2. SITE BACKGROUND

2.1 SITE DESCRIPTION

The DCP area is located in and around the cities of Sauget (formerly Monsanto) and Cahokia in west-central St. Clair County, Illinois (see Figure 2-1). The project area consists of 12 suspected uncontrolled hazardous waste sites, and six segments of Dead Creek, which is an intermittent stream flowing southerly in the eastern portion of the project area. To avoid confusion stemming from various file designations or aliases for the various sites or creek sectors, each site or creek sector has been assigned an alphabetical designation (see Figure 2-2). The disposal sites occupy approximately 220 acres.

The scope of work revision submitted to IEPA in August 1986 included the concept of grouping several sites and creek sectors together for future Hazard Ranking System (HRS) scoring purposes. Sites were grouped into areas based on geographical relationship, same ownership or similar operation, and similar waste types and common exposure pathways. Sites grouped into areas included Sites G, H, I, L, and Creek Sectors A and B (Area 1), and Sites O, Q, and R (Area 2). These areas are presented in Figure 2-3. Sites J, K, M, N, and P do not meet requirements for site aggregation and will be referred to henceforth as peripheral sites.

The DCP sites consist of a number of former municipal and industrial waste landfills; surface impoundments or lagoons; surface disposal areas; past excavations thought to be filled or partially filled with unknown wastes; and an areal drainage flowpath (Dead Creek).

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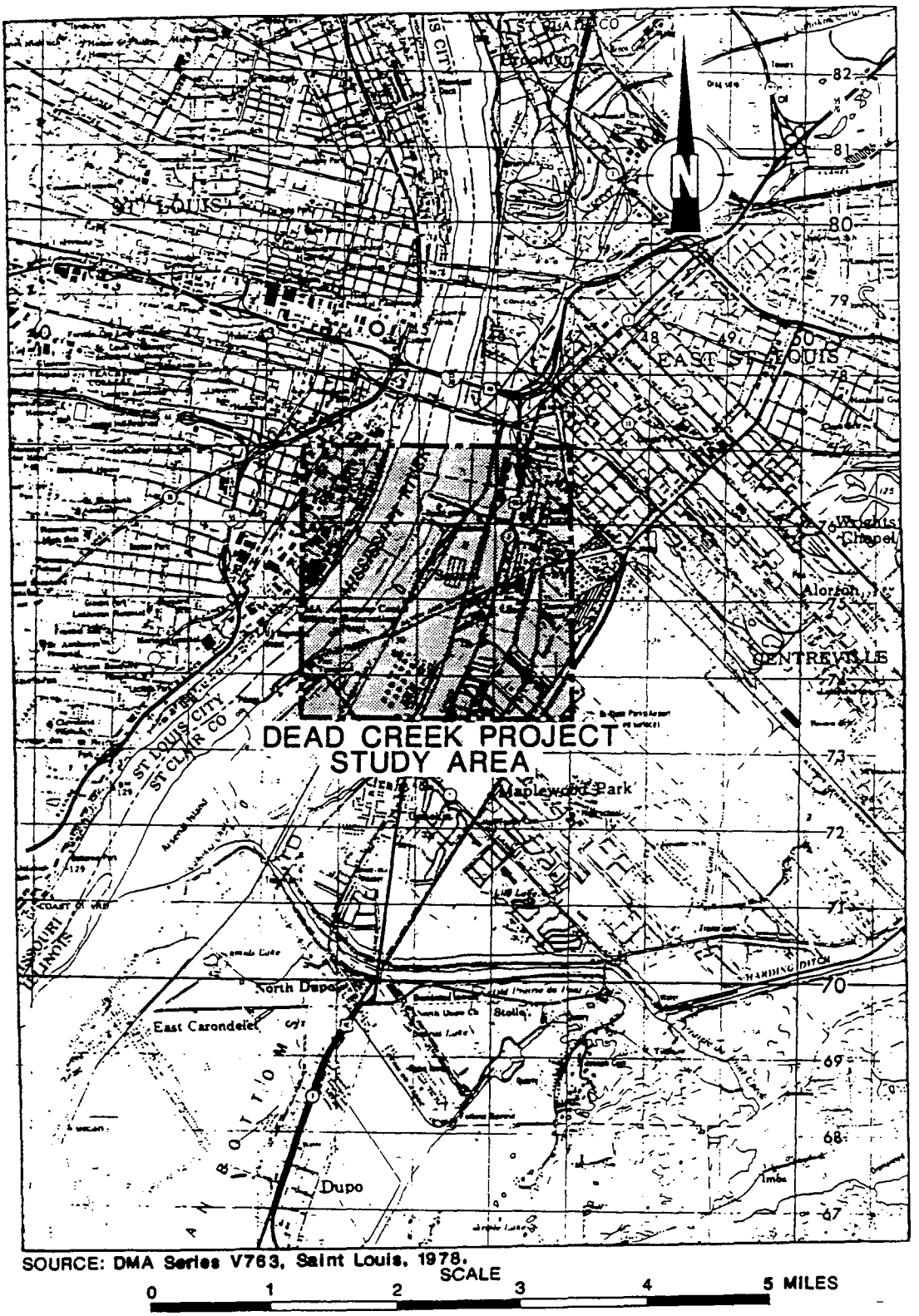

SOURCE: DMA Series V763, Saint Louis, 1978.

FIGURE 2-1 DEAD CREEK PROJECT STUDY AREA LOCATION

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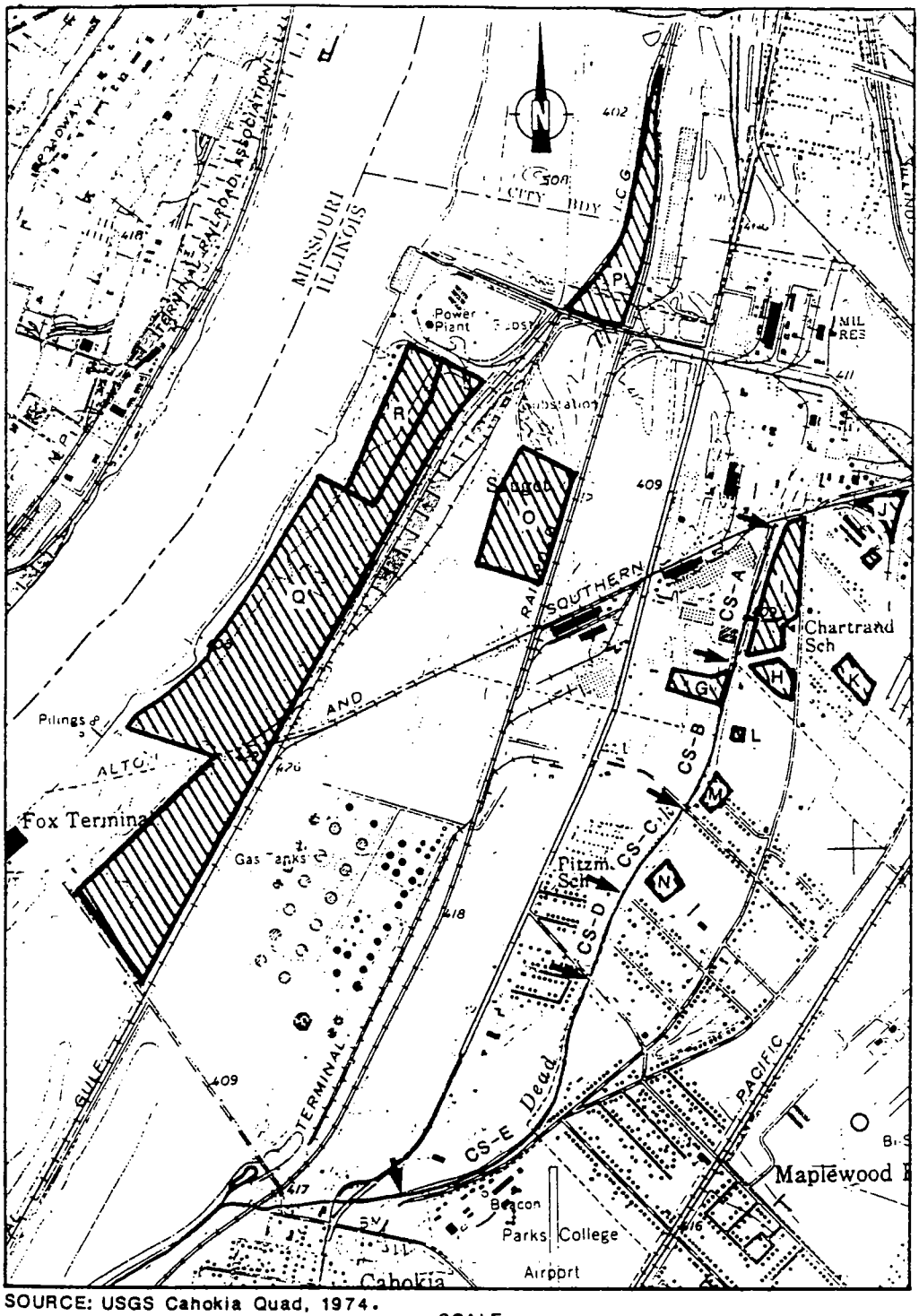

SOURCE: USGS Cahokia Quad, 1974.

FIGURE 2-2 SITE REPORTING DESIGNATIONS FOR THE DEAD CREEK PROJECT

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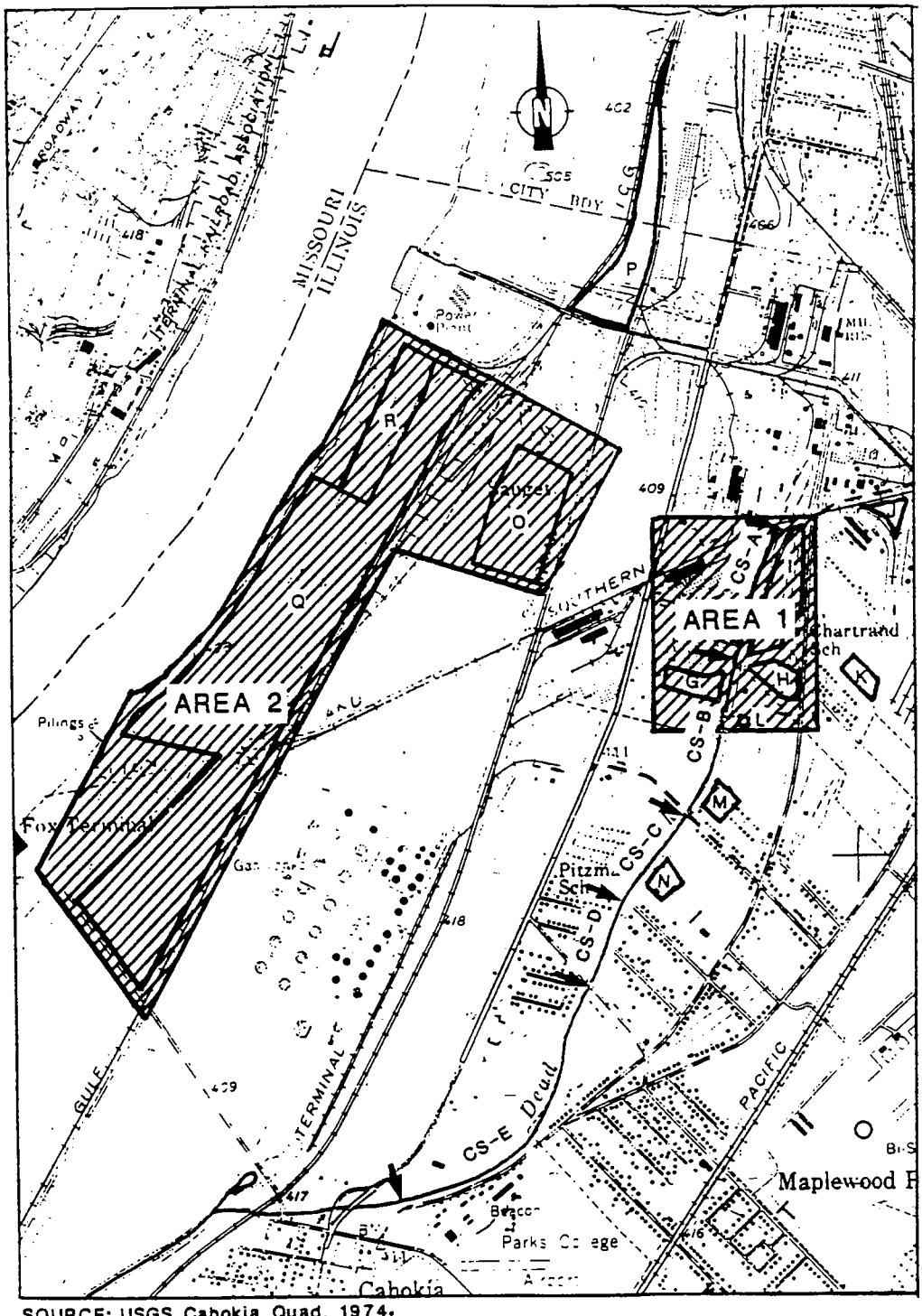

FIGURE 2-3 SITE GROUPINGS FOR THE DCP UNDER THE REVISED SCOPE OF WORK

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The following is a brief description of the individual sites and Dead Creek:

Area 1 Sites

Site features for Area 1 sites and creek sectors are shown in Figure 2-4.

Site G. Site G is a former subsurface/surface disposal area which occupies approximately 4.5 acres. The site is located in Sauget and is bordered on the north by Queeny Avenue, on the east by Dead Creek, on the south by a cultivated field, and on the west by Wiese Engineering Company property.

The surface of Site G is littered with demolition debris and metal wastes. Two small pits are located in the northeast and east-central portions of the site. Oily and tar-like wastes, along with scattered corroded drums, are found in these areas. Additionally, 20 to 30 deteriorated drums are scattered along a ridge running east-west, near the southern perimeter of the site. The western portion of Site G contains a mounded area with several corroded drums protruding from the surface. A large depression is found immediately south of the mounded area. This depression receives surface runoff from a sizable area within the site. Exposed debris is also present over most of the site. In areas where wastes are not exposed, fly ash and cinder material has been used as cover. Presently, a chain-link fence surrounds Site G. The fence was constructed in May 1987 as a response action after high levels of organic contamination were detected in surficial soils.

Site H. Site H is a former subsurface disposal area covering approximately 5 acres. The site is located in Sauget immediately southwest of the intersection of Queeny Avenue and Falling Springs Road. The surface of Site H is an open field which has been covered, graded, and vegetated. Several depression areas, capable of retaining rainwater, are also evident across the site. Surface drainage is generally to the west; although certain localized drainage is toward the depressions. Waste material is not evident on the surface of the site. Access to Site H is not controlled.

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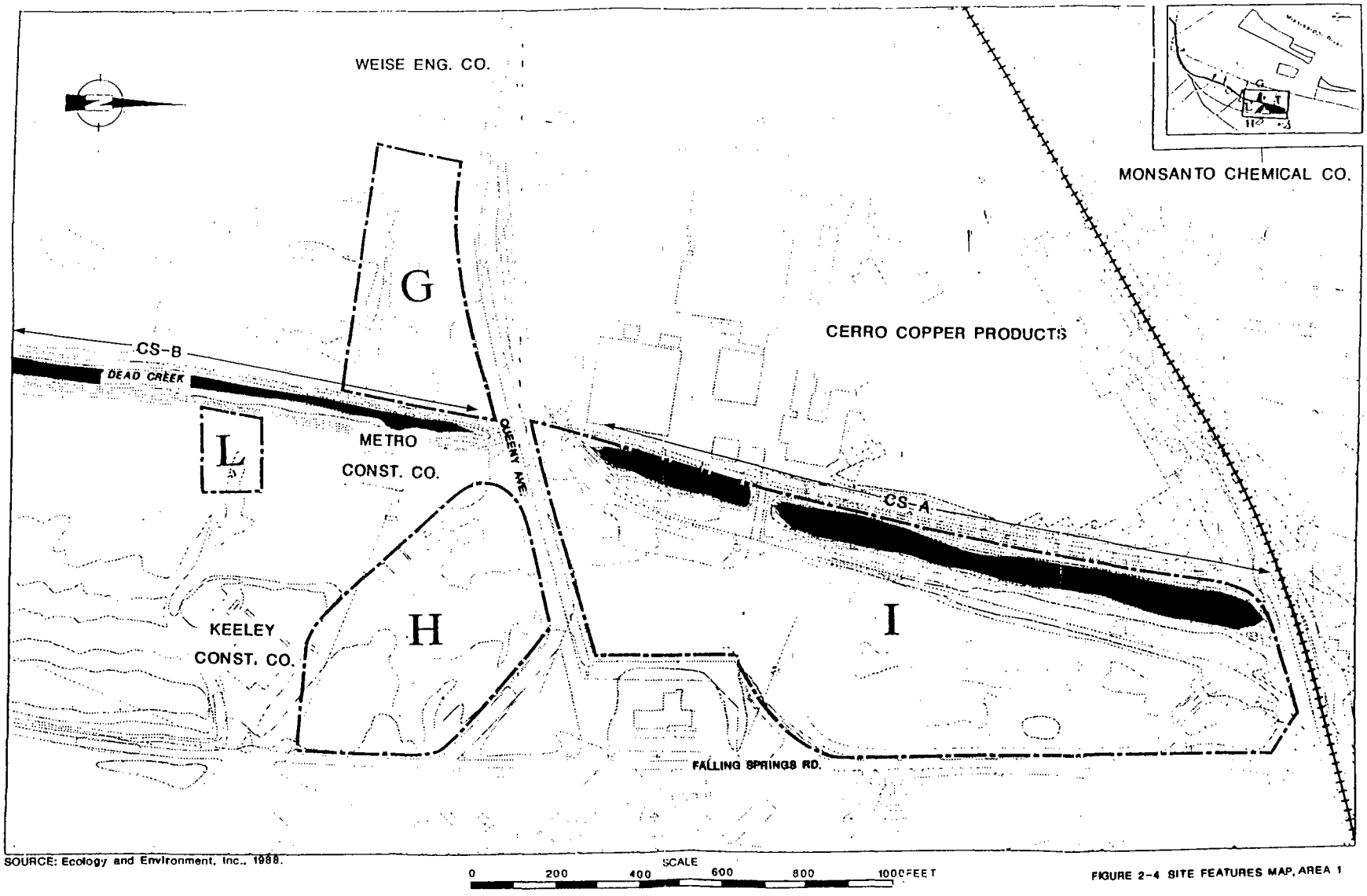

SOURCE: Ecology and Environment, Inc., 1988.

FIGURE 2-4 SITE FEATURES MAP, AREA 1

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Site I. Site I, in Sauget, consists of approximately the eastern one-third of the Cerro Copper Products (Cerro) property. Cerro is a copper refining and tube manufacturing facility. Site I is approximately 55 acres in area and is a former sand and gravel pit which was subsequently filled with unknown wastes. Two holding ponds (Creek Sector A) which formerly served as headwaters for Dead Creek are located along the west side of Site I. The former gravel pit/fill area was covered and graded, and is presently used for equipment and scrap storage and truck trailer parking. No waste material or drums are evident on the surface of Site I. Access to the entire Cerro property is controlled by a chain-link fence and a 24-hour guard at the main entrance to the facility.

Site L. Site L is the former location of a surface impoundment used by a hazardous and special waste hauler to dispose of wash water from truck cleaning operations. The dimensions of the impoundment are approximately 70 feet by 150 feet. The impoundment was approximately 250 feet south of the present Metro Construction Equipment Company (Metro) building, and approximately 125 feet east of Dead Creek in Cahokia. The site is now covered with black cinders, and is used by Metro for equipment storage. Several rows of heavy construction equipment are presently stored on the site. No waste material is visible on the surface of Site L. Access to the area is not controlled.

Dead Creek Sectors A and B. Creek Sector A (CS-A) is on Cerro property in Sauget and is located immediately west of the former sand pit which constitutes Site I of the DCP. The creek in this area presently consists of two holding ponds which receive surface runoff and roof drainage from Cerro. According to Cerro officials, no process wastewater, cooling water, or other waste is discharged to the ponds. The water in CS-A is highly discolored and oily, as evidenced by staining along the creek banks. A culvert located at the south end of CS-A that extends under Queeny Avenue was blocked some time in the early 1970s to prevent flow to the remainder of the creek. Since CS-A lies entirely on Cerro property, access is as described above for Site I.

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Creek Sector B (CS-B) is the portion of Dead Creek lying between Queeny Avenue and Judith Lane in Sauget and Cahokia. Three other sites in the DCP study area are located adjacent to CS-B, namely, Site G to the northwest, Site L to the northeast, and Site M to the southeast. All of these sites have been identified at one time or another as possible sources of pollution in CS-B. Presently, CS-B and Site M are encompassed by a chain-link fence which was installed by the USEPA in 1982. The banks of the creek are heavily vegetated, and debris is scattered throughout the northern one-half of CS-B. Culverts at Queeny Avenue and Judith Lane have been blocked, preventing any release of contaminants to the remainder of the creek. Water levels in the creek vary substantially, depending on rainfall, and during extended periods of low precipitation, the creek becomes a dry ditch.

Area 2 Sites

Site features for Area 2 sites are shown in Figure 2-5.

Site O. Site O contains four inactive sludge dewatering lagoons associated with the Sauget Waste Water Treatment Plant. The site covers approximately 45 acres in a heavily industrialized area located on Mobile Avenue in Sauget. The former sludge lagoons cover approximately 20 acres to the south of the treatment plant buildings. The former lagoons have been covered. An access road to the new American Bottoms Treatment Plant, located immediately southwest of the former lagoons, runs through the middle of the site. Although chain-link fencing surrounds most of the site, vehicular traffic on the access road is not restricted.

Two active industrial facilities, Clayton Chemical Company and Trade Waste Incineration, are located adjacent to the west boundary of Site O. Clayton Chemical is a solvent recovery facility, and Trade Waste provides waste destruction services to area and other industries.

In addition to these facilities, a small area in the northern portion of Clayton Chemical property was formerly occupied by storage tanks owned by Bliss Waste Oil Company. These tanks were allegedly used to store waste oils and chemicals containing 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (TCDD). One leaking underground storage tank was

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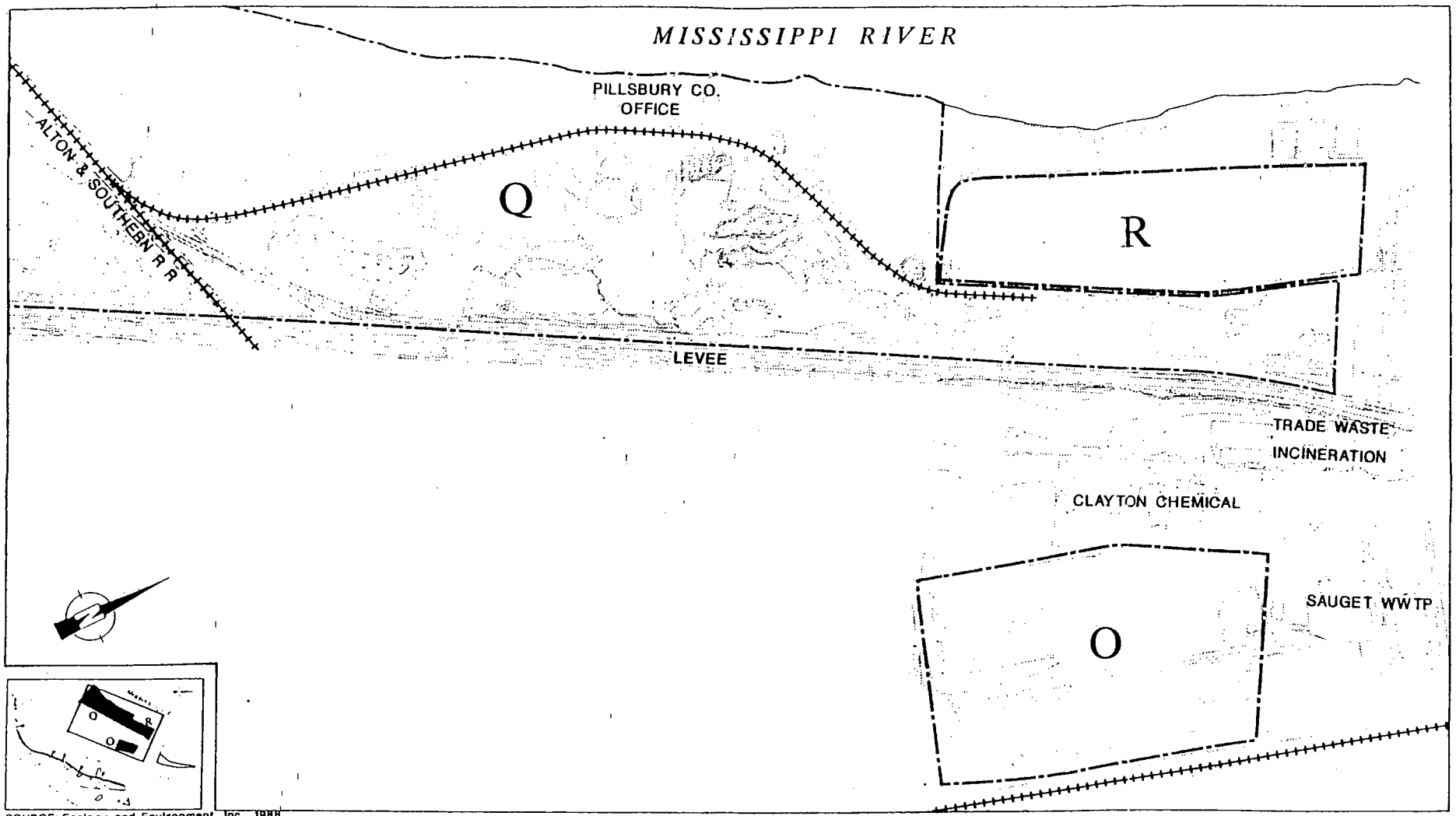

SOURCE: Ecology and Environment, Inc., 1988.

FIGURE 2-5 SITE FEATURES MAP, AREA 2

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removed from this area, and contaminated soil was excavated and disposed of off-site. A separate area of contamination was identified at Site O in 1983. A coordinated sampling effort between IEPA and Envirodyne Engineers revealed high concentrations of TCDD and polychlorinated biphenyls (PCBs) in surficial soils in an area northwest of the former sludge lagoons. Contaminated soil and gravel was removed from the area, and is currently stored in an enclosed area on the treatment plant property.

Site Q. Site Q is an inactive waste disposal facility in Sauget and Cahokia, formerly operated by Sauget and Company. The site covers approximately 90 acres and is located on the east bank of the Mississippi River, on the river side of a United States Army Corps of Engineers (COE) flood control levee. The northern one-third of Site Q is situated immediately east of Site R. The majority of Site Q is presently occupied by the Pillsbury Company, which operates a coal and grain unloading and transfer facility on the property. Large mounds of coal and cinders are present in the northern one-half of the property. The southern portion of the site is presently unoccupied. Some random dumping of household-type waste is evident in this area. A railroad spur divides the site, running north from the Alton and Southern Railroad tracks to the northern one-third of the property, where it ends. Several ponds, including two in the east-central portion and two in the area south of the Alton and Southern Railroad tracks, also exist on the site. Vehicular access to Site Q is presently restricted by fencing in the northern portion of the site and by a 24-hour guard at the main gate. Pedestrian access to the site, however, is unrestricted in the southern portion of the site.

Site R. Site R, in Sauget, is the Sauget Toxic Dump (also known as the Krummrich Landfill), an inactive industrial waste landfill owned by the Monsanto Chemical Company (Monsanto) and used by Monsanto as a landfill between 1957 and 1977. Site R occupies approximately 36 acres and is located immediately west and north of Site Q. A Monsanto feedstock tank farm is located adjacent to the site on the northwest side, between the west border of Site R and the Mississippi. The site

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is presently covered with a well-vegetated clay cap. Surface drainage flows to ditches around the perimeter of the site. The riverbank adjacent to the site is covered with rip-rap consisting of large rocks and boulders. This site has a long history of leachate flow into the Mississippi River. Access to Site R is restricted by a chain-link fence, and television cameras are used to monitor activity at the main gate. A second gate provides access through Site Q.

Peripheral Sites

Site J. Site J is in two segments on the Sterling Steel Foundry Property in Sauget in the eastern part of the DCP. It consists of two pits and a surface disposal area presently utilized by Sterling (see Figure 2-6). The surface disposal area, occupies approximately 5 acres in a roughly triangular area northeast of the plant buildings, south of the Alton and Southern Railroad, and west of a bermed area. Casting sand, slag, and miscellaneous debris covers this entire area. A small pit contiguous to the triangular area, north of the main foundry building has been partially filled with casting sand and baghouse dust. No evidence of chemical waste disposal is apparent in this area. A larger pit is situated southeast of the plant buildings. This pit has been partially filled with casting sand and miscellaneous debris. The larger pit is approximately 25 feet deep, and there is water at the bottom of it. The entire Sterling property is bordered by a chain-link fence; however, the entrance gate is not locked or guarded.

Site K. Site K is a former sand pit identified through historical aerial photographs. The pit has been filled with unknown materials and covered with soil and gravel. The area has been graded to the surrounding topography. The site is presently unoccupied, covers 6 acres, and is located in Sauget north of a residential area on Queeny Avenue, and east of Falling Springs Road (see Figure 2-7). Several trailer homes and houses are located within 100 feet of the site. Access to Site K is not restricted.

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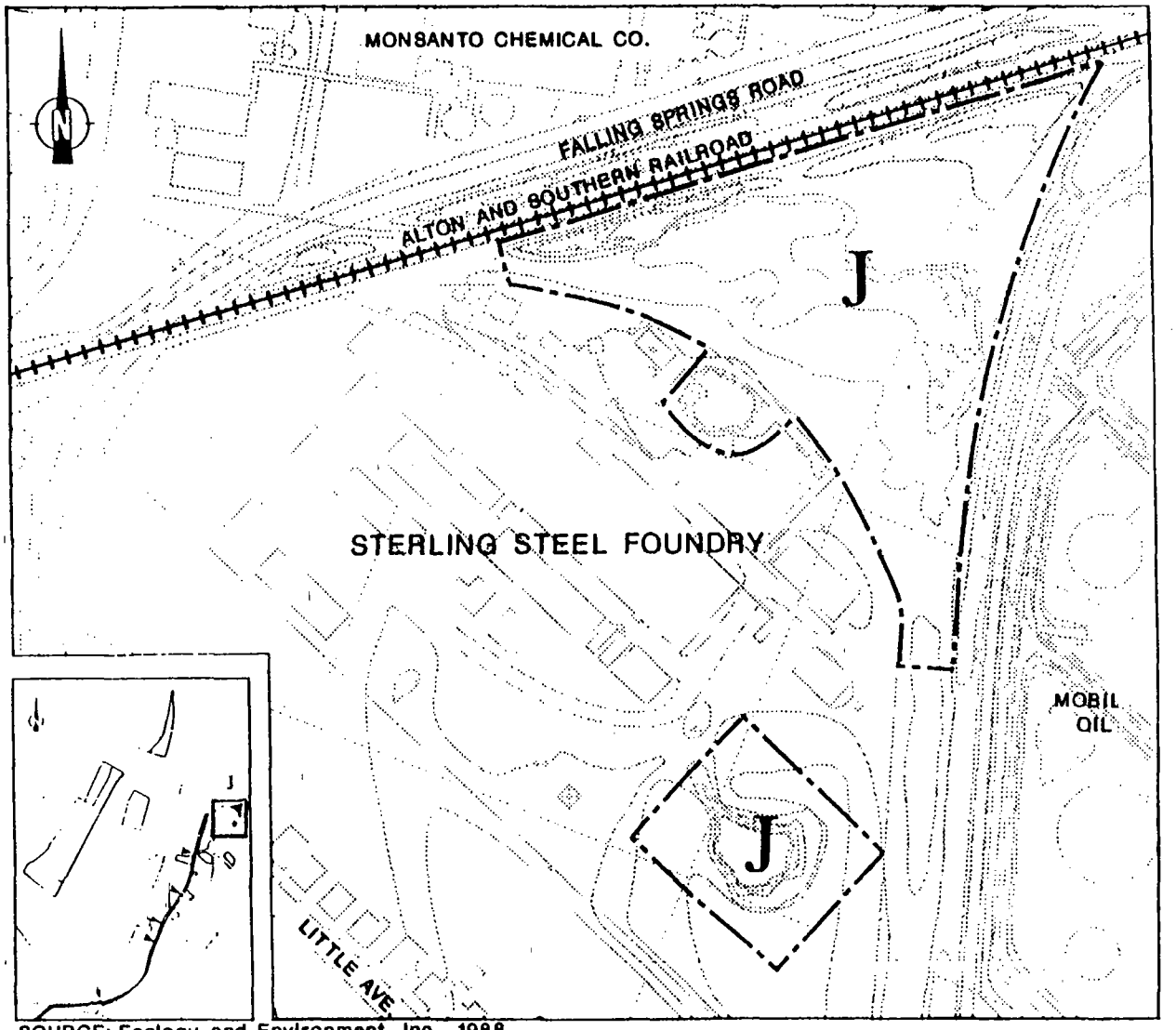

FIGURE 2-6 SITE FEATURES MAP, SITE J

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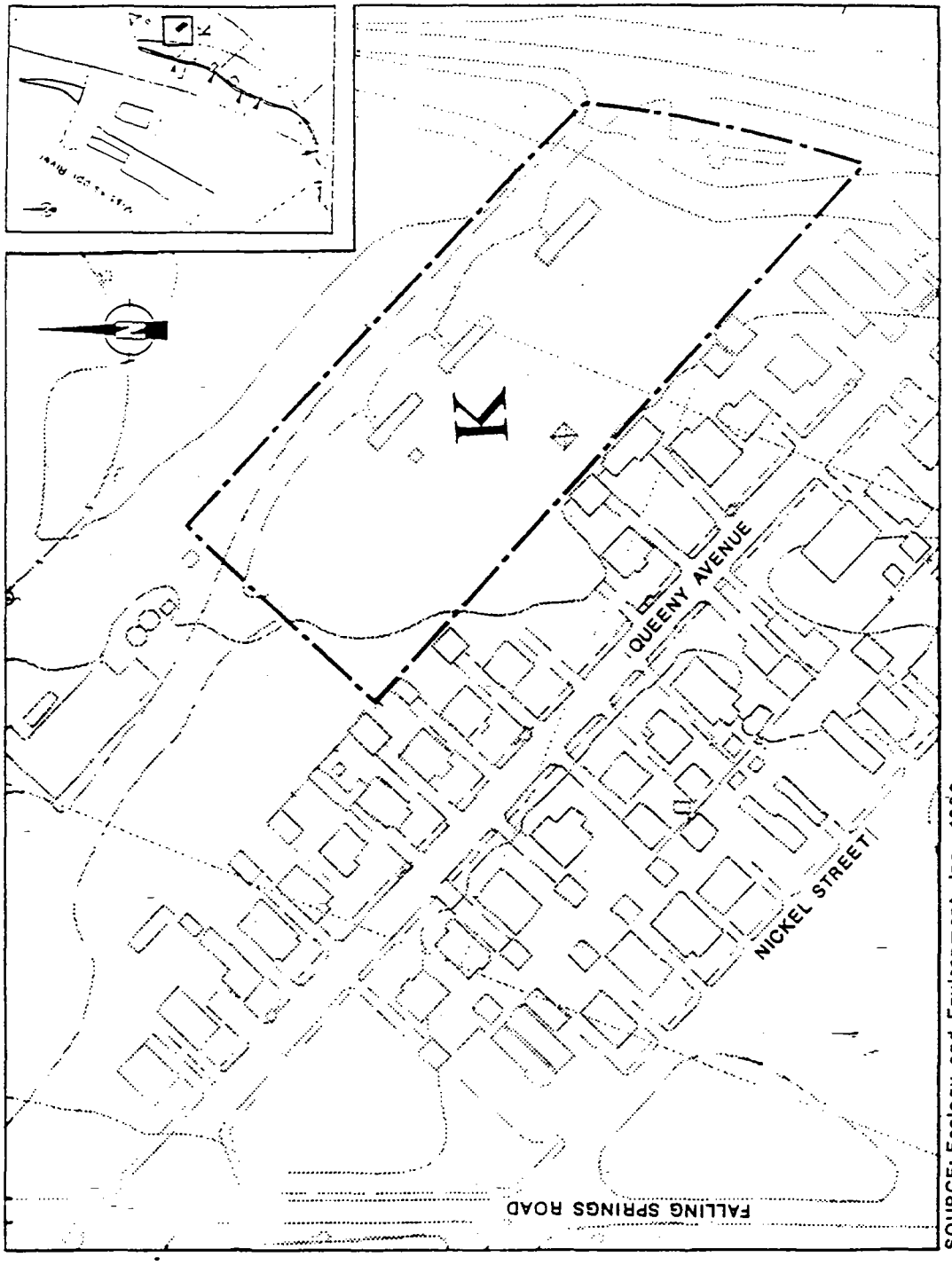

FIGURE 2-7 SITE FEATURES MAP, SITE K

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Site M. Site M, in Cahokia, is a former sand pit excavated by the H.H. Hall Construction Company in the mid- to late-1940s. It is located immediately east of Dead Creek, and approximately 300 feet north of Judith Lane (see Figure 2-8). The dimensions of the pit are approximately 275 by 350 feet, and the estimated depth is 40 feet. The pit is presently filled with water, although it remains unclear whether the water is a surface expression of the groundwater, or simply collected rainwater and drainage. Site M is connected to CS-B of Dead Creek by a drainageway, or cut-through, located in the southwest corner of the pit. This cut-through is approximately 8 feet wide, and allows flow between the creek and the pit. The east bank of the pit is strewn with miscellaneous trash and debris. Other than this material, no evidence of waste disposal is apparent in the pit.

Presently, Site M is enclosed by a chain-link fence, which also encompasses CS-B. A small residential area is located just east of the pit on Walnut Street, which earlier served as an access road to Site M. The pit was excavated prior to any residential development on this street.

Site N. Site N is an excavated area in the southwest corner of an inactive construction yard owned by the H.H. Hall Construction Company of East St. Louis (see Figure 2-9). The site is 4 acres in area and is bordered on the northwest by Dead Creek. The excavated area has been partially filled with construction and demolition debris, but the area remains below the surrounding topography.

The Hall property is presently used only for equipment storage. Access to the Hall property is restricted by a chain-link fence with a padlocked gate.

Site P. Site P is an inactive, IEPA-permitted landfill operated by Sauget and Company covering approximately 20 acres in the northern part of the DCP in Sauget (see Figure 2-10). The site is bordered on the west by Illinois Central Gulf Railroad tracks; on the south by Monsanto Avenue; and on the east by the Terminal Railroad Association railroad tracks. The two railroads converge at the north end of the site.

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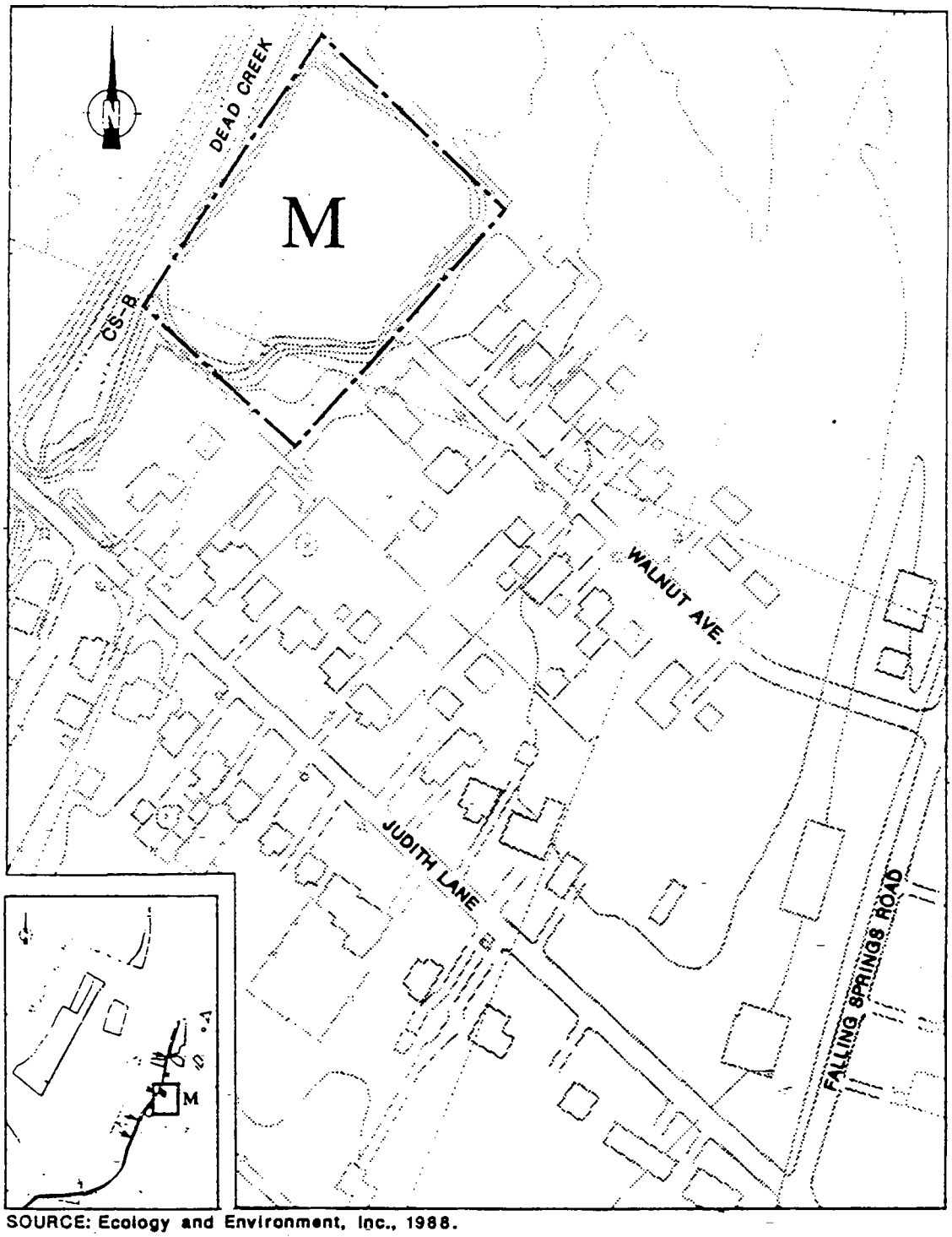

SOURCE: Ecology and Environment, Inc., 1988.

SCALE
0 100 200 300 400 500 FEET

FIGURE 2-8 SITE FEATURES MAP, SITE M

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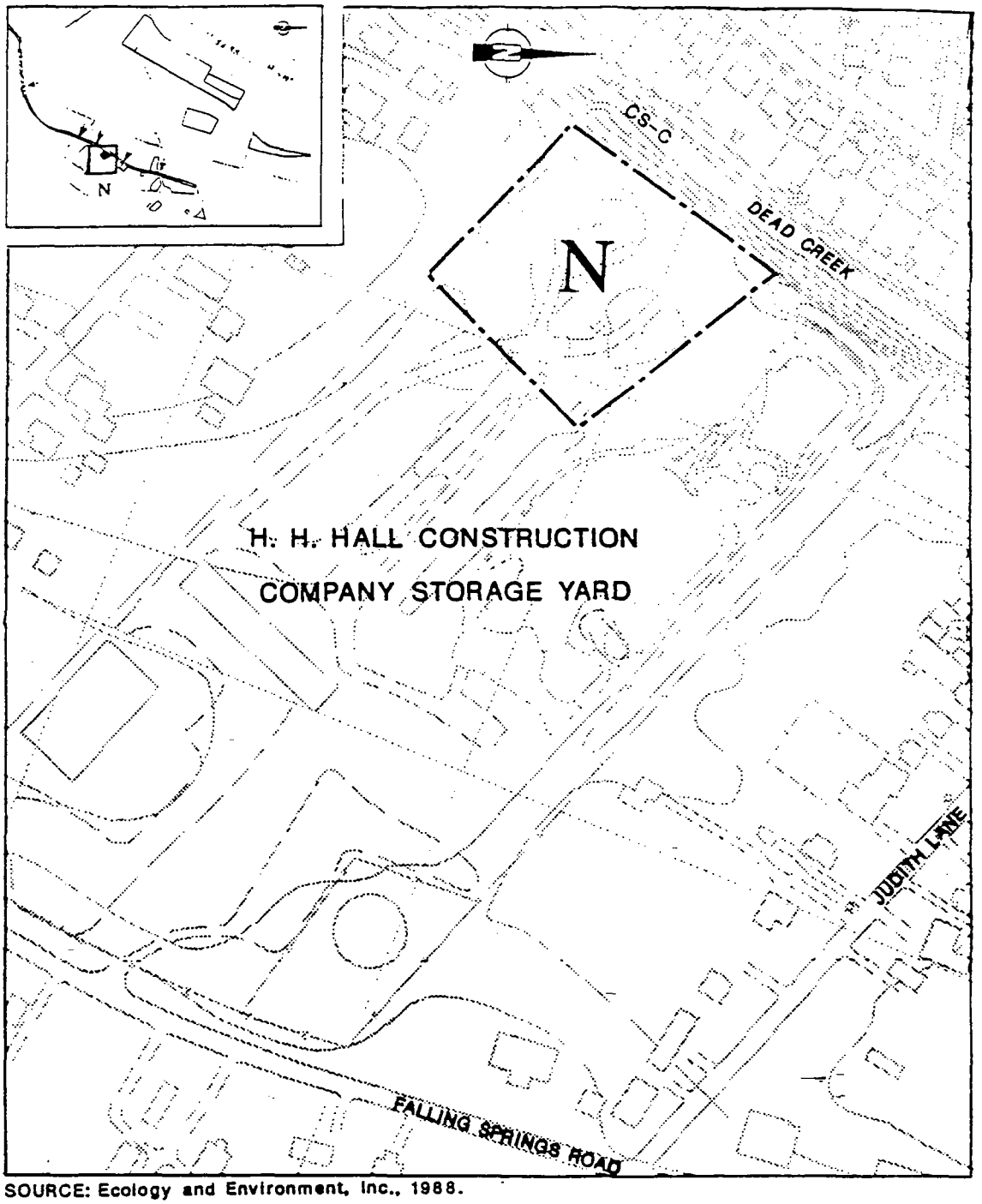

SOURCE: Ecology and Environment, Inc., 1988.

SCALE
0 100 200 300 400 500 FEET

FIGURE 2-9 SITE FEATURES MAP, SITE N

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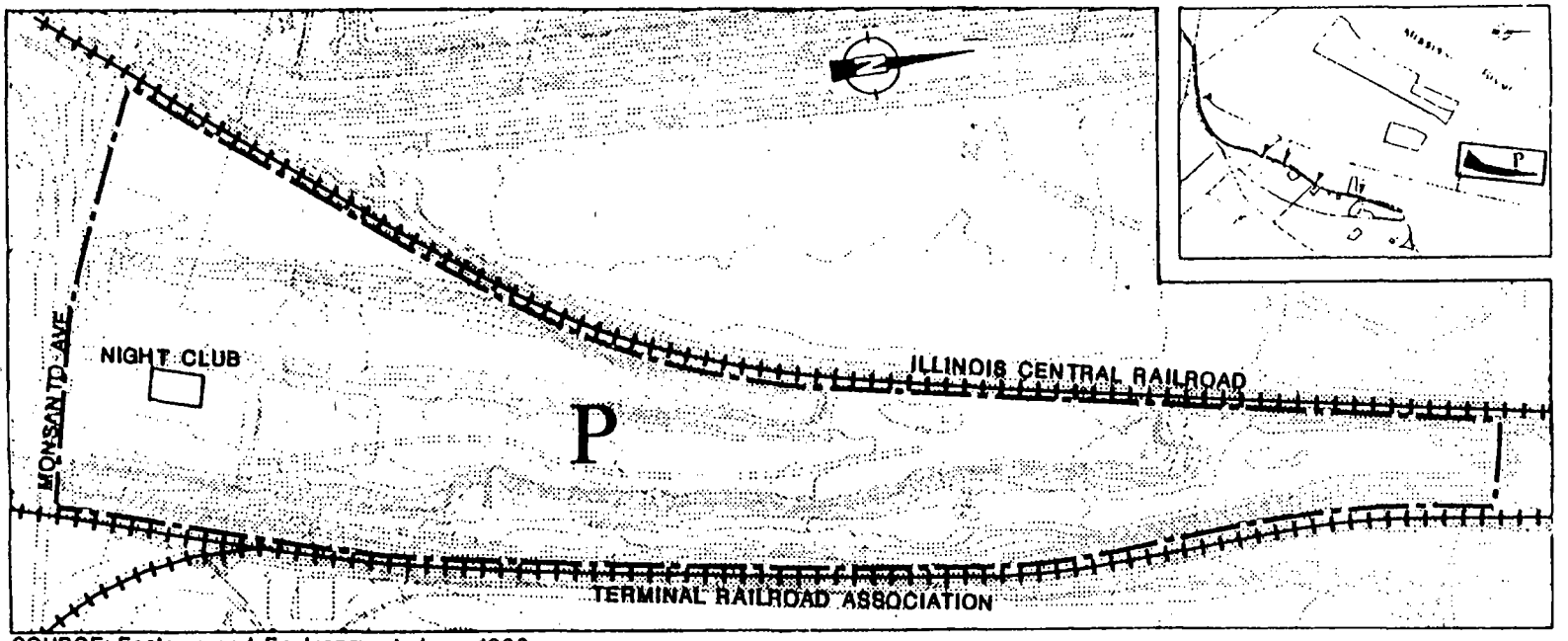

SOURCE: Ecology and Environment, Inc., 1988.

FIGURE 2-10 SITE FEATURES MAP, SITE P

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Site P is characterized by steep sloping landfill sides along its east and south-central portions. The majority of the site is covered with cinders. Deep erosional channels are prevalent along the slopes. The south-central portion of the site was not landfilled because of the presence of a potable water line in this area. A nightclub and asphalt-covered parking lot presently occupy approximately 3 acres in the southeast corner of the site. Access to the site is not restricted.

Dead Creek Sectors C through F. Creek Sectors C through F include the entire length of Dead Creek south of Judith Lane. This portion of the creek flows south-southwest through the Village of Cahokia prior to discharging into the Prairie DuPont Floodway (see Figure 2-11). The floodway subsequently discharges into the Cahokia Chute of the Mississippi River. The creek is wider in these sectors than in Sectors A and B, and the banks are not as heavily vegetated as along CS-B. In the southern portion of CS-D, near Parks College, the creek runs underground through a corrugated pipe. The creek resurfaces briefly at the intersection of Illinois Route 157 and Falling Springs Road. Downstream of this point, the creek runs west through a series of culverts prior to draining into a wetland area west of Illinois Route 3.

Creek Sectors C through F are delineated as follows: CS-C, Judith Lane to Cahokia Street; CS-D, Cahokia Street to Jerome Street; CS-E, Jerome Street to the intersection of Illinois Routes 3 and 157; and CS-F, from this intersection to the discharge point in Old Prairie DuPont Creek. Access to Creek Sectors C through F is unrestricted, and children have been observed playing in and around the creek on several occasions.

2.2 SITE GEOGRAPHY

2.2.1 Physiography

2.2.1.1 Area Topography

The DCP study area is situated in the far southwest portion of the Springfield Plain within the Till Plains Section of the Central Lowland Province (Leighton et al. 1948) of Illinois (see Figure 2-12). The Springfield Plain is basically a flat till plain consisting of Illinoian drift. The western boundary of the till plain is marked by morainic and

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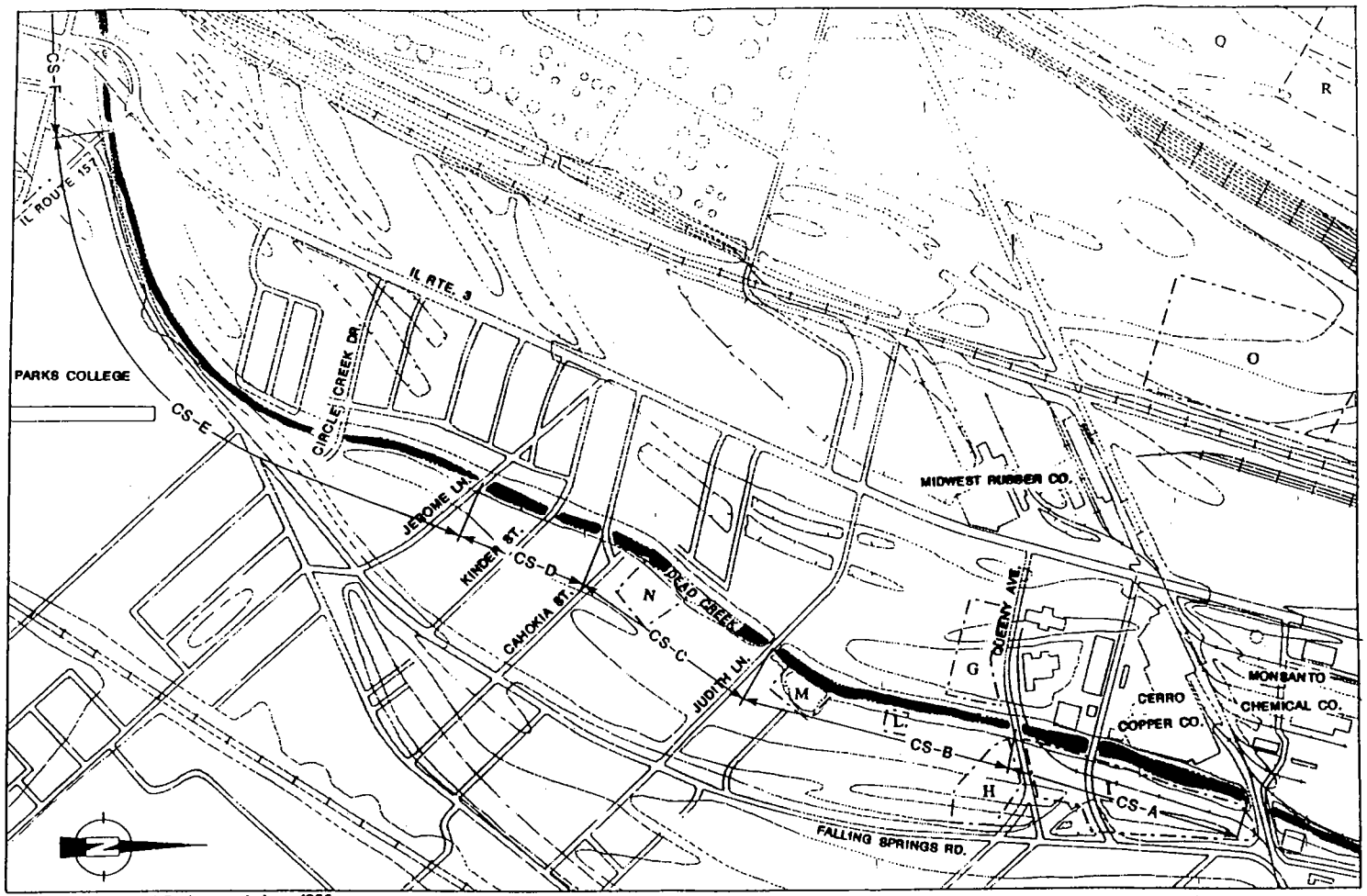

SOURCE: Ecology and Environment, Inc., 1988.

SCALE
0 1000 2000 3000 4000 5000 FEET

FIGURE 2-11 SITE FEATURES MAP, DEAD CREEK