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October 22, 2002

Ms. Victoria Stovall  
Wisconsin Department of Natural Resources  
Southeast Region Headquarters  
2300 N. Dr. Martin Luther King Jr. Drive  
P.O. Box 5246  
Milwaukee, Wisconsin 53122-5246

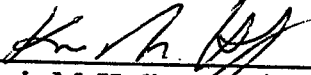
**Re: Site Investigation Work Plan  
Hunn Property Site  
117 East Capitol Drive  
Milwaukee, Wisconsin 53212  
BRRTS No. 02-41-182420  
WDNR FID No. 241081280  
Envirogen Project No. P000158**

Dear Ms. Stovall:

Enclosed please find the Site Investigation Work Plan for the Hunn Property Site in Milwaukee, Wisconsin. This document presents a proposed work plan, prepared by Envirogen, Inc. (Envirogen), for a site investigation at the Hunn Property in Milwaukee, Wisconsin.

If you should have any further questions regarding this information, please contact me at (262) 549-6898.

Sincerely,  
**ENVIROGEN, INC.**

  
\_\_\_\_\_  
Kevin M. Hedinger  
Senior Project Hydrogeologist

KMH:lrc

Enclosure

cc: Mr. Louis Dodulik, Attorney for Hunn Family Trust

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*Cost-effective leadership for a cleaner environment*

**SITE INVESTIGATION WORK PLAN**

**HUNN PROPERTY SITE  
Milwaukee, Wisconsin**

**BRRTS No. 02-41-182420  
FID No. 241081280  
Envirogen Project No. P000158**

**October 2002**

## **SITE INVESTIGATION WORK PLAN**

For the

### **HUNN PROPERTY SITE**

117 East Capital Drive  
Milwaukee, Wisconsin 53212

Submitted to:

### **HUNN FAMILY TRUST**

c/o Mr. Louis Dodulik  
Murdoch, Halaska, Dodulik & Smith, S.C.  
945 Elm Grove Road  
P.O. Box 5246  
Elm Grove, Wisconsin 53122-5246

and

### **WISCONSIN DEPARTMENT OF NATURAL RESOURCES**

Southeast Region Headquarters  
2300 N. Dr. Martin Luther King Jr. Drive  
P.O. Box 12436  
Milwaukee, Wisconsin 53212-0436

Prepared by:

### **ENVIROGEN, INC.**

Envirogen Project No. P000158  
BRRTS No. 02-41-182420  
FID No. 241081280

**October 2002**

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## **1.0 INTRODUCTION**

This document presents a proposed work plan, prepared by Envirogen, Inc. (Envirogen), for a site investigation at the Hunn Property site in Milwaukee, Wisconsin. This site was formerly operated as a dry cleaner from 1962 through 1982, and soil contamination associated with the historical activities has been identified on-site.

During a Phase II environmental site assessment, soil sample results indicated the presence of chlorinated solvents (chlorobenzene and tetrachlorethene) typically associated with dry cleaning operations. Soil samples collected during a supplemental soil investigation also had results that indicated the presence of chlorinated solvents.

The purpose of this Site Investigation Work Plan (SIWP) is to investigate the source, nature, degree, and extent of soil and groundwater contamination at the site. A Health and Safety Plan has been assembled for the site in accordance with the Occupational Safety and Health Administration (OSHA) regulations. Envirogen's standard operating procedures are available upon request.

## **2.0 GENERAL SITE INFORMATION**

### **2.1 Site Location**

The Hunn Property site is located in Milwaukee, Wisconsin. The site is located in the NE $\frac{1}{4}$ , NE $\frac{1}{4}$ , Sec. 8, T7N, R22E in the City of Milwaukee, Milwaukee County (United States Geological Survey [USGS] 1958; photorevised 1971/1976). Figure 1 illustrates the site location, and Figure 2 illustrates the site plan to date. The site address is:

117 East Capitol Drive  
Milwaukee, Wisconsin 53212

### **2.2 Site History**

This site was formerly operated as a dry cleaners from 1962 through 1982. From 1997 to 2002, the site has been operated as an automotive maintenance facility (Speedy Lube). On October 15, 1997, during a Phase II environmental site assessment on the site related to the former use of underground storage tanks (USTs), soil sample results indicated the presence of chlorobenzene and tetrachloroethene, common dry cleaning solvents. Table 1 presents the results of the soil samples. Figure 3 shows the Phase II boring location. On November 3, 1997, the Wisconsin Department of Natural Resources (WDNR) was informed of the soil and possible groundwater contamination caused by the chlorinated solvents. Mr. Hunn received a notice of responsibility for the chlorinated solvent contamination from the WDNR dated February 24, 1998. In August 1998, a supplemental soil investigation was conducted. Soil sample results from this investigation also revealed the presence of chlorinated compounds. Figure 4 illustrates the boring locations for the supplemental soil investigation.



### **3.0 REGIONAL AND LOCAL CHARACTERISTICS**

#### **3.1 Regional and Local Geology and Hydrogeology**

The regional subsurface geology in the Milwaukee County vicinity consists of approximately 100 to 250 vertical feet of Quaternary unconsolidated glacial sediments with additional fluvial and lacustrine deposits. The glacial sediments are composed of ground and end moraine tills made up of unstratified clay, silt, sand, gravel, and boulder-size sediments. The clay-rich glacial tills are locally separated by fluvial or lacustrine sediments (Hadley and Pelham, 1976). The unconsolidated glacial deposits overlie Silurian dolomite bedrock stratigraphic units (Mudrey, Brown, and Greenburg, 1982). Based on the limited soil investigation, soils at the site consist of clay with silt, sand and pebbles (Environmental Associates 1998).

Groundwater in the Milwaukee County area is encountered in the bedrock and the unconsolidated geologic sections. Groundwater has historically been exploited from the bedrock aquifers; however, fluvial sands and gravels within the glacial sequence have also been targeted for private wells. The use of groundwater in much of Milwaukee County has ceased, as it was replaced by a municipal water supply obtained from Lake Michigan.

Regional groundwater flow in Milwaukee County is eastward, toward Lake Michigan, at a gradient of less than 1%. However, flow in the unconsolidated section is primarily influenced by local recharge and discharge zones. Localized variations in groundwater depth and flow patterns typically occur due to changes in soil stratigraphy, topography, and underground structures (e.g., sewers). Local groundwater flow is anticipated to be toward the Milwaukee River, located approximately 2,500 feet east of the site. Surficial groundwater is encountered at depths ranging from 12 to 14 feet below land surface (bls), based on the limited investigation done to date.

#### **3.2 Local Contaminant Pathways and Receptors**

Utility trenches located on or adjacent to the site may act as potential conduits for contamination migration. Due to recent construction projects on Capitol Drive, information regarding the exact location and types of utility trenches is unavailable at this time. Based on Envirogen's previous experience at a nearby site, there are several utilities located along Capitol Drive including natural gas, water, telephone, sanitary sewer, and storm sewer. The potential for contaminant migration along the trenches will be assessed during the site investigation. The nearest surface



water body that could potentially be affected by contamination is the Milwaukee River located approximately ½ - mile northeast of the site.

The Wisconsin Geological and Natural History Survey (WGNHS) was contacted regarding the presence of potable wells within 1,200 feet of the site. After reviewing the well construction logs provided by the WGNHS, there are no known potable wells within 1,200 feet of the site.

There are no wetlands located on or immediately adjacent to the site. To the best of Envirogen's knowledge, there are no sensitive ecosystems or habitats and no state or federally listed endangered species on or adjacent to the site. There are no listed resource or outstanding resource waters on or adjacent to the site.

Based on a review of the National Register of Historic Places and the State Register of Historic Places in Wisconsin, there are no historical or archeological sites on or adjacent to the site (State Historical Society of Wisconsin).

### **3.3 Local Contaminant Source Assessment**

In order to identify potential off-site sources, Envirogen ordered an Environmental Data Resources Report. The report lists the potential off-site contaminant sources for a target site based upon the lists provided by several state and federal databases. Thirty-three databases were reviewed. The databases and results are listed below:

- Superfund National Priorities List (NPL). (EPA 04/22/02)
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). (EPA 05/15/02).
- CERCLIS-No Further Remedial Action Planned (NFRAP). (EPA 05/15/02).
- Corrective Action Report (CORRACTS). (EPA 05/02/02).
- Resource Conservation and Recovery Information System (RCRIS) (EPA 06/10/02)
- Emergency Response Notification System (ERNS). (EPA/NTIS 12/31/01).
- Biennial Reporting System (BRS). (EPA/NTIS 12/31/99) Superfund (CERCLA) Consent Decrees. (EPA)
- Records of Decision (ROD). (EPA 12/21/01).
- Delisted NPL (EPA 04/22/02)
- Facility Index System/Facility Identification Initiative Program Summary Report (FINDS). (EPA 03/21/02)

- Hazardous materials Information Reporting System (HMIRS)
- Material Licensing Tracking System (MLTS) (Nuclear Regulatory Commission (NRC) 04/12/02) Mines Master Index File (MINES).
- NPL LEINS. (EPA 10/15/91) Poly-chlorinated bi-phenyls (PCB) Activity Database System (PADS) (EPA 03/01/02). RCRA Administrative Tracking System (RAATS). (EPA 04/17/95)
- Toxic Chemical Release Inventory System (TRIS). (EPA 12/31/99).
- Toxic Substances Control Act (TSCA) (EPA 12/31/98) Federal Insecticide, Fungicide, and Rodenticide ACT (FIFRA) /TSCA Tracking System (FTTS) (EPA 04/25/02)
- Section Seven Tracking Systems (SSTS) (EPA 12/31/00)
- State Hazardous Ranking List (SHWS) (Wisconsin Department of Natural Resources (WDNR) 11/30/94)
- List of Licensed Landfills (SWF/LF) (WDNR 06/01/02)
- Leaking Underground Storage Tank (LUST) Database (WDNR 06/07/02)
- Registered Underground Storage Tanks (UST) (Wisconsin Department of Commerce (COMM) 07/12/02)
- Aboveground Storage Tank Database (AST) (COMM 07/12/02)
- Spills Database (WDNR 06/07/02)
- Registry of Waste Disposal Sites (WDS) (WDNR 11/01/00)
- Bureau of Remediation and Redevelopment Tracking System (BRRTS) (WDNR 06/10/02)
- Closed Remediation Sites (CRS) (WDNR 06/01/02)
- Brownfields Environmental Assessment Program (BEAP) (WDNR 12/31/00)
- Environmental Repair Program Database (ERP) (WDNR 06/07/02)
- Wisconsin Remedial Response Site Evaluation Report (WRRSER) (WDNR 10/01/95)

The results of the database search indicated the following:

- CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally defined corrective action core events have occurred for every handler that has had a corrective action activity. The review of the CORRACTS list revealed that there are two sites within one mile of the property. The sites are Glendale Technical Center located at 4300 North Port Washington, and Johnson

Control located at 3713 Humboldt Avenue. In both cases, a low corrective action priority was issued in 1992.

- The Resource Conservation Recovery Information System is a database that includes information about sites that generate, store, treat, or dispose of hazardous waste. A review of the RCRIS large quantity generator list identified two large quantity generators within  $\frac{1}{8}$ -mile of the site. The sites are Johann Tube and Pipe located at 3928 North 2<sup>nd</sup> Street, and Aqua Chem Inc. located at 240 West Capitol Drive. Aqua Chem has one violation record which occurred in March 1987, as a result, Aqua Chem was found to be in compliance in April 1987. A review of the RCRIS small quantity generator list revealed 23 small quantity generators within  $\frac{1}{4}$ -mile of the site. Of the 23 small quantity generators, only one, Great Lakes Fabrication located at 3901 North 2<sup>nd</sup> Street lists any violations. Great Lakes Fabrication achieved compliance in November 1992.
- The SHWS list is analogous to the federal CERCLIS list. Priority sites planned for cleanup are identified. The review of the SWHA identified one site within  $\frac{1}{2}$ -mile of the property. The site is Bluehole Landfill located at 810 East Capitol Drive.
- The LUST database contains an inventory of sites that have reported a release. The review of the LUST database revealed that there are 33 LUST sites within  $\frac{1}{2}$ -mile of the property. Twenty-six of the sites have been closed, and seven remain open cases. Three of the seven open LUST sites are within  $\frac{1}{8}$ -mile of the property. The sites are: MOFOCO Car Wash located at 122 West Capitol Drive has soil contamination from an unleaded gasoline release; Plaza 47/Popeye's Chicken located at 207 East Capitol Drive has soil and groundwater contamination from a leaded gasoline release; and a residence at 225 West Capitol Drive had a release of fuel oil.
- The UST database contains an inventory of sites with registered USTs. The search of the UST database revealed that there are 21 sites within  $\frac{1}{4}$ -mile of the property that have registered USTs.
- The Wisconsin Emergency Repair Program (WI ERP) database lists non-UST sites with contaminated soil and/or groundwater. A review of WI ERP lists 22 sites within approximately a  $\frac{1}{2}$ -mile of the property. Fourteen of these sites have been closed and eight remain open. Three of the eight open sites are up-gradient of the property. The



Larson Company Inc. is located less than ½-mile southwest of the property at 3811 North Port Washington. The Larsen Company site has soil and groundwater contamination identified as chlorinated solvents. The Regees, Kcots LLC, located less than ½-mile southwest of the property at 3744 North Booth Street. The Regees, Kcots LLC has soil and groundwater contamination identified as volatile organic compounds (VOC), polychlorinated biphenals (PCB), polynuclear aromatic hydrocarbons (PAH), semi-volatile organic hydrocarbons (SVOC), metals, and chlorinated solvents. Recycling World North is located less than ½-mile south-southeast of the property at 3607 North Richards Street. The Recycling World North site has groundwater and soil contamination identified as PAH, VOC, SVOC, and chlorinated solvents.

The reviews of the remaining databases did not reveal any sites.



#### **4.0 SOIL INVESTIGATION**

The purpose of the soil investigation is to delineate the source, nature, degree, and extent of chlorinated solvent soil contamination at the Hunn Property site. In addition, subsurface materials will be characterized to allow development of an appropriate response to contamination at the site. During investigation activities, Envirogen will follow its standard operating procedures, which are available upon request, to complete the investigation according NR 716 requirements. Based on the results of the initial investigation, Envirogen will assess the delineation of the soil contamination and proceed with further delineation if necessary.

#### **4.1 Investigation Strategy**

The initial soil contaminant investigation will consist of seven soil borings which will be converted into monitoring wells and one hand auger boring in and around the source area previously determined during the UST removal and previous investigations at the site. During the borings, soil samples will be collected continuously to a depth of 22 feet bgs for the monitoring wells and 37 feet bgs for the piezometer. A portion of each sample interval collected during boring advancement will be field-screened for volatile organic vapors with a photoionization detector (PID). Soil samples will be collected from the 0 to 4 feet bgs interval, the interval with the highest PID reading or the interval containing the groundwater interface. Figure 4 illustrates the locations of the proposed borings.

#### **4.2 Field Activities**

- Advance seven soil borings using a hollow stem auger; six to a depth of 22 feet below ground surface (bgs), and one to a depth of 37 feet bgs, and one hand auger boring to a depth of 7 feet below ground surface. The soil cuttings will be stored on-site in 55-gallon drums until arrangements can be made to remove them.
- Collect soil samples continuously to the maximum depth of the boring.
- Field-screen sample portions with a PID.
- Select and submit soil samples for laboratory analysis.
- Properly abandon the hand auger boring.



- Convert the borings into monitoring wells.
- Prepare boring logs indicating sample interval depths, observations, locations of various strata, saturation conditions, and other geologic information.

#### **4.3 Laboratory Analysis**

Soil samples from selected intervals will be placed in the appropriate laboratory-supplied containers and will be submitted under chain-of-custody control to a state-certified laboratory. The soil samples will be analyzed for volatile organic compounds (VOCs) using method 8260.

## **5.0 GROUNDWATER INVESTIGATION**

The purpose of the groundwater investigation at the site is to delineate the source, nature, degree, and extent of possible groundwater contamination. Envirogen will follow its SOP, which is available upon request. The rationale for the placement of the monitoring wells is provided in Table 2.

### **5.1 Investigation Strategy**

The soil borings that were discussed above will be completed as six monitoring wells and a piezometer. Based upon the groundwater analytical results, Envirogen will assess the need for additional investigation and proceed accordingly. Upon completion of all of the delineation activities, the results will be submitted to the WDNR in a Site Investigation Report (SIR).

### **5.2 Field Activities**

- Install six monitoring wells and one piezometer as shown on Figure 5. The monitoring well construction will follow NR 141 construction regulations. The materials that will be used to construct each well are as follows: two-inch PVC pipe for the well, coarse sand, fine sand, bentonite chips, concrete, and a cast aluminum well box. The monitoring wells will have a 10 foot screen length, and the piezometer will have a five foot screen length. The monitoring wells and piezometer will be flush mounts.
- Perform well development following NR 141 regulations. The purge water from the well development will be stored on-site in 55-gallon drums until arrangements can be made for their removal.
- Measure the depth to groundwater from each top of well casing.
- Survey the top of casing and ground surface of each well.
- Complete the appropriate WDNR forms for monitoring well completion and development.
- Perform the collection of groundwater samples from the monitoring wells and piezometer.





**5.3 Laboratory Analysis**

Groundwater samples from the monitoring wells and piezometer will be placed in the appropriate laboratory-supplied containers and will be submitted under chain-of-custody control to a state-certified laboratory. The groundwater samples will be analyzed for volatile organic compounds (VOCs) using method 8260.



**6.0 CONDITIONS AND CERTIFICATIONS**

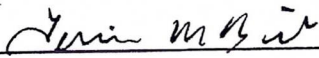
This Site Investigation Work Plan has been prepared in accordance with generally accepted engineering and hydrogeologic principles and practices of this time and location.

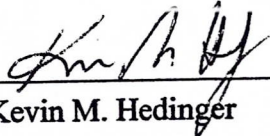
The recommended scope of services presented herein has been developed from consideration of the project characteristics and interpretation of available information. Because only limited information is available, Envirogen reserves the right to modify actual site activities based on subsequent findings.

The locations of the monitoring wells have been selected to delineate the extent of contamination. If the contamination is found to be more or less than originally anticipated, appropriate modifications to the Site Investigation Work Plan may be necessary.

This Site Investigation Work Plan was prepared by ENVIROGEN, INC.

Sincerely,  
ENVIROGEN, INC.

  
\_\_\_\_\_  
Terrie M. Biles  
Staff Environmental Scientist

  
\_\_\_\_\_  
Kevin M. Hedinger  
Senior Project Hydrogeologist

TMB/KMH :ltc

## 7.0 REFERENCES

Drake Environmental. 1997. "Phase II Environmental Assessment". Menomonee Falls, Wisconsin EDR. 2002. Environmental Data Resources. Database search for 117 East Capitol Drive, Milwaukee, Wisconsin.

Environmental Associates. 1998. Supplemental Soil Investigation. Thiensville, Wisconsin.

Environmental Associates. 2000. "Summary of Findings, Tank System removal." Thiensville, Wisconsin.

<http://www.wisconsinhistory.org/histbuild/register> State Historical Society of Wisconsin. National Register of Historic Places and State Register of Historic Places in Wisconsin. Madison, Wisconsin.

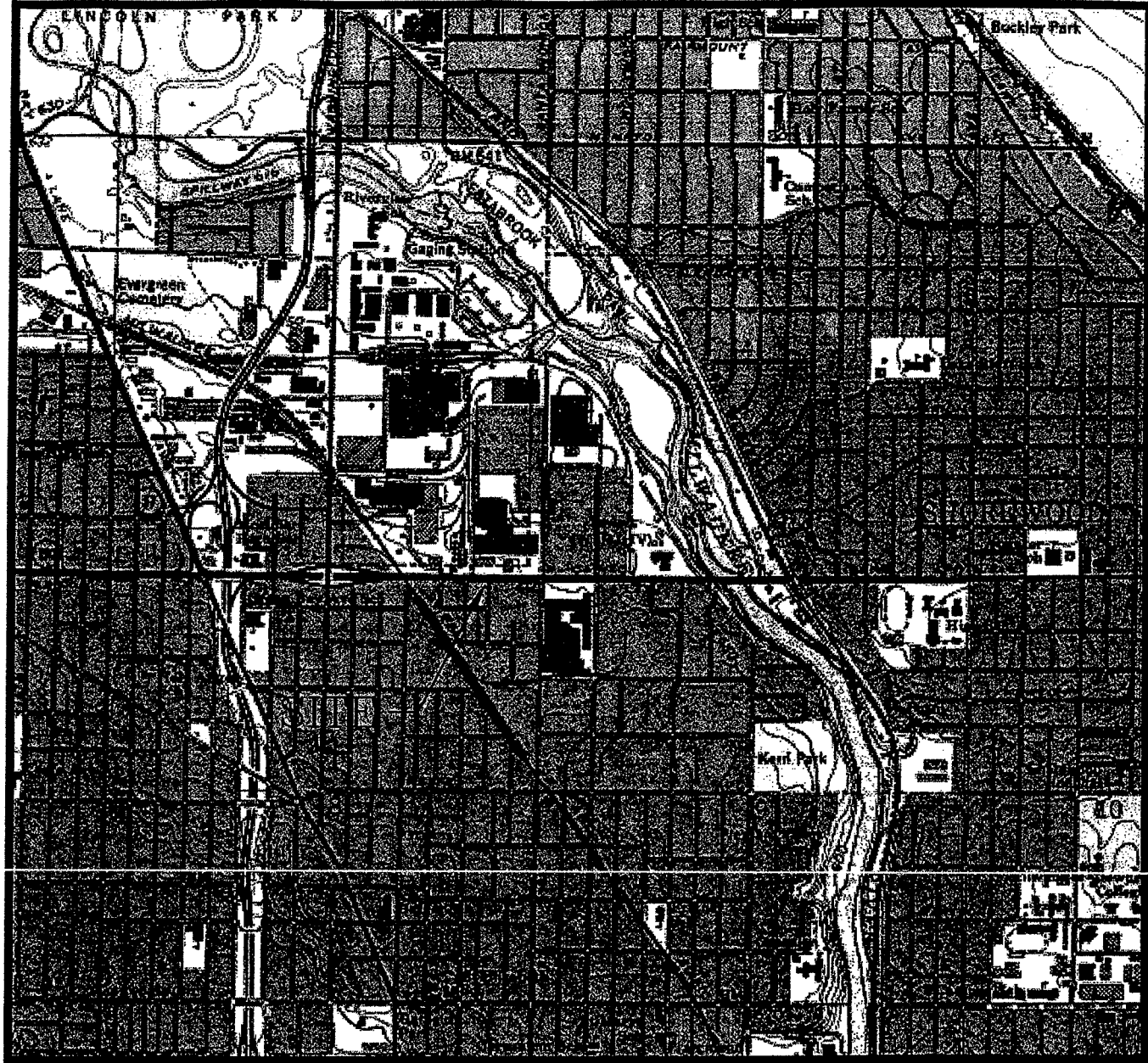
K. Singh and Associates. 1993. "Phase I Environmental Assessment for 117 East Capitol Drive." Elm Grove, Wisconsin.

USGS. 1976. Milwaukee Quadrangle Wisconsin Map. 7.5 Minute Series: 1:24,000.

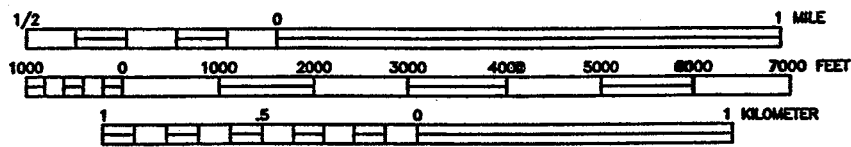
WDNR. 1993. Wisconsin Administrative Code. Chapter NR 102.10 Outstanding resource waters and chapter NR 102.11 Exceptional resource waters. Register No. 449.

WGNHS. n.d. University of Wisconsin-Extension. Madison, Wisconsin.

**FIGURES**



SCALE  
1:24000



CONTOUR INTERVAL 10 FEET



(USGS 1958 [1971])  
MILWAUKEE QUADRANGLE



LOCATION



**ENVIROGEN**

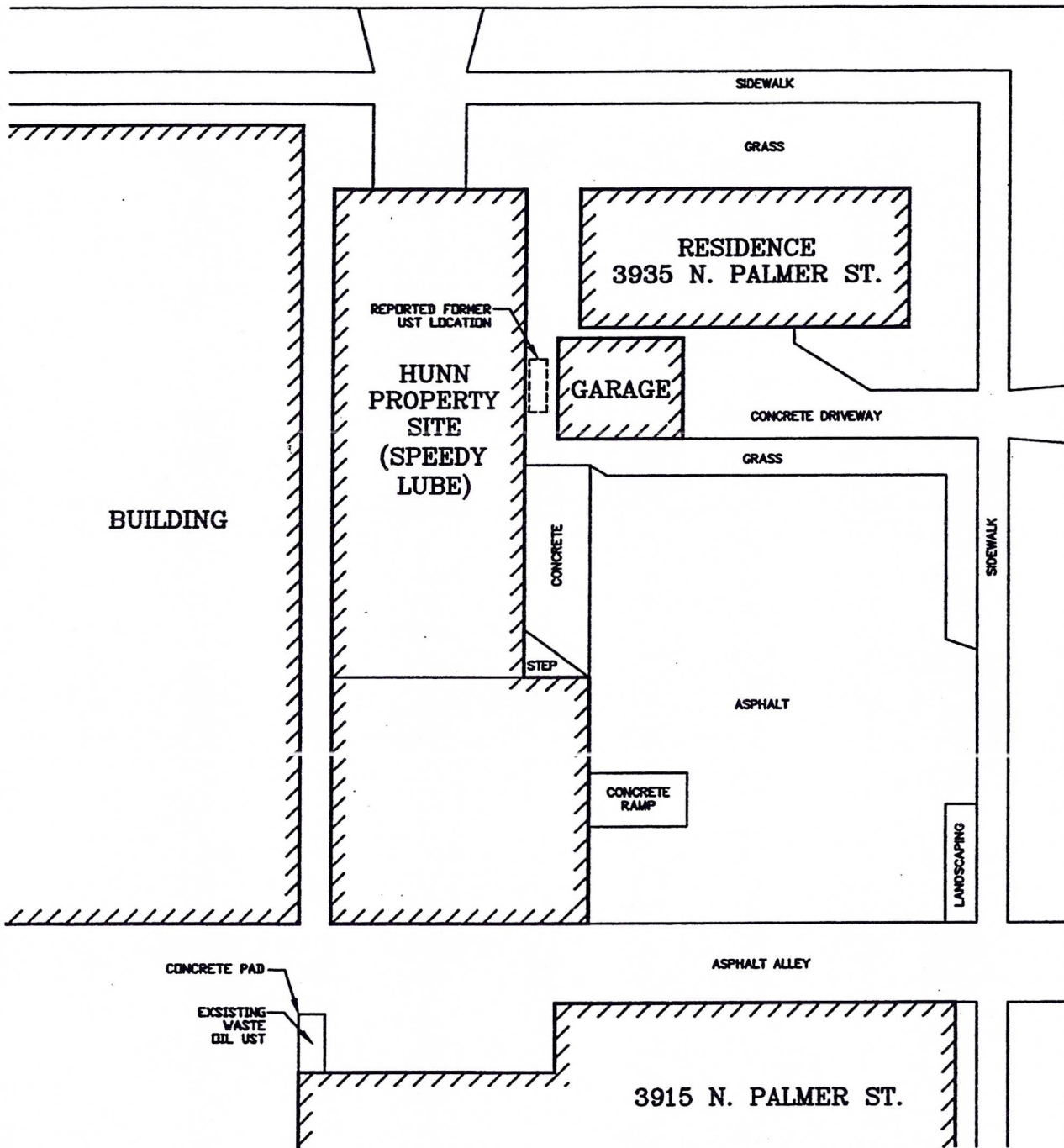
COST EFFECTIVE LEADERSHIP FOR A CLEANER ENVIRONMENT

2835 North Grandview Blvd.  
Pewaukee, Wisconsin 53072-0090

SITE LOCATION MAP	FIGURE NO. 1
HUNN PROPERTY SITE MILWAUKEE, WISCONSIN	

ENGINEER	DATE
ENGINEER	DATE
REVISIONS:	
APPROVED BY: <i>[Signature]</i>	
CHECKED BY: <i>[Signature]</i>	
DRAWN BY: FJT	09/17/02
DRAWING NO. 000158TOPO	

E. CAPITOL DRIVE



BUILDING

HUNN  
PROPERTY  
SITE  
(SPEEDY  
LUBE)

REPORTED FORMER  
UST LOCATION

GARAGE

RESIDENCE  
3935 N. PALMER ST.

CONCRETE DRIVEWAY

GRASS

ASPHALT

CONCRETE  
RAMP

LANDSCAPING

ASPHALT ALLEY

3915 N. PALMER ST.

CONCRETE PAD

EXISTING  
WASTE  
OIL UST

N. PALMER STREET



**ENVIROGEN**

COST EFFECTIVE LEADERSHIP FOR A CLEANER ENVIRONMENT

2835 North Grandview Blvd.  
Pewaukee, Wisconsin 53072-0090

SCALE



SITE PLAN VIEW

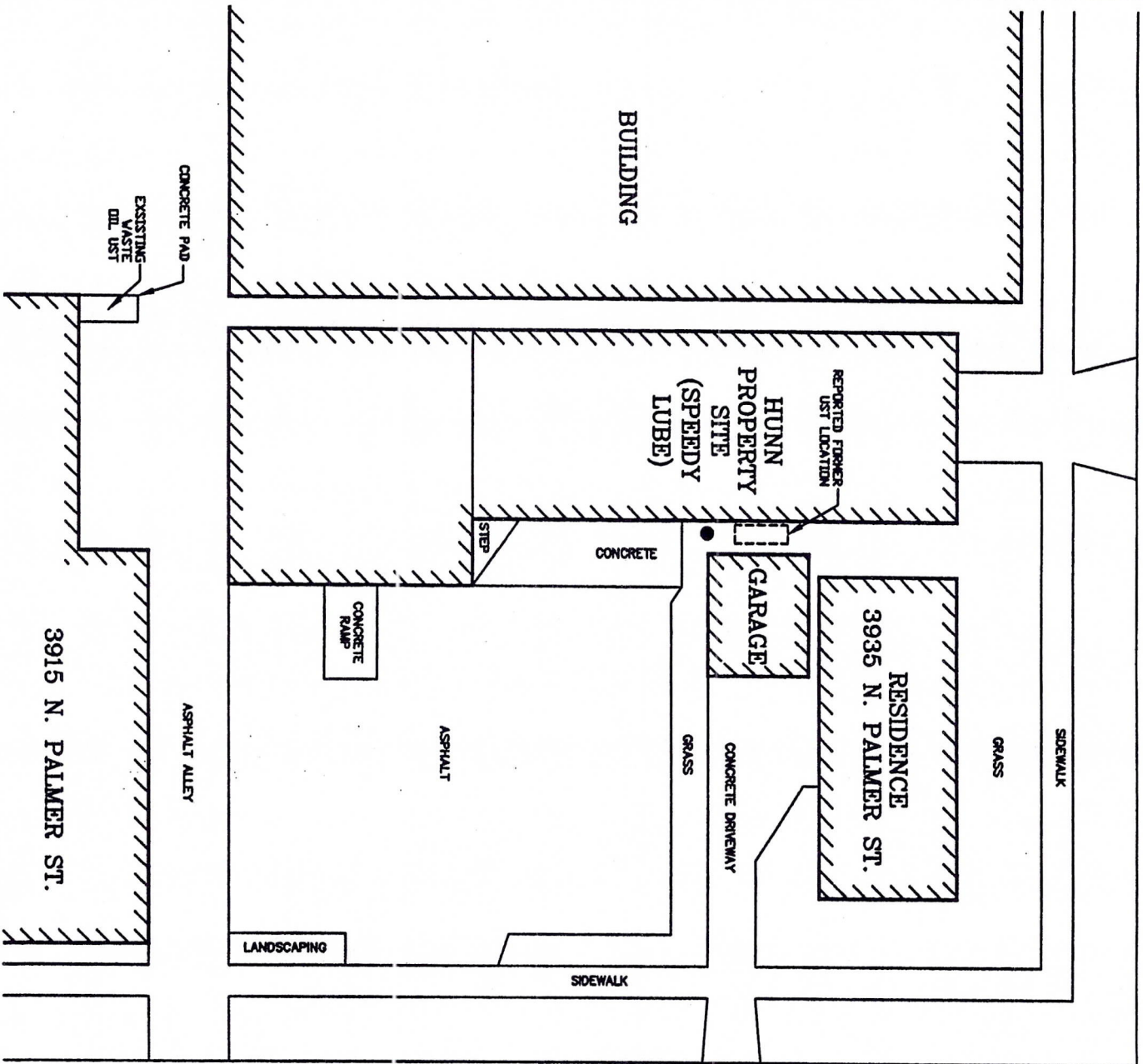
HUNN PROPERTY SITE  
MILWAUKEE, WISCONSIN

FIGURE NO.

2

ENGINEER	DATE
ENGINEER	DATE
REVISIONS:	
APPROVED BY: <i>KMK</i>	
CHECKED BY: <i>MZ</i>	
09/18/02	
PJT	
DRAWN BY:	
000158-02	
DRAWING NO.	

E. CAPITOL DRIVE



NOTE  
 ● SOIL BORING LOCATION



SCALE



**ENVIROGEN**  
 GOBT EFFECTIVE LEADERSHIP FOR A CLEANER ENVIRONMENT

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 Pewaukee, Wisconsin 53072-0090

PHASE II SOIL BORING  
 LOCATION

HUNN PROPERTY SITE  
 MILWAUKEE, WISCONSIN

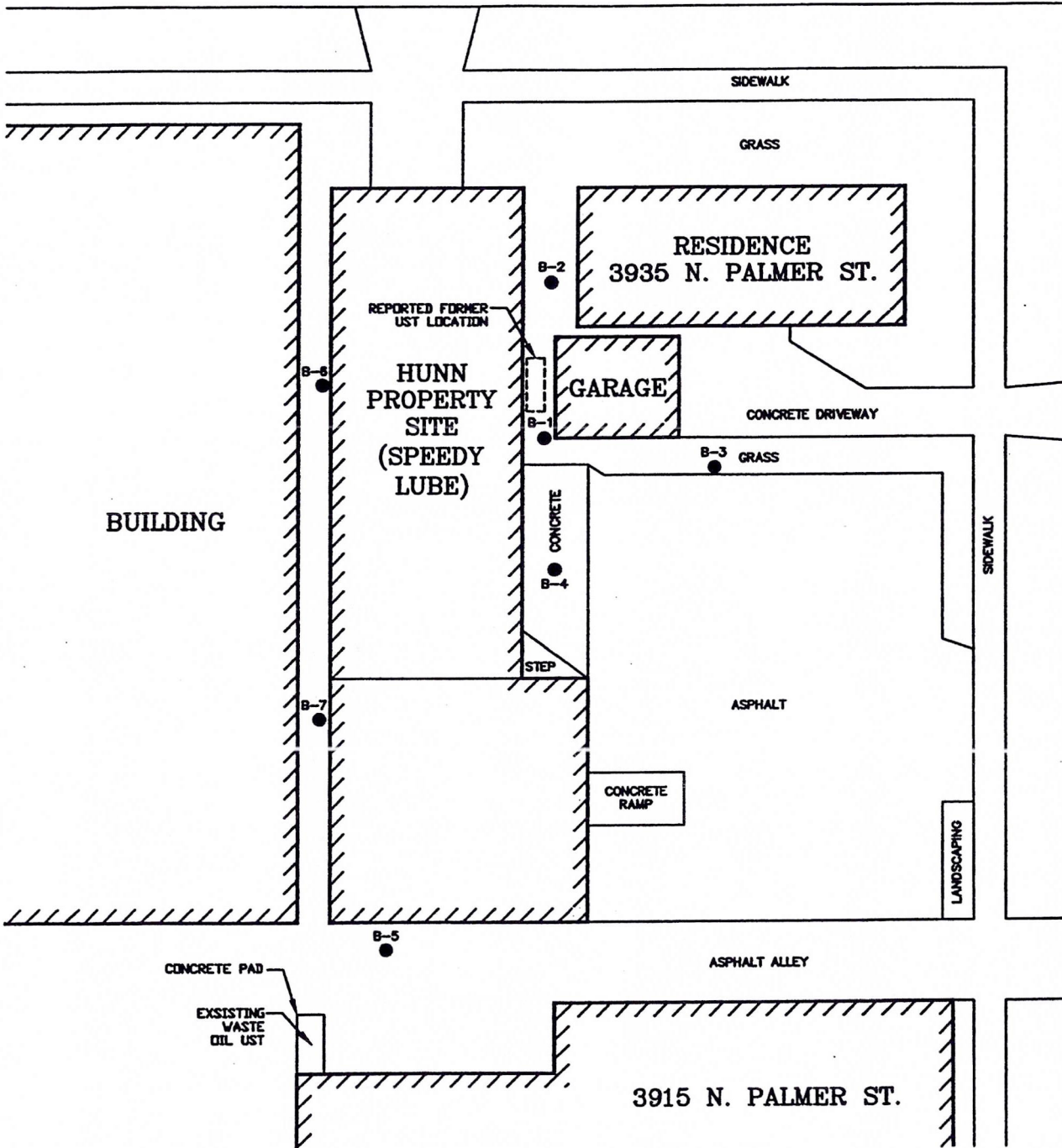
FIGURE NO.

3

N. PALMER STREET

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E. CAPITOL DRIVE



BUILDING

SIDEWALK

GRASS

RESIDENCE  
3935 N. PALMER ST.

REPORTED FORMER  
UST LOCATION

B-2

GARAGE

CONCRETE DRIVEWAY

B-3 GRASS

B-4  
CONCRETE

STEP

ASPHALT

CONCRETE  
RAMP

SIDEWALK

N. PALMER STREET

B-7

B-5

CONCRETE PAD

EXISTING  
WASTE  
OIL UST

ASPHALT ALLEY

3915 N. PALMER ST.

**NOTE**

● SOIL BORING  
LOCATION



SCALE



**ENVIROGEN**

COST EFFECTIVE LEADERSHIP FOR A CLEANER ENVIRONMENT

2835 North Grandview Blvd.  
Fewaukee, Wisconsin 53072-0090

SUPPLEMENTAL SOIL INVESTIGATION  
BORING LOCATIONS

SPEEDY LUBE 117 E. CAPITOL DRIVE  
MILWAUKEE, WISCONSIN

FIGURE NO.

4

ENGINEER DATE REVISIONS:

APPROVED BY: *K. M.H.*

CHECKED BY: *J.M.S.*

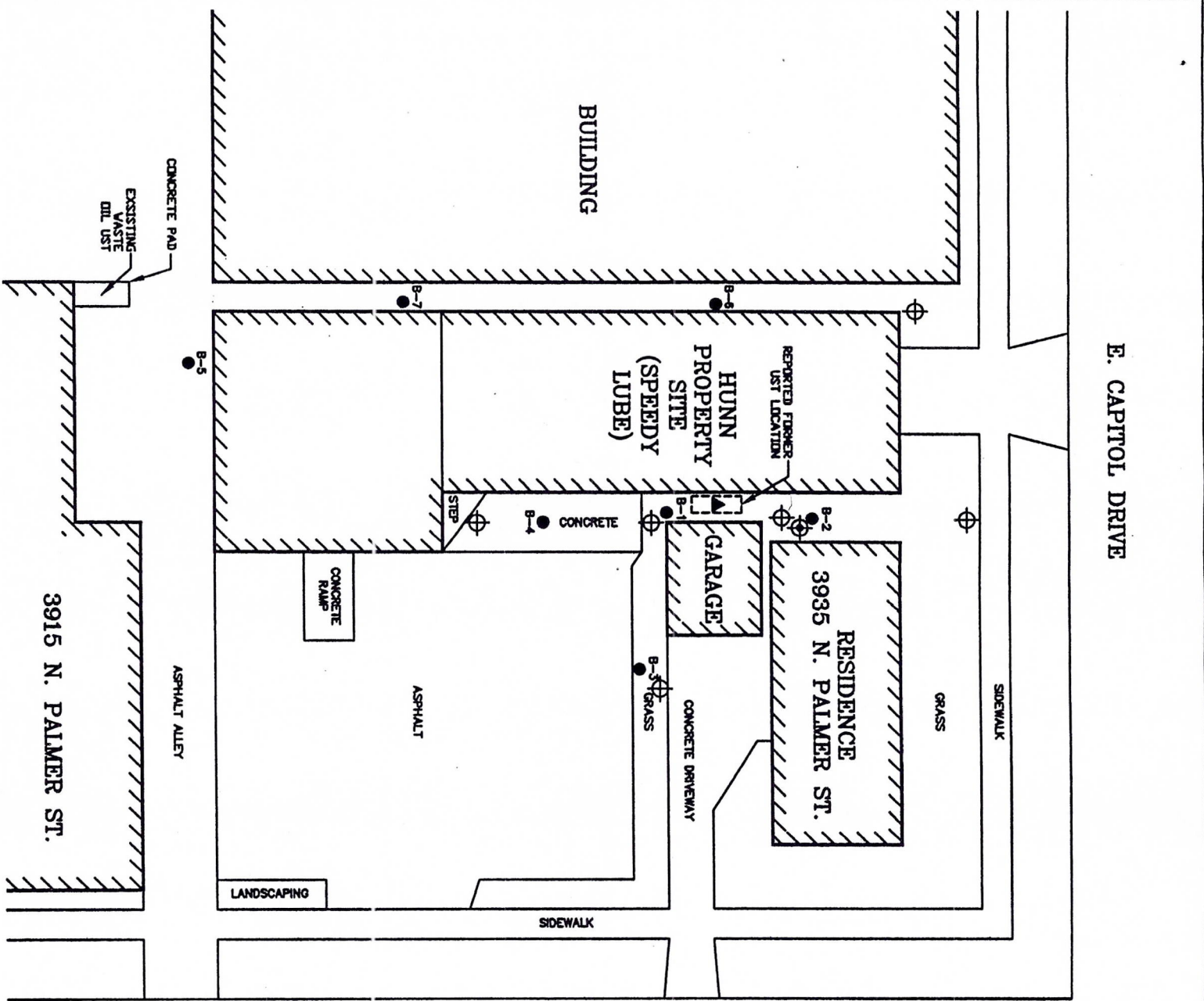
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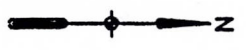
000158-04

DRAWING NO.





- NOTE**
- EXISTING SOIL BORING LOCATION
  - ⊕ PROPOSED MONITORING WELL LOCATION
  - ⊕ PROPOSED PIEZOMETER LOCATION
  - ▲ PROPOSED HAND AUGER



**ENVIROGEN**  
 COST EFFECTIVE LEADERSHIP FOR A CLEANER ENVIRONMENT

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 Pewaukee, Wisconsin 53072-0090

PROPOSED MONITORING WELL  
 AND PIEZOMETER LOCATIONS  
 HUNN PROPERTY SITE  
 MILWAUKEE, WISCONSIN

FIGURE NO.

5

DRAWING NO.	000158-05	DRAWN BY:	PJT	09/18/02	CHECKED BY:	<i>MJ</i>	APPROVED BY:	<i>KMH</i>	REVISIONS:	ENGINEER	DATE	ENGINEER	DATE
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**TABLES**

TABLE 1

**Soil Sample Analytical Summary  
Hunn Property Site  
Milwaukee, Wisconsin**

Boring	Date	Depth (Feet bgs)	PID (IU)	Chloro- benzene	1,2- Dichloro- benzene	<i>cis</i> -1,2- Dichloro- benzene	Tetrachloro- ethene	Trichloro- ethene	Vinyl chloride	Total Lead
B-1	08/07/98	4-6	73	26	<25	190	120,000	2,300	<25	<50
B-1	08/07/98	8-10	568	<250	<250	<250	150,000	<250	<250	<50
B-1	08/07/98	16-18	0	<25	<25	<25	2,600	<25	<25	<50
B-2	08/07/98	6-8	154	33	46	<25	140,000	100	<25	<50
B-2	08/07/98	12-14	4,528	<500	810	<500	2,100,000	<500	<500	<50
B-2	08/07/98	18-20	7	<25	<25	<25	110	<25	<25	<50
B-3	08/07/98	4-6	20	<25	<25	36	700	130	<25	<50
B-3	08/07/98	10-12	0	<25	<25	<25	240	<25	<25	<50

(Continued)

## Note:

All concentrations are in  $\mu\text{g}/\text{kg}$  unless otherwise noted.

IU: Instrument Units. Equivalent to ppm based on a 10.6 mV lamp and 100% isobutylene calibration gas.

bgs: below ground surface

ppm: parts per million

$\mu\text{g}/\text{kg}$ : Microgram per kilogram

Checked by: TML

Approved by: KWH

**TABLE 1**  
(Continued)

**Soil Sample Analytical Summary  
Hunn Property Site  
Milwaukee, Wisconsin**

Boring	Date	Depth (Feet bgs)	PID (IU)	Chloro- benzene	1,2- Dichloro- benzene	cis-1,2- Dichloro- benzene	Tetrachloro- ethene	Trichloro- ethene	Vinyl chloride	Total Lead
B-3	08/07/98	18-20	0	<25	<25	<25	250	<25	<25	<50
B-4	08/07/98	2-4	0	<25	<25	<25	180	<25	<25	<50
B-4	08/07/98	10-12	0	<25	<25	<25	<25	<25	<25	<50
B-4	08/07/98	14-16	0	<25	<25	<25	<25	<25	<25	<50
B-5	08/07/98	10-12	0	<25	<25	<25	<25	<25	<25	12
B-6	08/07/98	6-8	0	<25	<25	<25	240	<25	<25	16
B-7	08/07/98	6-8	22	<25	<25	84	50,000	440	<25	20
S-100	11/29/99	8	1,566	53,000 <250,000	36,000 <250,000	50,000 <250,000	1,700,000	45,000 <250,000	56,000 <250,000	NA

Note:

All concentrations are in µg/kg unless otherwise noted.

IU: Instrument Units. Equivalent to ppm based on a 10.6 mV lamp and 100% isobutylene calibration gas.

bgs: below ground surface

ppm: parts per million

µg/kg: Microgram per kilogram

S-100 is the sample collected from the former tank cavity during UST removal activities

Checked by: TMD Approved by: KMH

**TABLE 2**

**Rationale for Proposed Well/Piezometer Location  
Hunn Property  
Milwaukee, Wisconsin**

Location	Boring ID	Sampling Objective	Sampling Strategy	Parameters
Contaminant Source Area	Two Monitoring wells	To characterize the nature and degree of soil and groundwater contamination in the source area	One sample from 0-4 feet bls, to evaluate direct contact health risk (all wells)	VOCs
			One sample from the soil/ groundwater interface (all wells)	VOCs
Lateral Contaminant Extent	Four monitoring wells	To define the lateral extent of soil and groundwater contamination	One sample from 0-4 feet bls, to evaluate direct contact health risk (3 wells)	VOCs
			One sample from the soil/groundwater interface (all wells)	
Vertical Contaminant Extent	One piezometer	To define the vertical extent of groundwater contamination.	Groundwater samples only	VOCs

Notes:

PID: Photoionization detector  
VOC: Volatile organic compound

Checked by: Thy  
Approved by: KMA