

**New York State  
Department of Environmental Conservation  
50 Wolf Road  
Albany, New York 12233**

***NORTH LAWRENCE OIL DUMP SITE  
ST. LAWRENCE COUNTY  
LAWRENCE, NEW YORK***

**NYS DEC SITE NO. 6-45-013**

**PLAN OF OPERATIONS**

*prepared by*

**IEM SEALAND Corporation**

7921 Jones Branch Drive  
Third Floor  
McLean, Virginia 22102  
(703) 448-6665

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**PLAN OF OPERATIONS**  
**N. LAWRENCE OIL DUMP SITE**  
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## SECTION 1.0

### INTRODUCTION

#### 1.1 General

This Plan of Operations is intended for the use by all personnel associated with the North Lawrence Oil Dump Site under contract D003472. This plan was prepared for the exclusive use of IEM SEALAND Corporation on this project. The use of this plan by others and for purposes other than for which it is intended is strictly prohibited.

This Plan of Operations satisfies the submittal requirement under contract specification Section 01125, subpart 1.03 B.

#### 1.2 Site Location and Background Information

The New York State Department of Environmental Conservation (NYS DEC) Site Number of this project is No. 6-45-013. The Project is located in St. Lawrence County, New York. Access to the site is from McAuslen Road in the Town of Lawrence, New York.

This Project includes: The excavation and treatment of sludge, soil, and wetland sediments by solidification/stabilization, the construction of an on-site disposal cell and placement of solidified/stabilized materials within the disposal cell, the construction of a cap on the disposal cell, and the restoration of affected wetlands and filling and grading of the excavated lagoon.

A site map is included as **Figure 1-1**.

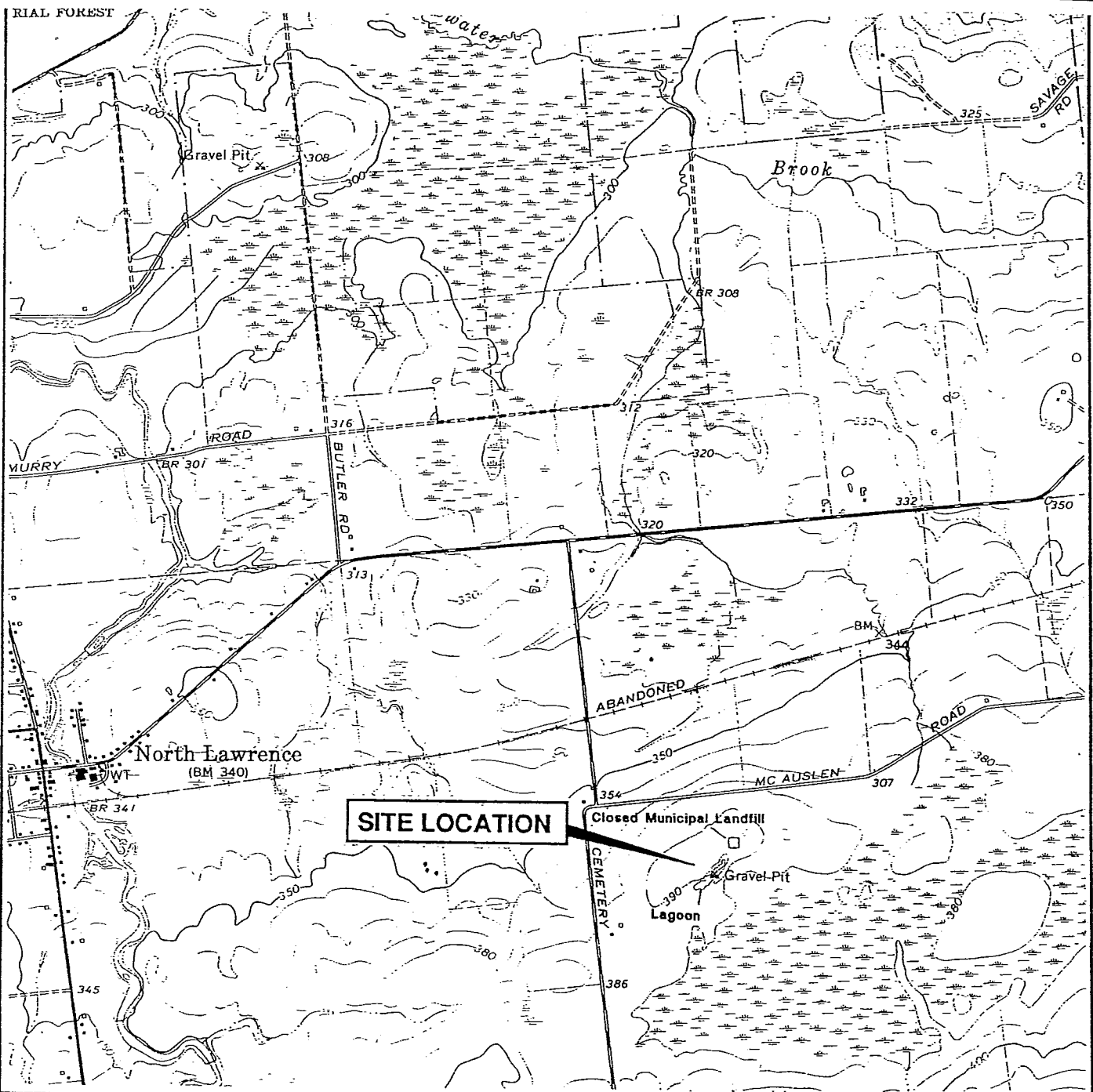
#### 1.3 Current Conditions

The work required for this contract includes excavation, solidification and stabilization of soils, sludges and sediments, and consolidation of these materials under an approved 6 New York Code of Rules and Regulations (NYCRR) Part 360 cover at the North Lawrence Oil Dump Site (NLODS) located in North Lawrence, New York.

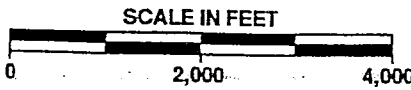
A description of the known site conditions including geologic and hydrogeologic conditions can be found in the Contract Documents for the North Lawrence Oil Dump Site, prepared by ABB Environmental Services and in the attached document entitled "Site Related Information", also prepared by ABB Environmental Services and dated January 12, 1996.

#### 1.4 Purpose

The purpose of this work plan is to describe the Scope and the Limit of Work and to identify procedures to accomplish the contract tasks.



SOURCE: USGS TOPOGRAPHIC 7.5 MINUTE SERIES, NORTH LAWRENCE, NY, 1964



*New York State DEC*

North Lawrence Oil Dump Site  
North Lawrence, New York

MEM SEALAND Corporation  
7921 Jones Branch Drive  
Third Floor  
McLean, Virginia 22102

Project No. 60.006

SITE PLAN  
DRAWING

This preliminary work plan is developed in strict adherence with contract Health and Safety, the Sampling and Analysis Plan and CQC Plan requirements. IEM SEALAND Corporation will follow all relevant and appropriate Federal, State and local regulations associated with contaminated material handling and disposal to implement the remedial activities of this contract.

## 1.5 Applicability

All personnel engaged in project activities must be familiar with this plan and comply with its requirements.

## 1.6 References

### 1.6.1 Site Work

Regulations applicable to on-site waste handling activities will include but not necessarily be limited to the following regulations promulgated under the Resource Conservation and Recovery Act (RCRA), Clean Air Act (CAA), Occupational Safety and Health Act (OSHA) and the NYSDEC.

1. RCRA - Standards Applicable to Generators of Hazardous Waste (40 CFR Part 262).
2. RCRA - Hazardous Waste Management (40 CFR Part 264).
3. CAA - National Ambient Air Quality Standards (NAAQS) for Particulate Matter (40 CFR Part 50).
4. OSHA -
  - a. Standards for Hazardous Waste Site Operations (29 CFR 1910).
  - b. Safety and Health Standards (29 CFR Part 1926).
  - c. Recordkeeping, Reporting, and Related Regulations (29 CFR Part 1904)
5. NYSDEC - New York State Rules for Inactive Hazardous Waste Disposal Sites (6 NYCRR Part 375).
6. NYSDEC - New York State Landfill Regulations (6 NYCRR Part 360).

Wetlands remediation activities will include, but not necessarily be limited to the following:

1. 6 NYCRR Part 663 - Freshwater Wetlands Permit Requirements.
2. 40 CFR Parts 121 and 400 - Federal Water Pollution Control Act.

### 1.6.2 Transportation

Hazardous Waste/Material transportation regulations will include, but not necessarily be limited to the following:

1. Department of Transportation (DOT), Hazardous Materials Program Procedures (49 CFR Part 107).
2. DOT Hazardous Materials Regulations (49 CFR Parts 171-179).

3. RCRA - Transporter Standards (40 CFR Part 263).
4. RCRA - Subpart E - Manifest System, Recordkeeping, and Reporting (40 CFR Parts 264.70 - 264.77).
5. 6 NYCRR Part 364 - Waste Transporter Permits.  
6 NYCRR Part 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters, and Facilities.

### 1.6.3 Off-Site Treatment/Disposal

Regulations applicable to off-site treatment and disposal of hazardous wastes will include but not necessarily be limited to the following:

1. RCRA - Identification and Listing of Hazardous Wastes (40 CFR Part 261).
2. RCRA - Generator Standards (40 CFR Part 262).
3. RCRA - Hazardous Waste Management (40 CFR Part 264).
4. RCRA - Land Disposal Restrictions (40 CFR Part 268).
5. RCRA - Hazardous Waste Permit Program (40 CFR Part 270).

## 1.7 Scope of Work

Construction work will generally consist of the following items:

1. Improvement of access road and implementation of erosion and sedimentation control measures.
2. Site preparation and clearing to provide access to the lagoon, wetlands sediments and disposal cell location.
3. Preparation of the disposal cell including placement and compaction of 2 feet of common borrow over the disposal cell area and construction of a berm around the disposal cell.
4. Implementation of surface water management measures and lagoon water management measures to facilitate remedial construction activities.
5. Management of lagoon surface water
6. Excavation, solidification, and stabilization of 4 feet of soils and sludges present in the lagoon that are contaminated with polychlorinated biphenyls (PCBs), metals, and other potential inorganic and organic contaminants, and placement and compaction of the solidified materials in the on-site disposal cell.
7. Additional excavation, solidification, and stabilization of lagoon solid below 4 foot depth as directed by the Engineer.
8. Backfilling the excavated lagoon area with clean compacted soil.
9. Excavation, solidification, and stabilization of 12 inches of sediments from selected areas of the wetland that are contaminated with PCBs and metals, and placement of the solidified materials in the on-site disposal cell.
10. Restoration of the wetlands following excavation by placement of clean soil and revegetation.
11. Grading of solidified material within the on-site disposal cell to achieve the final cover slopes (4 percent minimum; 33 percent maximum).

12. Removal of disposal cell perimeter berm. Berm material is to be placed and compacted in the lagoon excavation area.
13. Construction of disposal cell cap consisting of 6 inch vegetative soil layer overlying 30 inches of barrier protection soil, a 60 mil polyethylene geomembrane, non-woven geotextile fabric, and a 12 inch gas venting layer.
14. Construction of drainage ditches and structures.
15. Construction of a chain-link fence with gate around the disposal cell and a gate across the access road at the intersection with McAuslen Road.

A diagram of the work site showing existing site conditions, locations of anticipated hauling routes, staging areas, treatment area, office trailers, air monitoring stations, drainage controls and access to the site is provided as an attachment to this Plan. In addition, the diagram provides the locations of the Exclusion Zone and Contamination Reduction Zone including the decontamination area.

IEM SEALAND Corporation will be responsible for the storage, handling, characterization, transportation and disposal of Contractor generated wastes.

A diagram of the work site showing existing site conditions, locations of anticipated hauling routes, staging areas, treatment area, office trailers, air monitoring stations, drainage controls and access to the site is provided as an attachment to this plan. In addition, the diagram provides the locations of the Exclusion Zone and Contamination Reduction Zone including the decontamination area.

### 1.8 Work Permits and Notifications

IEM SEALAND Corporation will obtain all the necessary Federal, state, including NYS DEC, and local permits and provide all necessary notifications as they may apply to performance of this contract.

## SECTION 2.0

### WORK PLAN PROCEDURES

This section describes the procedures and methodology to perform remedial construction activities at the N. Lawrence Oil Dump Site.

IEM SEALAND Corporation will provide the necessary labor, equipment and materials to accomplish the subject work tasks. An IEM SEALAND Corporation Site Superintendent will work closely with the Project Manager to ensure work is performed in accordance with this Plan of Operations and project specifications.

### 2.1 Handling Contaminated and Uncontaminated Soil and Debris

IEM SEALAND Corporation will obtain all necessary permits and state licenses in conjunction with excavating, handling and transportation of contaminated material at the NLOD site.



In accordance with the contract specifications, IEM SEALAND Corporation will notify Federal, state, regional and local authorities prior to handling hazardous waste material at the NLOD site. IEM SEALAND Corporation will notify in writing the NYS DEC and the Engineer three days prior to commencing site activities.

Excavation and soil handling will be performed in accordance with IEM SEALAND Corporation's *Stabilization/Solidification Plan* (see **Appendix A**) and the requirements of this contract. Excavated soil, sludges and sediment will be transported to the stockpile area prior to the treatment process. (Please refer to Solidification and Stabilization, Section 2.3 of this work plan.) Excavated soil, sludge and sediment will be treated prior to transport to the onsite disposal cell as designated in the contract drawings.

IEM SEALAND Corporation will construct or if necessary expand the staging/ stockpile areas within the exclusion zone for storage of contaminated materials. This area will be utilized solely for storage of contaminated materials. Uncontaminated materials will be stockpiled outside the limits of the exclusion and contamination reduction zones.

## 2.2 Staging Areas and Maintenance Activities

A shop drawing designating the staging area is provided as Attachment A, to the Plan of Operations.

## 2.3 Solidification and Stabilization

Prior to beginning treatment operations, IEM SEALAND Corporation will perform all necessary site preparations, including but not limited to the following, as approved by the Engineer:

1. Construction of a 30' X 50' (approximate) dimension mixing area to allow, at a minimum, for mixing of one batch and storage of a second separate batch until the Engineer approves its placement into the disposal cell.
2. Construction of a contaminated material stockpile pad as shown on the Drawings.
  - a. Stockpile contaminated materials on the pad.
  - b. Cover stockpiled materials to prevent exposure to precipitation and surface water runoff.
  - c. Maintain the integrity of the stockpile liner and cover to prevent contact with underlying soils and surface water runoff.
  - d. Dispose stockpile pad materials in disposal cell upon completion of treatment activities.

3. Construction of a berm and silt fence around the area of excavation within the wetland area.

4. Construction of the disposal cell.

12. Removal of disposal cell perimeter berm. Berm material is to be placed and compacted in the lagoon excavation area.
13. Construction of disposal cell cap consisting of 6 inch vegetative soil layer overlying 30 inches of barrier protection soil, a 60 mil polyethylene geomembrane, non-woven geotextile fabric, and a 12 inch gas venting layer.
14. Construction of drainage ditches and structures.
15. Construction of a chain-link fence with gate around the disposal cell and a gate across the access road at the intersection with McAuslen Road.

A diagram of the work site showing existing site conditions, locations of anticipated hauling routes, staging areas, treatment area, office trailers, air monitoring stations, drainage controls and access to the site is provided as an attachment to this Plan. In addition, the diagram provides the locations of the Exclusion Zone and Contamination Reduction Zone including the decontamination area.

IEM SEALAND Corporation will be responsible for the storage, handling, characterization, transportation and disposal of Contractor generated wastes.

A diagram of the work site showing existing site conditions, locations of anticipated hauling routes, staging areas, treatment area, office trailers, air monitoring stations, drainage controls and access to the site is provided as an attachment to this plan. In addition, the diagram provides the locations of the Exclusion Zone and Contamination Reduction Zone including the decontamination area.

### **1.8 Work Permits and Notifications**

IEM SEALAND Corporation will obtain all the necessary Federal, state, including NYS DEC, and local permits and provide all necessary notifications as they may apply to performance of this contract. However, based on a review of the scope of work, there are no permits known to be required. Approvals and/or notifications to be secured during the course of the work include coordination with NYSDEC and ABB Environmental Services and the applicable utilities in the area to ensure safe excavation.

## **SECTION 2.0**

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This section describes the procedures and methodology to perform remedial construction activities at the N. Lawrence Oil Dump Site.

IEM SEALAND Corporation will provide the necessary labor, equipment and materials to accomplish the subject work tasks. An IEM SEALAND Corporation Site Superintendent will work closely with the Project Manager to ensure work is performed in accordance with this Plan of Operations and project specifications.

IEM SEALAND Corporation will obtain all necessary permits and state licenses in conjunction with excavating, handling and transportation of contaminated material at the NLOD site.

In accordance with the contract specifications, IEM SEALAND Corporation will notify Federal, state, regional and local authorities prior to handling hazardous waste material at the NLOD site. IEM SEALAND Corporation will notify in writing the NYS DEC and the Engineer three days prior to commencing site activities.

Excavation and soil handling will be performed in accordance with IEM SEALAND Corporation's *Stabilization/Solidification Plan* (see **Appendix A**) and the requirements of this contract. Excavated soil, sludges and sediment will be transported to the stockpile area prior to the treatment process. (Please refer to Solidification and Stabilization, Section 2.3 of this work plan.) Excavated soil, sludge and sediment will be treated prior to transport to the onsite disposal cell as designated in the contract drawings.

IEM SEALAND Corporation will construct or if necessary expand the staging/ stockpile areas within the exclusion zone for storage of contaminated materials. This area will be utilized solely for storage of contaminated materials. Uncontaminated materials will be stockpiled outside the limits of the exclusion and contamination reduction zones.

## 2.2 Staging Areas and Maintenance Activities

An approximate location of the staging area and treatment area is indicated on the draft work site diagram. The staging area and treatment areas will be constructed in accordance with the contract documents to ensure that effluent runoff is contained for proper disposal and to ensure that fugitive dust and vapor emissions are kept to a minimum.

Waste removed for treatment and ultimate placement in the disposal cell, will be transported from the wetlands and lagoons and placed at the staging areas with a rubber tire front end loader.

Fugitive emissions, including dust, will be controlled by limiting the surface area exposed at the excavation and the staging and treatment area. Additionally, water will be applied to dry material to reduce dust generation. Stockpiled material will be covered with polyethylene plastic.

A shop drawing designating the staging area is provided as Attachment A, to the Plan of Operations.

## 2.3 Solidification and Stabilization

Prior to beginning treatment operations, IEM SEALAND Corporation will perform all necessary site preparations, including but not limited to the following, as approved by the Engineer:

Construction of a 30' X 50' (approximate) dimension mixing area to allow, at a minimum, for mixing of one batch and storage of a second separate batch until the Engineer approves.

Movement of construction machinery and equipment over the site shall be limited to areas approved by the Engineer, to control the spread of site contaminants. Removal and replacement of any material contaminated by the Contractor's activities will be directed by the Engineer and the Department at the Contractor's expense.

Treatment of contaminated material will be performed by Stabilization/Solidification in accordance with the procedures outlined in Appendix A. The following responsibilities are also identified:

1. IEM SEALAND Corporation will provide all necessary equipment, labor, materials, and trained personnel to successfully complete the removal and treatment of the soil, sludge, and sediments, in the areas and to the depths shown on the drawings.
2. IEM SEALAND Corporation will excavate and treat any additional material at the site, as authorized by the Engineer.
3. All Contract work will be performed in a timely fashion in accordance with the contract schedule.
4. IEM SEALAND will perform all work in a manner that utilizes equipment, materials, and personnel in the most cost effective manner, as authorized by the Engineer.
5. IEM SEALAND Corporation will implement appropriate procedures to protect treated materials from pre-maturely stopping "setting-up". These procedures shall be approved by the Engineer and shall be in place for a minimum of 14 days after mixing in the reagent(s).

#### **2.4 Placement of Wastes in On-site Disposal Cell**

Treated contaminated soil, sludge and sediment by solidification/stabilization will be transported on site by triaxle dump trucks to the on-site disposal cell.

Stabilized contaminated soil sludge and sediment will be placed in the disposal cell in 12" lifts.

#### **2.5 Control of Fugitive Emissions**

Fugitive odor, dirt and VOC emissions will be monitored throughout the course of the project in accordance with procedures described within the Site Safety and Health Plan. IEM SEALAND Corporation will implement proper engineering controls and personal protective equipment to control fugitive emissions and limit worker exposure. Engineering controls may include limiting the surface areas of contaminated soils and sludges and/or providing the application of foam spray.

## 2.6 Work Schedule

In accordance with the specification and the Project Schedule located in **Appendix B**, the sequence of construction activities will proceed generally using the following stages:

- ▶ Borrow source identification and Work Plan preparation
- ▶ Borrow site clearing
- ▶ Construction of access road and erosion control measures
- ▶ Site clearing
- ▶ Monitoring well decommissioning
- ▶ Disposal cell preparation
- ▶ Lagoon and wetland soil, sludge, and sediment removal, treatment, and placement
- ▶ Lagoon wetland area restoration
- ▶ Revegetation and monitoring well installation, cover system construction, ditch construction, final grading and vegetation of borrow pit and disposal cell, fence installation

Construction Phase approvals will include the following:

- ▶ Borrow site acceptance by the Engineer before the start of excavation.
- ▶ Geomembrane acceptance prior to installation
- ▶ Solidification/stabilization mixing area layout approval by the Engineer before the start of excavation.
- ▶ Solidification/stabilization additives approval before mixing begins.

## 2.7 Security Measures

IEM SEALAND Corporation will secure the North Lawrence Oil Dump Site to prevent unauthorized entry throughout the course of the project.

### 2.7.1 Work Zone

The exclusion zones and contamination reduction zone (CRZ), identified as active hazardous work areas by yellow caution tape, will be posted with signs clearly visible in each area declaring "Warning, Hazardous Work Area, Do Not Enter Unless Authorized". The signs will conform with the requirements of the contract specification.

### 2.7.2 Illumination.

Temporary lighting will be provided when necessary, to ensure office surveillance at night at active construction areas and site vicinity. Lighting may be maintained for the entire construction phase.

### 2.7.3 Personnel Identification

Prior to commencement of remedial activities in the exclusion zone, the Site Safety and Health Officer will complete a list of names and occupations of all personnel, including IEM SEALAND Corporation employees, Subcontractors and Project Engineers personnel, who will require site access. The NYSDEC will provide a list of persons authorized to visit the site and enter the Exclusion Zone. The Site Safety and Health Officer will review the list and SSHP documents to ensure that the personnel are eligible for site access. Eligibility includes current OSHA certifications and medical monitoring.

In order to have access to the entire site, authorized personnel must present documentation to the Site Safety and Health Officer that demonstrates completion of a 40-hour Hazardous Waste Operations and Emergency Response Course (29CFR 1910.120) or the Eight-Hour Update Course. Only authorized personnel who have completed the course will be allowed entry to the Exclusion Zone areas of the site. These boundaries will be posted at 40 foot intervals with signs declaring "Warning, Hazardous Work Area, Do Not Enter Unless Authorized."

### 2.7.4 Visitor Procedures

If a person is not on the authorized list, prior to granting visitors site access, visiting personnel will be required to furnish proper identification. Proper identification will consist of the individual's name, occupation, company name and either a picture ID or a card with a unique identification number. Site personnel will keep the card for the duration of the shift for their work at the site. Visitors will not be allowed access to the site without prior approval from the SSHO and the NYS DEC.

Site visitors shall not be permitted to enter active hazardous work areas (Exclusion Zone and Contamination Reduction Zone).

### 2.7.5 Sign-In/Sign-Out Procedures

All personnel and visitors entering and exiting the site will be required to sign a site record (see Attached). The site record will list the following information:

- ▶ Name of personnel & badge number
- ▶ Company affiliation
- ▶ Purpose of site visit
- ▶ Date/time in
- ▶ Date/time out

The daily site record will be maintained by Security personnel and will be available for review or submittal to the Engineer upon request.

## 2.8 List of Equipment

See Appendix C.

## 2.9 Waste Identification Methods

A description of the waste anticipated to be encountered during this remedial action is provided in the contract documents. Procedures for the collection of environmental samples and data acquisition and management is provided in the Sampling and Analysis Plan.

## 2.10 Stormwater, Erosion, Siltation and Dust Controls

IEM SEALAND Corporation's Dust Control Plan is developed in accordance with project specification requirements, Section 01562, Part 1,2,3, Subpart 1.01, 1.02, 2.01, 2.02 and 3.01 to control and minimize safety and health risks to site workers and the public. This Plan is intended to be used throughout the work at the site and off-site, and shall be effective during both work and non-work periods.

Dust control measures will be implemented during excavation loading, transportation, solidification, stabilization and disposal to prevent the spread of contamination to off-site areas.

### 2.10.1 Administration

The SSHO will be responsible for administering the Dust Control Plan.

### 2.10.2 Provisions

At a minimum, the following procedures will be implemented as part of the Dust Control Plan.

- ▶ Dusty operations, including the excavation of dry soil will be curtailed when wind speeds exceed 15 miles per hour.
- ▶ Heavy equipment will be cleaned by wet decontamination in areas designed to collect the run-off. Mud from the equipment shall not be allowed to dry on or in the decontamination pad.
- ▶ If the soil is dry, water will be applied to prevent the creation and dispersion of dust. Excess application will be avoided to prevent slippery conditions or sticky mud.
- ▶ Trucks or containers in which rubble and contaminated soil are carried will be covered and sealed to control dust releases.

The SSHO will ensure that dust suppression practices are effective and being utilized. Periodic and frequent visual surveillance will be conducted to ensure dust control measures are properly maintained.

### 2.10.3 Air Monitoring

Real time monitors, and if necessary integrated air sampling, will be used to quantify airborne dust concentrations during each specific activity. Refer to the *Site Safety and Health Plan: Environmental Monitoring Plan* for locations, frequencies, duration and equipment to be utilized.

### 2.10.4 Erosion Control

Work covered under this Section will encompass the following activities:

#### 2.10.4.1 Clearing & Grubbing

IEM SEALAND Corporation will perform clearing and grubbing in accordance with contract specifications Section 02102, Parts 1 and 3 as provided.

#### 2.10.4.2 Excavation, Backfilling and Compaction

In accordance with contract specification, Section 02221, the Scope of Work under this Section will include

1. Trench excavation in earth.
2. Earthwork for site work
3. Excavation of lagoon soil and sludges.
4. Excavation of wetland sediments.
5. Grading of disposal cell.
6. Borrow pit excavations.
7. Finish grading for access roads.
8. Gas venting and common borrow layers construction.
9. Barrier soil and vegetative layers.
10. Compaction of backfill materials.
11. Backfill for culverts.
12. Grading of borrow pit areas.
13. Soil materials testing.
14. Borrow study requirements for borrow source(s).

IEM SEALAND Corporation's work activities will comply with requirements of project specification Section 02221 as they apply to excavation, backfilling, compaction and grading.



**2.11 Decontamination of Equipment and Vehicles**

Please refer to the *Site Safety and Health Plan, Section 8.0 and Table 8-1*.

**2.12 Location and Construction of Decontamination Facilities**

IEM SEALAND proposed to construct the support zone and decontamination facilities in the general area indicated on the contract drawings. This information will be field verified and confirmed with the resident engineer prior to initiation of field activities.

**2.13 Identification of Offsite TSDFs**

IEM SEALAND Corporation does not anticipate the utilization of an offsite TSD facility on this project. Contaminated liquid encountered during the excavating activities will be collected and used for the solidification and stabilization process. Should there be a requirement to utilize an off site TSD facility, IEM SEALAND Corporation will propose the use of Chemical Waste Management's Model City facility for off site disposal.

**2.14 Identification of Key Personnel and Qualifications**

Please refer to **Appendix D** for identification of key personnel and copies of their company resume outlining their qualifications.

### **2.11 Decontamination of Equipment and Vehicles**

Vehicle and equipment decontamination will be performed in the contaminant reduction zone (CRZ) upon exiting the exclusion zone. However, because the area of excavation, processing and disposal cell are contiguous and within the same exclusion zone, the need to decontaminate vehicles and equipment will be limited. In instances where vehicle and equipment decontamination is necessary, decontamination of organic and/or inorganic contaminants will take place on the decontamination pad. This will consist of pressure washing the effected equipment and containing the wash water effluent for characterization and disposal purposes. Standard operating procedures will be used for the decontamination of vehicles, equipment and personnel.

### **2.12 Location and Construction of Decontamination Facilities**

IEM SEALAND proposed to construct the support zone and decontamination facilities in the general area indicated on the contract drawings. This information will be field verified and confirmed with the resident engineer prior to initiation of field activities.

### **2.13 Identification of Offsite TSDFs**

IEM SEALAND Corporation does not anticipate the utilization of an offsite TSD facility on this project. Contaminated liquid encountered during the excavating activities will be collected and used for the solidification and stabilization process. Should there be a requirement to utilize an off site TSD facility, IEM SEALAND Corporation will propose the use of Chemical Waste Management's Model City facility for off site disposal.

### **2.14 Identification of Key Personnel and Qualifications**

Please refer to **Appendix D** for identification of key personnel and copies of their company resume outlining their qualifications.

## SECTION 3.0

### SPILL PREVENTION AND CONTINGENCY PLAN

#### 3.1 INTRODUCTION

This spill contingency plan is a statement of the procedures to be followed in the unlikely event of any unplanned release of potentially hazardous materials from stormwater runoff or during excavation and onsite transportation of material. This plan shall also be utilized as required to minimize hazards to human health and the environment resulting from operations at the North Lawrence Oil Dump site.

This plan has been developed as required by the U.S. Environmental Protection Agency's (EPA) Regulations 40 CFR Part 264 and to provide information to the public, as necessary.

For purposes of this spill contingency plan, the "site" is defined as the North Lawrence Oil Dump site.

##### 3.1.1 Equipment

At a minimum, the following materials and equipment will be kept on site at all times during site work activities:

- ▶ Sand, clean fill, or other noncombustible absorbent
- ▶ Front-end loader
- ▶ Dump trucks
- ▶ 20 cubic-yard roll-off containers
- ▶ Shovels
- ▶ High-volume water pump
- ▶ Water transfer hoses
- ▶ Wash water for decontaminating tools and equipment

#### 3.2 IDENTIFICATION OF EMERGENCY COORDINATOR

Christopher J. Pereira is designated as the Emergency Coordinator for this project. Mr. Pereira is thoroughly familiar with all aspects of the work activities and has the authority to commit the resources for implementation of emergency procedures described in this plan. Mr. Pereira shall either be onsite at the North Lawrence Oil Dump site or on call at all times during site operations. This individual, or his/her designee, shall serve as the Emergency Coordinator and responding on-scene coordinator during these periods.

### **3.3 INCIDENTS REQUIRING IMPLEMENTATION OF PLAN AND REQUIRED ACTIONS**

#### **3.3.1 General**

This spill contingency plan addresses emergency response actions to be taken in the event of an unplanned release of hazardous substances into the environment during excavation, staging and transport operations at the site. Whenever there is a release of hazardous material into the environment or a fire or explosion that may present a threat to human health or the environment, the Emergency Coordinator must assess the hazard presented by the incident and take responsibility for directing emergency response activities.

If there has been a release of contaminated material into the environment outside of the site, the Emergency Coordinator must immediately notify the state and local agencies.

As required, the Emergency Coordinator must notify the local police and fire departments and request assistance.

The Emergency Coordinator will take all necessary measures to mitigate the hazard presented by any release of contaminated soil or by fire or explosion.

The Emergency Coordinator must note in the operating log the time, date, and details of all reported incidents.

#### **3.3.2 Release of Contaminated Materials into the Environment**

If a spill occurs, the following actions will be promptly instituted:

- ▶ Notify the Engineer immediately.
- ▶ Take immediate measures to control and contain the spill within the site boundaries. This will include:
  - Isolate hazardous areas and keep unnecessary personnel away,
  - Prevent personnel from touching spilled material.
  - Take samples for analysis to determine that clean-up is adequate (see sampling).
- ▶ Perform other actions needed to control the spill and protect health and safety as follows in Subsection 3.3.2.1.
- ▶ Remove solid materials and place them into dry containers with covers. Label the containers as to contents. Dispose of the containers as soon as possible.

The following sections outline in greater detail procedures to be instituted for a spill of contaminated materials.

### 3.3.2.1 Spill of Contaminated Materials En Route

Any release of contaminated materials on a public or private roadway during transport operations shall require immediate measures to contain the release and transfer spilled material to vehicles for transport to a designated disposal facility or an on site storage or treatment area.

The driver of each transport vehicle or escort vehicle shall be responsible for immediately notifying the Emergency Coordinator from the vehicle in the event of any incident or condition that results in a release of potentially contaminated material from the transport vehicle.

Following notification of the Emergency Coordinator, the transport vehicle driver shall immediately deploy traffic cones, flares, or other devices that may be required to prevent personnel or traffic from contacting or spreading any spilled material. In the event that the extent or circumstances of the release prevent the driver from effectively controlling traffic in the affected area, the driver shall alert the Emergency Coordinator of any special assistance required from emergency agencies. The driver shall remain at the scene to control access to potentially contaminated areas until relieved by a qualified individual.

The Emergency Coordinator, upon notification of a potential release of hazardous substances from a transport vehicle, shall immediately disperse an emergency response team to the release site and notify all emergency agencies with jurisdiction to respond to the incident.

Local emergency agencies or other agencies with jurisdiction shall be responsible for traffic control upon arrival at the scene of the spill. Response procedures will not require actions that potentially expose public safety personnel to contaminated materials.

Spilled materials shall be excavated and secured in transport vehicles for delivery to the designated disposal facility.

Each transport vehicle shall be equipped with the following emergency equipment:

- ▶ first aid kit
- ▶ fire extinguisher
- ▶ traffic cones (10)
- ▶ safety flares (10)
- ▶ scoop shovel
- ▶ push broom

Following the removal of spilled materials, verification sampling will be performed to confirm that all contaminated material has been removed. Site markers will

remain until confirmation data is available. Twenty-four hour turnaround for sample analyses should assure that cleanup of materials spilled during transport will be completed within 48 hours total. All disturbed areas will be restored to original condition.

If a transport vehicle becomes disabled through a traffic accident, breakdown, or other circumstances and transfer of contaminated material from the truck bed becomes necessary, this will be accomplished by direct mechanical transfer using cranes or forklifts (for containerized materials), conventional excavation equipment, or vacuum equipment.

Following completion of response actions, the Emergency Coordinator shall prepare a report detailing the incident. This spill report shall be submitted to all enforcement agencies with jurisdiction or other involvement in the incident.

3.3.2.2 In cases where a spill occurs on soil, the spill shall first be excavated to the original soil surface. The spill area will then be over excavated at the direction of responding OSC and the area sampled to ensure removal of contaminated materials. Soil removal can be performed with conventional excavation equipment or other effective means.

3.3.2.3 In cases where a spill occurs on a hard impervious surface, if required, HEPA vacuuming may be performed as a final measure to assure that all contaminated material is removed.

### 3.3.3 Fuel Spills

Fuel spills exceeding one (1) gallon shall be cleaned up immediately to minimize any fire hazard or threat of surface water fouling.

Ponded fuel shall be collected with absorbent sheets and drummed for disposal.

Fuel-contaminated soil shall be excavated and containerized for disposal or transport to a designated disposal facility.

Handling and disposal of any spilled fuel shall be in accordance with all state and Federal requirements.

### 3.3.4 Spill Report

Within 48 hours of the spill, IEM SEALAND Corporation will submit to the Engineer a spill report which includes the final disposal location of contaminated materials.







Project Schedule  
 N. Lawrence Oil Dump Site, Lawrence, New York  
 NYSDEC Site No. 6-45-013

Task Name	Percent Complete	1996																		
		Aug/18	Aug/25	Sep/01	Sep/08	Sep/15	Sep/22	Sep/29	Oct/06	Oct/13	Oct/20	Oct/27	Nov/03							
Preparation of Work Plan	100																			
Mobilization	0																			
Survey Control	0																			
Site Preparation	0																			
Decommissioning of Wells	0																			
Preparation of Disposal Cell	0																			
Implementation of Water Mgmt	0																			
Excavation & Stabilization	0																			
Backfill of Lagoon	0																			
Restoration of Wet Land	0																			
Grading within Disposal Cell	0																			
Construction of Cell Cap	0																			
Construction of Ditches	0																			
Construction of Fence	0																			
Record Drawings	0																			
Demobilization	0																			

Milestone  
 Fixed Delay  
 Summary  
 Slack

Project Schedule  
 N. Lawrence Oil Dump Site, Lawrence, New York  
 NYSDEC Site No. 6-45-013

1996		1997														
Nov/10	Nov/17	Nov/24	Dec/01	Dec/08	Dec/15	Dec/22	Dec/29	Jan/05	Jan/12	Jan/19	Jan/26	Feb/02	Feb/09	Feb/16	Feb/23	Mar/02

Summary   
 Milestone   
 Fixed Delay   
 Slack

**Project Schedule  
 N. Lawrence Oil Dump Site, Lawrence, New York  
 NYSDEC Site No. 6-45-013**

Task Name	Percent Complete	1996														
		Aug/18	Aug/25	Sep/01	Sep/08	Sep/15	Sep/22	Sep/29	Oct/06	Oct/13	Oct/20	Oct/27	Nov/03	Nov/10	Nov/17	Nov/24
Preparation of Work Plan	100															
Mobilization	0															
Survey Control	0															
Site Preparation	0															
Borrow Studies	0															
Decommissioning of Wells	0															
Preparation of Disposal Cell	0															
Implementation of Water Mgmt	0															
Excavation & Stabilization	0															
Backfill of Lagoon	0															
Restoration of Wet Land	0															
Grading within Disposal Cell	0															
Construction of Cell Cap	0															
Construction of Ditches	0															
Construction of Fence	0															
Record Drawings	0															
Demobilization	0															

Legend:  Milestone  
 Summary  
 Fixed Delay

ITEM SEALAND Corporation  
 c:\TLwin\N.Law\4sep96



## APPENDIX C

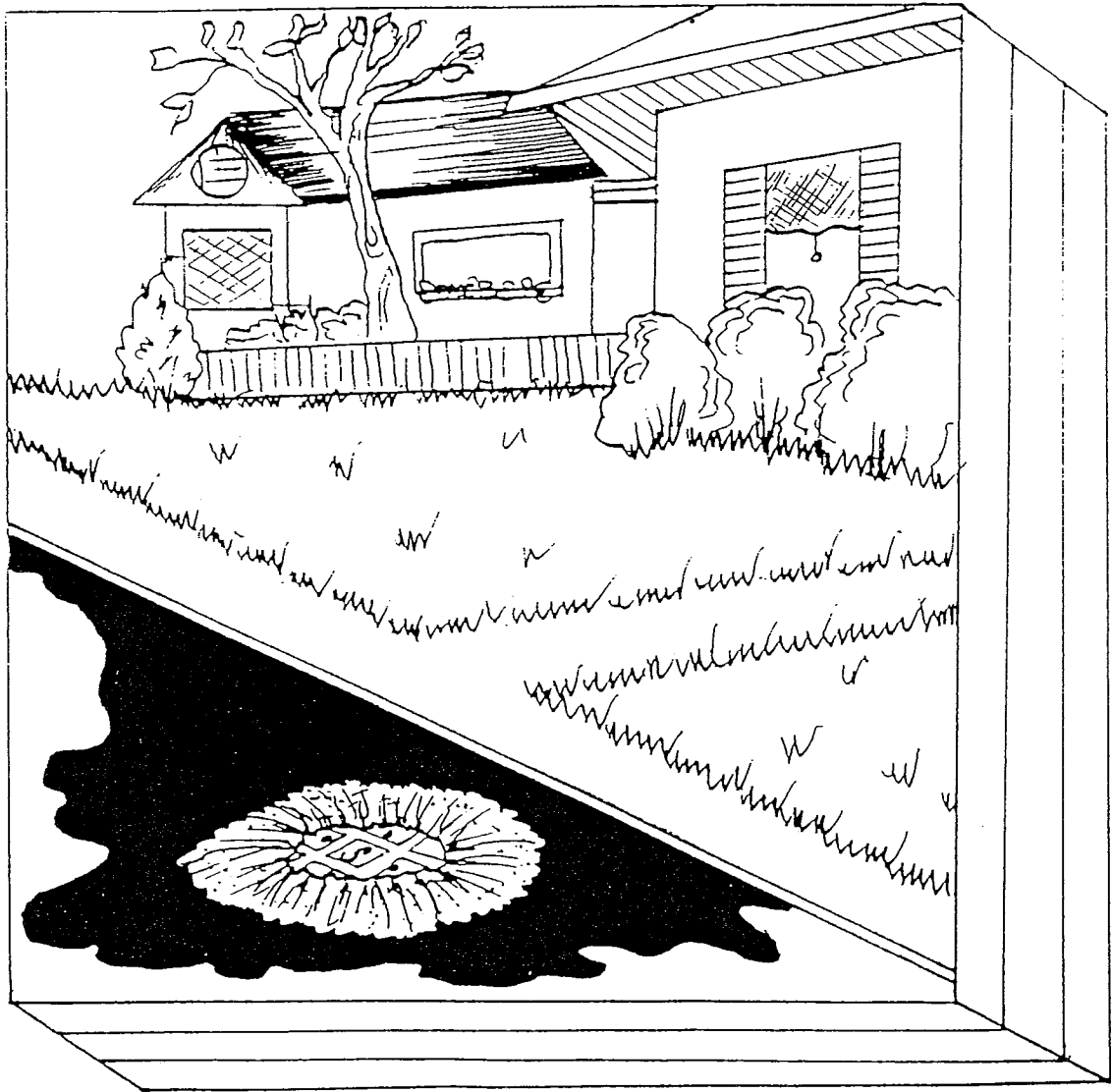
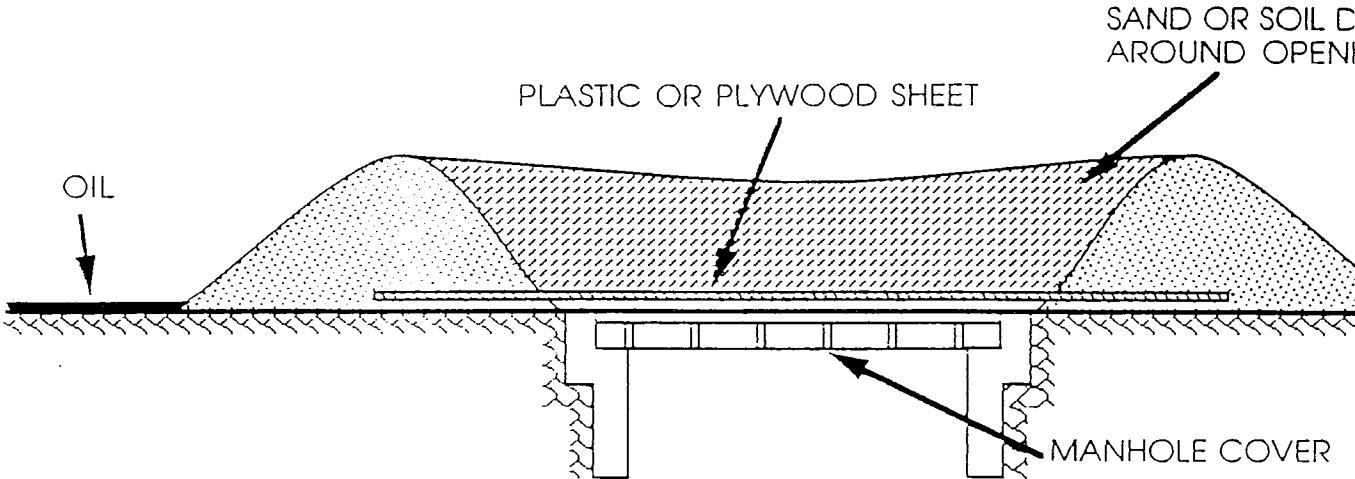
### EQUIPMENT LIST NORTH LAWRENCE OIL DUMP SITE

Field Office and Facilities  
Communication Equipment  
Photoionization Detectors (2)  
Dust Meters  
LEL/O<sub>2</sub> Meters (2)  
Level B PPE (4 sets)  
Level C PPE (12 sets)  
JD 992 Hydraulic Excavator (Bucket)  
JD 992 Hydraulic Excavator (Twin Header Blender)  
Tri-Axle Dump Truck  
JD 644 Articulated Front-End Loader  
Air Compressor 185  
90# Breaker  
Diesel Generator  
Sawzall & Cutters  
Water Pumps (2' and 4")  
Frac Tank  
Oil/Water Separator  
Groundwater Treatment Canisters  
Hand Tools and Air Wrenches  
Pick-up and Utility Vehicles  
Vibratory Plate Compactor  
Rated and Tagged Chains, Cables and Slings  
Temporary Fence  
Polyethylene Plastic  
Absorbents  
Hydrophobic Pads  
Silt Fencing  
Straw Bales

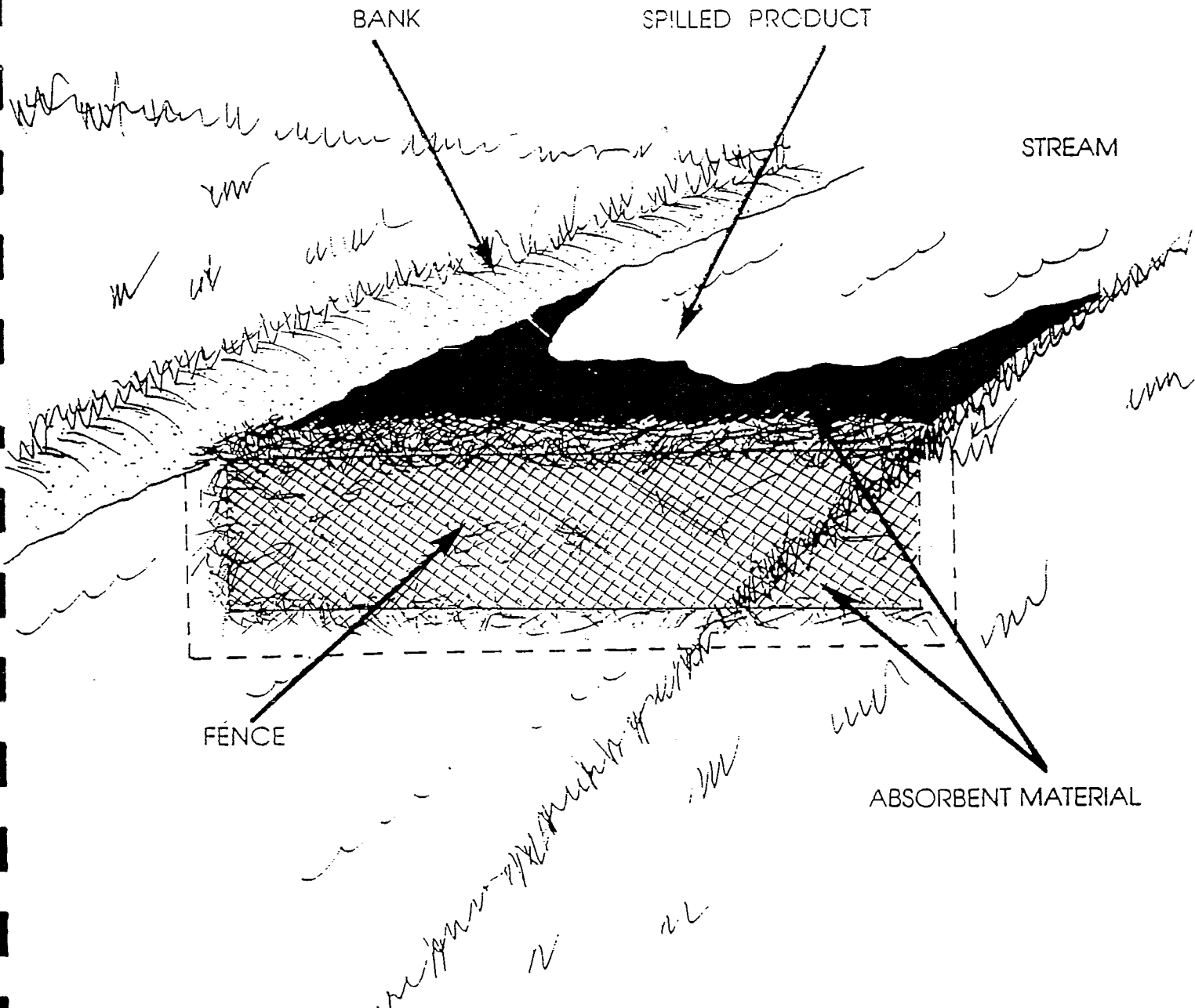


# CIRCLE DAM

## Protection Barrier for Manhole



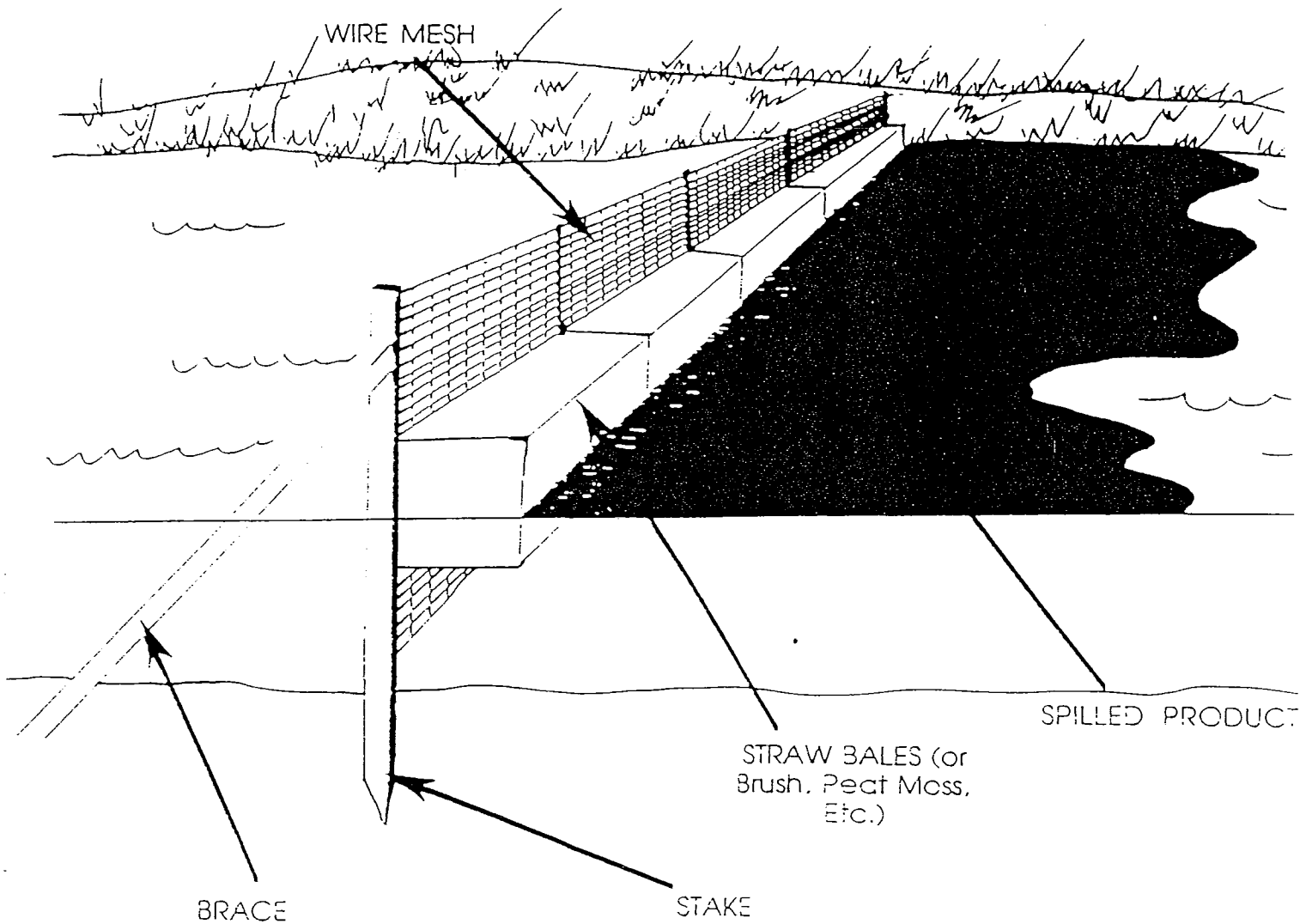
# CONTAINMENT OF MATERIAL LIGHTER THAN OR MISCIBLE IN WATER



Where the depth of the stream precludes the use of fence posts, a cable can be strung across the stream to carry the fence. In this case, it will be necessary to weight the fence down to keep it in a vertical plane.



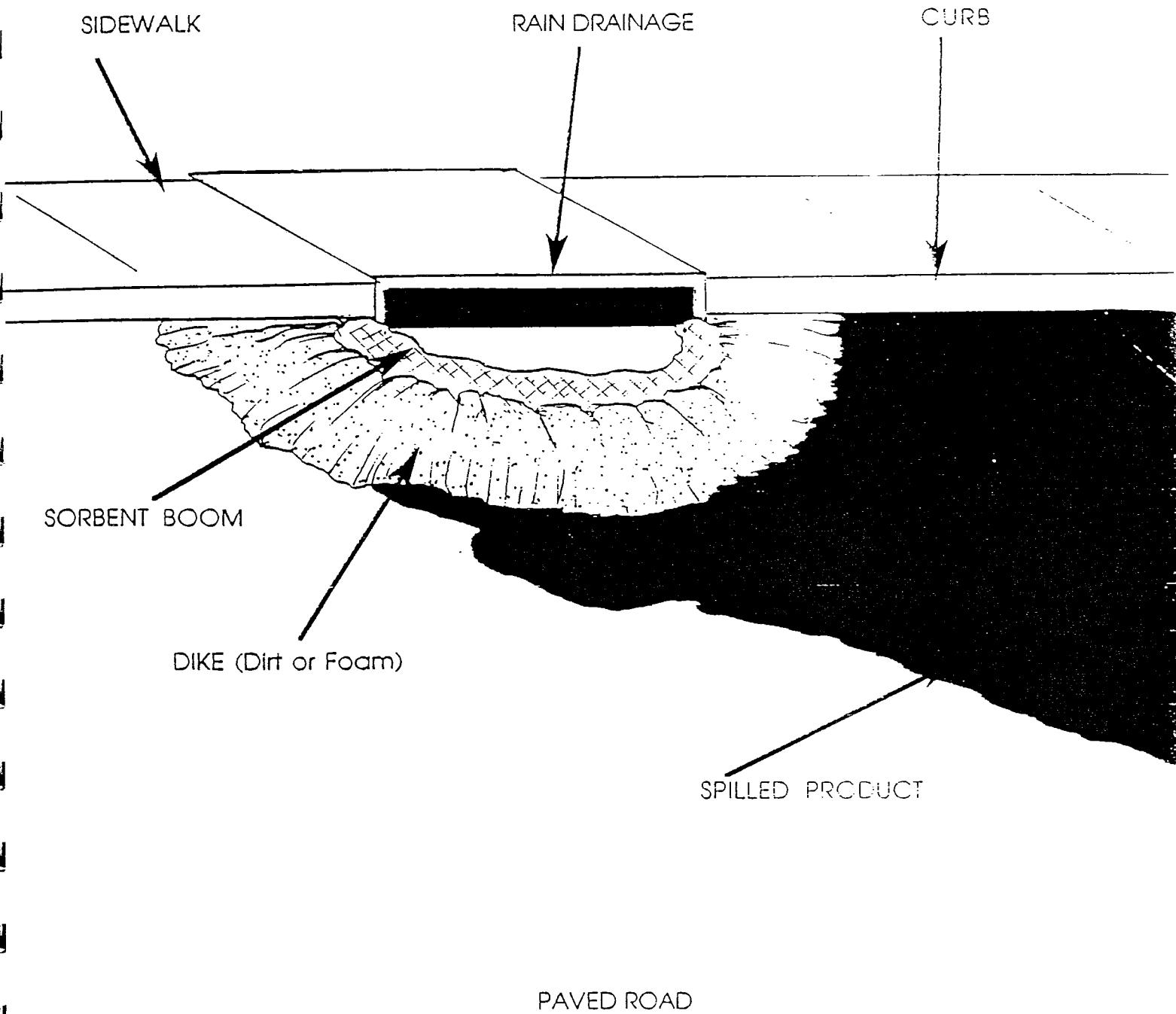
# WIRE FENCE FILTER BOOM



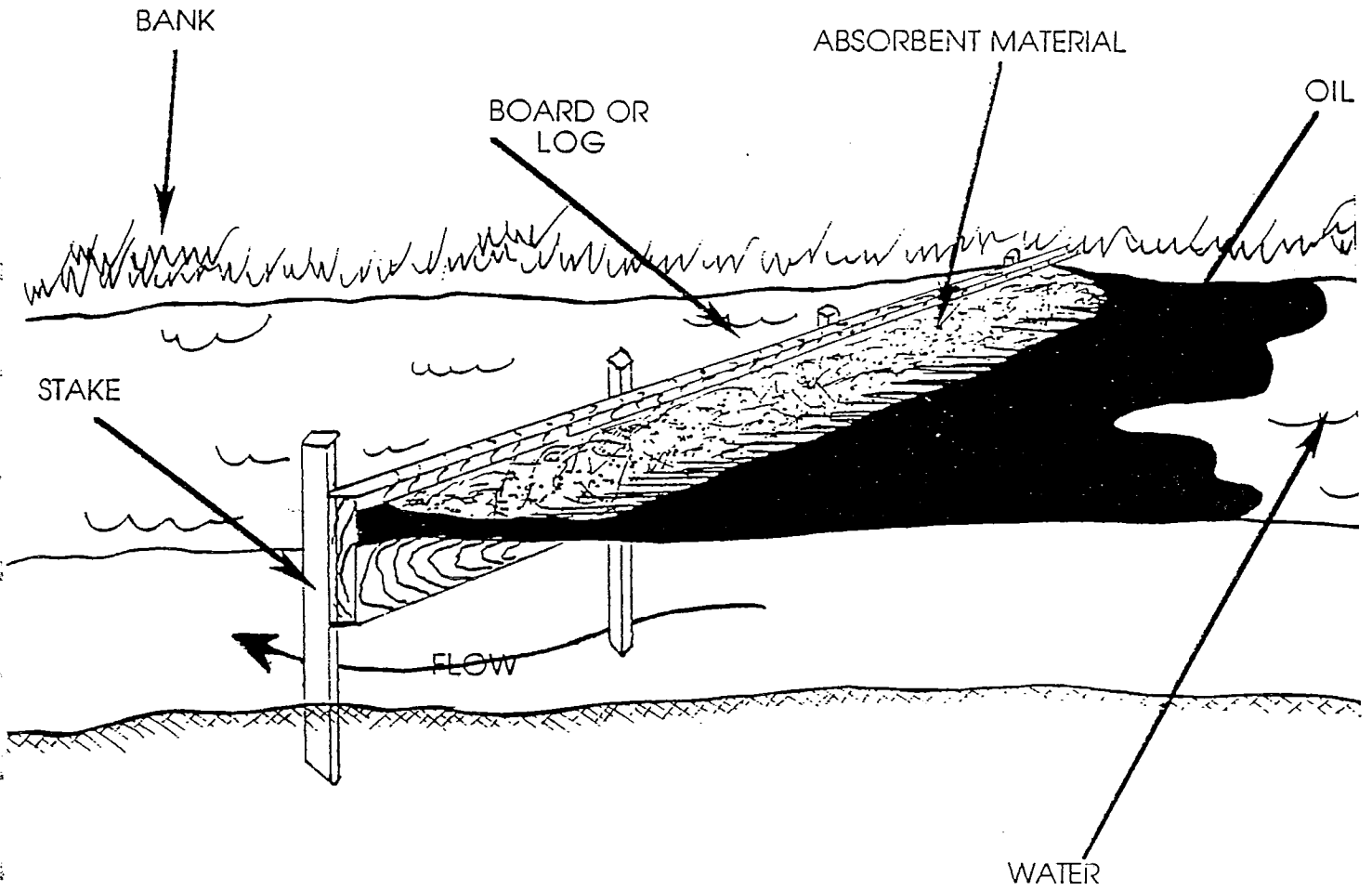
The filter fence is constructed of material which will hold a sorbent material, which will act as a filter to remove the spilled material from the water's surface. The fence can be constructed of materials available locally, such as posts of wood, steel pipe, or angles and chainlink fence, hardware cloth, or chicken wire. The sorbent material is placed on the upstream side of the fence. The material should be hydrophobic and absorb the spilled material to be effective. Sorbent material should pick up their maximum quantity of spilled material very quickly and require changing at frequent intervals. For this reason, and also because the sorbent fence is not 100% effective, two and sometimes three fences are installed in series. This type of containment requires frequent manning.

# STORM DRAIN DAM

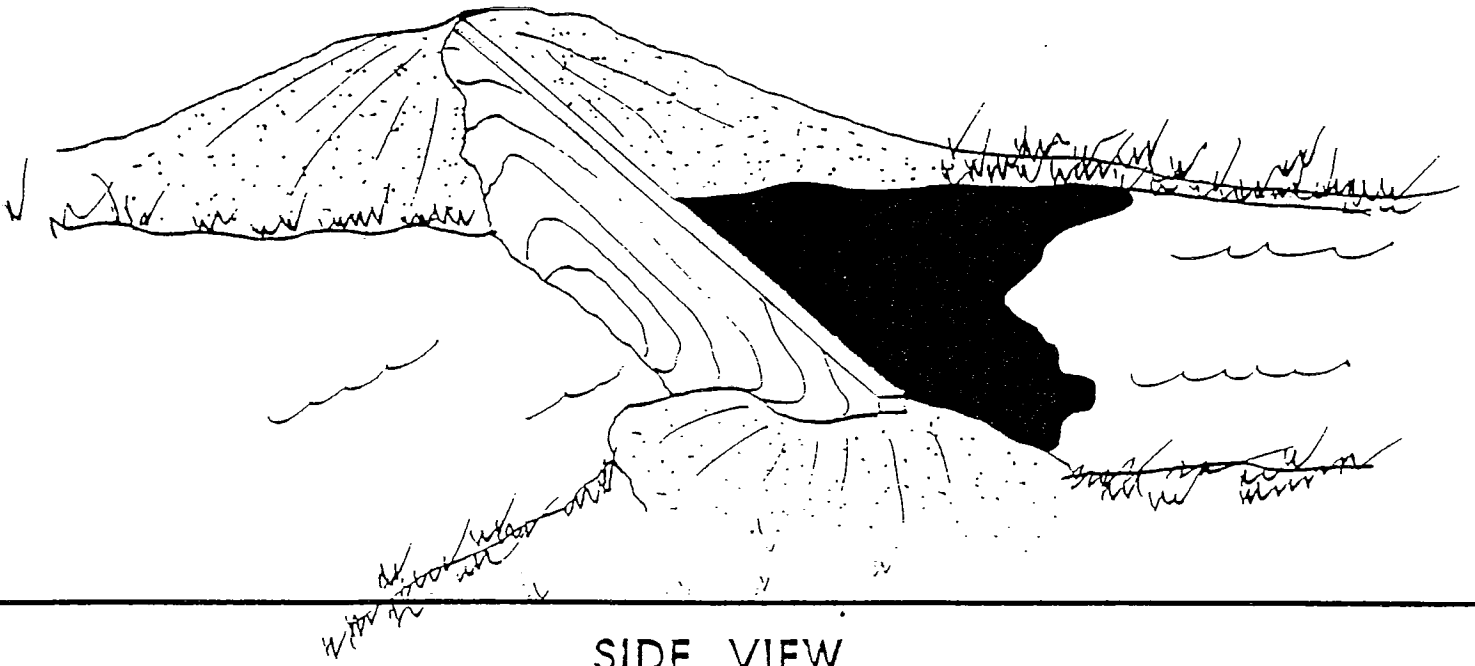
## Product Spill on Roadway



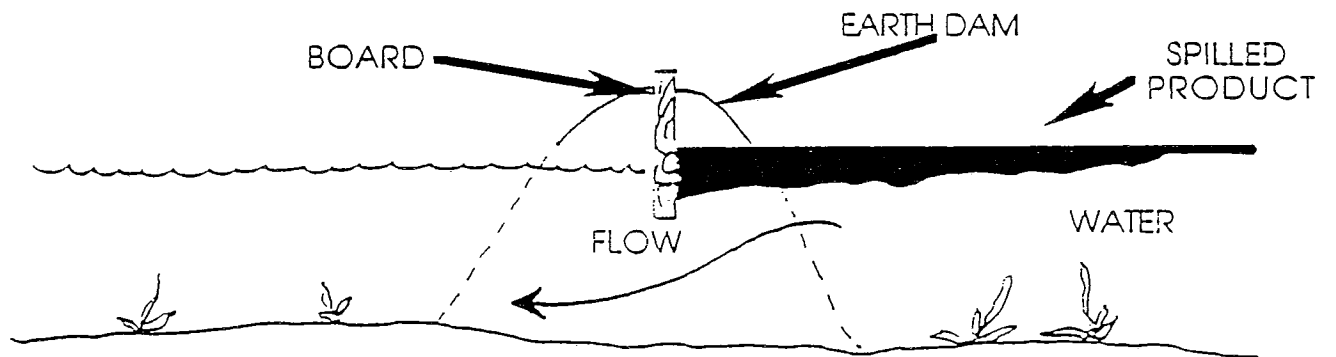
# SKIMMING DEVICE ON STREAM OR DITCH



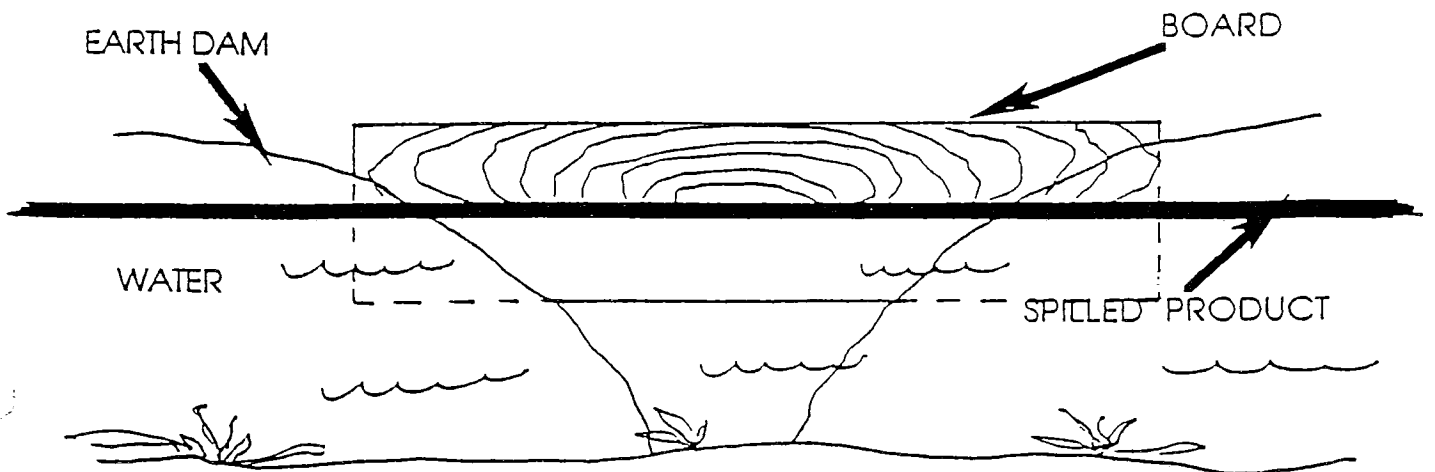
# EARTH DAM AND WEIR



SIDE VIEW

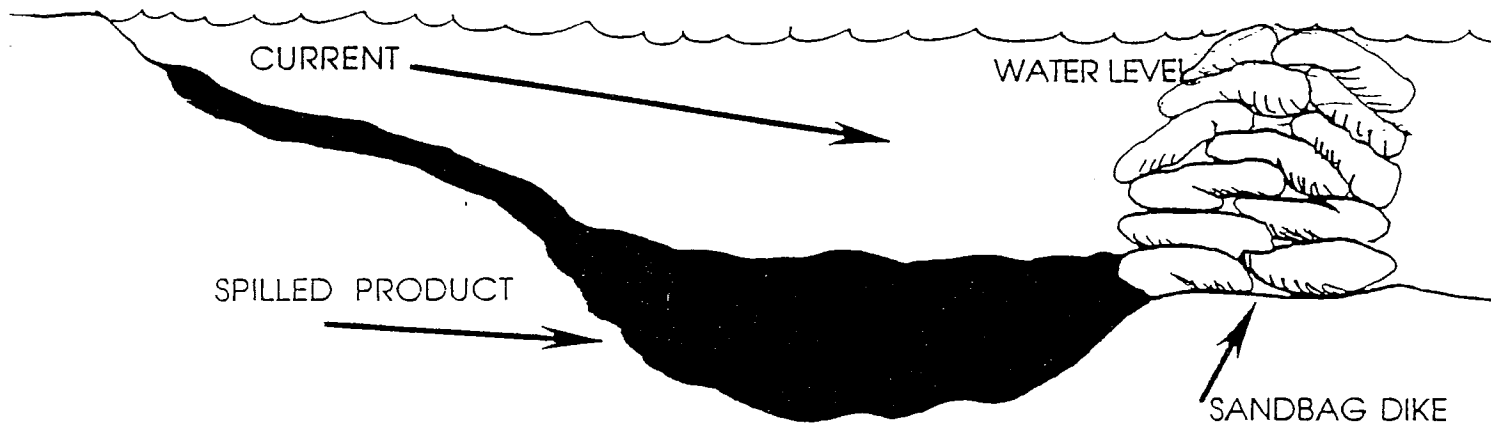


FRONT VIEW

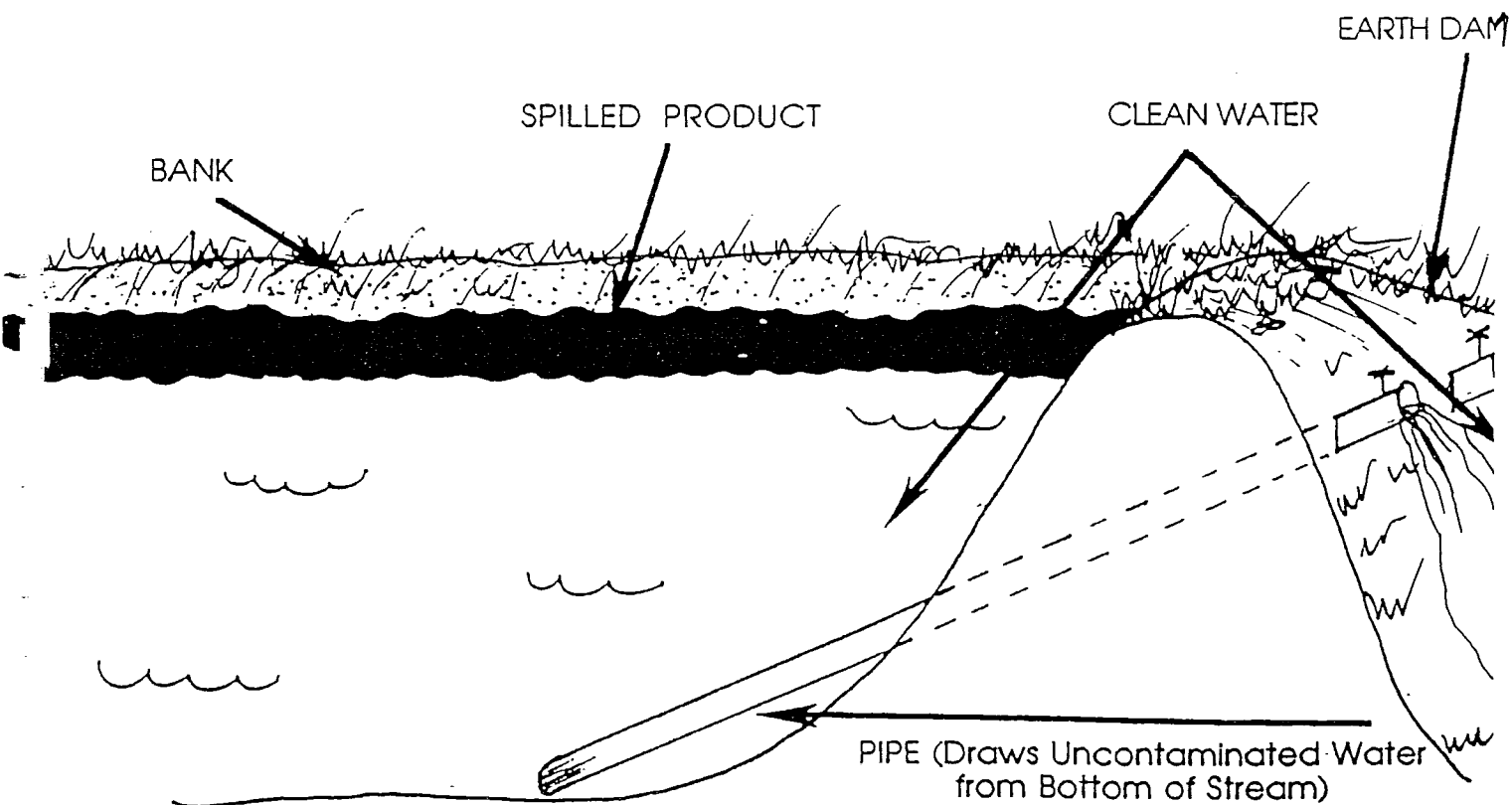


# CONTAINMENT OF SPILLED PRODUCTS

Heavier Than Water  
(Specific Gravity >1)

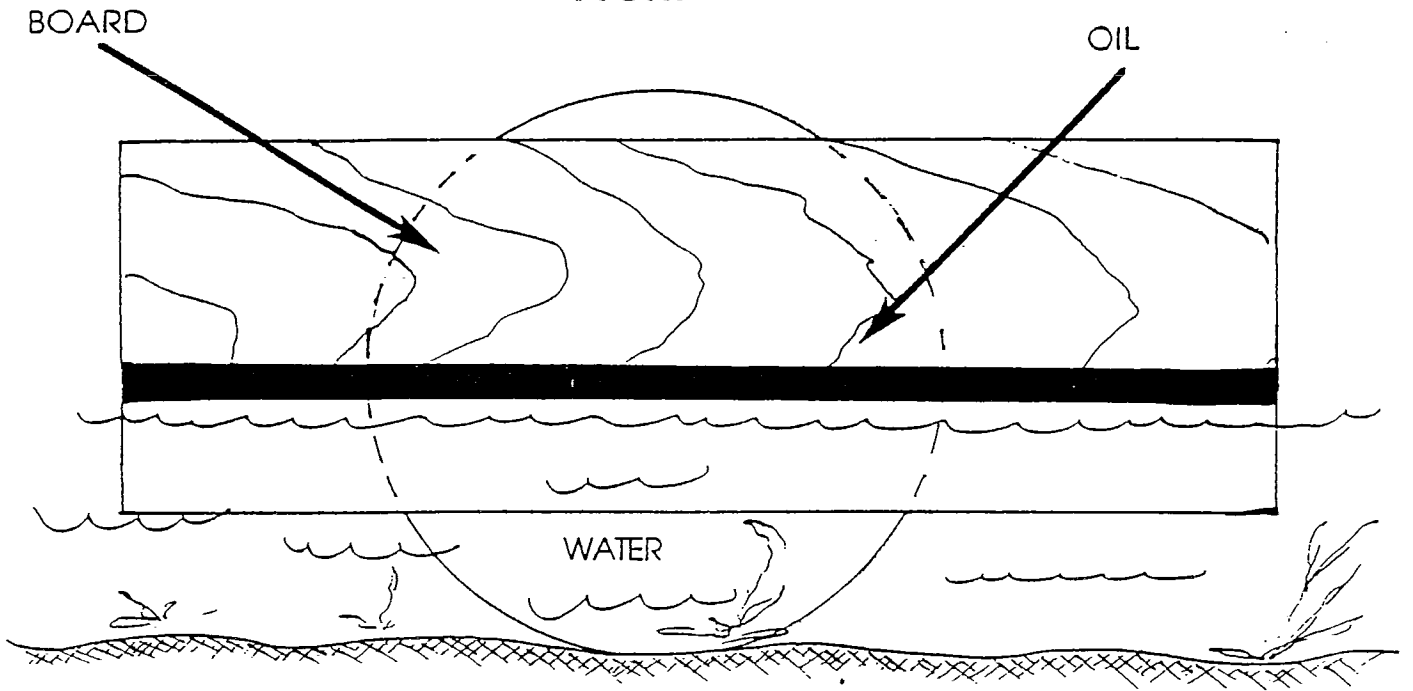


Lighter Than Water  
(Specific Gravity <1)

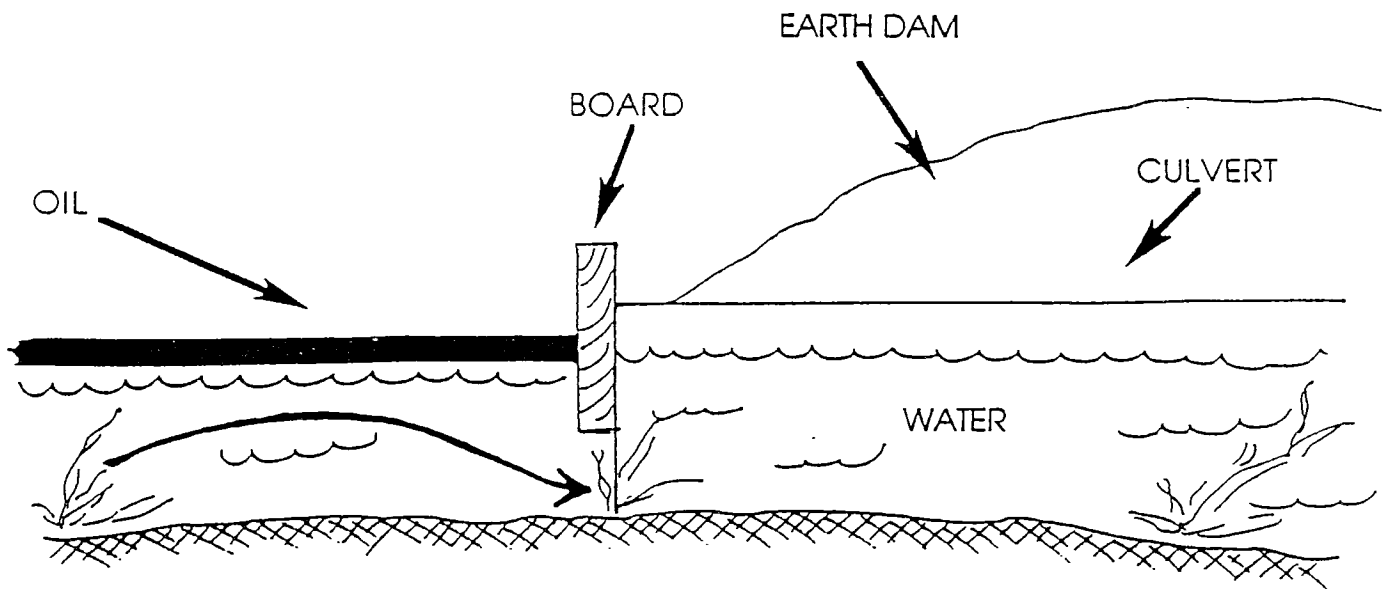


# CULVERT WEIR

Front View



## Side View





**NAME:** BRIAN L. MACKENZIE

**TITLE:** President

**COMPANY:** IEM SEALAND Corporation

**YEARS OF EXPERIENCE:** With This Firm: 5 years      With Other Firms: 6 years

**ACADEMIC BACKGROUND:**

B.S. Environmental Science/Chemistry, University of Massachusetts

**CERTIFICATIONS/AFFILIATIONS/TRAINING:**

OSHA Hazardous Waste Handler 29CFR 1910.120 (certified annually since 1986)

OSHA Site Supervisor 29CFR 1910.120 (1995)

Member - American Society of Safety Engineers

Member - Association of Groundwater Scientists and Engineers

Member - Environmental Safety Council of America

Member - National Well Water Association

Member - Airport Consultants Council

Member - Society of American Military Engineers

**RELEVANT PROJECT EXPERIENCE:**

Mr. MacKenzie serves as president for IEM SEALAND Corporation. He holds a B.S. in Environmental Science and Chemistry from the University of Massachusetts. His professional experience includes extensive demonstrated experience in the fields of environmental engineering, remedial design, construction management, contract administration and construction law.

From 1985 through 1987, he was employed by NUS Corporation, performing remedial investigations and feasibility studies under the EPA CERCLA (Superfund) program. From 1987 through 1990 he was employed by H+GCL, Inc., ultimately holding the position of Director of Environmental Engineering. From 1991 to present he has held the position of president at IEM SEALAND Corporation.

Mr. MacKenzie's technical experience has included extensive RI/FS, ROD, and Remedial Action experience on complex RCRA and CERCLA sites for various public and private property owners and operators. His technical experience includes site characterization and modeling and the application of remedial technologies on radiological, toxic and characteristically hazardous media, including the study and application of innovative remedial technologies including low temperature thermal desorption, soil vapor extraction, in-situ and ex-situ stabilization, and bioremediation.

Mr. MacKenzie's project management experience includes a six-month remedial investigation of DOD sites throughout Eastern Europe, a four-month characterization of Mequiladora sites in Mexico, and extensive construction management duties as a prime remedial contractor under the EPA CERCLA Program, the DOD Installation Restoration Program, and voluntary privately funded remedial projects.

• **Department of Defense (DOD), U.S. Army Corps of Engineers, On-Site Thermal Desorption Project, Fort Bliss, El Paso, Texas.** Project Sponsor of a \$2.5 million dollar soil remediation by low temperature thermal desorption project at six locations on the base. Soil contamination includes pesticides, herbicides and petroleum contamination. Project included demolition of buildings, excavation of soils, stockpile and transport of soils, and construction of all support facilities necessary to complete the work.



- **Department of Defense (DOD), U.S. Army Corps of Engineers, Montclair/West Orange and Glen Ridge Radium Sites, Barrow's Field and Carteret Street, Essex County, New Jersey.** Project Sponsor of a \$10.5 million dollar property remediation and restoration project. Excavation and transportation of low level radiologically contaminated soil will be transshipped via intermodals to a disposal facility in Clive, Utah.
- **Department of Defense (DOD), U.S. Army Corps of Engineers, Fort Devens, Massachusetts.** Project Sponsor of a landfill cap improvement project for Shepley's Hill Landfill Operable Unit, a CERCLA NPL site located at Fort Devens. Responsible for technical and financial contract negotiations, technical review of final project submittals and oversight of project management.
- **CERCLA, Brookhaven National Laboratory (BNL), Upton, New York.** Project Sponsor for a remediation and restoration project at BNL, a Federal Superfund Site on the NPL. The work consists primarily of the closing of the Former and Interim Landfills and Slit Trench by capping with an impermeable cap.
- **Department of Defense (DOD), U.S. Army Corp of Engineers, Loring Air Force Base, Limestone, Maine.** Project Sponsor on a \$3 million dollar UST closure project at a former air force base in Maine. Approximately twenty 50,000-gallon USTs and associated piping were removed.
- **RCRA Soil Remediation Project, Fusco ♦ Langan, Waterbury, CT.** Project Sponsor for a \$3.5 million dollar remediation project to remove, treat and dispose of contaminated media generated at the 90 acre former Scovill Brass Center site.
- **RCRA Soil Remediation Project, East-Central Medical City Facility, Worcester Redevelopment Authority.** Project Sponsor for a multi-million dollar remediation project to remove, treat and dispose of contaminated media generated in association with the redevelopment of a 26 acre site in downtown Worcester, MA.
- **RCRA Metro-North Commuter Railroad, Harmon Rail Yard.** Project Sponsor for a subsurface investigation and remedial design project for a new locomotive fueling facility.
- **RCRA USEPA Region I, Groundwater Pump and Treat System.** Project Sponsor for construction of a 50 gpm pump and treat system at North Carver Landfill designed to contain the migration of trichloroethylene and other VOC contaminants within the plume.
- **Port Authority of New York and New Jersey, LaGuardia Airport, East Wing Redevelopment.** Project Sponsor for environmental compliance of part of \$70 million redevelopment of the LaGuardia Airport's Central Terminal at the east end. Project involves the rehabilitation of four major airline terminals.
- **RCRA Remedial Investigation and UST Closure Services, LaGuardia Airport, New York.** Project manager for all environmental related issues for the \$300 million dollar East-End Terminal Development Project at LaGuardia Airport. Tasks included design and management of 28 UST closures, site characterization and risk assessment studies, development and implementation of a soil and groundwater remediation program.
- **UST Closure Services, Town of Natick, Natick, Massachusetts.** Project Sponsor for remedial activities which included the removal of 325 residential underground storage tanks. As part of the remedial action plan, contaminated soils were remediated for multiple sites.

The work consists primarily of the closing of the Former and Interim Landfills and Slit Trench by capping with an impermeable cap.

- **Department of Defense (DOD), U.S. Army Corp of Engineers, Loring Air Force Base, Limestone, Maine.** Quality Assurance/Quality Control Officer on a \$3 million dollar UST closure project at a former air force base in Maine. Approximately twenty 50,000-gallon USTs and associated piping were removed.
- **RCRA Soil Remediation Project, Fusco ♦ Langan, Waterbury, CT.** Quality Assurance/Quality Control Officer for a \$3.5 million dollar remediation project to remove, treat and dispose of contaminated media generated at the 90 acre former Scovill Brass Center site.
- **RCRA Soil Remediation Project, East-Central Medical City Facility, Worcester Redevelopment Authority.** Quality Assurance/Quality Control Officer for a multi-million dollar remediation project to remove, treat and dispose of contaminated media generated in association with the redevelopment of a 26 acre site in downtown Worcester, MA.
- **Department of Defense (DOD), U.S. Army Corps of Engineers, Loring Air Force Base, Limestone, Maine.** Quality Assurance/Quality Control Officer on an underground storage tank closure project for the U.S. Army Corps of Engineers at the former Loring Air Force Base in Limestone, Maine. Approximately twenty 50,000-gallon USTs and associated piping were removed.
- **RCRA Remedial Investigation and UST Closure Services, LaGuardia Airport, New York.** Quality Assurance/Quality Control Officer, Port Authority of NY/NJ, LaGuardia Airport, East Wing Redevelopment. Responsible for the Environmental Compliance as part of \$70 million redevelopment of the LaGuardia Airport's Central Terminal at the east end. Project involves the rehabilitation of four (4) major airline terminals.
- **UST Closure Services, Town of Natick, Natick, Massachusetts.** Quality Assurance/Quality Control Officer for a project which included the removal of 325 residential underground storage tanks. As part of the remedial action plan, contaminated soils were remediated for multiple sites.

**NAME:** CHRISTOPHER J. PEREIRA

**TITLE:** Project Director

**COMPANY:** IEM SEALAND Corporation

**YEARS OF EXPERIENCE:** With This Firm: 3 years                      With Other Firms: 8 years

**ACADEMIC BACKGROUND:**

B.S. Civil Engineering, Merrimack College  
M.S. Environmental Engineering, University of Lowell (in progress)

**CERTIFICATIONS/AFFILIATIONS/TRAINING:**

American Society of Civil Engineers (ASCE)  
Solid Waste Association of North America (SWANA)  
OSHA 40 hour Training 29 CFR 1910.120 (certified annually since 1989)  
OSHA Site Supervisor 29CFR 1910.120 (1995)  
WSE Certificate of Achievement - Computer Aided Drafting/Design (CADD)

**RELEVANT PROJECT EXPERIENCE:**

Mr. Pereira serves as project director for IEM SEALAND Corporation. His responsibilities include project management, engineering, contract administration, estimation, regulatory compliance, and subcontractor oversight. His remedial construction project experience includes RCRA landfill closures, DOD base cleanups, CERCLA remedial actions, and Brownfields redevelopment. He has overseen various remedial construction projects at IEM SEALAND Corporation including hazardous material removal on disposal projects, landfill lagoons and impoundment closure projects, soil stabilization and solidization projects, soil vapor extraction projects and bioremediation projects, UST removals and remedial investigations.

Prior to joining IEM SEALAND, Corporation Mr. Pereira was project engineer with Weston & Sampson Engineers and Constructors, Inc. in Peabody, Massachusetts. Prior to this time, he was an engineer with Anderson-Nichols & Company, Boston, Massachusetts and M. Anthony Lally Associates in N. Andover, Massachusetts.

- **Former Scovill Brass Facility, Hazardous Materials Remediation, Waterbury, CT.** Project Director of an 130,000 ton hazardous material removal treatment and disposal project in Waterbury. The project involved removals of contaminated soils and groundwater contaminated with oils, heavy metals, volatile organic compounds and PCBs. A component of this project was on-site treatment of hazardous metal contaminated soils.
- **Department of Defense (DOD), U.S. Army Corps of Engineers, On-Site Thermal Desorption Project, Fort Bliss, El Paso, Texas.** Environmental engineer of a \$2.5 million dollar soil remediation by low temperature thermal desorption project at six locations on the base. Soil contamination includes pesticides, herbicides and petroleum contamination. Project included demolition of buildings, excavation of soils, stockpile and transport of soils, and construction of all support facilities necessary to complete the work.
- **Department of Defense (DOD), U.S. Army Corps of Engineers, Montclair/West Orange and Glen Ridge Radium Sites, Barrow's Field and Carteret Street, Essex County, New Jersey.** Project Director of a \$10.5 million dollar property remediation and restoration project. Excavation and

- transportation of low level radiologically contaminated soil will be transshipped via intermodals to a disposal facility in Clive, Utah.
- **Department of Defense (DOD), U.S. Army Corps of Engineers, Fort Devens, Massachusetts.** Project Director of a landfill cap improvement project for Shepley's Hill Landfill Operable Unit, a CERCLA NPL site located at Fort Devens. Responsible for technical and financial contract negotiations, technical review of final project submittals and oversight of project management.
  - **Department of Defense (DOD), U.S. Army Corp of Engineers, Loring Air Force Base, Limestone, Maine.** Project Director on a \$3 million dollar UST closure project at a former air force base in Maine. Approximately twenty 50,000-gallon USTs and associated piping were removed.
  - **RCRA Remedial Investigation and UST Closure Services, LaGuardia Airport, New York.** Project director for all environmental related issues for the \$300 million dollar East-End Terminal Development Project at LaGuardia Airport. Tasks included design and management of 28 UST closures, site characterization and risk assessment studies, development and implementation of a soil and groundwater remediation program.
  - **CERCLA, Brookhaven National Laboratory (BNL), Upton, New York.** Project Director for a remediation and restoration project at BNL, a Federal Superfund Site on the NPL. The work consists primarily of the closing of the Former and Interim Landfills and Slit Trench by capping with an impermeable cap.
  - **RCRA Soil Remediation Project, East-Central Medical City Facility, Worcester Redevelopment Authority.** Project manager for a multi-million dollar remediation project to remove, treat and dispose of contaminated media generated in association with the redevelopment of a 26 acre site in downtown Worcester, MA.
  - **UST Management and Closure.** Project manager for an underground storage tank closure project for the Town of Natick, Natick, Massachusetts. Project included the removal of 325 residential underground storage tanks. As part of the remedial action plan, contaminated soils were remediated for multiple sites.
  - **Remedial Investigation/Feasibility Study and Remedial Design.** Project manager for design and construction of sanitary landfill expansions with composite liner systems for Concord, Foxborough, and Middleborough, Massachusetts. The expansions incorporated individual cells and leachate collection and removal systems.
  - **Remedial Investigation/Feasibility Study and Design.** Project manager for investigation of landfill gas generation and quality at a closed facility in Westford, Massachusetts. This investigation was comprised of bi-monthly monitoring for a 24-hour period to determine seasonal and daily landfill gas fluctuations.
  - **Remedial Investigation/Feasibility Study and Design.** Project manager for groundwater, surface water and landfill-gas monitoring programs at various sanitary landfills in Concord, Chelmsford, Millis, Natick, Wayland, Westford, and Winchendon, Massachusetts.
  - **Remedial Investigation/Feasibility Study and Design.** Supervision of a landfill-gas investigation into an apartment complex adjacent to the former Cambridge, Massachusetts Sanitary Landfill.
  - **Remedial Investigation/Feasibility Study and Design.** Preparation of Initial Site Assessments for Foxborough, Sharon, Middleborough, Winchendon, Millis, and Shirley, Massachusetts.

**NAME:** THOMAS W. DALEY

**TITLE:** Assistant Project Director

**COMPANY:** IEM SEALAND Corporation

**YEARS OF EXPERIENCE:** With This Firm: 2 years                      With Other Firms: 2 years

**ACADEMIC BACKGROUND:**

B.S. Environmental Health, Indiana University of Pennsylvania

**CERTIFICATIONS/AFFILIATIONS/TRAINING:**

OSHA Hazardous Waste Operations 29CFR 1910.120 (certified annually since 1992)

OSHA Site Supervisor 29CFR 1910.120 (1992)

Competent Persons in Excavations

Hazardous Materials Packaging and Handling (HM-181)

Red Cross First Aid and CPR

**RELEVANT PROJECT EXPERIENCE:**

Mr. Daley manages the execution of remedial construction projects. He possesses extensive experience having conducted dozens of remedial construction projects for IEM SEALAND Corporation. He schedules work and coordinates activities between sub-contractors, client representatives and other contractors. He ensures project compliance with local regulations including obtaining necessary permits.

As a Project Health and Safety Officer, Mr. Daley has performed project/task specific hazard analysis, completed project submittals such as health and safety plans, confined space entry plans and chemical data acquisition plans. He presents task specific and weekly health and safety meetings with site personnel. He enforces health and safety requirements for hazards including: heavy equipment hazards, chemical exposure hazards, noise exposure hazards, confined space entry hazards and associated general construction hazards, and conducts environmental testing of chemical hazards to determine levels of personnel protective equipment required.

- **Department of Defense (DOD), U.S. Army Corps of Engineers, On-Site Thermal Desorption Project, Fort Bliss, El Paso, Texas.** Assistant Project Director of a \$2.5 million dollar soil remediation by low temperature thermal desorption project at six locations on the base. Soil contamination includes pesticides, herbicides and petroleum contamination. Project included demolition of buildings, excavation of soils, stockpile and transport of soils, and construction of all support facilities necessary to complete the work.
- **CERCLA, Brookhaven National Laboratory (BNL), Upton, New York.** Assistant Project Director for a remediation and restoration project at BNL, a Federal Superfund Site on the NPL. The work consists primarily of the closing of the Former and Interim Landfills and Slit Trench by capping with an impermeable cap.
- **UST Closure Services, Town of Natick, Natick, Massachusetts.** Assistant Project Director for remedial activities which included the removal of 325 residential underground storage tanks. As part of the remedial action plan, contaminated soils were remediated for multiple sites.

- **RCRA Soil Remediation Project, East-Central Medical City Facility, Worcester Redevelopment Authority.** Assistant Project Director for a multi-million dollar remediation project to remove, treat and dispose of contaminated media generated in association with the redevelopment of a 26 acre site in downtown Worcester, MA.
- **Department of Defense (DOD), U.S. Army Corps of Engineers, Loring Air Force Base, Limestone, Maine.** Assistant Project Director for a base closure project which included closure of over 100 USTs from the base housing areas. Removal and demolition of jet fueling (JP4) system including: demolition of pumphouses and associated control pits. Removal of nineteen 50,000 gallon and three 2,000 gallon JP4 USTs and removal of over 30,000 linear feet of associated pipe line. Remediation of JP4 contaminated soil by venting per USACE specifications. Remediation by off site disposal of fuel oil contaminated soils.
- **CERCLA USEPA, Raymark Industries Inc., New Haven, CT.** Health and Safety Officer for a closure project of four process lagoons containing asbestos and lead tailings. Closure included consolidation of wastes and capping of lagoons with clean fill material.
- **Washington National Airport and Dulles International Airport.** Conducted comprehensive environmental consulting as an Environmental Technician for various Airport Authority projects such as: renovation/demolition of passenger terminals and hangars at Washington National Airport and utilities building expansion at Washington Dulles Airport.

**NAME:** SAMUEL A. KAPLAN, CIH

**TITLE:** Certified Industrial Hygienist

**COMPANY:** IEM SEALAND Corporation

**YEARS OF EXPERIENCE:** With This Firm: 3 years                      With Other Firms: 15 years

**ACADEMIC BACKGROUND:**

M.A. in Industrial Safety and Health

B.A. in Chemistry

Continuing education courses in safety and health at NIOSH

**CERTIFICATIONS/AFFILIATIONS/TRAINING:**

Certified by the American Board of Industrial Hygiene in Comprehensive Practices

Certified Industrial Hygienist No. 739

Certified by the Board of Certified Safety Professionals

Licensed Asbestos Management Planner

Member of ACS/AIHA/AAIH/ASSP/CSP

**PROFESSIONAL ACCOMPLISHMENTS:**

Mr. Kaplan is a Certified Industrial Hygienist with over 18 years of consulting experience in the areas of safety, health, and handling of hazardous materials. Consulting experience includes epidemiology studies, health programs for the US Army Corps of Engineers, studies for OSHA and others, technical review and advisement on alternatives in existing federal standards, and personal protective equipment. In addition, Mr. Kaplan provided consulting to the chemical industry on related health and safety matters.

For the National Cancer Institute, he was an advisor and field investigator on contract laboratories. He prepared training materials for OSHA's toxicology course and other training programs. Mr. Kaplan's experience includes contracts with the USEPA, Army Corps of Engineers, and other governmental agencies. For IEM SEALAND Corporation, Mr. Kaplan provides QA/QC, project management and technical oversight.

**NAME:** LINDA C. QUACKENBUSH

**TITLE:** Corporate Compliance Officer

**COMPANY:** IEM SEALAND Corporation

**YEARS OF EXPERIENCE:** With This Firm: 4 years                      With Other Firms: 5 years

**ACADEMIC BACKGROUND:** B.S. Geophysics, Virginia Polytechnic Institute and  
State University

**CERTIFICATION/AFFILIATIONS/TRAINING:**

OSHA Hazardous Waste Operations 29CFR 1910.120 (certified annually since 1990)  
OSHA Site Supervisor 29CFR 1910.120 (1990)  
Occupational Safety and Health Seminar, U.S. Army Corps of Engineers, New York District  
ASTM: "Groundwater & Vadose Zone Monitoring & Sampling Technology" Seminar  
"Capitalizing on the Brownfields Initiative" Conference  
Maryland Department of the Environment "Consultant's Day" Seminar  
Member - Society of Automotive Engineers  
Red Cross First Aid and Adult CPR

**RELEVANT PROJECT EXPERIENCE:**

As Corporate Compliance Officer, Ms. Quackenbush prepares technical reports, work plans and cost and technical proposals. She reviews work activities, subcontractors/vendor qualifications and permits to approve waste disposal facilities and subcontractors. She prepares submittals which include Site Safety and Health Plans, Contractor Quality Control Plans and Spill Control Plans. She has a strong background in environmental information technology and federal and state regulations as they apply to work practices, treatment goals and disposal criteria. Ms. Quackenbush has over nine years of experience in environmental remediation, assessments and project management.

Prior to joining IEM SEALAND Corporation, Ms. Quackenbush was an Assistant Project Manager with H+GCL. For the H+GCL Washington, D.C. office, she started the environmental engineering department.

Prior to joining H+GCL, she was a laboratory supervisor in the Internal Ballistics Laboratory for Hercules, Inc. at the Radford Army Ammunitions Plant (RAAP) in Radford, Virginia. Prior to this time she was a Quality Control Engineer at the RAAP. She inspected and was knowledgeable with each propellant processing area, manufacturing area and test range.

- **Department of Defense (DOD), U.S. Army Corps of Engineers, On-Site Thermal Desorption Project, Fort Bliss, El Paso, Texas:** Corporate Compliance Officer of a \$2.5 million dollar soil remediation by low temperature thermal desorption project at six locations on the base. Soil contamination includes pesticides, herbicides and petroleum contamination. Project included demolition of buildings, excavation of soils, stockpile and transport of soils, and construction of all support facilities necessary to complete the work. In addition, assisted in preparation of work plans and submittals.



- **Department of Defense (DOD), U.S. Army Corps of Engineers, Montclair/West Orange and Glen Ridge Radium Sites, Barrow's Field and Carteret Street, Essex County, New Jersey.** Corporate Compliance Officer of a \$10.5 million dollar property remediation and restoration project. Excavation and transportation of low level radiologically contaminated soil will be transshipped via intermodals to a disposal facility in Clive, Utah. Assisted in preparation of Site Safety and Health Plan and other project submittals.
- **Department of Defense (DOD), U.S. Army Corp of Engineers, West Point Military Academy, West Point, New York.** Corporate Compliance Officer on a AST removal/UST closure and AST/UST installation project at the academy. A total of approximately 35 ASTs and USTs were included under the project specifications.
- **Department of Defense (DOD), U.S. Army Corps of Engineers, Fort Devens, Massachusetts.** Corporate Compliance Officer of a landfill cap improvement project for Shepley's Hill Landfill Operable Unit, a CERCLA NPL site located at Fort Devens. Responsible for preparation of the Site Safety and Health Plan and other project submittals.
- **CERCLA, Brookhaven National Laboratory (BNL), Upton, New York.** Corporate Compliance Officer for a remediation and restoration project at BNL, a Federal Superfund Site on the NPL. The work consists primarily of the closing of the Former and Interim Landfills and Slit Trench by capping with an impermeable cap. Wrote and assisted in preparation of various project work plans.
- **Department of Defense (DOD), U.S. Army Corp of Engineers, Loring Air Force Base, Limestone, Maine.** Corporate Compliance Officer on a \$3 million dollar UST closure project at a former air force base in Maine. Approximately twenty 50,000-gallon USTs and associated piping were removed.
- **RCRA Soil Remediation Project, Fusco ♦ Langan, Waterbury, CT.** Corporate Compliance Officer for a \$3.5 million dollar remediation project to remove, treat and dispose of contaminated media generated at the 90 acre former Scovill Brass Center site. As Site Superintendent for one quarter, responsible for site health and safety, waste characterization including soil sampling and screening, and oversight of work activity. Wrote and assisted in preparation of work plans and project closeout report.
- **RCRA Soil Remediation Project, East-Central Medical City Facility, Worcester Redevelopment Authority.** Corporate Compliance Officer for a multi-million dollar remediation project to remove, treat and dispose of contaminated media generated in association with the redevelopment of a 26 acre site in downtown Worcester, MA.
- **UST Closure Services, Town of Natick, Natick, Massachusetts.** Corporate Compliance Officer, Town of Natick, Natick, Massachusetts. Project included the removal of 325 residential underground storage tanks and remediation of multiple sites.
- **RCRA Soil Remediation Project, Worcester Redevelopment Authority.** Corporate Compliance Officer for a multi-million dollar remediation project to remove, treat and dispose of contaminated media generated in association with the redevelopment of a 26 acre site in downtown Worcester, MA.
- **UST Management and Closure.** Project manager for closure services for USTs located in commercial and industrial settings. USTs included waste chemical, heating oil, propane and petroleum products. Planned and directed a UST Management Plan for a US Army facility that included five locations and approximately 50 USTs.