



Proposed Plan Summary

Fields Brook Superfund Site Source Control Operable Unit

Ashtabula, Ohio

July 1997

Public Comment Period

U.S. EPA will accept written comments on the Source Control Operable Unit Proposed Plan during a public comment period:

Date: July 24, 1997 to August 22, 1997

Public Meeting

U.S. EPA will hold a public meeting to explain the Proposed Plan and all alternatives presented in the Feasibility Study. Oral and written comments will also be accepted at the meeting:

Date: July 31, 1997

Time: 7:00 P.M.

**Place: Columbus Jr. High School Auditorium
1326 Columbus Ave.
Ashtabula, Ohio**

Introduction

This Proposed Plan Summary outlines cleanup alternatives and presents the U.S. Environmental Protection Agency's (U.S. EPA's) recommended alternatives for a portion of the Fields Brook Superfund site in Ashtabula, Ohio (Figure 1). The portion of the site that this Proposed Plan Summary addresses is called the Source Control Operable Unit. The Source Control Operable Unit includes source areas that could potentially recontaminate Fields Brook.

The cleanup alternatives summarized in this Proposed Plan Summary are described in more detail in the Proposed Plan and the **Feasibility Study (FS)**. The FS, Proposed Plan, and other site documents are available in the Administrative Record and information repository located at the Ashtabula County Library.

Site Location and Features

Fields Brook drains a 6-square-mile area in the city, township, and county of Ashtabula, in northeastern Ohio. The eastern portion of the watershed drains Ashtabula Township, and the western portion of the watershed drains the east side of the City of Ashtabula. The main channel is 3.9 miles long and begins at Cook Road, just south of the Penn Central Railroad tracks. From this point, Fields Brook flows northwest to Middle Road, then west to its confluence with the Ashtabula River. From Cook Road downstream to State Highway 11, Fields Brook flows through an industrialized area. Downstream of State Highway 11 and near its confluence with the Ashtabula River, Fields Brook flows through a residential area within the City of Ashtabula. Fields Brook empties into the Ashtabula River, approximately 8,000 feet upstream from Lake Erie.

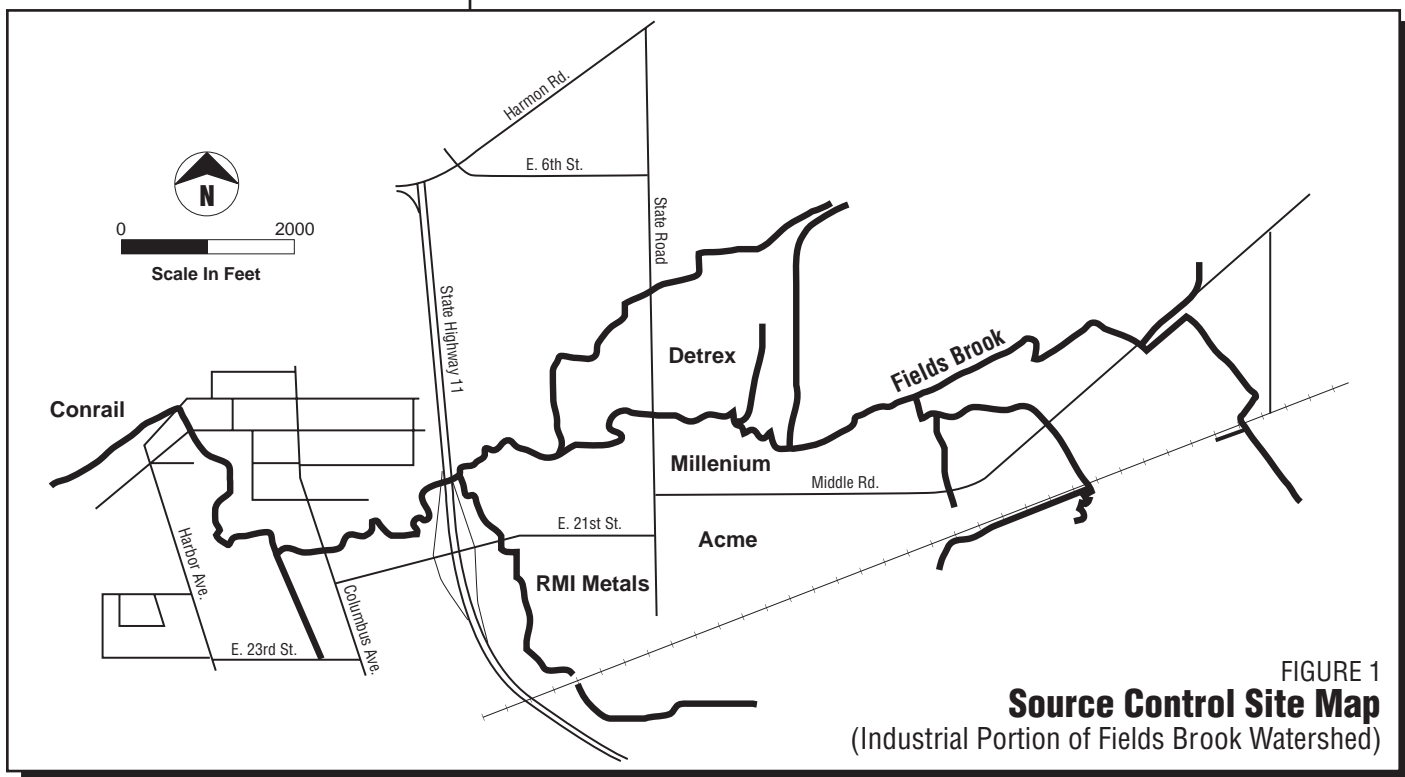


FIGURE 1
Source Control Site Map
(Industrial Portion of Fields Brook Watershed)

The City of Ashtabula, with a population of approximately 23,000, is the only urban area in the Fields Brook watershed. The industrial area of Ashtabula is concentrated around Fields Brook and contains several chemical companies and waste disposal sites (Figure 1).

Site Background and History

On September 8, 1983, the Fields Brook site was placed on the National Priorities List (NPL) of uncontrolled hazardous waste sites. This list was established under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund.

Because the Fields Brook site is so large, U.S. EPA divided the site into four work areas, three of which are called "operable units." The Source Control Operable Unit, the focus of this Proposed Plan Summary, addresses the cleanup of source areas that may recontaminate the Brook. The Sediment Operable Unit addresses the cleanup of contaminated sediment in the Fields Brook channel and its tributaries. The Floodplains/Wetlands Area Operable Unit addresses the cleanup of contaminated soils and sediments in floodplain and wetland areas surrounding Fields Brook. The fourth work area, the Ashtabula River Area of Concern, is being addressed, in part, by the Ashtabula Public/Private Partnership and through separate Superfund investigations. Information on these areas is available at the information repository.

In 1985, U.S. EPA completed an initial **Remedial Investigation (RI)** to evaluate contamination in Fields Brook

sediments and surface water. The study detected multiple contaminants, including chlorinated benzene compounds, **polynucleararomatic hydro-carbons (PAHs)**, hexachlorobutadiene and **polychlorinated biphenyls (PCBs)**.

In late 1986, U.S. EPA began negotiating with a number of companies potentially responsible for contaminating Fields Brook. It is U.S. EPA's policy to have such companies, known as **potentially responsible parties (PRPs)**, pay for the cleanup rather than using government funds from the Superfund program. The PRPs include the companies who owned or operated chemical plants and waste disposal sites surrounding Fields Brook, or the companies who, by contract, agreement, or other means, either accepted or arranged for transport, disposal or treatment of hazardous substances within the site.

In 1989, the PRPs agreed to design a remedy for the Fields Brook sediments, complete a RI to identify the sources of contamination, and develop and evaluate cleanup alternatives to address these sources. From 1992 to 1995, the PRPs evaluated 94 locations to determine whether they could cause recontamination once the Brook cleanup is underway. Contamination could be caused by discharges from pipes, movement of contaminated soil or sediment during rainstorms, and underground releases to the Brook from ground water.

As a result of this evaluation, the PRPs identified five industrial properties as possible sources of recontamination to Fields Brook. The industrial properties

include Detrex Corporation, Millennium Inorganic Chemicals, Inc. (formerly SCM), Acme Scrap Iron & Metal Company, RMI Metals Reduction, and Conrail. In addition, several sewer systems located to the north and south of Fields Brook were also found to be possible sources of recontamination. Detailed information about the types and extent of contamination at the source areas can be found in the Source Control Remedial Investigation reports at the information repository.

In conjunction with the Remedial Investigation, the PRPs prepared a Source Control **Feasibility Study** to identify and evaluate cleanup alternatives. The Source Control Feasibility Study was finalized in June 1997. The report describes the initial screening of alternatives, the identification of a range of remedial alternatives, and the detailed analysis of the assembled alternatives for each of the five properties and the sewer systems. The Source Control Remedial Investigation and Feasibility Study reports form the basis for U.S. EPA's cleanup strategy. These reports are in the information repository and the Administrative Record.

Source Area Field Studies and Sampling

During the Source Control Remedial Investigation, a total of 133 surface soil, 173 subsurface soil, 123 ground-water, 5 surface water, 12 outfall, and 7 sediment samples were taken from the source properties. These samples were analyzed for over 120 different chemicals which are included on EPA's "Target

Glossary

Polynuclear Aromatic Hydrocarbons (PAHs): A group of organic compounds related by their basic chemical structure. These compounds are normally associated with petroleum products, and some are suspected to cause cancer. PAHs are commonly components of petroleum products such as tars and oils that are generated during incomplete combustion of petroleum and coal fuel.

Polychlorinated Biphenyls (PCBs): A family of compounds commonly used in electric transformers as insulators and coolants, in lubricants, adhesives, and caulking compounds. PCBs are extremely persistent in the environment because they do not readily break down into less harmful chemicals.

Potentially Responsible Party (PRP): PRPs are comprised of the companies who are considered the owners and operators of the chemical industries and waste disposal sites surrounding Fields Brook. PRPs may also include the companies who, by contract, agreement, or other means, either accepted, or arranged for transport, disposal or treatment of, hazardous substances within the Fields Brook site.

Record of Decision (ROD): A legal document signed by U.S. EPA that describes the final cleanup remedy for a Superfund site, why the remedial action was chosen, how much it will cost, and public comments and U.S. EPA response.

Remedial Investigation/Feasibility Study (RI/FS): A two-part study of the site. The first part is the Remedial Investigation, which studies the nature and extent of the problem. The second part is the Feasibility Study, which evaluates different methods of dealing with the problem and selects a method that will effectively protect public health and the environment.

Risk Assessment: The part of the remedial investigation report that discusses the potential for human and ecological exposure to site contaminants.

Volatile Organic Compounds (VOCs) and Semi-VOC (SVOCs): Compounds of primarily carbon, oxygen, and hydrogen characterized by their tendency to evaporate easily and quickly. Examples of VOCs include trichloroethene, tetra-chloroethene, and vinyl chloride which may be chemicals within such liquids as dry cleaning fluid, lighter fluid, paint thinners, and components of gasoline.

Analyte List' (TAL) and 'Target Compound List' (TCL). Also, soil gas samples were taken on one of the possible source areas and surface wipe samples were taken on the Acme facility. Other Source Control Remedial Investigation field efforts included a storm sewer investigation, stream gauging, monitoring well slug testing for hydraulic conductivity, meteorological monitoring, and completion of topographic surveys throughout the source area.

Summary of Site Risks and the Development of Cleanup Goals

A separate **Risk Assessment** was not conducted for the source control areas, because the goal for the source control cleanup is to prevent recontamination of Fields Brook sediment. Cleanup goals were therefore calculated to reduce the movement of contamination from erosion and runoff. For the areas being remediated under the source control actions, the resulting levels of surface contamination meet generally acceptable industrial cleanup levels. The source control cleanups do not constitute a complete cleanup of contamination at the five industrial facilities and in the sewers; the cleanups are limited to areas that pose a threat of recontamination to the Brook.

Evaluation of Alternatives

In order to prevent further contamination of Fields Brook, the U.S. EPA is proposing to clean up source areas of the following five facilities in the Fields Brook watershed: Detrex Corporation, Millennium Inorganic Chemicals Inc., Acme Scrap Iron & Metal Company, RMI Metals Reduction, and Conrail. In addition, the sewers located north and south of Fields Brook have been identified as possible sources of recontamination and will be addressed as part of the Source Control Operable Unit cleanup. The U.S. EPA's recommended remedial alternative for each source area is described in separate enclosures to this Proposed Plan Summary. The Proposed Plan, available for review at the information repository, contains a complete description and evaluation of all alternatives considered. The purpose of the detailed evaluation of alternatives is to provide enough relevant information for each alternative so that each may be evaluated against U.S. EPA's nine criteria noted below. The alternatives are then compared against each other to identify the key advantages and disadvantages of each.

U.S. EPA used the nine criteria described below to evaluate the cleanup alternatives at each of the source areas. The evaluation criteria are summarized below:

Overall Protection of Human Health and the Environment addresses whether a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) addresses whether a remedy will meet all other Federal and State environmental statutes and/or provide grounds for issuing a waiver.

Long-Term Effectiveness and Permanence refers to the amount of risk to maintain reliable protection of human health and the environment over time once cleanup goals have been met.

Reduction of Toxicity, Mobility, or Volume through Treatment is the anticipated performance of treatment technologies that may be employed in a remedy.

Short-Term Effectiveness refers to the speed with which the remedy achieves protection, as well as the remedy's potential to create adverse impacts on human health and the environment during the construction and implementation period.

Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement the chosen solution.

Cost addresses the estimated capital and operation and maintenance (O&M) costs, evaluated as the present worth cost. Present worth is the present value of the capital and future O&M costs of an alternative based on the time value of money.

Support Agency Acceptance indicates whether, based on its review of the FS and the Proposed Plan, the support agency (in this case, the Ohio EPA) concurs with, opposes, or has no comment on the recommended alternative.

Community Acceptance will be assessed in the **Record of Decision (ROD)** (the document that describes the selected cleanup plan) following a review of the public comments received on the FS report and the Proposed Plan.

Recommended Cleanup Alternatives

U.S. EPA believes that the recommended alternatives (outlined in the enclosures) provide the best balance of the nine criteria and would be protective of human health and effective in both the short and long-term.

The Next Step

U.S. EPA will consider public comments received during the public comment period before choosing final actions for the source control areas. The final actions will be described in a ROD.

After final actions are chosen, U.S. EPA will meet with the PRPs and request that they conduct cleanup activities. Following negotiations, the final actions will be designed and implemented. If the PRPs are unable to negotiate an agreement with U.S. EPA or are unwilling to conduct the cleanup activities, the PRPs may be ordered to conduct the cleanups, or Superfund monies may be used to pay for the final actions. U.S. EPA will try to recover those costs from the PRPs in federal court in the event that Superfund monies are used to pay for the cleanups.

Public Involvement

Public comment on the cleanup alternatives is an important part of the remedy selection process. U.S. EPA encourages the public to review and comment on all technologies and alternatives considered for the Fields Brook Source Control Operable Unit cleanup. Public comments will be addressed and evaluated in the selection process of the remedy. A pre-addressed comment sheet is attached for your convenience. A summary of all comments received and U.S. EPA's responses will be contained in the Responsiveness Summary, which will be attached to the ROD. Comments may be presented orally or in writing at the public meeting (see page 1 of this Proposed Plan Summary for date, time, and place). Comments may also be mailed or E-mailed to:

Bri Bill Community Involvement Coordinator (P-19J)

U.S. Environmental Protection Agency
77 West Jackson Blvd.
Chicago, IL 60604
bill.briana@epamail.epa.gov

Comments must be postmarked by August 22, 1997. If you are interested in the exact locations of work to be performed on the source area properties under the recommended alternatives, you may contact the U.S. EPA individuals noted on page 4.

Additional Information

Anyone interested in learning more about the investigation, the cleanup plans for the Source Control Operable Unit, or the Superfund process is encouraged to review the information repository maintained for the Fields Brook Site. It contains copies of remedial investigation reports, feasibility study reports and other materials related to the site. Information for the Sediment and Floodplains/Wetlands Operable Units are also included in the information repository located at the following location:

Ashtabula County District Library

335 West 44th Street
Ashtabula, OH

The Administrative Record is located at the library and at U.S. EPA Region 5. For further information on the Fields Brook site, please contact:

Bri Bill

U.S. EPA Region 5, P-19J
Community Involvement
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Terese VanDonsel

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Sig Williams

Ohio EPA
Northeast District Office
2110 E. Aurora Avenue
Twinsburg, OH 44087
(216) 963-1210



U.S. Environmental Protection Agency
Region 5
Office of Public Affairs (P-19J)
77 West Jackson Blvd.
Chicago, Illinois 60604

ADDRESS CORRECTION REQUESTED

ATTENTION: Proposed Plan Summary for Fields Brook Source Control Operable Unit

Fold on dashed lines, tape, stamp, and mail

Name _____

Address _____

City _____ State _____

Zip _____

Place Stamp Here

Bri Bill
Community Involvement Coordinator
Office of Public Affairs (P-19J)
U.S. EPA
77 W. Jackson Blvd.
Chicago, IL 60604

Acme Scrap Iron & Metal Company

The Acme facility is located at the southeast corner of the intersection of State and Middle Roads. The Acme property is bordered on the north by Middle Road and Millenium Plant II - TiCl_4 facility, on the east by SCM Plant II - TiO_2 , and to the west by State Road and the RMI Metals Reduction facility. The facility is used for purchasing, processing, sorting, and preparing scrap (including transformers) for shipment to foundries and steel mills.

The results of the Remedial Investigation indicated that several source areas located at the Acme facility should be addressed to prevent recontamination of Fields Brook. Soils at the Acme facility are contaminated with PCBs. Soils with PCB contamination greater than or equal to 50 mg/kg are regulated by the Toxic Substances Control Act (TSCA).

RECOMMENDED ALTERNATIVE

U.S. EPA's Recommended Alternative is the only alternative included in this fact sheet. The other alternatives are presented in the Proposed Plan for Remedial Action which is available for review at the information repository identified in the Additional Information section.

Excavation/Containment (Alternative VI)

Alternative VI has been developed to include excavation of surface soil with PCB concentrations greater than or equal to 50 mg/kg. Excavation would be conducted to a depth of approximately 1 foot. The excavation to a 1-foot depth would result in an estimated volume of 1,800 cubic yards. The excavated soils would be disposed at either an on-site landfill (to be built on one of the industrial facilities) or at an off-site TSCA-approved landfill whichever is more cost effective. Following completion of excavation activities, the excavated areas would be backfilled with clean soil and graded to allow for adequate drainage.

The remaining surface soils included in the remedial response area would be contained in place with a cover. The erosion control cover materials would generally consist of a 12-inch thick layer of clean soil, an erosion control blanket and would be vegetated to reduce the potential for erosion. For anticipated future traffic areas, a 6-in. gravel layer underlain by geotextile would be used instead of the soil.

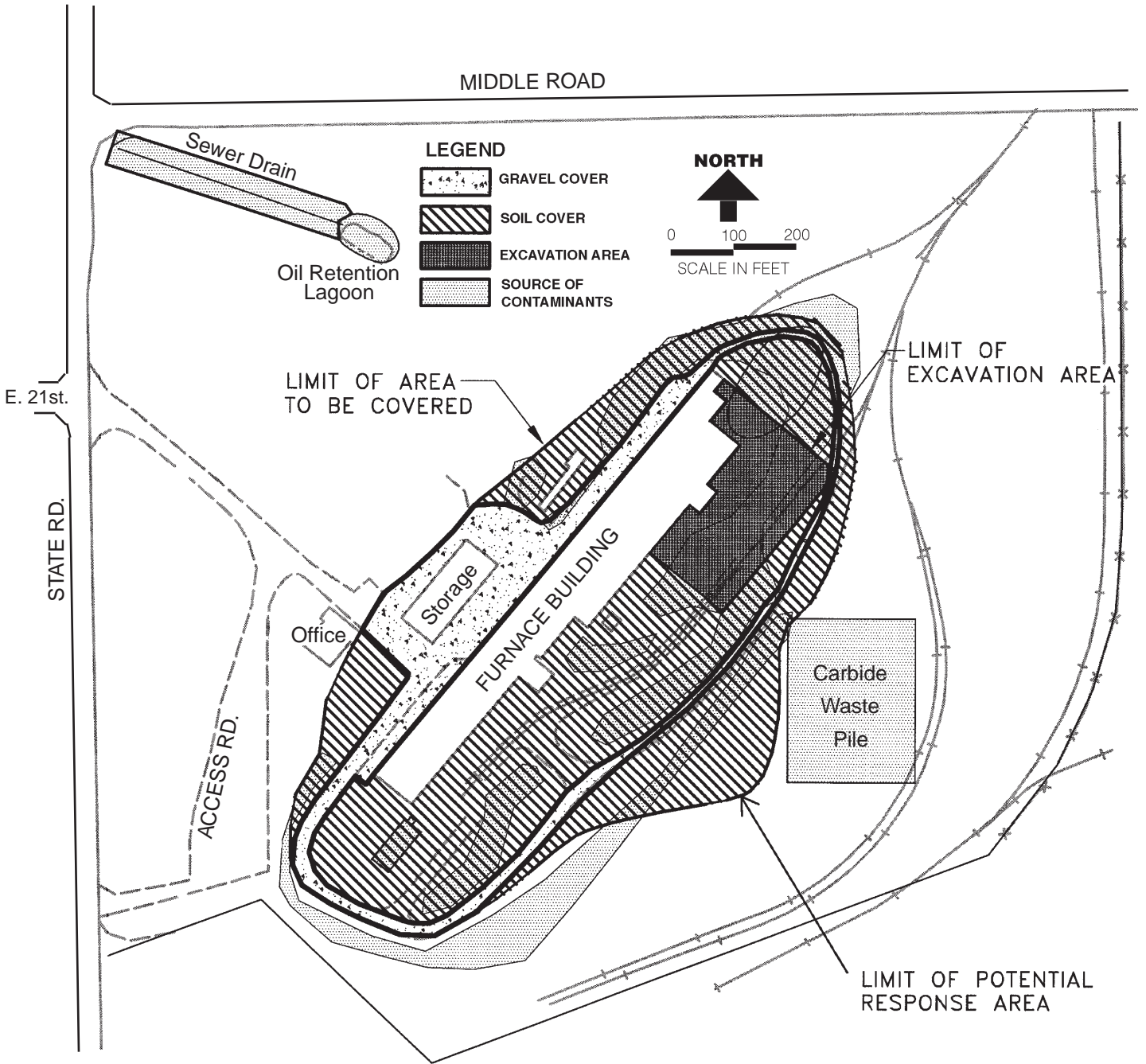
Institutional controls will include, as appropriate, deed restrictions, security fencing, and signs. The total 30-year present worth cost of Alternative VI is estimated at \$3,164,876. This includes monitoring of the outfall discharge and routine inspection and maintenance of the cover system.

Time to Complete: 10 to 12 months

Capital Cost: \$2,865,076

Annual O&M Cost: \$19,500

Net Present Value: \$3,164,876



Acme Scrap Iron & Metal Company Site Map

Conrail

Conrail's Bridge Yard is located north of Fields Brook, east of the Ashtabula River and west of a residential area within the City of Ashtabula, Ohio. Conrail uses this area for staging rail cars containing coal before and after loading and unloading rail cars. Only a small portion of the Bridge Yard lies within the Fields Brook watershed and is of interest with respect to the Fields Brook cleanup. The area of interest includes a long (approximately 1600 ft), narrow strip of land along Fields Brook from 15th Street to the Ashtabula River. This area extends from the centerline of the southernmost set of railroad tracks south to Fields Brook and is shown as the shaded area on the map.

U.S. EPA identified several sources at the Conrail property that pose a threat to the recontamination of Fields Brook. These areas include the aboveground storage tanks located near the east side of the yardmaster building, the former compressor building, and soil contaminated in the area near the light duty bridge. Surface soil samples collected at Conrail contain arsenic concentrations ranging from 10.4 mg/kg to 62 mg/kg. Arsenic-contaminated soil located immediately next to the Brook on the Conrail facility could cause exceedance of the arsenic cleanup goal in Fields Brook sediment. Because of this concern, U.S. EPA required the evaluation of cleanup alternatives for all Conrail property soils which drain towards Fields Brook and which contain arsenic concentrations above the cleanup goal.

RECOMMENDED ALTERNATIVE

U.S. EPA's Recommended Alternative is the only alternative included in this fact sheet. The other alternatives are presented in the Proposed Plan for Remedial Action which is available for review at the information repository identified in the Additional Information section.

Soil Excavation/Consolidation/Containment (Alternative IV)

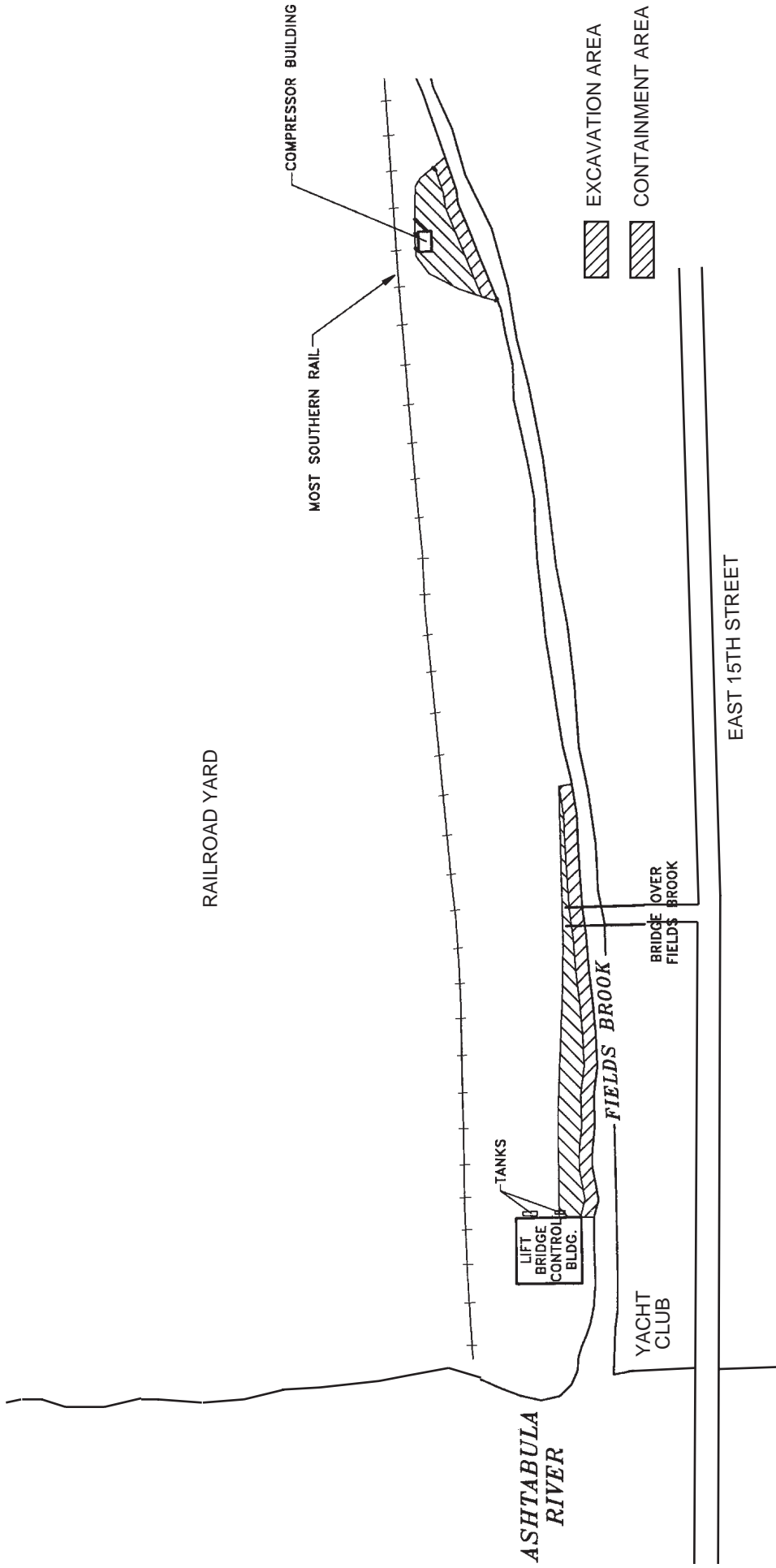
Alternative IV includes the excavation, consolidation, and containment of surface soils in a disposal cell located on the Conrail property. All existing vegetation in the "flat area" and along bank slopes to Fields Brook in the areas of interest would be removed. The soils would then be excavated to a depth of approximately 6-inches. Excavated soils (approximately 90 cu yds) would be moved to a consolidation area at a higher elevation next to the bank for final disposal. Upon placement of excavated soils, this area would be graded and covered with 6 inches of gravel to prevent soil erosion. Erosion control measures would be placed on the bank, where necessary, to minimize erosion. A fence would be placed across the entrance of the limited access bridge across Fields Brook in such a manner as to prevent unauthorized entry. The estimated 30-year, net present worth, total cost for this alternative is \$104,000. This cost includes the monitoring of surface soil arsenic levels and routine inspection and maintenance of the gravel cover and other drainage control measures.

Time to Complete: 6 to 8 months

Capital Cost: \$19,800

Annual O&M Cost: \$5,500

Net Present Value: \$104,000



Conrail Site Map

Detrex Corporation

The Remedial Investigation identified contamination both in the soils at the Detrex facility and in the ground water below the site. Soils and ground water contain volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), including 1,1,2,2-tetrachloroethane, 1,2-dichloroethene, tetrachloroethene, and trichloroethene, hexachlorobenzene, hexachlorobutadiene, and hexachloroethane. Characteristics of some ground-water contaminants are such that these contaminants "sink" in the ground water and flow as a distinct phase. Contaminants behaving in this manner are known as dense nonaqueous phase liquids (DNAPLs).

RECOMMENDED ALTERNATIVE

U.S. EPA's Recommended Alternative is the only alternative included in this fact sheet. The other alternatives are presented in the Proposed Plan for Remedial Action which is available for review at the information repository identified in the Additional Information section.

Downgradient Containment/DNAPL Collection Wells/Treatment (Alternative IV)

Alternative IV requires the construction of a slurry wall and ground-water extraction wells. The slurry wall would extend beyond the edge of the downgradient portion of the DNAPL plume to ensure that the DNAPL and contaminated ground water flowing towards Fields Brook or the DS Tributary would be contained or captured. The wall is expected to be approximately 1,500 feet long; however, this length may increase depending on the results of design investigations. Vacuum-enhanced extraction wells would be installed near the leading edge of the DNAPL plume near the slurry wall and within the plume to lower the ground water table and collect DNAPL. Based on pilot test results, approximately 40 extraction wells are anticipated. Extracted ground water would be treated by Detrex's existing stormwater treatment system that uses carbon filtration to remove contaminants from collected surface water. Extracted DNAPL would be treated or recycled off-site.

Low-lying areas within the existing collection system area and areas with surface soil cleanup goal exceedances would be filled and regraded. These areas would then be covered with a 12-inch thick soil layer, an erosion control blanket, and a vegetative or crushed stone layer surface.

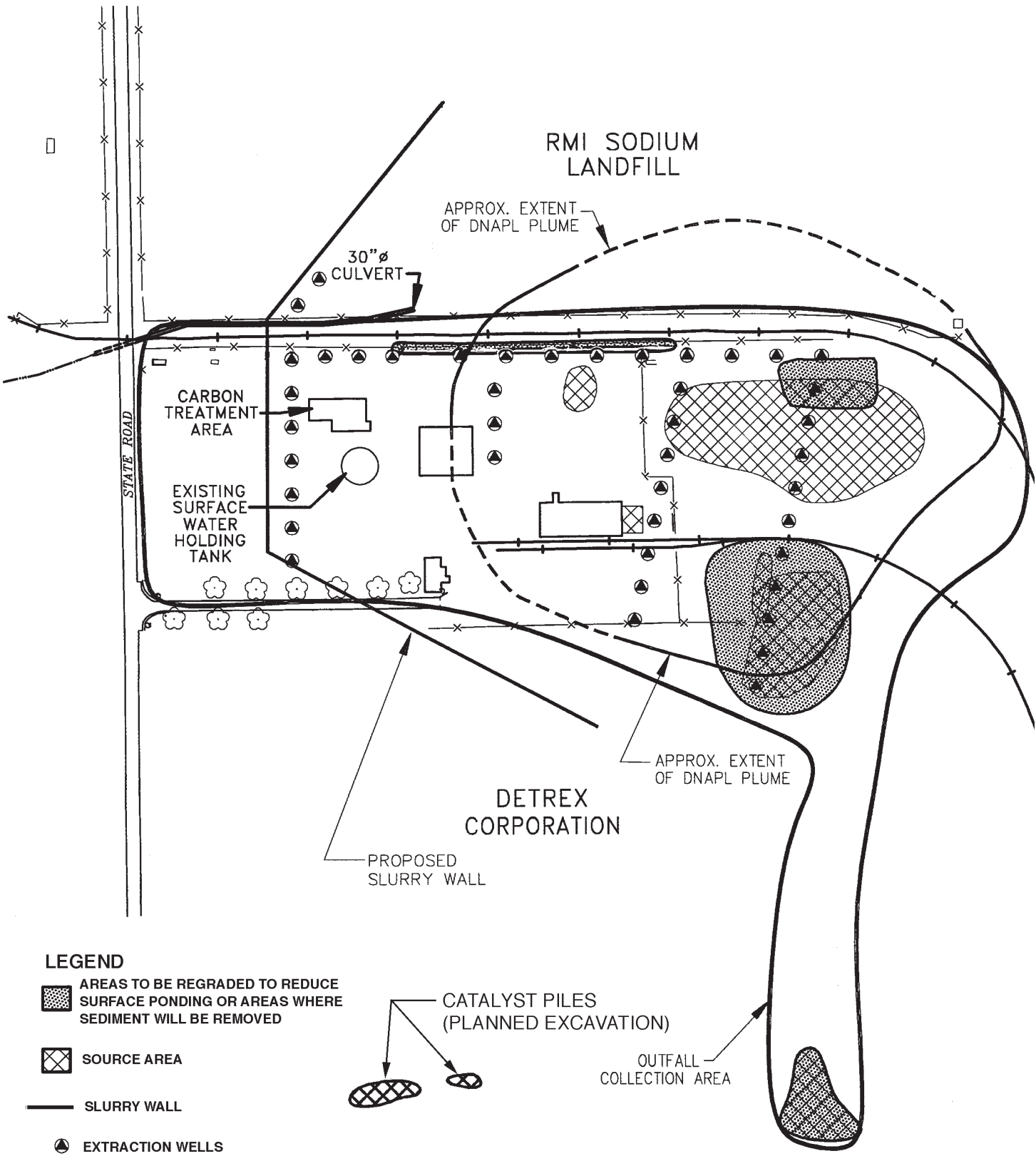
Routine ground-water monitoring would evaluate the level of DNAPL, VOC and SVOC contamination. In addition, water level data would be collected to evaluate ground-water flows within the remedial response area. The stormwater outfall would be sampled to evaluate the movement of contamination from the site. The existing site fence would be maintained and deed restrictions would be implemented to restrict future use of the site. Total 30-year present worth cost of this alternative is estimated at \$5,143,576. This cost includes the monitoring and routine inspection and maintenance of the slurry wall, extraction wells, cover systems and Detrex's carbon treatment facility.

Time to Complete: 30 years





Capital Cost: \$1,900,000

Annual O&M Cost: \$211,600

Net Present Value: \$5,143,576



LEGEND

-  AREAS TO BE REGRADED TO REDUCE SURFACE PONDING OR AREAS WHERE SEDIMENT WILL BE REMOVED
-  SOURCE AREA
-  SLURRY WALL
-  EXTRACTION WELLS



OUTFALL
COLLECTION AREA

Millennium Inorganic Chemicals, Inc.

The Millennium Inorganic Chemicals, Inc. (formerly SCM) Plant II - TiCl_4 manufacturing facility is located in the south-central portion of the industrialized area near Fields Brook (see site map). State Road forms the western boundary, and Middle Road forms the southern boundary. Detrex Corporation is located to the north, across Fields Brook. Vygen Corporation is located to the east. Fields Brook flows along the northern property line of Millennium. The soils at the Millennium facility are contaminated with PCBs, with contaminant levels in some areas exceeding 500 mg/kg. Soils with PCB contamination greater than or equal to 50 mg/kg are regulated by the Toxic Substances Control Act (TSCA).

RECOMMENDED ALTERNATIVE

U.S. EPA's Recommended Alternative is the only alternative included in this fact sheet. The other alternatives are presented in the Proposed Plan for Remedial Action which is available for review at the information repository identified in the Additional Information section.

Excavation and Landfill of ≥ 50 mg/kg PCB Soils (Alternative VI)

Under Alternative VI, soils with greater than or equal to 50 mg/kg of PCBs would be excavated and disposed at an on-site landfill (to be built on one of the industrial facilities) or at an off-site landfill which complies with TSCA. The remaining contaminated soil would be covered in place with an erosion control cover (12 inches of clean soil, an erosion blanket, and vegetation).

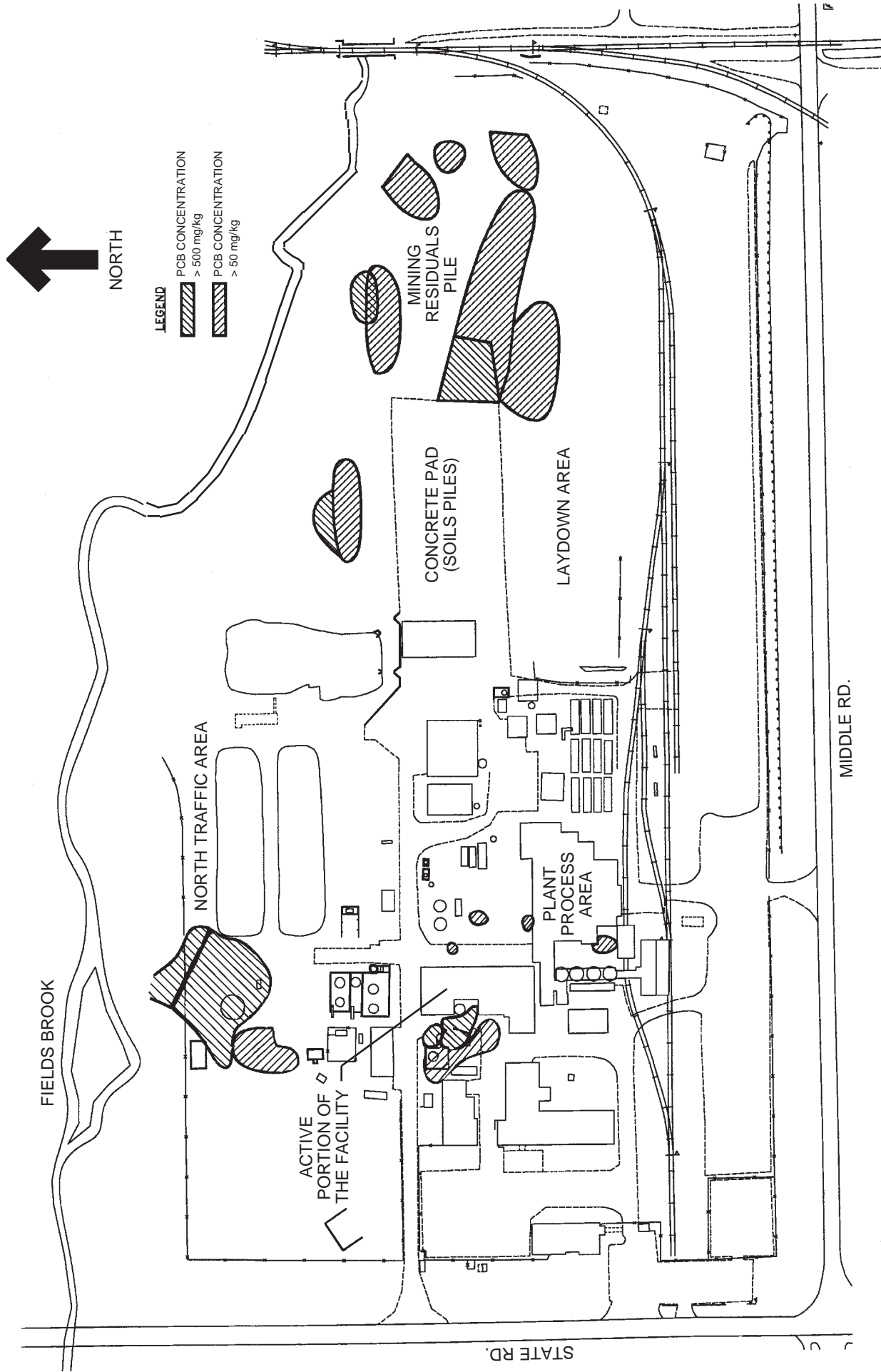
Deed restrictions would be established to limit the future use of the site and the existing site fence would be maintained. Chemical monitoring of discharges from outfalls would be conducted to evaluate the amount of contamination moving from the site to the Fields Brook. The 30-year present worth cost to implement this alternative is estimated at \$7,505,500. This cost includes monitoring and routine inspection and maintenance of the cover system.

Time to Complete: 12 to 15 months

Capital Cost: \$4,835,500

Annual O&M Cost: \$2,011,000

Net Present Value: \$7,505,500



Millennium TlCl₄ Site Map

RMI Metals Reduction

The RMI Metals Reduction facility is located at the southwest corner of the intersection of State Road and East 21st Street. The RMI Metals property is bordered on the north by East 21st Street, North Coast Auto, and RMI Extrusion facilities, on the east by State Road and the Acme facility, on the south by undeveloped property, and to the west by a tributary to Fields Brook and State Route 10. The facility was used until 1992 to produce pure titanium metal (Ti) called Ti sponge.

Chemical sampling at RMI Metals identified an area at the facility where PCB levels exceed cleanup goals. Because this area is located very close to Fields Brook, runoff could lead to recontamination of Fields Brook sediments. This area is approximately 3,900 sq. ft. (0.1 acre) in size (see site map). The remedy addresses the area where soil PCB concentrations exceed 10 mg/kg. Soils with PCB contamination greater than or equal to 50 mg/kg are regulated by the Toxic Substances Control Act (TSCA). RMI is currently conducting additional delineation sampling. These results may alter the limits of the remedial response area.

RECOMMENDED ALTERNATIVE

U.S. EPA's Recommended Alternative is the only alternative included in this fact sheet. The other alternatives are presented in the Proposed Plan for Remedial Action which is available for review at the information repository identified in the Additional Information section.

Excavation/Disposal/Containment (Alternative III)

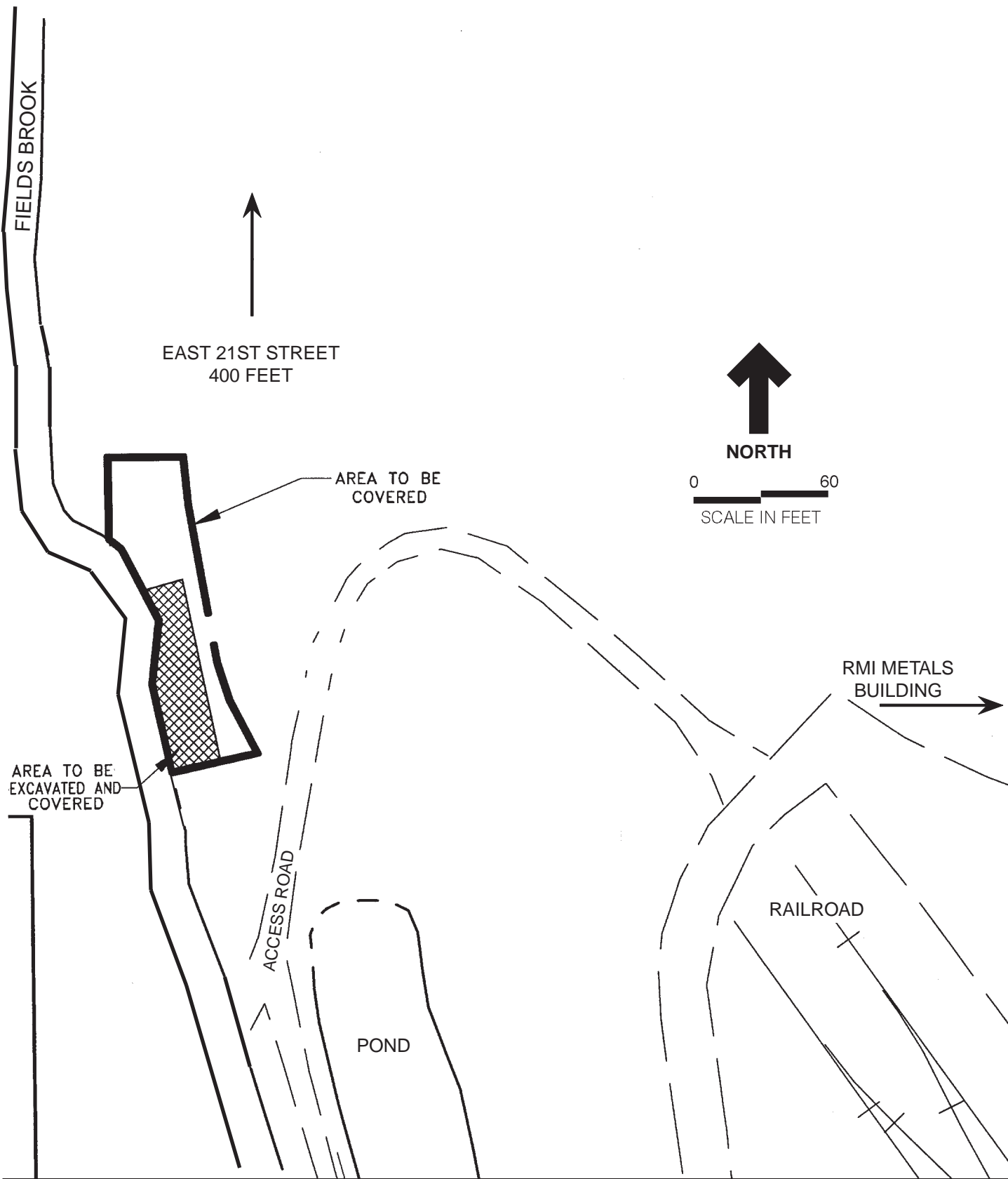
Alternative III has been developed to include partial excavation of surface soil in the source area, disposal, and containment. The excavation would be limited to surface soils with PCB concentrations greater than or equal to 50 mg/kg. The excavated soils would be disposed at either an on-site landfill (to be built on one of the industrial facilities) or at an off-site landfill which would meet the substantive requirements of TSCA, whichever is more cost effective. The remaining surface soils included in the remedial response area would be contained in place with a cover consisting of a 12-inch thick layer of clean soil and an erosion control blanket. The cover would be vegetated to reduce erosion and other effects of weather. The existing facility fencing would be maintained to prevent unauthorized entry to the response area. Deed restrictions would be established to restrict future uses of the site. The total, 30-year present worth cost of Alternative III is estimated at \$158,580. This cost includes surface soil monitoring and the routine inspection and maintenance of the cover system.

Time to Complete: 10 to 12 months

Capital Cost: \$58,680

Annual O&M Cost: \$6,500

Net Present Value: \$158,580



RMI Metals Reduction Site Map

SEWERS NORTH AND SOUTH OF FIELDS BROOK

Results from the Remedial Investigation indicate that the sediment in several storm sewers and outfall process facility sewers is a potential source of recontamination of Fields Brook sediment. These sewers include three sewer systems north of Fields Brook and one sewer system south of Fields Brook.

Remedial alternatives for these sewers were developed in order to achieve the remedial action objective of preventing recontamination of Fields Brook sediment.

SEWERS NORTH OF FIELDS BROOK

Combined Sewer (48-inch Diameter). This sewer is a 48-inch diameter reinforced concrete combined storm and facility outfall sewer. The sewer is approximately 2,400 feet long and runs along the west side of State Road, north of Fields Brook. The sewer accepts surface and facility outfall water from Occidental, Detrex, and RMI Sodium, which at several locations includes both plant surface water, process water, and sanitary effluent. Sediment samples from the 48-inch diameter combined sewer had concentrations of benzo(a)pyrene and hexachlorobenzene that ranged to 11 milligrams/kilogram (mg/kg) and 5,800 mg/kg, respectively.

Storm Sewer (5-inch Diameter). The storm sewer is a 5-inch vitrified clay storm water sewer that is approximately 250 feet in length. It runs from the southwest corner of the intersection of State Road and East 6th Street, south to join the north end of the 48-inch diameter combined sewer on the west side of State Road, north of Fields Brook. A sediment sample from this storm sewer had a 5.4 mg/kg concentration of benzo(a)pyrene.

Detrex Facility Outfall Sewer. This sewer transfers water from the Detrex water treatment system to the 48-inch diameter combined sewer. The sewer is constructed of polyvinyl chloride (PVC) and is relatively free of sediment. This PVC sewer discharges to the manhole which contains an old section of sewer line that crosses under State Road and connects to the 48-inch diameter combined sewer. A sediment sample was collected from within a manhole on the east side of State Road in the northwest corner of the Detrex property. The sediment sample had concentrations of 1,1,2,2-tetrachloroethane, 1,1-dichloroethene, tetrachloroethene, benzo(a)pyrene, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, heptachlor, and gamma-BHC (Lindane).

SEWERS SOUTH OF FIELDS BROOK

Acme Sewer System. The Acme sewer system consists of a 30-inch reinforced concrete sewer that connects the oil retention lagoon on the Acme property to the catch basin at the southwest corner of the intersection of State Road and Middle Road. The Acme sewer system also includes the larger (36-to 48-inch diameter) reinforced concrete sewer that connects the catch basin to Fields Brook. Sediment samples from the catch basin had 2.0 mg/kg of total PCBs. The Acme sewers are believed to have sections that have breaks and are blocked in certain sections by debris.

RECOMMENDED ALTERNATIVE

U.S. EPA's Recommended Alternative for both the north & south sewers is the only alternative included in this fact sheet. The other alternatives are presented in the Proposed Plan for Remedial Action which is available for review at the information repository identified in the Additional Information section.

Sediment Containment/Removal (Alternative III)

Alternative III involves the removal of sediment and debris from inside the sewer lines and the associated catch basins to reduce the potential of recontamination of the Fields Brook sediment. Portions of sewers that are blocked and difficult to clean would be closed off, and the sediment within the sewers contained. These containment areas would include a section of the 48-inch diameter combined sewer north of Fields Brook and a section of the 30-inch sewer on the Acme site. The sediments in these sewer segments would be contained by filling the sewer pipe with a cement grout to restrict flow in the sewer and prevent migration of sediments into Fields Brook.

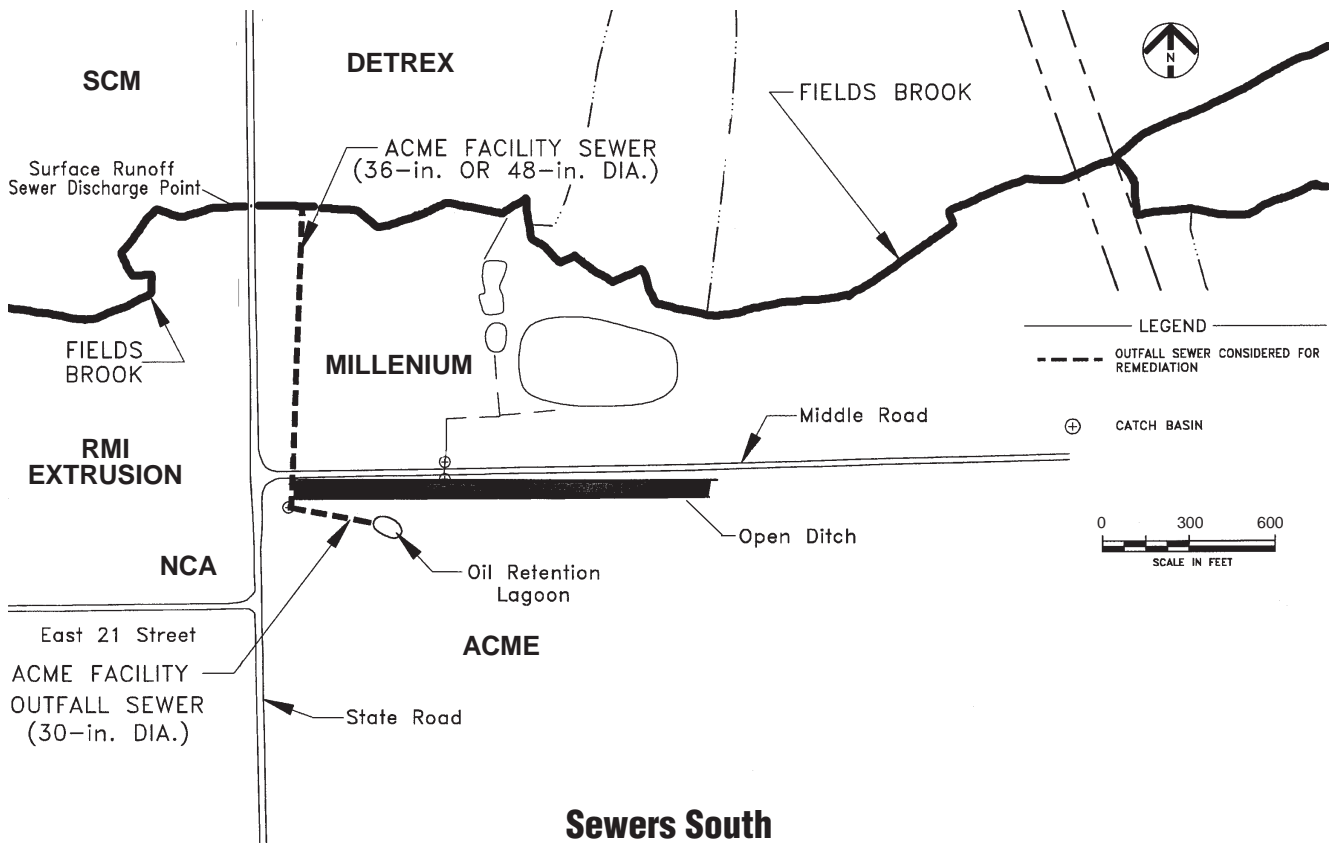
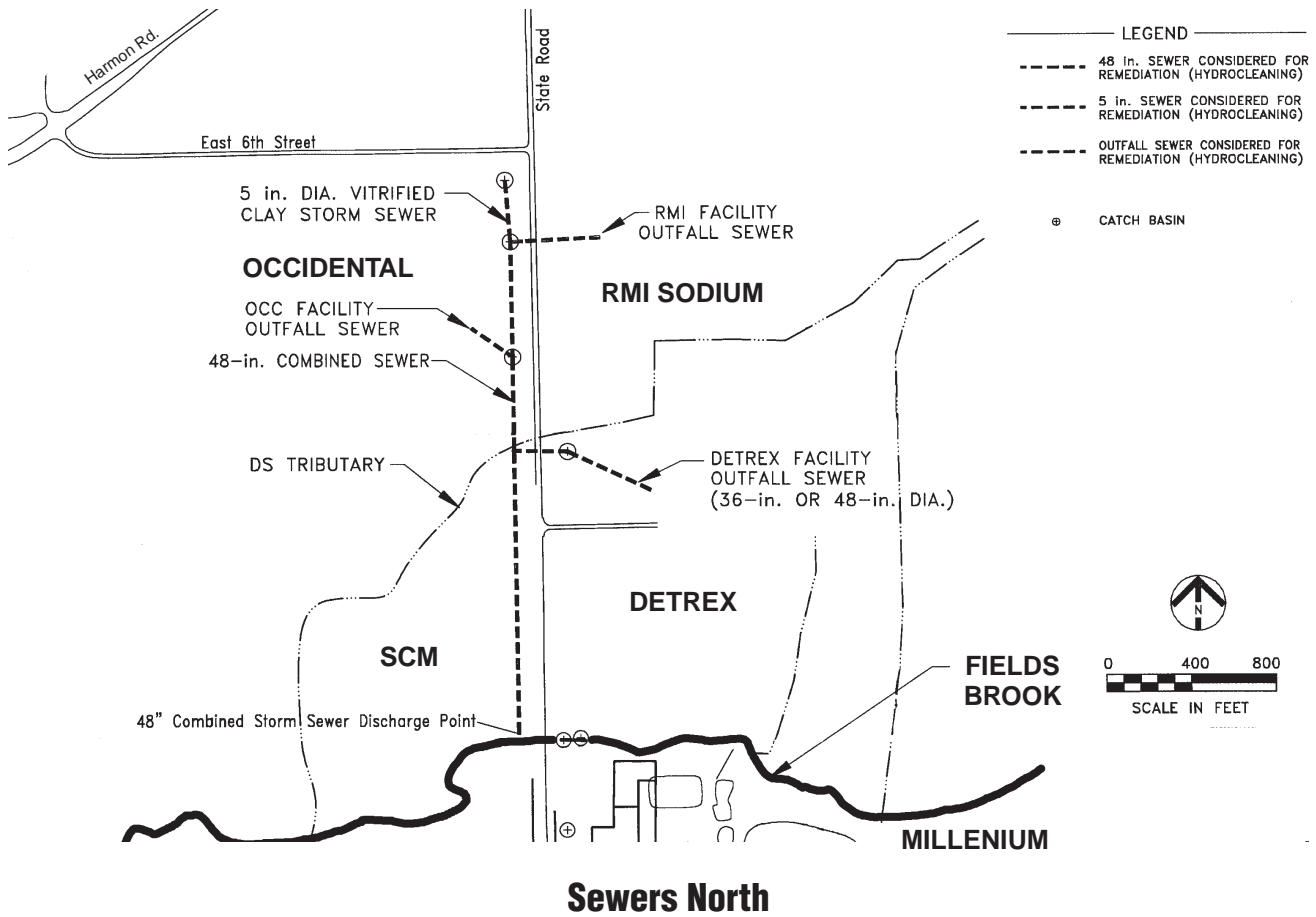
Replacement sewers would be constructed to divert water from the sections that have been closed and to connect the remaining sections of the sewers that have been cleaned. These sewers would continue to be used after remedial activities are completed. The total cost of Alternative III is estimated at \$324,000 for the sewers north of Fields Brook and \$285,700 for the sewers south of Fields Brook.

Time to Complete: 1 year

Capital Cost: \$609,700

Annual O&M Cost: \$0

Net Present Value: \$609,700



Sewers North and South Site Maps