BIG SKY CIVIL & ENVIRONMENTAL, INC

July 30, 2025

Mr. Christopher Herman
DEQ Petroleum Tank Cleanup Section
P.O. Box 200901
Helena, MT 59620-0901

Emily Seabolt
P.O. Box 270
Cascade, MT 59421

RE: Groundwater Monitoring Work Plan (WP) for the Petroleum Release at the (Former) Highway Grocery, 12 1st Street N, Cascade, Cascade County, Montana
Facility ID #07-04147 (TID 18504), Release 1662, Work Plan 35062

Dear Mr. Herman,

On behalf of our client, Big Sky Civil & Environmental, Inc. (BSCE) has prepared this Groundwater Monitoring Work Plan (WP) for continued compliance monitoring of residual subsurface petroleum contamination at the subject release. In accordance with the Montana DEQ request letter dated June 24, 2025, two years of semiannual groundwater monitoring will be completed for a total of four events.

Facility History and Release Background

The Former Highway Grocery Site is located at 12 1st Street N in Cascade, MT. The site was previously used as a grocery store and fueling station. According to correspondence from the Montana DEQ,

> *The Release was reported to DEQ on January 6, 1993, when an 8,000-gallon underground storage tank (UST) failed a tightness test. The tank was emptied and repaired, and later tested again on May 10, 1993. The tightness test failed and the tank was ordered to be removed. On June 18, 1993, the UST was excavated and removed. Soil confirmation samples collected in the base of the excavation confirmed petroleum impacts above risk-based screening levels were present. The Release was confirmed by laboratory analytical results of the soil confirmation samples collected from the base of the excavation on June 18, 1993.*

The site is currently vacant and according to the Montana DEQ Underground Storage Tank (UST) Program website, no petroleum storage tanks are located at the site. The property is located on the east side of 1st St N between Central Ave W and 1st Ave NW. Again according to correspondence from the Montana DEQ,

> *A soil vapor extraction (SVE) system was installed and operated intermittently from June 21, 1995, through 1996. The SVE system was estimated to have recovered 3,000 to 4,500 gallons of product by July 1996. An active skimmer for free product removal system was also intermittently*

operated from 1995 to April 10, 1996. The skimmer was removed because free product levels had decreased in all free product target monitoring wells. The latest groundwater monitoring events were conducted in June 2006 and April 2007. Results indicate petroleum impacts to groundwater exist, however, contaminant concentrations appear to have decreased significantly.

Based on historic groundwater monitoring, the depth to groundwater at the site is approximately 26'-45' below ground surface (bgs).

Objectives of Work Plan Tasks

- The objective of fieldwork is to monitor levels of petroleum contamination, and evaluate natural attenuation trends, for formal closure of the release.

Work Plan Tasks

- Semiannual groundwater monitoring will be completed at the site for up to two years (a total of four events). As contaminant concentrations in groundwater are approaching the DEQ risk-based screening levels (RBSLs) for all analytes, only the necessary number of sampling events will be completed.

- For monitoring, groundwater samples will be collected from MW#2, and BSCE will utilize low-flow techniques recommended by DEQ generally as follows:
    - First, water level measurements will be taken using a Solinst oil/water interface probe. Next, wells will be purged using a bladder pump and geocontroller, and field parameters (dissolved oxygen, pH, temperature, conductivity, oxidation-reduction potential and turbidity), and water levels will be measured and recorded in approximately five-minute intervals. Sample collection will begin after stabilization of water levels and field parameters. If stabilization does not occur after 20 minutes or if water level drawdown is encountered despite use of low-purge rates (e.g., <0.2 L/min), then samples will be collected immediately as conditions allow.

- Groundwater samples as detailed previously will be sent to Energy Laboratories, Inc. in Helena, MT, for analysis of volatile petroleum hydrocarbons (VPH).

- Purge water will be disposed of according to DEQ's Purge Water Disposal Flowchart.

Reporting

- As requested by DEQ, and to obtain formal closure of the release, the consultant will review previously submitted reports by previous consultants and create a cumulative soil analytical results table where the concentrations are compared to the direct-contact and leaching to groundwater RBSLs for subsurface soils. Cost for this additional item above and beyond a typical groundwater monitoring report is included in the attached cost estimate.

- After each groundwater monitoring event, an Interim Data Submittal (IDS) will be completed and sent to DEQ. The IDS will include analytical results of groundwater samples in tabular format and other tables and supporting documents as detailed within the Groundwater Monitoring Report Guidance for Petroleum Releases. The purpose of the IDS is to determine if formal closure of the release can be obtained, and if subsequent groundwater monitoring events are necessary.

- After completion of the final sampling event, as detailed previously, a Groundwater Monitoring Report will be submitted to DEQ. At a minimum the report will include: scaled map(s) showing the location of all sampling points and physical features of the site, tabular presentation of cumulative groundwater data, a discussion section identifying results of the completed monitoring, and conclusions & recommendations to resolve the release. The following will be appended to the report: field data sheets, analytical lab reports, data validation summary forms (DVSFs) and an updated release closure plan (RCP).

- Reports and supporting documentation will be submitted following DEQ submittal requirements.

Quality Assurance and Quality Control QA/QC

All sampling will be completed in strict accordance with BSCE's standard QA/QC procedures. The following procedures will be used during sample collection to provide quality assurance and quality control (QA/QC), to minimize loss of volatiles, and to maintain the suitability of samples for analysis. Sample collection and analytical procedures were consistent with SW-846: *Test Methods for Evaluating Solid Waste*, November 1986, and updates published by the U.S. EPA. QA/QC methods used are defined below:

- All sample containers/preservatives will be supplied by a state-certified laboratory. Analyses will be performed by a state-certified laboratory.
- All samples will be handled in a manner which minimizes the loss of organic compounds to volatilization and biodegradation.
- All samples for analyses will be placed in a cooler on ice (at a temperature of 4° C) immediately following collection.
- Chain-of-custody procedures will be utilized during sampling and delivery.
- Documentation of the sampling and QA/QC procedures including notes will be available for DEQ inspection. These notes will document the procedures for sampling and all other routine activities, along with field notes describing the sequence of activities that took place during the corrective action cleanup and the following monitoring well construction and sampling.

Cost Estimate

Attached is a cost estimate for completing the abovementioned groundwater monitoring, analytical testing and report creation.

Schedule

The anticipated timeline for fieldwork and reporting is as follows:

Description	Timeline
Semi-annual Groundwater Monitoring	2025-2027
Final Groundwater Monitoring Report	December 30, 2027

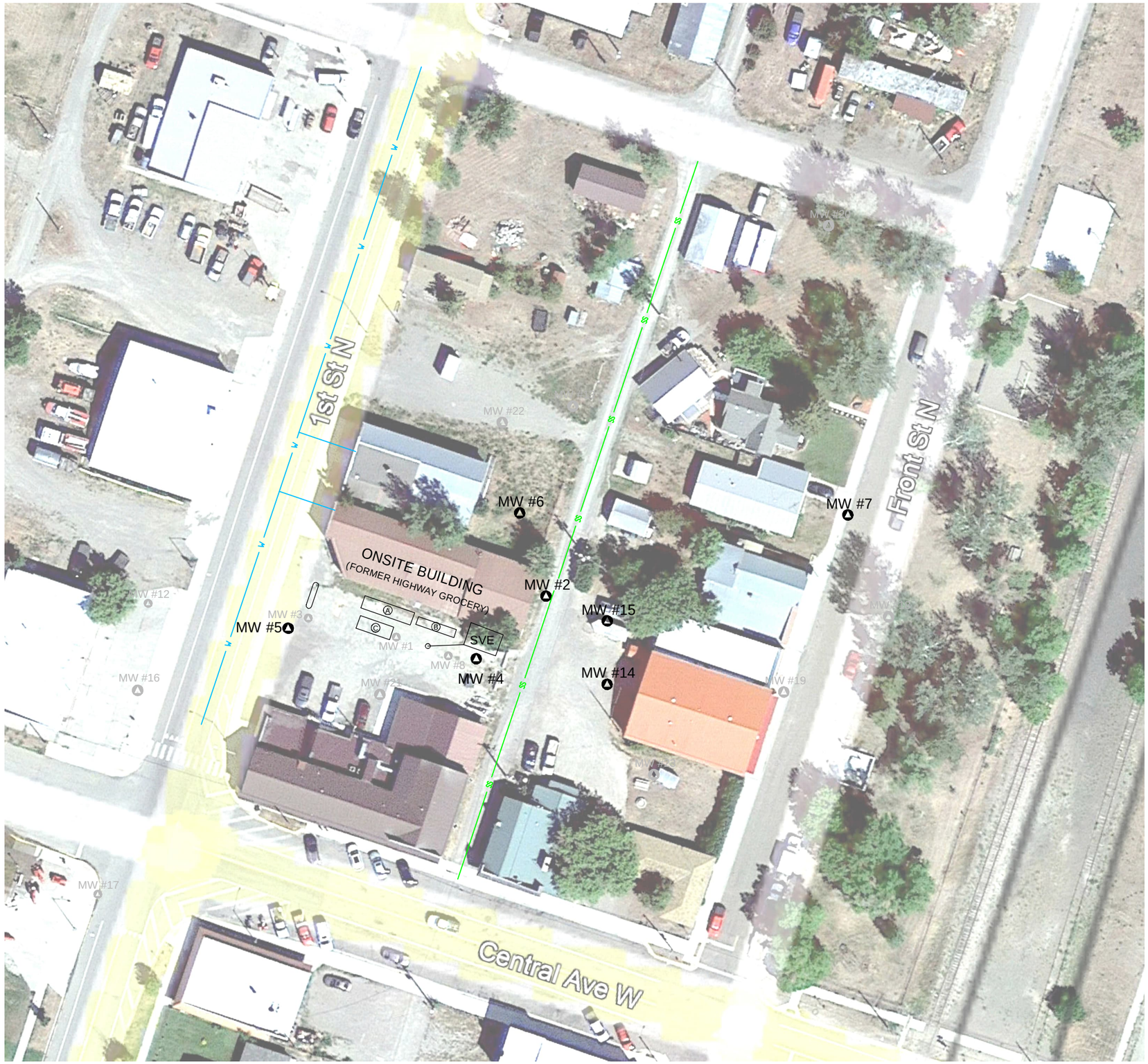
Signature

Christopher, thank you for your cooperation and assistance with this site. Please feel free to contact us with any questions or concerns you may have regarding this Work Plan.

Respectfully,
Big Sky Civil & Environmental, Inc.

Paxton Ellis, P.E.

Encl. Site Map
Cost Estimate



LEGEND

- MONITORING WELL
- PREVIOUS MONITORING WELL
- SVE — SVE SHED & EQUIPMENT
- A — FORMER UST
- FORMER PUMP ISLAND
- W — WATER MAIN (PVC, ~6' BGS)
- SS — SANITARY SEWER MAIN (CLAY TILE, ~9' BGS)

N

S

0' 30' 60'

bsc&e
BIG SKY CIVIL & ENVIRONMENTAL, INC
ENGINEERS - PLANNERS - DESIGNERS - LAND SURVEYORS - ENVIRONMENTAL SPECIALISTS

1324 13th Ave. SW
P.O. BOX 3625
GREAT FALLS, MT 59403
(406)727-2185 OFFICE
(406)727-3656 FAX
www.bigskyce.com

PROFESSIONAL SEAL

BY: JPE
DATE: 7/28/2025

OWNER:

HIGHWAY GROCERY

PROJECT NAME:

HIGHWAY GROCERY
FACILITY ID #07-04147
RELEASE #1662

SHEET TITLE:

SITE MAP

DRAWING INFORMATION:

OFFICE PROJECT NUMBER:	21DJ
OWNER FILE NUMBER:	XXXX
CADD FILE NAME:	BASE
ASSOCIATED PROJECTS:	XXXX

FIGURE:

FIG.1