AKTPEERLESS
environmental services

Environmental Summary
Uptown at RiversEdge Development
(Former Industrial Brownhoist and Former Fisher Brothers Property)

Site History

The Former Industrial Brownhoist property (the southern portion of the Uptown at RiversEdge Development) was occupied by a saddle and leather equipment manufacturer in the late 1800's. By the early 1900's, the Industrial Works Company took over occupancy of the subject property. The Industrial Works Company manufactured cranes and other related equipment. The Industrial Works Company became Industrial Brownhoist in the mid 1920's. Crane manufacturing activities continued on the subject property until 1983. Historical maps also indicate the presence of a manufactured gas operation on the subject property at this time. A tar well, gas holder, and an above ground oil tank were all operated by the manufactured gas operation. The tar well is located in the eastern portion of the subject property.

The Former Fisher Brothers property (the northern portion of the Uptown at RiversEdge Development) was developed as a coal and aggregate storage yard between 1912 and 1938. Coal storage continued through the 1960's at the subject property, while the aggregate business remained until the City purchased the subject property in 2002. The subject property was owned and operated by the Robert Gage Coal Storage Company from 1912 to somewhere between 1980 and 1983. Between 1938 and 1950, the redi-mix concrete plant was built on the subject property. Approximately 7 buildings, which historically existed on the northern parcel, no longer exist. The use of these buildings is unknown, although two of the structures were coal bins. According to a 1912 Sanborn Fire Insurance Company map, the subject property served as a dumping location.

Environmental Conditions – Former Industrial Brownhoist Property

Several investigations were conducted at the property from 1989 through 1995 by Midwest Water Resource, Inc. (MWR), Arthur D. Little (ADL), ETG Environmental, and Roy F. Weston (WESTON). The investigations conducted at the property included the following (1) soil and groundwater investigation, (2) soil gas survey, (3) an asbestos survey, (4) PCB containing equipment survey, (5) geophysical survey, and (6) radiation survey.

The subsurface investigation included the installation of approximately 95 soil borings and 55 groundwater monitoring wells. Soil and groundwater samples were submitted to a laboratory for analyses for one or more of the following: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polynuclear aromatic hydrocarbons (PNAs), metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc), and polychlorinated biphenyls (PCBs). The results of the investigations indicated that VOCs, PNAs, PCBs, and metals were present across the site above MDEQ Generic Residential and Commercial/Industrial Criteria, specifically Drinking Water Protection, Groundwater Surface Water Interface Protection, Soil Volatilization to Indoor Air Inhalation, and Direct Contact.

The soil gas survey indicated high concentrations of VOCs in soil gas vapors in the areas northeast and southwest of Building 41. The survey of PCB containing transformers resulted in the identification of 31 PCB containing transformers located throughout the subject property. All

PCB-containing transformers, along with contaminated soils, were removed from seven areas around the subject property. The asbestos survey identified asbestos containing materials throughout most of the building on the property.

The geophysical survey identified two areas (the southeast and northeast corners of Building 42) where USTs were suspected to be present. Approximately 153 cubic yards of material were removed from the area near the northeast corner of Building 42 while trying to locate a suspected heating oil UST. Approximately 168 cubic yards of material were removed from the area near the southeast corner of Building 42 while trying to locate a suspected gasoline UST. No UST was discovered in either location.

In 1993, WESTON conducted a gamma radiation survey during soil sampling activities. The suspected source of contamination was radioactive sands associated with the foundry sand used as fill material at the property. Shallow subsurface soil samples were collected from locations where elevated gamma radiation levels were detected. Only three locations were identified with elevated gamma radiation levels which required sampling. The results of the samples submitted from these locations indicated the levels of gamma radiation detected at the property were determined by U.S. EPA to be within the acceptable range established under Part 192 of the Code of Federal Registration. These standards have not changed since the gamma survey was conducted. Based upon review of the federal standards the gamma radiation identified at the property does not pose an unacceptable exposure risk to persons onsite.

In 2001 and 2002, limited investigations were conducted by Horizon Environmental Corporation and AKT Peerless Environmental Services. The results of these investigations indicated the presence of PNAs and metals above MDEQ Generic Residential and Commercial/Industrial criteria, and the presence of volatile organic compounds above the laboratory method detection limits.

Environmental Conditions - Former Fisher Brothers Property

Subsurface investigations were conducted at the Former Fisher Brothers property in1992, by ADL, and in 1993, by WESTON. ADL's investigation included a geophysical survey, soil sampling, and groundwater sampling.

The geophysical survey was able to delineate the boundary of the old dumping grounds. The geophysical survey also identified an area of suspected USTs in the northeastern portion of the property, as well as one unknown UST to the south of the known UST.

The subsurface investigation consisted of a total of seven soil borings and the installation of three monitoring wells. Soil samples were analyzed for VOCs, SVOCs/TPH, and metals. Groundwater samples were analyzed for VOCs and metals. Analytical results indicated VOCs, metals, and petroleum hydrocarbons (TPH) in soil samples and VOCs and SVOCs in groundwater samples.

WESTON's investigation consisted of drilling five soil borings and conducting a geophysical survey. Four of the soil borings were drilled down gradient of a former metal plating shop and near former on-site storage buildings. The fifth soil boring was drilled in the northwest corner of the parcel to evaluate the impact from the adjacent property to the north. Soil samples were analyzed for VOCs, SVOCs, polychlorinated biphenyls (PCBs), and Michigan metals. Analytical results indicated VOCs, SVOCs, or PCBs were not detected above laboratory detection limits. Analytical results of the soil samples indicated that metals were present above MDEQ Residential Cleanup Criteria:

AKT Peerless conducted a limited subsurface investigation in 2002. The subsurface investigation consisted of 10 soil borings. A total of 10 soil samples were collected and analyzed for selected

parameters including VOCs, PNAs, lead, cadmium, and chromium. Analytical results of the soil samples indicated that VOCs, PNAs, and metals were present above MDEQ Residential Cleanup Criteria.

Impact of Environmental Conditions on Property Redevelopment

Based on the results of these environmental investigations, the property meets the definition of a "facility" according to Part 201 of Michigan's Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended. As a facility, purchasers and developers of the property may protect themselves from liability for existing contamination by completing a Baseline Environmental Assessment (BEA).

A BEA is a powerful redevelopment tool that new owners or operators of contaminated property may use to maintain an exemption from liability for existing contamination identified on the property. To maintain the exemption from liability, the new owner or operator has the following requirements: (a) complete a BEA, (b) comply with its "due care" obligations under Section 20107a; (c) prevent any contribution to the existing contamination; and (d) conform with the intended land use category established in the BEA. By completing a BEA, requirements to remediate the property may be avoided.

The contamination identified at the property to date, will not represent a significant challenge to developers of the property. The levels of contamination identified at the property can be easily managed through a Due Care Plan. A Due Care Plan is a document which provides a risk analysis of potential exposure pathways and ways to mitigate risk to public health and the environmental.

Conclusion

Beginning in 1995, AKT Peerless Environmental Services has completed extensive environmental investigation work at the property. Recently, AKT Peerless' was awarded a major contract by the city to continue work there. For more information regarding the technical environmental issues, please contact Mike Brandow with the City of Bay City at (989) 894-8159 or e-mail at mbrandow@baycitymi.org.