



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7

11201 Renner Boulevard
Lenexa, Kansas 66219

AUG 17 2017

ACTION MEMORANDUM

SUBJECT: Request for Removal Action at the Community Laundromat site, Ava, Douglas County, Missouri

FROM: Megan Schuette, On-Scene Coordinator
Response & Removal South Section

THRU: Adam Ruiz, Chief
Response & Removal South Section
Kenneth S. Buchholz, Chief
Assessment, Emergency Response and Removal Branch

TO: Mary P. Peterson, Director
Superfund Division

SITE ID#: A71M
CERCLIS ID#: MON000704080
NATIONALLY SIGNIFICANT: No
CATEGORY OF REMOVAL: Time-critical

I. PURPOSE

The purpose of this Action Memorandum is to request funding and document approval of the proposed removal action described herein for the Community Laundromat site, Ava, Douglas County, Missouri. This removal action will mitigate and monitor the off-site migration of tetrachloroethylene, or PCE (and its degradation products) from the Site.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Removal site evaluation

The Site was determined to be one of multiple sources of volatile organic compounds, or VOCs, contamination associated with the 12th Avenue Solvents site. The 12th Avenue Solvents site was identified by the Missouri Department of Natural Resources during investigative activities associated with the nearby Sentinel Wood Treating site in December of 2000. Samples collected at a groundwater discharge (wetland) area located about 750 feet downgradient of the Community Laundromat site reported high levels of total xylenes (27,600 µg/L), ethylbenzene (10,500 µg/L), cis-1,2-dichloroethene (146 µg/L), toluene (79.3 µg/L), 1,1-dichloroethene (51.5 µg/L), PCE (2.4 µg/L), benzene (2.3 µg/L), trichloroethylene, or TCE, (2.2 µg/L) and other compounds. Investigations

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conducted by the U.S. Environmental Protection Agency, MDNR and multiple Potential Responsible Parties, or PRPs, revealed that the primary source of the xylene, ethylbenzene and toluene compounds were determined to most likely be a facility other than the Community Laundromat site. However, the Community Laundromat site was believed to be a source of one or more of the reported VOCs.

When the Community Laundromat facility was first identified as a potential source of groundwater contamination in 2002, it contained only coin-operated washers and dryers. However, according to the former facility owner (now deceased), the facility did provide dry cleaning services for "a few years" during the late 1980s and early 1990s. The former facility owner also confirmed that the facility used PCE during the years when dry cleaning services were offered and that a "normal amount" of spillage may have occurred during that time. The former facility owner opened the laundromat in 1986 and operations ceased in 2004. The building that housed the dry cleaning operations was demolished in 2007, but the slab-on-grade and basement were left intact following demolition.

2. Physical location

The Site is located at 306 Northwest 12th Avenue in Ava, Douglas County, Missouri (approximately one-half mile east of Missouri Highway 5). The geographic coordinates are 36.9593 north latitude and 92.6614 west longitude. Ava has a population of 2,993 and lies approximately 50 miles southeast of Springfield, Missouri (U.S. Census Bureau 2010). An Environmental Justice screening was done for the area surrounding the Site and has been placed in the site file.

3. Site characteristics

The Site is located in a mixed commercial/manufacturing/agricultural/residential setting. The Site is bordered to the north by 13th Avenue and the 12th Avenue Solvents site (a Superfund site being addressed separately), to the east by the Ava Department of Motor Vehicles Office and Action Auction Realty, to the south by 12th Avenue and the Douglas County Health Department, or DCHD, and to the west by a private drive and the Ava Police Department. The city of Ava has four municipal drinking water wells that serve the city. Well #4 is located about 400 feet north of the Site.

The Site is located at an elevation of about 1,280 feet above mean sea level and slopes to the west and southwest. The Site lies partially in both the 100 and 500-year flood plains of Prairie Creek. The contaminated wetland area drains into an unnamed tributary of Prairie Creek.

The former dry cleaning building was demolished in 2007 by the property owner. The property is currently a parking lot.

4. Release or threatened release into the environment of hazardous substance, or pollutant, or contaminant

Samples collected and analyzed by EPA and MDNR document the presence of elevated concentrations of PCE (and its degradation products: trichloroethylene, cis-1,2-dichloroethene and vinyl chloride) in soil and groundwater at and around the Site. These compounds are designated as hazardous substances in 40 C.F.R. § 302.4. As such, they are hazardous substances as defined in section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

PCE is a nonflammable colorless liquid. It is used as a dry cleaning agent and metal degreasing solvent. It is also used as a starting material (building block) for making other chemicals and is used in some consumer products.

Breathing high levels of PCE for a brief period may cause dizziness or drowsiness, headache and incoordination; higher levels may cause unconsciousness and even death. Exposure for longer periods to low levels of PCE may cause changes in mood, memory, attention, reaction time and vision. Studies in animals exposed to PCE have shown liver and kidney effects and changes in brain chemistry, but we do not know what these findings mean for humans.

Studies in humans suggest that exposure to PCE might lead to a higher risk of bladder cancer, multiple myeloma or non-Hodgkin's lymphoma. In animals, PCE has been shown to cause cancers of the liver, kidney and blood system. The EPA considers PCE likely to be carcinogenic to humans by all routes of exposure. The International Agency for Research on Cancer considers PCE probably carcinogenic to humans. The Department of Health and Human Services considers PCE to be reasonably anticipated to be a human carcinogen.

5. National Priority List status

This Site has not been proposed for the National Priority List. A Hazard Ranking System score will be developed to determine if listing on the NPL should be pursued.

6. Maps, pictures and other graphic representations

Maps of the site location and layout are attached as Figures 1 and 2.

B. Other Actions to Date

1. Previous actions

The following is a breakdown of previous studies that have been completed at the Site:

Pre-CERCLIS Screening

The EPA conducted a pre-CERCLIS field investigation during the period of July 9-10, 2001. This investigation included the installation of five soil borings, with continuous sampling from the ground surface to the top of the bedrock. In addition, groundwater samples were collected at two of the boring locations. PCE was found to be present at a concentration of 16 µg/L, in the first soil sample, which was collected very near the water table. PCE was also found to be present at a concentration of 57 µg/L in the fourth soil sample. PCE was found to be present at a concentration of 1,300 µg/L in the first groundwater sample, as well as 1,1,1, - trichloroethane, at a concentration of 12 µg/L. PCE was also found to be present at a concentration of 6 µg/L in the second groundwater sample.

MDNR Removal Assessment

In February 2002, MDNR conducted a removal assessment at the Site. MDNR used a membrane interface probe to screen the Site. MIP boring locations were selected based on previous sampling data, information provided by the former owner regarding spills on-site and local topography. Based on the

MIP results, MDNR collected subsurface soil samples for laboratory analysis. A total of 28 soil samples were collected from 18 soil borings. PCE was reported in 10 of the samples at six soil boring locations. Reported concentrations ranged from 13 µg/L to 12,400 µg/L.

MDNR also installed four temporary wells using direct push technology. Groundwater samples collected from these wells contained PCE at concentrations ranging from 1.7 µg/L to 21,400 µg/L. Groundwater samples were collected immediately below the water table at all DPT wells.

During the removal assessment, MDNR also sampled a spring located about 1,500 feet southwest and downgradient of the Site. The spring had been sampled previously by MDNR in May 2001. The 2001 sample contained 35.1 µg/L of PCE. The sample collected during the removal assessment contained a similar PCE concentration of 37.3 µg/L.

EPA Removal Assessment – 1

In April 2007, soil and concrete sampling was conducted following the demolition of the dry cleaner building. This sampling was performed to determine whether PCE contamination exists in the soil beneath the slab-on-grade and basement floors of the former building, and if so, to define the extent of PCE contamination in soil beyond the footprint of the former dry cleaner building, an objective previously addressed during the EPA Pre-CERCLIS Screening completed in July 2001 and the initial removal assessment conducted by MDNR in February 2002. The April 2007 activities also included collection of a water sample from a sump located in the southeast corner of the basement and a product sample from a small plastic container found on-site.

Results of the soil sampling indicated that PCE levels were above the Missouri Risk-Based Corrective Action, or MRBCA, soil threshold of 141 µg/L (protection of domestic groundwater use pathway) beneath the central portion of the basement floor and beneath the slab-on-grade located immediately north of the basement. A low concentration of PCE was reported in the concrete sample collected from the central portion of the basement floor, indicating that a release may have occurred nearby. High concentrations of PCE detected in the soil beneath the slab-on-grade (up to 5,400 µg/L) indicated a release may have also occurred in that area. PCE concentrations beneath the basement floor were as high as 400 µg/L. PCE levels detected in soil samples collected west of the former building were consistent with levels reported in other samples collected from this area during previous investigations. No PCE was detected in the sump water sample, confirming that the sump probably only contained rainwater.

EPA Removal Assessment – 2

In June and September 2016, additional soil, groundwater and surface water testing was conducted, along with vapor intrusion testing at several residences and businesses near the site. Analytical results from subsurface soil sampling at the Site indicated detections of PCE at all five soil boring locations, ranging from 74 µg/L to 809 µg/L. Except for a sample collected at SB-1, all detections exceeded the MRBCA soil threshold. Analytical results from groundwater sampling at three on-site monitoring wells indicated presence of PCE in all samples ranging from 58 µg/L to 2,400 µg/L. The Maximum Containment Level, or MCL, for PCE is 5 µg/L. Of the two surface water samples collected, only one sample (SW-1) contained a detected concentration of PCE. In that sample, PCE was reported at 2.3 µg/L, exceeding the MDNR water quality standard from a drinking water supply of 0.8 µg/L, but below the MDNR water quality standard for human health protection (fish consumption) of 8.85 µg/L. Several VOCs were detected in the outdoor ambient air and indoor air samples; however,

PCE (and its degradation products) were below Regional Screening Levels. Several VOCs were detected in the sub-slab soil gas samples; however, no result exceeded a calculated action level for soil gas.

Other Investigations

Numerous sampling activities have been conducted downgradient of the Site, in conjunction with investigations for the Sentinel Wood Treating site and the 12th Avenue Solvents site. Groundwater samples collected during these investigations contained PCE (and its degradation products), providing further evidence of an off-site release of PCE. Permanent monitoring wells installed by Emerson Electric as part of the 12th Avenue Solvents site investigation contained PCE at various concentrations. PCE has been reported in multiple groundwater wells above its MCL. These wells are either cross-gradient or downgradient of the former Community Laundromat building and, since no source of PCE other than Community Laundromat has been identified to date, it is likely that the PCE in these wells is at least partially attributed to the former dry cleaning operations.

PCE (among several other VOCs) was reported in a sample collected from a wetland area located about 750 feet southwest (downgradient) of the Site. In December 2000, a sample collected by MDNR directly from the wetland contained PCE at a concentration of 2.4 µg/L. A sample collected on the same date from the tributary to Prairie Creek, about 50 feet downstream from the point where the wetland discharges to this tributary, contained PCE at a concentration of 1.0 µg/L. Other VOCs identified in the wetland area are believed to be associated with source areas other than Community Laundromat.

2. Current actions

None.

C. State and Local Authorities' Roles

1. State and local actions to date

MDNR, the DCHD and representatives of the city of Ava have participated with the EPA in several technical meetings held in Ava. The EPA has compiled an Administrative Record for the Community Laundromat site and it was placed in the Douglas County Public Library in Ava, Missouri, and the EPA's Regional Office in Lenexa, Kansas so that the community will have access to documents that the EPA relied upon in determining the removal actions to be taken.

After multiple years of negotiating with the current property owner, it was determined that the best option for cleanup was for the owner to enter into the MDNR Dry-Cleaning Emergency Response Trust, or DERT, program. The property owner applied and was accepted into the MDNR DERT program in January 2010. In September 2011, due to non-compliance by the property owner, the Site was transferred back to EPA.

2. Potential for continued state/local response

MDNR is expected to continue to be involved in Site activities.

III. THREATS TO PUBLIC HEALTH, OR WELFARE, OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES

The EPA has determined, in accordance with section 104(a)(1) of CERCLA and based upon the following factors set forth in the National Oil and Hazardous Substances Pollution Contingency Plan, or NCP, at 40 CFR § 300.415(b)(2) of the NCP, that there is a threat to the public health or welfare or the environment as a result of the release or substantial threat of the release into the environment of hazardous substances at the Site.

300.415(b)(2)(i) – Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants.

Elevated concentrations of PCE are present in groundwater flowing off-site and has been detected as high as 21,400 µg/L. PCE is also present in soil with the highest detection being 12,000 µg/L.

PCE can be released into air, water and soil at places where it is produced or used. It breaks down very slowly in the air and so it can be transported long distances. Half of the amount in the air will degrade in approximately 100 days. It evaporates quickly from water into air. It is generally slow to break down in water. It may evaporate quickly from shallow soils or may filter through the soil and into the groundwater below. It is generally slow to break down in soil.

300.415(b)(2)(ii) – Actual or potential contamination of drinking water supplies or sensitive ecosystems.

Elevated levels of PCE (and its degradation products) have been detected and continue to be detected in temporary groundwater monitoring wells on-Site, permanent groundwater monitoring wells southwest of the Site and in the influent of the treatment system. PCE was detected above the MCL of 5 µg/L (highest detection level: 93.6 µg/L) in multiple permanent groundwater monitoring wells southwest of the Site in July 2016 and vinyl chloride was detected above its MCL of 2 µg/L (detection level: 2.4 µg/L) in the influent of the treatment system in November 2016. Less than one mile downstream of the Site, Prairie Creek has been classified by the MDNR Division of Geology and Land Survey as a losing stream. Therefore, any surface stream contamination has the potential to directly contaminate the aquifer. Municipal Well #4 is located about 400 feet north of the Site. Municipal Wells #2, #5 and #6 are located within 0.75 mile of the Site. Several private residential drinking wells are located less than one mile from the Site.

300.415(b)(2)(v) – Weather conditions exist that may cause hazardous substances or pollutants or contaminants to migrate or be released.

Precipitation events and storm water runoff are expected to contribute to future releases in the Ava area. This is due to the effects of the additional hydraulic head that may be formed at the affected areas after rainfall events or storm water runoff, exacerbating the effect of contaminant migration or transport. The Site lies partially in both the 100 and 500-year flood plains of Prairie Creek.

300.415(b)(2)(vii) – The availability of other appropriate federal or state response mechanisms to respond to the release.

There are no other federal, state or local mechanisms available to address this release. The EPA will continue to work with MDNR and other relevant agencies in the implementation of this removal action.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from the Site may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

There is currently a treatment system installed for the 12th Avenue Solvents site that is also treating VOC contamination from the Community Laundromat site. The system is no longer required to operate as part of the 12th Avenue removal. This removal action will allow the EPA to continue operation of the previously installed treatment system. In the case that the operation of the current treatment system cannot continue, another treatment system may be installed to mitigate the discharge of contaminants to the wetland area and surface water. Specifically, the treatment's system currently mitigates the discharge of VOCs from the groundwater seep identified in the drainage ditch located north of 12th Avenue, east of the tributary of Prairie Creek and from the discharge point of the polyvinyl chloride, or PVC, pipe draining the wetland area south of 12th Avenue and east of the unnamed tributary of Prairie Creek. The removal action will also allow for continued monitoring of the off-site migration of PCE (and its degradation products).

The current treatment system began operating on January 28, 2002. The system consists of a diversion box, collection sump with a submersible pump and trailer-mounted treatment system staged approximately 150 feet from the existing PVC pipe that drains water from the wetland area.

Additionally, the PCE soil source area will be assessed further to determine depth and extent of contaminates. If warranted it will be excavated to inhibit further migration of chlorinated compounds in groundwater, if determined to be an effective course of action. The cleanup goal for soil would be 1,500 µg/L PCE, as proposed in the "Evaluation of Removal Action Alternatives, Revision 03; June 17, 2009" based on discussions with the Region 7 Toxicologist and MDNR dry cleaner program. After the contaminated soil is removed, suitable soil will be used to backfill the excavation. The VOC contaminated soil will be transported to an off-site landfill.

2. Contribution to remedial performance

The actions proposed in this Action Memorandum should not impede any future remedial plans or other response. This removal action is consistent with any long-term remedy in that it addresses the immediate exposure threat posed by PCE contamination at the Site.

3. Applicable or relevant and appropriate requirements

The NCP at 40 CFR § 300.415 requires that removal actions shall, to the extent practicable, considering the exigencies of the situation, attain ARARs, or applicable or relevant and appropriate requirements under federal environmental, state environmental or facility-siting laws. The following ARARs have been identified as being potentially applicable for this action:

Federal

Regulation (Statute – Citation)	Regulatory Description
Occupational Health & Safety Act (29 C.F.R. Parts 1910 & 1926.20-1926.26)	Protects workers' health.
Hazardous Material Transportation (49 C.F.R. Parts 107 & 171-177)	Identification of requirements for transporting potential hazardous materials.
The CERCLA Off-Site Rule (40 C.F.R. Part 300.440)	Requires that CERCLA wastes may only be placed in a facility operating in compliance with RCRA or other applicable Federal or State requirements.
Safe Drinking Water Act (40 C.F.R. Part 141)	Safe Drinking Water Act regulation for MCLs.

State

In a letter dated June 13, 2017, the EPA requested that MDNR identify requirements that the State of Missouri wanted the EPA to consider as potential State ARARs for this removal action. MDNR replied to the request in a letter dated June 20, 2017. The following State ARARs have been identified for this action:

Regulation (Statute – Citation)	Regulatory Description
Missouri Water Law (RSMo 640.400)	Requires that MDNR develop and maintain surface and groundwater monitoring programs.
Missouri Air Conservation Commission – Air Quality Standards and Regulations (10 C.S.R. Part 10-6)	Establishes ambient air quality standard and regulates emissions of contaminants into the air.
Missouri Air Conservation Commission Rules (10 C.S.R. Part 10-6)	Establishes Ambient Air Quality Standards and regulates emissions of contaminants into the air.

Wildlife Code of Missouri (3 C.S.R. 10-4.111)	Requires a determination of the presence or absence of endangered or threatened species and provides for regulation of non-game wildlife. Places restrictions on actions affecting protected species.
Water Quality Standards (10 C.S.R. 20-7)	Establishes the maximum allowable amount of pollutants in discharge effluent per category of water within the State.
Missouri Sanitary Landfill Regulations (C.S.R. Part 80-3.010(2) and (3))	Requires that a waste be tested to determine its handling and disposal requirements.
Well Construction Rules (10 C.S.R. 23-3 and 23-4)	Requires that monitoring and treatment wells be installed in accordance with the Well Construction Code and Monitoring Well Construction Code.
Missouri Hazardous Waste Management Regulations (10 C.S.R. 25)	The EPA has delegated authority to MDNR to enforce most of the RCRA requirements in Missouri. The <i>Missouri Hazardous Waste Management Law</i> and the <i>Petroleum Storage Tank Law</i> combine those RCRA requirements with other requirements that Missouri has added. These laws address the issues of hazardous waste management, cleanup of hazardous waste and hazardous substance releases, management and removal of petroleum storage tanks and cleanup of leaking petroleum storage tanks.
Missouri Board of Geological Registration (4 C.S.R. Part 145-1.010)	Requires that activities that require interpretation of the subsite geology comply with these regulations.
Missouri Water Resources Law (RSMo 640.400)	Requires MDNR to develop and maintain surface and groundwater monitoring programs. These standards may be applicable if a remedy requires long term monitoring of surface water or groundwater if MDNR monitoring program requires submission of monitoring reports.

According to the proposed action for this Site, Missouri Sanitary Landfill Regulations would be applicable for disposal of contaminated soils. Well Construction Rules may be applicable if additional monitoring or treatment wells are installed. Missouri Hazardous Waste Management Regulations would be applicable for proper management and disposal if contaminated soils qualify as hazardous waste.

4. Project schedule

Planning for this removal action may commence immediately following the approval of this Action Memorandum.

B. Estimated Costs

The costs associated with this removal action are estimated as follows:

Extramural Costs

Removal Costs	\$300,000
Contingency (20%)	<u>\$ 60,000</u>
Removal Ceiling	\$360,000

The EPA direct and indirect costs, although cost recoverable, do not count toward the Removal Ceiling for this removal action. Refer to the enforcement section for a breakdown of these costs.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will increase public health risks to the adjacent population through potential exposure to hazardous substances.

VII. OUTSTANDING POLICY ISSUES

None.

IX. ENFORCEMENT

See the Confidential Enforcement Addendum for this Site. For NCP consistency purposes, it is not a part of this Action Memorandum.

Direct Extramural Costs	\$360,000
EPA Direct Intramural Costs	15,000
EPA Indirect Costs (49.21% of all costs)	<u>184,538</u>
Total Estimated EPA Costs	\$559,538

Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

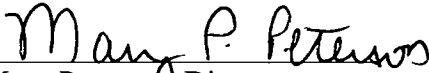
The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$559,538.

X. RECOMMENDATION

This decision document represents the selected time-critical removal action for the Community Laundromat site located in Ava, Missouri, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. The decision is based on the Administrative Record for the Site.

Conditions at this Site meet the criteria set forth at 40 C.F.R. § 300.415(b)(2) for a removal action and I recommend your approval of the proposed time-critical removal action. The total project ceiling, if approved, will be \$360,000. This amount comes from the Regional removal allowance.

Approved:


Mary Peterson, Director
Superfund Division

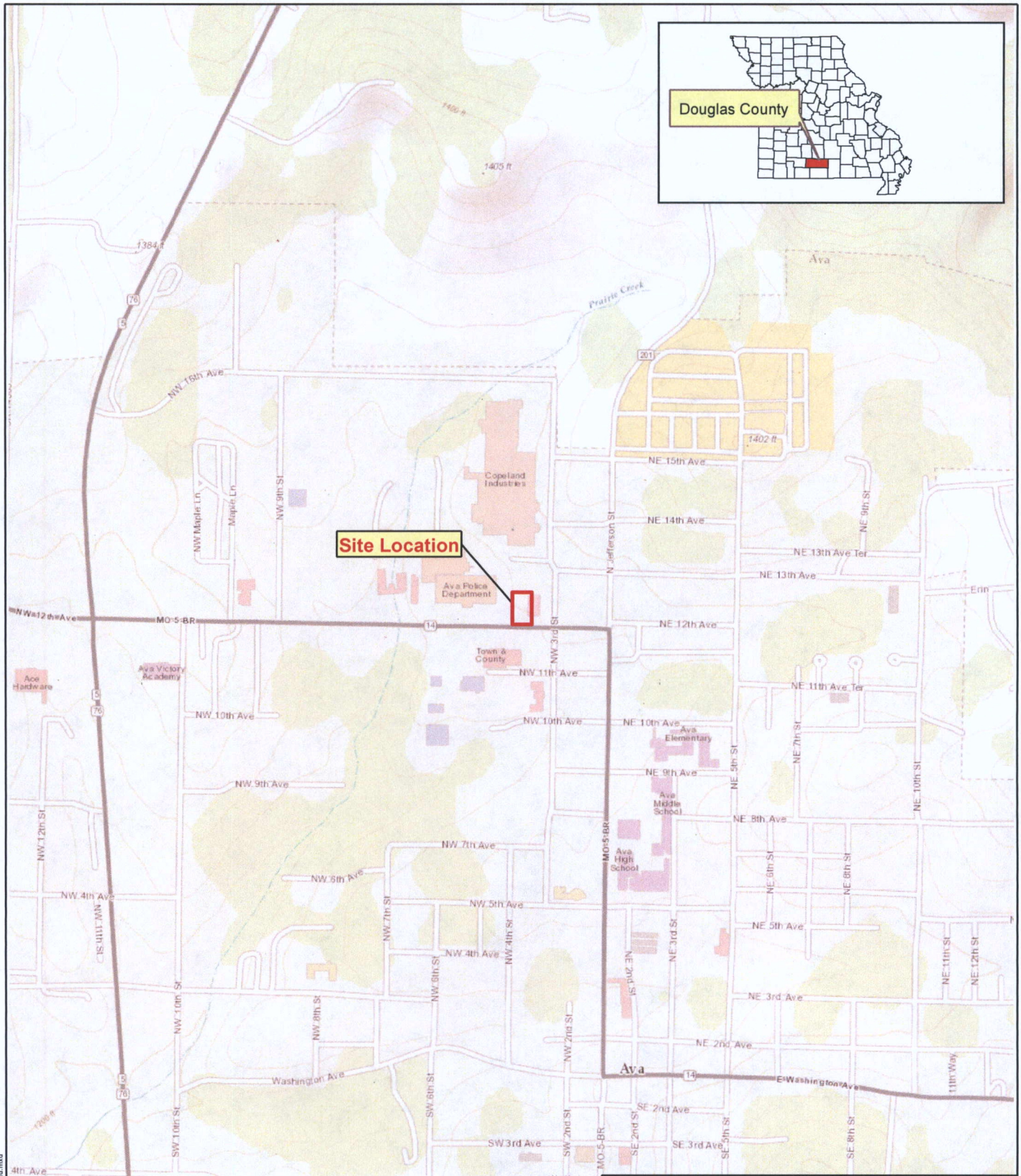
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Attachments

Figure 1- Site Location Map

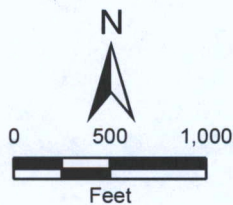
Figure 2- Lite Layout Map

Attachment 1- Confidential Enforcement Addendum



Site Location

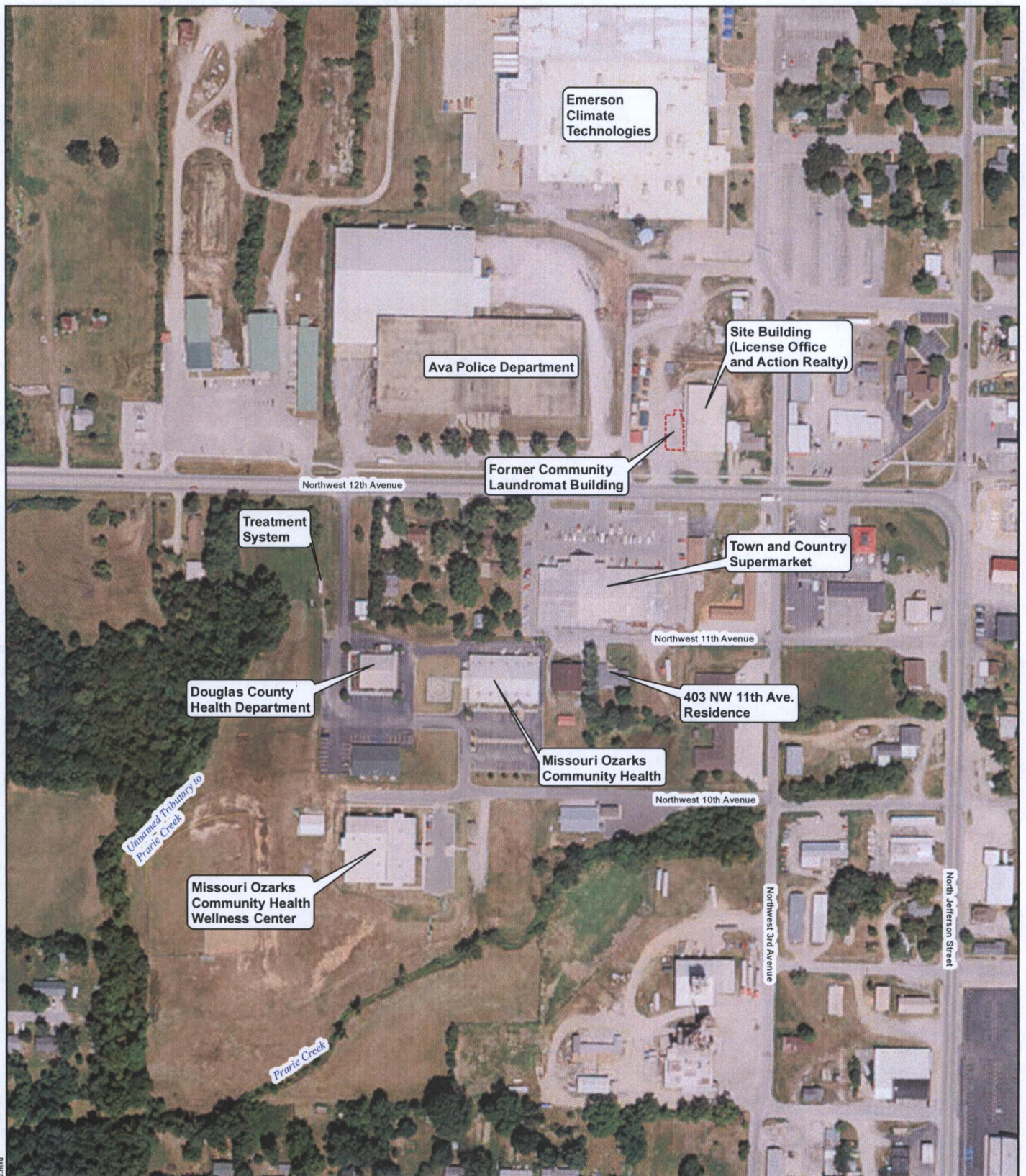
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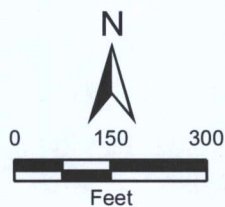
Community Laundromat
Ava, Missouri

Figure 1
Site Location Map





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Community Laundromat
Ava, Missouri

Figure 2
Site Layout Map



Date: 2017-02-10

Drawn By: Michelle Handley

Project No: 19025160127.000