

Phase 2 Brownfields Assessment

351 N. Boonville Avenue

Date of Report: April 7, 2012

Assessment Funding: Public Works

Acres: 0.31

Site Background

Seagull Environmental Technologies Inc. conducted a Phase II Brownfields Assessment of the 351 North (N.) Boonville Avenue site located in Springfield, MO. The site, which is comprised of two separate parcels of land (including a single-story building) that together encompass approximately 0.31 acre, is located southwest of the N. Boonville Avenue and West (W.) Mill Street intersection. The two parcels that comprise the site are:

1. the 351 N. Boonville Avenue property
2. an undeveloped grass-covered lot that adjoins the 351 N. Boonville Avenue property to the south

The 351 N. Boonville Avenue property contains a building covering approximately 4,600 square feet. Jordan Creek flows along the south boundary of the site. A box culvert was installed between 1910 and 1933 that covered Jordan Creek at the site. Both parcels are currently owned by Ronald and Marilyn Hunter.

Phase II Brownfields Assessment activities were conducted at the site on March 14 and 15, 2012. The primary purpose of the Phase II Brownfields Assessment was to determine whether past site operations have resulted in releases of hazardous contaminants to soil. Sample results from the Phase II Brownfields Assessment will be used to guide planned redevelopment of Jordan Creek at the site. In addition, the scope of the Phase II Brownfields Assessment included an inspection of the 351 N. Boonville Avenue building for the presence of asbestos-containing building materials (ACM) and lead-based paint (LBP).

Specifically, the Phase II Brownfields Assessment included the collection of three soil samples from three boring locations located across the south parcel, within the area of the site proposed for redevelopment of Jordan Creek. Those three soil samples were submitted for laboratory analysis of site-related contaminants (volatile organic compounds [VOC], polynuclear aromatic hydrocarbons [PAH], total petroleum hydrocarbons [TPH], gasoline range organics [GRO], and metals regulated under the Resource Conservation and Recovery Act [RCRA]). For evaluation purposes, soil sample results were compared to their respective Missouri Risk-Based Corrective Action (MRBCA) standards established by the Missouri Department of Natural Resources (MDNR). Based on the planned future use of the site, comparisons to MRBCA Tier 1 Risk-Based Target Levels (RBTL) established for non-residential soil is considered most applicable. For the asbestos and LBP inspections, suspected ACM was sampled to quantify asbestos in the material, and paint-covered surfaces were screened with an x-ray fluorescence (XRF)

spectrometer to determine the presence and quantity of LBP.

Findings & Recommendations

Soil

Soil samples collected from the site contained VOCs, TPH-GRO, PAHs, and RCRA metals. In general, the detected concentrations of those contaminants were low. Two VOCs, acetone and 2-butanone, were detected in the soil samples. The detected concentrations of those VOCs, which are both common laboratory contaminants, were well below their respective MRBCA standards. TPH-GRO was only detected in one of the soil samples (SB-3 [6 to 8 feet below ground surface [bgs]]) at 0.591 milligrams per kilogram (mg/kg), which is well below its established MRBCA standards. A total of 10 PAH compounds were detected in the soil samples. Of the PAHs detected, only one, benzo(a)pyrene at 0.64 mg/kg, was detected above its respective MRBCA Default Target Level (DTL), which is 0.62 mg/kg. The detected concentration of benzo(a)pyrene was well below its MRBCA Tier 1 RBTLs for residential and non-residential subsurface soil, which are 178,000 and 933,000 mg/kg, respectively. Additionally, RCRA metals were detected in all three of the soil samples; however, only arsenic and lead were detected at concentrations that exceeded their respective MRBCA DTLs. Neither of those metals were detected above their respective MRBCA Tier 1 RBTLs for non-residential soil (both surface and subsurface). Based on the planned redevelopment of Jordan Creek at the site, the detected concentrations of contaminants likely present minimal risk to future use and redevelopment.

Asbestos-Containing Materials

ACM was identified in one material associated with the 351 N. Boonville Avenue building. The roofing tar, located along the edge of the northeast corner of the roof, was the only material determined to contain asbestos. Specifically, the roofing tar contained chrysotile asbestos at 5 percent (%). The quantity of asbestos-containing roofing tar was estimated at 30 ft². Future renovations (including abatement and disposal activities) that could disturb the ACM should be conducted in accordance with applicable local, state, and federal regulations.

Lead-Based Paint

LBP was identified on several structural components inside the 351 N. Boonville Avenue building. Those components were wooden window frames, the front door, door frames, and columns. Specifically, LBP was identified at seven locations. The wooden window frames (white color) were located on exterior walls and at the entrance; the door and door frames (white color) were located at the south storage room and front entrance; and the columns (blue color) were located throughout the building. XRF readings from those areas ranged from 4.04 to greater than 5.00 milligrams per square centimeter (mg/cm²). The quantity of LBP on the window frames was estimated to total approximately 25 ft²; the quantity of LBP on the door and door frames was estimated to total approximately 29 ft²; and the quantity of LBP on the columns was estimated to total approximately 350 ft². The LBP on a window frame located on the east wall was in poor condition (flaking). The remaining components containing LBP were in good condition. Future demolition or renovations (including abatement and disposal activities) that

could disturb the LBP should be conducted in accordance with applicable local, state, and federal regulations.