Town & Country
1925 Park Avenue
Orange Park, Florida
County: Clay
District: Northeast
Site Lead: Waste Cleanup Program
Approved for Cleanup: October 16, 1987
HWC # 055

Site Description and History

Town & Country Dry Cleaners is located on State Highway 17 in Orange Park in Township 04S, Range 26E, Section 41 at 30° 10′ 00.3138″ N, 81° 42′ 03.1063″ W. In late 1986, the Department of Health and Rehabilitative Services (HRS) found that two wells at the site had detectable levels of tetrachloroethene (PCE), trichloroethene (TCE), and 1,2-dichloroethane. These wells, reportedly screened within the water table aquifer, have since been abandoned and replaced by connection to the municipal water supply. It is believed that dry cleaning solvents were disposed of at the site either directly on the ground or via septic tank. Service stations located on either side of the drycleaner have soils and groundwater contaminated with hydrocarbons associated with former underground storage tanks.

Threat

The water table aquifer has been contaminated with the dry cleaning solvents PCE, TCE, and petroleum hydrocarbons. The aquifer is used primarily for irrigation, although the two former wells at the site were apparently used as a source of drinking water. Soils beneath the drycleaning building and the adjacent service station exceed leach-based soil cleanup target levels (SCTLs) and are considered a source for groundwater contamination.

Response Strategy and Status (June 2016)

Town & Country Dry Cleaners was added to the state-funded site list in October 1987. An initial site visit was made by the Florida Department of Environmental Regulation (FDER, now DEP) in December 1987. Camp Dresser and McKee, Inc. was selected as the contractor for the contamination assessment. A Contamination Assessment Report was submitted in December 1988 indicating that groundwater is contaminated with PCE, benzene, and lead. Additional monitoring wells, installed in December 1989, showed groundwater contamination with petroleum hydrocarbons apparently associated with the Fina and Chevron (now Exxon) service stations located, respectively, to the north and south of the drycleaner.

In February 1990, FDER added the service stations to the overall project for site assessment and cleanup. A supplementary site investigation conducted in June through July 1990 showed intermixing contaminant plumes from the two service stations and the drycleaner. The drycleaning solvent plume consists of PCE and TCE. Groundwater contamination appears restricted to the surficial aquifer. Fina removed all underground storage tanks and approximately 1,000 cubic yards of contaminated soil in March 1990. Contaminated soil appears to remain only at the Chevron station.

A Decision Memorandum was signed in February 1991. The selected remedy included groundwater recovery and treatment by air stripping and filtration through granular activated carbon. The selected remedy for soils was soil vapor extraction (SVE). Final disposal of treated groundwater would be determined during remedial design. Additional testing initiated in October 1991, indicated that SVE might not be practicable due to low soil permeability.

The Decision Memorandum was modified in June 1992 for excavation of soils exceeding cleanup criteria for petroleum contamination wherever feasible, without demolition of existing permanent structures. The 10% Remedial Design was completed in February 1993 and groundwater recovery wells installed in December 1994. The 30% design was completed in May 1995.

New soil data collected to support the design indicated that most of the soil exceeding cleanup goals was located 7 to 10 feet below land surface. Excavation around existing structures was not practicable. Discharge of treated groundwater to a POTW was not an option and it was determined that NPDES permit requirements for discharge to surface water would significantly delay initiation of site cleanup. DEP and its design contractor, WRS Infrastructure and Environment (WRS) concluded that in situ soil and groundwater cleanup would be a more feasible remedy.

A Request for Proposal (RFP) was prepared for qualified hazardous waste remediation firms to propose, design, construct, and operate an in situ remedial system. A prequalification questionnaire was submitted to 14 firms in August 1996 to determine ability and willingness to design and build an in situ groundwater and soil remediation system under a pay-for-performance structure. The final RFP was completed in September 1997. Only two proposals were received by the December 1997 deadline. Both proposals were rejected by DEP as being unresponsive.

After re-evaluation of the feasibility of in situ soil treatment options at the site, in March 1998 DEP tasked WRS to prepare a design for turnkey construction/operation and maintenance of an in situ remediation system consisting of air sparging and SVE. Active treatment would focus on areas with higher chlorinated solvent and petroleum hydrocarbon concentrations. It was anticipated that groundwater outside the areas of active treatment would achieve cleanup goals via natural attenuation. In June 1998 an Amended Decision Memorandum was signed that specified in situ soil and groundwater treatment using SVE and air sparging. Construction was completed and treatment initiated in October 1998.

The October 1999 groundwater samples confirmed that chlorinated solvents contamination met natural attenuation default criteria (NADCs) across the entire site. The SVE/air sparging system was shut down in June 2001 to allow natural attenuation processes to address the remaining solvent plume and to re-assess remediation of the remaining contaminants. Soil samples collected beneath the drycleaning facility in May 2002 were found to exceed leach-based soil cleanup target levels, indicating a possible continuing source of solvent groundwater contamination. Groundwater samples in the vicinity of the former Chevron station indicate a possible continuing contamination source for petroleum hydrocarbons. This has been referred to the Bureau of Petroleum Storage Systems for further action. The Waste Site Cleanup Section will no longer address petroleum contamination for this site.

The remedy was amended in February 2003 to focus active cleanup efforts on the remaining solvent contamination in site soils. A Remedial Action Plan Modification (RAP-Mod) addressing soils beneath the drycleaning facility by SVE was completed by WRS in May 2003. The final RAP-Mod was approved in June 2005, and startup for the new system was initiated in September 2005.

Semi-annual groundwater monitoring at this site is ongoing. Groundwater monitoring conducted in September 2006 and March 2007 indicated concentrations onsite were slightly above the groundwater cleanup target level for PCE. To investigate the persistent groundwater contamination, WRS completed a video camera inspection of the sewer line in July 2007. The investigation results noted that the sewer pipe beneath the drycleaner building was in poor condition and a possible source for groundwater contamination. Semi-annual groundwater sampling completed in August 2007 indicated concentrations above the groundwater cleanup target levels for PCE in two monitoring wells.

Due to the possibility of an ongoing contaminant release, the SVE system was shut down on May 22, 2008. The property owner indicated that he would repair the sewer line and that the current tenant would vacate the building on or before January 31, 2009. Modifications to the existing soil remediation system have been implemented by DEP while the building has been unoccupied, including installation of additional SVE wells to more aggressively address the remaining soil contamination. The October 2008 Monitoring Report confirmed that only one monitoring well exceeds groundwater cleanup goals and that concentrations continue to decline by natural attenuation.

The SVE system was shut down due to control panel failure. This electrical component was uneconomical to replace due to the need to replace the blower as well. In June 2010 a blower test was conducted on the SVE system to determine the size of blower needed to achieve a reasonable radius of influence. This test was conducted and results sent to the DEP. Based on the results from this test the DEP contractor recommended increasing the size of the SVE blower. The DEP has decided to not replace the current blower at the site. The SVE system at this location has been shut down due to mechanical issues. The DEP has determined that the repair of this system is not economically logical and that the mass removal was not effective. This system has been removed from the site and disposed of as scrap in April 2013.

In October 2013, PSI conducted annual groundwater monitoring. Four wells were sampled; PCE was the only contaminant detected in all four groundwater samples. PCE concentrations ranged from 0.77 (I) µg/L to 3.5 µg/L.

On July 14, 2015, PSI conducted groundwater monitoring at the site. Four (4) wells were sampled: MW-3S, MW-30, OW-3S and FW-5I. PCE was the only contaminant detected. It was detected in all four samples. PCE concentrations ranged from 0.94 (I) to 4.0 µg/L. Two wells produced GW samples with PCE concentrations exceeding the MCL: MW-30 (3.7 µg/L and OW-3S (4.0 µg/L). Low-level PCE concentrations in groundwater are likely the result of back diffusion from a clay zone in the surficial aquifer.

Schedule

This Site will continue to have annual groundwater monitoring to evaluate the concentration of contaminants. The most recent groundwater and soil sampling event took place July 2015.

Based upon the findings of this 2015 Groundwater Monitoring Event at the former Town and Country Cleaners facility, the frequency of monitoring should be changed from annual to biennial (once every two years).