July 16, 2025

Mr. Anthony Bell
Circle K Stores
1100 Situs Court, Suite 100
Raleigh, North Carolina 27606

Delivered via email: *abell@circlek.com*

RE: Work Plan to Cleanup Petroleum-Contaminated Media
Circle K Store 2746272 (Formerly Holiday Station Store #272)
200 1st Street West, Havre, Montana
Facility ID No. 21-08068; Releases 3537 and 5212, Work Plans 35042 and 35043

Dear Mr. Bell:

This letter presents Tetra Tech, Inc. (Tetra Tech) proposed corrective action plan for the gasoline release at the above-referenced site. Tetra Tech prepared this work plan in response to Montana Department of Environmental Quality's (MDEQ) letter request dated May 12, 2025 (MDEQ, 2025).

The following work plan presents a brief discussion of the site's history and the proposed scope of work to meet the MDEQ request. This work plan proposes, continued operation of the SVE and product recovery systems, vapor intrusion (VI) sampling, a pilot test injection of a trap and treat product, pilot test monitoring, and semi-annual groundwater monitoring.

BACKGROUND INFORMATION

The Holiday Station Store #272 is located at 200 1st Street West, in the south half of the southeast quarter of the southwest quarter of Section 5, Township 32 North, Range 16 East, Havre, Hill County, Montana (Figure 1). The site consists of a store building, an underground storage tank (UST) basin with three gasoline USTs, one diesel UST, and six fuel dispenser islands (Figure 2). The site is bordered to the north, west, and east by commercial properties and to the south by residential properties.

The site is located on alluvial clays, silts, sands, and small gravels of Quaternary age that were deposited in the floodplain of the Milk River (Vuke et al., 2007). Groundwater is present at depths of eight to 11 feet below ground surface (bgs) in these alluvial deposits. Based on previous investigations, the near-surface geology consists of silty sand interbedded with silty clay and sand to a depth of approximately 20 feet bgs (Tetra Tech, 1999, 2002, and 2007). Groundwater flow is generally to the north toward the Milk River, which is located approximately 2,000 feet north of the site.

The Holiday Station Store #272 site has been used as a fueling facility since the mid-1980s. A release of petroleum hydrocarbons was discovered during an upgrade of the USTs in August 1998 (Rocky Mountain Oil, 1998). Groundwater monitoring conducted during the previous

investigations referenced above has indicated that petroleum hydrocarbon impacts over the MDEQ risk-based screening levels (RBSLs; MDEQ, 2018) are present in several on-site monitor wells.

A new petroleum hydrocarbon release was discovered on February 17, 2017. This release was due to gasoline leaking from a functional element in the premium gasoline UST. The volume of the release is unknown. Tetra Tech investigated the release on March 29, 2017, and measured free product in monitor wells HHO-1 and HHO-2 (Figure 2).

An investigation was conducted in May and June 2017 to determine the extent of the free product and dissolved petroleum hydrocarbons in groundwater. Nine monitor wells and three product recovery wells were installed. Soil vapor extraction piping (SVE) was connected to the product recovery wells, and two monitor wells and vapor phase petroleum hydrocarbons are being removed from the subsurface soils. In August 2017, SVE piping was connected to five additional monitor wells (Tetra Tech, 2018).

Free petroleum product is being recovered from recovery wells using Xitech® product recovery skimmers. Free product was also pumped from five additional wells periodically in May and June 2017.

All monitor wells without measurable free product were sampled quarterly during 2017, 2018, and 2019 and semi-annually during 2020, 2021 and 2022 for volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH). Most wells had VPH and EPH constituent concentrations exceeding the MDEQ RBSLs.

Sub-slab vapor monitoring was conducted monthly from May 2017 through May 2022 at the Marden and Holiday buildings (Figure 2). Indoor air was sampled during this period at the Marden and Holiday buildings. Also, the crawl space air was monitored in the Morse building during 2017 and 2018. Air samples were analyzed for volatile organics compounds (VOCs) and air petroleum hydrocarbons.

VOCs were detected in all samples at low concentrations. For indoor air samples collected in the Marden and Holiday buildings, benzene and ethylbenzene concentrations slightly exceed the EPA regional screening levels (EPA, 2017). No regulatory screening levels were exceeded in the Morse building crawl space samples.

Remediation system operation and maintenance, product thickness monitoring, and air sampling was performed between August 2023 and July 2024 and summarized in the Additional Corrective Action Report 203-2024 dated October 30, 2024. Recommendations included continuing operation of the SVE system, product recovery, air monitoring, repair of damaged monitoring wells, and exploring options for remediating soil and groundwater on Marden and Circle K properties.

During October and November 2024, the SVE and product recovery systems were expanded by installing three additional recovery wells, RW-4 through RW-7 (Figure 2). The SVE system became operational during December 2024. Semi-annual groundwater monitoring was performed in December 2024 and May 2025.

SCOPE OF WORK

The scope of work for performing a pilot test injection of colloidal carbon, pilot test monitoring, quarterly VI monitoring, monthly SVE and product recovery system operation and maintenance, and groundwater monitoring is summarized below.

Project Management

This task includes the time necessary for coordinating and scheduling the project with Circle K, MDEQ, adjacent landowners, and subcontractors; pilot test injection planning and logistics; planning and logistics for O&M and groundwater sampling activities; and project related communications with MDEQ and Circle K. In addition, the current health and safety plan (HASP) will also be updated and revised to address activities in this work plan before conducting any on-site activities.

Utility Locates

Tetra Tech will submit a utility locate request with Montana 811 to locate public utilities at the site. A private utility locator will also be employed to locate utilities within the pilot test injection area.

BOS 200 Injection Pilot Test

Tetra Tech will perform a pilot test injection of a trap and treat product, BOS 200® supplied by Remediation Products Inc. (RPI), on the Marden property west of the site. The objectives of the pilot test are to test the feasibility of the injection technique, monitor the effectiveness of the injection material as measured by reductions in VPH constituents in groundwater, and to refine volume and dosing amounts for potential site wide injections. The injection will consist of an area of approximately 1,000 square feet near monitoring wells HHO-14 and HHO-15. The approximate injection area is shown on Figure 3. The scope of work for the injection pilot test will consist of the following:

- A direct push type rig will be used to inject BOS 200® material into the subsurface. The targeted injection interval will be from approximately 8 to 14 feet bgs.
- The injection area will consist of up to 18 injections points spaced approximately 7.5 feet apart.
- Approximately 3,150 pounds of BOS 200®, 1,600 lbs of gypsum, 1,600 pounds of magnesium sulfate, 650 pounds of starch and 16 pounds of yeast will be injected into the subsurface.
- Clean water will be mixed with the material for injection.
- The pilot test injection activities are estimated to take two days for completion.
- Upon completion of the pilot test injections, the direct push rig will be used to collect soil samples from up to ten locations. The soil samples will be submitted to RPI's laboratory in Golden, Colorado for total petroleum hydrocarbon (TPH) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyses. The laboratory data will be used for a full scale injection design.

Vendor and subcontractor bids injection of BOS 200® and other colloidal carbon products are included in Attachment A.

Pilot Test Performance Monitoring

Pilot test performance monitoring will consist of collecting post injection groundwater samples from monitoring wells HHO-14, HHO-15, and RW-2 on a quarterly basis. Post injection sampling will

commence approximately one month after completion of the pilot test injection. Groundwater samples collected from each of these wells will be analyzed for VPH and EPH by the Montana Method based on the Massachusetts Department of Environmental Protection (MADEP) methods. These groundwater samples will also be analyzed for intrinsic biodegradation indicators (IBIs). The IBIs include dissolved ferrous iron (Method E200.7), dissolved manganese (Method E200.7/E200.8), sulfate (Method E300.0), nitrates/nitrites (nitrate plus nitrite as nitrogen; Method E353.2), and methane (GS-FID/Kampbell (SW8015 Modified).

Ambient Air, Subslab and Indoor Air Sampling

This task is associated with petroleum vapor monitoring for the following properties: the Marden building located directly west of the site at 220 1st Street West and the Holiday StationStore building at 200 1st Street West (Figure 2). Sub-slab and indoor air monitoring will be collected at the Holiday StationStore and Marden building. An ambient air sample will be collected at a location adjacent to the east side of the Marden building during each quarterly sampling event. Vapor intrusion sampling will be conducted quarterly (4 events) for one year. Sub-slab, indoor air, and ambient outdoor samples will be collected following the Montana Vapor Intrusion Guide (MDEQ, 2021). Procedures for this task are described as follows:

- Sub-slab vapor samples will be collected from permanent vapor sampling points installed in the two buildings.
- Sub-slab samples will be collected into batch-cleaned 6-liter Summa® canisters with one-hour flow controllers.
- The indoor air samples in the two buildings will be collected using 8-hour flow controllers and batch-cleaned 6-liter Summa® canisters.
- All vapor samples will be shipped to Eurofins Air Toxics, LLC in Folsom, California, using chain-of-custody procedures.
- Sub-slab vapor and indoor air samples collected in the buildings will be analyzed for air petroleum hydrocarbons (APH) using the MDEP method and VOCs using EPA Method TO-15.

Remediation System Monitoring and Maintenance

Tetra Tech will visit the site monthly for 12 months to keep the SVE and product recovery systems operational and collect the following information. The following details describe the proposed methods for these subtasks.

SVE System Monitoring

- Evaluate the system's electrical and mechanical status to ensure it is running properly.
- Tetra Tech will collect the following data monthly:
    - Air velocity, temperature, and vacuum will be measured for each SVE line in the equipment building.
    - VOCs using a flame ionization detector (FID) or photoionization detector (PID) on each SVE line.
    - Concentrations of oxygen, carbon dioxide, and methane in soil gas will be measured for each SVE line with a portable gas meter.

Product Recovery System Monitoring

- Depth to groundwater/product will be measured monthly at monitoring and recovery wells HHO-1 through HHO-4, HHO-14 through HHO-16, and RW-1 through RW-7 to monitor free product thickness levels and to optimize product recovery pumps in those wells. Fluid measurements will be collected using an electronic interface probe. The interface probe will be decontaminated between measurements by washing with Liquinox® soap and rinsing with deionized water.

- The product recovery system will be evaluated monthly to ensure it runs properly.

- Install a secondary containment unit for the product recovery system.

- Nitrogen gas cylinders will be replaced as necessary. An estimated two nitrogen cylinders will be replaced monthly.

- Adjust each pump's pumping duration and schedule, based on the measurements of fluid levels.

- The fluid level in the recovery tote will be measured monthly to determine the volume of free product recovered during the reporting period.

- Troubleshoot the product recovery pumps will be checked monthly to determine if they are working properly. Necessary troubleshooting and repairs will occur on non-functioning pumps.

- Replace and dispose of the product recovery tank contents as necessary., Schedule the disposal of the recovered product with Clean Harbors or similar. The disposal entity will pick up the product and dispose of the liquid contents at an EPA-approved out-of-state location.

Groundwater Monitoring

Tetra Tech will conduct two groundwater monitoring events at the facility site. The sampling events will be scheduled to capture high and low groundwater conditions. This task will consist of the following:

- Depth to groundwater/product will be measured at all site monitoring and recovery wells: HHO-1 through HHO-18, GSM-2 through GMSW-5, RW-1 through RW-7, and TMW-1. Depth to groundwater/product will be measured using a decontaminated electronic oil/water interface meter. The meter will be decontaminated between each measurement.
- Groundwater samples will be collected from monitoring wells HHO-1, HHO-2, HHO-3, HHO-4, HHO-5, HHO-10, HHO-14, HHO-15, HHO-18, and RW-2.
- Each monitoring well will be purged using the low-flow, slow-purge pumping method, a submersible bladder pump, and dedicated polyethylene tubing. During purging, field instruments will analyze the water for pH, temperature, dissolved oxygen, specific conductivity, oxidation-reduction potential, and turbidity. Purge water will be containerized by the Disposal of Untreated Water from the Monitoring Wells Flow Chart

and disposed of appropriately following receipt of laboratory results (MDEQ, 2015). The pump will be decontaminated between wells using a Liquinox® solution followed by a triple rinse technique. Additionally, a new bladder will be installed between sampling each well.

- A groundwater sample from each monitoring well will be collected using a submersible bladder pump and dedicated polyethylene tubing. Groundwater samples will be analyzed for VPH and EPH using Montana Method based on the MADEP methods (MADEP, 2004). By MDEQ guidance, if the EPH concentration in water exceeds 1,000 micrograms per liter (µg/L), then an EPH fractionation analysis is required (MDEQ, 2020). For cost-estimating purposes, it is assumed that ten monitoring wells will be sampled during each event, and seven groundwater sample will be analyzed for EPH fractions.
- One duplicate sample will be collected from a well with presumed petroleum hydrocarbon impacts during each sampling event. Also, a trip blank will accompany the sample cooler during sampling and shipment. The duplicate and trip blank samples will be analyzed for the same constituents as the natural samples.

Data Validation

The analytical data package will include a summary report that cross-references the sample identification with the laboratory identification and identifies variations from standard operating procedures; laboratory analytical results; quality control data, which may include but is not limited to surrogate recoveries, initial and continuing calibration blanks and spikes, method blanks, laboratory control blanks, laboratory spikes, and matrix spike and matrix spike duplicates; FID chromatograms; chain of custody form(s); and a sample receipt checklist. Additionally, data validation will be included with the groundwater monitoring report and will follow MDEQ's data validation guideline as per https//deq.mt.gov/Portals/112/Land/StateSuperfund/Documents/DataValidationReport.pdf. It is anticipated that one data validation will be completed for this project.

TETRA TECH

Reporting

An Interim Data Submittal will be prepared and submitted following completion of the first groundwater monitoring event and validation of laboratory data. A Pilot Test Summary and Groundwater Monitoring Report will be prepared and submitted to MDEQ after the second groundwater monitoring event and validation of laboratory data. This report will present the field and analytical results of both groundwater monitoring events and compare laboratory analytical results to MDEQ RBSLs. Conclusions and recommendations detailing site conditions, and the extent and magnitude of the plume will be discussed, along with a to-scale map presenting necessary site information. Additionally, the report will include updates to the RCP to evaluate the potential path for closure of the release.

SCHEDULE AND BUDGET

The above tasks will be conducted in 2025-2026 following receipt of project authorization by Circle K Stores Inc., and MDEQ approval. Estimated project costs are shown on the estimated cost worksheet in Attachment B.

PROPOSAL AUTHORIZATION

This work will be conducted in accordance with the terms and conditions of the Master Consulting Services Agreement between Holiday Companies and Tetra Tech, Inc., dated March 28, 2017. This work plan may be accepted by signing the attached *Work Authorization* #26 (Attachment C) and returning a copy to our Billings office. If you have questions or comments regarding this work plan, please call us at (406) 248-9161. We have forwarded a copy of this work plan to Mr. William Bergum at the MDEQ for your convenience. We appreciate the opportunity to provide you with environmental consulting services.

Sincerely,

Tetra Tech, Inc.

Steven Marie, PE
Senior Engineer

Jacob Conver, PE
Senior Engineer

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Enclosures:
Figures
Attachment A: Pilot Test Injection Bids
Attachment B: Cost Estimate
Attachment C: Work Authorization #26

Tetra Tech
7100 Commercial Avenue Suite 4, Billings, MT 59101
Tel 406.248.9161 Fax 406.248.9282 www.tetratech.com

cc: William Bergum, MDEQ; wbergum@mt.gov

REFERENCES

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FIGURES

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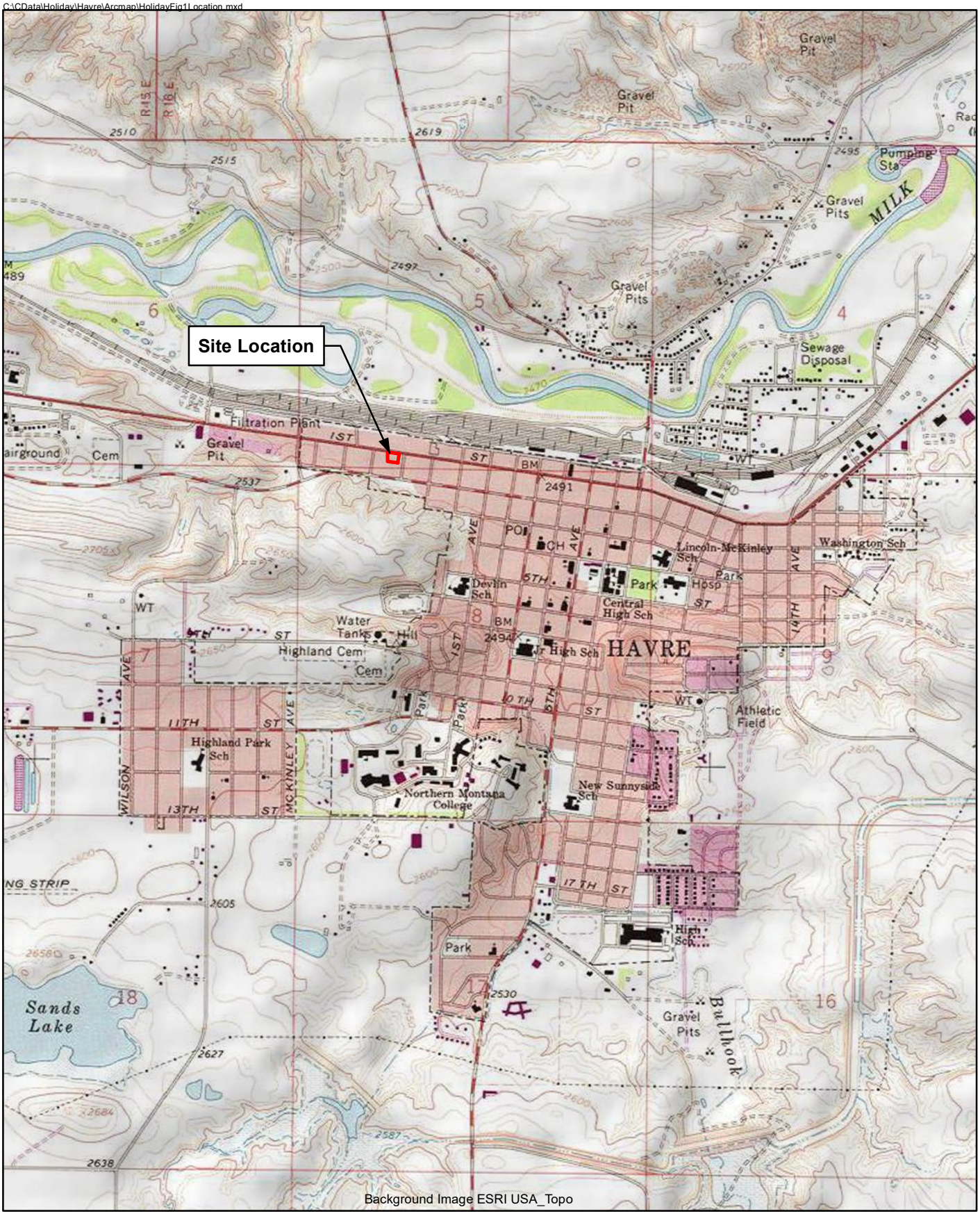

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Figure 1
Site Location Map
Holiday Stationstore #272
200 1st Street West
Havre, Montana

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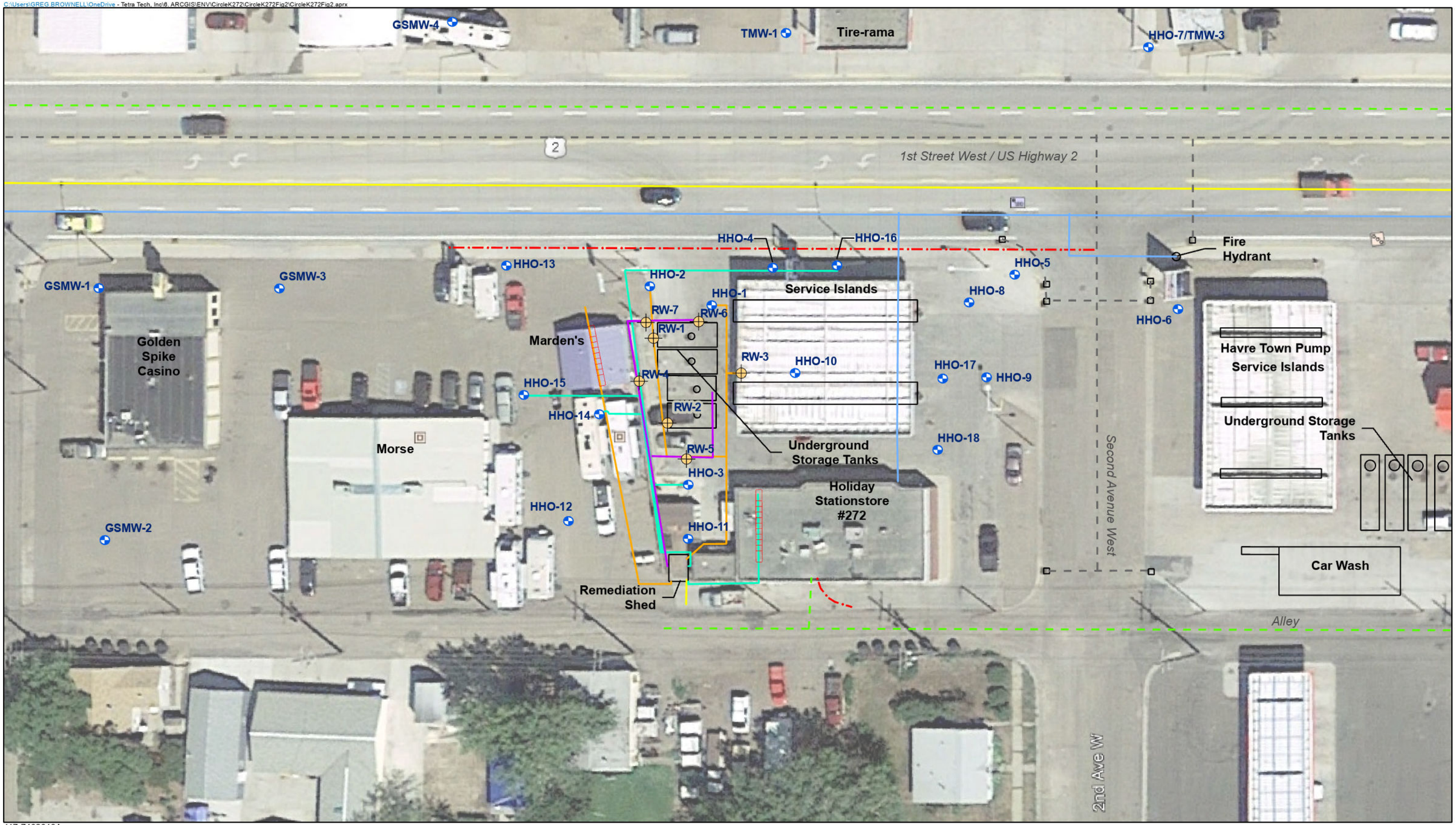

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- Recovery Well
- Monitor Well
- Storm Sewer Drains
- Facilities
- Underground Electric
- Natural Gas
- Water Lines
- Sanitary Sewer
- Storm Sewer
- SVE System #1
- SVE System #2
- SVE System #3
- SVE Perforated Piping

Figure 2

Site Map
Circle K Store 2746272
Havre, Montana

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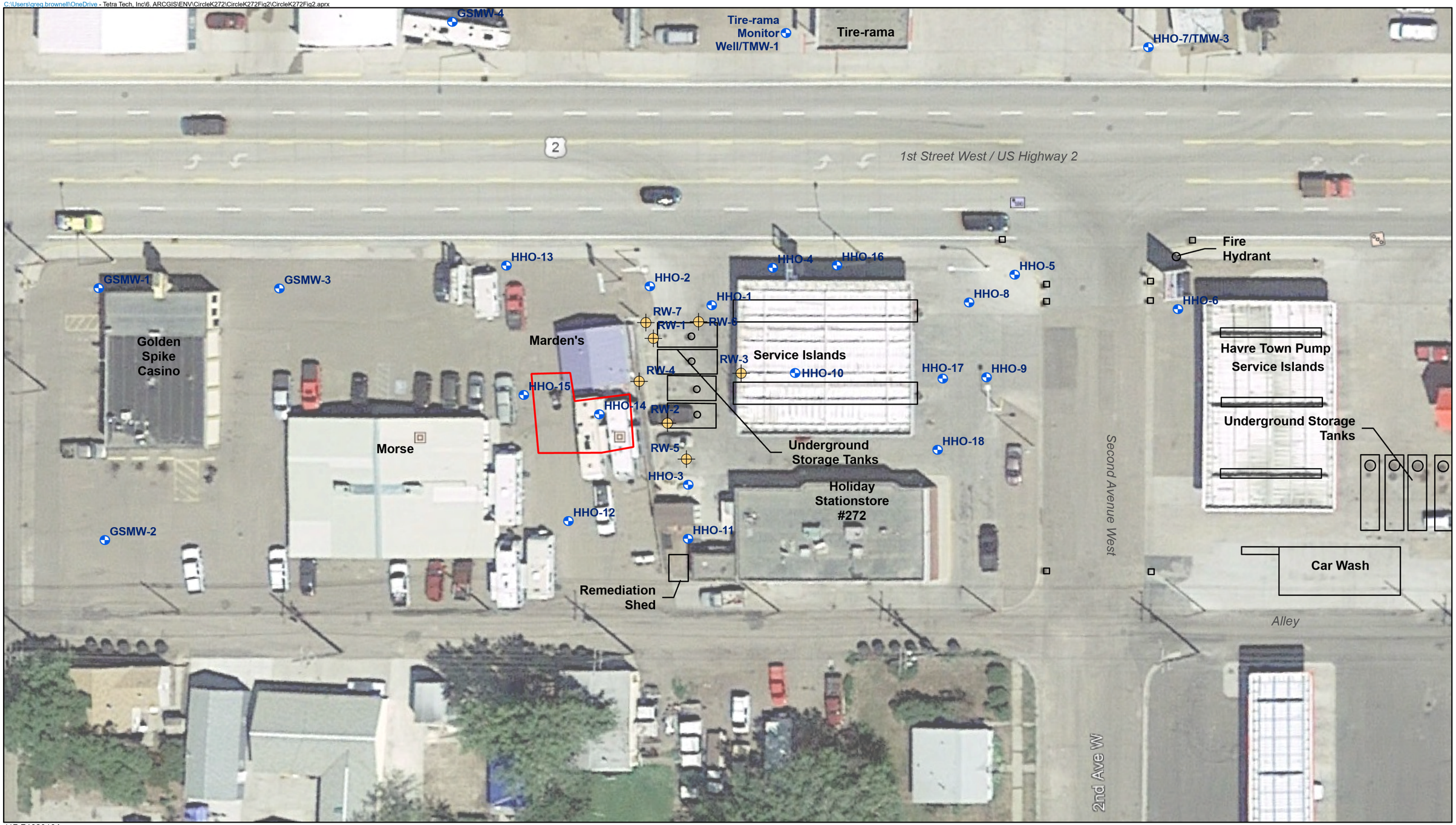

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Recovery Well
Monitor Well
Proposed Pilot Injection Area
Storm Sewer Drains
Facilities

Figure 3

Proposed Pilot Injection Location
Circle K Store 2746272
Havre, Montana