

CONTAMINATED MEDIA MANAGEMENT PLAN Former Flying J Travel Plaza (aka Pilot Travel Center #771) 400 NW Frontage Road Troutdale, Multnomah County, Oregon DEQ File No. 26-07-0286

Prepared for:

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Prepared by:

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Pilot Travel Centers LLC 5508 Lonas Drive Knoxville, Tennessee 37939-0146

Mr. Joey Cupp, Director-Environmental Attn.:

Contaminated Media Management Plan, Former Flying J Travel Plaza RE:

(aka Pilot Travel Center #771), 400 NW Frontage Road, Troutdale, Multnomah County

Oregon DEQ File No. 26-07-0286

Dear Mr. Cupp:

Broadbent & Associates, Inc. is pleased to provide this Contaminated Media Management Plan (CMMP) for the diesel fuel release at the Former Flying J Travel Plaza (aka Pilot Travel Center #771) in Troutdale, Multnomah County, Oregon. This diesel fuel release case is identified by the Oregon Department of Environmental Quality as File No. 26-07-0286. This CMMP has been developed to facilitate management of subsurface soil and groundwater impacted with residual diesel hydrocarbons remaining at the facility.

Please do not hesitate to contact us at (530) 566-1400 if you should have questions or require additional information.

Sincerely,

BROADBENT & ASSOCIATES, INC.

Aric C. Morton, R.G. **Principal Geologist**

Exp. 2-1-21

cc:

Mr. Robert Hood, Oregon DEQ, 2020 SW 4th Avenue, Suite 400, Portland, OR 97201

OREGON ARIC C. MORTON

Mr. Michael Key, Love's Travel Stops & Country Stores, Inc.

CONTAMINATED MEDIA MANAGEMENT PLAN FORMER FLYING J TRAVEL PLAZA (aka PILOT TRAVEL CENTER #771) TROUTDALE, MULTNOMAH COUNTY, OREGON

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CONTAMINATED MEDIA MANAGEMENT PLAN FORMER FLYING J TRAVEL PLAZA (aka PILOT TRAVEL CENTER #771) TROUTDALE, MULTNOMAH COUNTY, OREGON

1.0 INTRODUCTION

Broadbent & Associates, Inc. (Broadbent) is pleased to present this *Contaminated Media Management Plan (CMMP)* for residual diesel fuel contamination in soil and groundwater at the former Flying J Travel Plaza, located at 400 NW Frontage Road in Troutdale, Multnomah County, Oregon (Site or PTC #771). This diesel fuel release case is identified by the Oregon Department of Quality (DEQ) as File No. 26-07-0286 associated with Underground Storage Tank (UST) Facility ID No. 10668. Compliance with this CMMP will be required during subsurface activities involving excavation in excess of two (2) feet below ground surface which occur in specific areas of the Site. Previous investigations associated with the release of gasoline have been closed by DEQ (File No. 26-07-1194), however, as areas of impact from existing/closed releases are likely commingled, constituents of concern from both existing and closed releases are discussed herein.

The Site was owned and operated by the Flying J Company at the time of the release associated with File No. 26-07-0286. Pilot acquired the national assets of select Flying J Company divisions in mid-2010, which included included the environmental liabilities of those divisions and this Site. US regulators required Pilot to divest multiple properties as a condition of their acquisition of the Flying J Company. Pilot was not able to commence operations at this facility due to the divestment requirement. This Flying J facility was divested to Love's Travel Stops and Country Stores, Inc. (Love's) and and is currently operated as Love's Travel Stop #449. Although the Site is currently operated by Love's, this report will refer to the Site as the former Flying J Travel Plaza.

The information used to develop this CMMP is based on previous investigations by Kadence Consultants, Inc. (Kadence) and Terracon Consultants, Inc. (Terracon), and includes relative data from Broadbent's March 29, 2013 Risk-Based Evaluation Report and No Further Action Request.

2.0 SITE DESCRIPTION AND BACKGROUND

The former Flying J Travel Plaza is located southeast of the intersection of NW Frontage Road and NW 257th Avenue in Troutdale, Multnomah County, Oregon, just south of US Interstate Highway I-84. A Site Location Map is presented as Drawing 1. The Site is approximately 8.4 acres in size and contains a single-story travel plaza with restaurant and separate fueling facilities for automobiles and large trucks/trailers. The Site has a total of six active USTs: three 20,000-gallon diesel tanks and three 12,000-gallon gasoline tanks (two containing regular unleaded gasoline and one containing premium unleaded gasoline). The Site is primarily covered with asphalt or concrete surfacing with the exception of landscaped planters located along perimeter boundaries. The Site and surrounding area are commercial usage with service stations, a hotel, restaurants, and retail shopping in the vicinity of the Site. Site features including subsurface utilities, historic soil and/or groundwater borings and the existing groundwater monitoring well network are exhibited in Drawing 2.

A review of the boring logs indicates soils underlying the Site generally consist of unconsolidated medium-grained sand (SW-SP) and silty sand (ML-SM) typical of the Overbank Deposits. Occasional lenses of silty clay (MH) are encountered throughout the sand layer, with clayey or sandy silt encountered in some borings at depths ranging from 12 to 18 feet below ground surface (ft bgs). Lenses of more coarsely grained sediments were not encountered. Groundwater was encountered during the direct-push investigations in each of the borings at 3.5-4 ft bgs. A review of the historic data indicates groundwater has been measured between 1.91 ft bgs (MW-1 on 11/11/2008) and 7.14 ft bgs (MW-5 on 11/15/2011). A review of the historic groundwater data indicates the potentiometric horizontal gradient

direction has consistently been towards the north-northwest, with gradients magnitudes ranging from approximately 0.0007 feet/feet (12/14/2010) to 0.008 feet/feet (8/12/2008).

3.0 CONTAMINANT SOURCES AND ENVIRONMENTAL MANAGEMENT AREA

3.1 Source Area

On March 11, 2007, Flying J alerted their contracted environmental consultants of a release at the Site. Specifically, a diesel line at Dispenser No. 20 was leaking. Following the repair of the line, samples were collected and analyzed for Northwest TPH-gasoline range organics (NWTPH-Gx/GRO) and Northwest TPH-diesel range organics (NWTPH-Dx/DRO); both samples indicated the presence of NWTPH-Gx and Dx.

3.2 Impacts to Soil

The compounds of potential concern (COPCs) detected in vadose zone soil at the Site consist of petroleum hydrocarbons in the NWTPH-Dx and Gx range, and their associated fuel constituents. The fuel constituents within diesel that have been reported at the Site in historical soil samples include: Anthracene, Acenaphthene, Acenaphthylene, Benzo(a)anthracene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene, Pyrene, 1-Methylnaphthalene, and 2- Methylnaphthalene. The fuel constituents within gasoline that have been reported at the Site in historical soil samples include: Ethylbenzene and Total Xylenes.

None of the compounds detected in soil were reported at concentrations exceeding the Excavation Worker Risk-Based Concentration (RBC) as listed in DEQ's Risk-Based Decision Making for the Remediation of Petroleum Contaminated Sites.

3.3 Impacts to Groundwater

The COPCs detected in groundwater at the Site consist of NWTPH-Dx and Gx, and their associated fuel constituents. The fuel constituents within diesel that have been reported at the Site in historical groundwater samples include: Anthracene, Acenaphthene, Acenaphthylene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Chrysene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Pyrene, 1-Methylnaphthalene, and 2-Methylnaphthalene. The fuel constituents within gasoline that have been detected at least once at the Site in historical groundwater samples include: Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), p-Isopropyltoluene, 1,2,4-Trimethylbenzene, 1,2,3-Trimethylbenzene, 1,3,5-Trimethylbenzene, Bromodichloromethane, n-Butylbenzene, sec-Butylbenzene, tert-Butylbenzene, Chloroform, Chloromethane, Isopropylbenzene, n-Propylbenzene, and Trichloroethene.

A review of laboratory data and previous Site investigations demonstrates that there have not been detections of COPCs at concentrations exceeding the Excavation Worker RBC as listed in DEQ's Risk-Based Decision Making for the Remediation of Petroleum Contaminated Sites, with the following exceptions:

Benzo(a)pyrene detected at a concentration of 540 μg/L in well sample MW-8 on November 11, 2008. The RBC for a Construction and Excavation Worker encountering groundwater (RBC-WE) during an excavation is 530 μg/L. Duplicate sampling indicated that concentrations of Benzo(a)pyrene were not above the laboratory's detection limit.

• NWTPH-Gx was detected at a concentration of 33,000 B μg/L in well sample MW-6 on February 21, 2008. The RBC-WE for NWTPH-Gx is 14,000 μg/L.

Due to these impacts, no use shall be made of the shallow groundwater at the property, by extraction through wells or other means involving consumption or non-consumptive use of the groundwater. This shall not apply to extraction of groundwater associated with temporary dewatering activities related to the installation of underground utilities at the Site.

3.4 Area of Potential Residual Contamination

For the purpose of this CMMP, the Area of Potential Residual Contamination (APRC) is considered to be the area where excavation workers may potentially encounter impacted groundwater. As stated above, there have been two detections of constituents above the RBC-WE at the Site, with the most recent being in late-2008. As with any excavation in which interaction with groundwater is possible, workers shall take all standard precautions when working inside the APRC. Details regarding the preparation and use of a Site-specific Health and Safety Plan are provided in Section 8.

Based on the extent of impacts detected during previous investigations at the Site, the area encompassing the tractor-trailer dispenser islands and the underground storage tanks (USTs) is generally considered to be the APRC as depicted in Drawing 2. Vertically, the APRC does not exist until groundwater is encountered. The APRC will be expanded appropriately if impacted soil or groundwater is encountered in other areas of the site. Isoconcentration drawings with residual impacts of NWTPH-Dx and Gx in soil and groundwater are provided in Drawings 3 through 6.

4.0 DEFINITIONS

"Bill of Lading" means the form used for identifying the quantity, composition, and the origin, routing, and destination of petroleum hydrocarbon-impacted soil or groundwater during its transportation from the point of generation to the point of treatment, storage, or disposal.

"Construction Contractor (CC)" is defined as the entity completing defined subsurface work within the APRC.

"Contaminated media" for the purpose of this CMMP, is defined as residual petroleum hydrocarbonimpacted soil or groundwater located at the Site potentially above applicable regulatory levels (e.g., solid waste, hazardous waste, water quality regulations) cited under Section 5.0 in this CMMP.

"Environmental Contractor (EC)" is defined as the entity providing air monitoring and subsurface worker health and safety when subsurface work is conducted within the APRC. The EC will also be responsible for evaluation and coordinating transport and disposal of the contaminated media encountered within an APRC.

"Environmental laws" shall mean any applicable statute, law, ordinance, order, consent decree, judgment, permit, license, code, covenant, deed, common law, treaty, convention, or other requirement pertaining to protection of the environment, health or safety, natural resources, conservation, wildlife, waste management or disposal, hazardous substances or pollution, including but not limited to regulation of releases to air, land, water, and groundwater.

"Release" shall have the meaning defined at Oregon Revised Statutes (ORS) 465.200 and LUST Oregon Administrative Rules 340-122-0210 (8) and (31), as amended.

5.0 COMPLIANCE WITH APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS

The CC's and EC's working as defined within the APRC shall comply with the applicable environmental laws as defined herein. Management and handling of contaminated media shall be conducted in accordance with ORS Chapter 459 Solid Waste Management (ORS 459.005 through 459.997), Chapter 466 Hazardous Waste (ORS 466.005 through 466.385), and Chapter 468B Water Quality (ORS 468B.150 to 468B.190.

6.0 SUBCONTRACTORS

Subcontracting of work does not relieve the CC/EC's of any of its obligations, including their obligation to comply with applicable environmental laws and regulations as defined herein.

7.0 CONTRACTOR'S USE OF HAZARDOUS MATERIALS

The CC/EC's shall properly handle, store, use, and dispose of hazardous materials brought on to the work site in accordance with the applicable environmental laws and regulations as defined herein. In the event of a spill or release of any hazardous material brought on to the work site, the procedures as set forth in the contractors Health and Safety Plan (HASP) or other management plan concerning hazardous materials encountered during construction shall be followed.

8.0 HEALTH AND SAFETY PLAN

A site-specific HASP shall be prepared and used by the CC/EC personnel to provide and maintain effective safeguards for subsurface worker health and safety when such work is conducted within the APRC, below a depth of two (2) feet bgs, and where a valid exposure route exists. The plan shall conform to the requirements established under the Code of Federal Regulations (CFR) Volume 29 Part 1910.120, including the use of appropriately trained Site workers, monitoring and identification of contaminated media, Site health and safety officer's authorities and responsibilities, and health and safety briefings for applicable Site personnel. The HASP will require workers involved in subsurface work to use a minimum level of personal protective equipment (PPE) such as protective clothing, chemically-resistant gloves and boots, hardhats, etc., that are consistent with protection against the chemicals of concern within the APRC and waste streams at the Site. The HASP shall also define appropriate protocols for air monitoring, action level (e.g., Level D to Level C) upgrades, and worker decontamination and will augment the CC/EC HASP for normal subsurface work.

The primary hazards at the Site are soil and groundwater impacted by residual petroleum hydrocarbons and related constituents. Upon excavation below a depth of two (2) ft bgs in the APRC, potential exposure pathways would include inhalation, ingestion, and dermal contact with impacted soil and/or groundwater. During subsurface work, the APRC will be secured by the CC/EC to limit access, and shall be considered an "exclusion area" until the potential hazards from the aforementioned exposure pathways have been evaluated and mitigated. Once the contaminated media have been properly managed, the "exclusion area" can be removed and access restored to normal conditions.

Protection of worker health and safety will include monitoring and evaluation of breathing zone airspace with a Photo-Ionization Detector (PID) and a particulate dust counter prior to entry and during active work both above and within the subsurface work area (trenches, etc.). Dust control will also be evaluated based on the results of air monitoring as compared to a calculated dust action level, which should be stated in the HASP. Both volatile and particulate fractions will be evaluated according to the most current United States Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs) for the respective compounds of concern.

Appropriate worker hygiene should be required so individuals will not inadvertently ingest or inhale impacted soil and/or groundwater. Most work within the APRC is anticipated to require standard Level D PPE including steel/composite toe boots, hard hat, safety vest, and protective eyewear. PPE can easily be stepped up to Modified Level D PPE for workers who could potentially come into contact with residual impacted soils and/or groundwater. Modified Level D PPE includes: chemical-resistant rubber boots or boot covers, chemical-resistant coveralls (e.g., Tyvex, Saranex, or equivalent), hard hat, and chemically-resistant gloves. The HASP will identify more stringent levels of personal protection, including Levels C, B, and/or A, to be utilized should air monitoring results indicate higher levels of concern are necessary. Upon determination that higher levels of personal protection are necessary, donning procedures for upgraded levels of PPE as well as potential stop work and evacuation procedures will be outlined in the HASP.

Workers who have contacted contaminated media must be properly decontaminated prior to leaving the exclusion area. Depending on level of exposure, decontamination will likely include, at a minimum, careful removal of PPE (avoiding dust generation), the washing of boots and hands in a non-phosphate detergent wash, rinsing in tap water, and appropriately containing disposable account ements in a trash receptacle for proper off-Site disposal. Additional decontamination procedures may be required if additional exposure is experienced.

9.0 WORKER HEALTH AND SAFETY TRAINING

Oregon OSHA generally follows federal OSHA requirements. According to 29 CFR 1910.120(e), workers that could be potentially exposed to hazardous substances, health hazards, or safety hazards and their supervisors and management responsible for the Site work shall receive either 24 or 40-hour HAZWOPER training under a qualified vendor. CC/EC workers engaged in subsurface trench work or other activities within the APRC, and which may be potentially exposed to the contaminants of concern and health hazards, shall receive a minimum of 40 hours of HAZWOPER instruction. Workers who work in an APRC only occasionally for a specific task such as surveying, etc., and are working when no direct exposure pathways are present, do not require HAZWOPER training.

Where applicable, Site workers should also maintain an active annual hazardous waste physical with evaluation for vision, hearing, lung volume, cardiovascular baseline, and blood/urine analysis for the suite of hazardous compounds anticipated to be encountered at the Site. Workers should also be medically certified and annually fit-tested for wearing of an air-purifying respirator.

10.0 SOIL AND GROUNDWATER MANAGEMENT

The requirements of this CMMP will be initiated when excavation greater than two (2) ft bgs occurs within the boundary of the APRC. The CMMP shall not apply to other portions of the property outside of

the APRC, when removal of contaminated media occurs from the APRC, the CC/EC shall perform the following:

- Contact the Oregon DEQ Northwestern Region Cleanup Manager 14 days prior to start of work and grant agency right-of-access for excavation oversight and discretionary agency sampling of subsurface media.
- 2. Identify DEQ-approved disposal facilities and obtain pre-approval for disposal of contaminated soil and groundwater generated during subsurface activities.
- 3. Select a location for temporary storage of removed soil/groundwater.
- 4. Conduct work in accordance with their Site-specific HASP(s).
- 5. The CC shall minimize dust during excavation and EC shall monitor according to calculated dust action level. Exceedances of the calculated dust action level shall necessitate cessation of activities and stabilization of the dust source.
- 6. With the assistance of the EC, excavate and separate contaminated soil in a manner that prevents co-mingling with non-contaminated soil. Separate impacted groundwater from soil to the extent possible and contain in DOT-approved containers.
- 7. Place contaminated soil in portable drop boxes or other suitable receptacles with lids (supplied by CC), or place stockpiled soil on top of an impervious surface and cover with a minimum of 6-mil plastic sheeting (supplied by CC). Minimize fugitive dust and prevent erosion and runoff of the stockpiled contaminated soil via berming or other stabilization measures. Transfer contaminated groundwater directly into DOT-approved containers or a Baker tank if necessary.
- 8. The CC shall provide temporary fencing with visible, hazardous materials signs. The fencing shall be placed around the affected work area in the APRC and remain in place until the work in the APRC is completed or the exposure pathway is not valid (including utility installation).
- 9. If contaminated soil cannot be stored in an appropriate container, the soil shall be completely covered with 6-mil plastic sheeting and weighted down; surrounded by a temporary barrier placed around the soil stockpile with visible non-hazardous waste signs. The barrier will be of sufficient height to prevent unauthorized access and shall completely surround the covered soil. In addition, barrier shall remain in place until backfill operations are complete to prevent accidental injury and prevent potential employee third party liability.
- 10. Arrange for backfilling of soil excavation with certified clean fill under specifications for the intended surface use and mechanical soil loads.
- 11. Abandon any soil borings that provided access to groundwater with hydrated granular bentonite. The volume of bentonite placed shall be sufficient to completely seal the boring; with the volume calculated using the boring diameter and depth.
- 12. If contaminated groundwater is to be discharged to sewer system, the CC will provide the appropriate equipment to transfer the contaminated media from the storage container(s) to the sewer system. The CC is responsible for obtaining the appropriate city permit(s).
- 13. If contaminated groundwater is minimal (less than 2,000 gallons), a vacuum truck contractor may be contacted to remove and dispose of the contaminated groundwater. If a larger

- volume of groundwater is anticipated, the CC and owner's representative will select an on-Site location for temporary storage of pumped excavation water prior to disposal.
- 14. The CC shall decontaminate equipment that has come into contact with contaminated soil/groundwater by scrub washing or high temperature pressure wash (supplied by CC). Decontamination will occur in a pre-approved decontamination area with secondary containment. Rinsate generated during decontamination will be collected and disposed of at a pre-approved disposal facility (as determined by EC) in accordance with applicable environmental laws.
- 15. The CC shall transport the contaminated soil/groundwater to a pre-approved treatment or disposal facility (as determined by the EC) in accordance with applicable environmental laws.
- 16. The CC will maintain a record of contaminated soil and/or groundwater disposal, treatment, discharge, receipts, permits, bills of lading and/or manifests. The CC shall provide the EC with a copy of all records produced.

11.0 RECORD KEEPING

The EC will keep daily records of Site safety briefings regarding work in the APRC. The EC will prepare daily reports to document the management of contaminated media. The EC shall use a manifest or bill of lading for each off-Site shipment of contaminated media. The manifest or bill of lading shall include among other information, the date and time of shipment, the name of the transportation company, the name of the truck driver, the disposal site, and a brief description of the contaminated media (e.g., soil, groundwater).

12.0 TRANSPORT AND OFF-SITE DISPOSAL OF CONTAMINATED MEDIA

Transport and disposal of contaminated media shall comply with applicable federal, state, or local laws, codes, and ordinances that govern or regulate contaminated substance transportation and disposal. Additional transport recommendations may be recommended or required. A manifest or bill of lading will be included for each load of contaminated media transported off-Site for disposal or treatment.

Contaminated media shall be loaded into transport vehicles in a manner that prevents the spilling or transferring of contaminated media into uncontaminated areas. Contaminated media that spills or falls onto the ground shall be immediately placed back into the truck or in its original container/stockpile, and the affected area shall be immediately cleaned up and restored to its previous state. If loading areas are unpaved, the surface soil, at the direction of the EC, may be sampled at the conclusion of the loading activities to confirm that contaminated media are not present. If loading areas are paved, contaminated media shall be cleaned from the pavement at the conclusion of the loading activities. Impacted pavement will be surrounded with oil spill berming and cleaned as necessary with a non-phosphate detergent wash and rinse. Rinsate water will be absorbed with clean rags or recovered with pumps as necessary; rinse water shall be appropriately contained for disposal. Nearby stormwater drains will be covered with mats and monitored to prevent impact of cleanup runoff.

On-Site transport truck routes shall be established to prevent the movement of loaded transport vehicles over non-contaminated areas. If the movement over non-contaminated areas is necessary, the route shall be planned to minimize the transfer of contaminated media to non-contaminated areas.

Specific transportation routes shall be established before commencing the transport of contaminated media to an off-Site facility. Off-Site transportation routes shall be established to reduce the potential of a contaminated media release. The impact to local traffic shall also be considered when planning the transport route. Loaded truck weights shall be within acceptable limits, and transport trucks shall be covered before they leave the loading area.

Drivers of vehicles transporting contaminated media will have applicable Oregon State and local vehicle insurance requirements, valid driver's license, and vehicle registration and license in their possession during transport. Drivers of transport vehicles will be informed of the following:

- 1. The nature of the material transported.
- 2. Required routes to and from the off-Site treatment or disposal facility.
- 3. Applicable city street regulations and requirements, and Oregon Department of Transportation codes, regulations, and requirements.

Trucks used for the transportation of contaminated media off-Site shall be watertight, substance compatible, licensed, insured, and permitted pursuant to federal, state, and local statutes, rules, regulations, and ordinances.

13.0 LIMITATIONS

The findings presented in this report are based upon observations of field personnel, other consultant reports/observations, points investigated, results of laboratory tests performed by various laboratories, and our understanding of Oregon Department of Environmental Quality requirements. Broadbent & Associates, Inc.'s services were performed in accordance with the generally accepted standard of practice at the time this report was written. No other warranty, expressed or implied was made. This report has been prepared for the exclusive use of Pilot Travel Centers LLC. It is possible that variations in soil or groundwater conditions could exist beyond points explored in this investigation. Also, changes in Site conditions could occur in the future due to variations in rainfall, temperature, regional water usage, or other factors.

14.0 REFERENCES

- Broadbent & Associates, Inc., March 29, 2013. Risk-Based Evaluation Report and No Further Action Request, Former Flying J Travel Plaza (Pilot Travel Center #771), 400 NW Frontage Road, Troutdale, Multnomah County, Oregon.
- Kadence Consultants Inc. February 19, 2010. *December 2009 Groundwater Monitoring and Risk-Based Corrective Action Closure Repot.*
- Oregon Department of Environmental Quality, September 22, 2003 (RBCs updated May 2018). *Risk-Based Decision Making for the Remediation of Petroleum Contaminated Sites.*

Oregon Department of Environmental Quality, May 2009. UST Cleanup Manual.

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