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May 28, 2025

Mr. Ryan Richard
New York State Department of Environmental Conservation
Division of Environmental Remediation – Region 3
21 South Putt Corners Road
New Paltz, NY 12561

Re: Supplemental Bedrock Groundwater Investigation Work Plan – Phase II (Revised)
Brookfield Commons Phase 3, White Plains, Westchester County
NYSDEC BCP Number: C360246
AKRF Project Number: 210122

Dear Mr. Richard:

This Supplemental Bedrock Groundwater Investigation Work Plan – Phase II (SBGWIWP-II) has been prepared by AKRF, Inc. (AKRF) on behalf of Trinity Brookfield Commons Phase Three Limited Partnership (the "Volunteer") for the "Brookfield Commons Phase 3" project site. The Volunteer entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) in February 2024, to investigate and remediate a 1.284-acre property located at 159 South Lexington Avenue in White Plains in Westchester County, New York (hereafter referred to as the "Site"). The Site location is shown on Figure 1.

Based on a discussion on May 5, 2025 between the New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH), AKRF and the Volunteer, a second phase of supplemental investigation will be performed to further delineate the extent of chlorinated solvents in bedrock for the area of concern identified as AOC-6 and on the west-central portion of the Site, with potential contribution(s) migrating onto the Site from the off-site historic drycleaners west of the site along South Lexington Avenue and/or other off-site sources. This SBGWIWP-II has been prepared to outline protocols for the installation and sampling of additional wells at the Site to complete the RI. The SBGWIWP-II has been updated based on the comment letter received from NYSDEC on May 27, 2025.

Supplemental Bedrock Groundwater Investigation (SBGWI) Findings

Bedrock Geotechnical Logging, Field Observations, Well Construction, and Sampling

The two shallow bedrock wells (RI-MW-12BR and RI-MW-14BR) and three deep bedrock wells (RI-MW-09BR-D-I, RI-MW-10BR-D-I, and RI-MW-11BR-D-I) were installed by first advancing a 4-inch diameter secondary steel casing approximately 5 feet into competent bedrock. The bottom of the casings were set using a slurry grout consisting of Type I Portland cement/sand mixture and left to cure for at least 24 hours. After the grout had cured, each boring was advanced through the outer casing and continuous bedrock cores were collected by spinning the coring barrel fitted with a custom shoe into the bedrock at 5-foot intervals. The bedrock cores were placed in a core box and logged for geology and fracture content.

Downhole geotechnical logging was performed by Hager-Richter Geoscience (HRGS) in these bedrock borings to ascertain additional information related to the bedrock geology, including the depths, orientation and frequency of the bedrock fractures. The borehole geophysical logging program consisted of the following in each logged borehole: Optical televiewer (OTV), acoustic televiewer (ATV), caliper measurement, fluid temperature, fluid conductivity, natural gamma ray, spontaneous potential (SP), single point resistance (SPR), heat pulse flow meter (HPFM) under ambient conditions, and HPFM under stressed (low constant rate pumping) conditions. In addition to the bedrock fracture depths, the borehole geophysical logs provided groundwater flow details under both ambient and pumping conditions.

In consultation with HRGS, the interim geophysical and logging data, as well as a summary of previous investigation in each well area were provided to NYSDEC, along with proposed well screening intervals for the shallow, intermediate and deep bedrock wells. NYSDEC reviewed and approved or made slight adjustments to the proposed well screen intervals, which are summarized in attached Table 2 – Installed Well Construction Details.

After completing the coring process and geophysical logging, the borings for the deep bedrock wells were over-drilled using an approximately 3.9-inch diameter roller bit and a truck-mounted drill rig. The deep bedrock wells (RI-MW-09BR-D-I, RI-MW-10BR-D-I, and RI-MW-11BR-D-I) were constructed with 2-inch diameter PVC to depths of approximately 99, 92, and 101 feet below grade (fbg), respectively, and the two shallow wells (RI-MW-12BR and RI-MW-14BR) were constructed with 2-inch diameter PVC to depths of approximately 36 and 35 fbg, respectively.

The bedrock coring and geophysical data from the deep bedrock borings/wells were used to determine the screening depths for the adjacent intermediate bedrock wells (RI-MW-09BR-I, RI-MW-10BR-I, and MW-11BR-I), which were similarly advanced in bedrock through steel casings. The intermediate wells were constructed with 2-inch diameter PVC to depths of approximately 71.5, 53, and 82 fbg, respectively.

Each bedrock well was fitted with 5 to 13 feet of 0.02 slotted well screen and the annular space around the well screen was backfilled with sand filter pack extending from the bottom of the well to 1 to 2 feet above the screen. The annular space around the well riser was sealed with bentonite extending 5 feet above the sand filter pack and completed to ground surface and within the exterior casing with a non-shrinking cement mixture to grade.

Following installation, each monitoring well was developed via pumping and surging to remove accumulated fines and establish a hydraulic connection with the surrounding aquifer. Development continued until turbidity within the well was less than 50 nephelometric turbidity units (NTUs) for three successive readings and water quality indicators (pH, temperature, and specific conductivity) were stabilized, or until at least three well volumes had been purged from the well.

In accordance with EPA low-flow sampling protocols, the wells were sampled a minimum of one week following their development. Prior to sampling the monitoring wells, an electronic interface probe was used to measure the water level in each well. No separate phase liquid was detected during well development or sampling. The monitoring wells were purged and sampled using a submersible bladder pump. During the sampling event, purging of the wells prior to sample collection continued until the turbidity decreased below 50 NTUs and water quality indicators stabilized to within 10% for pH, temperature, and specific conductivity or until more than three well volumes were purged and development continued for at least 2 hours

The groundwater samples were collected and containerized in accordance with NYSDEC and EPA protocols. Each sample container was properly preserved, labeled, and placed in an ice-filled cooler for delivery via courier under standard COC procedures to a NYSDOH ELAP-certified laboratory for analysis with Category B deliverables. The groundwater samples collected from the wells were analyzed for VOCs by EPA Method 8260.

Borehole Geophysical Logging Report – Data Report, Boreholes MW-BR-09-D, MW-BR-10-D, MW-BR-11-D, MW-BR-12, MW-BR-14, Brookfield Commons, Hager-Richter Geoscience, May 2025

The attached Borehole Geophysical Logging Report includes the final borehole geophysical logs, bedrock fracture statistical plots, and tables of bedrock structures. The datum for depths in the report is the ground surface at the location of each borehole. The orientations of bedrock structures (fractures, bedding, foliation, veins, and other planar geologic features) are reported as the dip azimuth (dip direction) and dip angle of each structure, as shown in the Televiewer Explanation Figure. The optical televiewer (OTV) data, acoustic televiewer (ATV) data, bedrock structure dip azimuth data, and borehole deviation data are referenced to true north using a magnetic declination of 13° west, and the bedrock structure dip angle data are reported from horizontal. Please note that the bedrock structure dip azimuth data are perpendicular to strike, as used commonly by geologists.

Bedrock fractures detected in the televiewer (OTV & ATV) data are grouped into three categories (Fracture Rank 1, Fracture Rank 2, and Fracture Rank 3) and are shown as color-coded lines and symbols on the structure projection plots and tadpole plots. The Key to Bedrock Structure Categories Figure (Figure 1 in the Borehole Geophysical Logging Report) describes the bedrock structure categories and associated colors and tadpole shapes. The Tadpole Explanation Figure (Figure 2 in the Borehole Geophysical Logging Report) explains how to "read" the tadpole plots. The Fracture Rank 1 category consists of minor fractures that are not distinct and may not be continuous around the borehole. The Fracture Rank 2 category consists of intermediate fractures that are distinct and continuous around the borehole with little or no apparent aperture. The Fracture Rank 3 category consists of major fractures that are distinct and continuous around the borehole with apparent aperture.

The structure projection plots, which are sinusoidal curves in the log track labeled Structure Projection, display the depth, orientation, and category of the bedrock structures detected in the televiewer data. Bedrock structures are essentially planar for short distances such as the intersection of the open borehole and the bedrock structure. The intersection of a plane, the bedrock structure, with a cylinder, the borehole, is a circle on the plane. When the circle is unwrapped and plotted as it is in the structure projection plots, the circle plots as a sine wave as shown in the Televiewer Explanation Figure (Figure 3 in the Borehole Geophysical Logging Report). The structures plotted in the structure projection plots are not corrected for borehole deviation; the structure projection plots represent the apparent orientations (that is, apparent dip angles and apparent dip azimuths) of the bedrock structures. The correction of the bedrock structure orientations from apparent to true orientations (that is, true dip angles and true dip azimuths) is then made using the borehole deviation data acquired by the televiewer probes, and these corrected/true orientations are reported in the tadpole plots, bedrock structure statistics plots, and bedrock structure tables.

The bedrock fracture orientations and statistics are plotted and reported on the bedrock fracture statistics plots. Based on the televiewer (OTV & ATV) data from the 5 logged boreholes, 295 bedrock fractures were detected. Of the 295 detected bedrock fractures, 162 (55%) are interpreted as Fracture Rank 1 (minor) fractures, 110 (37%) are interpreted as Fracture Rank 2 (intermediate) fractures, and only 23 (8%) are interpreted as Fracture Rank 3 (major) fractures. The majority (~60%) of the bedrock fractures detected dip predominately 45° - 75° from horizontal to the west-northwest (270° - 345°). A second, but less prevalent bedrock fracture set was also detected in the logged boreholes. The secondary fracture set includes the majority of the Rank 3 fractures detected at the site and dips predominately 5° - 35° from horizontal to the east (60° - 135°).

Inferred Groundwater Flow Direction

A preliminary evaluation of the groundwater measurements and associated elevations collected from the Site monitoring wells was conducted to evaluate the inferred groundwater flow direction across the Site. Groundwater flow across the Site can be influenced by various factors, including subsurface ~~ulilities~~utilities, previous excavated materials and fill material, heterogeneities in the overburden and bedrock units, as well as fracture patterns and other properties in the bedrock units. As discussed during the call with NYSDEC on May 15, 2025, which included a presentation of sketches that included rough contours of groundwater elevations, a discussion of the inferred groundwater directions for the geologic units at the Site is provided below:

- Overburden – The monitoring wells installed in the overburden included shallow water table wells and deeper wells screened immediately above the soil/weathered bedrock interface. The wells were screened at intervals starting as shallow as 2 fbg and the bottom being as deep as 25 fbg. Based upon the groundwater elevations, the inferred groundwater flow in the overburden was in southwest to northeast direction in the western portion of the site and in a more south to north direction in the central and eastern portions of the Site.
- Shallow Bedrock – The monitoring wells installed in the shallow bedrock included wells screened approximately 5 feet into competent bedrock, with the screen intervals starting as shallow as 25 fbg and the bottom of the screen interval being as deep as 52 fbg. The groundwater elevations in the shallow bedrock wells were comparable to those observed in the overburden wells. Based upon the groundwater elevations, the inferred groundwater flow in the shallow bedrock was in a southwest to northeast direction throughout the Site.
- Intermediate Bedrock – The monitoring wells installed in the intermediate bedrock included three wells with the screen intervals starting as shallow as 63.5 fbg and the bottom of the screen interval being as deep as 92 fbg. Due to an anomaly in one of the wells (much deeper water measurement in RI-MW-09BR-I), the inferred groundwater flow direction in the intermediate bedrock was inconclusive.
- Deep Bedrock – The monitoring wells installed in the deep bedrock included three wells with the screen intervals starting as shallow as 79 fbg and the bottom of the screen interval being as deep as 101 fbg. Due to an anomaly in one of the wells (much deeper water measurement in RI-MW-09BR-I), the inferred groundwater flow direction in the intermediate bedrock could not be determined. Based upon the groundwater elevations, the inferred groundwater flow in the deep bedrock was in a generally south to north direction.

The groundwater elevations in the shallow bedrock wells were comparable to those observed in the overburden wells. In addition, the inferred groundwater flow direction along the western portion of the Site in the overburden and shallow bedrock units were both in a southwest to northeast direction. It should be noted that two former off-site dry cleaners were located in close proximity to and upgradient of the Site across Lexington Avenue (168 and 182 South Lexington Avenue), which may be sources and/or contributing sources of PCE affecting groundwater quality at the Site.

<u>Laboratory Results and Discussion</u>

Fifteen volatile organic compounds (VOCs), including chlorinated solvents and petroleum-related compounds, were detected at concentrations above their respective NYSDEC Technical Operational and Guidance Series (TOGS) Class GA Ambient Water Quality Standards and Guidance Values (AWQSGVs) in one or more groundwater samples. In-text Table 1 includes a summary of PCE and PCE breakdown products results from the SBGWI, including trichloroethene (TCE) and cis-1,2-dichloroethene (c-DCE). The breakdown products 1,1-dichloroethene (1,1-DCE), trans-1,2-dichloroethene (t-DCE) and vinyl chloride were analyzed for but not detected.

In-Text Table 1
PCE and Breakdown Product Summary

Boring	Well Type	Top of Bedrock (fbg)	Top of Well Screen (fbg)	Bottom of Well Screen (fbg)	Groundwater Elevation (ft.)	PCE (ppb)	TCE (ppb)	c-DCE (ppb)
RI-MW-9BR-I	Intermediate Bedrock	30	63.5	71.5	150.93	12	0.34	U
RI-MW-9BR-D-I	Deep Bedrock	30	90	99	194.56	13	2.0	1.2
RI-MW-10BR-I	Intermediate Bedrock	17	47	53	193.84	1200	11	3.7
RI-MW-10BR-D-I	Deep Bedrock	17	79	92	193.73	1800	24	9.1
RI-MW-11BR-I	Intermediate Bedrock	10	77	82	196.88	2000	75	14
RI-MW-11BR-D-I	Deep Bedrock	10	96	101	197.01	3400	31	19
RI-MW-12BR	Shallow Bedrock	20	28	36	196.52	3800	32	33
RI-MW-14BR	Shallow Bedrock	22	29	35	193.14	1700	49	48

The highest concentrations of the chlorinated solvent tetrachloroethylene (PCE) in groundwater was detected in the shallow bedrock well RI-MW-12BR (3,800 µg/L) in the western portion of the Site. Excluding the new intermediate and deep bedrock wells located on the northwest portion of the Site (RI-MW-9BR-I and RI-MW-9BR-D), PCE was detected in the remaining newly installed bedrock wells at concentrations between 1,200 and 3,800 ppb. The PCE concentrations in RI-MW-9BR-I and RI-MW-9BR-D (located on the northwest portion of the Site) were detected at 12 and 13 ppb, respectively (three orders of magnitude lower than the other wells installed as part of the newly installed bedrock wells).

The breakdown product TCE was detected between 11 and 49 ppb, with the lowest concentrations being detected in MW-9BR-I and RI-MW-9BR-D (northwest portion of the Site). Similarly, the breakdown product c-DCE was detected between 9.1 and 48 ppb, with the lowest concentrations being detected in MW-9BR-I and RI-MW-9BR-D (northwest portion of the Site).

<u>Proposed Bedrock Well Supplemental Scope of Work – Phase II</u>

The proposed scope for the SBGWI-II includes the following:

- Installation and sampling of two additional overburden monitoring wells (RI-MW-15 and RI-MW-16) to further delineate the horizontal extent of the chlorinated solvent groundwater plume above bedrock. Soil sampling will also be performed at these locations (RI-SB-22 and RI-SB-23), as detailed below.
- Installation and sampling of two additional shallow bedrock monitoring wells (RI-MW-15BR and RI-MW-16BR) to further delineate the horizontal extent of the chlorinated solvent groundwater plume in shallow bedrock. RI-MW-15BR will be installed in the southwestern portion of the Site, between existing monitoring wells RI-MW-13D and RI-MW-04, and RI-MW-16BR will be installed near the western property boundary.
- Installation and sampling of four intermediate and four deep bedrock monitoring wells RI-MW-12BR-I, MW-14BR-I, RI-MW-15BR-I, and RI-MW-16BR-I (intermediate bedrock wells) and RI-MW-12BR-D-I, and RI-MW-14BR-D-I, RI-MW-15BR-D-I, and RI-MW-16BR-D-I (deep bedrock wells) to further delineate the vertical extent of the chlorinated solvent groundwater plume in the vicinity of RI-MW-12BR, RI-MW-14BR, and RI-MW-15BR, and RI-MW-16BR. Each of the intermediate and deep monitoring wells will be installed adjacent to the previously installed or proposed shallow bedrock wells (RI-MW-12BR, RI-MW-14BR, RI-MW-15BR and RI-MW-16BR).

- Installation and sampling of three deeper bedrock monitoring wells (RI-MW-09BR-D-II, MW-10BR-D-II, and RI-MW-11BR-D-II) to further delineate the vertical extent of the chlorinated solvent groundwater plume across the Site. Each of the deeper monitoring wells will be installed adjacent to the previously installed deep bedrock wells (RI-MW-09BR-D-I, RI-MW-10BR-D-I and RI-MW-11BR-D-I).
- Geophysical logging and wireline borehole fluid sampling (WBFS) of the open bedrock portions of the bedrock boreholes (as described later in this work plan).
- Potential installation and sampling of additional bedrock wells based upon the geophysical logging and WBFS screening results.
- Development and low flow sampling of the 15 new wells for laboratory analysis for VOCs.
- Surveying the locations and elevations of the 15 new wells, and completion of at least one full round of fluid-level gauging (inclusive of all newly installed and existing monitoring wells) to facilitate groundwater elevation contour mapping.

All proposed work will be performed in accordance with the NYSDEC-approved May 2024 RIWP and/or as indicated below in the proposed secondary supplemental Scope of Work. Proposed additional sampling locations are included on Figure 2. Proposed monitoring well construction details, based on assumptions from previous investigations, are included in the Attached Table 1.

Overburden Well Installation

Two permanent groundwater monitoring wells (denoted as RI-MW-15 and RI-MW-16) will be installed following soil boring advancement using a Sonic drill rig to delineate the horizontal extent of the chlorinated solvent groundwater plume above bedrock in the southwestern and southern portions of the Site. Continuous soil sampling will be conducted while advancing the borings for well installation to document the lithology to environmental quality of subsurface soil. The depth to bedrock at the proposed monitoring wells will be established by examining soil cores from soil boring advancement using a Sonic drill rig.

Shallow Bedrock Well Installation

Two shallow bedrock monitoring wells (RI-MW-15BR and RI-MW-16BR) will be installed to delineate the horizontal extent of the chlorinated solvent groundwater plume in shallow bedrock in the southwestern and southern portions of the Site. The depth to bedrock at the proposed bedrock monitoring wells will be established by examining soil cores from soil boring advancement using a Sonic drill rig.

The proposed bedrock wells will be installed by advancing a 4 to 6-inch diameter secondary steel casing at least 5 feet into competent bedrock. The bottom of the casing will be set using a slurry grout consisting of Type I Portland cement/bentonite or cement/sand mixture and left to cure for at least 24 hours. After the grout has cured, a boring will be advanced through the outer casing and continuous bedrock cores will be collected by spinning the coring barrel fitted with a custom shoe into the bedrock at 5-foot intervals until the first water bearing fracture is encountered. The bedrock cores will be placed in a core box and logged for geology and fracture content. The well depth and screen interval may be adjusted based upon examination of the rock cores and bedrock geotechnical logging (as described below). NYSDEC will be consulted prior to determining the final well depth and screen interval for the shallow well.

After completing the coring process, geotechnical logging, and WBFS (and consultation with NYSDEC), the bedrock wells will be constructed with 2-inch diameter PVC, which will include 5 feet of 0.02 slotted well screen installed into the first water bearing zone in competent bedrock. The annular space around the well screen will be backfilled with sand filter pack extending from the bottom of the well to 1 to 2 feet above the screen. The annular space around the well riser will be sealed with bentonite extending 5 feet above the sand filter pack and completed to ground surface and within the exterior casing with a non-shrinking cement mixture to grade. The bentonite seal will be given approximately 24 hours to set and expand. Each well will be provided with a locking well cap and be finished with a flush mount cover.

Intermediate and Deep Bedrock Well Installation

Four intermediate bedrock monitoring wells, RI-MW-12BR-I, MW-14BR-I, RI-MW-15BR-I, and RI-MW-16BR-I will be installed to delineate the vertical extent of the chlorinated solvent groundwater plume in the vicinity of RI-MW-12BR, RI-MW-14BR, RI-MW-15BR, and RI-MW-16BR, respectively. The proposed intermediate bedrock wells will be installed by advancing a 4 to 6-inch diameter secondary steel casing to approximately 50 feet below grade using a Sonic Rig. The bottom of the casings will be set using a slurry grout consisting of Type I Portland cement/bentonite or cement/sand mixture and left to cure for at least 24 hours. After the grout has cured, a boring will be advanced through the outer casing at each of the designated intermediate bedrock well locations and continuous bedrock cores will be collected by spinning the coring barrel fitted with a custom shoe into the bedrock at 5-foot intervals until the predetermined depth of 75 feet below grade is reached, but could be extended deeper if significant water bearing fractures are not observed at the interval between 50 and 75 feet below grade. The bedrock cores will be placed in a core box and logged for geology and fracture content.

Four deep bedrock monitoring wells, RI-MW-12BR-D-I, MW-14BR-D-I, RI-MW-15BR-D-I, and RI-MW-16BR-D-I will be installed to delineate the vertical extent of the chlorinated solvent groundwater plume in the vicinity of RI-MW-12BR-I, RI-MW-14BR-I, RI-MW-15BR-I, and RI-MW-16BR-I, respectively. The proposed deep bedrock wells will be installed by advancing a 4 to 6-inch diameter secondary steel casing to approximately 80 feet below grade using a Sonic Rig. The bottom of the casings will be set using a slurry grout consisting of Type I Portland cement/bentonite or cement/sand mixture and left to cure for at least 24 hours. After the grout has cured, a boring will be advanced through the outer casing at each of the designated deep bedrock well locations and continuous bedrock cores will be collected by spinning the coring barrel fitted with a custom shoe into the bedrock at 5-foot intervals until the predetermined depth of 100 feet below grade is reached, but could be extended deeper if significant water bearing fractures are not observed at the interval of 80 to 100 feet below grade. The bedrock cores will be placed in a core box and logged for geology and fracture content.

The well depths and screen intervals may be adjusted based upon examination of the rock cores, bedrock geotechnical logging (as described below), and WBFS (also described below). Specifically, the rock cores will be examined for evidence of significant water bearing fractures between 50 and 75 feet below grade (for each intermediate well) and 80 to 100 feet below grade (for each deep bedrock well). NYSDEC will be consulted prior to determining the final well depths and screen intervals for the intermediate and deep wells.

After completing the coring process, geotechnical logging, and WBFS (and consultation with NYSDEC), the intermediate and deep bedrock wells will be constructed with 2-inch diameter PVC to depths of approximately 75 and 100 feet below grade, respectively. Each bedrock well will be fitted with approximately 5 to 10 feet of 0.02 slotted well screen (depending on the fracture density and locations), and the annular space around the well screen will be backfilled with sand filter pack extending from the bottom of the well to 1 to 2 feet above the screen. The annular space around the well riser will be sealed with bentonite extending 5 feet above the sand filter pack and completed to ground surface and within the exterior casing with a non-shrinking cement mixture to grade. The bentonite seal will be given approximately 24 hours to set and expand. Each well will be provided with a locking well cap and be finished with a flush mount cover.

Deeper Bedrock Well Installation

Three deeper bedrock monitoring wells, RI-MW-09BR-D-II, RI-MW-10BR-D-II, and RI-MW-11BR-D-II, will be installed to further delineate the vertical extent of the chlorinated solvent groundwater plume in the vicinity of RI-MW-09BR-D, RI-MW-10BR-D, and RI-MW-11BR-D, respectively. The proposed bedrock wells will be installed by advancing a 4 to 6-inch diameter secondary steel casing to approximately 120 feet below grade using a Sonic Rig. The bottom of the casings will be set using a slurry grout consisting of Type I Portland cement/bentonite or cement/sand mixture and left to cure for at least 24 hours. After the grout has cured, a boring will be advanced through the outer casing at each of the designated deeper bedrock well locations and continuous bedrock cores will be collected by spinning the coring barrel fitted with a custom shoe into the bedrock at 5-foot intervals until the predetermined depth of 150 feet below grade is reached, but could be extended deeper if significant water bearing fractures are not observed at the interval of 120 to 150 feet below grade. The bedrock cores will be placed in a core box and logged for geology and fracture content.

The well depths and screen intervals may be adjusted based upon examination of the rock cores, bedrock geotechnical logging (as described below), and WBFS (also described below). Specifically, the rock cores will be examined for evidence of significant water bearing fractures between 120 to 150 feet below grade. NYSDEC will be consulted prior to determining the final well depths and screen intervals for the deeper wells.

After completing the coring process, geotechnical logging, and WBFS (and consultation with NYSDEC), the deeper bedrock wells will be constructed with 2-inch diameter PVC to depths of approximately 150 feet below grade. Each bedrock well will be fitted with approximately 5 to 10 feet of 0.02 slotted well screen (depending on the fracture density and locations), and the annular space around the well screen will be backfilled with sand filter pack extending from the bottom of the well to 1 to 2 feet above the screen. The annular space around the well riser will be sealed with bentonite extending 5 feet above the sand filter pack and completed to ground surface and within the exterior casing with a non-shrinking cement mixture to grade. The bentonite seal will be given approximately 24 hours to set and expand. Each well will be provided with a locking well cap and be finished with a flush mount cover.

Bedrock Geotechnical Logging

Downhole geotechnical logging will be performed during advancement of all 13 bedrock wells to ascertain additional information related to the bedrock geology. The borehole geophysical logging program will consist of the following to characterize the in-situ conditions of the bedrock encountered in the open bedrock portions of the boreholes including determining the depths, orientation (dip angles and dip azimuths), and frequency of the bedrock fractures, as well as other characteristics using the following tooling and data collection:

- Optical Televiewer (OTV) and Acoustic Televiewer (ATV);
- Fluid Temperature and Fluid Conductivity;
- Heat Pulse Flow Meter (HPFM) Logging Under Ambient and Stressed (Low Constant Rate Pumping) Conditions;
- Natural Gamma Ray;
- Poly Electric Probe; and
- Caliper measurement.

In conjunction with the examination of the bedrock cores, the geotechnical logging may reveal conditions that warrant modification to the screen intervals for the shallow, intermediate, deep and/or deeper bedrock wells. NYSDEC will be consulted prior to determining the final well depths and screen intervals of the bedrock wells. The interim geophysical data will be included in the daily reports following each day that logging is completed. Any deviations due to site conditions will be noted in the logs and final geophysical report. The geophysical data will be reviewed by NYSDEC and with discussions with AKRF and the geophysical subcontractor, the well screens should be able to be set within 24 to 48 hours of submission of interim data to the NYSDEC.

Wireline Borehole Fluid Sampling (WBFS)

In an effort to provide semi-quantitative groundwater quality data and to inform whether vertical delineation is being achieved at the time of well installation, WBFS will be conducted at all new bedrock well locations concurrently with the geotechnical logging.

The WBFS will be conducted in the open bedrock portion of the boreholes following the downhole geotechnical logging. The sampling depths will be determined based on the results of the downhole geotechnical logging, specifically Heat Pulse Flow Meter (HPFM) under ambient and/or stressed (low constant rate pumping) conditions. Based on the results of the HPFM, samples will be taken at deepest depths where water is detected flowing into the borehole under ambient and/or pumping conditions. The fluid sampling will be conducted with a wireline fluid sampler operated by the geotechnical contractor. The wireline fluid sampler provides approximately 0.75-1.00 liters per sample trip with the sampling probe. If flow from a fracture/fracture zone of interest is determined to only be hydraulically active under stressed conditions based on the geotechnical logging, the contractor will recreate similar pumping stressed conditions as was present in the borehole during the geotechnical logging to ensure that water is produced from the fracture(s) of interest. The sampling probe is fully stainless steel, PFAS free, and can be opened and closed downhole on the borehole geophysical logging system wireline/winch operated by a laptop computer to ensure a sample is taken from the intended depth. The sampling probe will be decontaminated between samples. Depending on the geotechnical findings at each borehole, up to two screening samples may be collected. The order of sample collection in each borehole will be determined by the locations of transmissive fractures and flow under ambient and/or pumping conditions. For example, if after HPFM, it is determined that the flow from the deepest transmissive fracture is into and up the borehole, the first sample will be collected from the deepest fracture. Any additional samples will be collected from deepest to shallowest, between the bottom of the secondary steel casing and the bottom of the proposed screen interval, as described in attached Table 1. Likewise, if it is determined that the flow from the shallowest transmissive fracture is into and down the borehole, the first sample will be collected from the shallowest fracture. The sampling depth(s) will be determined in consultation with geophysical subcontractor during the borehole geotechnical logging.

Since the WBFS samples are being used for screening purposes only, the samples will only be analyzed for VOCs by EPA Method 8260 using Category A deliverables and submitted for a 24-hour rush turnaround time. If the laboratory results indicate elevated levels of VOCs from the WBFS sample(s) (particularly at the deep well locations), the proposed wells could be extended deeper (prior to well installation) and/or additional (deeper) wells could be proposed in consultation with NYSDEC and prior to driller demobilization from the Site.

Well Development

Following installation, each monitoring well will be developed via pumping and surging to remove accumulated fines and establish a hydraulic connection with the surrounding aquifer. Clean water will also be introduced as part of development to remove any stagnant water from the bedrock wells and/or accumulated during boring advancement, geotechnical logging, and well installation. Development will continue until turbidity within the well is less than 50 nephelometric turbidity units (NTUs) for three successive readings and water quality indicators (pH, temperature, and specific conductivity) have stabilized, or until at least three well volumes have been purged from the well.

Soil Sampling and Analysis

Soil samples will be collected from two locations, RI-SB-22 (at RI-MW-15) and RI-SB-23 (at RI-MW-16). At least two soil samples will be collected from each boring location for laboratory analysis of VOCs by EPA Method 8260. One soil sample will be collected from the upper 2-foot interval below existing grade surface, and one sample from the 2-foot interval directly above the groundwater interface. Both soil sampling locations are in the asphalt parking lot. Additional samples may be collected based on field findings (odors, elevated PID readings, staining, etc.). All sampling equipment (e.g., drilling rods and casing, macro core samplers) will be either dedicated or decontaminated between sampling locations. Soil logging during boring advancement will be performed at these locations.

Samples slated for laboratory analysis will be labeled and placed in laboratory-supplied containers and shipped to the laboratory via courier with appropriate chain-of-custody documentation in accordance with appropriate USEPA protocols to a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory. The data will be reviewed by a third-party validator and a Data Usability Summary Report (DUSR) will be prepared to document the usability and validity of the data.

Groundwater Sampling and Analysis

In accordance with EPA low-flow sampling protocols, the wells will be sampled a minimum of one week following their development. Prior to sampling the monitoring wells, an electronic interface probe will be used to measure the water level in each well, and a bailer will be used to measure any separate phase liquid that is detected. The monitoring wells will be purged and sampled in accordance with EPA's low-flow sampling procedures using a submersible or peristaltic pump. The purge water will be monitored for turbidity and water quality indicators [i.e., pH, dissolved oxygen, oxidation-reduction potential (ORP), temperature, and specific conductivity] with measurements collected approximately every five minutes. The criteria for stabilization will be three successive readings within ±10% for pH, temperature, and specific conductivity.

The groundwater samples will be collected and containerized in accordance with NYSDEC and EPA protocols. Each sample container will be properly preserved, labeled, and placed in an ice-filled cooler for delivery via courier under standard COC procedures to a NYSDOH ELAP-certified laboratory for analysis with Category B deliverables. The groundwater samples collected from the wells will only be sampled for VOCs by EPA Method 8260 during the SBGWI-II. As mentioned previously, since the WBFS samples are being used for screening purposes only, these samples will be analyzed using Category A deliverables.

Quality Assurance/Quality Control (QA/QC) and Data Usability Review

As required for Category B deliverables, additional samples will be included for QA/QC purposes. The QA/QC samples will be collected in accordance with the Quality Assurance Project Plan (QAPP) included as Appendix A of the NYSDEC-approved May 2024 RIWP, and will include a minimum of one field blank, one field duplicate, one trip blank, and one matrix spike/matrix spike duplicate (MS/MSD) to be analyzed for the same list of parameters (VOCs) as the samples. Upon receipt of the analytical data package from the laboratory, it will be reviewed by a third-party data validator, who will prepare a Data Usability summary Report (DUSR). Since the WBFS samples are being used for screening purposes only, no additional QA/QC samples will be collected and a DUSR will not be prepared for the WBFS samples.

Decontamination and Investigation-Derived Waste (IDW) Management

All non-dedicated sampling equipment will be decontaminated between sampling locations by scrubbing and rinsing twice a biodegradable soap (e.g., Alconox) and tap water, and rinsing a final time with distilled water. All IDW will be containerized in NYSDOT-approved 55-gallon drums. The drums will be sealed at the end of each workday and labeled with the date, the well number(s), the type of waste (i.e., drill cuttings, decontamination fluids, development water, or purge water), and the name of an AKRF point-of-contact. All drums will be labeled "pending analysis" until laboratory data is available. The drums will be properly disposed of off-site at a permitted facility following receipt of the analytical results.

Monitoring Well Survey

The new groundwater monitoring wells will be surveyed by a New York State-licensed surveyor to determine their accurate locations and elevations. Two elevation measurements will be taken at each well: the at-grade elevation adjacent to the well cover and the elevation of the top of the PVC casing, to facilitate preparation of an updated groundwater elevation contour maps for the shallow and deep monitoring wells. The elevation datum for the wells will be based on NAVD88.

Health and Safety and Perimeter Air Monitoring

All work outlined in this SBGWIWP-II will be conducted in accordance with the Health and Safety Plan (HASP) included as Appendix B of the NYSDEC-approved May 2024 RIWP. Air monitoring during well installation will include collecting continuous VOC and particulate measurements within the work zone and continuous community air monitoring at the work zone perimeter utilizing two portable air monitoring stations setup at the upwind and downwind perimeter. Air monitoring during well sampling will include collecting continuous VOC and particulate measurements within the work zone and periodic measurements (at least once per hour) at the work zone perimeter utilizing only roving equipment. Response actions will be implemented as required based on perimeter air monitoring results in accordance with the NYSDOH Generic CAMP and as described in the Community Air Monitoring Plan (CAMP) included as Appendix C of the NYSDEC-approved May 2024 RIWP.

Reporting

Daily progress reports will be submitted to the NYSDEC following each workday during implementation of the SBGWI-II field activities to summarize work progress, field findings, and air monitoring results. Upon receipt of the analytical data and DUSR, AKRF will incorporate the results of the SBGWI-II into an updated RIR, which will be submitted to the NYSDEC for review/approval. The final geophysical report will be summarized in and appended to the RIR. The results of the SBGWI-II will also be used to update the draft Remedial Action Work Plan (RAWP), which was submitted to the NYSDEC in December 2024.

Schedule

The field work associated with the scope outlined in this SBGWIWP-II has been tentatively scheduled to begin as soon as drilling and borehole geophysical subcontractors can be scheduled, pending NYSDEC review and approval of this work plan. Please contact Colleen at (914) 922-2363 or cgriffiths@akrf.com if you have any questions or require any additional information.

Sincerely,
AKRF, Inc.

Marc S Godick, LEP
Senior Vice President

Colleen Griffiths
Vice President

cc: Steven McCague, Sarah Saucier – NYSDEC
Johnathan Robinson, Melissa Doroski – NYSDOH
Thomas Brown, Omalawa Abdullah-Musa, Allison Brown – Trinity/Volunteer
Lawrence Schnapf – Schnapf LLC
Gregory Baird, Rebecca Kinal – AKRF

Certification

List of Attached Figures

Figure 1 – Site Location
Figure 2 – Site and Sample Location Plan
Figure 3 – Draft PCE Concentrations in Overburden Wells
Figure 4 – Draft PCE Concentrations in Shallow Bedrock Wells
Figure 5 – Draft PCE Concentrations in Intermediate Bedrock Wells
Figure 6 – Draft PCE Concentrations in Deep Bedrock Wells
Figure RI-MW-XXBR – Example Bedrock Installation Log

Sanborn Map – 1987

<u>List of Attached Tables</u>

Attached Table 1 – Proposed Monitoring Well Construction Details
Attached Table 2 – Installed Well Construction Details

Attached Report

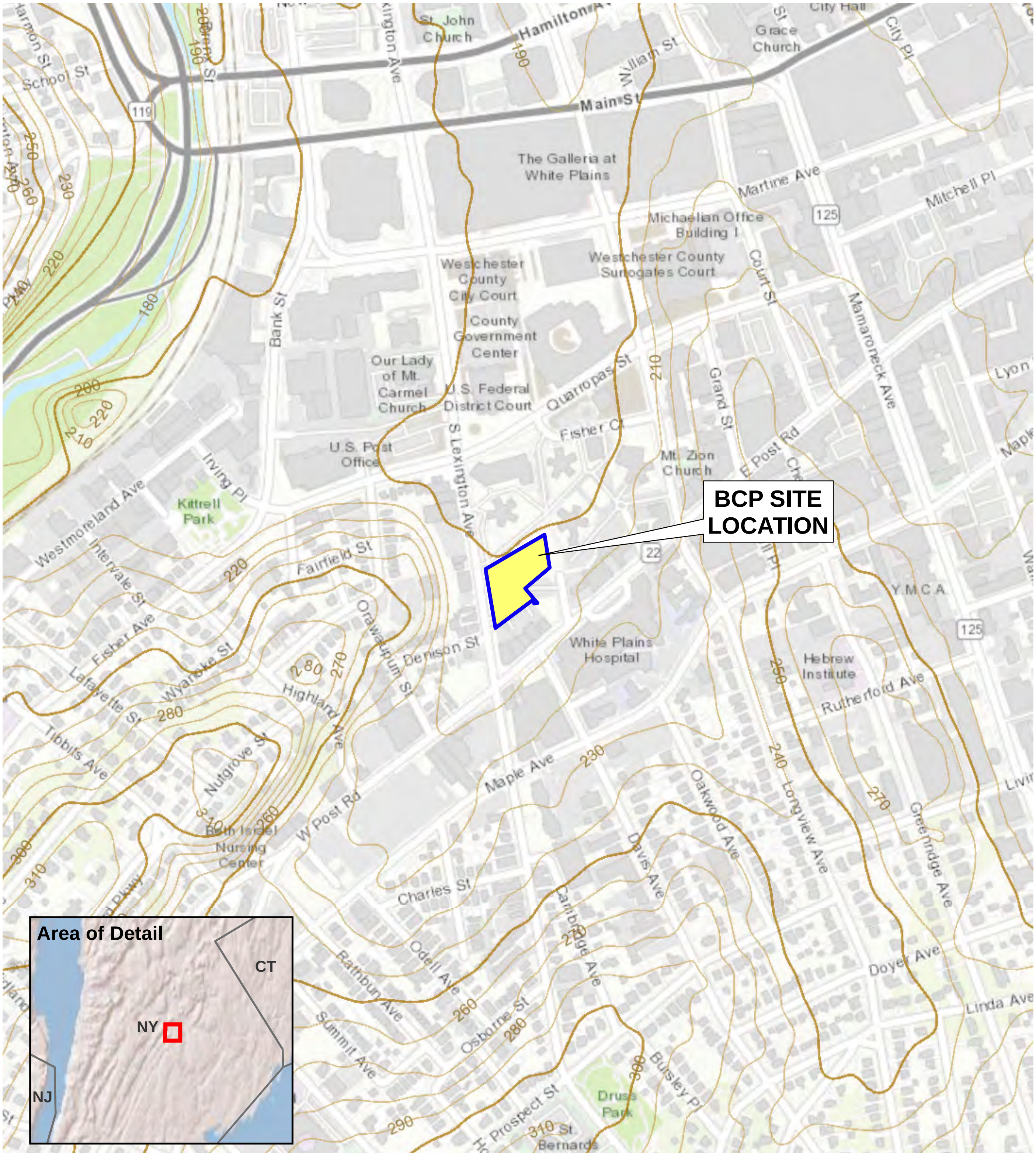
Borehole Geophysical Logging – Data Report, Boreholes MW-BR-09-D, MW-BR-10-D, MW-BR-11-D, MW-BR-12, MW-BR-14, Brookfield Commons, Hager-Richter Geoscience, May 2025.

CERTIFICATION

I, Marc Godick, certify that I am currently a Qualified Environmental Professional (QEP) as defined in 6 New York City Codes, Rules and Regulations Part 375 and that this Remedial Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plans, work plan addenda, and any DER-approved modifications.

Marc S. Godick, QEP	May 19, 2025	
Qualified Environmental Professional	Date	Signature

FIGURES



Service Layer Credits: USGS The National Map: 3d Elevation Program,
Data Refreshed July, 2021

Service Layer Credits: USGS The National Map: 3d Elevation Program 2019
Map Source: World Topo map service from ESRI

0 600 1,200
SCALE IN FEET

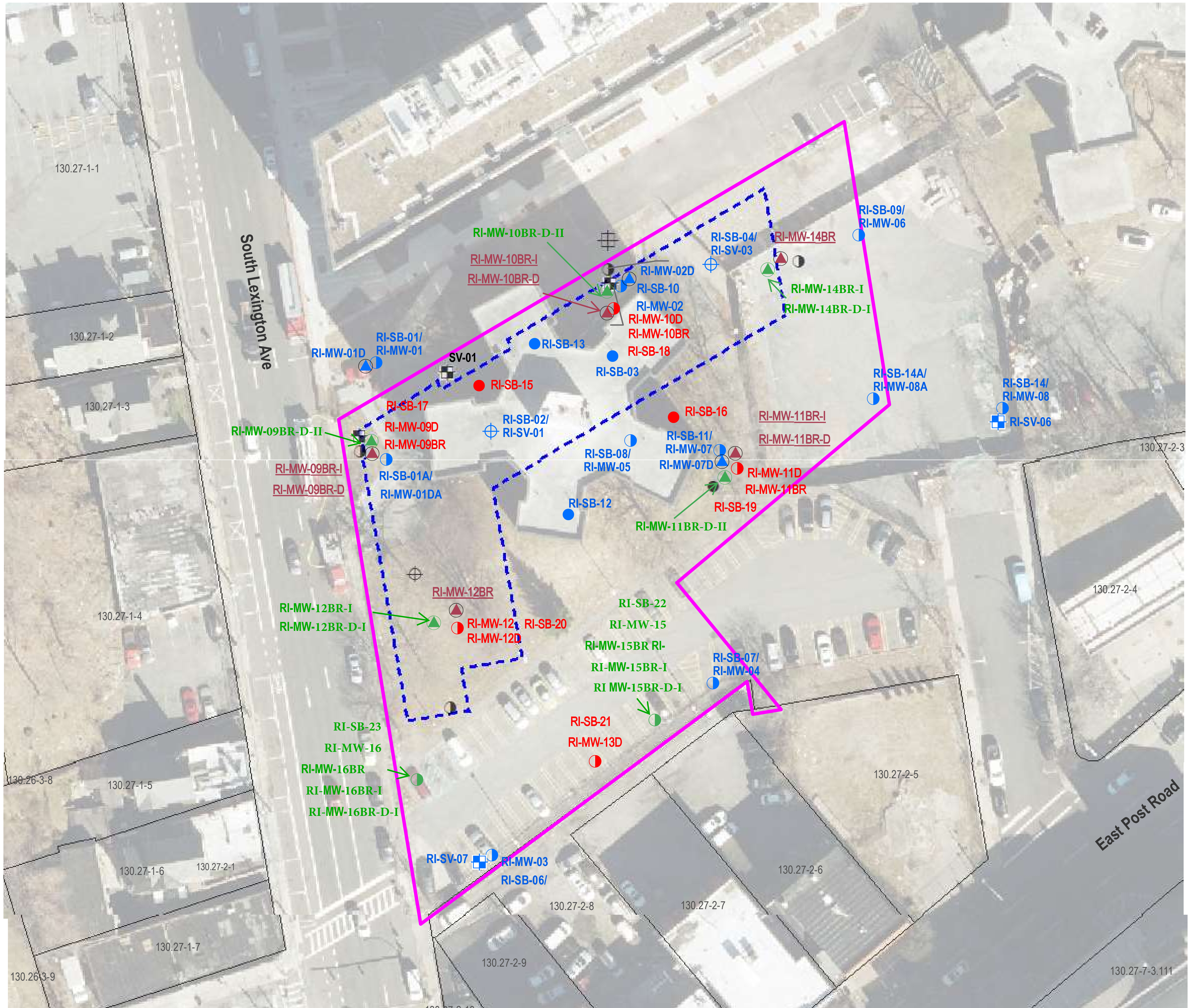
N

AKRF
34 South Broadway #401
White Plains, NY 10601

Brookfield Commons Phase 3
White Plains, New York

BCP SITE LOCATION

DATE	**9/27/2024**
PROJECT NO.	**210122**
FIGURE	**1**



LEGEND

- PROJECT SITE BOUNDARY
- 130.27-2-1 — LOT BOUNDARY AND PRINT KEY (BLOCK AND LOT)
- PROPOSED BUILDING FOOTPRINT
- SOIL BORING (APRIL 2021)
- SOIL BORING/TEMPORARY WELL (APRIL 2021)
- SOIL BORING/SOIL VAPOR POINT (APRIL 2021)
- SOIL VAPOR POINT (APRIL 2021)
- AMBIENT AIR SAMPLE LOCATION (APRIL 2021)
- RI SOIL BORING
- RI MONITORING WELL
- RI SOIL BORING/MONITORING WELL
- RI SOIL BORING/SOIL VAPOR POINT
- RI SOIL VAPOR POINT
- RI AMBIENT AIR SAMPLE
- SUPPLEMENTAL SOIL BORING/MONITORING WELL
- SUPPLEMENTAL SOIL BORING
- SUPPLEMENTAL BEDROCK MONITORING WELL
- SECONDARY SUPPLEMENTAL BEDROCK MONITORING WELL
- SECONDARY SUPPLEMENTAL SOIL BORING/BEDROCK MONITORING WELL

0 25 50 100

SCALE IN FEET

AKRF

34 South Broadway #401
White Plains, NY 10601

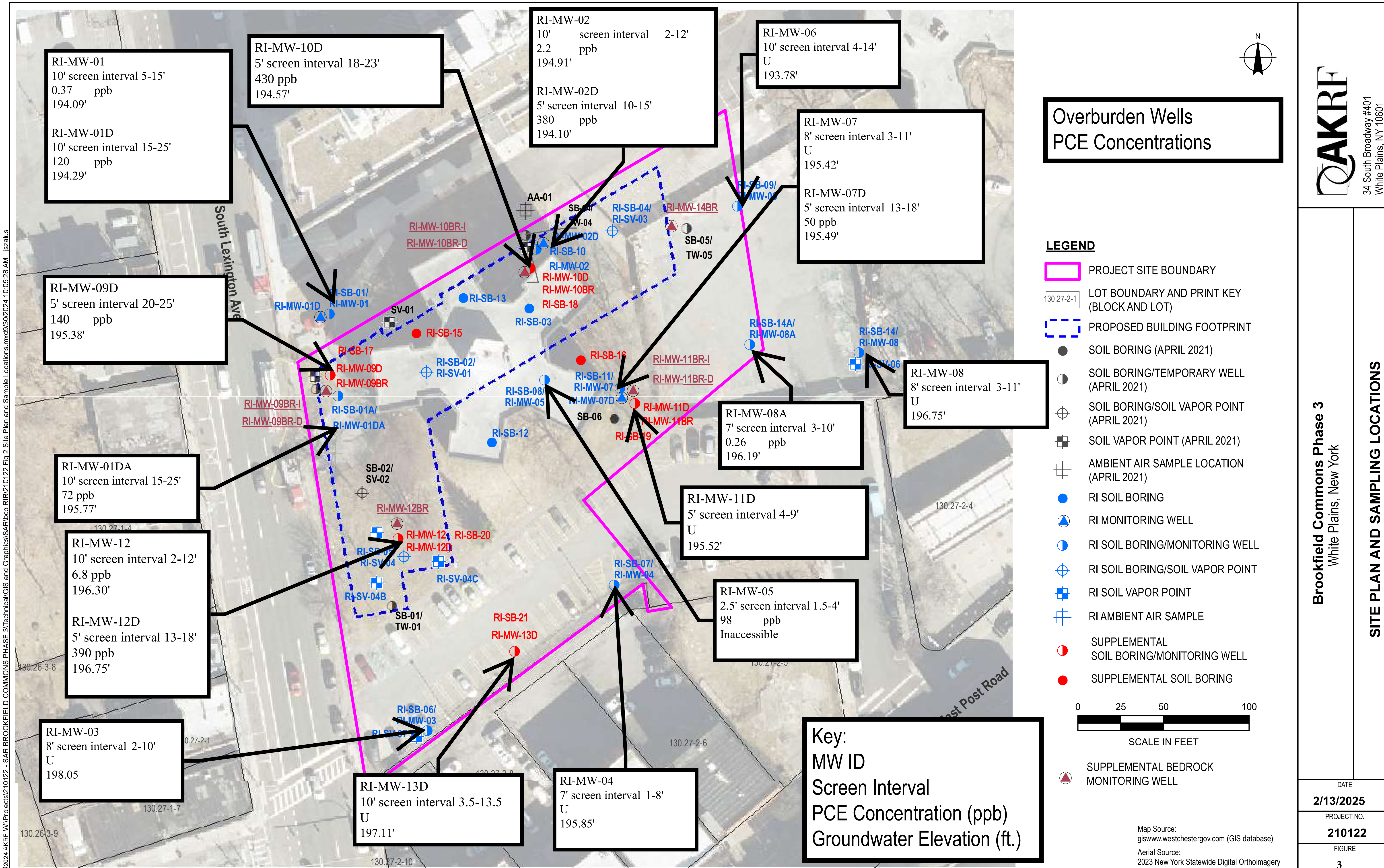
Brookfield Commons Phase 3
White Plains, New York

SITE PLAN AND SAMPLING LOCATIONS

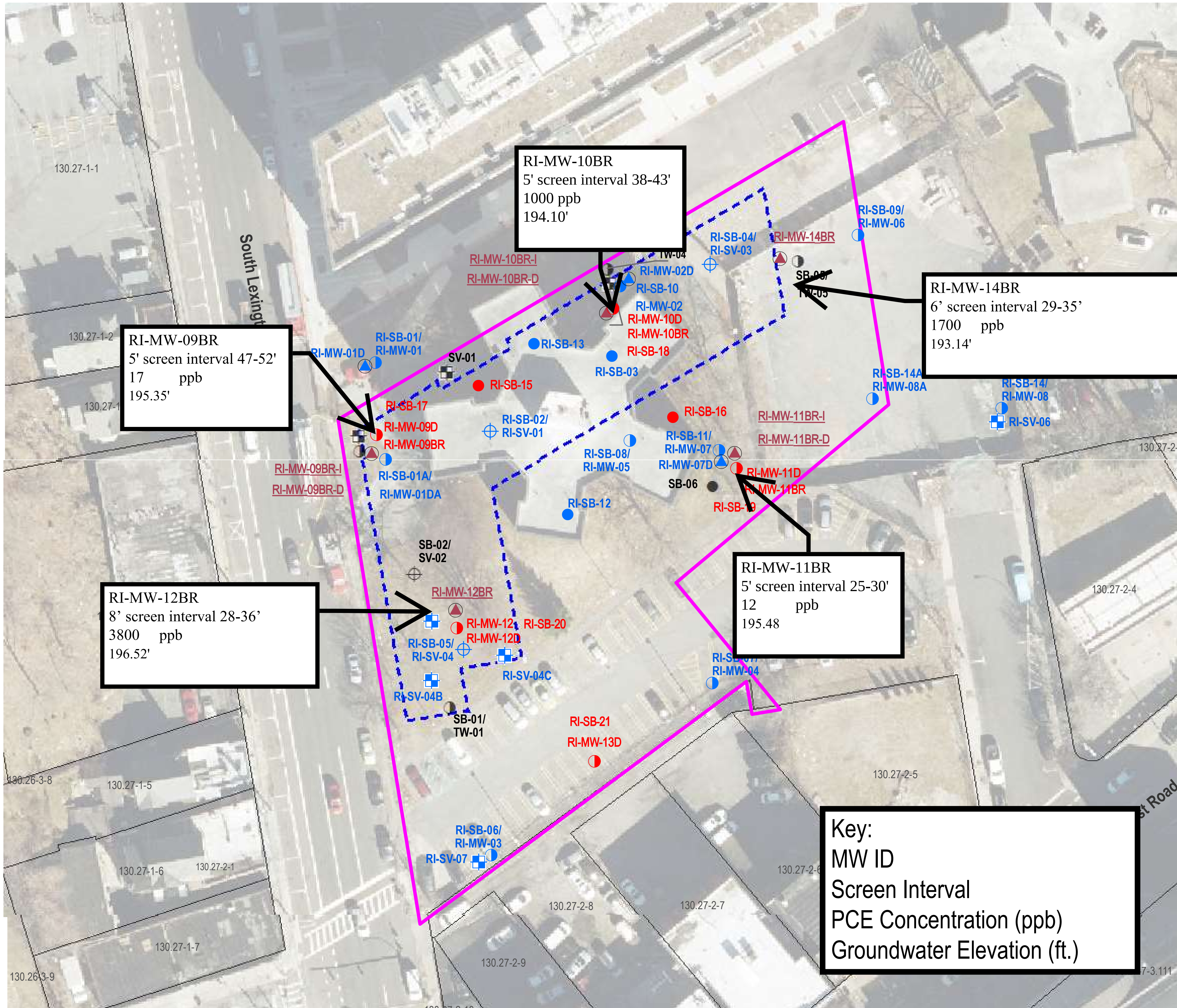
DATE
5/6/2025

PROJECT NO.
210122

FIGURE
2



Overburden Wells
PCE Concentrations
RI-MW-01
10' screen interval 5-15'
0.37 ppb
194.09'
RI-MW-01D
10' screen interval 15-25'
120 ppb
194.29'
RI-MW-10D
5' screen interval 18-23'
430 ppb
194.57'
RI-MW-02
10' screen interval 2-12'
2.2 ppb
194.91'
RI-MW-02D
5' screen interval 10-15'
380 ppb
194.10'
RI-MW-06
10' screen interval 4-14'
U
193.78'
RI-MW-07
8' screen interval 3-11'
U
195.42'
RI-MW-07D
5' screen interval 13-18'
50 ppb
195.49'
RI-MW-09D
5' screen interval 20-25'
140 ppb
195.38'
RI-MW-08
8' screen interval 3-11'
U
196.75'
RI-MW-08A
7' screen interval 3-10'
0.26 ppb
196.19'
RI-MW-01DA
10' screen interval 15-25'
72 ppb
195.77'
RI-MW-11D
5' screen interval 4-9'
U
195.52'
RI-MW-12
10' screen interval 2-12'
6.8 ppb
196.30'
RI-MW-12D
5' screen interval 13-18'
390 ppb
196.75'
RI-MW-05
2.5' screen interval 1.5-4'
98 ppb
Inaccessible
RI-MW-03
8' screen interval 2-10'
U
198.05
RI-MW-13D
10' screen interval 3.5-13.5
U
197.11'
RI-MW-04
7' screen interval 1-8'
U
195.85'
Key:
MW ID
Screen Interval
PCE Concentration (ppb)
Groundwater Elevation (ft.)
South Lexington Ave
AA-01
SV-01
SB-02/
SV-02
SB-01/
TW-01
SB-05/
TW-05
SB-06
RI-SB-13
RI-SB-03
RI-SB-12
RI-SB-15
RI-SB-17
RI-SB-18
RI-SB-20
RI-SB-21
RI-SB-02/
RI-SV-01
RI-SB-04/
RI-SV-03
RI-SB-08/
RI-MW-05
RI-SB-11/
RI-MW-07
RI-MW-07D
RI-SB-10
RI-MW-02
RI-MW-10D
RI-MW-10BR
RI-MW-10BR-I
RI-MW-10BR-D
RI-MW-09D
RI-MW-09BR
RI-MW-09BR-I
RI-MW-09BR-D
RI-SB-01/
RI-MW-01
RI-MW-01D
RI-SB-01A/
RI-MW-01DA
RI-MW-11BR-I
RI-MW-11BR-D
RI-MW-11D
RI-MW-11BR
RI-MW-14BR
RI-SB-14A/
RI-MW-08A
RI-SB-14/
RI-MW-08
RI-MW-12BR
RI-MW-12
RI-MW-12D
RI-SV-04C
RI-SV-04B
RI-SB-07/
RI-MW-04
RI-MW-13D
RI-SB-06/
RI-MW-03
130.27-1-4
130.26-3-8
130.27-1-7
130.26-3-9
130.27-2-10
130.27-2-6
130.27-2-5
130.27-2-4
LEGEND
PROJECT SITE BOUNDARY
130.27-2-1
LOT BOUNDARY AND PRINT KEY (BLOCK AND LOT)
PROPOSED BUILDING FOOTPRINT
SOIL BORING (APRIL 2021)
SOIL BORING/TEMPORARY WELL (APRIL 2021)
SOIL BORING/SOIL VAPOR POINT (APRIL 2021)
SOIL VAPOR POINT (APRIL 2021)
AMBIENT AIR SAMPLE LOCATION (APRIL 2021)
RI SOIL BORING
RI MONITORING WELL
RI SOIL BORING/MONITORING WELL
RI SOIL BORING/SOIL VAPOR POINT
RI SOIL VAPOR POINT
RI AMBIENT AIR SAMPLE
SUPPLEMENTAL SOIL BORING/MONITORING WELL
SUPPLEMENTAL SOIL BORING
SUPPLEMENTAL BEDROCK MONITORING WELL
0 25 50 100
SCALE IN FEET
N
Map Source:
giswww.westchestergov.com (GIS database)
Aerial Source:
2023 New York Statewide Digital Orthoimagery
AKRF
34 South Broadway #401
White Plains, NY 10601
Brookfield Commons Phase 3
White Plains, New York
SITE PLAN AND SAMPLING LOCATIONS
DATE
2/13/2025
PROJECT NO.
210122
FIGURE
3
©2024 AKRF W:\Projects\210122 - SAR BROOKFIELD COMMONS PHASE 3\Technical\GIS and Graphics\SAR\bcp RIR\210122 Fig 2 Site Plan and Sample Locations.mxd9/30/2024 10:05:28 AM iszalus



Shallow Bedrock Wells
PCE Concentrations

LEGEND

- PROJECT SITE BOUNDARY
- 130.27-2-1 LOT BOUNDARY AND PRINT KEY (BLOCK AND LOT)
- PROPOSED BUILDING FOOTPRINT
- SOIL BORING (APRIL 2021)
- SOIL BORING/TEMPORARY WELL (APRIL 2021)
- SOIL BORING/SOIL VAPOR POINT (APRIL 2021)
- SOIL VAPOR POINT (APRIL 2021)
- AMBIENT AIR SAMPLE LOCATION (APRIL 2021)
- RI SOIL BORING
- RI MONITORING WELL
- RI SOIL BORING/MONITORING WELL
- RI SOIL BORING/SOIL VAPOR POINT
- RI SOIL VAPOR POINT
- RI AMBIENT AIR SAMPLE
- SUPPLEMENTAL SOIL BORING/MONITORING WELL
- SUPPLEMENTAL SOIL BORING
- SUPPLEMENTAL BEDROCK MONITORING WELL

0 25 50 100
SCALE IN FEET

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Map Source:
gisww.westchestergov.com (GIS database)
Aerial Source:
2023 New York Statewide Digital Orthoimagery

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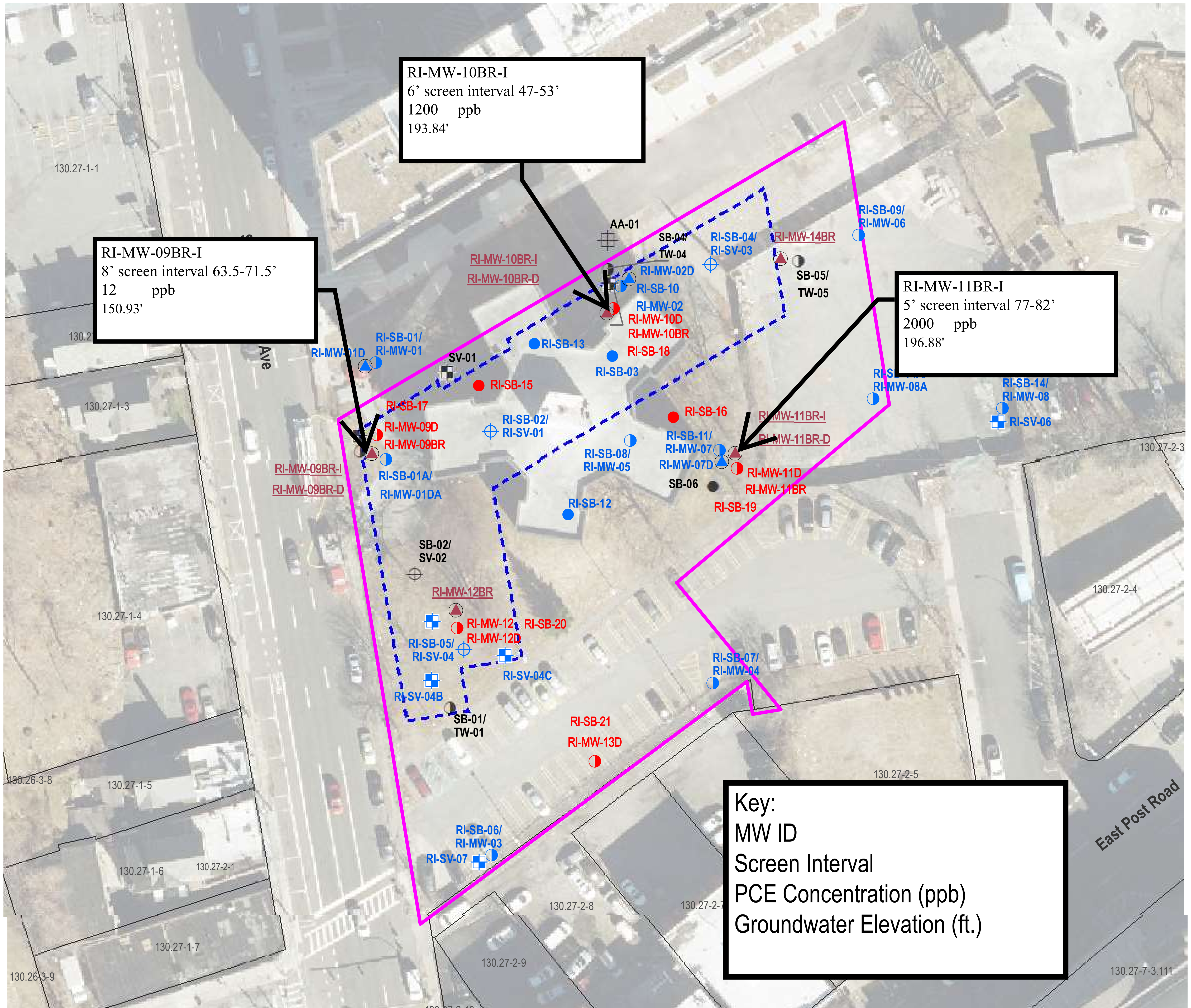
White Plains, New York

SITE PLAN AND SAMPLING LOCATIONS

DATE
2/13/2025
PROJECT NO.
210122
FIGURE
4

©2024 AKRF W:\Projects\210122 - SAR BROOKFIELD COMMONS PHASE 3\Technical\GIS and Graphics\SAR\bcp RIR\210122 Fig 2 Site Plan and Sample Locations.mxd 9/30/2024 10:05:28 AM jszalus



Intermediate Bedrock Wells PCE Concentrations

N

LEGEND

- PROJECT SITE BOUNDARY
- 130.27-2-1 LOT BOUNDARY AND PRINT KEY (BLOCK AND LOT)
- PROPOSED BUILDING FOOTPRINT
- SOIL BORING (APRIL 2021)
- SOIL BORING/TEMPORARY WELL (APRIL 2021)
- SOIL BORING/SOIL VAPOR POINT (APRIL 2021)
- SOIL VAPOR POINT (APRIL 2021)
- AMBIENT AIR SAMPLE LOCATION (APRIL 2021)
- RI SOIL BORING
- RI MONITORING WELL
- RI SOIL BORING/MONITORING WELL
- RI SOIL BORING/SOIL VAPOR POINT
- RI SOIL VAPOR POINT
- RI AMBIENT AIR SAMPLE
- SUPPLEMENTAL SOIL BORING/MONITORING WELL
- SUPPLEMENTAL SOIL BORING
- SUPPLEMENTAL BEDROCK MONITORING WELL

0 25 50 100
SCALE IN FEET

Map Source:
giswww.westchestergov.com (GIS database)
Aerial Source:
2023 New York Statewide Digital Orthoimagery

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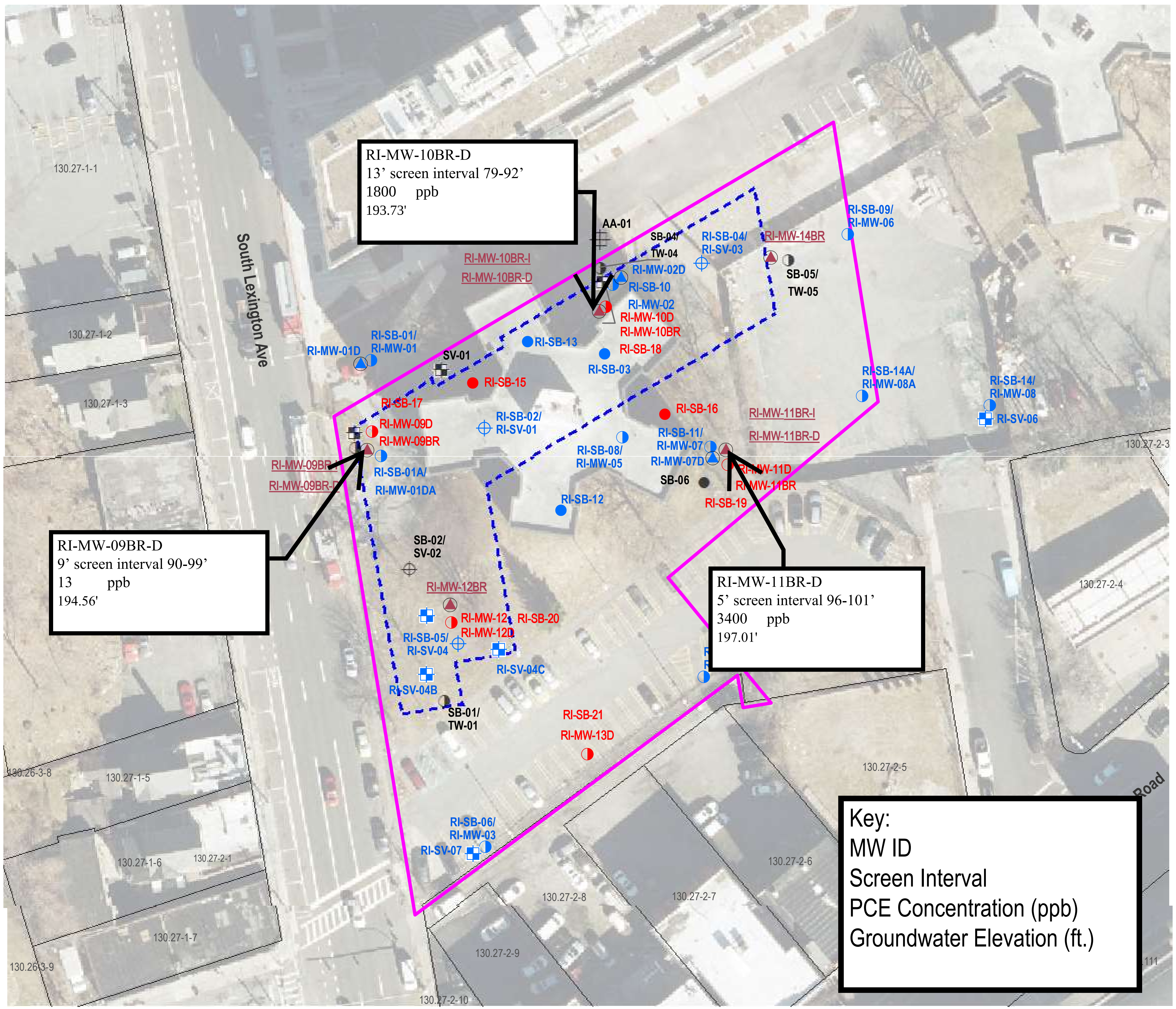
34 South Broadway #401
White Plains, NY 10601

Brookfield Commons Phase 3
White Plains, New York

SITE PLAN AND SAMPLING LOCATIONS

DATE
2/13/2025
PROJECT NO.
210122
FIGURE
5



Deep Bedrock Wells PCE Concentrations

N

LEGEND

- PROJECT SITE BOUNDARY
- 130.27-2-1 LOT BOUNDARY AND PRINT KEY (BLOCK AND LOT)
- PROPOSED BUILDING FOOTPRINT
- SOIL BORING (APRIL 2021)
- SOIL BORING/TEMPORARY WELL (APRIL 2021)
- SOIL BORING/SOIL VAPOR POINT (APRIL 2021)
- SOIL VAPOR POINT (APRIL 2021)
- AMBIENT AIR SAMPLE LOCATION (APRIL 2021)
- RI SOIL BORING
- RI MONITORING WELL
- RI SOIL BORING/MONITORING WELL
- RI SOIL BORING/SOIL VAPOR POINT
- RI SOIL VAPOR POINT
- RI AMBIENT AIR SAMPLE
- SUPPLEMENTAL SOIL BORING/MONITORING WELL
- SUPPLEMENTAL SOIL BORING
- SUPPLEMENTAL BEDROCK MONITORING WELL

0 25 50 100
SCALE IN FEET

Map Source:
giswww.westchestergov.com (GIS database)
Aerial Source:
2023 New York Statewide Digital Orthoimagery

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34 South Broadway #401
White Plains, NY 10601

Brookfield Commons Phase 3
White Plains, New York

SITE PLAN AND SAMPLING LOCATIONS

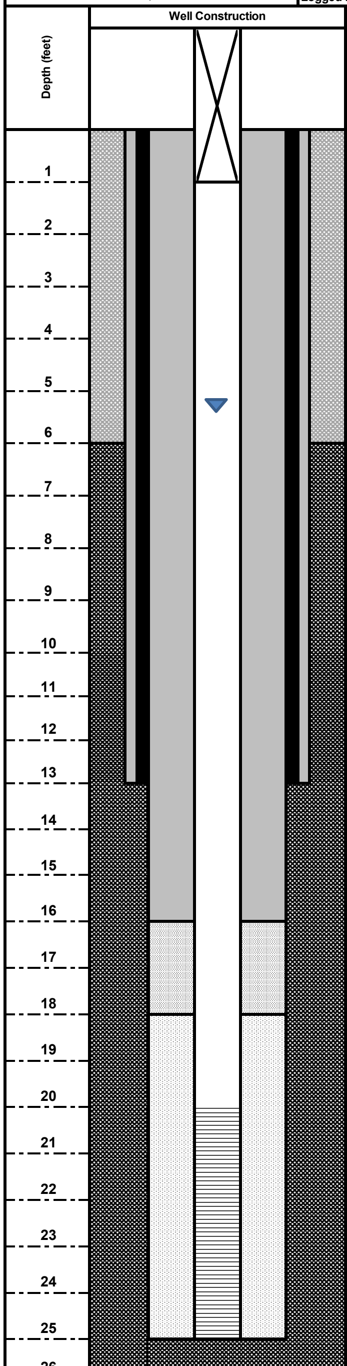
DATE 2/13/2025
PROJECT NO. 210122
FIGURE 6

BEDROCK WELL INSTALLATION LOG	AKRF Project Number:	Groundwater Monitoring Well ID: Sheet 1 of 1	MW-XXBR

AKRF
440 Park Avenue South, 7th Floor
New York, NY 10016

Drilling Method:	Sonic	Drilling	
Sampling Method:	Core Barrel		
Driller:		Well Installation Start Time:	Well Installation Finish Time:
Weather:		Well Installation Date:	
Logged by:			

Depth (feet) | Well Construction | Construction Description



Stick-up well cover and locking j-plug: 3' above grade to 1' below grade.

Non-shrinking cement grout: 0' to 16' below grade

Bentonite seal: 16' to 18' below grade

2" diameter schedule 40 PVC well casing: 3' above grade to 20' below grade.

2" diameter 0.020-slot PVC well screen: 20' to 25' below grade.

No. 2 clean silica sand pack: 18' to 25' below grade.

4" Outer Steel Casing : 0' to 13' below grade, 2' through weathered rock, 5' into competent rock.

Legend
- Overburden
- Bedrock
- Grout
- Bentonite
- Sandpack
- Steel Casing
- Slotted PVC Well

Notes:
Groundwater measured at XXX feet below top of PVC casing in MW-XXBR on January XX, 2025
Groundwater monitoring well installed to 25 feet below grade.

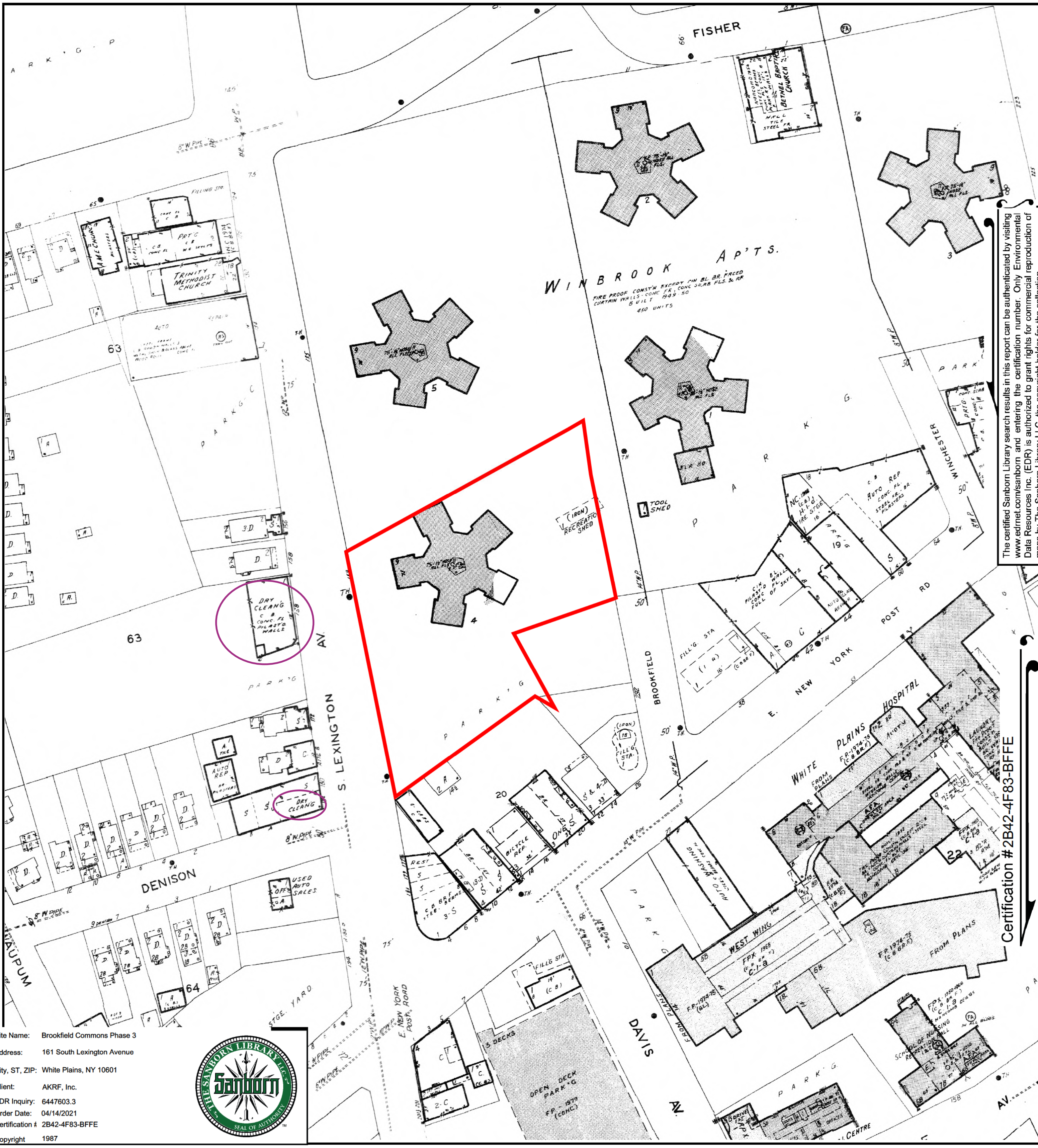
Top of bedrock measured at 6 feet below grade.
Top of competent bedrock measured at 8 feet below grade.

PID = photoionization detector NAPL = non-aqueous phase liquid ND = not detected

Soil classifications and descriptions presented are based on the Modified Burmister Classification System. Descriptions were developed for environmental purposes only.

Certified Sanborn® Map

1987



Site Name: Brookfield Commons Phase 3
Address: 161 South Lexington Avenue
City, ST, ZIP: White Plains, NY 10601
Client: AKRF, Inc.
EDR Inquiry: 6447603.3
Order Date: 04/14/2021
Certification # 2B42-4F83-BFFE
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Certification # 2B42-4F83-BFFE

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

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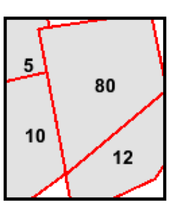

Volume 1, Sheet 80
Volume 1, Sheet 12
Volume 1, Sheet 10
Volume 1, Sheet 5

N

TABLES

Table 1 - Proposed Monitoring Well Construction Details

MW ID	Well Type	Geologic Conditions - Depth (feet): GW	Assumed Top of BR	Assumed Top of Competent BR	Assumed First Water Bearing Fracture(s)	Well Construction - Depth (feet): Casing Interval		Interval		Sand Pack Interval		Bentonite Interval		Notes
						Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	
RI-MW-09BR-D-II	BR	4	20	25	NA	0	120	145	150	143	150	138	143	Deep BR - II
RI-MW-10BR-D-II	BR	4	20	25	NA	0	120	145	150	143	150	138	143	Deep BR - II
RI-MW-11BR-D-II	BR	4	9	10	NA	0	120	145	150	143	150	138	143	Deep BR - II
RI-MW-12BR-I	BR	3	20	23	NA	0	50	70	75	68	75	63	68	Intermediate BR
RI-MW-12BR-D-I	BR	3	20	23	NA	0	75	95	100	93	100	88	93	Deep BR - I
RI-MW-14BR-I	BR	6	22	25	NA	0	50	70	75	68	75	63	68	Intermediate BR
RI-MW-14BR-D-I	BR	6	22	25	NA	0	75	95	100	93	100	88	93	Deep BR - I
RI-MW-15	OB	3	10	NA	NA	NA	NA	3	10	2	10	0	2	Overburden
RI-MW-15BR	BR	4	10	15	20	0	15	18	23	16	23	11	16	Shallow BR
RI-MW-15BR-I	BR	4	10	15	NA	0	50	70	75	68	75	63	68	Intermediate BR
RI-MW-15BR-D-I	BR	4	10	15	NA	0	75	95	100	93	100	88	93	Deep BR - I
RI-MW-16	OB	3	10	NA	NA	NA	NA	3	10	2	10	0	2	Overburden
RI-MW-16BR	BR	4	10	15	20	0	15	18	23	16	23	11	16	Shallow BR
RI-MW-16BR-I	BR	4	10	15	NA	0	50	70	75	68	75	63	68	Intermediate BR
RI-MW-16BR-D-I	BR	4	10	15	NA	0	75	95	100	93	100	88	93	Deep BR - I

Table 2 - Installed Well Construction Details

		Geologic Conditions - Depth (feet)				Well Construction - Depth (feet)							
						Secondary Steel Casing Interval		2" PVC Screen Interval		Sand Pack Interval		Bentonite Interval	
MW ID	Well Type	GW	Top of BR	Top of Competent BR	First Water Bearing Fracture(s)	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
RI-MW-01DA	Deep	5.45	25					15	25	13	25	13	11
RI-MW-02	Shallow	3.60						2	12	1	12	1	0.5
RI-MW-02D	Deep	4.43	15					10	15	8	15	8	6
RI-MW-03	Shallow	3.41	10					2	10	1	10	1	0.5
RI-MW-04	Shallow	3.01	8					1	8	0.5	8	0.5	1
RI-MW-05	Shallow	Inaccessible (basement, directly below	4					2	4	1	4	0.5	1
RI-MW-06	Shallow	5.62	14					4	14	2	14	1	0.5
RI-MW-07	Shallow	5.60						3	11	1	11	1	0.5
RI-MW-07D	Deep	5.42	18					13	18	11	18	11	9
RI-MW-08A	Shallow	5.34	10					3	10	1	10	1	0
RI-MW-9D	Deep	4.98	25					20	25	18	25	18	16
RI-MW-9BR	Shallow BR	4.94	25	40	49	0	45	47	52	45	52	45	43
RI-MW-9BR-I	Intermediate BR	48.96	30	40	NA	0	45	63.5	71.5	61.5	71.5	61.5	56.5
RI-MW-9BR-D-I	Deep BR	5.39	30	40	NA	0	45	90	99	88	99	88	83
RI-MW-10D	Deep	3.61	23					18	23	16	23	16	14
RI-MW-10BR	Shallow BR	3.85	23	25	40	0	30	38	43	36	43	36	34
RI-MW-10BR-I	Intermediate BR	3.96	17	28	NA	0	33	47	53	45	53	45	40
RI-MW-10BR-D-I	Deep BR	4.04	17	25	NA	0	30	79	92	77	92	77	72
RI-MW-11D	Deep	5.52	9					4	9	2	9	2	0
RI-MW-11BR	Shallow BR	5.38	9	10	27	0	15	25	30	23	30	23	21
RI-MW-11BR-I	Intermediate BR	4.19	10	10	NA	0	15	77	82	75	82	75	70
RI-MW-11BR-D-I	Deep BR	3.88	10	10	NA	0	15	96	101	94	101	94	89
RI-MW-12	Shallow	3.32						2	12	1	2	0	1
RI-MW-12D	Deep	3.02	18					13	18	11	18	11	9
RI-MW-12BR	Shallow BR	2.85	20	23	28	0	28	28	36	26	36	26	21
RI-MW-13D	Deep	2.72	13.5					3.5	13.5	1.5	13.5	1.5	0
RI-MW-14BR	Shallow BR	6.55	22	25	34	0	30	29	35	27	35	27	22

BOREHOLE GEOPHYSICAL LOGGING – DATA REPORT

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846 Main Street, Fords, NJ 08863 (732.661.0555)

www.hager-richter.com

BOREHOLE GEOPHYSICAL LOGGING – DATA REPORT
BOREHOLES MW-BR-09-D, MW-BR-10-D, MW-BR-11-D, MW-BR-12, MW-BR-14

BROOKFIELD COMMONS
159 SOUTH LEXINGTON AVENUE
WHITE PLAINS, NEW YORK

Prepared for:

AKRF
34 South Broadway, Suite 300
White Plains, New York 10601

Prepared by:

Hager-Richter Geoscience
6 Kendall Pond Road
Derry, New Hampshire 0303

846 Main Street
Fords, New Jersey 08863

File 245ND05
May 2025

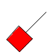
Tadpole	Structure Category (Symbol Color)	Description
	Fracture Rank 1 (Light Blue)	Minor Fracture - not distinct and may not be continuous around the borehole
	Fracture Rank 2 (Blue)	Intermediate Fracture - distinct and continuous around the borehole with little or no apparent aperture
	Fracture Rank 3 (Red)	Major Fracture - distinct and continuous around the borehole with apparent aperture

Figure 1. Key to bedrock structure categories.

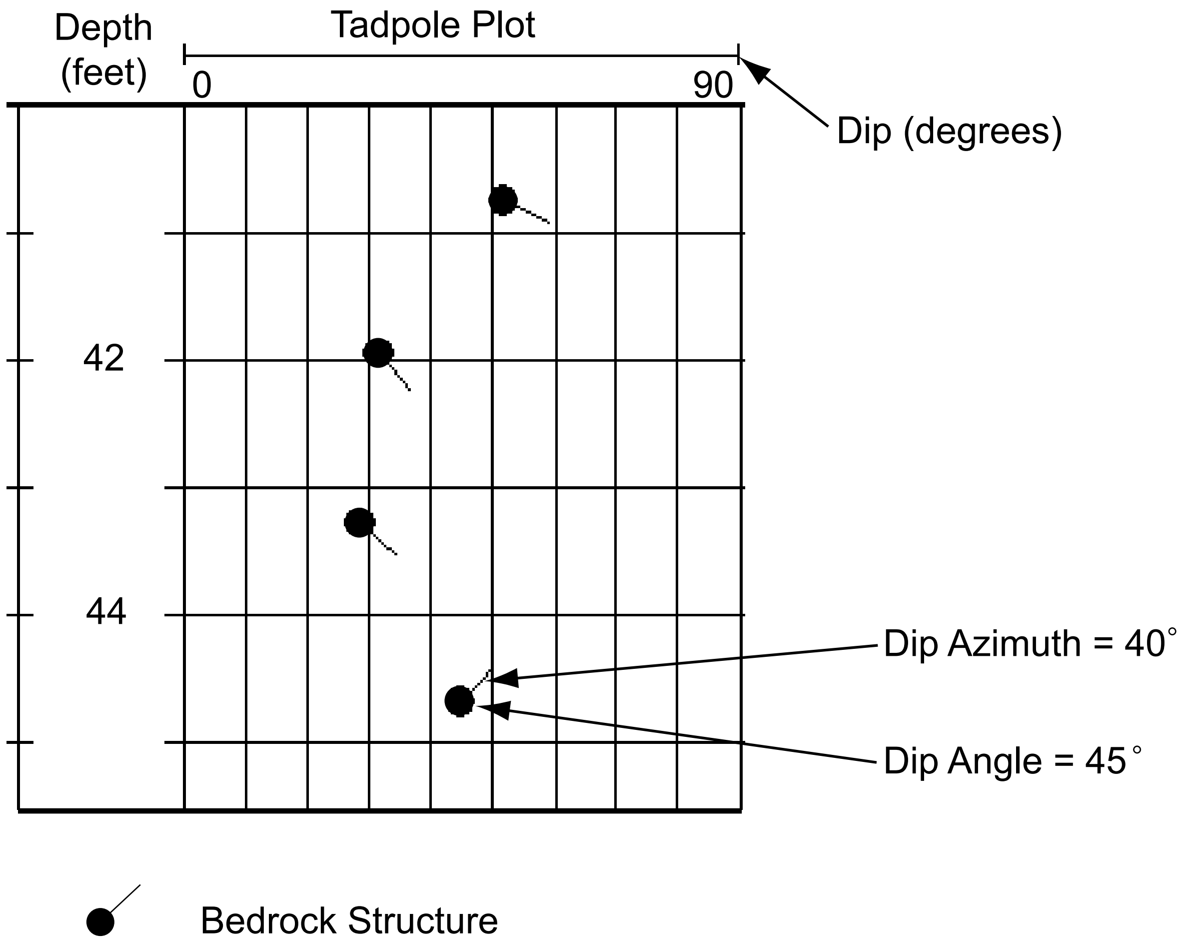


Figure 2. Tadpole plot explanation. The orientation of the bedrock structures is graphically displayed by a tadpole consisting of a circle, the head, and a line, the tail. The position of the head, left to right on the tadpole plot, gives the dip angle of the structure. The left side of the track indicates a dip angle of 0°, and the right side of the track indicates a dip angle of 90° from horizontal. The orientation of the tail gives the dip azimuth of the structure and can be read like a compass. The tail pointing directly up is 0°, north.

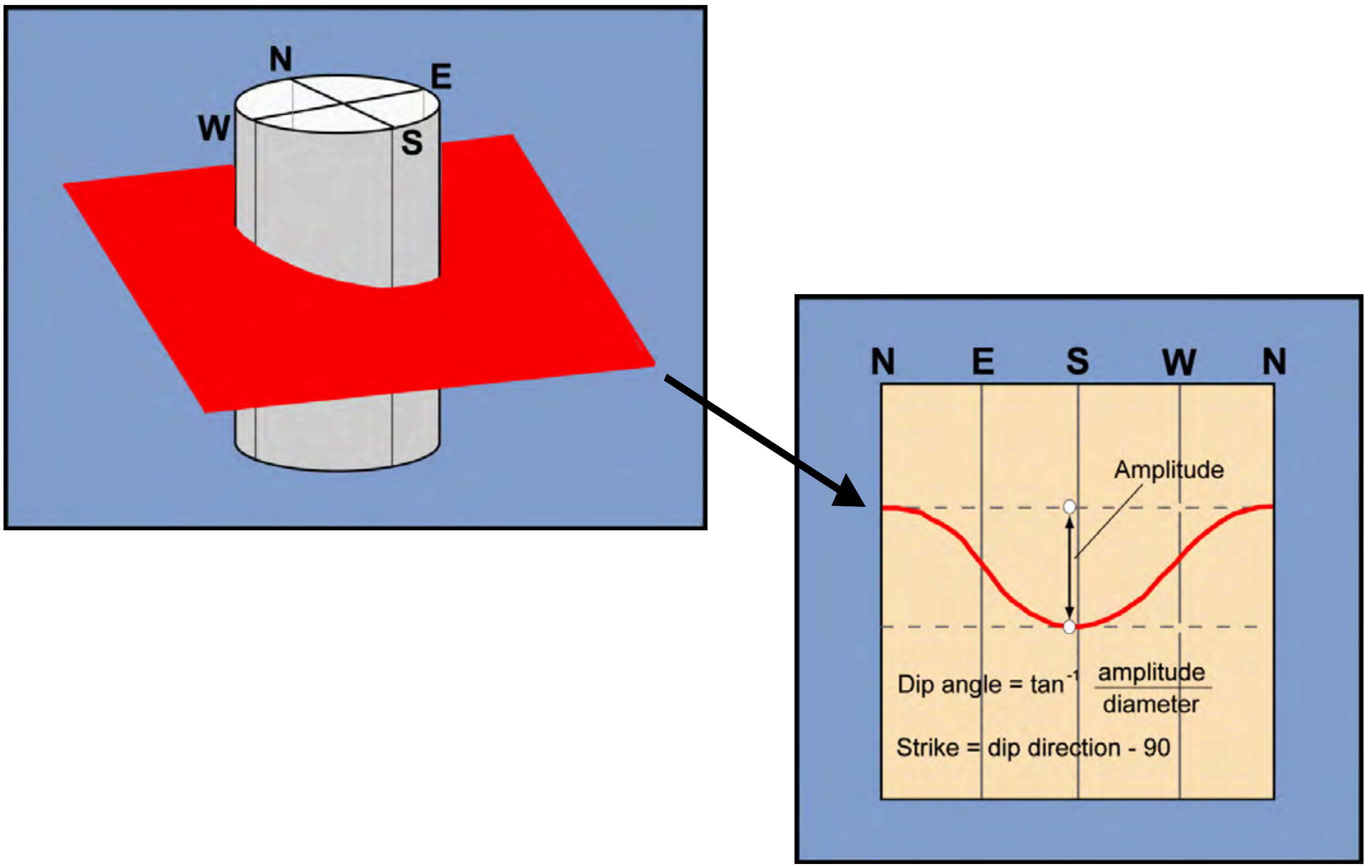


Figure 3. Televiewer explanation. The image on the left depicts a planar structure in red, such as a fracture or bedding plane, intersected by a borehole. The image on the right depicts the same structure unwrapped as it would be displayed in an optical televiewer (OTV) or acoustic televiewer (ATV) log.

Figure modified from: Garfield, R.L., Day-Lewis, F.D., Gray, M.B., Johnson, C.D., Williams, J.H. and Day-Lewis, A.D.F., 2003, Fractured-Rock Aquifer Characterization within a Regional Geologic Context: Results from the Bucknell University Hydrogeophysics Test Site, GSA Northeastern Section, 38th Annual Meeting, Paper No. 25-19.

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MW-BR-09-D - BOREHOLE GEOPHYSICAL LOGS

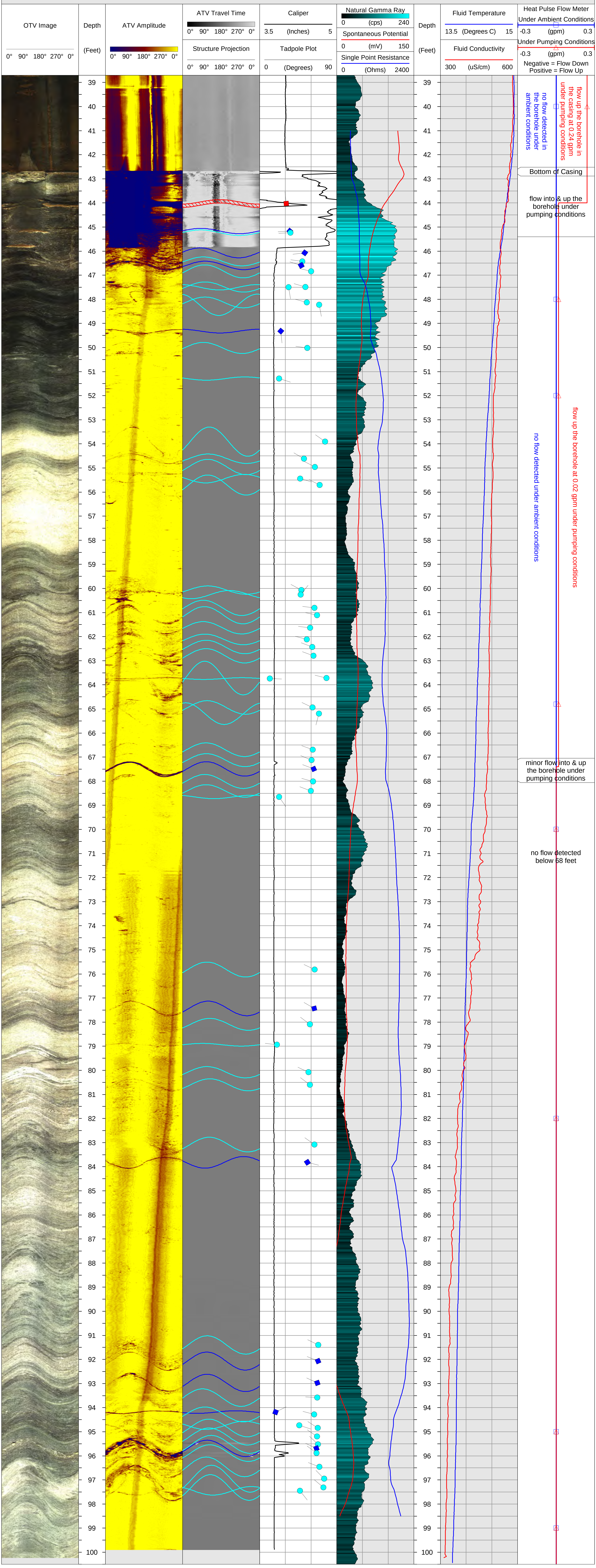
DATE LOGGED: April 11, 2025

CLIENT:	AKRF	HRGS FILE:	25ND05
PROJECT:	Brookfield Commons	LOG DATUM:	Ground Surface
LOCATION:	159 South Lexington Avenue, White Plains, New York	ORIENTATION REFERENCE:	True North (Magnetic Declination = 13° West)
LOGGING GEOPHYSICIST(S):	Mikko Aarnio	BOREHOLE DIAMETER:	3.8-Inch (HQ-Cored)
LOGS PROCESSED BY:	Robert Garfield, P.G. & Nick DeCristofaro	WATER LEVEL DEPTH:	4.6 Feet

STRUCTURE LEGEND

Fracture Rank 1 Fracture Rank 2 Fracture Rank 3

MW-BR-09-D - Borehole Geophysical Logs



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MW-BR-10-D - BOREHOLE GEOPHYSICAL LOGS

DATE LOGGED: April 9, 2025

CLIENT:	AKRF	HRGS FILE:	25ND05
PROJECT:	Brookfield Commons	LOG DATUM:	Ground Surface
LOCATION:	159 South Lexington Avenue, White Plains, New York	ORIENTATION REFERENCE:	True North (Magnetic Declination = 13° West)
LOGGING GEOPHYSICIST(S):	Mikko Aarnio	BOREHOLE DIAMETER:	3.8-Inch (HQ-Cored)
LOGS PROCESSED BY:	Robert Garfield, P.G. & Nick DeCristofaro	WATER LEVEL DEPTH:	3.9 Feet

STRUCTURE LEGEND

Fracture Rank 1 — Fracture Rank 2 — Fracture Rank 3

MW-BR-10-D - Borehole Geophysical Logs

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MW-BR-11-D - BOREHOLE GEOPHYSICAL LOGS

DATE LOGGED: April 4, 2025

CLIENT: AKRF
PROJECT: Brookfield Commons
LOCATION: 159 South Lexington Avenue, White Plains, New York
LOGGING GEOPHYSICIST(S): Nick DeCristofaro
LOGS PROCESSED BY: Robert Garfield, P.G. & Nick DeCristofaro

HRGS FILE: 25ND05
LOG DATUM: Ground Surface
ORIENTATION REFERENCE: True North (Magnetic Declination = 13° West)
BOREHOLE DIAMETER: 3.8-Inch (HQ-Cored)
WATER LEVEL DEPTH: 5.1 Feet

STRUCTURE LEGEND

Fracture Rank 1 | Fracture Rank 2 | Fracture Rank 3

MW-BR-11-D - Borehole Geophysical Logs

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MW-BR-12 - BOREHOLE GEOPHYSICAL LOGS

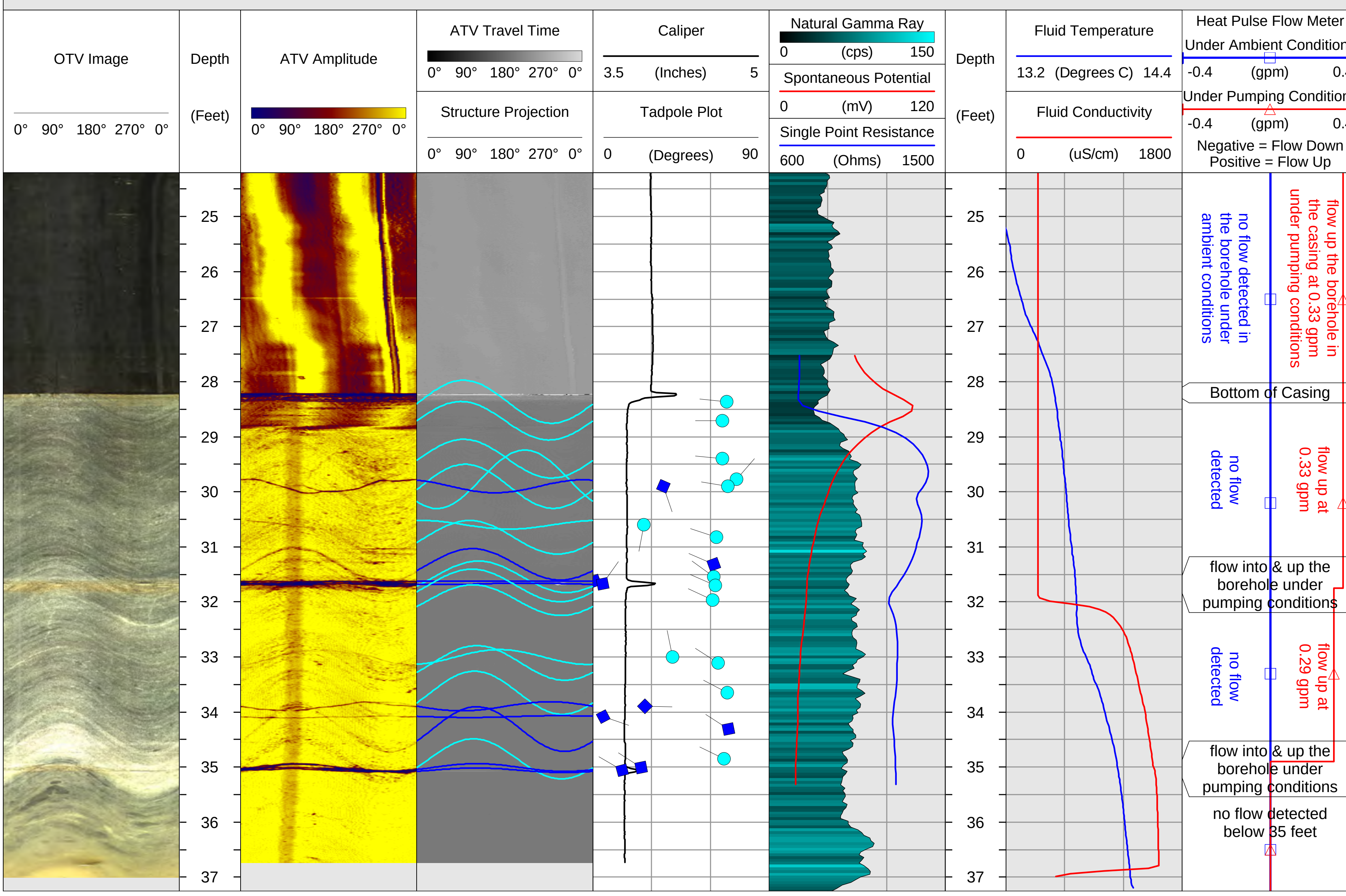
DATE LOGGED: April 11, 2025

CLIENT:	AKRF	HRGS FILE:	25ND05
PROJECT:	Brookfield Commons	LOG DATUM:	Ground Surface
LOCATION:	159 South Lexington Avenue, White Plains, New York	ORIENTATION REFERENCE:	True North (Magnetic Declination = 13° West)
LOGGING GEOPHYSICIST(S):	Mikko Aarnio	BOREHOLE DIAMETER:	3.8-Inch (HQ-Cored)
LOGS PROCESSED BY:	Robert Garfield, P.G. & Nick DeCristofaro	WATER LEVEL DEPTH:	3.0 Feet

STRUCTURE LEGEND

Fracture Rank 1 Fracture Rank 2

MW-BR-12 - Borehole Geophysical Logs



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MW-BR-14 - BOREHOLE GEOPHYSICAL LOGS

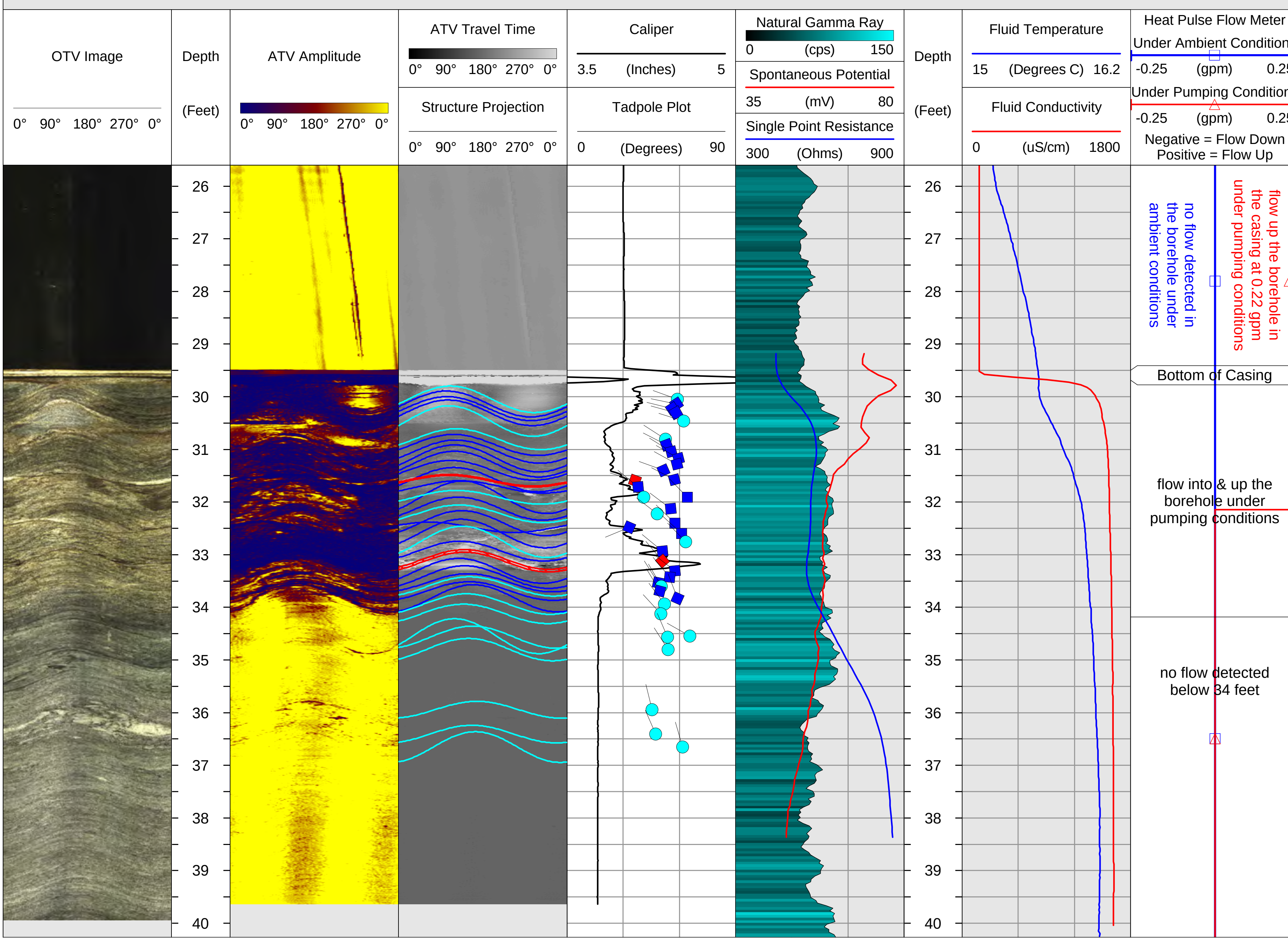
DATE LOGGED: April 9, 2025

CLIENT:	AKRF	HRGS FILE:	25ND05
PROJECT:	Brookfield Commons	LOG DATUM:	Ground Surface
LOCATION:	159 South Lexington Avenue, White Plains, New York	ORIENTATION REFERENCE:	True North (Magnetic Declination = 13° West)
LOGGING GEOPHYSICIST(S):	Mikko Aarnio	BOREHOLE DIAMETER:	3.8-Inch (HQ-Cored)
LOGS PROCESSED BY:	Robert Garfield, P.G. & Nick DeCristofaro	WATER LEVEL DEPTH:	5.9 Feet

STRUCTURE LEGEND

Fracture Rank 1   Fracture Rank 2   Fracture Rank 3

MW-BR-14 - Borehole Geophysical Logs



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ALL BOREHOLES - BEDROCK FRACTURE STATISTICS PLOTS

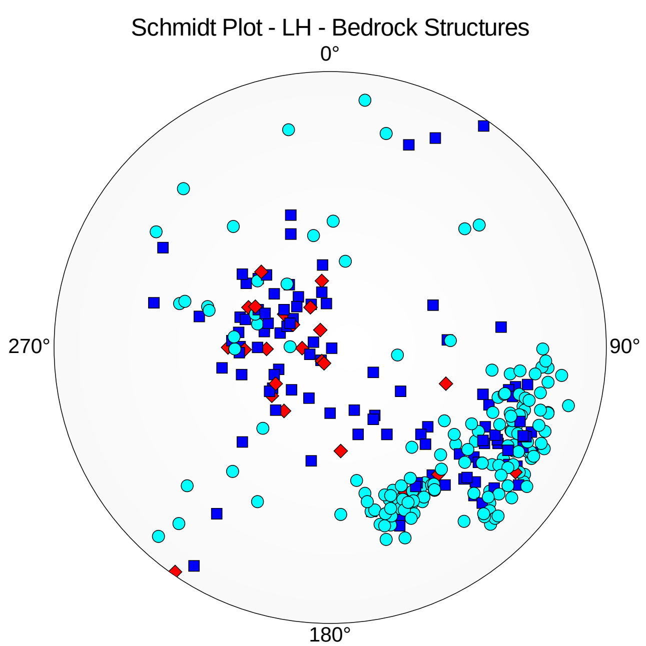
DATE(S) LOGGED: April 2025

CLIENT:	AKRF	HRGS FILE:	25ND05
PROJECT:	Brookfield Commons	ORIENTATION REFERENCE:	True North
LOCATION:	159 South Lexington Avenue, White Plains, New York	MAGNETIC DECLINATION:	13° West

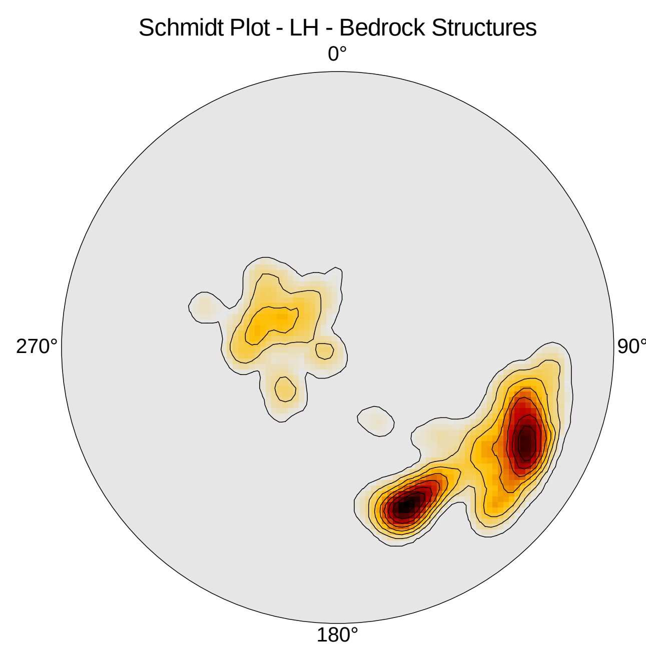
STRUCTURE LEGEND

● Fracture Rank 1 ◆ Fracture Rank 2 ■ Fracture Rank 3

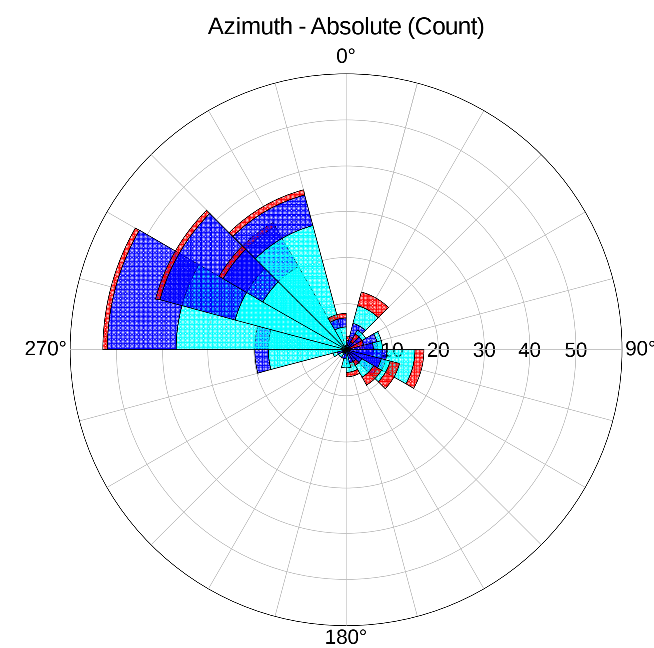
Stereogram - Lower Hemisphere of Bedrock Fractures	Contoured Stereogram - Lower Hemisphere of Bedrock Fractures	Dip Azimuth Rose Diagram of Bedrock Fractures	Dip Angle Histogram of Bedrock Fractures



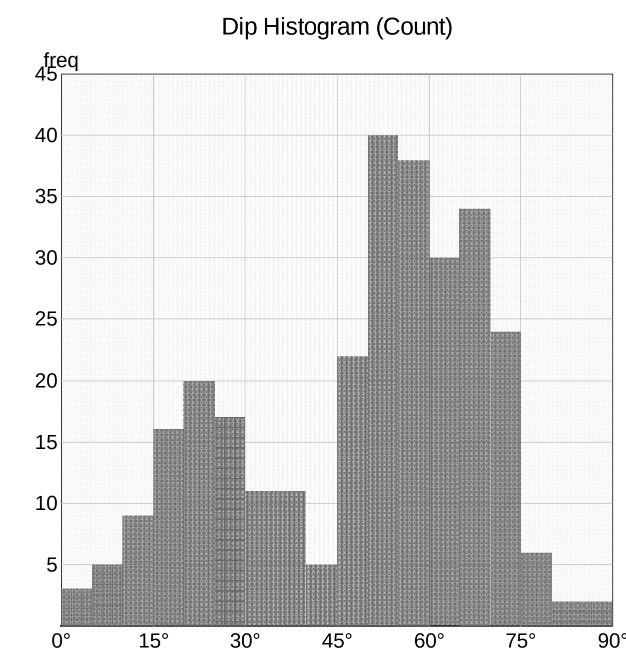
	Counts	Dip[deg]	Azi[deg]
Mean	295	48.97	320.56
◆	23	27.10	74.69
●	162	57.54	311.06
■	110	40.36	343.24



	Counts	Dip[deg]	Azi[deg]
Mean	295	48.97	320.56
◆	23	27.10	74.69
●	162	57.54	311.06
■	110	40.36	343.24



Components	Azimuth
Mean (2D)	320.56
Counts	295.00
◆	23
●	162
■	110



Counts:	295.00
Mean (2D):	48.97
Std.Dev.:	19.60
Min:	0.70
Max:	88.90

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ALL BOREHOLES - BEDROCK FRACTURE STATISTICS PLOTS

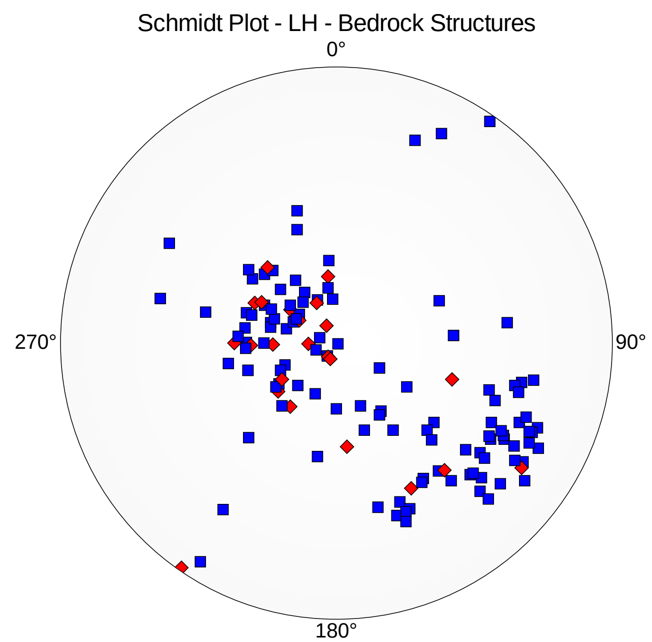
DATE(S) LOGGED: April 2025

CLIENT:	AKRF	HRGS FILE:	25ND05
PROJECT:	Brookfield Commons	ORIENTATION REFERENCE:	True North
LOCATION:	159 South Lexington Avenue, White Plains, New York	MAGNETIC DECLINATION:	13° West

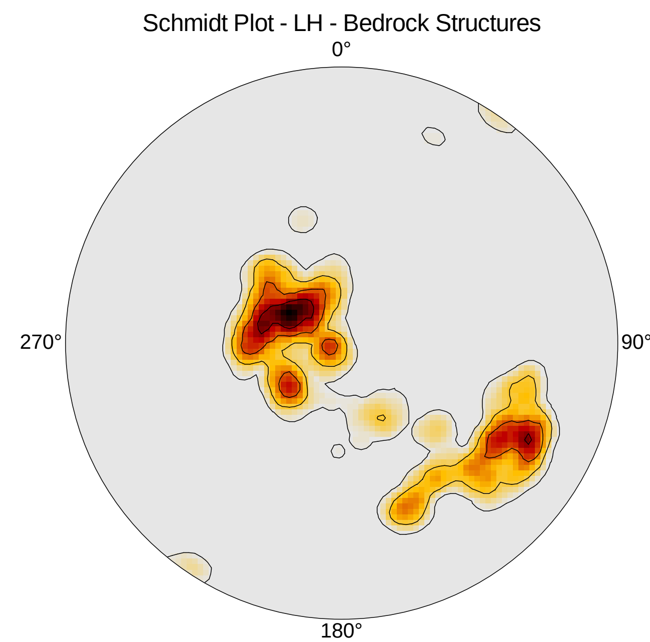
STRUCTURE LEGEND

◆ Fracture Rank 2 ■ Fracture Rank 3

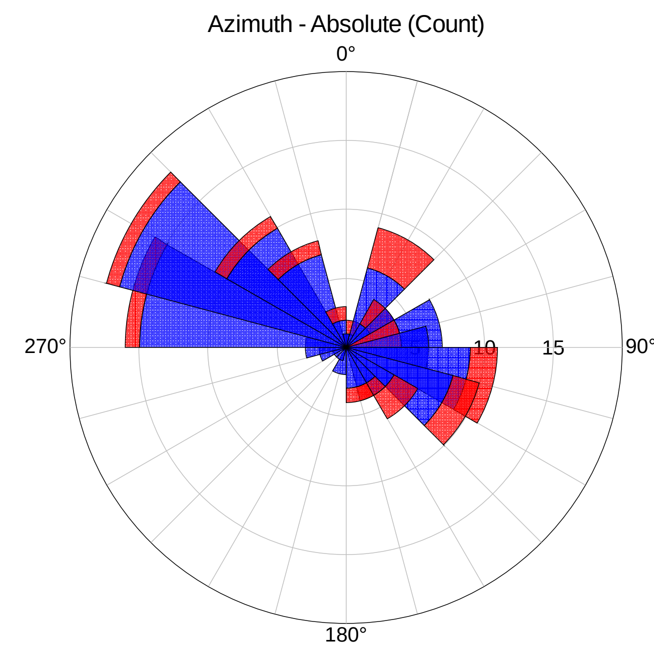
Stereogram - Lower Hemisphere of Bedrock Fractures	Contoured Stereogram - Lower Hemisphere of Bedrock Fractures	Dip Azimuth Rose Diagram of Bedrock Fractures	Dip Angle Histogram of Bedrock Fractures



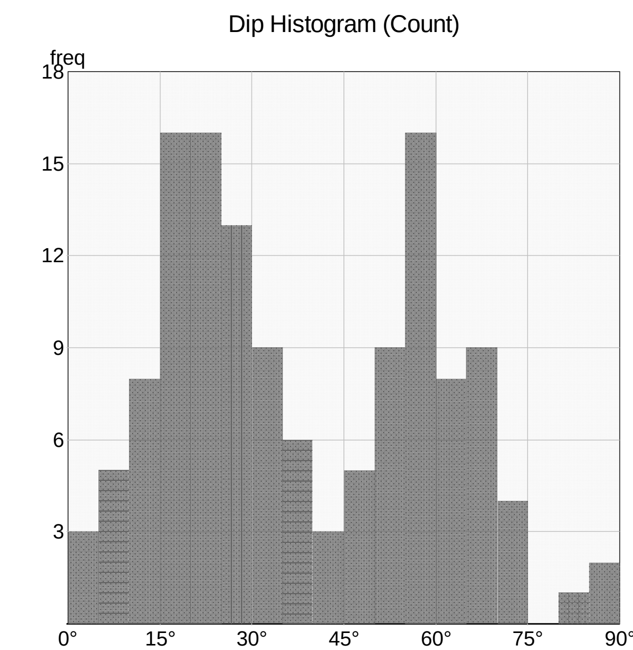
	Counts	Dip[deg]	Azi[deg]
Mean	133	38.07	8.04
◆	23	27.10	74.69
■	110	40.36	343.24



	Counts	Dip[deg]	Azi[deg]
Mean	133	38.07	8.04
◆	23	27.10	74.69
■	110	40.36	343.24



Components	Azimuth
Mean (2D)	8.04
Counts	133.00
◆	23
■	110



Counts:	133.00
Mean (2D):	38.07
Std.Dev.:	21.03
Min:	0.70
Max:	88.90

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ALL BOREHOLES - BEDROCK FRACTURE STATISTICS PLOTS

DATE(S) LOGGED: April 2025

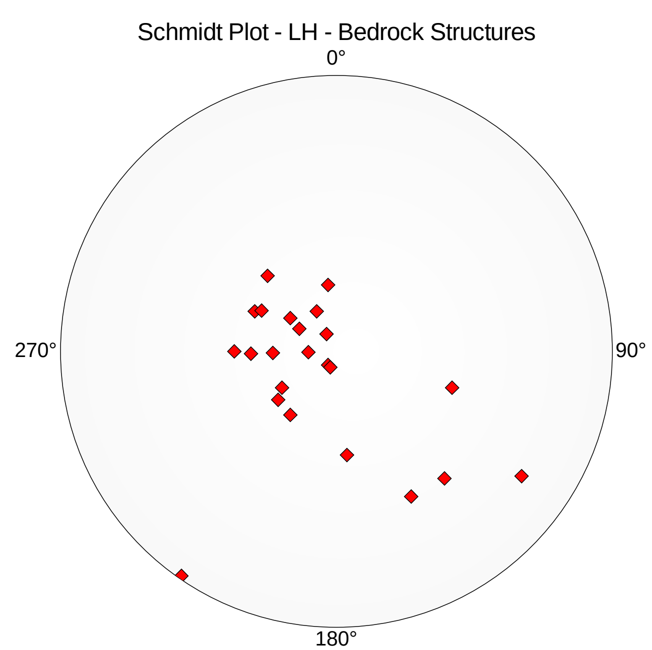
CLIENT: AKRF
PROJECT: Brookfield Commons
LOCATION: 159 South Lexington Avenue, White Plains, New York

HRGS FILE: 25ND05
ORIENTATION REFERENCE: True North
MAGNETIC DECLINATION: 13° West

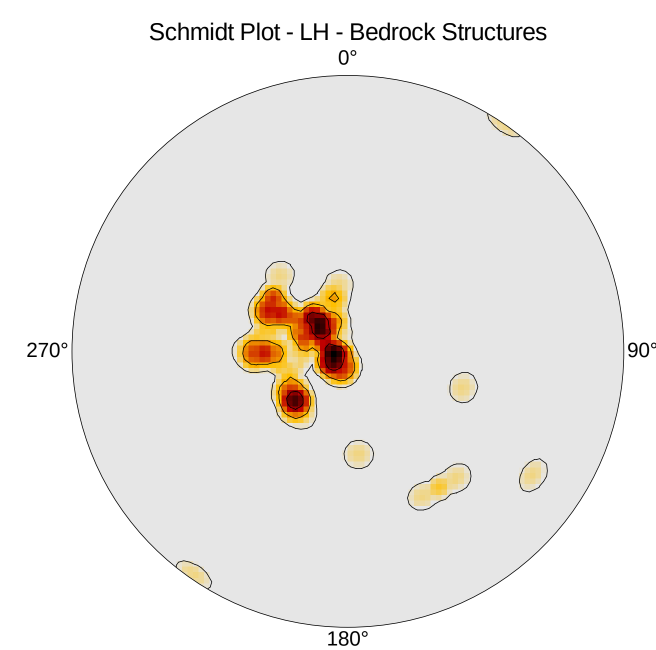
STRUCTURE LEGEND

■ Fracture Rank 3

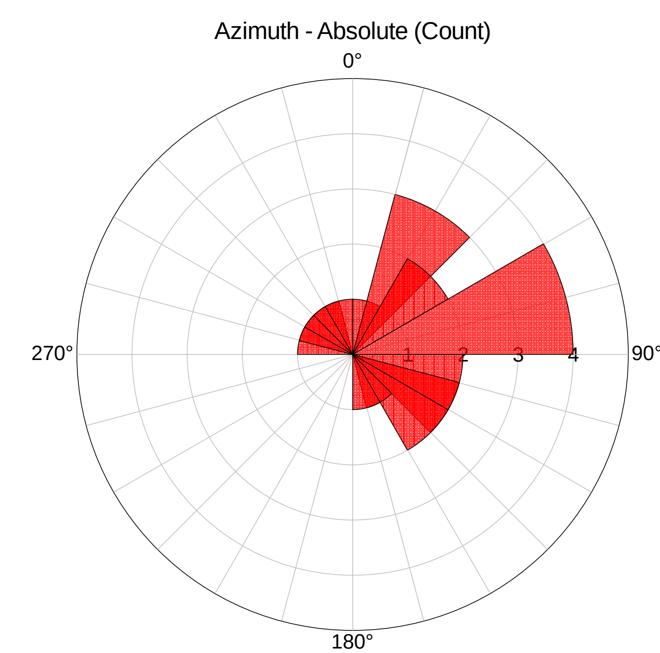
Stereogram - Lower Hemisphere of Bedrock Fractures	Contoured Stereogram - Lower Hemisphere of Bedrock Fractures	Dip Azimuth Rose Diagram of Bedrock Fractures	Dip Angle Histogram of Bedrock Fractures



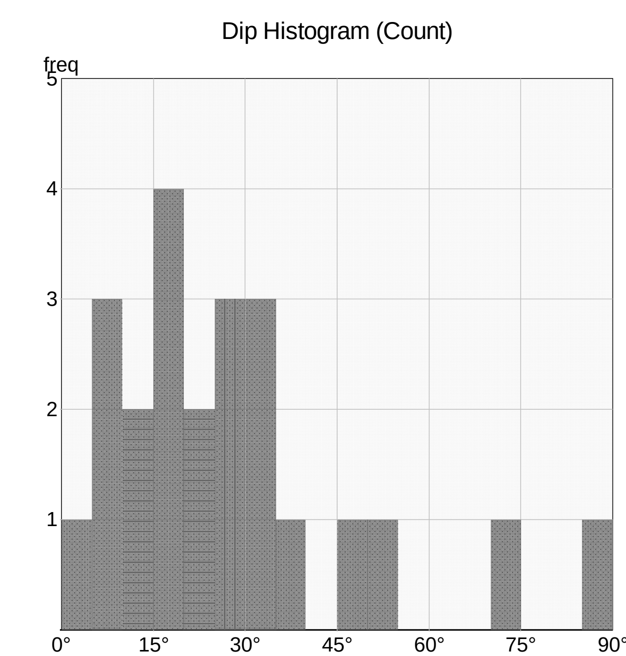
	Counts	Dip[deg]	Azi[deg]
Mean	23	27.10	74.69
◆	23	27.10	74.69



	Counts	Dip[deg]	Azi[deg]
Mean	23	27.10	74.69
◆	23	27.10	74.69



Components	Azimuth
Mean (2D)	74.69
Counts	23.00
◆	23



Counts:	23.00
Mean (2D):	27.10
Std.Dev.:	19.94
Min:	4.83
Max:	88.90

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MW-BR-09-D - TABLE OF BEDROCK STRUCTURES	
CLIENT	AKRF
PROJECT	Brookfield Commons
LOCATION	159 South Lexington Avenue, White Plains, New York
HRGS FILE	25ND05
DATE LOGGED	April 11, 2025
LOG DATUM	Ground Surface
DIP AZIMUTH	True North (Magnetic Declination = 13° West)
DIP ANGLE	Measured from Horizontal

MW-BR-09-D - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
44.0	354	31	Fracture Rank 3
45.2	266	35	Fracture Rank 2
45.2	267	36	Fracture Rank 1
46.1	263	53	Fracture Rank 2
46.4	278	50	Fracture Rank 1
46.6	287	49	Fracture Rank 2
46.8	284	60	Fracture Rank 1
47.5	287	53	Fracture Rank 1
47.5	171	34	Fracture Rank 1
48.1	285	55	Fracture Rank 1
48.2	169	69	Fracture Rank 1
49.3	175	25	Fracture Rank 2
50.0	279	56	Fracture Rank 1
51.3	108	23	Fracture Rank 1
53.9	305	76	Fracture Rank 1
54.6	300	52	Fracture Rank 1
55.0	298	65	Fracture Rank 1
55.4	106	47	Fracture Rank 1
55.7	298	70	Fracture Rank 1
60.1	298	49	Fracture Rank 1
60.3	38	48	Fracture Rank 1
60.8	277	64	Fracture Rank 1
61.1	282	67	Fracture Rank 1
61.6	277	59	Fracture Rank 1
62.1	285	55	Fracture Rank 1
62.4	291	61	Fracture Rank 1
62.8	290	63	Fracture Rank 1
63.7	284	78	Fracture Rank 1
63.7	92	12	Fracture Rank 1
64.9	295	62	Fracture Rank 1
65.2	195	69	Fracture Rank 1
66.7	290	62	Fracture Rank 1
67.1	292	61	Fracture Rank 1
67.5	291	63	Fracture Rank 2

MW-BR-09-D - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
68.0	285	62	Fracture Rank 1
68.4	291	60	Fracture Rank 1
68.7	146	23	Fracture Rank 1
75.8	295	64	Fracture Rank 1
77.4	300	64	Fracture Rank 2
78.1	307	59	Fracture Rank 1
78.9	277	20	Fracture Rank 1
80.1	295	57	Fracture Rank 1
80.6	307	59	Fracture Rank 1
83.1	305	64	Fracture Rank 1
83.8	104	56	Fracture Rank 2
91.4	296	68	Fracture Rank 1
92.1	293	68	Fracture Rank 2
93.0	295	67	Fracture Rank 2
93.6	274	67	Fracture Rank 1
94.2	64	18	Fracture Rank 2
94.3	285	64	Fracture Rank 1
94.7	108	46	Fracture Rank 1
94.8	303	68	Fracture Rank 1
95.2	304	67	Fracture Rank 1
95.5	313	68	Fracture Rank 1
95.7	295	66	Fracture Rank 2
95.9	307	66	Fracture Rank 1
96.5	291	70	Fracture Rank 1
97.0	315	75	Fracture Rank 1
97.3	310	74	Fracture Rank 1
97.5	141	47	Fracture Rank 1

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MW-BR-10-D - TABLE OF BEDROCK STRUCTURES	
CLIENT	AKRF
PROJECT	Brookfield Commons
LOCATION	159 South Lexington Avenue, White Plains, New York
HRGS FILE	25ND05
DATE LOGGED	April 9, 2025
LOG DATUM	Ground Surface
DIP AZIMUTH	True North (Magnetic Declination = 13° West)
DIP ANGLE	Measured from Horizontal

MW-BR-10-D - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
29.8	88	8	Fracture Rank 3
31.1	314	70	Fracture Rank 1
32.0	312	67	Fracture Rank 1
32.6	156	14	Fracture Rank 2
32.7	134	30	Fracture Rank 2
33.2	133	29	Fracture Rank 1
33.5	128	32	Fracture Rank 2
33.5	25	52	Fracture Rank 1
34.3	287	71	Fracture Rank 1
35.2	88	19	Fracture Rank 3
35.3	126	17	Fracture Rank 3
35.6	277	74	Fracture Rank 1
35.7	100	28	Fracture Rank 2
35.8	88	25	Fracture Rank 3
35.9	90	22	Fracture Rank 2
36.9	339	20	Fracture Rank 2
37.0	314	38	Fracture Rank 2
37.4	34	62	Fracture Rank 2
38.3	291	73	Fracture Rank 1
41.1	287	72	Fracture Rank 1
42.2	297	68	Fracture Rank 1
42.7	303	73	Fracture Rank 1
42.8	305	74	Fracture Rank 1
43.1	295	75	Fracture Rank 1
43.9	188	80	Fracture Rank 1
44.2	294	73	Fracture Rank 1
47.3	326	24	Fracture Rank 2
47.3	329	25	Fracture Rank 2
47.4	299	72	Fracture Rank 1
47.5	10	34	Fracture Rank 2
47.7	32	83	Fracture Rank 2
47.9	303	71	Fracture Rank 1
48.3	42	17	Fracture Rank 2
48.4	54	21	Fracture Rank 2

MW-BR-10-D - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
48.9	298	71	Fracture Rank 2
49.2	315	41	Fracture Rank 2
49.4	304	70	Fracture Rank 3
49.4	327	31	Fracture Rank 2
49.5	303	66	Fracture Rank 2
49.5	360	20	Fracture Rank 2
49.7	87	27	Fracture Rank 2
49.9	313	58	Fracture Rank 2
49.9	40	31	Fracture Rank 1
50.4	207	74	Fracture Rank 2
50.4	281	62	Fracture Rank 2
50.5	306	74	Fracture Rank 2
50.9	67	17	Fracture Rank 2
51.1	311	68	Fracture Rank 2
51.1	182	38	Fracture Rank 1
51.2	43	39	Fracture Rank 2
51.5	116	27	Fracture Rank 3
51.6	90	30	Fracture Rank 3
51.8	50	23	Fracture Rank 3
51.9	36	23	Fracture Rank 3
54.7	339	63	Fracture Rank 1
56.4	23	16	Fracture Rank 2
61.1	298	71	Fracture Rank 1
65.9	32	5	Fracture Rank 3
66.7	308	71	Fracture Rank 1
67.3	316	68	Fracture Rank 2
70.6	104	40	Fracture Rank 2
72.0	201	68	Fracture Rank 2
79.8	54	22	Fracture Rank 2
80.0	229	55	Fracture Rank 1
80.3	22	5	Fracture Rank 3
80.5	41	25	Fracture Rank 2
80.6	316	72	Fracture Rank 1
80.8	322	69	Fracture Rank 1
81.0	42	82	Fracture Rank 1
85.4	230	59	Fracture Rank 1
85.9	121	13	Fracture Rank 3
85.9	35	89	Fracture Rank 3
86.0	215	87	Fracture Rank 2
86.2	96	29	Fracture Rank 1
86.3	121	14	Fracture Rank 2

HRGS dba HR Geological Services in New York	
MW-BR-11-D - TABLE OF BEDROCK STRUCTURES	
CLIENT	AKRF
PROJECT	Brookfield Commons
LOCATION	159 South Lexington Avenue, White Plains, New York
HRGS FILE	25ND05
DATE LOGGED	April 4, 2025
LOG DATUM	Ground Surface
DIP AZIMUTH	True North (Magnetic Declination = 13° West)
DIP ANGLE	Measured from Horizontal

MW-BR-11-D - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
21.2	172	20	Fracture Rank 3
21.5	344	56	Fracture Rank 1
21.8	346	52	Fracture Rank 2
22.3	150	6	Fracture Rank 3
22.5	342	27	Fracture Rank 2
23.0	148	18	Fracture Rank 2
23.1	137	68	Fracture Rank 1
23.3	338	52	Fracture Rank 2
23.9	134	23	Fracture Rank 2
24.0	334	55	Fracture Rank 1
24.2	336	55	Fracture Rank 2
24.3	332	54	Fracture Rank 1
24.6	333	50	Fracture Rank 3
24.8	321	50	Fracture Rank 2
24.9	325	50	Fracture Rank 1
25.1	341	56	Fracture Rank 2
25.2	339	56	Fracture Rank 1
27.3	335	57	Fracture Rank 1
27.8	337	55	Fracture Rank 1
28.4	346	51	Fracture Rank 1
30.2	324	54	Fracture Rank 1
31.1	163	41	Fracture Rank 2
31.4	339	49	Fracture Rank 1
32.4	338	56	Fracture Rank 2
32.7	327	51	Fracture Rank 1
33.0	356	51	Fracture Rank 1
33.3	336	51	Fracture Rank 1
33.7	109	28	Fracture Rank 2
33.7	329	55	Fracture Rank 1
33.8	108	27	Fracture Rank 2
34.2	345	51	Fracture Rank 1
34.7	307	52	Fracture Rank 1
35.9	341	58	Fracture Rank 1
36.4	323	53	Fracture Rank 1

MW-BR-11-D - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
37.8	342	53	Fracture Rank 1
38.7	343	57	Fracture Rank 1
39.1	333	57	Fracture Rank 1
39.5	141	16	Fracture Rank 2
39.6	128	14	Fracture Rank 2
39.9	340	55	Fracture Rank 1
40.8	334	51	Fracture Rank 1
41.0	139	29	Fracture Rank 2
41.3	331	53	Fracture Rank 1
41.6	335	55	Fracture Rank 1
41.7	333	53	Fracture Rank 1
41.8	342	53	Fracture Rank 1
42.3	339	52	Fracture Rank 1
43.0	310	54	Fracture Rank 1
43.4	323	52	Fracture Rank 1
43.6	340	48	Fracture Rank 1
43.9	324	54	Fracture Rank 1
45.3	335	58	Fracture Rank 1
45.8	314	47	Fracture Rank 1
48.4	107	20	Fracture Rank 2
49.0	147	22	Fracture Rank 2
50.0	104	20	Fracture Rank 2
53.2	94	29	Fracture Rank 2
53.4	108	39	Fracture Rank 1
58.3	333	47	Fracture Rank 1
59.0	175	13	Fracture Rank 2
59.2	328	46	Fracture Rank 1
59.5	171	16	Fracture Rank 2
59.8	346	48	Fracture Rank 1
60.3	338	48	Fracture Rank 1
61.0	321	39	Fracture Rank 1
61.2	130	34	Fracture Rank 2
61.6	305	46	Fracture Rank 1
64.0	114	24	Fracture Rank 1
65.1	46	62	Fracture Rank 1
66.3	73	28	Fracture Rank 2
67.5	297	68	Fracture Rank 2
71.1	89	28	Fracture Rank 1
71.5	299	67	Fracture Rank 1
71.8	106	16	Fracture Rank 2
71.9	116	14	Fracture Rank 2
72.4	107	38	Fracture Rank 1
72.5	299	63	Fracture Rank 1
79.6	292	54	Fracture Rank 1
79.7	154	13	Fracture Rank 3
79.9	301	55	Fracture Rank 2

MW-BR-11-D - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
80.4	121	60	Fracture Rank 2
82.0	124	65	Fracture Rank 1
82.3	287	69	Fracture Rank 1
83.3	311	70	Fracture Rank 1
84.6	298	73	Fracture Rank 1
84.7	118	24	Fracture Rank 2
86.0	318	76	Fracture Rank 1
87.0	138	30	Fracture Rank 3
91.9	316	75	Fracture Rank 1
94.8	318	72	Fracture Rank 1
95.2	112	20	Fracture Rank 2
95.5	118	22	Fracture Rank 2
97.4	130	18	Fracture Rank 2
97.9	71	6	Fracture Rank 2
98.0	119	26	Fracture Rank 3
98.5	317	71	Fracture Rank 1
98.5	79	33	Fracture Rank 2
98.7	56	19	Fracture Rank 3

HRGS dba HR Geological Services in New York	
MW-BR-12 - TABLE OF BEDROCK STRUCTURES	
CLIENT	AKRF
PROJECT	Brookfield Commons
LOCATION	159 South Lexington Avenue, White Plains, New York
HRGS FILE	25ND05
DATE LOGGED	April 11, 2025
LOG DATUM	Ground Surface
DIP AZIMUTH	True North (Magnetic Declination = 13° West)
DIP ANGLE	Measured from Horizontal

MW-BR-12 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
28.4	275	68	Fracture Rank 1
28.7	271	66	Fracture Rank 1
29.4	275	66	Fracture Rank 1
29.8	41	73	Fracture Rank 1
29.9	279	69	Fracture Rank 1
29.9	161	36	Fracture Rank 2
30.6	190	26	Fracture Rank 1
30.8	288	63	Fracture Rank 1
31.3	293	62	Fracture Rank 2
31.5	306	62	Fracture Rank 1
31.6	294	1	Fracture Rank 2
31.7	36	5	Fracture Rank 2
31.7	293	63	Fracture Rank 1
32.0	295	61	Fracture Rank 1
33.0	349	41	Fracture Rank 1
33.1	303	64	Fracture Rank 1
33.7	298	69	Fracture Rank 1
33.9	91	27	Fracture Rank 2
34.1	108	5	Fracture Rank 2
34.3	302	69	Fracture Rank 2
34.9	296	67	Fracture Rank 1
35.0	302	25	Fracture Rank 2
35.1	301	15	Fracture Rank 2

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MW-BR-14 - TABLE OF BEDROCK STRUCTURES	
CLIENT	AKRF
PROJECT	Brookfield Commons
LOCATION	159 South Lexington Avenue, White Plains, New York
HRGS FILE	25ND05
DATE LOGGED	April 9, 2025
LOG DATUM	Ground Surface
DIP AZIMUTH	True North (Magnetic Declination = 13° West)
DIP ANGLE	Measured from Horizontal

MW-BR-14 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
30.1	290	59	Fracture Rank 1
30.1	282	58	Fracture Rank 2
30.2	283	56	Fracture Rank 2
30.3	285	58	Fracture Rank 2
30.5	287	62	Fracture Rank 1
30.8	303	53	Fracture Rank 1
30.9	297	53	Fracture Rank 2
31.1	302	56	Fracture Rank 2
31.2	300	60	Fracture Rank 2
31.3	299	59	Fracture Rank 2
31.4	290	52	Fracture Rank 2
31.6	298	57	Fracture Rank 2
31.6	288	36	Fracture Rank 3
31.7	309	38	Fracture Rank 2
31.9	316	64	Fracture Rank 2
31.9	303	41	Fracture Rank 1
32.1	307	55	Fracture Rank 2
32.2	308	48	Fracture Rank 1
32.4	314	58	Fracture Rank 2
32.5	248	33	Fracture Rank 2
32.6	313	61	Fracture Rank 2
32.8	315	64	Fracture Rank 1
32.9	310	51	Fracture Rank 2
33.1	320	51	Fracture Rank 3
33.3	308	58	Fracture Rank 2
33.4	320	55	Fracture Rank 2
33.5	327	49	Fracture Rank 2
33.6	330	50	Fracture Rank 1
33.7	328	50	Fracture Rank 2
33.8	339	59	Fracture Rank 2
33.9	324	52	Fracture Rank 1
34.1	318	50	Fracture Rank 1
34.6	300	66	Fracture Rank 1
34.6	337	54	Fracture Rank 1

MW-BR-14 - TABLE OF BEDROCK STRUCTURES

Depth (Feet)	Dip Azimuth (Degrees)	Dip Angle (Degrees)	Bedrock Structure Category
34.8	328	54	Fracture Rank 1
36.0	346	45	Fracture Rank 1
36.4	336	47	Fracture Rank 1
36.7	344	62	Fracture Rank 1