

From: Lawson, Charles <Charles.Lawson@arcadis.com>

Sent: Wednesday, May 12, 2021 8:00 AM

To: Hornosky, Tim <hornostr@dhec.sc.gov>

Cc: Hirshenson, Edward <Edward.Hirshenson@arcadis.com>; Tillotson, Jason <Jason.Tillotson@arcadis.com>; Bennett, Brandi <Brandi.Bennett@arcadis.com>

Subject: Remedial Work Plan for Brenntag Charleston, SC

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Mr. Hornosky

Please find enclosed a Remedial Work Plan for Area #2 at the Brenntag site in Charleston, SC. A hard copy will be forwarded to your attention. If you have any questions, please let us know. Thank you.

Charles Lawson [PG] Project Scientist

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Arcadis U.S., Inc.

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MAY 17 2021

**SITE ASSESSMENT,
REMEDICATION, &
REVITALIZATION**

Mr. Tim Hornosky
State Remediation Section
SC Department of Health & Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

Subject
Work Plan for Area #2- Generate a Remedial Action Work Plan for Area #2, Indoor Air Sampling, and Additional Geoprobe Locations at the Former Railroad Tracks at the Brenntag Southeast Facility, Charleston, South Carolina

Dear Mr. Hornosky:

Brenntag Southeast, Inc. has authorized Arcadis U.S., Inc. (Arcadis) to develop a workplan to conduct additional geoprobe investigation of soils and groundwater at the former railroad loading/unloading area east of monitor well MW-14. The South Carolina Department of Health and Environmental Control (SCDHEC) reviewed the Second Semi-annual 2020 Groundwater Monitoring Report dated March 2, 2021 and approved Arcadis recommendations to conduct additional geoprobe borings at the former railroad area. The SCDHEC also recommended to conduct indoor air sampling within the Brenntag office building to determine if mitigation measures are needed and develop a Remedial Action Work Plan (RAWP) for Area #2. The following tasks are listed below:

Task 1: Remedial Work Plan

The RAWP will outline the steps required to implement remedial activities for hydrocarbons in soil and groundwater at Area #2. It is anticipated that the RAWP will include a remedy utilizing dig/haul.

Task 2: Indoor Air Sampling

Indoor air samples will be collected within the Brenntag office. Due to the potential for chlorinated volatile organic compounds (CVOCs) found in groundwater upgradient and downgradient of the office, indoor air samples will be collected in three rooms. Indoor air samples will be collected over an approximate 8-hour period representative of a site worker and will be conducted in accordance with ITRC guidance Indoor Air or Ambient Air Sampling and Analysis using EPA Method TO-15. Indoor air samples will be forwarded to SGS Laboratory (Dayton, OH).

ENVIRONMENT

Date
12 May 2021

Contact

Edward Hirshenson

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706.828.4421

Email:
edward.hirshenson@arcadis.com

Our ref
30088889

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Task 3. Phase II Soil/Groundwater Sampling at Area #3 (Former Railroad Tracks)

Prior to any intrusive work, underground utilities will be marked by ground penetrating radar (GPR) and drawings from the facility. Soils will be collected utilizing a geoprobe rig to a depth of approximately 20 feet below land surface (ft bls) which is the approximate depth of the Cooper Marl, a tight silty clayey unit. Soil samples will be collected using a macro-core with plastic liner and depth discrete soil samples will be directly transferred to laboratory provided containers and placed on ice. Depth discrete soil samples will be collected from a depth of 3 ft bls and just above the water table approximately 5 ft bls. Aliquot soil samples will be placed in glass jars and allowed to equilibrate for organic vapor readings using a photo ionization meter (PID). Soil samples will be analyzed for VOCs using EPA Method SW-846 8260B. Lithologic descriptions will also be described in the field.

Approximately 10 borings will be installed adjacent to the former railroad tracks as shown in Figure 1. Additional borings may be installed if visual staining is noted or strong odors form soil cores. All boreholes will be filled with neat cement grout to land surface.

Upon completion of soil borings, groundwater samples will be collected next to each soil boring. Groundwater samples (approximately 20 samples) will be collected using a macro-core water sampler with a three-foot stainless-steel screen attached with a disposable tip. Upon reaching discrete depths (approximately 7-10 ft bls and 17-20 ft bls), the outer casing will be raised to expose the stainless-steel screen to the formation and quality groundwater samples will be collected using new tubing and a peristaltic pump. Groundwater samples will be collected for VOCs using EPA Method SW-846 8260B. All boreholes will be filled with neat cement grout to land surface. Excessive soils and soil liners will be contained in a 55- gallon drum and staged on site for proper disposal. Purged water will also be placed in 55-gallon drum and staged onsite for disposal.

Please call if you have any questions or wish to modify the scope of work.

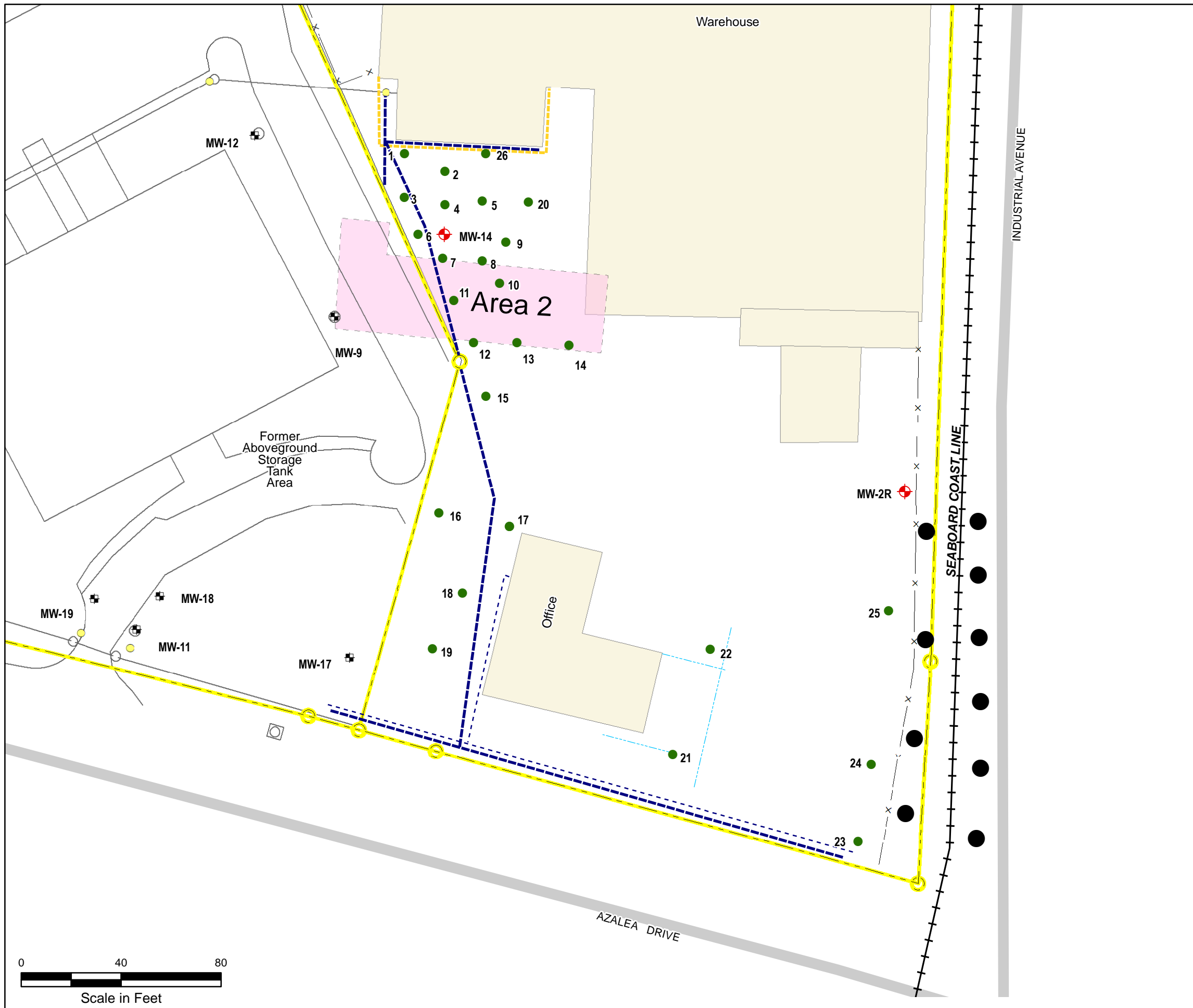
Sincerely,

Arcadis U.S., Inc.



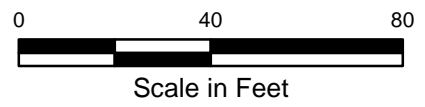
Edward Hirshenson
Senior Scientist

CITY: AUGUSTA DIV/GROUP: ENV DB: A. Saul LD: A. Saul PIC: PM: TM: TR:
 Project Number: Path: C:\BIM\OneDrive - ARCADIS\GIS\Brenntag\Brenntag Charleston SC GIS\2020\30016339\01-MXD\Apr 2021 0204B01-Bird Prop5.mxd Date Saved: 4/6/2021 9:06:24 PM



Legend

- Geoprobe Borings on Brenntag Property
- ⊕ Existing Monitor Well
- ⊕ Offsite Monitor Well
- ▲ Surface Water Sample
- Sewer Manhole
- Catch Basin
- Property Line
- Bird Company Property
- Former Structure
- - - Approximate Water line
- - - Approximate Storm Drain
- - - Approximate Underground Utilities
- - - Approximate Gas Line
- Goeprobe Boring Location



BRENNTAG SOUTHEAST
 CHARLESTON, SOUTH CAROLINA
REMEDIAL ACTION PLAN FOR AREA #2

LOCATIONS OF GEOPROBE BORINGS AT AREA #3

ARCADIS Design & Consultancy
 for natural and built assets

FIGURE --