SANDIA NATIONAL LABORATORIES/CALIFORNIA
FOR THE U.S. DEPARTMENT OF ENERGY/NATIONAL NUCLEAR SECURITY ADMINSITRATION/SANDIA FIELD OFFICE

Sampling and Analysis Plan for Partial Closure of Solid Waste Management Unit #16 Addendum Part I for Delineating BH-056

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Prepared by:

Trevor Manger

Environmental Management Department

Sandia National Laboratories/California

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1.0 Purpose

On July 11, 2022, Sandia National Laboratories in California (SNL/CA) submitted a *Response to Regional Water Quality Control Board Comments on Soil Sampling Results for Closure of a Portion of SWMU #16* in response to the February 16,2022 San Francisco Bay Regional Water Quality Control Board's (SFRWQCB) letter requesting supporting information for the recommended closure of 7,700 linear feet of abandoned sewer lines. On August 18, 2022, SFRWQCB further requested a Sampling and Analysis Plan (SAP) for additional "step-out" sampling to delineate the potential presence of benzidine near borehole BH-056, which is located near the former sewer line. SNL/CA is in the process of contracting Weiss Associates (Weiss) to perform and oversee the boring, sampling, analysis, and report development to determine the potential presence and extent of benzidine. This document outlines the work that is anticipated, including the development of the SAP, to complete the investigation and submit a final report to the SFRWQCB.

The work proposed by Weiss provides an estimated schedule for completing the investigation and developing the addendum Part II SAP for the project. In addition, Weiss provided a preliminary estimate of the sample locations (see Attachment A) which serve as addendum Part I of the SAP requested by the SFRWQCB. The contractor will submit the addendum Part II SAP, to satisfy the SFRWQCB requirement, before proceeding with any work.

2.0 Plan of Work

- **Update SAP & Obtain Permits** - Weiss will prepare the *Sampling and Analysis Plan for Partial Closure of Solid Waste Management Unit #16 Addendum Part II for Delineating BH-056*, and will cover the advancement of seven boreholes near BH-056 to a depth of 11 feet below ground surface (bgs) and collecting soil samples at 6.5, 8.5 and 10.5 feet bgs in each borehole. Prior to drilling, Weiss will locate the seven locations with the assistance of SNL/CA personnel. Once the locations are identified, SNL/CA will complete the dig permit and have the utilities marked in the vicinity of each boring location.

- **Approval of SAP by SFRWQCB**

- **Conduct Sampling** - The area of the investigation is paved with asphalt. Weiss will contract with Cascade Drilling to provide a direct-push rig to conduct the work. The drillers would cut a 4-inch diameter core at each location and hand auger to 5 feet bgs. to clear the area for utilities. Once the boring is cleared using the direct-push rig, the driller will advance rods to collect a continuous core between the depths of 5 and 11 feet bgs. Weiss will screen the core with a photo-ionization detector (PID) for unexpected but potential volatile constituents, and based on field observations (e.g., staining) and PID readings, will collect and package samples for shipping to the laboratory for analyses. After collecting the required soil samples, the borehole will be backfilled with grout.

- **Sample Analysis** - The samples will be analyzed for benzidine, a semi-volatile organic compound by U.S. Environmental Protection Agency's Method 8270. Investigation-derived waste (e.g., soil cuttings) will be contained in 55-gallon drums supplied by SNL/CA. The waste will be moved to a location designated where it will be characterized for disposal by SNL/CA appropriately disposed of after test results are obtained.

- **Reporting & Review –** Submit report and discuss results with agency.

- **Project Closure –** If test results confirm that residues of the original release are not present in concentrations that would have a negative impact on groundwater or the surroundings, SNL/CA will resubmit its request for project closure.

3.0 Estimated Timeline

Initially SNL/CA SAP planned to deliver the updated SAP to SFRWQCB by November 14, 2022; however, it was found that an estimate of the work to be performed and contract expansion was needed before the project cost could be estimated and funds secured. SNL/CA thus prepared this preliminary overview of the work plan, which will be followed by the contractor's addendum Part II SAP to describe the work plan. Following the submittal of the addendum Part II SAP, estimated dates for subsequent activities are shown as noted below.

<u>Updated Addendum Part II SAP Issuance Date</u>

- Update addendum Part II SAP & submit to SFRWQCB on February 15, 2023 to enable Weiss contract along with write, finalize, and submit document

<u>Expected Dates for Remaining Activities</u>

- Obtain permits for borings – 2 weeks
- Utility locating conducted by Sandia – 4 weeks after SFRWQCB approves SAP
- Conduct Drilling - 8 weeks after SAP approval (contingent on driller availability)
- Drilling – 3 days
- Analytical results – 4 weeks after drilling
- Report to Sandia – 4 weeks after final analytical results received
- Sandia internal review and edits – 4 weeks
- Final report submitted to SFRWQCB – 2 weeks

4.0 Conditions of the Work

Safety and quality assurance conditions related to the field work will be included in the addendum Part II SAP.

Attachment A

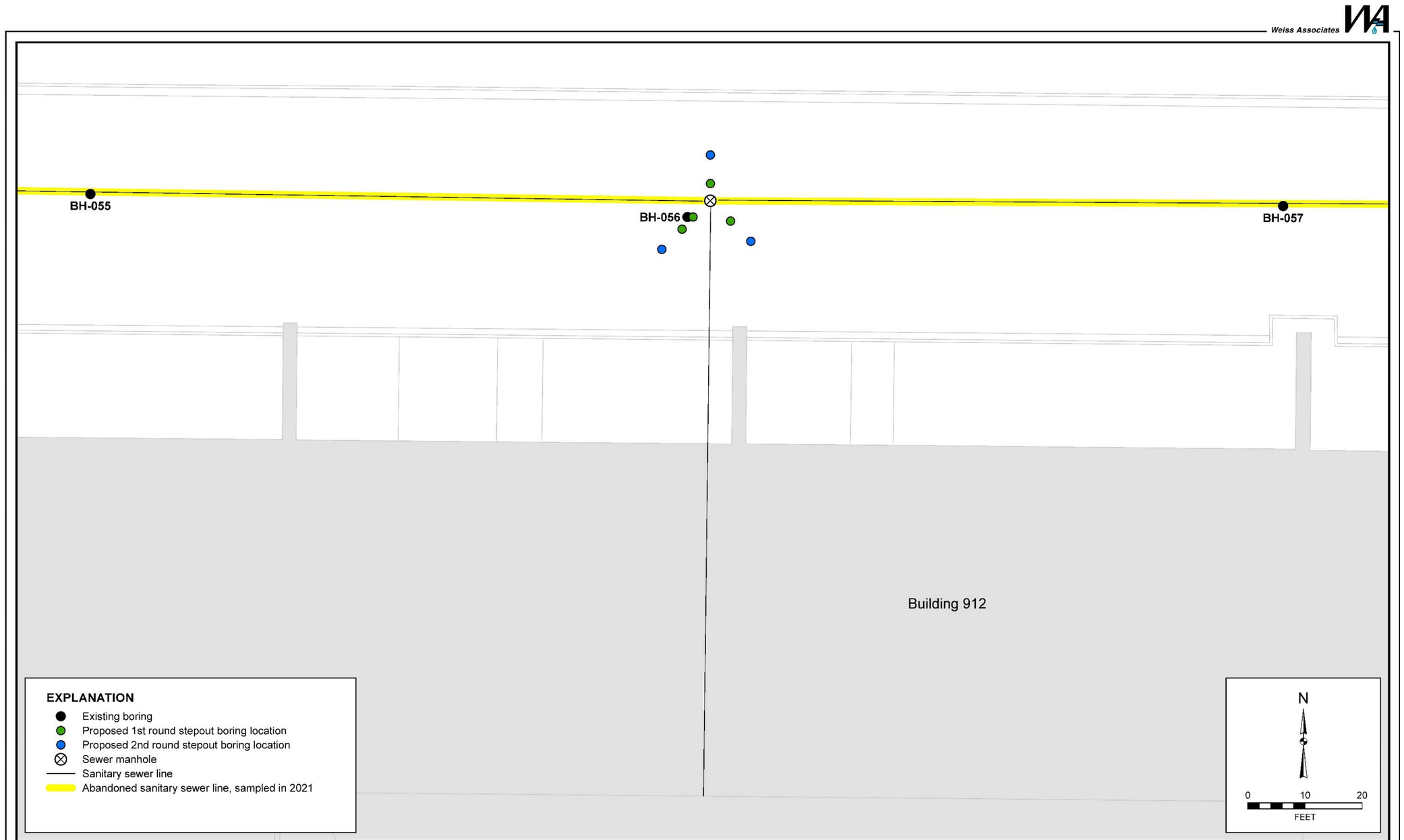

Figure 1. Title

C:\Users\CPA\OneDrive - Weiss\GIS\Sandia\BH056_Stepouts.aprx [Proposed Stepout Borings] - 9/27/2022 11:27 AM