

Site Review and Update

MADISON COUNTY SANITARY LANDFILL

MADISON, MADISON COUNTY, FLORIDA

CERCLIS NO. FLD981019235

DECEMBER 17, 1997

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia

Site Review and Update: A Note of Explanation

The purpose of the Site Review and Update is to discuss the current status of a hazardous waste site and to identify future ATSDR activities planned for the site. The SRU is generally reserved to update activities for those sites for which public health assessments have been previously prepared (it is not intended to be an addendum to a public health assessment). The SRU, in conjunction with the ATSDR Site Ranking Scheme, will be used to determine relative priorities for future ATSDR public health actions.

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Prepared by:

Bureau of Environmental Toxicology
Florida Department of Health
Under a Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

Background and History

The purpose of this report is to review and determine if public health issues and recommendations from the 1990 Public Health Assessment have been addressed and to address any additional public health concerns that may exist.

The Madison County Landfill is approximately 2.5 miles northeast of Madison, Florida on county road C-591 (Figures 1-3). The site area is comprised of about 90 acres. The county Department of Transportation (DOT) and the county's aviation hanger and landing strip are directly south of the landfill. There are 35 single family residences within a one-half mile radius of the landfill. The site began in 1970 as a sanitary landfill operated by the City of Madison. In March 1980, Madison County acquired the site from the city and operated the landfill until closure in 1992. (Golder 1997b). From 1971 to 1980, several public and private companies disposed domestic waste at the site. The site operated as an unlined trench and fill operation. Companies filled the large trenches with the wastes and covered them with the excavated material. From 1971 to 1974, ITT-Thompson (Thompson), a local fabricating plant, disposed of acid wash water in the area identified as the Acid Disposal Area (ATSDR 1990). In the Yard Trash Area (YTA), companies disposed large bulk debris, usually associated with construction and demolition activity. The YTA covers five acres in the southeastern section of the site. The YTA remained active until the county discontinued disposal in 1992.

In September and December 1984, Madison County (county) installed landfill monitoring wells to collect and analyze groundwater samples. Analyses revealed trichloroethene (TCE) in one well at levels of probable health concern. The county also identified two areas where Thompson had dumped drums containing unknown wastes. In November 1984, and October 1985, Thompson removed the approximately 40 drums from the Yard Trash Area. Because the drums had leaked, they excavated the soil under the drums and transported it to a disposal facility. The county did follow up testing and found no other soil contamination (ATSDR 1990).

In response to the detection of TCE in the one monitoring well and the drums discovery, the Madison County Health Department collected samples from private drinking wells in the vicinity of the landfill. They found trichloroethane (TCE) in five residential wells at levels of probable health concern. Thompson provided bottled water to those residents and then installed filtration devices (ATSDR 1990).

The Florida Department of Health (formerly the Department of Health and Rehabilitative Services), in conjunction with Thompson, the City of Madison (City) and the County, continued to monitor TCE in the affected wells. They found degradation products of TCE and other volatile compounds. In March 1988, the city, the county, and Thompson completed the construction of a municipal water supply system for all nearby residents. The City currently has three municipal wells serving 4,000 individuals within a three mile radius of the site. Yearly sampling was implemented to evaluate water quality in residential wells not connected to the public water supply (ATSDR 1990).

In 1988, the U. S. Environmental Protection Agency (EPA) added the Madison County Landfill to the Superfund National Priorities List (NPL). In May 1990, the Florida Department of Health (DOH) conducted a Public Health Assessment for the Madison County Landfill site. We concluded that the site was a potential public health concern based on the risk of human exposure to contaminants of possible health concern; (TCE, benzene), (ATSDR 1990). Recommendations were:

An in-depth ground water survey should be addressed in the remedial investigation/feasibility study (RI/FS).

As a result of the recommendation from the 1990 Public Health Assessment, a ground water survey was initiated and sampling data collected prior to and during the remedial RI/FS. The Madison County Health Department had begun sampling a set of monitoring wells and 11 private wells in the vicinity of the landfill prior to the RI/FS. Based on their February 5, 1990 sampling, one of the monitoring wells and five of the residential wells were contaminated with trichloroethene (TCE) and cis-1,2-dichloroethene (DCE). In January 1991, additional monitoring wells were installed near the known contaminated wells (IT 1991). On July 15, 1991, in efforts to characterize data to assess the types and concentrations of contaminants in the surface water, sediments, and surface soils within the boundary of the Madison County Landfill, IT submitted the draft remedial investigation (RI) to EPA. IT analyzed soil, surface water, sediments, and groundwater samples. Within the landfill, the contaminants TCE and DCE were detected in the greatest amounts in the YTA, and were both found in groundwater and one soil sample. EPA is reviewing the carcinogenicity of TCE at this time. DCE is considered a possible human carcinogen. The test results in the Acid Disposal Area did not classify the soil as hazardous waste. The Baseline Risk Assessment showed that the risk associated with the soil contamination is below health concern levels.

During the RI groundwater investigation, IT installed a total of 27 monitoring wells. They placed the wells mainly in the area down gradient from the landfill near the YTA. IT took samples from all of these wells, and samples from the six existing M series monitoring wells. Several monitoring wells contained measurable concentrations of halogenated volatile organics. These results indicate that the Floridan Aquifer has been impacted by the conditions at the Madison County Landfill. Based on the RI, a contamination plume down gradient from the site does exist (IT 1991). The potential future exposures are associated with contaminants that could be released from the YTA of the landfill into the groundwater (IT 1992).

On September 30, 1992, EPA completed the record of decision (ROD). As a result of the ROD, land use restrictions were implemented and private well installations within the area of influence of pump and reinjection wells were banned during groundwater cleanup. In addition, two additional clusters of monitoring wells were installed. Quarterly monitoring has been conducted on all monitoring wells as indicated by the ROD. (EPA 1992).

In 1994, IT found that eight private residential wells within a one mile radius of the site were contaminated with TCE and DCE at levels of probable health concern. Five of those residential wells were down gradient of the site. As a result of the contamination, four of the five residential wells were placed on city water. The fifth resident declined connection to city water. Quarterly testing results on December 9, 1996 revealed the other three residential wells contained small amounts of TCE and DCE. These amounts were well below a level of health concern (Rachal 1997).

On behalf of IT, the PRPs hired Golder Associates to assist in the remedial design (RD) and the remedial action (RA). On July 28, 1995, the PRPs awarded Handex of Florida, Inc. (Handex) the RA project. From August 1995 to December 1996, Handex performed RA construction. On two occasions, Handex found drums in the YTA. Handex excavated both of these areas and treated and disposed of the drums. During the RA, they constructed the cover system for the YTA. It included a barrier layer 18 inches thick overlain by an 18 inch thick vegetative layer. They also installed surface grades to maximize run off, minimize erosion, and prevent ponding. In accordance with the ROD, the treatment system removed the contaminants from the recovered groundwater, and treated it to levels below the clean up standard. The system then reinjected the water into the aquifer via recharge wells.

All aspects of the ROD have been implemented. On May 1, 1997, The Operation and Maintenance Period began. Groundwater monitoring will continue for at least 25 years. Landfill cover monitoring will continue for 30 years or until the site is delisted from the NPL (Golder 1997b).

Current Site Conditions

On July 15, 1997, Michele Mitchell and Bruce Tuovila with the Department of Health, Bureau of Environmental Toxicology visited the site. The fencing near the west side entrance was damaged. Posts holding up the fencing were knocked down allowing vehicles to access the site. Near the gate there was a large gap in the fencing. Ms. Mitchell and Mr. Tuovila observed a pile of chopped tires near the entrance of the site. They did not observe any signs of trespassing or children playing. The YTA was well fenced, with adequate warning signs. The pump and treat system was west of the YTA. Groundwater treatment is ongoing at the site.

Current Issues

There are no new documented community health concerns at this site except for complaints related to citizens who cannot use their private wells and now have to pay for city water. The PRPs have addressed recommendations from the 1990 Public Health Assessment, by conducting an in-depth ground water survey. Past exposures to contaminants in the landfill area have been addressed and/or eliminated. The PRPs installed 27 monitoring wells around the landfill with an emphasis on the area down gradient. The remedial action included ongoing sampling of groundwater monitoring wells and private wells. The ongoing well sampling will ensure that

any future migration of contaminants will be detected and addressed. The PRPs have an ongoing pump-and-treat system to remove contamination from groundwater under the YTA. There has been minimal community involvement since 1986, when the contamination was found.

Conclusions

Currently, no identifiable public health hazard exists at this site. The PRPs have implemented the recommendations from the May 1990 Public Health Assessment. Therefore, no further public health assessment activities are necessary at this time.

The conclusions of this report are based on our analysis of the information listed in the Documents Reviewed section. We will evaluate new information as it becomes available to decide if further assessment is necessary.

Recommendations

1. No further public health assessment activities are necessary at this time.
2. The Florida Department of Health will evaluate new information as it becomes available to decide what, if any, additional public health activities may necessary.

Documents Reviewed

ATSDR 1990. Agency for Toxic Substances and Disease Registry, Preliminary Health Assessment for Madison County Sanitary Landfill. Prepared by the Florida Department of Health and Rehabilitative Services. May 1990.

EPA 1992a. Environmental Protection Agency. Superfund Proposed Plan Fact Sheet. August 1992.

EPA 1992b. Environmental Protection Agency. Record of Decision. Madison County Landfill. September 30, 1992.

IT 1990. International Technology Corporation. Remedial Investigation/Feasibility Study (RI/FS) Work plan. October 1990.

IT 1991. International Technology Corporation. Draft Remedial Investigation (RI). July 1991.

IT 1992. International Technology Corporation. Draft Feasibility Study (FS). March 1992.

Golder 1997a. Golder Associates, Inc.. Remedial Action for Madison County Landfill. February 1997.

Golder 1997b. Golder Associates, Inc.. Operation and Maintenance Plan for Madison County Landfill. April 1997.

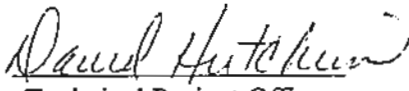
Rachal Richard 1997. Professional Geologist, Florida Department of Environmental Protection, N.E. District. Personal Communication. July 30,1997.

Preparer of Report

Michele Mitchell
Environmental Specialist
Bureau of Environmental Toxicology
Florida Department of Health

CERTIFICATION

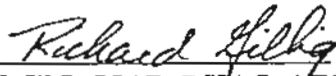
This Site Review and Update was prepared by the Department of Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the Site Review and Update was begun.



Technical Project Officer

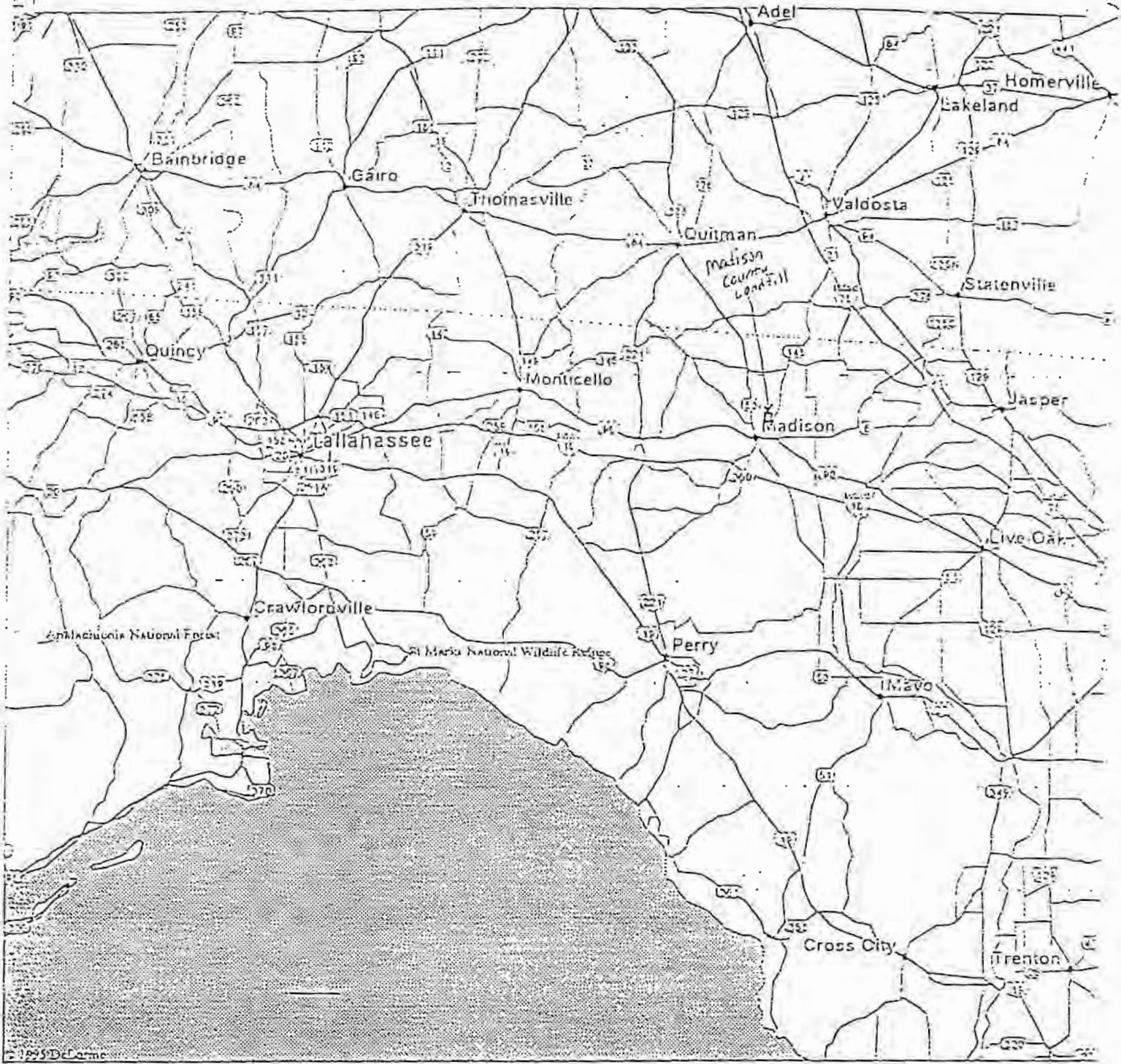
Superfund Site Assessment Branch (SSAB)
Division of Health Assessment and Consultation (DHAC)
ATSDR

The Division of Health Assessment and Consultation, ATSDR, has reviewed this Site Review and Update and concurs with its findings.



Chief, SPS, SSAB, DHAC, ATSDR

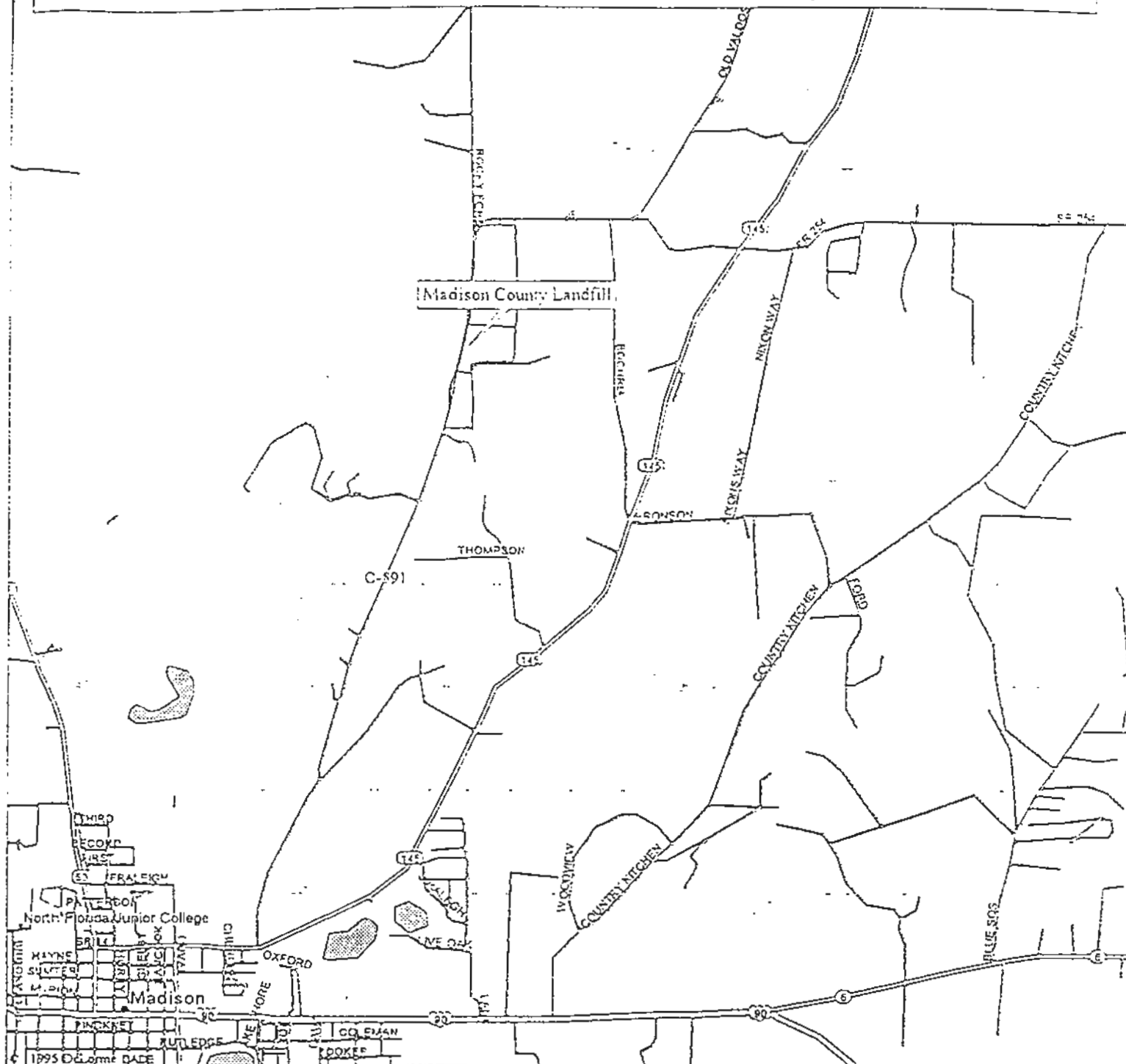
Figure 1. Regional Map



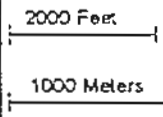
Map 9.00
 Mon Jul 21 10:23 1997
 Scale 1:1,000,000 (at center)
 20 Miles
 20 KM









- Major Road
- Major Highway
- County Seat
- ★ State Capitol
- ▲ Park or Reservation
- ◆ City
- State Boundary
- Population Center
- Land
- ▨ Lake, Ocean, Large River
- River, Canal

Figure 2. Site Map



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 Scale 1:31,250 (at center)



-  Secondary SR, Road, Hwy Ramp
-  Major Connector
-  State Route
-  Primary State Route
-  US Highway
-  Point of Interest
-  County Seat
-  Lake, Ocean, Large River

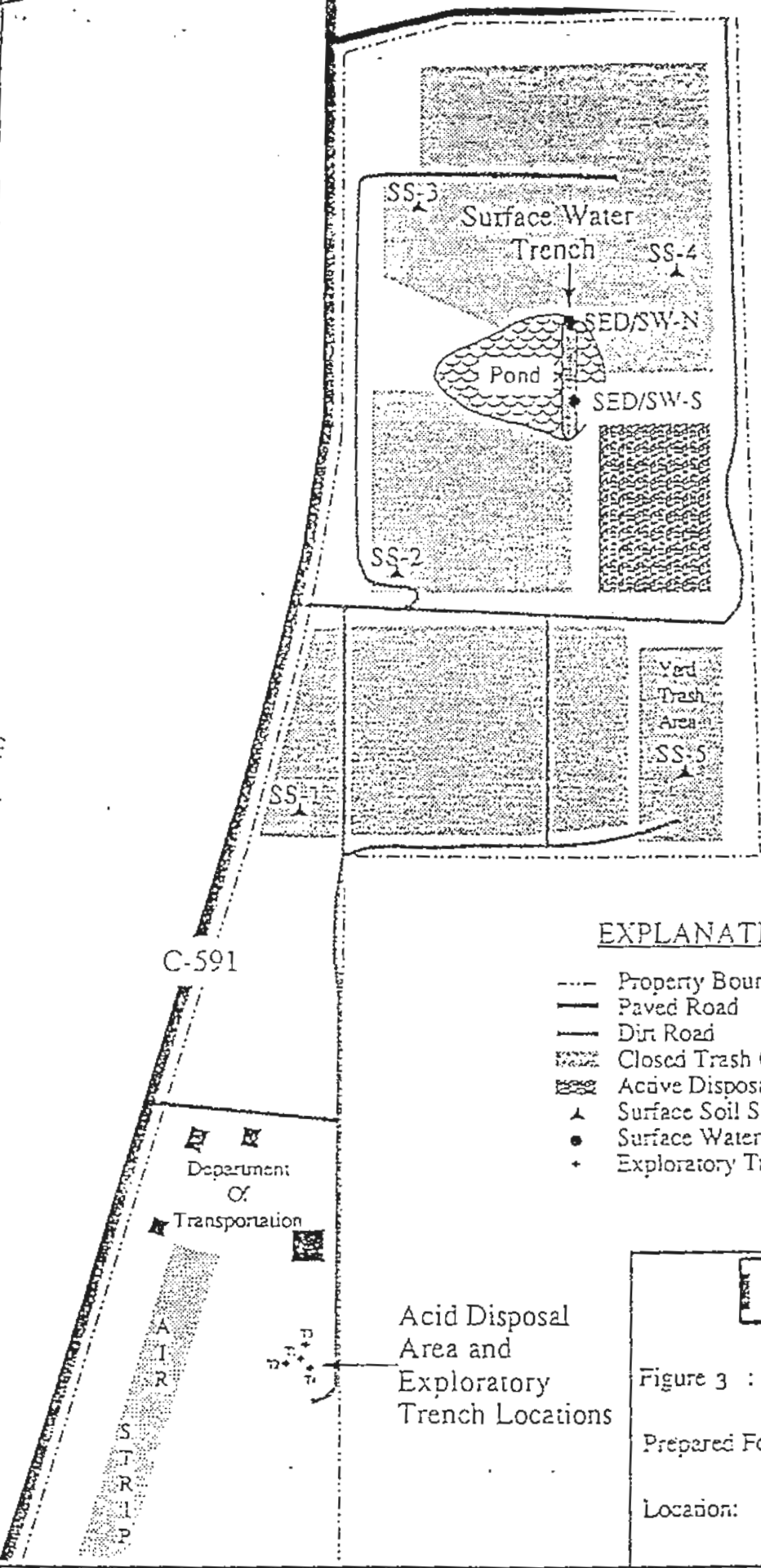
INITIATOR: JKH
 PROJECT NO.: MH

CHECKED BY:
 APPROVED BY:

LAST REV. DATE: R-19-91
 DRAWN BY: JKII

STA. JG DATE: 6-12-91
 DRAWN BY: JKII

STORIED:
 AR VFD:



EXPLANATION

- Property Boundary
- Paved Road
- Dirt Road
- ▣ Closed Trash Cells
- ▨ Active Disposal Area
- ▲ Surface Soil Sample Locations
- Surface Water and Sediment Sample Locations
- + Exploratory Trench Sample Locations



Figure 3 : LOCATIONS OF LANDFILL SAMPLING POINTS

Prepared For: ITT Automotive
 Auburn Hills, MI

Location: Madison County Landfill
 Madison, Florida

Acid Disposal Area and Exploratory Trench Locations