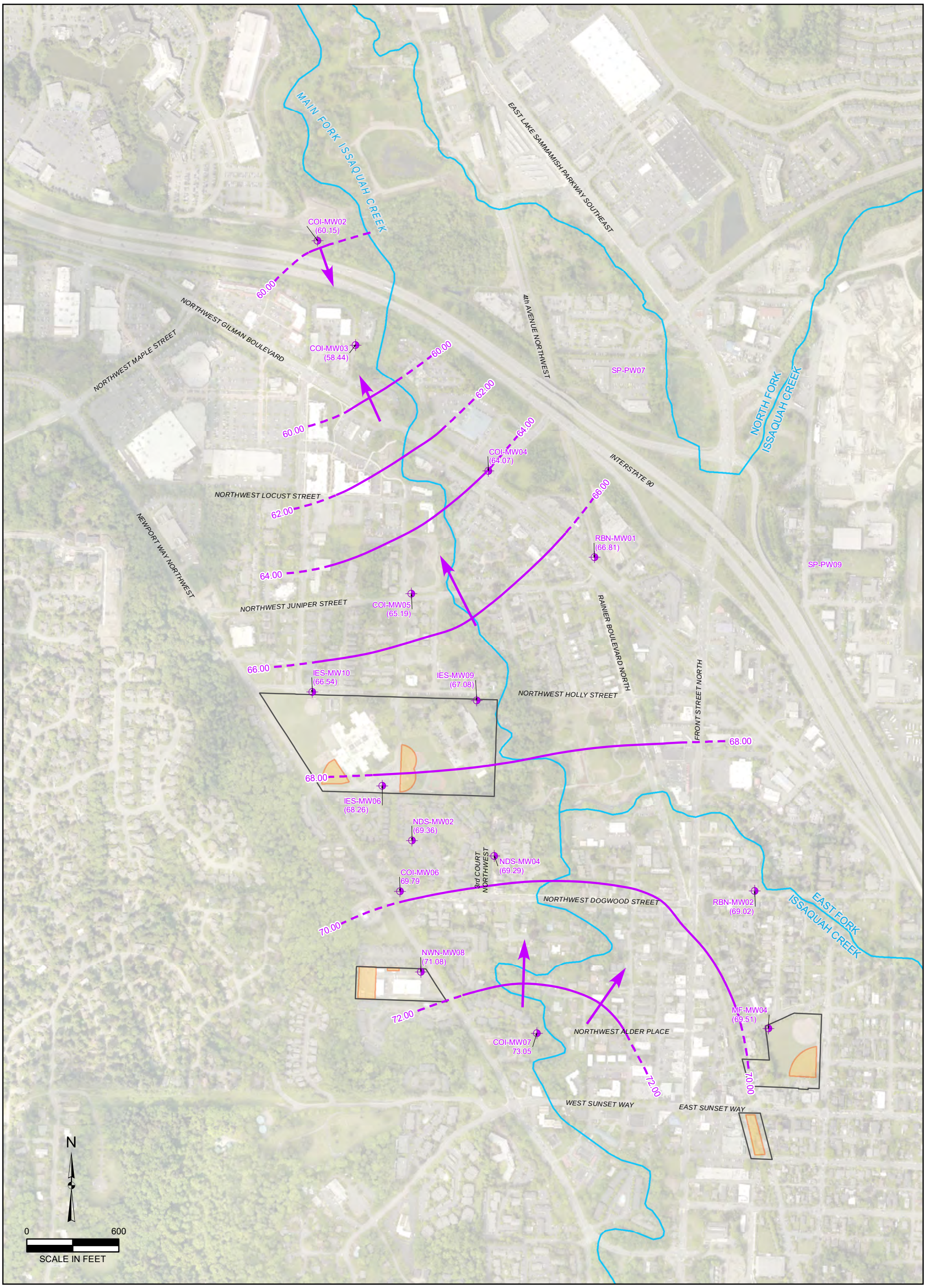
FIGURE 8A

INTERMEDIATE GROUNDWATER ELEVATIONS - MARCH 2020
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-08A_GW_Elevations_Intermediate_2020-03.mxd



LEGEND

- INTERMEDIATE MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- (73.05) INTERMEDIATE GROUNDWATER ELEVATION (4/13/2020) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988
- 74.00 INTERMEDIATE GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE INTERMEDIATE GROUNDWATER FLOW DIRECTION

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

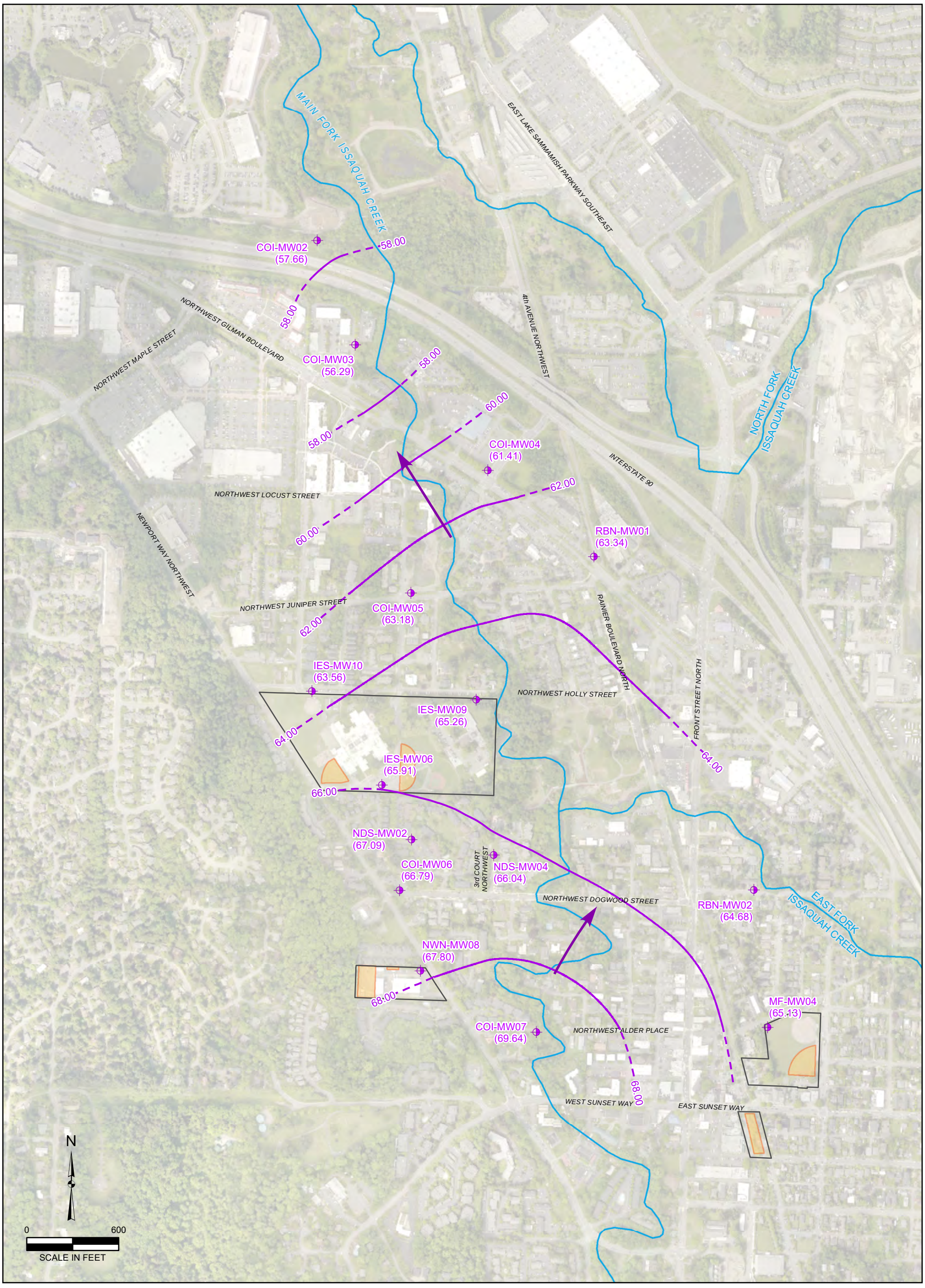
FIGURE 8B

INTERMEDIATE GROUNDWATER ELEVATIONS - APRIL 2020
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-08B_GW_Elevations_Intermediate_2020-04.mxd



LEGEND

- INTERMEDIATE MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- (69.64) INTERMEDIATE GROUNDWATER ELEVATION (7/14/2020) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988
- 68.00 INTERMEDIATE GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE INTERMEDIATE GROUNDWATER FLOW DIRECTION

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

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

Quality Service for Environmental Solutions | farallonconsulting.com

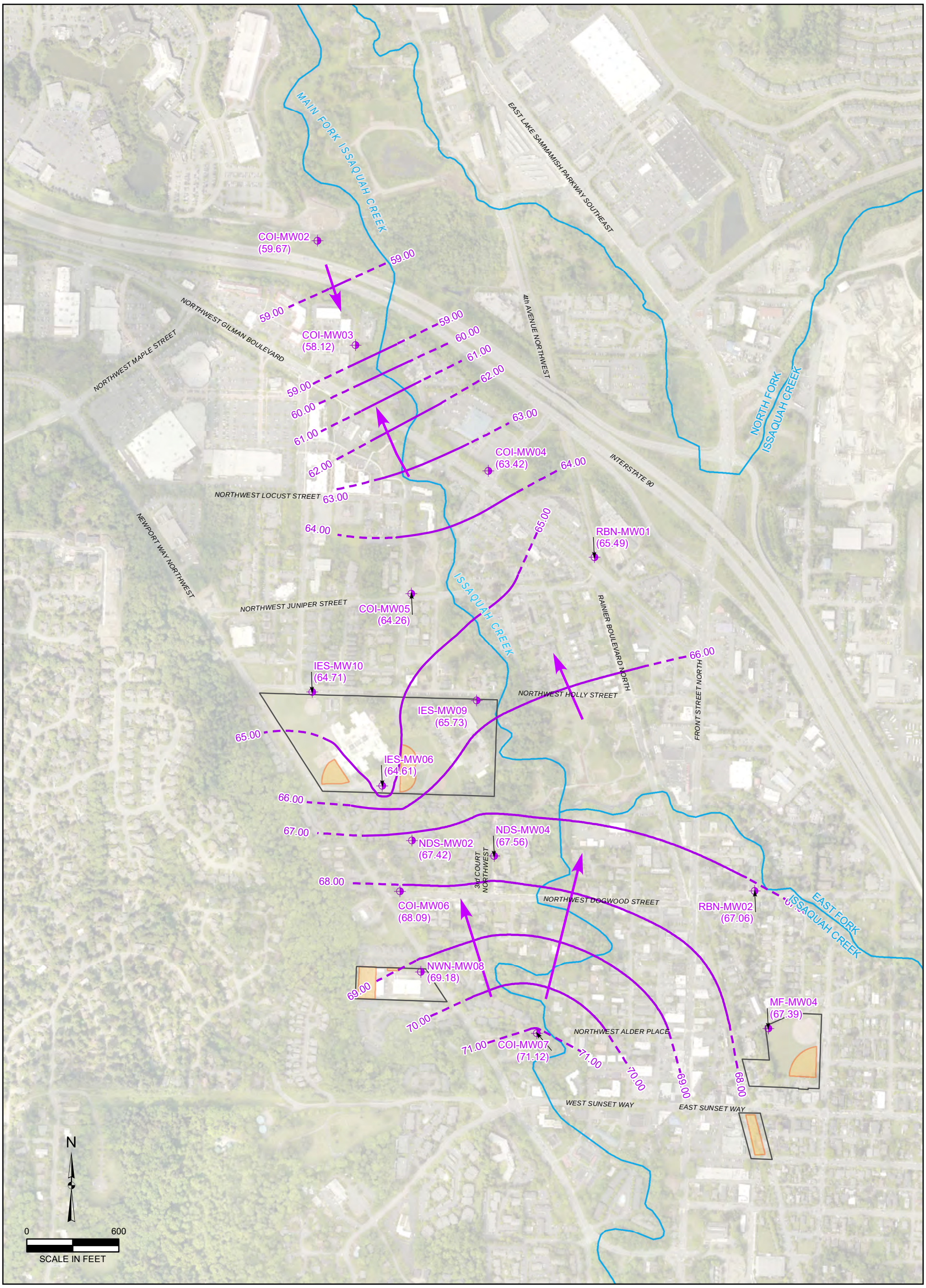
FIGURE 8C

INTERMEDIATE GROUNDWATER ELEVATIONS - JULY 2020
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-08C_GW_Elevations_Intermediate_2020-07.mxd



LEGEND

- INTERMEDIATE MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- (71.12) INTERMEDIATE GROUNDWAER ELEVATION (10/26/20 AND 10/27/20) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988
- 68.00 INTERMEDIATE GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE INTERMEDIATE GROUNDWATER FLOW DIRECTION

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

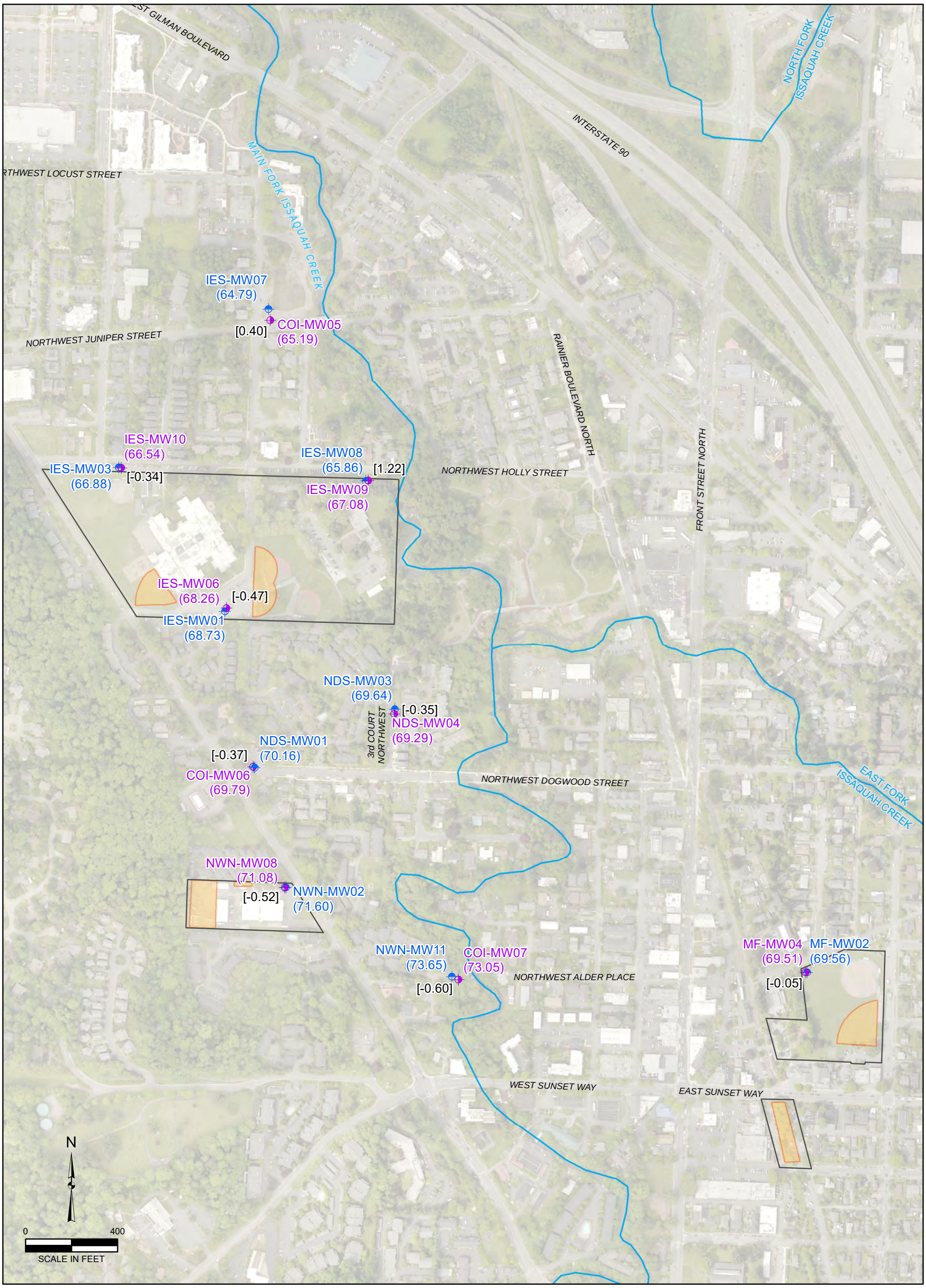
FIGURE 8D

INTERMEDIATE GROUNDWATER ELEVATIONS - OCTOBER 2020
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-08D_GW_Elevations_Intermediate_2020-10_.mxd



LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- AREA OF IINTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- [-0.52] MEASURED HEAD DIFFERENTIAL BETWEEN SHALLOW AND INTERMEDIATE GROUNDWATER WELL PAIRS (FEET) - APRIL 13, 2020
- (71.60) SHALLOW WELL GROUNDWATER ELEVATION
- (71.08) INTERMEDIATE WELL GROUNDWATER ELEVATION

POSITIVE HEAD DIFFERNENTIAL INDICATES UPWARD FLOW FROM INTERMEDIATE GROUNDWATER TO SHALLOW GROUNDWATER
NEGATIVE HEAD DIFFERENTIAL INDICATES DOWNWARD FLOW FROM SHALLOW GROUNDWATER TO INTERMEDIATE GROUNDWATER

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

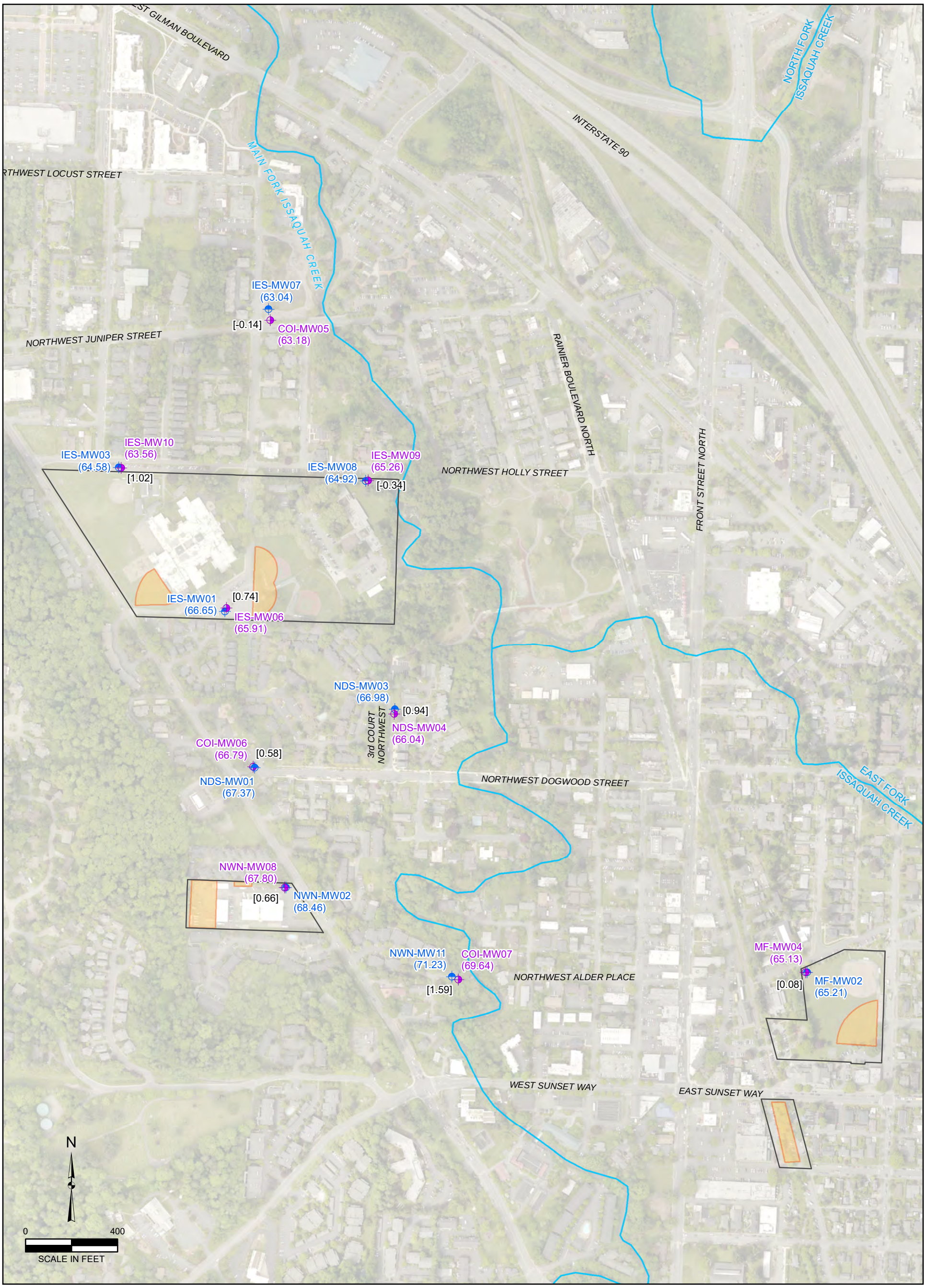
FIGURE 9A

HEAD DIFFERENCE MAP - APRIL 2020
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-09A_HeadDifferenceMap_2020-04.mxd



LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- [0.66] MEASURED HEAD DIFFERENTIAL BETWEEN SHALLOW AND INTERMEDIATE MONITORING WELL PAIRS (FEET) - JULY 2020
- (68.46) SHALLOW WELL GROUNDWATER ELEVATION
- (67.80) INTERMEDIATE WELL GROUNDWATER ELEVATION

POSITIVE HEAD DIFFERNENTIAL INDICATES UPWARD FLOW FROM INTERMEDIATE GROUNDWATER TO SHALLOW GROUNDWATER
NEGATIVE HEAD DIFFERENTIAL INDICATES DOWNWARD FLOW FROM SHALLOW GROUNDWATER TO INTERMEDIATE GROUNDWATER

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

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

Quality Service for Environmental Solutions | farallonconsulting.com

FIGURE 9B

HEAD DIFFERENCE MAP, JULY 2020
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-09B_HeadDifferenceMap_2020-07.mxd

EST GILMAN BOULEVARD
RTHWEST LOCUST STREET
MAIN FORK ISSAQUAH CREEK
INTERSTATE 90
NORTH FORK ISSAQUAH CREEK
IES-MW07 (63.95)
[0.31]
COI-MW05 (64.26)
NORTHWEST JUNIPER STREET
RAINIER BOULEVARD NORTH
FRONT STREET NORTH
IES-MW03 (65.44)
[-0.73]
IES-MW10 (64.71)
IES-MW08 (65.32)
[0.41]
IES-MW09 (65.73)
NORTHWEST HOLLY STREET
[-2.40]
IES-MW01 (67.01)
IES-MW06 (64.61)
NDS-MW03 (67.9)
NDS-MW04 (67.56)
[-0.34]
3rd COURT NORTHWEST
COI-MW06 (68.09)
[-0.07]
NDS-MW01 (68.16)
NORTHWEST DOGWOOD STREET
EAST FORK ISSAQUAH CREEK
NWN-MW08 (69.18)
NWN-MW02 (69.39)
[-0.21]
COI-MW07 (71.12)
NWN-MW11 (72.11)
[-0.99]
NORTHWEST ALDER PLACE
MF-MW02 (67.01)
[0.38]
MF-MW04 (67.39)
WEST SUNSET WAY
EAST SUNSET WAY
N
0
400
SCALE IN FEET

LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- [-0.07] MEASURED HEAD DIFFERENTIAL BETWEEN SHALLOW AND INTERMEDIATE MONITORING WELL PAIRS (FEET) - OCTOBER 2020
- (68.16) SHALLOW WELL GROUNDWATER ELEVATION
- (69.18) INTERMEDIATE WELL GROUNDWATER ELEVATION

POSITIVE HEAD DIFFERNENTIAL INDICATES UPWARD FLOW FROM INTERMEDIATE GROUNDWATER TO SHALLOW GROUNDWATER
NEGATIVE HEAD DIFFERENTIAL INDICATES DOWNWARD FLOW FROM SHALLOW GROUNDWATER TO INTERMEDIATE GROUNDWATER

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 9C

HEAD DIFFERENCE MAP - OCTOBER 2020
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-09C_HeadDifferenceMap_2020-10.mxd

7th AVENUE NORTHWEST

6th AVENUE NORTHWEST

5th AVENUE NORTHWEST

4th AVENUE NORTHWEST

NORTHWEST HOLLY STREET

NEWPORT WAY NORTHWEST

MAIN FORK ISSAQUAH CREEK

IES-MW03
3/10/20|67.70
4/13/20|66.88
7/13/20|64.58
10/26/20|65.44

IES-MW10
4/13/20|66.54
7/13/20|63.56
10/26/20|64.71

IES-MW04
3/10/20|67.70
4/13/20|66.86
7/13/20|64.69
10/26/20|65.51

IES-MW05
3/10/20|67.43
4/13/20|66.75
7/13/20|64.96
10/26/20|65.63

IES-MW08
4/13/20|65.86
7/13/20|64.92
10/26/20|65.32

IES-MW09
4/13/20|67.08
7/13/20|65.26
10/26/20|65.73

DF-MW03
3/10/20|67.28
4/13/20|66.59
7/13/20|65.22
10/26/20|65.75

DF-MW02
3/10/20|68.70
4/13/20|67.75
7/13/20|65.65
10/26/20|66.32

IES-MW02
3/10/20|69.18
4/13/20|68.09
7/13/20|65.72
10/26/20|66.44

IES-MW01
3/10/20|69.80
4/13/20|68.73
7/13/20|66.65
10/26/20|67.01

IES-MW06
4/13/20|68.26
7/13/20|65.91
10/26/20|64.61

DF-MW01
3/10/20|69.10
4/13/20|68.18
7/13/20|66.32
10/26/20|66.92

67.00

66.00

66.00

67.00

68.00

68.00

WEST PLAYFIELD AFFF TRAINING AREA

DODD FIELD AFFF TRAINING AREA

LEGEND

- SHALLOW MONITORING WELL — 4/13/20|68.73 — SHALLOW GROUNDWATER MEASUREMENT DATE AND ELEVATION
- INTERMEDIATE MONITORING WELL — 4/13/20|68.26 — INTERMEDIATE GROUNDWATER MEASUREMENT DATE AND ELEVATION
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW
- 68.00 — GROUNDWATER ELEVATION CONTOUR 4/13/2020 MEASUREMENT DATE (DASHED WHERE INFERRED)
- GROUNDWATER ELEVATIONS MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988

0 100
SCALE IN FEET

N

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 10

GROUNDWATER ELEVATIONS
WEST PLAYFIELD AND DODD FIELD PARK
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-10_GW_Elevations_WPDF.mxd

IES-MW03
10/26/18 |20.0'|**0.076**|0.0056
4/15/20 |20.0'|**0.075**|0.0049
7/14/20 |20.0'|0.055|0.0041
10/27/20 |19.0'|0.066|0.0045

IES-R03
8/9/18 |13.5'|0.0031|0.0035
8/9/18 |24.0'|**0.38**|0.0026

IES-MW04
10/26/18 |20.0'|**0.53**|0.037
10/27/20 |23.0'|**0.35**|0.019

IES-R04
8/9/18 |23.0'|**0.36**|0.03

IES-MW05
10/26/18 |25.0'|**0.38**|0.019
4/15/20 |25.0'|**0.59**|0.025
7/14/20 |25.0'|**0.48**|0.022

IES-R05
8/10/18 |11.0'|0.028|0.0092
8/10/18 |28.0'|**0.51**|0.0026

NORTHWEST HOLLY STREET

IES-MW08
4/15/20 |25.0'|**0.074**|0.0040
10/27/20 |25.0'|0.011|0.0025

IES-MW09
4/15/20 |80.0'|0.052|0.0016
7/14/20 |80.0'|0.008|0.00084
10/27/20 |76'|0.0072|0.00072

IES-MW10
4/16/20 |80.0'|**1.2**|0.066
7/14/20 |80.0'|**1.1**|0.067
10/27/20 |80.0'|**1.0**|0.058

DF-MW03
8/3/18 |18.0'|**0.13**|0.0062

B-7
2/12/20 |27.5'|**0.27**|0.017

DF-MW02
8/3/18 |17'|**0.55**|0.010
4/14/20 |20'|**0.44**|0.0075
10/27/20 |18'|**0.38**|0.0083

IES-MW02
10/26/18 |20.0'|**0.24**|0.019
4/16/20 |20.0'|**0.29**|0.018
7/15/20 |20.0'|**0.2**|0.014
10/27/20 |22'|**0.26**|0.017

IES-R02
8/10/18 |15.0'|**0.21**|0.023
8/10/18 |25.0'|**0.72**|0.023

IES-MW06
4/15/20 |85.0'|0.015|0.0013
7/14/20 |85.0'|0.0018|0.00095
10/27/20 |85.0'|0.0018|0.0014

IES-MW01
10/26/18 |21.0'|**0.19**|0.0097
4/15/20 |21.0'|**0.27**|0.011
7/14/20 |21.0'|**0.18**|0.0095
10/27/20 |21.0'|**0.17**|0.0066

IES-R01
8/8/18 |20.0'|**0.27**|0.012

DF-MW01
10/27/2020 |12.0'|0.042|0.0018

66.00
67.00
68.00
NEWPORT WAY NORTHWEST
MAIN FORK ISSAQUAH CREEK

N
0 100
SCALE IN FEET

LEGEND

- BORING
- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- SUM OF 2020 PFOA AND PFOS RESULTS LESS THAN OR EQUAL TO 0.070 µg/l
- SUM OF 2020 PFOA AND PFOS RESULTS BETWEEN 0.070 AND 0.70 µg/l
- SUM OF 2020 PFOA AND PFOS RESULTS GREATER THAN OR EQUAL TO 0.70 µg/l
- WELL NOT SAMPLED IN 2020
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA

APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

72.00 GROUNDWATER ELEVATION CONTOUR
4/13/2020 MEASUREMENT DATE
MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988
(DASHED WHERE INFERRED)

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

DEPTH AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | GROUNDWATER SAMPLE DEPTH IN FEET BGS | PFOS | PFOA
ANALYTICAL RESULTS IN MICROGRAMS PER LITER (µg/l)
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
STANDARD PRODUCT NAMES ARE PROVIDED FOR PFOS AND PFOA. BOTH COMPOUNDS WILL BE IN THEIR ANIONIC FORM WHEN ENCOUNTERED IN THE ENVIRONMENT.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED APPLICABLE WASHINGTON STATE DEPARTMENT OF ECOLOGY INVESTIGATORY LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle
Oregon
Portland | Baker City
California
Oakland | Folsom | Irvine

FIGURE 11

GROUNDWATER ANALYTICAL RESULTS
WEST PLAYFIELD AND DODD FIELD PARK
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-11_GW_Analytical_WPDF.mxd

RAINIER BOULEVARD NORTH

1st AVENUE NORTHEAST

1st PLACE NORTHEAST

2nd AVENUE NORTHEAST

NORTHWEST CREEKWAY

EAST SUNSET WAY

MF-MW03
3/10/20|71.22
4/13/20|69.55
7/13/20|65.14
10/26/20|67.46

MF-MW04
4/13/20|69.51
7/13/20|65.13
10/26/20|67.39

MF-MW02
3/10/20|71.22
4/13/20|69.56
7/13/20|65.21
10/26/20|67.01

MEMORIAL FIELD
AFFF TRAINING AREA

MF-MW01
3/10/20|71.46
4/13/20|69.73
7/13/20|65.28
10/26/20|67.17

RT-MW01
3/10/20|71.47
4/13/20|69.70
7/13/20|65.35
10/27/20|67.65

RT-MW03
3/10/20|71.41
4/13/20|69.71
7/13/20|59.34
10/26/20|67.54

70.00

70.00

71.00

71.00

72.00

72.00

RT-MW04
3/10/20|74.73
4/13/20|72.59
7/13/20|68.23
10/26/20|69.54

RAINIER TRAIL
AFFF TRAINING AREA

N

0 100

SCALE IN FEET

LEGEND

- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- AREA OF INTEREST
- 3/10/20|74.73 SHALLOW GROUNDWATER MEASUREMENT DATE AND ELEVATION
- 4/13/20|69.51 INTERMEDIATE GROUNDWATER MEASUREMENT DATE AND ELEVATION
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW
- 72.00 GROUNDWATER ELEVATION CONTOUR 4/13/2020 MEASUREMENT DATE (DASHED WHERE INFERRED)

GROUNDWATER ELEVATIONS MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988

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

FARALLON CONSULTING

Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 12

GROUNDWATER ELEVATIONS
MEMORIAL FIELD AND RAINIER TRAIL AREA
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-12_GW_Elevations_MF-RT.mxd

RAINIER BOULEVARD NORTH

1st AVENUE NORTHEAST

1st PLACE NORTHEAST

2nd AVENUE NORTHEAST

NORTHWEST CREEKWAY

EAST SUNSET WAY

MF-MW04
4/14/20 |70.0'|0.0046|0.0018
7/14/20 |70.0'|0.0014|0.001
10/28/20 |70.0'|0.0031|0.0012
3/27/20 |58.0'|0.012|0.0021

MF-MW03
10/25/18 |43'|0.0039|0.0022

MF-MW02
10/26/18 |36'|0.054|0.0035
4/14/20 |38'|**0.12**|0.0052
10/28/20 |40'|**0.096**|0.0041

MEMORIAL FIELD
AFFF TRAINING AREA

RT-MW01
8/3/18 |40'|0.053|0.015
10/28/20 |40'|0.026|0.0097

RT-MW03
8/3/18 |40'|0.045|0.0081

MF-MW01
10/26/18 |39'|0.0058|0.0012

70.00

71.00

72.00

RT-MW04
10/26/18 |35'|0.008|0.013
4/14/20 |33'|0.0087|0.0086

RT-R01
8/17/18 |39.0'|0.010|0.0098

RAINIER TRAIL
AFFF TRAINING AREA

LEGEND

- BORING
- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- SUM OF 2020 PFOA AND PFOS RESULTS LESS THAN OR EQUAL TO 0.070 µg/l
- SUM OF 2020 PFOA AND PFOS RESULTS BETWEEN 0.070 AND 0.70 µg/l
- WELL NOT SAMPLED IN 2020
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW
- 72.00 GROUNDWATER ELEVATION CONTOUR 4/13/2020 MEASUREMENT DATE (DASHED WHERE INFERRED)
- GROUNDWATER ELEVATIONS MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988

N

0 100

SCALE IN FEET

SAMPLE RESULTS HIGHLIGHTED IN GREEN REPRESENT RECONNAISSANCE BORING TEMPORARY WELL GROUNDWATER RESULTS
SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS
DEPTH AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | GROUNDWATER SAMPLE DEPTH IN FEET BGS | PFOS | PFOA
ANALYTICAL RESULTS IN MICROGRAMS PER LITER (µg/l)
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
BOLD = DENOTES CONCENTRATIONS THAT EXCEED APPLICABLE WASHINGTON STATE DEPARTMENT OF ECOLOGY INVESTIGATORY LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE
STANDARD PRODUCT NAMES ARE PROVIDED FOR PFOS AND PFOA. BOTH COMPOUNDS WILL BE IN THEIR ANIONIC FORM WHEN ENCOUNTERED IN THE ENVIRONMENT.

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 13

GROUNDWATER ANALYTICAL RESULTS
MEMORIAL FIELD AND RAINIER TRAIL AREA
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-13_GW_Analytical_MF-RT.mxd

APPROXIMATE EXTENT OF AFFF TRAINING AREA MATCHES EXTENT OF MULTI-INCREMENTAL SOIL SAMPLING UNIT DU-05 SAMPLED IN 2018

NWN-MW05
6.0'|**0.25**|**0.0013**
10.0'|**0.12**|**0.00069**
15.0'|**0.012**|0.00021

NWN-MW06
6.0'|**0.22**|**0.0013**
10.0'|**0.13**|**0.00087**
15.0'|**0.077**|**0.00053**

NWN-MW09
5.0'|**0.078**|**0.00069**

NWN-MW03
12.0'|**0.056**|0.00036
25.0'|**0.0064**|0.00021

NWN-R12
5.0'|**0.65**|**0.0099**
10.0'|**0.39**|**0.0063**
15.0'|**0.13**|**0.0021**

NWN-R02
[NS]

NWN-MW07
5.0'|**0.031**|0.00025
10.0'|**0.056**|**0.0013**
15.0'|**0.0031**|<0.00097

DU-05
0.0-0.5'|**0.024**|**0.00077**

NWN-R03
[NS]

NWN-MW08
[NS]

NWN-MW02
10.0'|<0.00096|<0.00096
19.0'|**0.0064**|<0.0010

B'

NWN-R01
[NS]

NWN-R16
5.0'|**0.15**|**0.0060**
10.0'|**0.021**|**0.00046**
15.0'|**0.032**|**0.0010**

NWN-R07
3.0'|**0.051**|**0.0053**
5.0'|**0.10**|**0.0061**
10.0'|**0.063**|**0.0009**

NWN-R11
3.0'|**0.034**|**0.022**
5.0'|**0.33**|**0.015**
10.0'|**0.081**|**0.0039**

NWN-R15
5.0'|**0.54**|**0.067**
10.0'|**0.49**|**0.038**
15.0'|**0.0053**|<0.0011

NWN-R18
5.0'|**0.0042**|**0.00074**
10.0'|**0.0091**|**0.00045**
15.0'|**0.0071**|0.00028

NEWPORT WAY NORTHWEST

DU-06
0.0-0.5'|**0.026**|**0.0015**

NWN-R06
2.0'|**1.2**|**0.0066**
5.0'|**0.67**|**0.0025**
10.0'|**0.094**|**0.00063**

NWN-R10
3.0'|**0.10**|**0.014**
5.0'|**0.78**|**0.037**
10.0'|**0.30**|**0.0037**

STTA01
2.2-2.3'|**1.3**|**0.011**

STTA02
3.8-3.9'|**0.18**|**0.0043**

B

NWN-MW04
5.0'|**0.086**|**0.0017**
13.0'|**0.016**|0.00034

NWN-R17
5.0'|**0.0014**|<0.0011
10.0'|**0.0039**|0.00015
15.0'|**0.0021**|<0.0010

STSP01
2.2-2.3'|**0.023**|<0.00072

NWN-R05
3.0'|**0.83**|**0.0021**
5.0'|**0.23**|**0.00098**
10.0'|**0.04**|**0.00022**

NWN-R09
3.0'|**0.93**|**0.0079**
5.0'|**0.15**|**0.00085**
10.0'|**0.12**|**0.0011**

NWN-R14
5.0'|**0.089**|**0.0053**
10.0'|**0.0046**|**0.00033**
15.0'|**0.0052**|**0.00033**

NWN-R04
5.0'|**0.013**|**0.001**
10.0'|**0.0092**|**0.0011**
15.0'|**0.0056**|**0.00041**

NWN-R08
5.0'|**0.016**|**0.0022**
10.0'|**0.0089**|**0.00088**
15.0'|**0.00026**|<0.0011

NWN-R13
6.5'|**0.0036**|**0.00081**
10.0'|**0.031**|**0.0027**
15.0'|**0.00046**|<0.0011

NWN-MW01
[NS]

LEGEND

- BORING
- GEOSYNTEC SAMPLE
- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- MULTI-INCREMENTAL SAMPLING (MIS) DECISION UNIT SAMPLED IN 2018
- B — B' LINE OF CROSS-SECTION

NOTES:
DEPTH AND CONCENTRATIONS REPORTED AS:
SOIL SAMPLE DEPTH IN FEET BGS | PFOS | PFOA
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID

STANDARD PRODUCT NAMES ARE PROVIDED FOR PFOS AND PFOA. BOTH COMPOUNDS WILL BE IN THEIR ANIONIC FORM WHEN ENCOUNTERED IN THE ENVIRONMENT.

BOLD = DENOTES CONCENTRATIONS THAT EXCEED APPLICABLE WASHINGTON STATE DEPARTMENT OF ECOLOGY INVESTIGATORY LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE
NS = NOT SAMPLED

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.

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 14

SOIL ANALYTICAL RESULTS FOR PFOA AND PFOS
175 NEWPORT WAY NORTHWEST
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-14_Soil_NWN.mxd

LEGEND

- SHALLOW MONITORING WELL
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW
- 83.00 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- (83.31) GROUNDWATER ELEVATION (03/10/20) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988

0 80
SCALE IN FEET

N

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

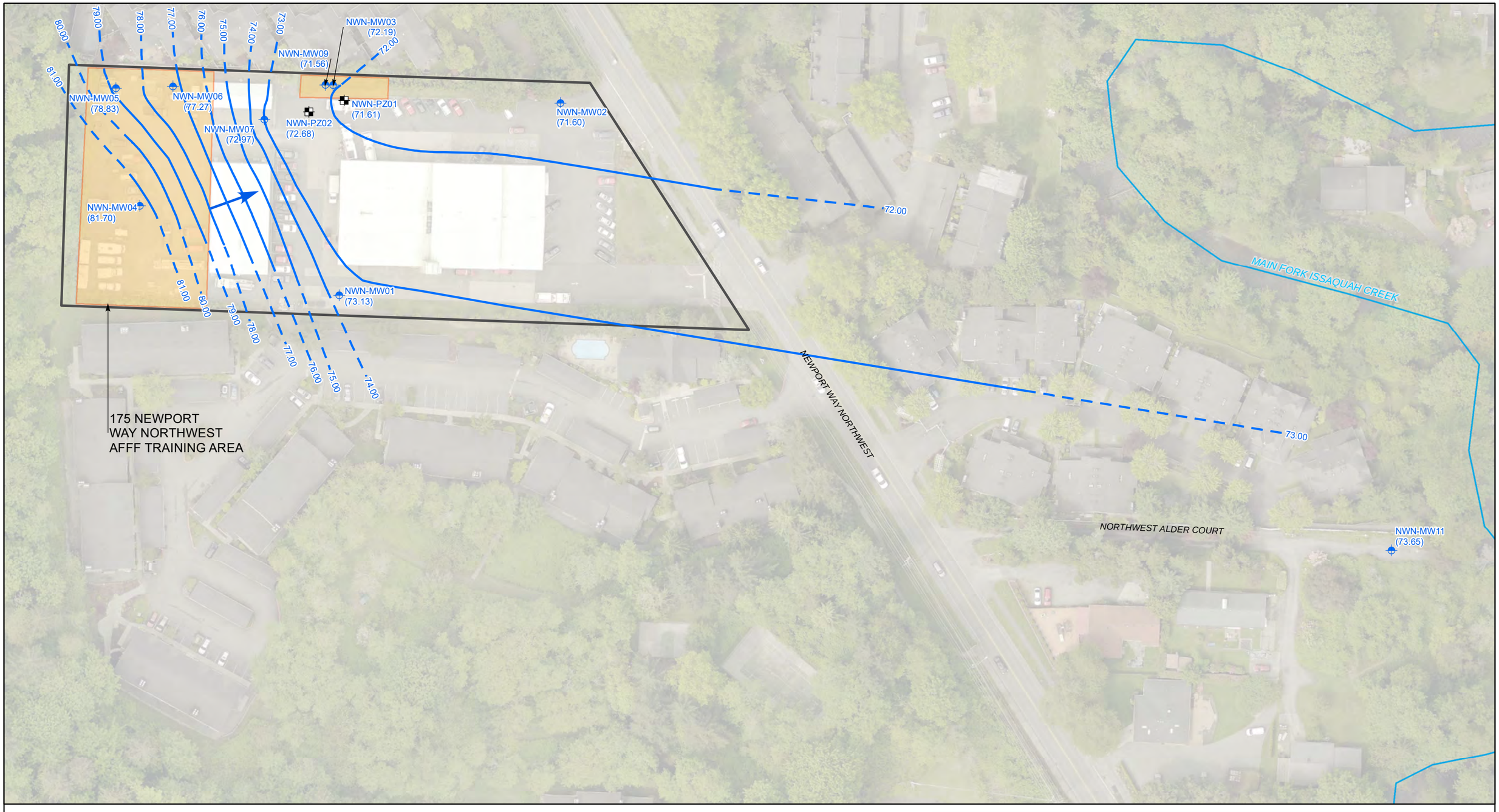
Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 15A

SHALLOW GROUNDWATER ELEVATIONS - MARCH 2020
175 NEWPORT WAY NORTHWEST
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON
FARALLON PN: 1754-001

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:
\\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-15A_GW_Elevations_NWN_Shallow_2020-03.mxd



LEGEND

- SHALLOW MONITORING WELL
- PIEZOMETER
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA

APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

78.00 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)

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

0 80
SCALE IN FEET

N

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

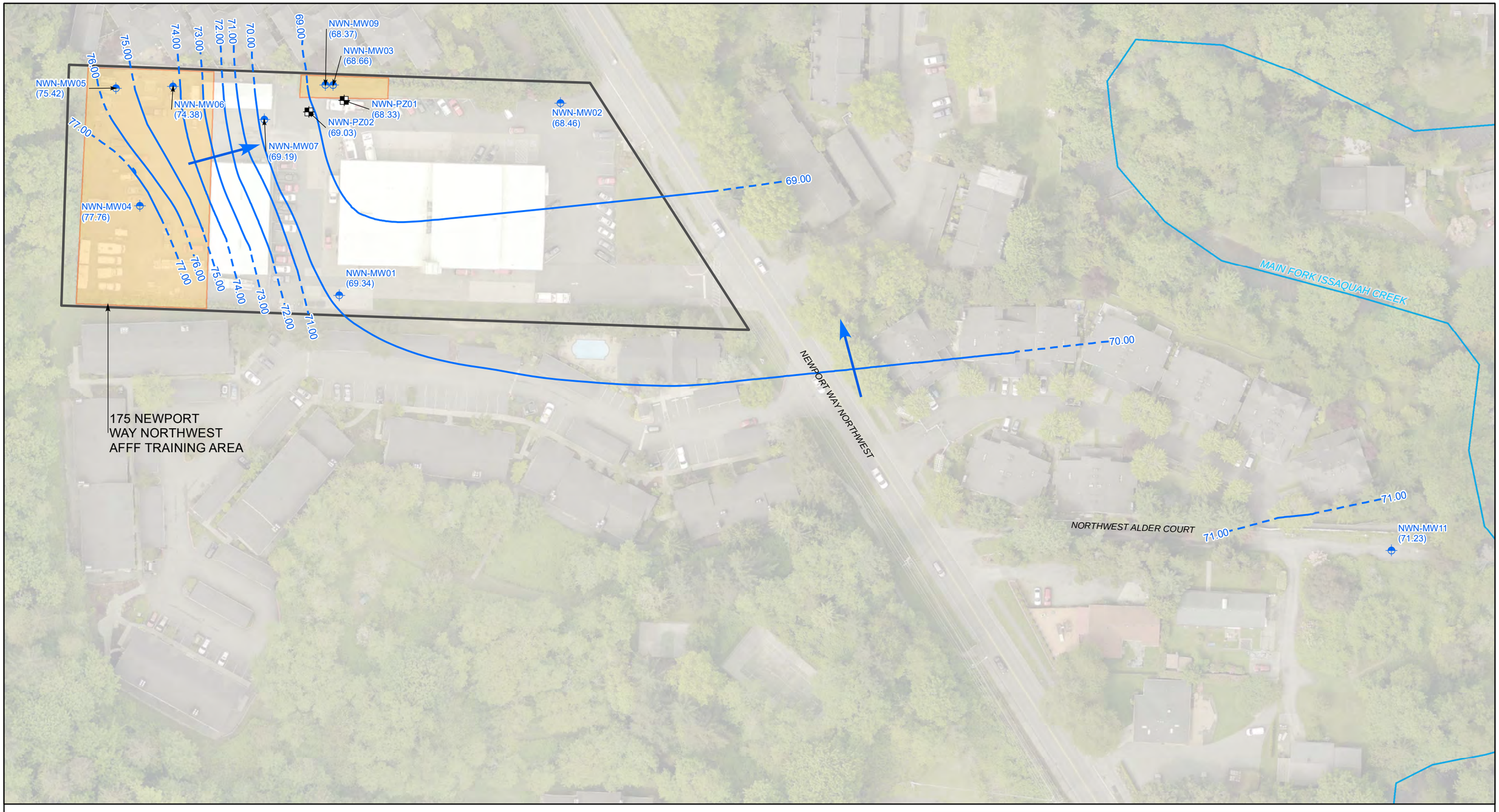
Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 15B

SHALLOW GROUNDWATER ELEVATIONS - APRIL 2020
175 NEWPORT WAY NORTHWEST
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON
FARALLON PN: 1754-001

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:
Rodges02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-15B_GW_Elevations_NWN_Shallow_2020-04.mxd



LEGEND

- SHALLOW MONITORING WELL
- PIEZOMETER
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA

APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

70.00 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)

(69.34) — GROUNDWATER ELEVATION (7/14/2020) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988

0 80
SCALE IN FEET

N

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 15C

SHALLOW GROUNDWATER ELEVATIONS - JULY 2020
175 NEWPORT WAY NORTHWEST
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON
FARALLON PN: 1754-001

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:
\\rogers02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-15C_GW_Elevations_NWN_Shallow_2020-07.mxd

NWN-MW05
(77.54)
NWN-MW06
(76.40)
NWN-MW09
(69.26)
NWN-MW03
(69.48)
NWN-PZ01
(69.28)
NWN-PZ02
(70.1)
NWN-MW07
(70.31)
NWN-MW02
(69.39)
NWN-MW04
(79.69)
NWN-MW01
(70.52)
NWN-MW11
(72.11)
NEWPORT WAY NORTHWEST
MAIN FORK ISSAQUAH CREEK
78.00
79.00
77.00
76.00
75.00
74.00
73.00
72.00
71.00
70.00
72.00

175 NEWPORT
WAY NORTHWEST
AFFF TRAINING AREA

LEGEND

- SHALLOW MONITORING WELL
- PIEZOMETER
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING AREA

APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

78.00 GROUNDWATER ELEVATION CONTOUR
(DASHED WHERE INFERRED)

(79.69) GROUNDWATER ELEVATION (10/26/2020)
MEASURED IN FEET RELATIVE TO
NORTH AMERICAN VERTICAL DATUM 1988

0 80
SCALE IN FEET

N

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 15D

SHALOW GROUNDWATER ELEVATIONS -
OCTOBER 2020
175 NEWPORT WAY NORTHWEST
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON
FARALLON PN: 1754-001

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference:
\\edges02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-15D_GW_Elevations_NWN_Shallow_2020-10.mxd

NWN-MW06
4/17/20 |20.0'|**8.6**|**0.41**
7/16/20 |20.0'|**5.0**|**0.28**

NWN-R02
8/23/18 |23.0'|**9.50**|**0.45**

NWN-MW05
4/16/20 |15.0'|**4.7**|**0.32**
7/16/20 |15.0'|**2.8**|**0.33**
10/29/20 |15.0'|**4.8**|**0.49**

NWN-MW09
3/19/20 |43.0'|**2.0**|**0.14**
4/17/20 |47.5'|**0.23**|0.022
7/16/20 |47.5'|**0.10**|0.011
10/29/20 |45.0'|**0.092**|0.011

NWN-MW08
3/20/20 |53.0'|**0.3**|0.038
4/17/20 |75.0|0.0046|0.00063
7/15/20 |75.0|0.0047|0.00077
10/29/20 |71.0'|0.0016|0.00052

NWN-R03
8/22/18 |28.0'|**0.380**|0.032
8/23/18 |39.0'|**0.25**|0.021

NWN-MW07
4/17/20 |21.5'|**2.9**|**0.22**
7/16/20 |21.5'|**2.0**|**0.14**
10/29/20 |22.0'|**1.7**|**0.16**

NWN-MW03
10/26/18 |26.0'|**1.0**|**0.16**
4/17/20 |25.0'|**2.2**|**0.37**
7/16/20 |25.0'|**0.90**|**0.17**
10/29/20 |26'|**0.68**|**0.12**

NWN-MW02
10/26/18 |26.0'|**0.086**|0.0091
4/16/20 |24.0'|**0.61**|0.0023
10/29/20 |27'|**0.27**|0.02

NWN-R01
8/24/18 |19.0'|**7.3**|**0.39**

NWN-R16
3/19/20 |17.0'|**7.4**|**0.83**

NWN-R18
3/19/20 |23.0'|**2.0**|**0.14**

NWN-R06
3/20/20 |10.0'|**21**|**0.65**

NWN-MW04
10/26/18 |13.0-23.0'|**2.2**|**0.20**
4/17/20 |18.0'|**2.6**|**0.13**
7/16/20 |18.0'|**1.5**|**0.091**
10/29/20 |18.0'|**1.6**|**0.14**

NWN-MW01
10/26/18 |24.0'|0.052|0.012
4/16/20 |25.0'|0.063|0.0032

B-12
2/12/20 |25.0'|0.042|0.0070

NWN-R04
3/18/20 |12.0'|**0.18**|0.024

NWN-R13
3/18/20 |14.0'|**0.51**|**0.17**

NWN-R08
3/18/20 |13.0'|**0.39**|**0.10**

74.00 75.00 76.00 73.00 72.00 71.00 70.00 69.00 77.00

69.00

70.00

NEWPORT WAY NORTHWEST

MAIN FORK ISSAQUAH CREEK

175 NEWPORT
WAY NORTHWEST
AFFF TRAINING AREA

NWN-MW11
4/15/20 |20.0'|0.0017|0.00087
7/15/20 |20.0'|0.0013|<0.0016
10/29/20 |22.0'|0.002|0.0011

NORTHWEST ALDER COURT

71.00

71.00

COI-MW07
10/25/18 |105.0'|0.0033|0.0022
4/15/20 |105.0'|0.0031|0.0012
7/15/20 |105.0'|0.0036|0.0019
10/29/20 |105.0'|0.0043|0.0025
10/7/16 |22.5'|0.025|0.029

N

0 80
SCALE IN FEET

LEGEND

- BORING
- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- SUM OF 2020 PFOA AND PFOS RESULTS LESS THAN OR EQUAL TO 0.070 µg/l
- SUM OF 2020 PFOA AND PFOS RESULTS BETWEEN 0.070 AND 0.70 µg/l
- SUM OF 2020 PFOA AND PFOS RESULTS GREATER THAN OR EQUAL TO 0.70 µg/l
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW
- 78.00 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- (81.70) GROUNDWATER ELEVATION (7/14/2020) MEASURED IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM 1988

NOTES:
SAMPLE RESULTS HIGHLIGHTED IN GREEN REPRESENT RECONNAISSANCE BORING TEMPORARY WELL GROUNDWATER RESULTS
SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS

DEPTH AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | GROUNDWATER SAMPLE DEPTH IN FEET BGS | PFOS | PFOA
ANALYTICAL RESULTS IN MICROGRAMS PER LITER (µg/l)

PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID

STANDARD PRODUCT NAMES ARE PROVIDED FOR PFOS AND PFOA. BOTH COMPOUNDS WILL BE IN THEIR ANIONIC FORM WHEN ENCOUNTERED IN THE ENVIRONMENT.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED APPLICABLE WASHINGTON STATE DEPARTMENT OF ECOLOGY INVESTIGATORY LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
BGS = BELOW GROUND SURFACE

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 16

GROUNDWATER ANALYTICAL RESULTS
175 NEWPORT WAY NORTHWEST
PFAS ADDITIONAL CHARACTERIZATION STUDY
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 2/5/2021 | Disc Reference: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-16_GW_w_Recon_NWN_.mxd

COI-MW01
5/26/16 |35.0'|<0.0025|<0.0025

COI-MW02
5/31/16 |45.0'|<0.0025|<0.0025

COI-MW03
5/24/16 |15.0'|0.01|0.0046
5/24/16 |45.0'|**0.11**|0.0075

B-2
10/29/20 |25.0'|0.0036|0.00077

COI-MW04
5/27/16 |34.0'|0.0028|<0.0025

IES-MW07
4/15/20 |25.0'|**0.53**|0.023
10/27/20 |25.0'|**0.34**|0.014

COI-MW05
5/23/16 |15.0'|0.013|0.022

B-4
7/16/20 |25.0'|0.012|0.00078

IES-R04
8/9/18 |23.0'|**0.36**|0.030

IES-MW05
10/26/18 |25.0'|**0.38**|0.019
10/26/18 |25.0'|**0.38**|0.019
4/15/20 |25.0'|**0.59**|0.025
7/14/20 |25.0'|**0.48**|0.022

IES-MW04
10/26/18 |20.0'|**0.53**|0.037
10/27/20 |23.0'|**0.35**|0.019

IES-R03
8/9/18 |13.5'|0.0031|0.0035
8/9/18 |24.0'|**0.38**|0.026

IES-MW03
10/26/18 |20.0'|**0.076**|0.0056
4/15/20 |20.0'|**0.075**|0.0049
7/14/20 |20.0'|0.055|0.0041
10/27/20 |19.0'|0.066|0.0045

IES-R05
8/10/18 |11.0'|0.028|0.0092
8/10/18 |28.0'|**0.51**|0.026

IES-MW08
4/15/20 |25.0'|**0.074**|0.0040
10/27/20 |25.0'|0.011|0.0025

DF-MW03
8/3/18 |18.0'|**0.13**|0.0062

B-7
2/12/20 |27.5'|**0.27**|0.017

IES-MW02
10/26/18 |20.0'|**0.24**|0.019
4/16/20 |20.0'|**0.29**|0.018
7/15/20 |20.0'|**0.2**|0.014
10/27/20 |22'|**0.26**|0.017

DF-MW02
8/3/18 |17'|**0.55**|0.010
4/14/20 |20'|**0.44**|0.0075
10/27/20 |18'|**0.38**|0.0083

IES-R02
8/10/18 |15.0'|**0.21**|0.023
8/10/18 |25.0'|**0.72**|0.045

IES-MW01
10/26/18 |21.0'|**0.19**|0.0097
4/15/20 |21.0'|**0.27**|0.011
7/14/20 |21.0'|**0.18**|0.0095
10/27/20 |21.0'|**0.17**|0.0066

IES-R01
8/8/18 |20.0'|**0.27**|0.012

DF-MW01
10/27/20 |12'|0.042|0.0018

NDS-MW03
4/16/20 |30.0'|0.022|0.0040
10/28/20 |31.0'|0.016|0.0025

NDS-MW01
4/16/20 |27.0'|**1.3**|0.062
7/15/20 |27.0'|**0.86**|0.05
10/29/20 |26.0'|**0.49**|0.024

COI-MW06
10/5/16 |22.0'|**0.30**|0.021
10/6/16 |37.0'|**0.50**|0.036
10/6/16 |53.5'|**0.74**|0.040

NWN-MW09
4/17/20 |47.5'|**0.23**|0.022
7/16/20 |47.5'|**0.1**|0.011
10/29/20 |45.0'|**0.092**|0.011

NWN-MW03
10/26/18 |26'|**1.0**|**0.16**
4/17/20 |25.0'|**2.2**|**0.37**
7/16/20 |25.0'|**0.90**|**0.17**
10/29/20 |26'|**0.68**|**0.12**

NWN-R03
8/22/18 |28.0'|**0.380**|0.032
8/23/18 |39.0'|**0.25**|0.021

NWN-R02
8/23/18 |23.0'|**9.50**|**0.45**

NWN-MW05
4/16/20 |15.0'|**4.7**|**0.32**
7/16/20 |15.0'|**2.8**|**0.33**
10/29/20 |15.0'|**4.8**|**0.49**

NWN-MW02
10/26/18 |26'|**0.086**|0.0091
4/16/20 |24'|**0.61**|0.023
10/29/20 |27'|**0.27**|0.02

NWN-R01
8/24/18 |19.0'|**7.3**|**0.39**

B-12
2/12/20 |25.0'|0.042|0.0070

NWN-MW06
4/17/20 |20.0'|**8.6**|**0.41**
7/16/20 |20.0'|**5**|**0.28**

NWN-MW01
10/26/18 |24'|0.052|0.012
4/16/20 |25.0'|0.063|0.0032

NWN-MW04
10/26/18 |18.0'|**2.2**|**0.20**
4/17/20 |18.0'|**2.6**|**0.13**
7/16/20 |18.0'|**1.5**|**0.091**
10/29/20 |18.0'|**1.6**|**0.14**

NWN-MW07
4/17/20 |21.5'|**2.9**|**0.22**
7/16/20 |21.5'|**2**|**0.14**
10/29/20 |22.0'|**1.7**|**0.16**

NWN-MW11
4/15/20 |20.0'|0.0017|0.00087
7/15/20 |20.0'|0.0013|<0.0016
10/29/20 |22.0'|0.002|0.0011

COI-MW07
10/7/16 |22.5'|0.025|0.029
10/7/16 |37.5'|0.0042|<0.0025

MF-MW03
10/25/18 |43.0'|0.0039|0.0022

MF-MW02
10/26/18 |36.0'|0.054|0.0035
4/14/20 |38'|**0.12**|0.0052
10/28/20 |40'|**0.096**|0.0041

RT-MW03
8/3/18 |40.0'|0.045|0.0081

RT-MW01
8/3/18 |40'|0.053|0.015
10/28/20 |40'|0.026|0.0097

MF-MW01
10/26/18 |39.0'|0.0058|0.0012

RT-MW04
10/26/18 |35.0'|0.008|0.013
4/14/20 |33'|0.0087|0.0086

RT-R01
8/17/18 |39.0'|0.010|0.0098

MAIN FORK ISSAQUAH CREEK
EAST LAKE SAMMAMISH PARKWAY SOUTHEAST
NORTHWEST GILMAN BOULEVARD
NORTHWEST MAPLE STREET
4th AVENUE NORTHWEST
NORTH FORK ISSAQUAH CREEK
INTERSTATE 90
NORTHWEST LOCUST STREET
NEWPORT WAY NORTHWEST
NORTHWEST JUNIPER STREET
RAINIER BOULEVARD NORTH
FRONT STREET NORTH
NORTHWEST HOLLY STREET
3rd COURT NORTHWEST
NORTHWEST DOGWOOD STREET
EAST FORK ISSAQUAH CREEK
NORTHWEST ALDER PLACE
WEST SUNSET WAY
EAST SUNSET WAY

N
0 300
SCALE IN FEET

LEGEND

- BORING
- SHALLOW MONITORING WELL
- INTERMEDIATE MONITORING WELL
- SUM OF 2020 PFOA AND PFOS RESULTS LESS THAN OR EQUAL TO 0.070 µg/l
- SUM OF 2020 PFOA AND PFOS RESULTS BETWEEN 0.070 AND 0.70 µg/l
- SUM OF 2020 PFOA AND PFOS RESULTS GREATER THAN OR EQUAL TO 0.70 µg/l
- WELL NOT SAMPLED IN 2020
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM (AFFF) TRAINING AREA
- APPROXIMATE DIRECTION OF SHALLOW GROUNDWATER FLOW

NOTES:
NWN-MW02 = SHALLOW MONITORING WELL
SAMPLE RESULTS HIGHLIGHTED IN GREEN REPRESENT RECONNAISSANCE BORING TEMPORARY WELL GROUNDWATER RESULTS
SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS
COLOR CODE ASSIGNMENT FOR EACH WELL IS BASED ON HIGHEST SUM OF PFOA AND PFOS RESULTS OBTAINED DURING ALL 2020 MONITORING EVENTS
STANDARD PRODUCT NAMES ARE PROVIDED FOR PFOS AND PFOA. BOTH COMPOUNDS WILL BE IN THEIR ANIONIC FORM WHEN ENCOUNTERED IN THE ENVIRONMENT.
DEPTH AND CONCENTRATIONS REPORTED AS:
GROUNDWATER SAMPLE DATE | SAMPLE DEPTH IN FEET BGS | PFOS | PFOA
ANALYTICAL RESULTS IN MICROGRAMS PER LITER (µg/l)
PFAS = PER- AND POLY- FLUOROALKYL SUBSTANCES
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
BOLD = DENOTES CONCENTRATIONS EXCEEDING THE APPLICABLE WASHINGTON STATE DEPARTMENT OF ECOLOGY INVESTIGATORY LEVEL OF 0.070 MICROGRAMS PER LITER
BGS = BELOW GROUND SURFACE

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 17

SHALLOW GROUNDWATER ANALYTICAL RESULTS
PFAS ADDITIONAL CHARACTERIZATION STUDY
SUMMARY REPORT
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 4/12/2021 | Disc Reference:
Document Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-17_GW_Analytical_ValleyWide_Shallow.mxd

COI-MW01
5/26/16 |60.0'|<0.0025|<0.0025
6/7/16 |33.0'|<0.0025|0.0068
10/17/16 |33.0'|<0.0025|<0.0025

COI-MW02
10/25/18 |80.0'|<0.0042|<0.0017

COI-MW03
7/20/16 |88.0'|**0.098**|0.0062
7/28/16 |88.0'|**0.360**|0.016
10/17/16 |88.0'|**0.088**|0.0059
10/24/18 |88.0'|0.053|0.0071
4/15/20 |88.0'|**0.14**|0.010
10/28/20 |94.0'|**0.099**|0.0084

COI-PW04
4/08/20|89.5'|**0.264**|0.00925 J
5/11/20 |89.5'|**0.239**|0.00964 J
9/22/20 |89.5'|**0.311**|0.0105 J
10/20/20 |89.5'|**0.287**|0.00854 J

COI-PW05
11/3/2015|364.0'|<0.04|<0.02
7/27/16 |364.0'|0.019|0.0037
7/9/2018|364.0'|0.0294|<0.02
10/29/2018|364.0'|0.030|0.0026

COI-MW04
7/20/16 |80.0'|<0.0025|<0.0025
7/27/16 |80.0'|<0.0025|0.0039
10/17/16 |80.0'|0.0025|<0.0025
10/24/18 |80.0'|0.0023|<0.0017
10/28/20 |74.0'|0.0031|0.00064

COI-MW05
10/25/18 |80.0'|**0.29**|0.019
4/15/20 |80.0'|**0.26**|0.0083
7/14/20 |80.0'|**0.24**|0.011
10/27/20 |80.0'|**0.23**|0.0098

RBN-MW01
4/14/20 |75.0'|0.014|0.0016
7/14/20 |75.0'|0.002|<0.0017
10/28/20 |74.0'|0.0016|0.00052

IES-MW10
4/16/20 |80.0'|**1.2**|0.066
7/14/20 |80.0'|**1.1**|0.067
10/27/20 |80.0'|**1.0**|0.058

IES-MW09
4/15/20 |80.0'|0.052|0.0016
7/14/20 |80.0'|0.008|0.00084
10/27/20 |76'|0.0072|0.00072

DG-PW01
5/4/16 |88.5'|0.0064|<0.0025

IES-MW06
4/15/20 |85.0'|0.015|0.0013
7/14/20 |85.0'|0.0018|0.00095
10/27/20 |85.0'|0.0018|0.0014

NDS-MW02
4/16/20 |76.0'|**0.29**|0.010
10/28/20 |77.0'|**0.26**|0.0093

COI-TW01
5/17/16 |89.0'|0.0034|<0.003

RBN-MW02
4/14/20 |75.0'|0.0054|0.0031
7/14/20 |75.0'|0.0049|0.0046
10/28/20 |75.0'|0.0063|0.0064

COI-MW06
10/17/16 |90.0'|**2.2**|**0.08**
10/25/18 |90.0'|**3.3**|**0.25**
4/16/20 |90.0'|**2.5**|**0.15**
7/15/20 |90.0'|**1.4**|**0.087**
10/29/20 |96.0'|**1.4**|**0.08**

NDS-MW04
4/16/20 |77.0'|0.0076|0.0012
7/15/20 |77.0'|0.0043|0.00078
10/28/20 |78.0'|0.0033|0.00072

NWN-MW08
4/17/20 |75.0'|0.0046|0.00063
7/15/20 |75.0'|0.0047|0.00077
10/29/20 |71.0'|0.0016|0.00052

MF-MW04
4/14/20 |70.0'|0.0046|0.0018
7/14/20 |70.0'|0.0014|0.001
10/28/20 |70.0'|0.0031|0.0012

COI-MW07
10/7/16 |67.5'|0.018|<0.0025
10/17/16 |105.0'|0.0049|0.003
10/25/18 |105.0'|0.0033|0.0022
10/25/18 |105.0'|0.0033|0.0022
4/15/20 |105.0'|0.0031|0.0012
7/15/20 |105.0'|0.0036|0.0019
10/29/20 |105.0'|0.0043|0.0025

MAIN FORK ISSAQUAH CREEK
EAST LAKE SAMMAMISH PARKWAY SOUTHEAST
NORTHWEST GILMAN BOULEVARD
NORTHWEST MAPLE STREET
4th AVENUE NORTHWEST
NORTH FORK ISSAQUAH CREEK
INTERSTATE 90
NORTHWEST LOCUST STREET
NEWPORT WAY NORTHWEST
NORTHWEST JUNIPER STREET
ISSAQUAH CREEK
RAINIER BOULEVARD NORTH
FRONT STREET NORTH
NORTHWEST HOLLY STREET
3rd COURT NORTHWEST
NORTHWEST DOGWOOD STREET
EAST FORK ISSAQUAH CREEK
NORTHWEST ALDER PLACE
WEST SUNSET WAY
EAST SUNSET WAY

LEGEND

- INTERMEDIATE MONITORING WELL
- INTERMEDIATE PRODUCTION WELL
- DEEP PRODUCTION WELL
- SUM OF 2020 PFOA AND PFOS RESULTS LESS THAN OR EQUAL TO 0.070 µg/l
- SUM OF 2020 PFOA AND PFOS RESULTS BETWEEN 0.070 AND 0.70 µg/l
- SUM OF 2020 PFOA AND PFOS RESULTS GREATER THAN OR EQUAL TO 0.70 µg/l
- WELL NOT SAMPLED IN 2020
- APPROXIMATE DIRECTION OF INTERMEDIATE GROUNDWATER FLOW
- AREA OF INTEREST
- AQUEOUS FIREFIGHTING FOAM TRAINING

N

0 300
SCALE IN FEET

SAMPLE RESULTS HIGHLIGHTED IN GREEN REPRESENT RECONNAISSANCE BORING TEMPORARY WELL GROUNDWATER RESULTS
SAMPLE RESULTS HIGHLIGHTED IN RED REPRESENT MONITORING WELL GROUNDWATER RESULTS
COLOR CODE ASSIGNMENT FOR EACH WELL IS BASED ON HIGHEST SUM OF PFOA AND PFOS RESULTS OBTAINED DURING ALL 2020 MONITORING EVENTS
STANDARD PRODUCT NAMES ARE PROVIDED FOR PFOS AND PFOA. BOTH COMPOUNDS WILL BE IN THEIR ANIONIC FORM WHEN ENCOUNTERED IN THE ENVIRONMENT.

DEPTH AND CONCENTRATIONS REPORTED AS:
GROUNDWATER SAMPLE DATE | SAMPLE DEPTH IN FEET BGS | PFOS | PFOA
ANALYTICAL RESULTS IN MICROGRAMS PER LITER (µg/l)
PFAS = PER- AND POLY- FLUOROALKYL SUBSTANCES
PFOA = PERFLUOROOCTANOIC ACID
PFOS = PERFLUOROOCTANE SULFONIC ACID
BOLD = DENOTES CONCENTRATIONS EXCEEDING THE APPLICABLE WASHINGTON STATE DEPARTMENT OF ECOLOGY INVESTIGATORY LEVEL OF 0.070 MICROGRAMS PER LITER
BGS = BELOW GROUND SURFACE

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

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 18

INTERMEDIATE GROUNDWATER ANALYTICAL RESULTS
PFAS ADDITIONAL CHARACTERIZATION STUDY
SUMMARY REPORT
LOWER ISSAQUAH VALLEY
ISSAQUAH, WASHINGTON

FARALLON PN: 1754-004

Drawn By: jjones | Checked By: EB | Date: 4/12/2021 | Disc Reference:

Document Path: \\edgefs02\GIS\Projects\1754 EastsideFireRescue\1754-004 2019 Biennium PFAS Invest\007_DataComp\Mapfiles\DataCompilation_CR_202012\Figure-18_GW_Analytical_ValleyWide_Intermediate.mxd

TABLES

PER- AND POLY-FLUOROALKYL SUBSTANCES
CHARACTERIZATION STUDY SUMMARY REPORT
Lower Issaquah Valley
Issaquah, Washington

Farallon PN: 1754-004

Table 1
Monitoring Well Construction Details
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Well ID	Previous Monitoring 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)
Water Production Wells									
COI-PW01	Well 1	City of Issaquah	NM	92.57	90	106	16	2.57	-13.43
COI-PW02	Well 2	City of Issaquah	NM	93.06	82	97	15	11.06	-3.94
COI-PW04	Well 4	City of Issaquah	NM	66.19	77	102	25	-10.81	-35.81
COI-PW05	Well 5	City of Issaquah	NM	67.16	323	405	82	-255.84	-337.84
SP-PW07	SPWSD Well 7	Sammamish Plateau	NM	70.19	82.6	146.9	64.3	-12.41	-76.71
SP-PW08	SPWSD Well 8	Sammamish Plateau	NM	73.94	105	179	74	-31.06	-105.06
SP-PW09	SPWSD Well 9	Sammamish Plateau	NM	77.65	194	219	25	-116.35	-141.35
DG-PW01	ABY249	Darigold	NM	85.29	81	96	15	4.29	-10.71
Geotechnical Wells-Newport Way Northwest									
B-7	---	City of Issaquah	NM	NM	22.5	32.5	10	NM	NM
B-12	---	City of Issaquah	NM	NM	20	30	10	NM	NM
Resource Protection Monitoring Wells									
Issaquah Valley Elementary West Playfield / Dodd Fields Park Areas of Interest									
IES-MW01	---	Eastside Fire & Rescue	76.52	76.31	16	26	10	60.31	50.31
IES-MW02	---	Eastside Fire & Rescue	74.43	73.74	15	25	10	58.74	48.74
IES-MW03	---	Eastside Fire & Rescue	73.09	72.70	15	25	10	57.7	47.7
IES-MW04	---	Eastside Fire & Rescue	72.97	72.43	15	30	15	57.43	42.43
IES-MW05	---	Eastside Fire & Rescue	72.75	72.76	20	30	10	52.76	42.76
IES-MW06	---	Eastside Fire & Rescue	76.29	75.92	80	90	10	-4.08	-14.08
IES-MW07	---	Eastside Fire & Rescue	70.54	70.25	20	30	10	50.25	40.25
IES-MW08	---	Eastside Fire & Rescue	72.55	72.07	20	30	10	52.07	42.07
IES-MW09	---	Eastside Fire & Rescue	72.45	72.18	75	85	10	-2.82	-12.82
IES-MW10	---	Eastside Fire & Rescue	73.08	72.66	75	85	10	-2.34	-12.34
DF-MW01	EB-1W	Eastside Fire & Rescue	77.99	77.71	5	15	10	72.71	62.71
DF-MW02	EB-5W	Eastside Fire & Rescue	74.57	74.21	15	25	10	59.21	49.21
DF-MW03	EB-3W	Eastside Fire & Rescue	74.71	74.35	20	30	10	54.35	44.35

Table 1
Monitoring Well Construction Details
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Well ID	Previous Monitoring 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)
Memorial Field and Rainier Trail Areas of Interest									
MF-MW01	---	Eastside Fire & Rescue	102.88	102.57	16	26	10	86.57	76.57
MF-MW02	---	Eastside Fire & Rescue	100.16	99.51	25	45	20	74.51	54.51
MF-MW03	---	Eastside Fire & Rescue	104.36	104.17	35	50	15	69.17	54.17
MF-MW04	---	Eastside Fire & Rescue	100.32	99.94	65	75	10	34.94	24.94
RT-MW01	MW-01	City of Issaquah	99.13	98.67	25	45	20	73.67	53.67
RT-MW03	MW-02	City of Issaquah	99.39	99.06	25	45	20	74.06	54.06
RT-MW04	---	Eastside Fire & Rescue	101.00	100.76	28	38	10	72.76	62.76
175 Newport Way Northwest Area of Interest									
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
B-4	---	City of Issaquah	NM	74.37	20	30	10	54.37	44.37
B-2	---	City of Issaquah	NM	80.98	20	30	10	60.98	50.98
Lower Issaquah Valley Regional Wells									
COI-MW01	MW01	City of Issaquah	58.36	58.4	28	38	10	30.4	20.4
COI-MW02	MW02	City of Issaquah	59.7	62.8	70	90	20	-7.2	-27.2
COI-MW03	MW03	City of Issaquah	63.16	62.9	78	98	20	-15.1	-35.1
COI-MW04	MW04	City of Issaquah	73.3	73.1	70	90	20	3.1	-16.9
COI-MW05	MW05	City of Issaquah	72.05	71.9	70	90	20	1.9	-18.1
COI-MW06	MW06	City of Issaquah	86.5	86.3	80	100	20	6.3	-13.7
COI-MW07	MW07	City of Issaquah	90.7	90.3	100	110	10	-9.7	-19.7
NDS-MW01	---	Eastside Fire & Rescue	86.16	85.48	22	32	10	63.48	53.48
NDS-MW02	---	Eastside Fire & Rescue	82.10	81.75	71	81	10	10.75	0.75

Table 1
Monitoring Well Construction Details
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Well ID	Previous Monitoring 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)
Lower Issaquah Valley Regional Wells (continued)									
NDS-MW03	---	Eastside Fire & Rescue	82.54	82.07	25	35	10	57.07	47.07
NDS-MW04	---	Eastside Fire & Rescue	82.19	81.71	72	82	10	9.71	-0.29
NWN-MW11	---	Eastside Fire & Rescue	90.91	90.58	15	25	10	75.58	65.58
RBN-MW01	---	Eastside Fire & Rescue	74.5	74.24	70	80	10	4.24	-5.76
RBN-MW02	---	Eastside Fire & Rescue	99.56	99.01	70	80	10	29.01	19.01
SP-MW01-1	SPVT1-1	Sammamish Plateau	73.16	NM	28	38	10	45.16	35.16
SP-MW01-2	SPVT1-2	Sammamish Plateau	73.16	NM	70	80	10	3.16	-6.84
SP-MW01-3	SPVT1-3	Sammamish Plateau	73.16	NM	150	160	10	-76.84	-86.84
SP-MW02-1	SPVT2-1	Sammamish Plateau	59.35	59.4	19	24	5	40.35	35.35
SP-MW02-2	SPVT2-2	Sammamish Plateau	61.87	61.8	34	39	5	27.87	22.87
SP-MW02-3	SPVT2-3	Sammamish Plateau	62.14	62.0	74	79	5	-11.86	-16.86
SP-MW07-1	SP7-1	Sammamish Plateau	72.3	NM	35	58	23	37.3	14.3
SP-MW07-2	SP7-2	Sammamish Plateau	72.3	NM	135	220	85	-62.7	-147.7
SP-MW07-3	SP7-3	Sammamish Plateau	70.1	72.1	85	150	65	-14.9	-79.9
COI-TW01[1]	COI-MW1	City of Issaquah	NM	81.9	84	94	10	-2.1	-12.1
COI-TW03[1]	COI-TW3	City of Issaquah	NM	81.8	284	289	5	-202.2	-207.2
COI-TW06	COI-TW6	City of Issaquah	NM	NM	258	362	104	Unknown	Unknown
COI-PW05-OBS	COI Well5OBS	City of Issaquah	NM	NM	Unknown	Unknown	Unknown	Unknown	Unknown

NOTES:
— denotes not applicable.
[1]TOC elevations are calculated values reported by Geosyntec, 2016

bgs = below ground surface
NAVD88 = North American Vertical Datum of 1988
NM = not measured
Sammamish Plateau = Sammamish Plateau Water and Sewer District

Table 2
Summary of Groundwater Elevation Data
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Location	Zone	Date Measured	Well Head Elevation (feet)[1]	Depth to Water (feet)[2]	Groundwater Elevation (feet)[1]
Issaquah Valley Elementary West Playfield / Dodd Fields Areas of Interest					
IES-MW01	Shallow	10/26/2018	76.31	7.52	68.79
		3/10/2020		6.51	69.80
		4/13/2020		7.58	68.73
		7/13/2020		9.66	66.65
		10/26/2020		9.30	67.01
IES-MW02	Shallow	10/26/2018	73.74	7.15	66.59
		3/10/2020		4.56	69.18
		4/13/2020		5.65	68.09
		7/13/2020		8.02	65.72
		10/26/2020		7.30	66.44
IES-MW03	Shallow	10/26/2018	72.7	7.74	64.96
		3/10/2020		5.00	67.70
		4/13/2020		5.82	66.88
		7/13/2020		8.12	64.58
		10/26/2020		7.26	65.44
IES-MW04	Shallow	10/26/2018	72.43	6.79	65.64
		3/10/2020		4.73	67.70
		4/13/2020		5.57	66.86
		7/13/2020		7.74	64.69
		10/26/2020		6.92	65.51
IES-MW05	Shallow	10/26/2018	72.26	9.68	62.58
		3/10/2020		4.83	67.43
		4/13/2020		5.51	66.75
		7/13/2020		7.30	64.96
		10/26/2020		6.63	65.63
IES-MW06	Intermediate	4/13/2020	75.92	7.66	68.26
		7/13/2020		10.01	65.91
		10/26/2020		11.31	64.61

Table 2
Summary of Groundwater Elevation Data
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Location	Zone	Date Measured	Well Head Elevation (feet)[1]	Depth to Water (feet)[2]	Groundwater Elevation (feet)[1]
Issaquah Valley Elementary West Playfield / Dodd Fields Areas of Interest (continued)					
IES-MW07	Shallow	4/13/2020	70.25	5.46	64.79
		7/13/2020		7.21	63.04
		10/26/2020		6.30	63.95
IES-MW08	Shallow	4/13/2020	72.07	6.21	65.86
		7/13/2020		7.15	64.92
		10/26/2020		6.75	65.32
IES-MW09	Intermediate	4/13/2020	72.18	5.10	67.08
		7/13/2020		6.92	65.26
		10/26/2020		6.45	65.73
IES-MW10	Intermediate	4/13/2020	72.66	6.12	66.54
		7/13/2020		9.10	63.56
		10/26/2020		7.95	64.71
DF-MW01	Shallow	10/26/2018	77.71	10.99	66.72
		3/10/2020		8.61	69.10
		4/13/2020		9.53	68.18
		7/13/2020		11.39	66.32
		10/26/2020		10.79	66.92
DF-MW02	Shallow	8/3/2018	74.21	10.05	64.16
		10/26/2018		8.10	66.11
		3/10/2020		5.51	68.70
		4/13/2020		6.46	67.75
		7/13/2020		8.56	65.65
		10/26/2020		7.89	66.32
DF-MW03	Shallow	8/3/2018	74.35	10.09	64.26
		3/10/2020		7.07	67.28
		4/13/2020		7.76	66.59
		7/13/2020		9.13	65.22
		10/26/2020		8.60	65.75

Table 2
Summary of Groundwater Elevation Data
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Location	Zone	Date Measured	Well Head Elevation (feet)[1]	Depth to Water (feet)[2]	Groundwater Elevation (feet)[1]
Memorial Field and Rainier Trail Areas of Interest					
MF-MW01	Shallow	10/26/2018	102.57	35.04	67.53
		3/10/2020		31.11	71.46
		4/13/2020		32.84	69.73
		7/13/2020		37.29	65.28
		10/26/2020		35.40	67.17
MF-MW02	Shallow	10/26/2018	99.51	32.06	67.45
		3/10/2020		28.29	71.22
		4/13/2020		29.95	69.56
		7/13/2020		34.30	65.21
		10/26/2020		32.50	67.01
MF-MW03	Shallow	10/25/2018	104.17	36.80	67.37
		3/10/2020		32.95	71.22
		4/13/2020		34.62	69.55
		7/13/2020		39.03	65.14
		10/26/2020		36.71	67.46
MF-MW04	Intermediate	4/13/2020	99.94	30.43	69.51
		7/13/2020		34.81	65.13
		10/26/2020		32.55	67.39
RT-MW01	Shallow	8/3/2018	98.67	35.58	63.09
		10/26/2018		31.08	67.59
		3/10/2020		27.20	71.47
		4/13/2020		28.97	69.70
		7/13/2020		33.32	65.35
		10/27/2020		31.02	67.65
RT-MW03	Shallow	8/3/2018	99.06	36.02	63.04
		10/26/2018		31.47	67.59
		3/10/2020		27.65	71.41
		4/13/2020		29.35	69.71
		7/13/2020		39.72	59.34
		10/26/2020		31.52	67.54

Table 2
Summary of Groundwater Elevation Data
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Location	Zone	Date Measured	Well Head Elevation (feet)[1]	Depth to Water (feet)[2]	Groundwater Elevation (feet)[1]
Memorial Field and Rainier Trail Areas of Interest (continued)					
RT-MW04	Shallow	10/26/2018	100.76	31.45	69.31
		3/10/2020		26.03	74.73
		4/13/2020		28.17	72.59
		7/13/2020		32.53	68.23
		10/26/2020		31.22	69.54
175 Newport Way Northwest Area of Interest					
NWN-MW01	Shallow	10/26/2018	90.69	21.43	69.26
		3/10/2020		15.33	75.36
		4/13/2020		17.56	73.13
		7/14/2020		21.35	69.34
		10/26/2020		20.17	70.52
NWN-MW02	Shallow	10/26/2018	89.84	21.10	68.74
		3/10/2020		16.70	73.14
		4/13/2020		18.24	71.60
		7/14/2020		21.38	68.46
		10/26/2020		20.45	69.39
NWN-MW03	Shallow	10/26/2018	91.35	22.77	68.58
		4/13/2020		19.16	72.19
		7/14/2020		22.69	68.66
		10/26/2020		21.87	69.48
NWN-MW04	Shallow	10/26/2018	90.41	13.20	77.21
		4/13/2020		8.71	81.70
		7/14/2020		12.65	77.76
		10/26/2020		10.72	79.69
NWN-MW05	Shallow	4/13/2020	90.34	11.51	78.83
		7/14/2020		14.92	75.42
		10/26/2020		12.80	77.54
NWN-MW06	Shallow	4/13/2020	90.98	13.71	77.27
		7/14/2020		16.60	74.38
		10/26/2020		14.58	76.40

Table 2
Summary of Groundwater Elevation Data
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Location	Zone	Date Measured	Well Head Elevation (feet)[1]	Depth to Water (feet)[2]	Groundwater Elevation (feet)[1]
NWN-MW07	Shallow	4/13/2020	90.89	17.92	72.97
		7/14/2020		21.70	69.19
		10/26/2020		20.58	70.31
175 Newport Way Northwest (continued)					
NWN-MW08	Intermediate	4/13/2020	89.95	18.87	71.08
		7/14/2020		22.15	67.80
		10/26/2020		20.77	69.18
NWN-MW09	Shallow	4/13/2020	91.29	19.73	71.56
		7/14/2020		22.92	68.37
		10/26/2020		22.03	69.26
NWN-PZ01	Shallow	4/13/2020	90.76	19.15	71.61
		7/14/2020		22.43	68.33
		10/26/2020		21.48	69.28
NWN-PZ02	Shallow	4/13/2020	90.44	17.76	72.68
		7/14/2020		21.41	69.03
		10/26/2020		20.34	70.10
Lower Issaquah Valley Regional Wells					
COI-MW02	Intermediate	10/26/2018	62.80	3.71	59.09
		3/10/2020		1.98	60.82
		4/13/2020		2.65	60.15
		7/13/2020		5.14	57.66
		10/27/2020		3.13	59.67
COI-MW03	Intermediate	10/24/2018	62.90	5.92	56.98
		3/10/2020		NM	--
		4/13/2020		4.46	58.44
		7/14/2020		6.61	56.29
		10/26/2020		4.75	58.15
COI-MW04	Intermediate	10/24/2018	73.10	10.20	62.90
		3/10/2020		8.19	64.91
		4/13/2020		9.03	64.07
		7/13/2020		11.69	61.41
		10/26/2020		9.68	63.42

Table 2
Summary of Groundwater Elevation Data
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Location	Zone	Date Measured	Well Head Elevation (feet)[1]	Depth to Water (feet)[2]	Groundwater Elevation (feet)[1]
COI-MW05	Intermediate	10/25/2018	71.90	8.09	63.81
		3/10/2020		5.96	65.94
		4/13/2020		6.71	65.19
		7/13/2020		8.72	63.18
		10/26/2020		7.64	64.26
Lower Issaquah Valley Regional Wells (continued)					
COI-MW06	Intermediate	10/25/2018	86.30	18.62	67.68
		3/10/2020		15.22	71.08
		4/13/2020		16.51	69.79
		7/13/2020		19.51	66.79
		10/26/2020		18.21	68.09
COI-MW07	Intermediate	10/25/2018	90.30	19.44	70.86
		3/10/2020		15.94	74.36
		4/13/2020		17.25	73.05
		7/13/2020		20.66	69.64
		10/26/2020		19.18	71.12
NDS-MW01	Shallow	4/13/2020	85.48	15.32	70.16
		7/13/2020		18.11	67.37
		10/26/2020		17.32	68.16
NDS-MW02	Intermediate	4/13/2020	81.75	12.39	69.36
		7/13/2020		14.66	67.09
		10/26/2020		14.33	67.42
NDS-MW03	Shallow	4/13/2020	82.07	12.43	69.64
		7/13/2020		15.09	66.98
		10/26/2020		14.17	67.90
NDS-MW04	Intermediate	4/13/2020	81.71	12.42	69.29
		7/13/2020		15.67	66.04
		10/26/2020		14.15	67.56
NWN-MW11	Shallow	4/13/2020	90.58	16.93	73.65
		7/13/2020		19.35	71.23
		10/26/2020		18.47	72.11

Table 2
Summary of Groundwater Elevation Data
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Location	Zone	Date Measured	Well Head Elevation (feet)[1]	Depth to Water (feet)[2]	Groundwater Elevation (feet)[1]
RBN-MW01	Intermediate	4/13/2020	74.24	7.43	66.81
		7/13/2020		10.90	63.34
		10/26/2020		8.75	65.49
RBN-MW02	Intermediate	4/13/2020	99.01	29.99	69.02
		7/13/2020		34.33	64.68
		10/26/2020		31.95	67.06
Lower Issaquah Valley Creek Monitoring Stations[3]					
STR-01[4]	Creek	4/13/2020			
		7/13/2020			
		10/26/2020			
STR-02	Creek	4/13/2020	66.79	2.12	64.67
		7/13/2020		2.5	64.29
		10/26/2020		1.42	65.37
STR-03	Creek	4/13/2020	95.53	7.41	88.12
		7/13/2020		7.63	87.90
		10/26/2020		7.54	87.99
STR-04	Creek	4/13/2020	81.25	0.86	80.39
		7/13/2020		1.05	80.20
		10/26/2020		0.50	80.75

NOTES:

[1] Elevations reported in North American Vertical Datum of 1988.

[2] In feet below top of well casing.

[3] Fixed Monitoring Location

[4] Reference elevation station flooded, station will be resurveyed.

Farallon = Farallon Consulting, L.L.C.

Table 3
Summary of Groundwater Head Differences
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Well Pair	Zone	Measurement Date	Middle of Screened Interval Elevation (feet)[1]		Groundwater Elevation (feet)[1]		Upper-Lower Screen Head Difference	Gradient	
			Upper	Lower	Upper Screen	Lower Screen		Vertical Gradient	Direction
Issaquah Valley Elementary West Playfield / Dodd Fields Areas of Interest									
IES-MW01 to IES-MW06	Shallow Intermediate	4/13/2020	55.31	-9.08	68.73	68.26	0.47	-0.007	Down ↓
		7/13/2020			66.65	65.91	0.74	-0.011	Down ↓
		10/26/2020			67.01	64.61	2.40	-0.037	Down ↓
IES-MW03 to IES-MW10	Shallow Intermediate	4/13/2020	52.7	-7.34	66.88	66.54	0.34	-0.006	Down ↓
		7/13/2020			64.58	63.56	1.02	-0.017	Down ↓
		10/26/2020			65.44	64.71	0.73	-0.012	Down ↓
IES-MW08 to IES-MW09	Shallow Intermediate	4/13/2020	47.07	-7.82	65.86	67.08	-1.22	0.022	Up ↑
		7/13/2020			64.92	65.26	-0.34	0.006	Up ↑
		10/26/2020			65.32	65.73	-0.41	0.007	Up ↑
Memorial Field and Rainier Trail Areas of Interest									
MF-MW02 to MF-MW04	Shallow Intermediate	4/13/2020	62.04	29.94	69.56	69.51	0.05	-0.002	Down ↓
		7/13/2020	59.86		65.21	65.13	0.08	-0.003	Down ↓
		10/26/2020	60.76		67.01	67.39	-0.38	0.012	Up ↑
175 Newport Way Northwest Area of Interest									
NWN-MW02 to NWN-MW08	Shallow 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	64.62		69.39	69.18	0.21	-0.004	Down ↓

Table 3
Summary of Groundwater Head Differences
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Well Pair	Zone	Measurement Date	Middle of Screened Interval Elevation (feet)[1]		Groundwater Elevation (feet)[1]		Upper-Lower Screen Head Difference	Gradient	
			Upper	Lower	Upper Screen	Lower Screen		Vertical Gradient	Direction
Lower Issaquah Valley Regional Wells									
NWN-MW11 to COI-MW07	Shallow Intermediate	4/13/2020	69.62	-14.7	73.65	73.05	0.60	-0.007	Down ↓
		7/13/2020	68.41		71.23	69.64	1.59	-0.019	Down ↓
		10/26/2020	68.85		72.11	71.12	0.99	-0.012	Down ↓
NDS-MW01 to COI-MW06	Shallow Intermediate	4/13/2020	58.48	-3.7	70.16	69.79	0.37	-0.006	Down ↓
		7/13/2020			67.37	66.79	0.58	-0.009	Down ↓
		10/26/2020			68.16	68.09	0.07	-0.001	Down ↓
NDS-MW03 to NDS-MW04	Shallow Intermediate	4/13/2020	52.07	4.71	69.64	69.29	0.35	-0.007	Down ↓
		7/13/2020			66.98	66.04	0.94	-0.020	Down ↓
		10/26/2020			67.90	67.56	0.34	-0.007	Down ↓
IES-MW07 to COI-MW05	Shallow Intermediate	4/13/2020	45.25	-8.1	64.79	65.19	-0.40	0.007	Up ↑
		7/13/2020			63.04	63.18	-0.14	0.003	Up ↑
		10/26/2020			63.95	64.26	-0.31	0.006	Up ↑

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 elevation" was calculated as the mid-point between the top of the saturated zone to the bottom of the screen.

Table 4
Soil Reporting Limits and Investigatory Levels
PFAS Additional Characterization Study Summary Report
Issaquah, Washington
Farallon PN: 1754-004

Analyte	Typical Reporting Limit (mg/kg)[1]	Ecology Investigatory Levels for Soil (mg/kg)[2]			
		Human Contact – Unrestricted	Human Contact – Industrial	Leaching From Unsaturated Zone	Leaching From Saturated Zone
PFBS	0.00073 - 0.001	--	--	--	--
PFHxS	0.00026 - 0.001	--	--	--	--
PFOS	0.00096 - 0.001	1.6	70	0.00080	0.000046
PFOA	0.00036 - 0.001	--	--	0.00044	0.000028
PFNA	0.00054 - 0.0010	--	--	--	--

NOTES:

-- denotes no value currently available

[1]Representative range of reporting limits from Lower Issaquah Valley PFAS Characterization Study investigation results (2018).

[2]Developed in 2018 by Ecology using standard Model Toxics Control Act exposure scenario values and toxicity data published by the U.S. Environmental Protection Agency.

Ecology = Washington State Department of Ecology
mg/kg = milligrams per kilogram
PFBS = perfluorobutanesulfonic acid
PFHxS = perfluorohexane sulfonic acid
PFNA = perfluorononanoic acid
PFOA = perfluorooctanoic acid
PFOS = perfluorooctane sulfonic acid

Table 5
Groundwater Reporting Limits and Standards
PFAS Additional Characterization Study Summary Report
Issaquah, Washington
Farallon PN: 1754-004

Analyte	Typical Reporting Limit[1] (µg/l)	Ecology Drinking Water Investigatory Level (2018)[2] (µg/l)	ATSDR Minimum Risk Level (2018)[3] (µg/l)	Proposed State Action Level (2020)[4] (µg/l)
PFBS	0.0041 - 0.0083	--	--	1.3
PFHxS	0.0041 - 0.0083	--	0.517	0.070
PFOA[5]	0.0016 - 0.0033	0.070	0.078	0.010
PFOS[5]	0.0041 - 0.0083		0.052	0.015
PFNA	0.0041 - 0.0083	--	0.078	0.014

NOTES:

Applicable standard for groundwater.

-- denotes no value currently available.

[1]Representative range of reporting limits from Lower Issaquah Valley PFAS Characterization Study investigation results (2018).

[2]Developed in 2018 by Ecology using standard Model Toxics Control Act exposure scenario values and toxicity data published by the U.S. Environmental Protection Agency.

[3]Agency for Toxic Substances and Disease Registry calculated value for an 80 kilogram adult consuming approximately 3 liters of water per day that is likely to cause a health effect.

[4]Proposed values recommended by the Washington State Department of Health and Board of Health for public water supplies under WAC 246-290. State Action Levels, if enacted, would trigger required notification to users and monitoring for water supplies with exceedances.

[5]Drinking water investigatory levels apply both to PFOS and PFOA individually, and the sum of both chemicals.

ATSDR = Agency for Toxic Substances and Disease Registry

DOH = Washington State Department of Health

Ecology = Washington State Department of Ecology

µg/l = micrograms per liter

PFBS = perfluorobutanesulfonic acid

PFHxS = perfluorohexane sulfonic acid

PFNA = perfluorononanoic acid

PFOA = perfluorooctanoic acid

PFOS = perfluorooctane sulfonic acid

Table 6
Groundwater Sampling Summary
LIV Additional Characterization Summary Report
Issaquah, Washington
Farallon PN: 1754-004

Associated Area of Interest	Sampling Location	Location Type	Screened Interval	Sample Count and Type					
				Q2 March 2020	Q3 April 2020	Q3 July 2020	Q4 October 2020	Field Duplicate Location[1]	Pump Type
Issaquah Valley Elementary West Playfield / Dodd Fields Park Areas of Interest									
Issaquah Valley Elementary West Playfield	IES-MW01	Shallow Well	16-26	X	X	X	X	--	Peristaltic
	IES-MW02	Shallow Well	15-25	X	X	X	X	--	Peristaltic
	IES-MW03	Shallow Well	15-25	X	X	X	X	--	Peristaltic
	IES-MW04	Shallow Well	15-30	X		--	X	--	Peristaltic
	IES-MW05	Shallow Well	20-30	X	X	X	--	--	Peristaltic
	IES-MW06	Intermediate Well	80-90	X	X	X	X	--	Peristaltic
	IES-MW07	Intermediate Well	20-30	X	X	--	X	--	Peristaltic
	IES-MW08	Shallow Well	20-30	X	X	--	X	--	Peristaltic
	IES-MW09	Intermediate Well	75-85	X	X	X	X	--	Peristaltic
	IES-MW10	Intermediate Well	75-85	X	X	X	X	--	Peristaltic
	DF-MW01	Shallow Well	5-15	X		--	X	--	Peristaltic
	DF-MW02	Shallow Well	15-25	X	X	--	X	X	Peristaltic
	DF-MW03	Shallow Well	20-30	X		--	--	--	Peristaltic
Memorial Field and Rainier Trail Areas of Interest									
Memorial Field	MF-MW01	Shallow Well	16-26	X		--	--	--	Peristaltic
	MF-MW02	Shallow Well	25-45	X	X	--	X	--	Peristaltic
	MF-MW03	Shallow Well	35-50	X		--	--	--	Peristaltic
	MF-MW04	Intermediate Well	65-75	X	X	X	X	X	Bladder
Rainier Trail Area	RT-MW01	Shallow Well	25-45	X		--	X	--	Peristaltic
	RT-MW02	Shallow Well	Previously Decommissioned						
	RT-MW03	Shallow Well	25-45	X		--	--	--	Peristaltic
	RT-MW04	Shallow Well	28-38	X		--	--	--	Peristaltic

Table 6
Groundwater Sampling Summary
LIV Additional Characterization Summary Report
Issaquah, Washington
Farallon PN: 1754-004

Associated Area of Interest	Sampling Location	Location Type	Screened Interval	Sample Count and Type					
				Q2 March 2020	Q3 April 2020	Q3 July 2020	Q4 October 2020	Field Duplicate Location[1]	Pump Type
175 Newport Way Northwest Area of Interest									
175 Newport Way Northwest	NWN-MW01	Shallow Well	15-30	X		--	--	--	Peristaltic
	NWN-MW02	Shallow Well	15-30	X		--	X	--	Peristaltic
	NWN-MW03	Shallow Well	15-30	X		X	X	--	Peristaltic
	NWN-MW04	Shallow Well	13-23	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	--	--	Peristaltic
	NWN-MW07	Shallow Well	16.5-26.5	X	X	X	X	--	Peristaltic
	NWN-MW08	Intermediate Well	70-80	X	X	X	X	--	Peristaltic
	NWN-MW09	Intermediate Well	45-50	X	X	X	X	--	Peristaltic
	NWN-PZ01	Piezometer	20-30	X		--	--	--	Peristaltic
	NWN-PZ02	Piezometer	20-30	X		--	--	--	Peristaltic
	B-4	Shallow Well	20-30	X		X	--	--	Peristaltic
	B-2	Shallow Well	20-30	X		--	X	--	Peristaltic

Table 6
Groundwater Sampling Summary
LIV Additional Characterization Summary Report
Issaquah, Washington
Farallon PN: 1754-004

Associated Area of Interest	Sampling Location	Location Type	Screened Interval	Sample Count and Type					
				Q2 March 2020	Q3 April 2020	Q3 July 2020	Q4 October 2020	Field Duplicate Location[1]	Pump Type
Lower Issaquah Valley Wells									
Lower Valley Wells	COI-MW02	Intermediate Well	70-90	X		--		--	Peristaltic
	COI-MW03	Intermediate Well	78-98	X	X	--	X	--	Peristaltic
	COI-MW04	Intermediate Well	70-90	X		--	X	--	Peristaltic
	COI-MW05	Intermediate Well	70-90	X	X	X	X	--	Peristaltic
	COI-MW06	Intermediate Well	80-100	X	X	X	X	X	Peristaltic
	COI-MW07	Intermediate Well	100-110	X	X	X	X	--	Peristaltic
	NDS-MW01	Shallow Well	22-32	X	X	X	X	--	Peristaltic
	NDS-MW02	Intermediate Well	71-81	X	X	--	X	--	Peristaltic
	NDS-MW03	Shallow Well	25-35	X	X	--	X	--	Peristaltic
	NDS-MW04	Intermediate Well	72-82	X	X	X	X	--	Peristaltic
	NWN-MW11	Shallow Well	15-25	X	X	X	X	--	Peristaltic
	RBN - MW01	Intermediate Well	70-80	X	X	X	X	--	Peristaltic
	RBN - MW02	Intermediate Well	70-80	X	X	X	X	--	Bladder
Issaquah Creek Locations	STR-01	NA	NA	X		--	--	--	--
	STR-02	NA	NA	X		--	--	--	--
	STR-03	NA	NA	X		--	--	--	--
	STR-04	NA	NA	X		--	--	--	--
Total Samples Collected				**Gauging Only**	**28**	**24**	**34**	**--**	--

NOTES:

-- denotes no samples proposed for the identified location.

[1]Quality control locations were assigned a unique station identifier and samples were submitted blind to the laboratory.

Table 7
Soil Analytical Results for Short-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-002

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[1]					
							Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
2016 Hydrogeological Characterization Investigation												
175 Newport Way Northwest Area of Interest												
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												
Issaquah Valley Elementary West Playfield Area of Interest												
DU-1A	Farallon	8/6/2018	DU-1A-COMPOSITE	MI	Unsaturated	0.0 - 0.5	0.00037	< 0.00082	0.00072	0.00022	< 0.00082	< 0.00082
DU-1B	Farallon	8/7/2018	DU-1B-COMPOSITE	MI	Unsaturated	0.0 - 0.5	< 0.00098	< 0.00098	0.00024 J	0.00017 J	< 0.00098	< 0.00098
IES-R02	Farallon	8/10/2018	IES-R02-180810-12	Discrete	Unsaturated	12.0	< 0.00097	< 0.00097	< 0.00097	< 0.00097	< 0.00097	< 0.00097
	Farallon	8/10/2018	IES-R02-180810-23	Discrete	Saturated	23.0	< 0.00096	< 0.00096	< 0.00096	0.0002	< 0.00096	< 0.00096
Dodd Fields Park Area of Interest												
DU-2A	Farallon	8/8/2018	DU-2A-COMPOSITE	MI	Unsaturated	0.0 - 0.5	0.0010	< 0.0010	0.00096 J	0.0024	0.00032 J	0.00055 J
DU-2B	Farallon	8/9/2018	DU-2B-COMPOSITE	MI	Unsaturated	0.0 - 0.5	< 0.00096	< 0.00096	0.00026 J	0.00086 J	< 0.00096	< 0.00096
DF-R01	Farallon	9/6/2018	DF-R01-180906-3.5	Discrete	Unsaturated	3.5	0.00044 J	< 0.0012	0.00049 J	0.0036	< 0.0012	< 0.0012
Rainier Trail Area of Interest												
DU-04	Farallon	8/13/2018	DU-04-COMPOSITE	MI	Unsaturated	0.0 - 0.5	0.00038 J	< 0.0010	0.00026 J	0.00024 J	< 0.0010	< 0.0010
RT-R01	Farallon	8/17/2018	RT-01-180817-17	Discrete	Unsaturated	17.0	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Farallon	8/17/2018	RT-01-180817-36	Discrete	Saturated	36.0	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Memorial Field Area of Interst												
DU-03	Farallon	8/10/2018	DU-03-COMPOSITE	MI	Unsaturated	0.0 - 0.5	0.00093 J	< 0.0010	0.00052 J	0.0020	0.00026 J	< 0.0010
MF-R01	Farallon	8/21/2018	MF-R01-180821-17.0	Discrete	Unsaturated	17.0	< 0.00097	< 0.00097	< 0.00097	0.00017 J	< 0.00097	< 0.00097
	Farallon	8/21/2018	MF-R01-180821-29.0	Discrete	Unsaturated	29.0	< 0.00097	< 0.00097	0.00050 J	0.00033 J	< 0.00097	< 0.00097
175 Newport Way Northwest Area of Interest												
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
Investigatory Screening Levels							**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 7
Soil Analytical Results for Short-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-002

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[1]					
							Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
2020 Subsurface Investigation												
175 Newport Way Northwest Area of Interest												
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
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
Investigatory Screening Levels							**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 7
Soil Analytical Results for Short-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-002

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[1]					
							Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
175 Newport Way Northwest Area of Interest (continued)												
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
Investigatory Screening Levels							**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

NOTES:
< 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.

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

Table 8
Soil Analytical Results for Long-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-002

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[1]							
							Perfluorooctanoic Acid (PFOA)	Perfluorooctane Sulfonic Acid (PFOS)	Sum of PFOA and PFOS	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonic Acid (PFDS)	Perfluoroundecanoic Acid (PFUnDA)	Perfluorododecanoic Acid (PFDoDA)
2016 Hydrogeological Characterization Investigation														
175 Newport Way Northwest Area of Interest														
STSP01	Geosyntec	7/22/2016	COI-STSP01-20160722	Discrete	Unsaturated	2.2 - 2.3	< 0.00072	**0.023**	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**	1.311	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**	0.1843	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**	0.2552	0.043	0.0045	---	0.063	< 0.0012
2018 Subsurface Investigation														
Issaquah Valley Elementary School West Playfield Area of Interest														
DU-1A	Farallon	8/6/2018	DU-1A-COMPOSITE	MI	Unsaturated	0.0 - 0.5	**0.0011**	**0.0028**	0.0039	0.00034	0.0015	0.00091	0.0003	0.00034
DU-1B	Farallon	8/7/2018	DU-1B-COMPOSITE	MI	Unsaturated	0.0 - 0.5	**0.00053**	**0.0024**	0.00293	< 0.00098	0.0005	0.0013	0.00032	< 0.00098
IES-R02	Farallon	8/10/2018	IES-R02-180810-12	Discrete	Unsaturated	12.0	< 0.00097	< 0.00097	< 0.00194	< 0.00097	< 0.00097	< 0.00097	< 0.00097	< 0.00097
	Farallon	8/10/2018	IES-R02-180810-23	Discrete	Saturated	23.0	< 0.00096	**0.00055**	0.00055	< 0.00096	< 0.00096	< 0.00096	< 0.00096	< 0.00096
Dodd Fields Park Area of Interest														
DU-2A	Farallon	8/8/2018	DU-2A-COMPOSITE	MI	Unsaturated	0.0 - 0.5	**0.00094** J	**0.085**	0.08594	0.0011	0.00082 J	< 0.0010	0.012	0.00064 J
DU-2B	Farallon	8/9/2018	DU-2B-COMPOSITE	MI	Unsaturated	0.0 - 0.5	0.00042 J	**0.016**	0.01642	< 0.00096	0.00028 J	< 0.00096	0.0037	< 0.00096
DF-R01	Farallon	9/6/2018	DF-R01-180906-3.5	Discrete	Unsaturated	3.5	0.00040 J	**0.043**	0.0434	0.0072	0.00037 J	0.00022 J	0.021	< 0.0012
Rainier Trail Area of Interest														
DU-04	Farallon	8/13/2018	DU-04-COMPOSITE	MI	Unsaturated	0.0 - 0.5	**0.00045** J	**0.0018**	0.00225	< 0.0010	0.00076 J	0.00031 J	< 0.0010	< 0.0010
RT-R01	Farallon	8/17/2018	RT-01-180817-17	Discrete	Unsaturated	17.0	< 0.0010	< 0.0010	< 0.0020	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Farallon	8/17/2018	RT-01-180817-36	Discrete	Saturated	36.0	< 0.0010	< 0.0010	< 0.0020	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Memorial Field Area of Interst														
DU-03	Farallon	8/10/2018	DU-03-COMPOSITE	MI	Unsaturated	0.0 - 0.5	**0.0010**	**0.014**	0.015	0.0018	0.00079 J	< 0.0010	0.033	0.00083 J
MF-R01	Farallon	8/21/2018	MF-R01-180821-17.0	Discrete	Unsaturated	17.0	< 0.00097	**0.0017**	0.0017	0.00033 J	< 0.00097	< 0.00097	0.0011	< 0.00097
	Farallon	8/21/2018	MF-R01-180821-29.0	Discrete	Unsaturated	29.0	< 0.00097	**0.0011**	0.0011	< 0.00097	< 0.00097	< 0.00097	< 0.00097	< 0.00097
175 Newport Way Northwest Area of Interest														
DU-05	Farallon	8/14/2018	DU-05-COMPOSITE	MI	Unsaturated	0.0 - 0.5	**0.00077** J	**0.024**	0.02477	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**	0.0275	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	< 0.00192	< 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**	0.0064	< 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**	0.05636	< 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**	0.00661	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**	0.0877	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**	0.0895	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**	0.01634	0.00048 J	< 0.0012	0.00029 J	0.0039	< 0.0012
Investigatory Screening Levels: Human Contact - Industrial							**70**	**70**	**70**	**NE**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels: Human Contact - Unrestricted							**1.6**	**1.6**	**1.6**	**NE**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels: Leaching from Unsaturated Zone							**0.00044**	**0.00080**	**---**	**NE**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels: Leaching from Saturated Zone							**0.000028**	**0.000046**	**---**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 8
Soil Analytical Results for Long-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-002

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[1]							
							Perfluorooctanoic Acid (PFOA)	Perfluorooctane Sulfonic Acid (PFOS)	Sum of PFOA and PFOS	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonic Acid (PFDS)	Perfluoroundecanoic Acid (PFUnDA)	Perfluorododecanoic Acid (PFDoDA)
2020 Subsurface Investigation														
175 Newport Way Northwest Area of Interest														
NWN-R04	Farallon	3/18/2020	NWN-R04-200318-5.0	Discrete	Unsaturated	5.0	**0.0010** J	**0.013**	0.014	< 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**	0.0103	< 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**	0.00601	< 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**	0.8321	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**	0.23098	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**	0.04022	< 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**	1.2066	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**	0.6725	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**	0.09463	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**	0.0563	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**	0.1061	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**	0.0639	< 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**	0.0182	< 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**	0.00978	< 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	0.00026	< 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**	0.9379	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**	0.15085	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**	0.1211	0.0027	< 0.0013	< 0.0013	0.00088 J	< 0.0013
NWN-R10	Farallon	3/20/2020	NWN-R10-200320-3.0	Discrete	Unsaturated	3.0	**0.014**	**0.10**	0.114	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**	0.817	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**	0.3037	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**	0.056	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**	0.345	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**	0.0849	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**	0.6599	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**	0.3963	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**	0.1321	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**	0.00441	< 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**	0.0337	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	0.00046	< 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**	0.0943	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**	0.00493	< 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**	0.00553	< 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**	0.607	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**	0.528	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**	0.0053	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**	0.156	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**	0.02146	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**	0.033	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**	0.0014	< 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**	0.00405	< 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**	0.0021	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Investigatory Screening Levels: Human Contact - Industrial							**70**	**70**	**70**	**NE**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels: Human Contact - Unrestricted							**1.6**	**1.6**	**1.6**	**NE**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels: Leaching from Unsaturated Zone							**0.00044**	**0.00088**	**---**	**NE**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels: Leaching from Saturated Zone							**0.000028**	**0.000046**	**---**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 8
Soil Analytical Results for Long-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-002

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Type	Zone	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)[1]							
							Perfluorooctanoic Acid (PFOA)	Perfluorooctane Sulfonic Acid (PFOS)	Sum of PFOA and PFOS	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonic Acid (PFDS)	Perfluoroundecanoic Acid (PFUnDA)	Perfluorododecanoic Acid (PFDoDA)
175 Newport Way Northwest Area of Interest (continued)														
NWN-R18	Farallon	3/19/2020	NWN-R18-200319-5.0	Discrete	Unsaturated	5.0	**0.00074** J	**0.0042**	0.00494	< 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**	0.00955	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**	0.00738	< 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**	0.2513	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**	0.12069	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**	0.01221	< 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**	0.2213	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**	0.13087	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**	0.07753	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**	0.03125	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**	0.0573	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**	0.0031	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**	0.07869	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014
Investigatory Screening Levels: Human Contact - Industrial							**70**	**70**	**70**	**NE**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels: Human Contact - Unrestricted							**1.6**	**1.6**	**1.6**	**NE**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels: Leaching from Unsaturated Zone							**0.00044**	**0.00088**	**---**	**NE**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels: Leaching from Saturated Zone							**0.000028**	**0.000046**	**---**	**NE**	**NE**	**NE**	**NE**	**NE**

NOTES:

Results in **bold** denote concentrations exceeding applicable Washington State Department of Ecology Investigatory 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.

Farallon = Farallon Consulting, L.L.C.

Geosyntec = Geosyntec Consultants, Inc.

J = result is an estimate

MI = multi-incremental

NE = not established

PFAS = per- and poly-fluoroalkyl substances

Table 9
Reconnaissance Groundwater Analytical Results for Short-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]					
					Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
Issaquah Valley Elementary West Playfield / Dodd Fields Areas of Interest										
IES-R01	Farallon	8/8/2018	IES-R01-180808	20.0	0.0091	0.025	0.036	0.11	0.012	0.0045
IES-R02	Farallon	8/10/2018	IES-R02-180810 (1140)	15.0	< 0.0093	0.02	0.041	0.13	0.02	0.0048
	Farallon	8/10/2018	IES-R02-180810 (1305)	25.0	0.031	0.068	0.15	0.36	0.054	0.012
IES-R03	Farallon	8/9/2018	IES-R03-180809 (0925)	13.5	< 0.0091	< 0.0045	0.0025 J	0.0022 J	< 0.0045	< 0.0045
	Farallon	8/9/2018	IES-R03-180809 (1110)	24.0	0.024	0.051	0.088	0.23	0.037	0.0053
IES-R04	Farallon	8/9/2018	IES-R04-180809	23.0	< 0.012	0.033	0.082	0.20	0.029	0.0097
IES-R05	Farallon	8/10/2018	IES-R05-180810 (0825)	11.0	< 0.0091	0.01	0.0080	0.017	0.0028 J	0.0017
	Farallon	8/10/2018	IES-R05-180810 (0940)	28.0	0.013	0.039	0.053	0.20	0.029	0.011
Memorial Field and Rainier Trail Areas of Interest										
MF-MW04	Farallon	3/27/2020	MF-MW04-200327-58	58.0	0.0014 J	0.0031 J	< 0.0092	0.0031 J	0.00087 J	< 0.0044
RT-R01	Farallon	8/17/2018	RT-01-180817-39	39.0	0.0033 J	0.0026 J	0.0046	0.0030 J	0.0024 J	< 0.0043
Investigatory Screening Levels					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 9
Reconnaissance Groundwater Analytical Results for Short-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]					
					Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
175 Newport Way Northwest Area of Interest										
NWN-R01	Farallon	8/24/2018	NWN_R01_180824_19	19.0	0.25	0.31	0.89	2.3	0.24	0.15
	Farallon	8/24/2018	NWN_R01_180824_19_DUPLICATE	19.0	0.23	0.31	0.84	1.8	0.24	0.18
NWN-R02	Farallon	8/23/2018	NMW-R02-180823-23	23.0	0.24	0.30	0.82	1.90	0.24	0.18
NWN-R03	Farallon	8/22/2018	NMW-R03-180822-28	28.0	0.010	0.018	0.044	0.180	0.024	0.0032 J
	Farallon	8/23/2018	NMW-R03-180823-39	39.0	0.0090 J	0.011	0.035	0.120	0.016	0.0025 J
NWN-R04	Farallon	3/18/2020	NWN-R04-12.0	12.0	0.05	0.065	0.25	0.22	0.038	0.0094
NWN-R06	Farallon	3/20/2020	NWN-R06-200320-10.0W	10.0	0.38	0.38	1.1	3	0.58	0.27
NWN-R08	Farallon	3/18/2020	NWN-R08-13.0	13.0	0.058	0.029	0.17	0.15	0.13	0.0027 J
NWN-R13	Farallon	3/18/2020	NWN-R13-14.0	14.0	0.15	0.013	0.56	0.063	0.22	0.0041
NWN-R16	Farallon	3/19/2020	NWN-R16-17.0	17.0	0.31	0.34	1.6	2	0.52	0.17
NWN-R18	Farallon	3/19/2020	NWN-R18-23.0	23.0	0.091	0.041	0.35	0.23	0.14	0.015
NWN-MW08	Farallon	3/20/2020	NWN-MW08-200320-53	53.0	0.053	0.077	0.14	0.31	0.049	0.012
NWN-MW09	Farallon	3/19/2020	NWN-MW09-200319-43	43.0	0.13	0.071	0.46	0.34	0.15	0.018
Lower Issaquah Valley Regional Wells										
COI-MW01	Geosyntec	5/26/2016	MW01_30 TO 40_20160526	30 - 40	---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Geosyntec	5/26/2016	MW01_55 TO 65_20160526	55 - 65	---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
COI-MW02	Geosyntec	5/31/2016	MW02_40TO50_20160531	40 - 50	---	0.0073	0.0051	0.0077	< 0.0025	---
COI-MW03	Geosyntec	5/24/2016	MW03_10 TO 20_20160524	10 - 20	---	0.019	0.012	0.031	0.0051	---
	Geosyntec	5/24/2016	MW03_40 TO 50_20160524	40 - 50	---	0.036	0.021	0.08	0.0086	---
COI-MW04	Geosyntec	5/27/2016	MW04_29 TO 39_20160527	29 - 39	---	0.0051	< 0.0025	0.0084	< 0.0025	---
COI-MW05	Geosyntec	5/23/2016	MW05_10 TO 20_20160523	10 - 20	---	0.03	0.036	0.039	0.016	---
COI-MW06	Geosyntec	10/5/2016	COI-MW06-20161005-19.5-24.5	19.5 - 24.5	---	0.03	0.061	0.14	0.026	---
	Geosyntec	10/6/2016	COI-MW06-20161006-34.5-39.5	34.5 - 39.5	---	0.052	0.1	0.24	0.044	---
	Geosyntec	10/6/2016	COI-MW06-20161006-51-56	51 - 56	---	0.073	0.13	0.3	0.05	---
COI-MW07	Geosyntec	10/7/2016	COI-MW07-20161007-20-25	20 - 25	---	0.0044	0.011	0.0094	0.0076	---
	Geosyntec	10/7/2016	COI-MW07-20161007-35-40	35 - 40	---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Geosyntec	10/7/2016	COI-MW07-20161007-65-70	65 - 70	---	< 0.0025	< 0.0025	0.0037	< 0.0025	---
Proposed State Action Level					**1.3**	**NE**	**NE**	**0.070**	**NE**	**NE**
Investigatory Screening Levels					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

NOTES:

Cells in forest green indicate exceedance of the proposed Washington State Department of Health State Action Level.

< denotes analyte not detected at or above 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 and 2020 analyzed by EPA Method 537 Modified.

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 10
Reconnaissance Groundwater Analytical Results for Long-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]							
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane Sulfonic Acid (PFOS)	Sum of PFOA and PFOS	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonic Acid (PFDS)	Perfluoroundecanoic Acid (PFUnDA)	Perfluorododecanoic Acid (PFDoDA)
Issaquah Valley Elementary West Playfield / Dodd Fields Areas of Interest												
IES-R01	Farallon	8/8/2018	IES-R01-180808	20.0	0.012	**0.27**	**0.282**	0.011	< 0.0045	< 0.0045	< 0.0045	< 0.0045
IES-R02	Farallon	8/10/2018	IES-R02-180810 (1140)	15.0	0.023	**0.21**	**0.233**	0.0088	0.0013 J	< 0.0046	< 0.0046	< 0.0046
	Farallon	8/10/2018	IES-R02-180810 (1305)	25.0	0.045	**0.72**	**0.765**	0.026	0.0027 J	< 0.0048	0.0070	< 0.0048
IES-R03	Farallon	8/9/2018	IES-R03-180809 (0925)	13.5	0.0035	0.0031 J	0.0066	< 0.0045	< 0.0045	< 0.0045	0.00051 J	< 0.0045
	Farallon	8/9/2018	IES-R03-180809 (1110)	24.0	0.026	**0.38**	**0.406**	0.012	0.0021 J	< 0.0049	0.00033 J	< 0.0049
IES-R04	Farallon	8/9/2018	IES-R04-180809	23.0	0.03	**0.36**	**0.39**	0.034	0.0021 J	< 0.0061	0.017	< 0.0061
IES-R05	Farallon	8/10/2018	IES-R05-180810 (0825)	11.0	0.0092	0.028	0.0372	0.0012 J	< 0.0045	< 0.0045	< 0.0045	< 0.0045
	Farallon	8/10/2018	IES-R05-180810 (0940)	28.0	0.026	**0.51**	**0.536**	0.04	0.0022 J	< 0.0045	0.02	< 0.0045
Memorial Field and Rainier Trail Areas of Interest												
MF-MW04	Farallon	3/27/2020	MF-MW04-200327-58	58.0	0.0021	0.012	0.0141	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044
RT-R01	Farallon	8/17/2018	RT-01-180817-39	39.0	0.0098	0.010	0.0198	0.0021 J	< 0.0043	< 0.0043	< 0.0043	< 0.0043
175 Newport Way Northwest Area of Interest												
NWN-R01	Farallon	8/24/2018	NWN_R01_180824_19	19.0	**0.39**	**7.3**	**7.69**	0.078	0.02	< 0.01	0.039	0.0015 J
	Farallon	8/24/2018	NWN_R01_180824_19_DUPLICATE	19.0	**0.39**	**6.8**	**7.19**	0.091	0.02	< 0.01	0.04	0.0011 J
NWN-R02	Farallon	8/23/2018	NMW-R02-180823-23	23.0	**0.45**	**9.50**	**9.95**	0.24	0.04	< 0.01	0.20	< 0.01
NWN-R03	Farallon	8/22/2018	NMW-R03-180822-28	28.0	0.032	**0.380**	**0.412**	0.015	0.0095	< 0.0043	0.013	< 0.0043
	Farallon	8/23/2018	NMW-R03-180823-39	39.0	0.021	**0.25**	**0.271**	0.015	0.011	< 0.0045	0.019	< 0.0045
NWN-R04	Farallon	3/18/2020	NWN-R04-12.0	12.0	0.024	**0.18**	**0.204**	0.0025 J	< 0.0040	< 0.0040	< 0.0040	< 0.0040
NWN-R06	Farallon	3/20/2020	NWN-R06-200320-10.0W	10.0	**0.65**	**21**	**21.65**	0.3	0.14	0.019	0.83	0.0073
NWN-R08	Farallon	3/18/2020	NWN-R08-13.0	13.0	**0.10**	**0.39**	**0.49**	0.024	0.0094	< 0.0040	< 0.0040	< 0.0040
NWN-R13	Farallon	3/18/2020	NWN-R13-14.0	14.0	**0.17**	**0.51**	**0.68**	0.034	0.014	< 0.0041	0.0022 J	0.0016 J
NWN-R16	Farallon	3/19/2020	NWN-R16-17.0	17.0	**0.83**	**7.4**	**8.23**	9.6	0.055	0.0054	0.73	0.022
NWN-R18	Farallon	3/19/2020	NWN-R18-23.0	23.0	**0.14**	**2.0**	**2.14**	0.11	0.017	< 0.0040	0.18	< 0.0040
NWN-MW08	Farallon	3/20/2020	NWN-MW08-200320-53	53.0	0.038	**0.3**	**0.338**	0.012	0.0041 J	< 0.0045	0.0029 J	< 0.0045
NWN-MW09	Farallon	3/19/2020	NWN-MW09-200319-43	43.0	**0.14**	**2.0**	**2.14**	0.086	0.0071	< 0.0041	0.037	0.0013 J
Lower Issaquah Valley Regional Wells												
COI-MW01	Geosyntec	5/26/2016	MW01_30 TO 40_20160526	30 - 40	< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	5/26/2016	MW01_55 TO 65_20160526	55 - 65	< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
COI-MW02	Geosyntec	5/31/2016	MW02_40TO50_20160531	40 - 50	< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
COI-MW03	Geosyntec	5/24/2016	MW03_10 TO 20_20160524	10 - 20	0.0046	0.01	0.0146	0.0027	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	5/24/2016	MW03_40 TO 50_20160524	40 - 50	0.0075	**0.11**	**0.1175**	0.0091	< 0.0025	---	< 0.0025	< 0.0025
COI-MW04	Geosyntec	5/27/2016	MW04_29 TO 39_20160527	29 - 39	< 0.0025	0.0028	0.0028	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
COI-MW05	Geosyntec	5/23/2016	MW05_10 TO 20_20160523	10 - 20	0.022	0.013	0.035	0.0084	< 0.0025	---	< 0.0025	< 0.0025
COI-MW06	Geosyntec	10/5/2016	COI-MW06-20161005-19.5-24.5	19.5 - 24.5	0.021	**0.30**	**0.321**	0.0069	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	10/6/2016	COI-MW06-20161006-34.5-39.5	34.5 - 39.5	0.036	**0.50**	**0.536**	0.021	< 0.0025	---	0.0062	< 0.0025
	Geosyntec	10/6/2016	COI-MW06-20161006-51-56	51 - 56	0.04	**0.74**	**0.78**	0.022	< 0.0025	---	0.019	< 0.0025
COI-MW07	Geosyntec	10/7/2016	COI-MW07-20161007-20-25	20 - 25	0.029	0.025	0.054	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	10/7/2016	COI-MW07-20161007-35-40	35 - 40	< 0.0025	0.0042	0.0042	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	10/7/2016	COI-MW07-20161007-65-70	65 - 70	< 0.0025	0.018	0.018	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
Proposed State Action Level					**0.010**	**0.015**	**NE**	**0.014**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels					**0.070**	**0.070**	**0.070**	**NE**	**NE**	**NE**	**NE**	**NE**

NOTES:

Results in **bold** denote concentrations exceeding applicable Washington State Department of Ecology Investigatory Levels.

Cells in forest green indicate exceedance of the proposed Washington State Department of Health State Action Level.

< 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 and 2020 analyzed by EPA Method 537 Modified.

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 11
Groundwater Analytical Results for Short-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]					
					Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
Issaquah Valley Elementary West Playfield / Dodd Fields Areas of Interest										
IES-MW01	Farallon	10/26/2018	1ES-MW05-181026	21.0	0.0072 J	0.019	0.018	0.062	0.0079	0.0037 J
	Farallon	4/15/2020	IES-MW01-200415		0.010	0.023	0.031	0.086	0.014	0.0045
	Farallon	7/14/2020	IES-MW01-200714		0.0075	0.017	0.022	0.058	0.0079	0.0029 J
	Farallon	10/27/2020	IES-MW01-102720		0.0065	0.015	0.017	0.039	0.0069	0.0024 J
IES-MW02	Farallon	10/26/2018	1ES-MW03-181026	20.0	0.021	0.050	0.062	0.190	0.027	0.0043
	Farallon	4/16/2020	IES-MW02-200416		0.018	0.044	0.059	0.190	0.025	0.0060
	Farallon	7/15/2020	IES-MW02-200715		0.014	0.034	0.041	0.14	0.017	0.0043
	Farallon	10/27/2020	IES-MW02-102720	22.0	0.022	0.057	0.066	0.17	0.025	0.0062
IES-MW03	Farallon	10/26/2018	1ES-MW01-181026	20.0	0.0056 J	0.015	0.016	0.065	0.0071	0.0014 J
	Farallon	4/15/2020	IES-MW03-200415		0.0083	0.020	0.022	0.080	0.0091	0.0023 J
	Farallon	7/14/2020	IES-MW03-200714		0.0055	0.013	0.014	0.063	0.0062	0.0018 J
	Farallon	10/27/2020	IES-MW03-102720	19.0	0.0064	0.015	0.014	0.054	0.0061	0.0017 J
IES-MW04	Farallon	10/26/2018	1ES-MW02-181026	20.0	0.029	0.055	0.100	0.26	0.036	0.010
	Farallon	10/27/2020	IES-MW04-1022720	23.0	0.019	0.04	0.06	0.13	0.023	0.0061
IES-MW05	Farallon	10/26/2018	1ES-MW04-181026	25.0	0.012	0.022	0.034	0.12	0.016	0.0070
	Farallon	4/15/2020	IES-MW05-200415		0.021	0.045	0.067	0.26	0.032	0.0092
	Farallon	7/14/2020	IES-MW05-200714		0.013	0.026	0.042	0.20	0.023	0.0087
IES-MW06	Farallon	4/15/2020	IES-MW06-200415	85.0	0.0012 J	0.0049	< 0.0092	0.0079	0.0016 J	< 0.0040
	Farallon	7/14/2020	IES-MW06-200714		0.00095 J	0.0053	< 0.0092	0.0042	0.00091 J	< 0.0039
	Farallon	10/27/2020	IES-MW06-102720		0.0017 J	0.0087	< 0.0092	0.0056	0.0018 J	< 0.0042
IES-MW07	Farallon	4/15/2020	IES-MW07-200415	25.0	0.028	0.066	0.084	0.21	0.035	0.0097
	Farallon	10/27/2020	IES-MW07-102720		0.016	0.038	0.041	0.1	0.018	0.0051
IES-MW08	Farallon	4/15/2020	IES-MW08-200415	25.0	0.0027 J	0.0062	< 0.0092	0.025	0.0029 J	0.0014 J
	Farallon	10/27/2020	IES-MW08-102720		0.0012 J	0.0017 J	< 0.0092	0.0024 J	0.0015 J	< 0.0043
IES-MW09	Farallon	4/15/2020	IES-MW09-200415	80.0	< 0.0040	0.0021 J	< 0.0092	0.0057	0.00075 J	0.00057 J
	Farallon	7/14/2020	IES-MW09-200714		< 0.0040	0.0015 J	< 0.0092	0.0035 J	< 0.0040	< 0.0040
	Farallon	10/27/2020	IES-MW09-102720	76.0	0.00044 J	0.0021 J	< 0.0092	0.0036 J	< 0.0042	< 0.0042
IES-MW10	Farallon	4/16/2020	IES-MW10-200416	80.0	0.071	0.11	0.27	0.55	0.092	0.022
	Farallon	7/14/2020	IES-MW10-200714		0.062	0.099	0.24	0.45	0.081	0.023
	Farallon	10/27/2020	IES-MW10-102720		0.068	0.12	0.24	0.4	0.082	0.019
DF-MW01	Farallon	10/27/2020	DF-MW01-102720	12	0.00091 J	0.0034 J	< 0.0092	0.018	0.00098 J	0.00099 J
DF-MW02	Farallon	8/3/2018	DF-MW02-180803	17.0	0.0044 J	0.022	0.012	0.23	0.0040 J	0.0077
	Farallon	8/3/2018	QA/QC-01-180803		0.0042 J	0.020	0.011	0.20	0.0033 J	0.0058
	Farallon	4/14/2020	DF-MW02-200414	20.0	0.0027 J	0.014	< 0.0092	0.12	0.0031 J	0.0068
	Farallon	10/27/2020	DF-MW02-102720	18	0.0043 J	0.019	0.01	0.15	0.0033 J	0.0062
	Farallon	10/27/2020	DF-MW22-102720		0.0042 J	0.016	0.01	0.18	0.0031 J	0.0069
DF-MW03	Farallon	8/3/2018	DF-MW03-180803	18.0	0.0048 J	0.0079	0.012	0.033	0.0062	0.0028 J
B-7	HWA	2/12/2020	B7-GW	22.5 - 32.5	0.013	0.027	0.027	0.31	0.015	0.0074
Proposed State Action Level					**1.3**	**NE**	**NE**	**0.070**	**NE**	**NE**
Investigatory Screening Levels					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 11
Groundwater Analytical Results for Short-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]					
					Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
Memorial Field and Rainier Trail Areas of Interest										
MF-MW01	Farallon	10/26/2018	MF-MW01-181026	39.0	< 0.0081	0.0031 J	< 0.0040	0.0052	< 0.0040	< 0.0040
MF-MW02	Farallon	10/26/2018	MF-MW02-181026	36.0	< 0.0082	0.0091	0.0031 J	0.032	< 0.0041	0.00090 J
	Farallon	4/14/2020	MF-MW02-200414	38.0	0.0017 J	0.014	< 0.0092	0.037	0.0021 J	0.0020 J
	Farallon	10/28/2020	MF-MW02-102820	40.0	0.0028 J	0.013	< 0.0092	0.043	0.0018 J	0.0012 J
MF-MW03	Farallon	10/25/2018	MF-MW03-181025	43.0	< 0.0083	< 0.0042	0.0012 J	0.0015 J	< 0.0042	< 0.0042
MF-MW04	Farallon	4/14/2020	MF-MW04-200414	70.0	0.0012 J	0.0028 J	< 0.0092	0.0023 J	0.00068 J	< 0.0040
	Farallon	7/14/2020	MF-MW04-200714		0.00075 J	0.0015 J	< 0.0092	< 0.0039	0.0010 J	< 0.0039
	Farallon	10/28/2020	MF-MW04-102820		0.0016 J	0.0039 J	< 0.0092	0.0034 J	0.00073 J	< 0.0042
RT-MW01	Farallon	8/3/2018	RT-MW01-180803	40.0	0.0076 J	0.013	0.014	0.032	0.0091	0.00098 J
	Farallon	10/28/2020	RT-MW01-102820	40	0.0066	0.0084	0.009 J	0.014	0.0045	0.00061 J
RT-MW03	Farallon	8/3/2018	RT-MW03-180803	40.0	< 0.0082	0.0082	0.0059	0.029	0.0026 J	< 0.0041
RT-MW04	Farallon	10/26/2018	RT-MW04-181026	35.0	0.0035 J	0.0024 J	0.0061	0.0026 J	0.0034 J	< 0.0042
	Farallon	4/14/2020	RT-MW04-200414	33.0	0.0066	0.0035 J	< 0.0092	0.0032 J	0.0031 J	< 0.0040
Proposed State Action Level					**1.3**	**NE**	**NE**	**0.070**	**NE**	**NE**
Investigatory Screening Levels					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**
175 Newport Way Northwest Area of Interest										
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
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	0.3	0.14	0.012
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
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
Proposed State Action Level					**1.3**	**NE**	**NE**	**0.070**	**NE**	**NE**
Investigatory Screening Levels					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 11
Groundwater Analytical Results for Short-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]					
					Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
175 Newport Way Northwest Area of Interest (continued)										
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
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
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
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
Proposed State Action Level					**1.3**	**NE**	**NE**	**0.070**	**NE**	**NE**
Investigatory Screening Levels					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 11
Groundwater Analytical Results for Short-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]					
					Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
Lower Issaquah Valley Regional Wells										
B-12	HWA	2/12/2020	B12-GW	20.0 - 30.0	< 0.0042	0.011	< 0.0092	0.039	0.0046	< 0.0042
	HWA	2/12/2020	DUP-GW		< 0.0040	0.010	< 0.0092	0.041	0.0041	< 0.0040
COI-TW01	Geosyntec	5/17/2016	COI-MW1-051716	84-94	---	< 0.003	< 0.003	< 0.003	< 0.003	---
COI-TW03	Geosyntec	5/17/2016	COI-TW3-051716	Unknown	---	< 0.003	< 0.003	< 0.003	< 0.003	---
COI-MW01	Geosyntec	6/7/2016	COI-MW01-060716	28.0 - 38.0	---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Geosyntec	10/17/2016	COI-MW01-20161017		---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
COI-MW02	Geosyntec	6/7/2016	COI-MW02-060716	70.0 - 90.0	---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Geosyntec	10/17/2016	COI-MW02-2016017		---	0.008	< 0.0025	0.005	< 0.0025	---
	Farallon	10/25/2018	C01-MW02-181025	80.0	< 0.0083	0.0049	< 0.0042	0.0026 J	< 0.0042	< 0.0042
COI-MW03	Geosyntec	6/7/2016	COI-MW03-060716	78.0 - 98.0	---	0.092	0.065	0.28	0.029	---
	Geosyntec	6/7/2016	COI-MW03-060716-DUP		---	0.094	0.067	0.30	0.029	---
	Geosyntec	6/21/2016	COI-MW03-20160621		---	0.062	0.033	0.17	0.014	---
	Geosyntec	6/21/2016	COI-MW03-20160621-DUP		---	0.059	0.033	0.17	0.015	---
	Geosyntec	6/28/2016	COI-MW03-20160628		---	0.049	0.031	0.11	0.014	---
	Geosyntec	6/28/2016	COI-MW03-20160628-DUP		---	0.047	0.026	0.097	0.011	---
	Geosyntec	7/6/2016	COI-MW03-20160716		---	0.025	0.015	0.062	0.0063	---
	Geosyntec	7/6/2016	COI-MW03-20160716-DUP		---	0.026	0.014	0.062	0.0062	---
	Geosyntec	7/13/2016	COI-MW03-20160713		---	0.031	0.016	0.075	0.0071	---
	Geosyntec	7/13/2016	COI-MW03-20160713 DUP		---	0.029	0.014	0.070	0.0064	---
	Geosyntec	7/20/2016	COI-MW03-20160720		---	0.032	0.017	0.080	0.0071	---
	Geosyntec	7/20/2016	COI-MW03-20160720-DUP		---	0.033	0.017	0.074	0.0073	---
	Geosyntec	7/28/2016	COI-MW03-20160728		---	0.071	0.039	0.17	0.017	---
	Geosyntec	7/28/2016	COI-MW03-20160728-DUP		---	0.072	0.035	0.16	0.015	---
	Geosyntec	10/17/2016	COI-MW03-2016017		---	0.032	0.018	0.067	0.0071	---
	Geosyntec	10/17/2016	COI-MW03-20161017-DUP		---	0.033	0.018	0.070	0.0069	---
	Farallon	10/24/2018	C01-MW03-181024	88.0	0.0087	0.039	0.025	0.048	0.0083	0.0017 J
	Farallon	4/15/2020	C01-MW03-200415		0.012	0.046	0.031	0.11	0.013	0.0044
	Farallon	10/28/2020	COL-MW03-102820	94.0	0.012	0.049	0.028	0.073	0.011	0.003 J
Proposed State Action Level					**1.3**	**NE**	**NE**	**0.070**	**NE**	**NE**
Investigatory Screening Levels					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 11
Groundwater Analytical Results for Short-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]					
					Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
Lower Issaquah Valley Regional Wells (continued)										
COI-MW04	Geosyntec	6/7/2016	COI-MW04-060716	70.0 - 90.0	---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Geosyntec	6/21/2016	COI-MW04-20160621		---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Geosyntec	6/28/2016	COI-MW04-20160628		---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Geosyntec	7/6/2016	COI-MW04-20160716		---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Geosyntec	7/13/2016	COI-MW04-20160713		---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Geosyntec	7/20/2016	COI-MW04-20160720		---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Geosyntec	7/27/2016	COI-MW04-20160727		---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Geosyntec	10/17/2016	COI-MW04-20161017		---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
	Farallon	10/24/2018	C01-MW04-101024	80	< 0.0083	0.0017 J	< 0.0042	0.0034 J	< 0.0042	< 0.0042
	Farallon	10/28/2020	COL-MW04-102820	74.0	0.0013 J	0.0018 J	< 0.0092	0.0024 J	0.00081 J	< 0.0045
COI-MW05	Geosyntec	6/7/2016	COI-MW05-060716	70.0 - 90.0	---	0.057	0.04	0.16	0.018	---
	Geosyntec	6/21/2016	COI-MW05-20160621		---	0.054	0.042	0.17	0.019	---
	Geosyntec	6/28/2016	COI-MW05-20160628		---	0.07	0.056	0.18	0.027	---
	Geosyntec	7/6/2016	COI-MW05-20160716		---	0.056	0.039	0.17	0.017	---
	Geosyntec	7/13/2016	COI-MW05-20160713		---	0.058	0.054	0.21	0.025	---
	Geosyntec	7/20/2016	COI-MW05-20160720		---	0.052	0.04	0.18	0.019	---
	Geosyntec	7/28/2016	COI-MW05-20160728		---	0.066	0.049	0.18	0.023	---
	Geosyntec	10/17/2016	COI-MW05-20161017		---	0.061	0.048	0.17	0.021	---
	Farallon	10/25/2018	C01-MW05-181025	80.0	0.022	0.050	0.080	0.14	0.030	0.0044
	Farallon	4/15/2020	C01-MW05-200415		0.0091	0.025	0.025	0.084	0.012	0.0036 J
	Farallon	7/14/2020	COI-MW05-200714		0.011	0.031	0.039	0.11	0.016	0.0044
	Farallon	10/27/2020	COL-MW05-102720		0.013	0.039	0.037	0.09	0.016	0.0036 J
COI-MW06	Geosyntec	10/17/2016	COI-MW06-20161017	80.0 - 100.0	---	0.096	0.22	0.49	0.073	---
	Farallon	10/25/2018	C01-MW06-181025	90.0	0.15	0.23	0.60	1.1	0.17	0.068
	Farallon	4/16/2020	C01-MW06-200416		0.10	0.18	0.43	0.93	0.11	0.069
	Farallon	4/16/2020	C01-MW66-200416		0.10	0.18	0.39	0.87	0.12	0.063
	Farallon	7/15/2020	COI-MW06-200715		0.058	0.10	0.21	0.43	0.063	0.039
	Farallon	7/15/2020	COI-MW66-200715		0.059	0.097	0.23	0.42	0.067	0.038
	Farallon	10/29/2020	COL-MW06-102920	96.0	0.058	0.088	0.21	0.45	0.066	0.029
	Farallon	10/29/2020	COL-MW66-102920		0.059	0.075	0.2	0.52	0.062	0.049
Proposed State Action Level					**1.3**	**NE**	**NE**	**0.070**	**NE**	**NE**
Investigatory Screening Levels					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 11
Groundwater Analytical Results for Short-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]					
					Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
Lower Issaquah Valley Regional Wells (continued)										
COI-MW07	Geosyntec	10/17/2016	COI-MW07-20161017	100.0 - 110.0	---	< 0.0025	< 0.0025	0.0049	< 0.0025	---
	Farallon	10/25/2018	C01-MW07-181025	105.0	< 0.0083	0.00097 J	0.0011 J	0.0031 J	< 0.0042	< 0.0042
	Farallon	4/15/2020	C01-MW07-200415		0.00054 J	0.0015 J	< 0.0092	0.0028 J	< 0.0040	< 0.0040
	Farallon	7/15/2020	COI-MW07-200715		0.0011 J	0.0019 J	< 0.0092	0.0043	0.00078 J	< 0.0039
	Farallon	10/29/2020	COL-MW07-102920		0.0013 J	0.002 J	< 0.0092	0.0072	0.00069 J	< 0.0043
NDS-MW01	Farallon	4/16/2020	NDS-MW01-200416	27.0	0.048	0.085	0.17	0.55	0.064	0.028
	Farallon	7/15/2020	NDS-MW01-200715		0.038	0.068	0.12	0.39	0.054	0.020
	Farallon	10/29/2020	NDS-MW01-102920	26.00	0.022	0.035	0.058	0.22	0.021	0.011
NDS-MW02	Farallon	4/16/2020	NDS-MW02-200416	76.0	0.011	0.04	0.024	0.14	0.0098	0.0070
	Farallon	10/28/2020	NDS-MW02-102820	77.0	0.012	0.034	0.026	0.12	0.0088	0.0061
NDS-MW03	Farallon	4/16/2020	NDS-MW03-200416	30.0	0.0011 J	0.0067	< 0.0092	0.012	0.0017 J	0.00051 J
	Farallon	10/28/2020	NDS-MW03-102820	31.0	0.0011 J	0.0051	< 0.0092	0.007	0.0014 J	< 0.0045
NDS-MW04	Farallon	4/16/2020	NDS-MW04-200416	77.0	< 0.0040	0.0013 J	< 0.0092	0.0026 J	0.00095 J	< 0.0040
	Farallon	7/15/2020	NDS-MW04-200715		< 0.0039	0.00092 J	< 0.0092	0.0026 J	< 0.0039	< 0.0039
	Farallon	10/28/2020	NDS-MW04-102820	78.0	0.00066 J	0.00065 J	< 0.0092	0.0018 J	< 0.0045	< 0.0045
NWN-MW11	Farallon	4/15/2020	NWN-MW11-200415	20.0	< 0.0039	0.00054 J	< 0.0092	< 0.0039	< 0.0039	< 0.0039
	Farallon	7/15/2020	NWN-MW11-200715		< 0.0039	0.00037 J	< 0.0092	< 0.0039	< 0.0039	< 0.0039
	Farallon	10/29/2020	NWN-MW11-102920	22.0	0.0005 J	0.0006 J	< 0.0092	< 0.0043	< 0.0043	< 0.0043
RBN-MW01	Farallon	4/14/2020	RBN-MW01-200414	75.0	0.00043 J	0.0044	< 0.0092	0.0076	0.00077 J	0.00044 J
	Farallon	7/14/2020	RBN-MW01-200714		< 0.0042	0.0042 J	< 0.0092	0.0045	< 0.0042	< 0.0042
	Farallon	10/28/2020	RBN-MW01-102820	74.0	< 0.0045	0.0052	< 0.0092	0.0038 J	< 0.0045	< 0.0045
RBN-MW02	Farallon	4/14/2020	RBN-MW02-200414	75.0	0.0010 J	0.0038 J	< 0.0092	0.0026 J	< 0.0041	< 0.0041
	Farallon	7/14/2020	RBN-MW02-200714		0.0018 J	0.0043	< 0.0092	0.0034 J	0.0011 J	< 0.0042
	Farallon	10/28/2020	RBN-MW02-102820		0.003 J	0.0043 J	< 0.0092	0.0058	0.0016 J	< 0.0043
COI-PW05	Geosyntec	7/6/2016	COI-WELL 5-20160716	323-405	---	0.0064	0.006	0.022	< 0.0025	---
	Geosyntec	7/13/2016	COI-WELL5-20160713		---	0.0081	0.0072	0.026	0.0031	---
	Geosyntec	7/27/2016	COI-WELL5-20160727		---	0.0041	0.003	0.014	< 0.0025	---
COI-PW05-OBS	Geosyntec	7/6/2016	COI-WELL 50BS-20160716	330 - 450	---	< 0.0025	< 0.0025	< 0.0025	< 0.0025	---
DG-PW01	Geosyntec	5/4/2016	DARIGOLD-ABY249-050416	81-96	---	0.0032	< 0.0025	0.0088	< 0.0025	---
	Geosyntec	5/4/2016	DARIGOLD-ABY249-050416-DUP		---	0.0032	< 0.0025	0.0085	< 0.0025	---
Proposed State Action Level					**1.3**	**NE**	**NE**	**0.070**	**NE**	**NE**
Investigatory Screening Levels					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

NOTES:

Cells in forest green indicate exceedance of the proposed Washington State Department of Health State Action Level.

< denotes analyte not detected at or above 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 and 2020 analyzed by Modified EPA Method 537.

Farallon = Farallon Consulting, L.L.C.

Geosyntec = Geosyntec Consultants, Inc.

HWA = HWA Geosciences Inc.

J = result is an estimate

NE = not established

PFAS = per- and poly-fluoroalkyl substances

Table 12
Groundwater Analytical Results for Long-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]							
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane Sulfonic Acid (PFOS)	Sum of PFOA and PFOS	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonic Acid (PFDS)	Perfluoroundecanoic Acid (PFUnDA)	Perfluorododecanoic Acid (PFDoDA)
Issaquah Valley Elementary West Playfield / Dodd Fields Areas of Interest												
IES-MW01	Farallon	10/26/2018	IES-MW05-181026	21.0	0.0097	**0.19**	**0.20**	0.0077	< 0.0041	< 0.0041	< 0.0041	< 0.0041
	Farallon	4/15/2020	IES-MW01-200415		0.011	**0.27**	**0.28**	0.0071	< 0.0041	< 0.0041	< 0.0041	< 0.0041
	Farallon	7/14/2020	IES-MW01-200714		0.0095	**0.18**	**0.19**	0.0053	< 0.0039	< 0.0039	< 0.0039	< 0.0039
	Farallon	10/27/2020	IES-MW01-102720		0.0066	**0.17**	**0.18**	0.0047	< 0.0042	< 0.0042	< 0.0042	< 0.0042
IES-MW02	Farallon	10/26/2018	IES-MW03-181026	20.0	0.019	**0.24**	**0.26**	0.0065	0.00065 J	< 0.0042	< 0.0042	< 0.0042
	Farallon	4/16/2020	IES-MW02-200416		0.018	**0.29**	**0.31**	0.0065	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	7/15/2020	IES-MW02-200715		0.014	**0.20**	**0.21**	0.0046	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	10/27/2020	IES-MW02-102720	22.0	0.017	**0.26**	**0.28**	0.0056	< 0.0045	< 0.0045	< 0.0045	< 0.0045
IES-MW03	Farallon	10/26/2018	IES-MW01-181026	20.0	0.0056	**0.076**	**0.082**	0.0014 J	< 0.0042	< 0.0042	< 0.0042	< 0.0042
	Farallon	4/15/2020	IES-MW03-200415		0.0049	**0.075**	**0.080**	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
	Farallon	7/14/2020	IES-MW03-200714		0.0041	0.055	**0.059**	0.0011 J	< 0.0041	< 0.0041	< 0.0041	< 0.0041
	Farallon	10/27/2020	IES-MW03-102720	19.0	0.0045	0.066	**0.071**	0.0011 J	< 0.0042	< 0.0042	< 0.0042	< 0.0042
IES-MW04	Farallon	10/26/2018	IES-MW02-181026	20.0	0.037	**0.53**	**0.57**	0.022	0.0012 J	< 0.0042	0.0023 J	< 0.0042
	Farallon	10/27/2020	IES-MW04-1022720	23.0	0.019	**0.35**	**0.37**	0.011	< 0.0043	< 0.0043	0.0025 J	< 0.0043
IES-MW05	Farallon	10/26/2018	IES-MW04-181026	25.0	0.019	**0.38**	**0.40**	0.033	0.0012 J	< 0.0042	0.0098	< 0.0042
	Farallon	4/15/2020	IES-MW05-200415		0.025	**0.59**	**0.62**	0.041	0.0017 J	< 0.0041	0.011	< 0.0041
	Farallon	7/14/2020	IES-MW05-200714		0.022	**0.48**	**0.50**	0.038	0.0013 J	< 0.0042	0.012	< 0.0042
IES-MW06	Farallon	4/15/2020	IES-MW06-200415	85.0	0.0013 J	0.015	0.016	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	7/14/2020	IES-MW06-200714		0.00095 J	0.0018 J	0.0028	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0039
	Farallon	10/27/2020	IES-MW06-102720		0.0014 J	0.0018 J	0.0032	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
IES-MW07	Farallon	4/15/2020	IES-MW07-200415	25.0	0.023	**0.53**	**0.55**	0.026	< 0.0041	< 0.0041	< 0.0041	< 0.0041
	Farallon	10/27/2020	IES-MW07-102720		0.014	**0.34**	**0.35**	0.016	< 0.0043	< 0.0043	< 0.0043	< 0.0043
IES-MW08	Farallon	4/15/2020	IES-MW08-200415	25.0	0.0040	**0.074**	**0.078**	0.0040 J	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	10/27/2020	IES-MW08-102720		0.0025	0.011	0.014	0.0012 J	< 0.0043	< 0.0043	< 0.0043	< 0.0043
IES-MW09	Farallon	4/15/2020	IES-MW09-200415	80.0	0.0016 J	0.052	0.054	0.0038 J	< 0.0040	< 0.0040	0.0029 J	< 0.0040
	Farallon	7/14/2020	IES-MW09-200714		0.00084 J	0.0080	0.0088	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	10/27/2020	IES-MW09-102720	76.0	0.00072 J	0.0072	0.0079	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
IES-MW10	Farallon	4/16/2020	IES-MW10-200416	80.0	0.066	**1.2**	**1.3**	0.030	0.0024 J	< 0.0040	< 0.0040	< 0.0040
	Farallon	7/14/2020	IES-MW10-200714		0.067	**1.1**	**1.2**	0.028	0.0021 J	< 0.0041	< 0.0041	< 0.0041
	Farallon	10/27/2020	IES-MW10-102720		0.058	**1.0**	**1.1**	0.025	0.0019 J	< 0.0045	< 0.0045	< 0.0045
DF-MW01	Farallon	10/27/2020	DF-MW01-102720	12.0	0.0018	0.042	0.044	0.0025 J	< 0.0042	< 0.0042	0.041	< 0.0042
DF-MW-02	Farallon	8/3/2018	DF-MW02-180803	17.0	0.010	**0.55**	**0.56**	0.025	0.0020 J	< 0.0041	0.0068	< 0.0041
	Farallon	8/3/2018	QA/QC-01-180803		0.0093	**0.52**	**0.53**	0.025	0.0016 J	< 0.0041	0.0059	< 0.0041
	Farallon	4/14/2020	DF-MW02-200414	20.0	0.0075	**0.44**	**0.45**	0.019	0.0016 J	< 0.0041	0.0058	< 0.0041
	Farallon	10/27/2020	DF-MW02-102720	18.0	0.0083	**0.38**	**0.39**	0.017	0.0018 J	< 0.0044	0.0084	< 0.0044
	Farallon	10/27/2020	DF-MW22-102720		0.0087	**0.38**	**0.39**	0.019	0.0012 J	< 0.0044	0.0070	< 0.0044
DF-MW-03	Farallon	8/3/2018	DF-MW03-180803	18.0	0.0062	**0.13**	**0.14**	0.0092	0.00073 J	< 0.0041	0.0016 J	< 0.0041
B-7	HWA	2/12/2020	B7-GW	22.5 - 32.5	0.017	**0.27**	**0.29**	0.0058	< 0.0041	< 0.0041	< 0.0041	< 0.0041
Proposed State Action Level					**0.010**	**0.015**	**NE**	**0.014**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels					**0.070**	**0.070**	**0.070**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 12
Groundwater Analytical Results for Long-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]							
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane Sulfonic Acid (PFOS)	Sum of PFOA and PFOS	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonic Acid (PFDS)	Perfluoroundecanoic Acid (PFUnDA)	Perfluorododecanoic Acid (PFDoDA)
Memorial Field and Rainier Trail Areas of Interest												
MF-MW01	Farallon	10/26/2018	MF-MW01-181026	39.0	0.0012 J	0.0058	0.0070	0.0036 J	< 0.0040	< 0.0040	0.0023 J	< 0.0040
MF-MW02	Farallon	10/26/2018	MF-MW02-181026	36.0	0.0035	0.054	0.058	0.026	0.00059 J	< 0.0041	0.0061	< 0.0041
	Farallon	4/14/2020	MF-MW02-200414	38.0	0.0052	**0.12**	**0.13**	0.063	< 0.0041	< 0.0041	0.0066	< 0.0041
	Farallon	10/28/2020	MF-MW02-102820	40.0	0.0041	**0.096**	**0.100**	0.026	< 0.0040	< 0.0040	0.012	< 0.0040
MF-MW03	Farallon	10/25/2018	MF-MW03-181025	43.0	0.0022	0.0039 J	0.0061	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
MF-MW04	Farallon	4/14/2020	MF-MW04-200414	70.0	0.0018	0.0046	0.0064	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	7/14/2020	MF-MW04-200714		0.0010 J	0.0014 J	0.0024	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0039
	Farallon	10/28/2020	MF-MW04-102820		0.0012 J	0.0031 J	0.0043	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
RT-MW01	Farallon	8/3/2018	RT-MW01-180803	40.0	0.015	0.053	0.068	0.0045	0.0065	< 0.0044	0.00040 J	< 0.0044
	Farallon	10/28/2020	RT-MW01-102820		0.0097	0.026	0.0357	0.0021 J	0.0027 J	< 0.0042	< 0.0042	< 0.0042
RT-MW03	Farallon	8/3/2018	RT-MW03-180803	40.0	0.0081	0.045	0.053	0.0015 J	< 0.0041	< 0.0041	0.0083	< 0.0041
RT-MW04	Farallon	10/26/2018	RT-MW04-181026	35.0	0.013	0.0080	0.021	0.0019 J	< 0.0042	< 0.0042	< 0.0042	< 0.0042
	Farallon	4/14/2020	RT-MW04-200414	33.0	0.0086	0.0087	0.017	0.0013 J	< 0.0040	< 0.0040	< 0.0040	< 0.0040
175 Newport Way Northwest Area of Interest												
NWN-MW01	Farallon	10/26/2018	NWN-MW01-181026	24.0	0.012 J	0.052	0.064	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	0.066	< 0.0041	< 0.0041	< 0.0041	< 0.0041	< 0.0041
NWN-MW02	Farallon	10/26/2018	NWN-MW02-181026	26.0	0.0091	**0.086**	**0.095**	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**	**0.63**	0.0047	0.0013 J	< 0.0040	< 0.0040	< 0.0040
	Farallon	10/29/2020	NWN-MW02-102920	27.0	0.02	**0.27**	**0.29**	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**	**1.2**	0.13	0.0081	< 0.0042	0.057	< 0.0042
	Farallon	4/17/2020	NWN-MW03-200417	25.0	**0.37**	**2.2**	**2.6**	0.23	0.011	< 0.0040	0.049	< 0.0040
	Farallon	7/16/2020	NWN-MW03-200716		**0.17**	**0.90**	**1.1**	0.081	0.0056	< 0.0040	0.034	< 0.0040
	Farallon	10/29/2020	NWN-MW03-102920	26.0	**0.12**	**0.68**	**0.80**	0.073	0.0056	< 0.0042	0.029	< 0.0042
NWN-MW04	Farallon	10/26/2018	NWN-MW04-181026	13.0 - 23.0	**0.20**	**2.2**	**2.4**	0.057	0.017	< 0.0042	0.062	< 0.0042
	Farallon	10/26/2018	NWN-MW04-181026-DUP		**0.21**	**2.4**	**2.6**	0.057	0.016	< 0.0042	0.061	< 0.0042
	Farallon	4/17/2020	NWN-MW04-200417	18.0	**0.13**	**2.6**	**2.7**	0.043	0.013	0.00059 J	0.040	< 0.0040
	Farallon	4/17/2020	NWN-MW44-200417		**0.13**	**2.7**	**2.8**	0.042	0.012	0.00061 J	0.041	< 0.0040
	Farallon	7/16/2020	NWN-MW04-200716		**0.091**	**1.5**	**1.6**	0.028	0.011	0.0012 J	0.038	< 0.0041
	Farallon	7/16/2020	NWN-MW44-200716		**0.089**	**1.3**	**1.4**	0.025	0.010	0.00075 J	0.038	< 0.0042
	Farallon	10/29/2020	NWN-MW04-102920		**0.14**	**1.6**	**1.7**	0.033	0.012	0.0048 J	0.037	< 0.0044
	Farallon	10/29/2020	NWN-MW44-102920		**0.15**	**1.7**	**1.9**	0.036	0.012	0.00071 J	0.033	< 0.0043
NWN-MW05	Farallon	4/16/2020	NWN-MW05-200416	15.0	**0.32**	**4.7**	**5.0**	0.095	0.033	0.0016 J	0.040	< 0.0040
	Farallon	7/16/2020	NWN-MW05-200716		**0.33**	**2.8**	**3.1**	0.080	0.015	0.0018 J	0.023	< 0.0039
	Farallon	10/29/2020	NWN-MW05-102920		**0.49**	**4.8**	**5.3**	0.12	0.040	0.0040 J	0.057	< 0.0045
Proposed State Action Level					**0.010**	**0.015**	**NE**	**0.014**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels					**0.070**	**0.070**	**0.070**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 12
Groundwater Analytical Results for Long-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]							
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane Sulfonic Acid (PFOS)	Sum of PFOA and PFOS	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonic Acid (PFDS)	Perfluoroundecanoic Acid (PFUnDA)	Perfluorododecanoic Acid (PFDoDA)
175 Newport Way Northwest Area of Interest (continued)												
NWN-MW06	Farallon	4/17/2020	NWN-MW06-200417	20.0	**0.41**	**8.6**	**9.0**	0.12	0.033	0.0022 J	0.12	0.0016 J
	Farallon	7/16/2020	NWN-MW06-200716		**0.28**	**5.0**	**5.3**	0.076	0.026	0.0034 J	0.11	< 0.0039
NWN-MW07	Farallon	4/17/2020	NWN-MW07-200417	21.5	**0.22**	**2.9**	**3.1**	0.29	0.014	< 0.0041	0.053	< 0.0041
	Farallon	4/17/2020	NWN-MW77-200417		**0.21**	**3.0**	**3.2**	0.27	0.013	< 0.0041	0.051	< 0.0041
	Farallon	7/16/2020	NWN-MW07-200716		**0.14**	**2.0**	**2.1**	0.22	0.012	< 0.0041	0.097	< 0.0041
	Farallon	10/29/2020	NWN-MW07-102920	22.0	**0.16**	**1.7**	**1.9**	0.26	0.011	< 0.0044	0.071	< 0.0044
NWN-MW08	Farallon	4/17/2020	NWN-MW08-200417	75.0	0.00063 J	0.0046	0.0052	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	7/15/2020	NWN-MW08-200715		0.00077 J	0.0047	0.0055	< 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	0.0021	< 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**	**0.25**	0.0092	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	7/16/2020	NWN-MW09-200716		0.011	**0.10**	**0.11**	0.0046	< 0.0041	< 0.0041	< 0.0041	< 0.0041
	Farallon	10/29/2020	NWN-MW09-102920	45.0	0.011	**0.092**	**0.10**	0.0037 J	< 0.0043	< 0.0043	< 0.0043	< 0.0043
B-4	Farallon	7/16/2020	B-4-200716	20.0 - 30.0	0.00078 J	0.012	0.013	< 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	0.00437	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043
Proposed State Action Level					**0.010**	**0.015**	**NE**	**0.014**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels					**0.070**	**0.070**	**0.070**	**NE**	**NE**	**NE**	**NE**	**NE**
Lower Issaquah Valley Regional Wells												
B-12	HWA	2/12/2020	B12-GW	20.0 - 30.0	0.0070	0.042	0.049	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
	HWA	2/12/2020	DUP-GW		0.0071	0.040	0.047	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
COI-TW01	Geosyntec	5/17/2016	COI-MW1-051716	84-94	< 0.003	0.0034	0.0034	< 0.003	< 0.003	---	< 0.003	< 0.003
COI-TW03	Geosyntec	5/17/2016	COI-TW3-051716	Unknown	< 0.003	< 0.003	< 0.006	< 0.003	< 0.003	---	< 0.003	< 0.003
COI-MW01	Geosyntec	6/7/2016	COI-MW01-060716	28.0 - 38.0	0.0068	< 0.0025	0.0068	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	10/17/2016	COI-MW01-20161017		< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
COI-MW02	Geosyntec	6/7/2016	COI-MW02-060716	70.0 - 90.0	< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	10/17/2016	COI-MW02-2016017		< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Farallon	10/25/2018	C01-MW02-181025	80.0	< 0.0017	< 0.0042	< 0.0059	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
COI-MW03	Geosyntec	6/7/2016	COI-MW03-060716	78.0 - 98.0	0.029	**0.44**	**0.47**	0.051	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	6/7/2016	COI-MW03-060716-DUP		0.030	**0.46**	**0.49**	0.051	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	6/21/2016	COI-MW03-20160621		0.020	**0.26**	**0.28**	0.016	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	6/21/2016	COI-MW03-20160621-DUP		0.019	**0.26**	**0.28**	0.018	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	6/28/2016	COI-MW03-20160628		0.012	**0.17**	**0.18**	0.016	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	6/28/2016	COI-MW03-20160628-DUP		0.012	**0.15**	**0.16**	0.013	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/6/2016	COI-MW03-20160716		0.0051 J	**0.100**	**0.11**	0.0061	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/6/2016	COI-MW03-20160716-DUP		0.0071 J	**0.100**	**0.11**	0.0056	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/13/2016	COI-MW03-20160713		0.006	**0.088**	**0.09**	0.0063	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/13/2016	COI-MW03-20160713 DUP		0.0053	**0.100**	**0.11**	0.0055	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/20/2016	COI-MW03-20160720		0.0062	**0.098**	**0.10**	0.0063	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/20/2016	COI-MW03-20160720-DUP		0.0063	**0.100**	**0.11**	0.0071	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/28/2016	COI-MW03-20160728		0.016	**0.360**	**0.38**	0.025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/28/2016	COI-MW03-20160728-DUP		0.015	**0.330**	**0.35**	0.022	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	10/17/2016	COI-MW03-2016017		0.0059	**0.088**	**0.094**	0.0055	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	10/17/2016	COI-MW03-20161017-DUP		0.0061	**0.099**	**0.11**	0.0056	< 0.0025	---	< 0.0025	< 0.0025
	Farallon	10/24/2018	C01-MW03-181024	88.0	0.0071	0.053	0.060	0.0048	< 0.0042	< 0.0042	< 0.0042	< 0.0042
	Farallon	4/15/2020	C01-MW03-200415		0.010	**0.14**	**0.15**	0.0068	< 0.0039	< 0.0039	< 0.0039	< 0.0039
	Farallon	10/28/2020	COL-MW03-102820	94.0	0.0084	**0.099**	**0.1074**	0.0053	< 0.0046	< 0.0046	< 0.0046	< 0.0046
Proposed State Action Level					**0.010**	**0.015**	**NE**	**0.014**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels					**0.070**	**0.070**	**0.070**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 12
Groundwater Analytical Results for Long-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]							
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane Sulfonic Acid (PFOS)	Sum of PFOA and PFOS	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonic Acid (PFDS)	Perfluoroundecanoic Acid (PFUnDA)	Perfluorododecanoic Acid (PFDoDA)
Lower Issaquah Valley Regional Wells (continued)												
COI-MW04	Geosyntec	6/7/2016	COI-MW04-060716	70.0 - 90.0	< 0.0025	0.003	0.003	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	6/21/2016	COI-MW04-20160621		< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	6/28/2016	COI-MW04-20160628		< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/6/2016	COI-MW04-20160716		< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/13/2016	COI-MW04-20160713		< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/20/2016	COI-MW04-20160720		< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/27/2016	COI-MW04-20160727		0.0039	< 0.0025	0.0039	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	10/17/2016	COI-MW04-20161017		< 0.0025	0.0025	0.0025	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Farallon	10/24/2018	C01-MW04-101024	80.0	< 0.0017	0.0023 J	0.0023	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
	Farallon	10/28/2020	COL-MW04-102820	74.0	0.00064 J	0.0031 J	0.00374	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
COI-MW05	Geosyntec	6/7/2016	COI-MW05-060716	70.0 - 90.0	0.017	**0.39**	**0.41**	0.0086	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	6/21/2016	COI-MW05-20160621		0.013	**0.49**	**0.50**	0.008	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	6/28/2016	COI-MW05-20160628		0.017	**0.50**	**0.52**	0.01	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/6/2016	COI-MW05-20160716		0.011	**0.48**	**0.49**	0.0075	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/13/2016	COI-MW05-20160713		0.018	**0.44**	**0.46**	0.012	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/20/2016	COI-MW05-20160720		0.013	**0.51**	**0.52**	0.0093	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/28/2016	COI-MW05-20160728		0.018	**0.51**	**0.53**	0.0087	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	10/17/2016	COI-MW05-20161017		0.015	**0.40**	**0.42**	0.0079	< 0.0025	---	< 0.0025	< 0.0025
	Farallon	10/25/2018	C01-MW05-181025	80.0	0.019	**0.29**	**0.31**	0.011	0.00073 J	< 0.0042	< 0.0042	< 0.0042
	Farallon	4/15/2020	C01-MW05-200415		0.0083	**0.26**	**0.27**	0.0068	< 0.0039	< 0.0039	< 0.0039	< 0.0039
	Farallon	7/14/2020	COI-MW05-200714		0.011	**0.24**	**0.25**	0.0073	< 0.0039	< 0.0039	< 0.0039	< 0.0039
	Farallon	10/27/2020	COL-MW05-102720		0.0098	**0.23**	**0.24**	0.0074	< 0.0045	< 0.0045	< 0.0045	< 0.0045
COI-MW06	Geosyntec	10/17/2016	COI-MW06-20161017	80.0 - 100.0	**0.08**	**2.2**	**2.3**	0.053	0.0029	---	0.016	< 0.0025
	Farallon	10/25/2018	C01-MW06-181025	90.0	**0.25**	**3.3**	**3.6**	0.15	0.0065	< 0.0042	0.035	< 0.0042
	Farallon	4/16/2020	C01-MW06-200416		**0.15**	**2.5**	**2.7**	0.065	0.0051	< 0.0040	0.025	< 0.0040
	Farallon	4/16/2020	C01-MW66-200416		**0.15**	**2.5**	**2.7**	0.065	0.0055	0.00037 J	0.027	< 0.0039
	Farallon	7/15/2020	COI-MW06-200715		**0.087**	**1.4**	**1.5**	0.038	0.0032 J	< 0.0041	0.021	< 0.0041
	Farallon	7/15/2020	COI-MW66-200715		**0.087**	**1.4**	**1.5**	0.040	0.0031 J	< 0.0042	0.022	< 0.0042
	Farallon	10/29/2020	COL-MW06-102920	96.0	**0.08**	**1.4**	**1.5**	0.035	0.0036 J	< 0.0045	0.024	< 0.0045
	Farallon	10/29/2020	COL-MW66-102920		**0.075**	**1.4**	**1.5**	0.042	0.0041 J	< 0.0044	0.021	< 0.0044
Proposed State Action Level					**0.010**	**0.015**	**NE**	**0.014**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels					**0.070**	**0.070**	**0.070**	**NE**	**NE**	**NE**	**NE**	**NE**

Table 12
Groundwater Analytical Results for Long-Chain PFAS
PFAS Characterization Study
Issaquah, Washington
Farallon PN: 1754-004

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per liter)[2]							
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane Sulfonic Acid (PFOS)	Sum of PFOA and PFOS	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonic Acid (PFDS)	Perfluoroundecanoic Acid (PFUnDA)	Perfluorododecanoic Acid (PFDoDA)
Lower Issaquah Valley Regional Wells (continued)												
COI-MW07	Geosyntec	10/17/2016	COI-MW07-20161017	100.0 - 110.0	0.003	0.0049	0.0079	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Farallon	10/25/2018	C01-MW07-181025	105.0	0.0022	0.0033 J	0.0055	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
	Farallon	4/15/2020	C01-MW07-200415		0.0012 J	0.0031 J	0.0043	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	7/15/2020	COI-MW07-200715		0.0019	0.0036 J	0.0055	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0039
	Farallon	10/29/2020	COL-MW07-102920		0.0025	0.0043	0.0068	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043
NDS-MW01	Farallon	4/16/2020	NDS-MW01-200416	27.0	0.062	**1.3**	**1.4**	0.021	0.0022 J	< 0.0039	0.0067	< 0.0039
	Farallon	7/15/2020	NDS-MW01-200715		0.050	**0.86**	**0.91**	0.016	0.0013 J	< 0.0040	0.0050	< 0.0040
	Farallon	10/29/2020	NDS-MW01-102920	26.0	0.024	**0.49**	**0.51**	0.011	0.0012 J	< 0.0045	0.0032 J	< 0.0045
NDS-MW02	Farallon	4/16/2020	NDS-MW02-200416	76.0	0.010	**0.29**	**0.30**	0.041	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	10/28/2020	NDS-MW02-102820	77.0	0.0093	**0.26**	**0.27**	0.020	< 0.0045	< 0.0045	< 0.0045	< 0.0045
NDS-MW03	Farallon	4/16/2020	NDS-MW03-200416	30.0	0.0040	0.022	0.026	0.0014 J	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	10/28/2020	NDS-MW03-102820	31.0	0.0025	0.016	0.0185	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
NDS-MW04	Farallon	4/16/2020	NDS-MW04-200416	77.0	0.0012 J	0.0076	0.0088	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	7/15/2020	NDS-MW04-200715		0.00078 J	0.0043	0.0051	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0039
	Farallon	10/28/2020	NDS-MW04-102820	78.0	0.00072 J	0.0033 J	0.00402	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
NWN-MW11	Farallon	4/15/2020	NWN-MW11-200415	20.0	0.00087 J	0.0017 J	0.0026	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0039
	Farallon	7/15/2020	NWN-MW11-200715		< 0.0016	0.0013 J	0.0013	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0039
	Farallon	10/29/2020	NWN-MW11-102920	22.0	0.0011 J	0.0020 J	0.0031	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043
RBN-MW01	Farallon	4/14/2020	RBN-MW01-200414	75.0	0.0016	0.014	0.016	0.0039 J	< 0.0040	< 0.0040	< 0.0040	< 0.0040
	Farallon	7/14/2020	RBN-MW01-200714		< 0.0017	0.0020 J	0.0020	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
	Farallon	10/28/2020	RBN-MW01-102820	74.0	0.00052 J	0.0016 J	0.0021	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
RBN-MW02	Farallon	4/14/2020	RBN-MW02-200414	75.0	0.0031	0.0054	0.0085	< 0.0041	< 0.0041	< 0.0041	< 0.0041	< 0.0041
	Farallon	7/14/2020	RBN-MW02-200714		0.0046	0.0049	0.0095	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
	Farallon	10/28/2020	RBN-MW02-102820		0.0064	0.0063	0.0127	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043
COI-PW05	Geosyntec	7/6/2016	COI-WELL 5-20160716	323-405	0.0028	0.032	0.035	0.0035	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/13/2016	COI-WELL5-20160713		0.0031	0.032	0.035	0.0043	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	7/27/2016	COI-WELL5-20160727		0.0037	0.019	0.023	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
COI-PW05-OBS	Geosyntec	7/6/2016	COI-WELL 50BS-20160716	330 - 450	< 0.0025	< 0.0025	< 0.0050	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
DG-PW01	Geosyntec	5/4/2016	DARIGOLD-ABY249-050416	81-96	< 0.0025	0.0064	0.0064	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
	Geosyntec	5/4/2016	DARIGOLD-ABY249-050416-DUP		< 0.0025	0.007	0.007	< 0.0025	< 0.0025	---	< 0.0025	< 0.0025
Proposed State Action Level					**0.010**	**0.015**	**NE**	**0.014**	**NE**	**NE**	**NE**	**NE**
Investigatory Screening Levels					**0.070**	**0.070**	**0.070**	**NE**	**NE**	**NE**	**NE**	**NE**

NOTES:

Results in **bold** denote concentrations exceeding applicable Washington State Department of Ecology Investigatory Levels.

Cells in forest green indicate exceedance of the proposed Washington State Department of Health State Action Level.

< denotes analyte not detected at or above 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 and 2020 analyzed by EPA Method 537 Modified.

Farallon = Farallon Consulting, L.L.C.

Geosyntec = Geosyntec Consultants, Inc.

HWA = HWA Geosciences Inc.

J = result is an estimate

NE = not established

PFAS = per- and poly-fluoroalkyl substances

Table 13
Field QC Sample Analytical Results for Short-Chain PFAS
PFAS Investigation
Lower Issaquah Valley
Issaquah, Washington
Farallon PN: 1754-004

Sample Type	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]					
				Perfluorobutanoic Acid (PFBA)	Perfluorobutane Sulfonic Acid (PFBS)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonic Acid (PFHxS)	Perfluoroheptanoic Acid (PFHpA)	Perfluoroheptane Sulfonic Acid (PFHpS)
Field Blank Samples									
Field Blank	Farallon	3/20/2020	FIELD_BLANK_200320	< 0.0043	< 0.0043	< 0.0092	< 0.0043	< 0.0043	< 0.0043
Field Blank	Farallon	10/28/2020	FIELD BLANK 1	< 0.0042	< 0.0042	< 0.0092	< 0.0042	< 0.0042	< 0.0042
Field Blank	Farallon	10/29/2020	FIELD BLANK 2	< 0.0042	< 0.0042	< 0.0092	< 0.0042	< 0.0042	< 0.0042
Rinsate Blank Samples									
Rinsate Blank	Farallon	3/20/2020	RINSATE_BLANK_MACROCORE_200320	< 0.0040	< 0.0040	< 0.0092	< 0.0040	< 0.0040	< 0.0040
Rinsate Blank	Farallon	4/17/2020	RINSATE_TUBING-200417	< 0.0040	< 0.0040	< 0.0092	< 0.0040	< 0.0040	< 0.0040
Trip Blank Samples									
Trip Blank	Farallon	3/18/2020	TRIP_BLANK_200318	< 0.0044	< 0.0044	< 0.0092	< 0.0044	< 0.0044	< 0.0044
Trip Blank	Farallon	3/20/2020	TRIP_BLANK_200320	< 0.0043	< 0.0043	< 0.0092	< 0.0043	< 0.0043	< 0.0043
Trip Blank	Farallon	3/23/2020	TRIP_BLANK-200323	< 0.0045	< 0.0045	< 0.0092	< 0.0045	< 0.0045	< 0.0045
Trip Blank	Farallon	3/27/2020	TRIP_BLANK_200327	< 0.0044	< 0.0044	< 0.0092	< 0.0044	< 0.0044	< 0.0044
Trip Blank	Farallon	4/14/2020	TRIP_BLANK-200414	< 0.0044	< 0.0044	< 0.0092	< 0.0044	< 0.0044	< 0.0044
Trip Blank	Farallon	4/15/2020	TRIP_BLANK_200415	< 0.0044	< 0.0044	< 0.0092	< 0.0044	< 0.0044	< 0.0044
Trip Blank	Farallon	4/17/2020	TRIP_BLANK_200417	< 0.0042	< 0.0042	< 0.0092	< 0.0042	< 0.0042	< 0.0042
Trip Blank	Farallon	7/14/2020	TRIP_BLANK_200714	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
Trip Blank	Farallon	7/15/2020	TRIP_BLANK_200715	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
Trip Blank	Farallon	10/22/2020	TRIP BLANK 56967	< 0.0042	< 0.0042	< 0.0092	< 0.0042	< 0.0042	< 0.0042
Trip Blank	Farallon	10/22/2020	TRIP BLANK 56968	< 0.004	< 0.004	< 0.0092	< 0.004	< 0.004	< 0.004
Trip Blank	Farallon	10/22/2020	TRIP BLANK 56969	< 0.0043	< 0.0043	< 0.0092	< 0.0043	< 0.0043	< 0.0043
Driller Potable Water Tote Samples									
Driller Water	Farallon	3/20/2020	POTABLE-WATER-200320	< 0.0044	0.0013 J	< 0.0092	0.0021 J	< 0.0044	< 0.0044
Driller Water	Farallon	3/30/2020	NWN-P202-POT	< 0.0040	< 0.0040	< 0.0092	< 0.0040	< 0.0040	< 0.0040
Investigatory Screening Levels				**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

NOTES:
< denotes analyte not detected at or above the reporting limit listed.
[1]Analyzed by U.S. Environmental Protection Agency Method 537 Modified.

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

Table 14
Field QC Sample Analytical Results for Long-Chain PFAS
PFAS Investigation
Lower Issaquah Valley
Issaquah, Washington
Farallon PN: 1754-004

Sample Type	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]						
				Perfluorooctanoic Acid (PFOA)	Perfluorooctane Sulfonic Acid (PFOS)	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonic Acid (PFDS)	Perfluoroundecanoic Acid (PFUnDA)	Perfluorododecanoic Acid (PFDoDA)
Field Blank Samples										
Field Blank	Farallon	3/20/2020	FIELD_BLANK_200320	< 0.0017	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043
Field Blank	Farallon	10/28/2020	FIELD BLANK 1	0.00036 J	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
Field Blank	Farallon	10/29/2020	FIELD BLANK 2	< 0.0017	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
Rinsate Blank Samples										
Rinsate Blank	Farallon	3/20/2020	RINSATE_BLANK_MACROCORE_200320	< 0.0016	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
Rinsate Blank	Farallon	4/17/2020	RINSATE_TUBING-200417	< 0.0016	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
Trip Blank Samples										
Trip Blank	Farallon	3/18/2020	TRIP_BLANK_200318	< 0.0018	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044
Trip Blank	Farallon	3/20/2020	TRIP_BLANK_200320	< 0.0017	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043
Trip Blank	Farallon	3/23/2020	TRIP_BLANK-200323	< 0.0018	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
Trip Blank	Farallon	3/27/2020	TRIP_BLANK_200327	< 0.0018	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044
Trip Blank	Farallon	4/14/2020	TRIP_BLANK-200414	< 0.0018	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044
Trip Blank	Farallon	4/15/2020	TRIP_BLANK_200415	< 0.0018	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044
Trip Blank	Farallon	4/17/2020	TRIP_BLANK_200417	< 0.0017	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
Trip Blank	Farallon	7/14/2020	TRIP_BLANK_200714	< 0.0016	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
Trip Blank	Farallon	7/15/2020	TRIP_BLANK_200715	< 0.0016	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
Trip Blank	Farallon	10/22/2020	TRIP BLANK 56967	< 0.0017	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0042
Trip Blank	Farallon	10/22/2020	TRIP BLANK 56968	< 0.0016	< 0.0040	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Trip Blank	Farallon	10/22/2020	TRIP BLANK 56969	< 0.0017	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0043
Driller Potable Water Tote Samples										
Driller Water	Farallon	3/20/2020	POTABLE-WATER-200320	0.00068 J	0.0044 J	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0044
Driller Water	Farallon	3/30/2020	NWN-P202-POT	< 0.0016	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
Investigatory Screening Levels				**0.070**	**0.070**	**NE**	**NE**	**NE**	**NE**	**NE**

NOTES:

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

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

Farallon = Farallon Consulting, L.L.C.

J = result is an estimate

NE = not established

PFAS = per- and poly-fluoroalkyl substances

QC = Quality Control