

This project involved remediation at a former Michigan paper mill site located near the oxbow of a river. The job, which began in April of 2006, involved several components, including: a refuse area, a transformer pad, the mill itself, as well as several smaller buildings. First, Terra crews cleared the area that had been used to dump paper sludge. Crews spent three months excavating 21,000 cubic yards of residual and trucking them to a nearby landfill. Crews then hauled in 11,000 yards of backfill into the remediated refuse area. Terra was instructed to form a 1,500-foot long depression along the top of the backfilled area in order to prevent water from flowing down to the river, and also to create a wetland environment. To fit the ecological scheme of the wetland, Terra planted appropriate shrubs and other plant life.



The next phase of the job involved a former paper sludge refuse area adjacent to the nearby river. After a turbidity curtain was installed in the river, Terra crews excavated an area of approximately two acres to a depth of ten feet. During the excavation activities, approximately 50 buried drums containing unknown substances were encountered. The drums were removed, placed in overpack containers and moved to a temporary drum storage area. After the waste was backfilled, topsoil was installed, and the area was planted with grass seed and shrubs. In addition, the river banks were armored with rip-rap.



The remaining phases of the project involved the mill and other related buildings. Terra first remediated a transformer pad inside of the mill that contained a 42-inch pipe that had been used to drain to the river. A crew excavated a 45-foot by 45-foot by 6-foot area, removing 500 yards of dirt that had been contaminated by PCBs, oil and other substances. The soil was transported to a Class II landfill. A filter screen that had been used to catch tree limbs and other debris was also removed. Within the mill itself, a Terra crew excavated trenches, which were filled with paper sludge, surveyed the area, then decommissioned several pumps and approximately 400 motors. In addition, Terra collected 2,500 mercury light bulbs and disposed of 4,500 mercury switches.



A crew also remediated a cistern, 25 feet in diameter and 10 feet deep. After the cistern was cleaned, its discharge pipeline was plugged with concrete. Asbestos in adjacent metal buildings was tagged, bagged and removed before the buildings were demolished. In a nearby building used for filtering, crews pumped out 900,000 gallons of filtered water that had been held in the building and conducted an appropriate analysis. Finally, with the approval of the local city government, crews pumped the water into the municipal sanitary sewer system. By March of 2007, the entire job was completed.