



ENVIRONMENTAL ENFORCEMENT

150714

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150714

SCOTT HARSHBARGER
Attorney General
Commonwealth of Massachusetts



SCOTT HARSHBARGER
ATTORNEY GENERAL

(617) 727-2200

150714
The Commonwealth of Massachusetts
Office of the Attorney General
One Ashburton Place,
Boston, MA 02108-1698

NCJRS

OCT 21 1994

November 14, 1992

ACQUISITIONS

To the Environmental Protection and Law Enforcement Community:

Government has an obligation to ensure that the public is protected and its interests defended, even in difficult fiscal times. When I was sworn in as Attorney General, I identified the enforcement of our environmental laws, and the reinvigoration of the Attorney General's broader environmental program, as one of my highest priorities. I feel strongly that the environmental laws in Massachusetts are a promise to our people that we will vigorously protect their health and safety interests. As Attorney General, I intend to work with you to keep that promise.

From the illegal disposal of hazardous waste to the destruction of wetlands, threats to our environment are complex and serious problems. It is entirely appropriate that we deal with cases of egregious and reckless disregard for the environment as criminal offenses, and that we send the message to would-be violators that the costs of defying the law are too great to be ignored. In order to send that message with the necessary speed and clarity, we must all continue to increase our understanding of the range of environmental issues we face.

Our ongoing training initiative is meant to meet that need. Police officers, fire officials, conservation commissions, boards of health and other local officials play a crucial role in identifying serious problems and in developing cases for prosecution. In order to be successful, we need you.

I welcome your interest in our Environmental Crimes training initiatives. I can assure you that the Attorney General's office remains committed to working throughout this Commonwealth to ensure that both the environment and the public health are protected.

Sincerely,

A handwritten signature in dark ink, appearing to read "Scott Harshbarger".

Scott Harshbarger

ACKNOWLEDGMENTS

The Attorney General would like to thank the Massachusetts Department of Environmental Protection and the Massachusetts Environmental Strike Force for their outstanding and essential support in the preparation of this manual and training program.

We would like to acknowledge the support of the Massachusetts Environmental Trust which made this effort possible.

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We appreciate the contributions of Kevin Connolly, Edward DeAngelo, John Rockwell, and our "Greentown" local officials Suzanne Carnevale, Anne Kelly, David Spector and Stephen Terrill.

NOTICE TO USER

In preparing these materials, a concerted effort has been made to ensure that the materials accurately reflect the state of the law as of the date of publication or release. It is emphasized, however, that subsequent developments in statutes, regulations, and caselaw may modify or supersede those authorities. Therefore, these materials must be considered in light of such developments. It is the responsibility of the user of these materials to remain aware of changes in the law and consult official editions of statutes and regulations for use in all enforcement actions.

These materials were written and compiled by each author in his or her private capacity, and do not necessarily reflect the views of the Attorney General or any other federal, state, or local government agency. These materials are provided for training purposes only, and nothing herein creates any rights, substantive or procedural, which are enforceable at law by any party.

Any corrections or suggestions should be sent to: Environmental Crime Manual, c/o Executive Bureau, Office of the Attorney General, One Ashburton Place, Twentieth Floor, Boston, MA 02108. Thank you.



SCOTT HARSHBARGER
ATTORNEY GENERAL

(617) 727-2200

The Commonwealth of Massachusetts
Office of the Attorney General
One Ashburton Place,
Boston, MA 02108-1698

Local Environmental Enforcement
Conference

November 14, 1992

AGENDA

8:00 - 8:30 a.m.

REGISTRATION
Coffee & Pastry

8:30 - 9:00 a.m.

WELCOMING REMARKS

Scott Harshbarger
Attorney General

Daniel S. Greenbaum
Commissioner
Department of Environmental Protection

9:00 - 12:30 p.m.

CASE STUDY

During this segment of the program, there will be a presentation of a specific case scenario, and experts in each of the substantive areas will present an outline of their respective topic. The presenters will then ask questions of the audience as to what they would do in a similar situation.

9:00 - 9:30 a.m.

Presentation of Case Study

9:30 - 10:00 a.m.

Solid Waste Presentation

Ardis Vaughan
Environmental Engineer
W.R. Grace

10:00 - 10:30 a.m.

Asbestos Presentation

Gregg Levins
Environmental Analyst
Department of Environmental Protection
Central Region

Local Environmental Enforcement Conference
November 14, 1992

AGENDA (cont.)

10:30 - 10:45 a.m.

BREAK

10:45 - 11:15 a.m.

Water Pollution/Title V Presentation

Dean Spencer
Senior Deputy General Counsel
Department of Environmental Protection

11:15 - 11:45 a.m.

Hazardous Waste Presentation

Margret Hanley
Vice-President
GEI Consultants, Inc.

11:45 - 12:15 p.m.

Wetlands Presentation

Gregor McGregor, Esq.
McGregor & Shea, P.C.

12:15 - 12:30 p.m.

Question & Answer Session

12:30 - 1:30 p.m.

LUNCH

Luncheon Presentation: Local Impacts On
Drinking Water
- Massachusetts Water Resource
Authority

1:30 - 3:00 p.m.

PANEL DISCUSSION/ENFORCEMENT OPTIONS

Gregor McGregor, Esq.
McGregor & Shea, P.C.

Martin Levin
Assistant Attorney General
Chief, Environmental Strike Force

Ann Berwick
Assistant Attorney General
Chief, Environmental Protection Division

Anne Kelly
Director, Environmental Strike Force
Department of Environmental Protection

3:00 - 3:15 p.m.

CLOSING REMARKS

**Office of the Attorney General
Environmental Crimes Training Program**

Instructors

Ann Berwick
Assistant Attorney General
Chief, Environmental Protection Division
Office of the Attorney General
One Ashburton Place
Boston, MA 02108
(617) 727-2200

M. Margret Hanley
Vice-President, Environmental Division
GEI Consultants, Inc.
1021 Main Street
Winchester, MA 01890
(617) 721-4000

Anne Kelly
Director, Environmental Strike Force
Department of Environmental Protection
One Winter Street - 7th Floor
Boston, MA 02108
(617) 556-1000

Martin E. Levin
Assistant Attorney General
Chief, Environmental Strike Force
Office of the Attorney General
One Ashburton Place
Boston, MA 02108
(617) 727-2200

Gregg Levins
Environmental Analyst
Department of Environmental Protection
Central Region
75 B Grove Street
Worcester, MA 01605
(508) 792-7653

Instructors (cont.)

Gregor McGregor, Esq.
McGregor & Shea, P.C.
141 Tremont Street
Suite 200
Boston, MA 02111
(617) 338-6464

Dean Spencer
Senior Deputy General Counsel
Department of Environmental Protection
Office of General Counsel
1 Winter Street - 3rd Floor
Boston, MA 02108
(617) 292-5568

Ardis Vaughan
Environmental Engineer
W. R. Grace
55 Hayden Avenue
Lexington, MA 02173
(617) 861-6600

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 - 4. Sample Affidavit

HAZARDOUS WASTE/HAZARDOUS MATERIALS

Prepared by Margret Hanley
Vice-President, Environmental Division
GEI Consultants, Inc.

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HAZARDOUS MATERIALS

AND

HAZARDOUS WASTE

Prepared by

M. Margret Hanley

of

GEI Consultants, Inc.
1021 Main Street
Winchester, Massachusetts 01890-1943
(617) 721-4000

HAZARDOUS MATERIALS AND HAZARDOUS WASTE

Introduction

Hazardous materials are present in nearly every work environment and in most homes. The improper handling, storage, transportation, or disposal of hazardous materials poses a threat to both human health and the environment. Local, state, and federal agencies have created laws which govern the management of hazardous materials. Violations of these laws most commonly occur in the workplace, during transportation, and at the site of disposal.

Because of the dangers inherent in the handling of these materials, investigators must exercise caution in approaching the scene of a possible violation and act quickly to minimize the possible environmental damage or dangers to public health, at and near the site of the violation.

Generally a hazardous material is any substance or material which is capable of posing an unacceptable risk to human health, safety, and property. This is a very broad definition. Under certain circumstances, just about any substance could be considered hazardous due to its volume, temperature, chemical characteristics, or its impact on the environment.

The term hazardous materials is sometimes thought to be synonymous with hazardous substance, hazardous chemical, and hazardous waste. It is not. "Hazardous Material" is the term used by the Department of Transportation (DOT) to describe a substance which is or would be hazardous when being transported (Table 1).

Once at a facility or other destination, the safe handling of most hazardous material is governed by the Occupational Safety & Health Act (OSHA). Under OSHA, hazardous materials are referred to as "Hazardous Chemicals." OSHA also regulates the permissible exposure of workers to chemicals in the workplace (Table 1).

Hazardous material, which cannot be used in a manufacturing process due to age or formulation or which is generated as a waste product during a process, is referred to as "Hazardous Waste." The U.S. Environmental Protection Agency (USEPA) regulates hazardous waste on a "cradle to grave" basis under the Resource Conservation and Recovery Act (RCRA 40 CFR). Regulations (40 CFR) promulgated under RCRA cover the generation, storage,

transportation, and disposal of any substance which could be considered a hazardous waste (Table 1). The Massachusetts Hazardous Waste Management Act, General Law Chapter 21C (MGL.C.21C) and regulations described in 310 CMR 30.000 are in most cases (but not all) identical to RCRA and the regulations described in 40 CFR.

Finally, USEPA and DOT refer to hazardous material, hazardous chemical, or hazardous waste accidentally or intentionally released into the environment the released material as a Hazardous Substance. The identification, investigation, and remediation of a release of a hazardous substance is regulated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which is also referred to as Superfund. Many states have regulations which are analogous to CERCLA. In Massachusetts, this law is the Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, General Law Chapter 21E (MGL.c.21E), (Table 1).

Unfortunately, DOT, OSHA, USEPA, and state agencies have not adopted a uniform list of substances, or a uniform criteria for listing these substances. While there is significant overlap, it is important to recognize that a substance which is defined by OSHA as a hazardous chemical in the workplace may not be defined as a hazardous waste at the time of disposal and vice versa.

In general, DOT's definition of hazardous material is most inclusive, and is based on the chemical characteristics of 22 categories of materials (Table 2). In defining a hazardous waste, EPA considers both the chemical characteristics of a material and the source of the waste (Table 3). A partial comparison of the definitions presented above is presented in Table 4.

1. ENVIRONMENTAL AND PUBLIC HEALTH RISKS

Hazardous Materials can pose a threat to persons in the workplace, the general public, and the environment in numerous ways. The most common risks include:

1) Injury to Human Health:

Direct exposure through skin contact, inhalation, or ingestion to a chemical can result in acute or chronic illness. Long-term exposure to chemicals can result in an increased risk of serious illness or cancer. Direct contact can occur in the workplace or in the environment.

The National Institute for Occupational Safety and Health (NIOSH) in association with other government agencies issues a Pocket Guide to Chemical Hazards annually. The NIOSH Pocket Guide presents a relatively comprehensive summary of health hazards posed by most hazardous chemicals.

2) Soil/Ground Water/Surface Water Contamination and Natural Resource Damage:

Soil, ground water, and surface water contamination is the most recognized impact of the improper handling and disposal of hazardous material and waste. The extent of contamination which could result from a release of hazardous substances will depend to a large extent on the chemical characteristics or constituents of the hazardous substance (Table 5).

Public water supplies in ground water and surface water resource areas and wetlands are particularly vulnerable to the impacts of uncontrolled releases of hazardous materials.

3) Air Contamination:

Hazardous materials or waste which become airborne in the form of dust, smoke, or vapors can migrate in air, in subsurface public utilities such as sewers and storm drains, and in the ground to buildings and public areas.

4) Property Damage:

Property which is contaminated is difficult to sell and difficult to use as collateral. The use of a contaminated site may be restricted by DEP or local agencies.

5) Cost of Remedial Action:

Remedial action or response costs include the cost of the investigation of the nature, source, and impact of a release in a manner consistent with federal and state regulations, cleanup (which is also remedial action), and post-remedial monitoring. Remedial costs are typically presented rounded up to the nearest ten thousand dollars.

2. WHERE TO LOOK FOR VIOLATIONS

Violations of the laws governing hazardous materials and waste can and do occur anywhere. The most common violations, however, occur during storage, transportation, and disposal. Care should be taken to observe violations at active or closed industrial and commercial facilities, on the road, and at reported "disposal" facilities, including municipal landfills.

1) Workplace Violations:

Hazardous materials are present at many manufacturing facilities as both raw materials and waste. The owners and/or operators of a property or facility are required to control the safe handling of these materials. For example, OSHA and other agencies require appropriate training of all employees involved with the use of hazardous chemicals. Documentation regarding the nature and toxicity of each hazardous material in the form of Material Safety Data Sheets (MSDS) must be maintained at each facility, clear labeling must be present on packaging, and monitoring must be performed to ensure that employees or others are not exposed to unacceptable concentrations of hazardous materials in or near the workplace. Hazardous chemicals must be handled in a manner which will prevent an accidental release to the workplace or the environment, and which protects workers. A summary of common workplace violations cited by OSHA and DEP regarding the handling of hazardous chemicals and hazardous waste is presented in Table 6.

2) Storage Violations:

EPA and the Massachusetts Department of Environmental Protection (DEP) regulate the storage of hazardous waste at a facility. Hazardous wastes must be contained within a secure roofed area, in properly labeled containers, for a period generally not to exceed 90 days. Selected individuals at the facility must be trained in the appropriate handling, labeling, and the emergency response of a spill of hazardous waste. Facilities must carefully track the volume and nature of waste generated and stored at a facility and report to DEP and/or EPA on a regular basis. Typical storage violations reported by DEP are summarized in Table 7.

3) Transportation Violations:

DOT, EPA, and DEP regulate the transportation of hazardous materials and hazardous wastes. DOT regulations specifically address the packaging and labeling requirements of hazardous materials and waste. DOT, EPA, and DEP enforce a cradle to grave manifest system which tracks hazardous waste from a source to a disposal facility. The manifest system involves two elements:

- o EPA identification number - Generators of hazardous waste are required to obtain an identification number from EPA. EPA keeps records of hazardous waste generated by each company or person who is given an identification number.
- o Manifests - Hazardous wastes must be transported under a manifest, which correctly identifies the type and volume of the waste and the planned destination of the waste shipment. The generator, transporter, and disposal facility representatives must sign the manifest to form a chain-of-custody of the waste. Contaminated nonhazardous soil may be transported to disposal or treatment facilities under a bill of lading.

Common transportation violations under DOT and DEP regulations are cited in Table 8.

4) Disposal/Release Violations

The disposal of hazardous wastes is a highly regulated activity. In the Commonwealth of Massachusetts, there is no licensed facility for the commercial disposal of listed hazardous wastes. Contaminated, nonhazardous wastes may be disposed of in certain DEP licensed landfills, or may be incinerated at certain facilities with DEP approval. Persons who are generating, transporting, and disposing of these wastes at landfills or incinerators in Massachusetts, must obtain written approval from DEP, in the form of a signed bill of lading.

Releases of hazardous material and oil to the environment in Massachusetts may be divided into two categories:

- o Spills - Releases of a known quantity of a known hazardous materials or oil at a specific time and location are referred to as spills. Spills of hazardous materials or oil in quantities

greater than the Reportable Quantity (RQ) as established by DEP must be reported to DEP within two hours.

- o Sites - Under MGL.c.21E, a release or evidence of a potential release of hazardous material or oil, in which the volume, source, or nature of the release is unknown, is referred to as "site." Sites are further divided into two categories: 1) Locations to be Investigated (LTBI's) and 2) Confirmed Sites. The failure of a site owner, operator, or other responsible persons to report such a release to DEP within two hours of becoming aware of the release may be a violation of MGL.c.21E.

DEP's current policy regarding the distinction between spills, LTBI's, and confirmed sites is presented in Section 8.

USEPA also requires that in the event of an accident or intentional release of a "Hazardous Substance" in a reportable quantity amount (as defined by USEPA), the person in charge of the release or incident shall notify the U.S. Coast Guard National Response Center.

Persons who are responsible for a release or a potential release of hazardous materials or oil are also required by DEP to take steps to eliminate or control conditions at the site of the release which may pose an imminent hazard to public health or the environment. Failure to secure the site of a release so as to prevent a further release and/or further exposure of the public to harmful conditions may be a violation of MGL.c.21E and other state or federal regulations.

Not all releases of hazardous materials or waste are illegal. Some discharges to air, sewers, surface water, ground water, and to the ground surface are permitted by various agencies. As a rule, however, the person or organization which discharges these substances must have a permit to do so. The permit will limit the volume or concentration of material released and restrict the release to specific locations and/or times.

3. HEALTH AND SAFETY ISSUES

Hazardous Materials and Hazardous Wastes are so designated because they pose hazards to human health and the environment. Specific hazards to humans may include:

- o Dermal contact
- o Respiratory hazards
- o Biological hazards
- o Radiation hazards
- o Physical hazards

You should not approach a hazardous material or waste, or a site of a release, or potential release, of a hazardous substance unless you can meet the following criteria:

- o You know or can reasonably predict the nature of the substance
- o You are informed of the hazards posed or potentially posed by the material (explosive, volatile, flammable, toxic, etc.).
- o You are trained in the selection and use of and are equipped with personnel protective equipment, including protective clothing, respiratory protection, and monitoring devices which are appropriate to the situation and substance.

OSHA requires that persons involved in the investigation of hazardous sites be trained in accordance with 29 CFR 1910.120. Therefore, you should not direct your coworkers or subordinates to investigate potential releases of hazardous substances unless they have been appropriately trained and outfitted to conduct such work.

Uncontrolled releases and illegal operations may pose a very significant risk to the health and safety of those who observe them, since the hazards or potential hazards may not be documented or readily apparent. In general, the absence of written information regarding the source or nature of a substance or a waste, or the absence of individuals who are knowledgeable of the material, is a good indication of a possible violation of hazardous material/hazardous waste

regulations. In this instance, you must assume the worst and treat the situation with great care. Only persons who are trained in the evaluation of uncontrolled waste sites should approach the site or facility. Contact the local fire department, DEP, or USEPA for emergency response assistance.

Although some violations, such as midnight dumping, occur in uncontrolled settings, most will take place within a facility which is generally accessible to the public, or on a public road. When visiting a facility or a site where hazardous materials or wastes are used or generated, or when inspecting a vehicle, the following precautions should be taken (and may be required by OSHA).

- o Prior to entering a vehicle or workplace, ask the driver or the facility representative to provide you with documentation regarding hazardous chemicals or materials which are present.
- o Wear safety goggles and, if appropriate, a hard hat and steel-toed boots. Rubber boots or shoes covered with a chemical resistant material are advisable.
- o Do not enter confined, poorly lit, overheated, extremely dusty, or poorly ventilated spaces.
- o Do not eat, drink, or smoke during the inspection. It is also advisable not to drink alcoholic beverages within 24 hours prior to or after an inspection.
- o Do not enter spaces in which floors appear wet or covered with debris.
- o If outside, stay upwind.
- o Do not rock, kick, puncture, or open drums or containers.
- o Do not lean over containers to smell contents.

If you are planning a visit to a facility or a site or to inspect a vehicle, you can collect information regarding potential hazards beforehand. Examples of information which can be acquired before conducting an inspection are summarized in Section 7.

4. TERM DICTIONARY

Assess or Assessment

means such investigations, monitoring, surveys, testing, and other information-gathering activities to identify: (1) the existence, source, nature and extent of a release or threat of release of oil or hazardous materials; (2) the extent of danger to the public health, safety, welfare, and the environment; and (3) those persons liable under MGL.c.21E, §.5. The term shall also include, without limitation, studies, services, and investigations to plan, manage, and direct assessment, containment and removal actions, to determine and recover the costs thereof, and to otherwise accomplish the purposes of MGL.c.21E and the Contingency Plan.

CERCLA

means the Comprehensive Environmental Response Compensation and Liability Act of 1980, 43, U.S.C. § 9601 et seq., as amended.

Department

means the Massachusetts Department of Environmental Protection (formerly Department of Environmental Quality Engineering).

Disposal Site

means any structure, well, pit, pond, lagoon, impoundment, ditch, landfill, or other place or area, excluding ambient air or surface water, where uncontrolled oil or hazardous material has come to be located as a result of spilling, leaking, pouring, abandoning, emitting, emptying, discharging, injecting, escaping, leaching, dumping, discarding, or otherwise disposing of such oil or hazardous material. The term shall not include any site containing oil or hazardous material which: are lead-based paint residues emanating from a point of original application of such paint; resulted from emissions from the exhaust of an engine; are building materials still serving their original intended use or

emanating from such use; or resulted from release of source, byproduct or special nuclear material from a nuclear incident, as those terms are defined in 42 U.S.C. § 2014, if such release was subject to requirements with respect to financial protection by the Nuclear Regulatory Commission under 42 U.S.C. §. 2210.

DOT

means Department of Transportation.

Emergency Response

Action

means a response action that is taken in response to a sudden release or a threat of release of oil or hazardous material.

Hazardous Communication

Standards

means 29 CFR.1910.1200.

Hazardous Material

means material including, but not limited to, any material in whatever form which, because of its quantity, concentration, chemical corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment, when properly stored, treated, transported, disposed of, used or otherwise managed. The term shall not include oil, but shall include waste oil and all those substances which are included under 42 U.S.C. § 9601 (14), but it is not limited to those substances. The term shall include, but should not be limited to, all materials regulated as hazardous waste or regulated recyclable materials pursuant to 310 CMR 30.000.

Hazardous Materials Transportation

Act (HMTA)

means 42 U.S.C. 9601 §.

Hazardous Substance

A material, including its mixtures and solutions, that: (1) is listed in the Appendix to §172.01; (2) is in a quantity, in one package,

which equals or exceeds the reportable quantity (RQ) listed in the Appendix to 172.101; (3) When in a mixture or solution, is in a concentration corresponding to the RQ of the material as shown in the table of the "hazardous substance" definition in §171.8. This definition does not apply to petroleum products that are lubricants or fuels. (See 40 CFR §300.6.)

Hazardous Waste

Any material that is (1) subject to the hazardous waste manifest requirements of the EPA specified in 40 CFR Part 262; or (2) would be subject to these requirements (in the absence of an interim authorization to a State) see 40 CFR Part 123, Subpart F; CFR /171.8.

Imminent Hazard

means a hazard which would pose a significant or otherwise unacceptable risk of harm to health, safety, public welfare, or the environment if it were present for even a short period of time.

**Location To Be
Investigated (LTBI)**

means a location in the Commonwealth that the Department determines is reasonably likely to be a disposal site.

**Massachusetts
Contingency Plan (MCP or
Contingency Plan)**

means 310 CMR 40.000.

**Massachusetts
Hazardous Waste
Management Act**

means MGL.C.21C.

**Massachusetts Oil
and Hazardous
Material Release
Prevention and
Response Act**

means MGL.C.21E.

Non-priority Disposal Site

means any disposal site that is not a priority disposal site.

Notice of Responsibility (NOR)

means a notice from the Department to a responsible party of his potential responsibility pursuant to M.G.L. c.21E.

Oil

means insoluble or partially soluble oils of any kind or origin or in any form, including, without limitation, crude or fuel oils, lube oil or sludge, asphalt, insoluble or partially insoluble derivatives of mineral, animal or vegetable oils. The term shall not include waste oil and shall not include those substances which are included in 42 U.S.C. /9601 (14).

Occupation Safety and Health Act (OSHA)

means 29 U.S.C. § 651 et seq.

Owner or Operator

means (1) in the case of a vessel, any person owning, operating or chartering by demise such vessel, (2) in the case of a site, any person owning or operating such site; and (3) in the case of an abandoned site, any person who owned, operated, or otherwise controlled activities at such site immediately prior to such abandonment. The term shall not include a person who, without participating in the management of a vessel or site, holds indicia of ownership primarily to protect his security interest in said vessel or site.

Person

means any agency or political subdivision of the federal government or the Commonwealth; any state, public or private corporation or authority; any individual, trust, firm, joint stock company, partnership, association or other entity; any officer, employee, or agent of such person; and any group of persons.

**Potentially Responsible
Party (PRP)**

means any person who is potentially liable pursuant to MGL c.21E and/or 43 USC.

**Priority Disposal
Site**

means a disposal site which poses a substantial hazard to health, safety, public welfare, or the environment.

**Resource Conservation and
Recovery Act (RCRA)**

means 40 CFR.

Release

means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, but excludes; (1) emissions from the exhaust of an engine; (2) release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in 42 U.S.C. /2014, if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under 42 U.S.C. /2210; (3) the normal application of fertilizer; and (4) the application of pesticides in a manner consistent with their labeling.

**Reportable Quantity (RQ)
(Federal)**

The quantity specified in Column 3 of the Appendix to /172.101 for any material identified in Column 1 of the Appendix.

**Reportable Quantity (RQ)
(Massachusetts)**

means the quantity of oil or hazardous material the release of which, or threat of release of which, requires notification to the Department pursuant to M.G.L. c.21E and 310 CMR 40.370 through 40.379.

SARA Title III

means Title III of the Superfund Amendment and Reauthorization Act, also referred to as the Emergency Planning and Community Right to Know Act (EPCRA).

Threat of Release

means a substantial likelihood of a release which requires action to prevent or mitigate damage to the environment which may result from such a release. Circumstances which represent a threat of release include, but are not limited to, sites or vessels containing or conducting an amount of oil or hazardous material in excess of the reportable quantity for that oil or hazardous material where no release has occurred but where (1) corrosion, damage, malfunction or other conditions are visible, known to exist, or should be known to exist; and (2) where these conditions are likely to result in a release.

Waste Oil

means used and/or reprocessed, but not subsequently re-refined, oil that has served its original intended purpose. Such oil includes, but is not limited to, used and/or reprocessed fuel oil, engine oil, gear oil, cutting oil, and transmission fluid.

5. REGULATORY FRAMEWORK

Regulations governing the management of hazardous materials and hazardous waste are very broad, covering just about all possible activities, both intended and unintended. The goal of these regulations is to protect human health and the environment. This goal is achieved, in part, by the application of two important concepts.

Chemical Right-to-Know

Federal, state and local governments have established that employees of firms and facilities, as well as community residents, have a right to information about the potential hazards of chemicals they may be exposed to on the job or in their neighborhood. The concept of Chemical Right-to-Know was first codified in OSHA's Hazardous Communication Standard (29 CFR 1910.1200) and other states Right to Know laws promulgated in 1985 to cover employees in the manufacturing sector. In 1986, the Federal Emergency Planning and Community Right to Know Act (Title III of the Superfund Amendments Reauthorization Act [SARA] (or EPCRA) extended the Right-to-Know to the general public. Worker Right-to-Know is regulated by OSHA. Community Right to Know is regulated by USEPA. Both OSHA and EPA Right-to-Know regulations require programs to be implemented to ensure that persons or communities who may be affected by the use or release of hazardous substances can take appropriate care to limit or prevent the impact of such releases. The cornerstone of both federal and state Right to Know regulations is Risk Communication and Emergency Planning. Facilities which use or generate hazardous materials or chemicals are required to educate their employees on the risks posed by the materials, and to educate them on proper handling procedures. Certain industries are also required to provide municipalities with this information and a detailed inventory of all hazardous materials or substances which enter a facility so that the communities and/or USEPA are prepared to take appropriate emergency response measures in the event of an accidental or uncontrolled release of a hazardous substance.

Chemical Right-to-Know regulations are important to enforcement officials not only because of the potential for criminal violations under the respective statutes, but also because compliance, or even partial compliance, with these regulations can provide the enforcement community with the information necessary to protect their own health and safety, and to identify potential violations which may pose the most significant risk to the public.

Cradle to Grave Management

In 1976, USEPA passed the Resource Conservation and Recovery Act (RCRA). The purpose of RCRA and the regulations promulgated under RCRA (contained in 40 CFR) are to regulate the management of hazardous waste on a cradle to grave basis from the point of generation, through storage, transportation, treatment and/or final disposal. The Massachusetts Hazardous Waste Management Act, MGL.c.21C is similar to RCRA in almost all respects.

The cradle to grave management concept is also applied under SARA Title III, which requires a detailed inventory of chemicals which enter certain facilities and an accounting of how these substances leave in the form of hazardous waste and other regulated or unregulated waste streams. RCRA and SARA Title III together form a truly comprehensive tracking system for hazardous materials in U.S. industry from cradle to grave.

A summary of the cradle to grave management of Hazardous Materials and Hazardous Waste by OSHA, EPA, DOT and DEP is presented in Table 9.

Since enforcement of cradle to grave regulations requires that a record of all activities associated with the Management of Hazardous Materials, regulations under RCRA, SARA Title III, and MGL.c.21C have significant record keeping requirements. It is important to note that many violations stem from a failure to maintain adequate records of management activities.

6. STATUTES AND REGULATIONS

(Selected)

Toxic Substance Control Act (TOSCA) 15 U.S.C. 2601

Tosca was passed in 1976, and requires that all new chemicals provided and sold in the United States must be tested and registered. Premanufacturing notices are filed with the EPA by the manufacturer, which report test results. These documents include scientific data provided by the manufacturer about the possible health hazards associated with the chemical and are meant to alert EPA to specific problems that may develop as a result of the use of these chemicals. TOSCA is enforced by EPA.

Hazardous Materials Transportation Act (HMTA) 49 CFR

HMTA is enforced by the Department of Transportation (DOT). Transportation is defined to include the shipment of chemicals by land, air, water, or pipeline. The rules and regulations under HMTA require strict labeling and placarding requirements for containers and vehicles transporting hazardous materials. This law also mandates the manifesting of all chemicals transported within and imported into the United States. Hazardous materials are defined by DOT under the HMTA.

Occupational Safety and Health Act (OSHA) 29 U.S.C. 651 et seq.

The purpose of OSHA is to assure to the extent possible that every working man and woman in the nation have safe and healthful working conditions. Under OSHA, employers must furnish employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm, and comply with all occupational safety and health regulations promulgated by the Secretary of Labor. OSHA is enforced by the Occupational Safety and Health Administration (also called OSHA). Important OSHA regulations pertaining to hazardous chemicals include OSHA's hazard communication standard (29 CFR 1910.1200).

Resource Conservation and Recovery Act (RCRA) 40 CFR

RCRA establishes a cradle to grave system for the identification and management of substances constituting hazardous wastes. Under RCRA, EPA is authorized to develop regulations governing generators, disposal sites, and transporters. Wastes not regulated under RCRA are also identified under the act.

Massachusetts Hazardous Waste Management Act MGL.c.21C

MGL.c.21C and regulations which implement MGL.c.21C (310 CMR 30.000) are identical in most respects to RCRA. Under 21C, DEP is authorized to establish a list of hazardous wastes and criteria for identifying such wastes, and to develop and enforce standards for treating, storing, transporting, using, and disposing of hazardous wastes. Certain hazardous wastes which are exempt under MGL.c.21C are identified in the regulations.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as Amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) 42 U.S.C. 9601

CERCLA, also referred to as Superfund, establishes liability for releases of all hazardous substances, including those designated under the Clean Water Act, RCRA, and TOSCA. CERCLA requires immediate notification of a release of a substance in excess of a specific Reportable Quantity (RQ) to the National Response Center.

CERCLA also establishes joint and several liability for the cost of clean-up among those who contribute to a release of hazardous substances. Regulations promulgated under CERCLA are collectively referred to as the National Contingency Plan (NCP, 40 CFR, Part 300). CERCLA was reauthorized and amended in 1986, to include, among other things, SARA Title III or the Emergency Planning and Community-Right-to-Know Act (EPCRA). EPCRA is divided into three sections. Subtitle A covers Emergency Planning and Notification aspects of the act and includes the mechanisms to be used to set up organizations to enforce the law. Subtitle B, called reporting requirements, establishes the responsibilities of firms and facilities using hazardous chemicals and their Reporting Requirements. The third section, Subtitle C, or General Provisions, specifies how information collected under Subtitles A and B are disseminated or made available to the public. CERCLA is enforced primarily by EPA.

Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, MGL.c.21E

MGL.c.21E is similar in most aspects to CERCLA. Regulations promulgated under MGL c.21E governing the identification, assessment, and remediation of releases of hazardous materials or oil, and the allocation of liability for such releases are collectively contained within the Massachusetts Contingency Plan (MCP, 310 CMR, 40.000).

7. SELECTED REGULATORS AND SOURCES OF INFORMATION FOR HAZARDOUS MATERIAL AND HAZARDOUS WASTE

U.S. Environmental Protection Agency (EPA)

EPA is responsible for the enforcement of regulations under TOSCA, RCRA, and CERCLA. Additionally, EPA coordinates with OSHA, DOT, and other federal and state agencies in the regulation of activities involving hazardous wastes and hazardous materials.

EPA maintains records of TOSCA registration, RCRA generator, transporter, and disposer permits and RCRA facility status information.

EPA also conducts investigations of potential releases of hazardous substances and maintains an inventory of sites where releases are suspected to have occurred, referred to as the CERCLA Inventory of Sites or CERCLAIS list. Detailed records regarding the Status of National Priority List (NPL) or Superfund Sites are also available at EPA's regional offices.

Massachusetts Department of Environmental Protection (DEP)

DEP Division of Hazardous Waste - The Division of Hazardous Waste administers the Federal Resource Conservation Recovery Act (RCRA) and the Massachusetts Hazardous Waste Act MGL.c.21C. It develops and enforces regulations for the management, recycling, and disposal of hazardous waste, including waste oil, in Massachusetts. The division also licenses the storage, transportation, treatment, and disposal of hazardous wastes and registers generators of large and small quantities of hazardous waste.

DEP Division of Site Clean-Up - Responsible for the Commonwealth's Emergency Responses program and for all waste site assessments under MGL.c.21E and CERCLA. This division of DEP focuses on uncontrolled releases to the environment. Some, but not all, of DEP's regional offices maintain comprehensive databases on reported spills and disposal sites within the region. File information, including correspondence with responsible parties and chemical analysis of environmental samples are maintained in each regional office. DEP is authorized to conduct or to subcontract the investigation of sites where responsible parties are unwilling or unable to assume responsibility for response actions or where responsible parties cannot be identified. DEP

determines if a site constitutes an imminent hazard and can authorize state funded emergency response actions.

Occupational Safety and Health Administration (OSHA)

In 1970, the Occupational Safety and Health Act authorized the formation of the Occupational Safety and Health Administration (OSHA). OSHA was formed to set mandatory safety and health standards applicable to businesses affecting interstate commerce.

The objective of the safety standards under OSHA regulations is to reduce on-the-job injuries and to limit a worker's risk of developing occupationally related diseases. OSHA seeks information and feedback from industry sources to determine the extent of a particular hazard, any methods currently (or potentially) in use for personnel protection against the hazard and the costs of the various strategies used for protection from the hazard.

OSHA has established regulations for the industrial use of specific hazardous materials such as lead, asbestos, benzene and formaldehyde. OSHA has also established Permissible Exposure Limits (PELs) for air contaminants to which industrial workers may be exposed.

OSHA regulations establish health and safety standards and programs for industries which have historically been shown to have high rates of worker injury and accidents. These industries include the hazardous waste assessment and clean-up industry, construction, electrical, and power transmission.

OSHA will respond to worker complaints of safety hazards and is mandated to conduct inspections with a judicially authorized search warrant in cases of:

- o Imminent Danger, where conditions exist that may cause death or serious physical harm.
- o Catastrophes and Fatal Accidents; OSHA is required to inspect worker fatalities or accidents which have injured five or more employees.

OSHA may also conduct unscheduled inspections if an inspector is able to determine that imminent danger may exist.

Under OSHA Hazard Communication regulations, each employer is required to maintain Material Safety Data Sheets (MSDS) for any hazardous materials present in the workplace. OSHA requires these forms to be available to employees in the workplace. This information is also required to be made available to subcontractors and others working at the facility.

Local Fire Department

The local fire department should be called immediately for emergencies involving chemical spills and other accidents involving hazardous materials or wastes. Local fire department personnel usually have had some training in dealing with hazardous materials and may be able to prevent a spill from affecting a large area. Local fire departments know how and when to call DEP or other emergency response agencies or contractors.

Fire Prevention Officers maintain files containing information about underground storage tanks, aboveground flammable storage tanks, and may maintain flammable storage permits. The fire prevention office will issue permits for underground storage tank removals and will usually oversee a removal, but are not required to be present during the entire removal process.

SARA Title 3 requires industries with hazardous chemicals to provide copies of MSDS or lists of MSDS chemicals to the local fire department.

Local Emergency Response Committee and Right To Know Municipal Coordinator

The Emergency Planning and Community Right-To-Know Act of 1986 (EPCRA) established requirements for Federal, State and local governments to collect information about industrial hazardous materials in the community and to plan for Emergency Response Actions. At the local level, the Local Emergency Planning Committee (LEPC) acts to establish communications with local industry to determine what hazardous materials are present in the community and to develop and review an emergency response plan. The plan must establish:

1. Where in the community (which industries) hazardous materials may be present.
2. What emergency equipment and procedures would be utilized in the event of an emergency.
3. Establish a training program for emergency personnel.

4. Prepare a plan for responding to emergency situations.

The Community Coordinator (usually the Fire Chief or Health Officer) works with a committee and industrial representatives to develop emergency response plans.

EPCRA also requires various notifications be made to the State and Federal authorities or the presence of and/or in the event of a spill or release of hazardous material.

Local Board of Health

The local board of health administers many municipal environmental programs. In addition, DEP works with local boards of health to collect and distribute information about local and state environmental programs.

Local boards of health may be involved in the following programs.

Air pollution monitoring	Noise and odor problems
Public and private wells	Medical waste
Household hazardous waste	Solid waste recycling and disposal load programs
Asbestos removal	Hazardous waste remediation and oversight
Water quality	
Septic Tank Management	

It is recommended that investigators call local boards of health before calling DEP directly. The local board may already have information about a particular site or facility and will be able to direct calls to DEP if conditions warrant.

Public Works and/or Engineering Departments

Local programs involving the operation of municipal landfills, operation of wastewater treatment plants, and storm response and clean-up are administered by local Departments of Public Works or Engineering Departments.

Local wastewater treatment plants have permitting programs which regulate industrial wastewater discharges (usually established by local ordinance). These permits usually contain information which describe the industrial processes within an industrial facility and the characteristics of discharged wastewater.

Municipal Engineering Departments typically possess plans of public utilities, such as sewers and storm drains, and may also maintain topographic maps and aerial photographs of the town.

Public Drinking Water and Water Supply Agencies

Information regarding the source of public water supplies for a given community is generally available from the Town Engineering Department and the Board of Health. Additionally, municipal water companies or authorities may be able to provide information regarding the location of critical water resource areas, and may be able to conduct sampling and analysis of water supply wells or surface water resources which are at risk from a release or potential release of a hazardous substance.

TABLES AND FORMS

ELEMENTS

MGL C.21C: MASSACHUSETTS HAZARDOUS WASTE MANAGEMENT ACT

C.21C, §2. DEFINITIONS

"Collect", to gather at a place or places away from the premises of a licensee.

"Disposal", the discharge, deposit, injection, dumping, spilling, leaking, incineration or placing of any hazardous waste into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

"Facility", a site or works for the storage, treatment, dewatering, refining, incinerating, reclamation, stabilization, solidification, disposal or other processes where hazardous wastes can be stored treated or disposed of; however, not including a municipal or industrial waste water treatment facility if permitted under section forty-three of chapter twenty-one.

"Generator", person who produces hazardous waste.

"Hazardous waste", a waste, or combination of wastes, which because of its quantity, concentration, or physical, chemical or infectious characteristics may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness or pose a substantial present or potential hazard to human health, safety or welfare or to the environment when improperly treated, stored, transported, used or disposed of, or otherwise managed, however not to include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act of 1967 as amended, or source, special nuclear, or byproduct material as defined by the Atomic Energy Acts of 1954.

"Manifest", the department approved form used for identifying the quantity, composition, and the origin, routing and destination of hazardous waste from the point of generation to the point of disposal, treatment or storage.

"Person", any agency or political subdivision of the federal government or the commonwealth, any state, public or private corporation or authority, individual, trust, firm, joint stock company, partnership, association, or other entity, and any officer, employee or agent of said person, and any group of said persons.

"Storage", the actual or intended containment of hazardous waste on a temporary basis or for a a period not exceeding nine months or another period set by regulation or the department, in a manner which does not constitute disposal.

"Transfer station", the intermediate point in the transport of hazardous wastes where such wastes are brought, stored and transferred to vehicles for movement to other intermediate points or to the point of ultimate storage, treatment, or disposal.

"Transport", the movement of hazardous wastes from the point of generation to any intermediate points or to the point of ultimate storage, treatment, recovery or disposal.

"Treatment", any method, technique or process, including neutralization, incineration, stabilization or solidification, designed to change the physical, chemical or biological character or composition of any hazardous waste so as to neutralize such waste or so as to render such waste less hazardous, non-hazardous, safer to transport, amenable to storage, or reduced in volume, except such method or technique as may be included as an integral part of a manufacturing process at the point of generation.

MGL C.21C: MASSACHUSETTS HAZARDOUS WASTE MANAGEMENT ACT

C.21C, §5 PROHIBITED ACTS

NO PERSON	No person shall
HANDLE/MANAGE	collect, transport, store, dispose of, treat, use or transport
HAZARDOUS WASTE	hazardous waste
ENDANGER HEALTH/ENVIRONMENT	in a manner which could endanger human health, safety or welfare, or the environment
w/o LICENSE w/o MANIFEST	No person shall [handle] hazardous waste unless that person is in possession of a valid license and, when in possession of such waste shall have a valid manifest.
TRANSFER CUSTODY	No person who generates or who otherwise comes into possession of hazardous waste shall transfer custody or possession of such waste to any person who does not have a valid hazardous waste license.
VIOLATE/ ALLOW TO VIOLATE	No person shall violate, or allow or suffer any employee, agent or contractor to violate any provision of this chapter or any regulation, license, approval or order issued hereunder.
ACT AS LICENSEE w/o LICENSE	No person shall act in the capacity of, or advertise as, or assume to act as a hazardous waste licensee unless such person is in possession of a valid hazardous waste license issued under this chapter.
TRANSPORT w/o VID	No person shall use a motor vehicle for the transportation of hazardous wastes on any way unless there has been issued for said vehicle a vehicle identification device, issued under the provisions of this chapter, and said device is attached to a cab card which is carried in the operators compartment of said vehicle where it is accessible to the operator of said vehicle.

C.21C, §10 PENALTIES

FELONY	<u>KNOWING</u> VIOLATION OF §5: \$100,000, or 20 years STATE PRISON, or 2 1/2 years HOC; or both
MISDEMEANOR	\$25,000, 2 years HOC, or both
CIVIL PENALTY	\$25,000

SEIZURE	The following property shall be subject to seizure by members of the state police, environmental police officers, and local police and to forfeiture to the commonwealth:
VEHICLES	All conveyances, including motor vehicles, trailers, vessels, or other containers, used or intended for use to transport hazardous wastes in violation of this chapter.
BOOKS	All books, records, or other materials which are or contain any evidence of a violation of this chapter.
HAZARDOUS WASTES	All hazardous wastes collected, transported, stored, used, treated, disposed of, or otherwise handled in violation of this chapter.
LIBEL	Within fourteen days of the seizure of any property for violation of this chapter, the attorney general or a district attorney shall file a libel with the superior court. The libel shall state briefly the grounds for the seizure and pray for the forfeiture of the property.
NOTICE	Upon the filing of a libel with the superior court, the clerk shall issue an order of notice requiring the commonwealth to send a copy of the libel by certified mail to the owner of the property and to any other persons appearing to have an interest in the property.
CIVIL HEARING	The libel shall be conducted as a civil <u>in rem</u> action without jury, in which the commonwealth shall have the burden of proving all material facts by a preponderance of credible evidence.
FORFEITURE	The court shall not issue an order impounding a vehicle without making a finding that the owner of such vehicle knew, or should have known, that it was used for illegal transport of hazardous waste.
DISPOSITION	<p>The superior court may provide for the disposition of the property by the commonwealth.</p> <ol style="list-style-type: none">(1) Use by law enforcement agency.(2) Sale at public auction. Proceeds to be used to pay for expenses incurred, balance to be forwarded to DEP.(3) Disposal of hazardous wastes seized.

MGL C.21E, §2

DEFINITIONS:

"Hazardous material", material including but not limited to, any material, in whatever form, which, because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment, when improperly stored, treated, transported, disposed of, used or otherwise managed. The term shall not include oil. The term shall also include all those substances which are included under 42USC Sec.9601(14), but it is not limited to those substances.

"Oil", insoluble or partially soluble oils of any kind or origin or in any form, including, without limitation, crude or fuel oils, lube oil or sludge, asphalt, insoluble or partially insoluble derivatives of mineral, animal or vegetable oils. The term shall not include waste oil, and shall not include those substances which are included in 42USC Sec.9601(14).

"Owner" or "Operator", (1) in the case of a vessel, any person owning, operating or chartering by demise such vessel, (2) in the case of a site, any person owning or operating such site, and (3) in the case of an abandoned site, any person who owned, operated, or otherwise controlled activities at such site immediately prior to such abandonment. The term shall not include a person, who, without participating in the management of a vessel or site holds indicia of ownership primarily to protect his security interest in said vessel or site.

"Person", any agency or political subdivision of the federal government or the commonwealth, any state public or private corporation or authority, individual, trust, firm, joint stock company, partnership, association or other entity, and any officer, employee, or agent of such person, and any group of persons.

"Release", any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment, but excludes: (1) emissions from the exhaust of an engine, (2) release of source, by product, or special nuclear material from a nuclear incident, as those terms are defined in 42USC Sec.2014, if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under 42 USC Sec.2210, (3) the normal application of fertilizer, and (4) the application of pesticides consistent with their labeling.

"Site", any building, structure, installation, equipment, pipe or pipeline, including any pipe into a sewer or publicly-owned treatment works, well, pit, pond, lagoon,

impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or any other place or area where oil or hazardous material has been deposited, stored, disposed of or placed, or otherwise come to be located. The term shall not include any consumer product in consumer use or any vessel.

"Threat of release", a substantial likelihood of a release which requires action to prevent or mitigate damage to the environment which may result from such release.

"Vessel", every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water.

MGL C.21E, §7:

OWNER/OPERATOR	Any owner or operator of a site or vessel, and any person otherwise described in paragraph (a) of §5,
KNOWLEDGE OF RELEASE	as soon as he has knowledge of a release or a threat of release
OIL/HAZ MAT	of oil or hazardous material,
IMMEDIATELY NOTIFY DEP	shall immediately notify the department thereof.
EXCEPTIONS	Such notice shall not be required hereunder for any release which conforms to the terms of a currently valid permit or license issued by the department. Such notice shall not be required hereunder for the application of a pesticide product registered under the Federal Insecticide, Fungicide, and Rodenticide Act 7USC Sec.136 et seq., and under the provisions of C.132B, or to the handling and storage of such a pesticide product by an agricultural producer.

MGL C.21E, §11:

VIOLATIONS, PENALTIES

FELONY	ANY VIOLATION OF §7: \$100,000, or 20 years STATE PRISON or 2 1/2 years HOC, or both
MISDEMEANOR	\$25,000, 2 years HOC, or both
CIVIL PENALTY	\$25,000

TABLE 1
SUMMARY OF REGULATED ACTIVITIES

Activity	Reference to Regulated Material	Statute	Agency
Transportation	"Hazardous Material"	49 CFR Hazardous Material Transportation Act (HMTA)	DOT
In-Facility Use, Handling	Hazardous Chemical	29 CFR Occupational Safety & Health Act (OSHA)	OSHA
Storage/Disposal	"Hazardous Waste"	40 CFR Resource Conservation and Recovery Act (RCRA), also [MGL.c.21E, 310 CMR 30.000]	EPA MADEP
Accidental or Intentional Release	"Hazardous Substance"	52 CFR Comprehensive Environmental Response and Liability Act (CERCLA) and 49 CFR, HMTA, also [MGL.c.21E, 310 CMR 40.000]	EPA MADEP

DOT - Department of Transportation
 OSHA - Occupational Safety and Health Administration
 EPA - Environmental Protection Agency
 MADEP - Massachusetts Department of Environmental Protection

TABLE 2
CLASSES OF HAZARDOUS MATERIAL
49 CFR HAZARDOUS MATERIAL TRANSPORTATION ACT

Page 1 of 4

Forbidden Materials	Hazardous Materials which cannot be offered for or transported in any mode of transportation, or hazardous materials which are specifically restricted in the air mode.
Explosives A & B	Any chemical compound, mixture or device, the primary or common purpose of which is to function by explosion, i.e., with substantially instantaneous release of gas and heat, unless such compound, mixture, or device is otherwise specifically classified in Parts 170-189.
Explosive C	In general, function by rapid combustion, rather than by detonation and including some explosive devices such as special fireworks, flash powders, etc.
Blasting Agent	A material designed for blasting which has been tested in accordance with §173.114a(a).
Radioactive Materials	Any material, or combination of materials, that spontaneously emits ionizing radiation and having a specific activity greater than 0.002 microcuries per gram.
Flammable Liquids	Any liquid having a flash point below 100°F as determined by tests listed in §173.115(d). <i>Pyrophoric Liquid</i> - Any liquid that ignites spontaneously in dry or moist air at or below 130°F.
Non-Flammable Compressed Gases	<i>Compressed Gas</i> - Any material or mixture having in the container a pressure exceeding 40 psia at 70°F, or a pressure exceeding 104 psia at a vapor pressure exceeding 40 psia at 100°F.

TABLE 2
CLASSES OF HAZARDOUS MATERIAL
49 CFR HAZARDOUS MATERIAL TRANSPORTATION ACT

Page 2 of 4

Flammable Gases	Any compressed gas meeting the requirements for lower flammability limit range, flame projection, or flame propagation criteria as specified in §173.300(b).
Combustible Liquid	Any liquid having a flash point between 100 degrees Fahrenheit and 200 degrees Fahrenheit would be regulated under DOT when shipped in containers over 110 gallons.
Flammable Solids	Any solid material, other than an explosive, which is liable to cause fires through friction, retained heat from manufacturing or processing, or which can be ignited readily and when ignited, burns so vigorously and persistently as to create a serious transportation hazard.
Oxidizers	A substance such as chlorate, permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter.
Corrosive Materials	Any liquid or solid that causes visible destruction of human skin tissue or a liquid that has a severe corrosion rate on steel.
Irritating Materials	A liquid or solid substance which upon contact with fire or when exposed to air gives off dangerous or intensely irritating fumes, but <i>not including any poisonous material, Class A.</i>
Poison A	<i>Extremely Dangerous Poisons</i> - Poisonous gases or liquids of such nature that a very small amount of the gas, or vapor of the liquid, mixed with air is <i>dangerous to life.</i>

TABLE 2
CLASSES OF HAZARDOUS MATERIAL
49 CFR HAZARDOUS MATERIAL TRANSPORTATION ACT

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Poison B	<i>Less Dangerous Poisons</i> - Substances, liquids or solids (including pastes and semi-solids), other than Class A or Irritating Materials, which are known to be so toxic to man as to afford a hazard to health during transportation; or which, in the absence of adequate data on human toxicity, are presumed to be <i>toxic to man</i> because they fall within any one of the three categories: 1) oral toxicity, 2) toxicity on inhalation, or 3) toxicity by skin absorption, described in §173.343.
Organic Peroxide	An organic compound containing the bivalent O-O- structure and which may be considered a derivative of hydrogen peroxide where one or more of the hydrogen atoms have been replaced by organic radicals must be classed as an organic peroxide.
Other Regulated Materials ORM-A	A material which has an anesthetic, irritating noxious, toxic, or other similar property and which can cause extreme annoyance or discomfort to passengers and crew in the event of leakage during transportation.
ORM-B	A material (including a solid when wet with water) capable of causing significant damage to a transport vehicle or vessel from leakage during transportation. Materials meeting one or both of the following criteria are ORM-B materials: A liquid substance that has a corrosion rate exceeding 0.250 inch per year, on aluminum, at a test temperature of 130 degrees Fahrenheit and specifically designated by name in §172.101.
ORM-C	A material which has other inherent characteristics not described as an ORM-A or ORM-B but which make it unsuitable for shipment, unless properly identified and prepared for transportation. Each ORM-C materials is specifically named in §172.101.

TABLE 2
CLASSES OF HAZARDOUS MATERIAL
49 CFR HAZARDOUS MATERIAL TRANSPORTATION ACT

Page 4 of 4

ORM-D

A material such as a consumer commodity which, through otherwise subject to the regulations of this subchapter, presents a limited hazard during transportation due to its form, quality, and packaging. They must be materials for which exceptions are provided in §172.101. A shipping description applicable to each ORM-D material is found in §172.101.

ORM-E

A material that is not included in any other hazard class but is subject to the regulations of this subchapter if it is a hazardous waste or a hazardous substance, as they are defined in 171.8. However, a material with a flashpoint of 100°F-200°F may not be classed as an ORM-E if it is a hazardous waste or offered in a packaging having a rated capacity of more than 110 gallons.

Etiologic Agent

An "etiologic agent" means a viable microorganism, or its toxin which causes or may cause human disease.

TABLE 3
CRITERIA FOR IDENTIFICATION AS HAZARDOUS WASTE
40 CFR 261

Ignitable Waste	As a liquid has a flashpoint of less than 140 degrees Fahrenheit. As a solid is capable of causing fire through friction, absorption of moisture, or can undergo spontaneous chemical change which can result in vigorous and persistent burning. Or meets the criteria of an ignitable compressed gas or oxidizer as outlined in Part 173 in 49CFR.
Corrosive Waste	As an aqueous solution has a pH less than or equal to 2 or a pH equal to or greater than 12.5. As a liquid, it will corrode steel at a rate greater than 0.250 inches per year under stable or normal conditions as defined in Section 261.23.
Reactive Waste	A material that is normally unstable and undergoes violent chemical change without detonating...or can react violently with water to form potentially explosive mixtures with water or generate dangerous or possibly lethal gases under certain conditions. Or it is capable of detonation or explosive reaction under certain conditions. This would include any explosives defined in Sections 173.5, 173.53, or 173.88 under DOT regulations in 49CFR.
Toxicity	Any solid waste that exhibits the characteristic of Toxicity when its TCLP extract concentration is equal to or greater than the values shown in Table 1 in Section 261.24. Other hazardous waste exhibiting the characteristic of toxicity would be listed in Subpart D and might also meet the characteristics of a Poison A or B.
Waste from non-specific sources, specific sources, and Appendix VIII	Any solid waste that is listed as a hazardous waste from a non-specific or specific source as specified in Sections 261.31 and 261.32 or contains any of the toxic constituents listed in Appendix VIII of Section 261 at concentrations that pose, in the opinion of the administrator, substantial present or potential hazard to human health or the environment. In addition, discarded commercial chemical products, of specification species, container residues and spill residues may also be listed hazardous wastes as specified in Section 261.33.

TABLE 4
PARTIAL CROSS REFERENCE FOR CLASSIFICATIONS OF HAZARDOUS MATERIAL AND
CRITERIA FOR LISTING AS HAZARDOUS WASTE

Hazardous Materials	Hazardous Waste
Flammable Liquid, Combustible Liquid under 140°F, Flammable Solid, Flammable Compressed Gas and Oxidizer	Ignitability
Corrosive Material	Corrosivity
Forbidden Explosive, Explosive A, B, and C, Organic Peroxide	Reactivity
Poison Gas, Poison A and B, Irritating Materials and some ORM A, B, and C, and Radioactive Materials	Toxicity

TABLE 5
BEHAVIOR OF COMMON HAZARDOUS SUBSTANCES IN THE ENVIRONMENT

Contaminant Category	Other Common Names/Abbreviations	Hazardous Substances	Typical Behavior in Environment
Volatile Organic Compounds (Chlorinated VOCs)	VOCs Halogenated VOCs	Cleaning solvent, degreaser, dry cleaning agent	Volatile, migrates readily in ground water
Volatile Organic Compounds (Aromatics)	VOCs BTEX Hydrocarbons	Gasoline, light fuel oils	Volatile, adsorbs to soil, can migrate in ground water
Petroleum Hydrocarbons	TPH	Gasoline, all petroleum products	Slightly volatile, adsorbs readily to soil, may migrate in ground water
Oil and Grease	O/G	Vegetable, animal, or petroleum-based oils, grease or wax	Non-volatile, adsorbs readily to soil, relatively immobile in ground water
Pesticides/Herbicide		Farmland, other agricultural areas, manufacturers of herbicides/pesticides	Organachlorines may be very persistent, immobile. Organaphosphate exhibits rapid biodegradation and are relatively immobile
Polynuclear Aromatic Hydrocarbons	PAHs Base/Neutral Organic Compounds	Creosote manufacture, coal gasification, petroleum distillation, and incomplete combustion of fossil fuel	Non-volatile, adsorbs readily to soil, relatively immobile in soil. Not soluble
Heavy Metals	Priority Pollutant Metals	Plating processes, waste oil, paints, landfill leachate, tannery waste	Mobility of individual metal species is very dependent on soil type, pH, and other metal species present
Cyanide	CN	Coal gasification, tannery waste, battery acid	Low soil pH - more mobile, high soil pH - less mobile
Polychlorinated Biphenyls	PCBs	Electrical transformers, capacitor manufacture	Non-volatile, adsorbs to soil. Relatively immobile in soil, insoluble

TABLE 6
COMMON WORKPLACE VIOLATIONS UNDER OSHA HAZARD
COMMUNICATION AND MASSACHUSETTS HAZARDOUS WASTE REGULATIONS

Nature of Violation	Regulation
Written Hazard Communication Program Not Prepared Not Updated Training Not Updated for New Materials	29 CFR 1910.1200(e)(1) 29 CFR 1910.1200(g)(8) and 29 CFR 1910.1200(h)
Material Safety Data Sheets Outdated MSDS MSDS not Available in Workplace	29 CFR 1910.1200(g)(5) 29 CFR 1910.1200(g)(8)
Labeling Secondary or Temporary Containers not Labeled Labels do not contain adequate information, chemical name, hazards, other OSHA regulations, name and address of responsible party	29 CFR 1910.1200(f)(6) 29 CFR 1910.1200(f)
A Written Hazardous Waste Worker Training Program	310 CMR 30.516
Improper Container Labeling/Marking per federal haz mat regulations and DOT regulations	310 CMR 30.322 310 CMR 30.323
Inadequate Contingency Plans and Emergency Procedures	310 CMR 30.521

References:

OSHA Regulations, 29 CFR 1910.1200, Hazard Communication

Massachusetts Hazardous Waste Regulations, 310 CMR 30.00

**TABLE 7
COMMON STORAGE AREA VIOLATIONS UNDER
MASSACHUSETTS HAZARDOUS WASTE REGULATIONS**

Nature of Violation	Regulation
Exceed 90-day storage period	30.340(1)
Labeling requirements	30.340(1)(b)
Failure to maintain impervious storage surface	30.340(1)(f)
Tanks or containers not located within a bermed area, 10% total capacity of 110% of largest container	30.340(1)(g)
Security measures not taken to prevent entry by unauthorized persons or animals	30.340(1)(i)
Hazardous waste areas not posted with the words "HAZARDOUS WASTE," 1-inch high or larger	30.340(1)(j)
Satellite accumulation areas contain more than one 55-gallon container	30.340(4)(c)
Storage containers not kept closed except when adding or removing waste	30.685(1)
Aisle space not maintained so each row of containers may be inspected	30.685(4)

Reference:

Massachusetts Hazardous Waste Regulations, 310 CMR 30.00

TABLE 8
COMMON TRANSPORTATION VIOLATIONS UNDER DEPARTMENT OF TRANSPORTATION
REGULATIONS AND MASSACHUSETTS HAZARDOUS WASTE REGULATIONS

Nature of Violation	Regulation
Hazardous Waste Transport Vehicles must be Placarded and Marked	49 CFR 177.823 and 397.1(a)(1)
Operator of the vehicle must be within 100 feet, awake, and with an unobstructed view of the vehicle when on a public street or road shoulder	49 CFR 397.5(d)(1)
Operator must be aware of the nature of hazardous materials in the vehicle and instructed in emergency procedures	49 CFR 397.5(d)(2)(ii and iii)
A motor vehicle containing hazardous material must be operated over routes which do not go through or near heavily populated areas, tunnels, narrow streets	49 CFR 397.9(a)
No smoking within 25 feet of a vehicle carrying oxidizing materials or flammable material	49 CFR 397.12(a)
A motor vehicle transporting hazardous material equipped with dual tires on any axle must stop every two hours or 100 miles (lesser) and inspect the tires and correct any problem before continuing	49 CFR 397.17
Proper shipping papers must accompany a shipment of hazardous material and be available within the driver's reach or on the driver's seat or driver's door pouch	310 CMR 177.817 172.200
Packages of hazardous materials must be marked with the proper shipping name and consignee or consignor	49 CFR 172.304 49 CFR 172.306
A hazardous waste manifest must accompany the shipment at all times	310 CMR 30.405(4)
A hazardous waste transporter will be accompanied by an Emergency Procedures Guide, including generator's telephone number, two-way communications, personnel protective equipment, and spill containment equipment appropriate for the type of material being transported	310 CMR 30.415

References:

Federal Motor Carrier Safety Regulations, Department of Transportation, 49 CFR Parts 171-179 and 397.

Massachusetts Hazardous Waste Regulations, 310 CMR 30.400, Requirements for Transporters of Hazardous Waste.

TABLE 9
HAZARDOUS MATERIAL/HAZARDOUS WASTE
CRADLE TO GRAVE MANAGEMENT

Activity	Agency/Regulation
Manufacturing of Hazardous Chemical	EPA - TOSCA OSHA - OSHA
Distribution to Industry (as hazardous materials)	DOT - HMTA
Use in Industry (as hazardous chemical)	EPA - SARA Title III OSHA - OSHA/Hazard Communication Standards
In-Facility Management as Hazardous Waste	OSHA - OSHA/Hazard Communication Standards EPA - SARA Title III EPA - RCRA DEP - MGL.c.21C
Transportation of Hazardous Waste to Treatment/Disposal Facility	DOT - HMTA EPA - RCRA DEP - MGL.c.21C
Disposal of Hazardous Waste	EPA - RCRA DEP - MGL.c.21C
Release of Hazardous Material/ Hazardous Substance	EPA - RCRA, CERCLA DEP - MGL.c.21C DOT - (if during transportation) HMTA



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs

Department of Environmental Protection

Bureau of Waste Site Cleanup

One Winter Street, Boston, Massachusetts 02108

Daniel S. Greenbaum
Commissioner

James C. Colman
Assistant Commissioner

Guidance on Differentiating Disposal Sites from Spills

Policy # WSC-100-89

Attached is a copy of the "Guidance on Differentiating Disposal Sites from Spills" issued by the Bureau of Waste Site Cleanup. This guidance was written to help the Department determine whether a release or threat of release of oil or hazardous material constitutes a location to be Investigated (LTBI) or Confirmed Disposal Site (Disposal Site) at the earliest possible point in its investigation.

8/8/90
Date
Previously published
as #WSC-89-002
Dated: December 12, 1989

James C. Colman
James C. Colman,
Assistant Commissioner
Bureau of Waste Site Cleanup

1.0 Background and Purpose

M.G.L. c.21E defines a "site" broadly to include "any place or area where oil or hazardous material has come to be located". The Department has always distinguished between sites where an emergency response action (ERA) is necessary (spills/leaks) and sites requiring remedial response actions (disposal sites) both in the Massachusetts Contingency Plan (MCP) and in its implementation of M.G.L. c.21E.

Regulations detailing the conduct of remedial response actions at disposal sites are currently set forth in subpart E of the MCP. Requirements and procedures for the performance of ERAs at spills/leaks will be promulgated as subpart D of the MCP, which is currently reserved. Following cleanup of a spill/leak by an ERA, remaining conditions may warrant further action requiring a remedial response action.

In addition, M.G.L. c.21E, as amended by Question 4 (1986), mandates recognition and assessment of "locations to be investigated as possible disposal sites" (LTBIs): places or areas which are reasonably likely to be disposal sites but are not yet confirmed to require remedial action. It is the purpose of this policy to provide guidance to help the Department determine whether places or areas will be treated by the Department as spills/leaks, LTBIs or disposal sites.

The Department is currently responsible for undertaking or arranging for the assessment and remediation of over 2,700 confirmed disposal sites (disposal sites) and LTBIs, as well as responding to over 4,000 spills/leaks involving oil or hazardous material (OHM) annually.

In the course of responding to releases and threats of release of OHM, the Department is called upon to determine whether the places or areas are disposal sites, LTBIs, or spills/leaks (ie. places at which ERAs should be performed). This determination affects the actions which may be taken by private parties at the place or area, the approvals required from the Department, and the response action costs payable to the Department. Section 5.0 of this guidance highlights some of the significant differences.

For these reasons, it is important that the Department make its determination as early as possible in the course of its investigation and that these decisions are made with consistency throughout the Commonwealth.

2.0 Applicability

This guidance applies to the initial evaluation of places or areas at which releases or threats of release of oil or hazardous material have occurred or are occurring. The Department is authorized by M.G.L. c. 21E to take or arrange response actions to such releases.

This document provides the field staff with guidance which can be used to determine whether a place or area is likely to be an LTBI or disposal site based on observations made during an initial field investigation. It is not intended to be all-inclusive nor is it intended to be used as a checklist of all possible conditions which could characterize a disposal site or LTBI. It is intended rather to support the professional judgment of the staff by providing examples and general guidelines which the staff can apply to the specific situation under investigation.

This guidance was developed to ensure consistency throughout the Commonwealth in the implementation of 310 CMR 40.00, the MCP. It is purely guidance and is not intended to create any rights, substantive or procedural, enforceable by any party in any administrative or judicial proceeding with the Commonwealth. The Department reserves the right to alter this guidance at any time without notice.

3.0 Definitions

The definitions of terms used in this guidance shall be those provided by M.G.L. c.21E (21E) and the MCP. Terms used in this guidance which are not defined in 21E, the MCP, or this policy shall be defined in a manner consistent with 21E and the MCP.

For the purposes of this guidance "oversight costs" shall be defined as follows:

Oversight Costs: Oversight Costs are a subset of Response Action Costs (RACs) and include those RACs resulting from oversight or supervision of response actions performed pursuant to subpart E of the MCP which consist of:

(1) cost of direct hours;

(2) cost of services provided by Department employees, and any expenses incurred by the Department, in support of those direct hours, expressed as an indirect rate applied to the total number of direct hours; and

(3) any payments made to the Department's contractors, grantees or agents for overseeing response actions at a specific site.

4.0 Categorization of Place or Area Based on Initial Field Response

This section provides examples of releases and threats of release encountered in the field, and sets forth whether they are likely to be a disposal site, LTBI, or spill/leak.

SPILL/LEAK

Spill/leak includes releases which, in the Department's opinion, can be quickly remediated so that no significant or otherwise unacceptable risk of harm to health, safety, public welfare or the environment exists or is likely to exist at any time in the future and at which no further assessment is required beyond confirmatory testing of the effectiveness of the emergency response action. These are releases which do not require the application of the MCP's phased assessment process to ensure complete and effective remediation. However, the Department may require approval of response actions taken at these releases and may require confirmatory testing to document the effectiveness of the response action. The Department may recategorize the place or area at any time based on available information. This category consists primarily of spills and leaks where the contamination is confined to a relatively small and discrete area.

LTBI

LTBIs are those places or areas for which the Department has insufficient evidence to confirm the existence of an uncontrolled release of OHM but, based on the information available, are reasonably likely to be disposal sites. These places or areas require further investigation to provide the Department with sufficient information to determine whether the place or area is a disposal site.

DISPOSAL SITE

Disposal sites are those places or areas where the Department has determined that uncontrolled oil or hazardous material is present. The examples provided in this section rely primarily on visual evidence to make that determination.

Many of the distinctions in this section are subtle and the individual circumstances of each situation vary. Therefore, the professional judgment of the field staff should be considered in

conjunction with these examples when the Department determines into which category the place or area falls. The Department is the sole arbiter of which category the place or area belongs.

Spill/Leak

Releases/threats of release which define a Spill/Leak

The conditions listed below will not result in a place or area being listed as an LTBI or disposal site unless additional conditions such as those listed under LTBI or disposal site are found to exist:

LTBI

Releases/threats of release which define an LTBI

The following conditions will result in a place or area being listed as an LTBI unless additional conditions such as those listed under disposal sites are found to exist (which will cause the place or area to be listed as a disposal site):

Disposal Site

Releases/threats of release which define a Disposal Site:

The following conditions will result in a place or area being listed as a disposal site:

4.1 Containers:

Above ground tanks or containers are present which are releasing or threatening to release (OHM).

Subsurface or submerged containers (e.g. barrels, drums, cans, abandoned transformers but not including tanks) of OHM are discovered which are not leaking.

Subsurface containers (e.g. barrels, drums, cans, abandoned transformers but not including tanks) of OHM are discovered which are leaking or have leaked.

4.2 Vapors:

Non- Persistent vapors exist in a basement which can be traced to a known source which is a localized sudden surface release (spill).

Vapors or other evidence exist in a basement which indicates a release of OHM to the environment may be occurring or has occurred in the past and the source is unknown.

Persistent vapors exist in a basement which can be traced to a known source which is not a localized sudden surface release (spill).

1. If, following the initial response to a spill/leak, there is concern that any residual contamination is likely to pose a significant or otherwise unacceptable risk of harm to health, safety, public welfare or the environment now or in the future, the place or area is a LTBI or disposal site.

Spill/Leak

3 Groundwater/ surfacewater Contamination:

(1) A continuing or recurring sheen of OHM appears on surface water, the source is identified and the sheen does not result from a discharge from soils, sediments or groundwater.
(for example: permitted discharges, overflows from sewage treatment plants, emissions or discharges from a vessel).

(2) A non-recurring sheen of oil appears on groundwater or surface water.

LTBI

(1) A continuing or recurring sheen of OHM appears on the surface water and the source is unknown. Suspected sources around the water body become LTBI's.

(2) A continuing or recurring sheen of OHM appears on the groundwater.
(A residual sheen at a tank removal is not included).

Disposal Site

(1) There is visual or other obvious evidence of a release of OHM into surface water, including a continuing or recurring sheen, which can be traced to an identified source which is a discharge from soils, sediments or groundwater.

(2) Visual or other obvious evidence of OHM exists in the groundwater which requires floating product recovery or groundwater treatment. Floating product recovery includes repeated removal of floating product with a skimmer or vacuum truck. This scenario includes ground water contamination from leaking underground storage tanks and applies to migrating and non-migrating product.

Spill/Leak

LTBI

Disposal Site

4.4 Soil Contamination:

(1) Localized subsurface soil contamination is present at a tank removal which can be remediated by soil removal or some forms of treatment. The contamination is limited to the soil (i.e., no groundwater contamination is present [other than a possible residual sheen]) and is the same material contained in the tank.

(2) Localized surface soil contamination exists which resulted from a release of OHM and can be remediated by soil removal or some forms of treatment. (e.g. overfills of oil tanks, traffic accidents which result in the release of petroleum, releases from utility transformers which are in use.)

(1) Evidence indicates non-localized surficial or sub-surface soil contamination may exist. Further investigation is necessary.

(1) Non-localized surface or subsurface soil contamination exists.

Spill/Leak

LTBI

Disposal Site

.5 Other:

(1) OHM is released and must be cleaned up immediately. No extended assessment or remediation is anticipated and the release is not the type of event which, based on past experience, is expected to become an LTBI or disposal site (#s 2 & 3 are specific examples of this situation).

(2) OHM is released to an impervious surface such as a roadway or loading dock and the OHM is contained on the surface and is cleaned up. Following cleanup, any residual contamination is not likely to pose a threat to public health, safety, welfare or the environment now or in the future.

(3) OHM is released to a catch basin and is remediated. Following cleanup, any residual contamination will pose minimal future threat of migration and is not likely to pose a threat to public health, safety, welfare or the environment now or in the future.

(1) Based on past or present land use or past or present discharges of OHM to the land, groundwater or surface water; past releases of OHM are likely to have occurred at the place or area and uncertainty exists whether they are likely to pose a significant or otherwise unacceptable risk of damage to health, safety, public welfare or the environment during any foreseeable time.

(2) The place or area is otherwise likely to be a disposal site and further investigation is required to confirm whether a place or area is a disposal site.

5.0 Implications of the Department's Determination of the Status of a Place or area

This section lists the three (3) types of place or areas, information on the form of notice sent to the potentially responsible party ("PRP"), the oversight cost recovery implications, and the possible actions which may be taken at the place or area. Unless otherwise noted, the information applies to both publicly and privately-funded response actions.

Spill/Leak

LTBI

Disposal Site

5.1 Notice to PRP:

Emergency Response (ER) Notice of Responsibility (NOR) may be issued in the field, sometimes followed up by an office ER NOR. An ER NOR may not be necessary if the remediation and confirmatory testing either are not needed or have been completed by the PRP.

The regional office will issue an LTBI Notice or, when an LTBI Notice has not been sent by the region, an LTBI listing notice will be sent from the Boston office prior to the listing of the place or area. If the action began as an ER, the PRP may have already received an ER NOR (field and/or office) from the regional office.

A Disposal Site NOR will be sent from the regional office as soon as possible after the site has been confirmed. The site is confirmed when the Department makes that determination. Confirmation is documented by the site confirmation form and Disposal Site NOR. The PRP(s) may already have received an ER NOR (field and/or office) and/or LTBI Notice.

5.2 Cost Recovery:

(1) General

Payments made by the Department to its contractors, grantees or agents for performing response actions will be recoverable.

RACs will be tracked from the time that the place or area is given a site ID, however, RACs are recoverable only if the LTBI becomes confirmed as a Disposal Site.

Payments made to the Department's contractors, grantees or agents for performing response actions will be recoverable.

Spill/Leak

Oversight costs will not be recoverable pursuant to 310 CMR 40.620.

At spills/leaks where public funds are expended, the Department may recover all of its response action costs, including administrative costs related to cost recovery.

(2) Preliminary Assessment(PA)/ Phase I

Not Applicable

LTBI

Oversight costs will not be recoverable for actions taken prior to the determination that the place or area is an LTBI.

For PAs/Phase Is which are publicly-funded:

-RACs will be tracked for the completion and review of the PA and Phase I/ Site Classification

For PAs/Phase Is which are privately funded:

- NO oversight costs will be recoverable for review of PAs and Phase I reports, including site classifications, unless the review is necessary or the planning or implementation of a Short Term Measure (STM).

Disposal Site

Oversight costs will not be recoverable for actions taken prior to the earlier of the date that a site ID is assigned or the place or area is confirmed.

For PAs/Phase Is which are publicly-funded:

-RACs will be recoverable for the review and/or completion of the PA form and Phase I/ Classification.

For PAs/Phase Is which are privately funded:

- NO oversight costs will be recoverable for review of PAs and Phase I reports, including site classifications, unless the review is necessary for the planning or implementation of an STM.

Spill/Leak

LTBI

Disposal Sites

(3) Short Term Measures

Not Applicable

Not Applicable

RACs will be recoverable for STMs.

(4) Phases II-IV

Not Applicable

Not Applicable

RACs will be recoverable for Phase II actions and subsequent phases.

(5) Public Participation

Not Applicable

RACs will not be recoverable for time spent complying with public involvement requirements of the MCP.

RACs will not be recoverable for time or materials spent complying with public involvement requirements of the MCP.

(6) Administrative Review

Not Applicable

Not Applicable

RACs will not be recoverable for time or materials spent conducting administrative review disputes regarding RACs pursuant to 310 CMR 40.620(4).

(7) Enforcement Activities

No oversight costs will be recoverable pursuant to 310 CMR 40.620

RACs will be tracked for Enforcement Activities (including PRP searches).

RACs will be recoverable for Enforcement activities (including PRP searches).

Spill/Leak

LTBI

Disposal Site

.3 Actions Required:

Aside from the initial response, no further action will be required although the Department may conduct a follow-up field visit, require confirmatory testing or other additional information to determine the adequacy of cleanup. No PA or Phase I/Classification will be required.

Any or all of the following actions may be required:

PA, Phase I, Site Classification or ERA.

The presence of an imminent hazard resulting from a release related to the characteristics which caused the place or area to be listed indicates that the place or area is a Confirmed Disposal Site. Therefore the place or area should be confirmed as a Disposal Site and an STM performed.

Any or all of the following actions may be required:

Completion of PA form, Phase I/Site Classification, Phase II through V, STM or ERA.

5.3 Listing:

The place or area will not be published as an LTBI or Disposal Site on the Department's "List of Confirmed Disposal Sites and Locations to be Investigated" based on the information currently available to the Department.

The place or area will be published as an LTBI on the Department's "List of Confirmed Disposal Sites and Locations to be Investigated".

The site will be published as a Disposal Site on the Department's "List of Confirmed Disposal Sites and Locations to be Investigated".

EXHIBIT IV-1

GENERAL SITE INSPECTION INFORMATION FORM

A. Site Name B. Street (or other identifier)

C. City D. State E. Zip Code F. County Name

G. Site Operator Information

1. Name 2. Telephone Number

3. Street 4. City 5. State 6. Zip Code

H. Site Description

I. Type of Ownership

 1. Federal 2. State 3. County 4. Municipal 5. Private

J.

 1. Generator 2. Transporter 3. Treatment 4. Storage 5. Disposal

K. Regulatory Status

 1. Interim Status 3. Part B Permit Application Submitted

 2. Permitted Facility 4. Part B Permit Application in Preparation

L.

1. Principal Inspector Name

3. Organization

2. Title

4. Telephone No. (area code and No.)

M. Inspection Participants

1.

6.

2.

7.

3.

8.

4.

9.

5.

10.

EXHIBIT IV-2

GENERAL FACILITY CHECKLIST

Section A - General Facility Standards

1. Does facility have EPA Identification No.? ☐ Yes ☐ No
- a. If yes, EPA I.D. No. _____
If no, explain. _____
2. Has facility received hazardous waste from a foreign source? ☐ Yes ☐ No
- a. If yes, has it filed a notice with the Regional Administrator? ☐ Yes ☐ No

Waste Analysis

3. Does facility maintain a copy of the waste analysis plan at the facility? ☐ Yes ☐ No
- a. If yes, does it include:
- 1. Parameters for which each waste will be analyzed? ☐ Yes ☐ No
 - 2. Test methods used to test for these parameters? ☐ Yes ☐ No
 - 3. Sampling method used to obtain sample? ☐ Yes ☐ No
 - 4. Frequency with which the initial analyses will be reviewed or repeated? ☐ Yes ☐ No
 - 5. (For offsite facilities) waste analyses that generators have agreed to supply? ☐ Yes ☐ No
 - 6. (For offsite facilities) procedures which are used to inspect and analyze each movement of hazardous waste, including:
 - a. Procedures to be used to determine the identity of each movement of waste. ☐ Yes ☐ No
 - b. Sampling method to be used to obtain representative sample of the waste to be identified. ☐ Yes ☐ No
4. Does the facility provide adequate security through:
- a. 24-hour surveillance system (e.g., television monitoring or guards)? ☐ Yes ☐ No

OR

(continued)

EXHIBIT IV-2 (continued)

- b. 1. Artificial or natural barrier around facility ☐ Yes ☐ No
(e.g., fence or fence and cliff)?

Describe _____

AND

2. Means to control entry through entrances (e.g., attendant, television monitors, locked entrance, controlled roadway access)? ☐ Yes ☐ No

Describe _____

General Inspection Requirements

5. Does the owner/operator maintain a written schedule at the facility for inspecting:

- a. Monitoring equipment? ☐ Yes ☐ No
b. Safety and emergency equipment? ☐ Yes ☐ No
c. Security devices: ☐ Yes ☐ No
d. Operating and structural equipment? ☐ Yes ☐ No
e. Types of problems of equipment:

1. Malfunction ☐ Yes ☐ No
2. Operator error ☐ Yes ☐ No
3. Discharges ☐ Yes ☐ No

6. Does the owner/operator maintain an inspection log? ☐ Yes ☐ No

- a. If yes, does it include:

1. Date and time of inspection? ☐ Yes ☐ No
2. Name of inspector? ☐ Yes ☐ No
3. Notation of observations? ☐ Yes ☐ No
4. Date and nature of repairs or remedial action? ☐ Yes ☐ No

- b. Are there any malfunctions or other deficiencies not corrected? (Use narrative explanation sheet.) ☐ Yes ☐ No

Personnel Training

7. Does the owner/operator maintain personnel training records at the facility? ☐ Yes ☐ No

(continued)

EXHIBIT IV-2 (continued)

How long are they kept? _____

a. If yes, do they include:

- | | |
|--|--|
| 1. Job title and written job description of each position? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 2. Description of type and amount of training? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 3. Records of training given to facility personnel? | <input type="checkbox"/> Yes <input type="checkbox"/> No |

Requirements for Ignitable, Reactive, or Incompatible Waste

8. Does facility handle ignitable or reactive wastes? ☐ Yes ☐ No

a. If yes, is waste separated and confined from sources of ignition or reaction (open flames, smoking, cutting and welding, hot surfaces, frictional heat), sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat?

1. If yes, use narrative explanation sheet to describe separation and confinement procedures.
2. If no, use narrative explanation sheet to describe sources of ignition or reaction.

b. Are smoking and open flame confined to specifically designated locations? ☐ Yes ☐ No

c. Are "No Smoking" signs posted in hazardous areas? ☐ Yes ☐ No

d. Are precautions documented (Part 264 only)? ☐ Yes ☐ No

9. Check containers

a. Are containers leaking or corroding? ☐ Yes ☐ No

b. Is there evidence of heat generation from incompatible wastes? ☐ Yes ☐ No

Section B - Preparedness and Prevention

1. Is there evidence of fire, explosion, or contamination of the environment? ☐ Yes ☐ No

If yes, use narrative explanation sheet to explain.

(continued)

EXHIBIT IV-2 (continued)

2. Is the facility equipped with:
- a. Internal communication or alarm system? __Yes __No
 - 1. Is it easily accessible in case of emergency? __Yes __No
 - b. Telephone or two-way radio to call emergency response personnel? __Yes __No
 - c. Portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment? __Yes __No
 - d. Water of adequate volume for hoses, sprinklers, or water spray system? __Yes __No
 - 1. Describe source of water _____
3. Is there sufficient aisle space to allow unobstructed movement of personnel and equipment? __Yes __No
4. Has the owner/operator made arrangements with the local authorities to familiarize them with characteristics of the facility? (Layout of facility, properties of hazardous waste handled and associated hazards, places where facility personnel would normally be working, entrances to roads inside facility, possible evacuation routes.) __Yes __No
5. In the case that more than one police or fire department might respond, is there a designated primary authority? __Yes __No
 - a. If yes, name primary authority _____
6. Does the owner/operator have phone numbers of and agreements with State emergency response teams, emergency response contractors, and equipment suppliers? __Yes __No
 - a. Are they readily available to all personnel? __Yes __No
7. Has the owner/operator arranged to familiarize local hospitals with the properties of hazardous waste handled and types of injuries that could result from fires, explosions, or releases at the facility? __Yes __No
8. If State or local authorities decline to enter, is this entered in the operating record? __Yes __No

(continued)

EXHIBIT IV-2 (continued)

Section C - Contingency Plan and Emergency Procedures

1. Is a contingency plan maintained at the facility? ☐ Yes ☐ No
 - a. If yes, is it a revised SPCC Plan? ☐ Yes ☐ No
 - b. Does contingency plan include:
 1. Arrangements with local emergency response organizations? ☐ Yes ☐ No
 2. Emergency coordinators' names, phone numbers, and addresses? ☐ Yes ☐ No
 3. List of all emergency equipment at facility and descriptions of equipment? ☐ Yes ☐ No
 4. Evacuation plan for facility personnel? ☐ Yes ☐ No
2. Is there an emergency coordinator on site or on call at all times? ☐ Yes ☐ No

Section D - Manifest System, Recordkeeping, and Reporting

1. Does facility receive waste from offsite? ☐ Yes ☐ No
 - a. If yes, does the owner/operator retain copies of all manifests?
 1. Are the manifests signed and dated and returned to the generator? ☐ Yes ☐ No
 2. Is a signed copy given to the transporter? ☐ Yes ☐ No
2. Does the facility receive any waste from a rail or water (bulk shipment) transporter? ☐ Yes ☐ No
 - a. If yes, is it accompanied by a shipping paper?
 1. Does the owner/operator sign and date the shipping paper and return a copy to the generator? ☐ Yes ☐ No
 2. Is a signed copy given to the transporter? ☐ Yes ☐ No
3. Has the owner/operator received any shipments of waste that were inconsistent with the manifest (manifest discrepancies)? ☐ Yes ☐ No
 - a. If yes, has he attempted to reconcile the discrepancy with the generator and transporter? ☐ Yes ☐ No
 1. If no, has Regional Administrator been notified? ☐ Yes ☐ No

(continued)

EXHIBIT IV-2 (continued)

4. Does the owner/operator keep a written operating record at the facility? ☐ Yes ☐ No
- a. If yes, does it include:
1. Description and quantity of each hazardous waste received? ☐ Yes ☐ No
 2. Methods and dates of treatment, storage, and disposal? ☐ Yes ☐ No
 3. Location and quantity of each hazardous waste at each location? ☐ Yes ☐ No
 4. Cross-references to manifests/shipping papers? ☐ Yes ☐ No
 5. Records and results of waste analyses? ☐ Yes ☐ No
 6. Report of incidents involving implementation of the contingency plan? ☐ Yes ☐ No
 7. Records and results of required inspections? ☐ Yes ☐ No
 8. Monitoring or testing analytical data (Part 264)? ☐ Yes ☐ No
 9. Closure cost estimates and, for disposal facilities, post-closure cost estimates (Part 264)? ☐ Yes ☐ No
 10. Notices of generators as specified in §264.12(b) (Part 264)? ☐ Yes ☐ No
5. Does the facility submit a biennial report by March 1 every even-numbered year? ☐ Yes ☐ No
- a. If yes, do reports contain the following information:
1. EPA I.D. number? ☐ Yes ☐ No
 2. Date and year covered by report? ☐ Yes ☐ No
 3. Description/quantity of hazardous waste? ☐ Yes ☐ No
 4. Treatment, storage, and disposal methods? ☐ Yes ☐ No
 5. Monitoring data under §265.94(a)(2) and (b)(2) (Part 265)? ☐ Yes ☐ No
 6. Most recent closure and post-closure cost estimates? ☐ Yes ☐ No
 7. For TSD generators, description of efforts to reduce volume/toxicity of waste generated, and actual comparisons with previous year? ☐ Yes ☐ No
 8. Certification signed by owner/operator? ☐ Yes ☐ No
6. Has the facility received any waste (that does not come under the small generator exclusion) not accompanied by a manifest? ☐ Yes ☐ No
- a. If yes, has he submitted an unmanifested waste report to the Regional Administrator? ☐ Yes ☐ No
7. Does the facility submit to the Regional Administrator reports on releases, fires, and explosions; contamination and monitoring data; and facility closure? ☐ Yes ☐ No

EXHIBIT IV-3

LAND DISPOSAL RESTRICTIONS CHECKLIST

1. Are hazardous wastes land-disposed on site? ("Land disposal" ☐ Yes ☐ No includes placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, concrete vault, or bunker intended for disposal purposes; and placement in or on the land by means of open detonation and open burning where residues continue to exhibit hazardous characteristics).
 - a. If yes, are one or more of the following circumstances true:
 1. Granted extension from effective date pursuant to ☐ Yes ☐ No §268.5?
 2. Granted exemption from a prohibition pursuant to ☐ Yes ☐ No a petition under §268.6?
 3. Disposing of soil or debris resulting from a CERCLA ☐ Yes ☐ No response action or a RCRA corrective action, which will not be prohibited until November 8, 1988?
 4. Facility is a small quantity generator of less than ☐ Yes ☐ No 100 kg of hazardous waste per month?
2. Are restricted wastes or residuals from treatment of a restricted waste diluted in any way prior to disposal? ☐ Yes ☐ No
3. Are there active surface impoundments used for treatment of hazardous wastes? ☐ Yes ☐ No
 - a. If yes, does the unit's design and operation meet the requirements set forth in §268.4? ☐ Yes ☐ No
4. Has the facility sought exemption from any prohibition under Subpart C of §268 for the disposal of a restricted hazardous waste? ☐ Yes ☐ No
 - a. If yes, has the facility's demonstration included the required components (waste I.D., waste analysis, comprehensive environmental characterization of unit site, QA/QC plan, sampling, testing, modeling)? ☐ Yes ☐ No
5. Has the facility determined whether it generates a restricted waste through waste analysis? ☐ Yes ☐ No
 - a. If yes, is the facility, in fact, handling a restricted waste(s)? ☐ Yes ☐ No

(continued)

EXHIBIT IV-3 (continued)

- b. If yes, does the restricted waste require treatment? ☐ Yes ☐ No
- c. If yes, has the generator notified the treatment facility in writing, and does the notification include all required components (EPA hazardous waste number, corresponding treatment standard, manifest number of shipment)? ☐ Yes ☐ No
6. Does the facility handle EPA Hazardous Waste Nos. F001 through F005 (solvent wastes)? ☐ Yes ☐ No
- a. If yes, do any of the following conditions apply:
1. The generator of the solvent waste is a small quantity generator (not more than 1000 kg/month)? ☐ Yes ☐ No
 2. The solvent waste is generated from a CERCLA response corrective action? ☐ Yes ☐ No
 3. The solvent waste is a solvent-water mixture, solvent-containing sludge, or solvent-contaminated soil (non-CERCLA or RCRA corrective action) containing less than 1 percent total F001 through F005 solvent constituents. ☐ Yes ☐ No
- b. If no, have any of these restricted wastes been land-disposed (except in an injection well) since November 8, 1986? ☐ Yes ☐ No
7. Does the facility handle EPA Hazardous Waste Nos. F020, F021, F023, F026, F027, or F028 (dioxin-containing wastes)? ☐ Yes ☐ No
- a. If yes, do any of the following conditions apply:
1. Wastes are treated to meet standards of Subpart D of §268? ☐ Yes ☐ No
 2. Wastes are disposed of at a facility that has been granted a petition? ☐ Yes ☐ No
 3. An extension has been granted? ☐ Yes ☐ No
- b. If no, will these restricted wastes be land disposed after November 8, 1988? ☐ Yes ☐ No
8. Are restricted wastes being treated? ☐ Yes ☐ No
- a. If yes, have any of their associated hazardous constituents exceeded the "Constituent in Waste Extract" (CWE) levels? ☐ Yes ☐ No

EXHIBIT IV-4

GENERATOR'S CHECKLIST

Section A - EPA Identification No.

1. Does generator have EPA I.D. No? ☐ Yes ☐ No
- a. If yes, EPA I.D. No. _____

Section B - Manifest

1. Does generator ship waste offsite? ☐ Yes ☐ No
- a. If no, do not fill out Sections B and D.
- b. If yes, identify primary offsite facility(s). Use narrative explanation sheet.
2. Does generator use manifest? ☐ Yes ☐ No
- a. If no, is generator a small quantity generator (generating between 100 and 1000 kg/month)? ☐ Yes ☐ No
1. If yes, does generator indicate this when sending waste to a TSD facility? ☐ Yes ☐ No
- b. If yes, does manifest include the following information?
1. Manifest document No. ☐ Yes ☐ No
2. Generator's name, mailing address, telephone No. ☐ Yes ☐ No
3. Generator EPA I.D. No. ☐ Yes ☐ No
4. Transporter Name(s) and EPA I.D. No.(s) ☐ Yes ☐ No
5. a. Facility name, address, and EPA I.D. No. ☐ Yes ☐ No
- b. Alternate facility name, address, and EPA I.D. No. ☐ Yes ☐ No
- c. Instructions to return to generator if undeliverable ☐ Yes ☐ No
6. Waste information required by DOE - shipping name, quantity (weight or vol.), containers (type and number) ☐ Yes ☐ No

(continued)

EXHIBIT IV-4 (continued)

7. Emergency information (optional) ☐ Yes ☐ No
(special handling instructions, telephone No.)

8. Is the following certification on each manifest form? ☐ Yes ☐ No

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the EPA.

9. Does generator retain copies of manifests? ☐ Yes ☐ No

If yes, complete a through e.

- a. 1. Did generator sign and date all manifests? ☐ Yes ☐ No
2. Who signed for generator?

Name _____ Title _____

- b. 1. Did generator obtain handwritten signature and date of acceptance from initial transporter? ☐ Yes ☐ No
2. Who signed and dated for transporter?

Name _____ Title _____

- c. Does generator retain one copy of manifest signed by generator and transporter? ☐ Yes ☐ No

- d. Do returned copies of manifest include facility owner/operator signature and date of acceptance? ☐ Yes ☐ No

- e. Does generator retain copies for 3 years? ☐ Yes ☐ No

Section C - Hazardous Waste Determination

1. Does generator generate solid waste(s) listed in Subpart D (List of Hazardous Waste)? ☐ Yes ☐ No

- a. If yes, list waste and quantities (include EPA Hazardous Waste No.) _____

(continued)

EXHIBIT IV-4 (continued)

2. Does generator generate solid waste(s) listed in Subpart C that exhibit hazardous characteristics? (corrosivity, ignitability, reactivity, EP toxicity) ☐ Yes ☐ No
- a. If yes, list wastes and quantities (include EPA Hazardous Waste No.) _____
- b. Does generator determine characteristics by testing or by applying knowledge of processes? _____
1. If determined by testing, did generator use test methods in Part 261, Subpart C (or equivalent)? ☐ Yes ☐ No
- a. If equivalent test methods used, attach copy of equivalent methods used.
3. Are there any other solid wastes generated by generators? ☐ Yes ☐ No
- a. If yes, did generator test all wastes to determine nonhazardous characteristics? ☐ Yes ☐ No
1. If no, list wastes and quantities deemed nonhazardous or processes from which nonhazardous waste was produced (use additional sheet if necessary).
- _____
- _____
- _____

Section D - Pretransport Requirements

1. Does generator package waste in accordance with 49 CFR 173, 178, and 179 (DOT requirements)? ☐ Yes ☐ No
2. a. Are containers to be shipped leaking or corroding? ☐ Yes ☐ No
- b. Use sheet to describe containers and condition.
- c. Is there evidence of heat generation from incompatible wastes in the containers? ☐ Yes ☐ No
3. Does generator follow DOT labeling requirements in accordance with 49 CFR 172? ☐ Yes ☐ No
4. Does generator mark each package in accordance with 49 CFR 172? ☐ Yes ☐ No
- (continued)

EXHIBIT IV-4 (continued)

5. Is each container of 110 gallons or less marked with the following label? __Yes __No

Label saying: HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest policy or public safety authority or the U.S. Environmental Protection Agency.

Generator name(s) and address(es) _____

Manifest document No. _____

6. Does generator have placards to offer to transporters? __Yes __No

7. Accumulation time

- a. Are containers used to temporarily store waste before transport? __Yes __No

1. If yes, is each container clearly dated: Also, fill out rest of No. 7 (accum. time) __Yes __No

- b. 1. Does generator inspect containers for leakage or corrosion? (265.174 - Inspections) __Yes __No

2. If yes, with what frequency? _____

- c. Does generator locate containers holding ignitable or reactive waste at least 15 meters (50 feet) from the facility's property line? (265.176 - Special Requirements for Ignitable or Reactive Wastes) __Yes __No

NOTE: If tanks are used, fill out checklist for tanks.

- d. Are the containers labeled and marked in accordance with Section D-3, -4, and -5 of this form? __Yes __No

NOTE: If generator accumulates waste on site, fill out checklist for General Facilities, Subparts C and D.

- e. Does generator comply with requirements for personnel training? (Attach checklist for 265.16 - Personnel Training.) __Yes __No

8. Describe storage area. Use photos and narrative explanation sheet.

EXHIBIT IV-4 (continued)

Section E - Recordkeeping and Records

1. Does generator keep the following reports for 3 years?
 - a. Manifests and signed copies from designated facilities ☐ Yes ☐ No
 - b. Annual reports ☐ Yes ☐ No
 - c. Exception reports ☐ Yes ☐ No
 - d. Test results ☐ Yes ☐ No
2. Where are the records kept (at facility or elsewhere)? _____
3. Who is in charge of keeping the records?
Name _____ Title _____

Section F - Special Conditions

1. Has generator received from or transported to a foreign source any hazardous waste? ☐ Yes ☐ No
 - a. If yes, has he filed a notice with the Regional Administrator? ☐ Yes ☐ No
 - b. Is this waste manifested and signed by a foreign cosignee? ☐ Yes ☐ No
 - c. If generator transported wastes out of the country, has he received confirmation of delivered shipment? ☐ Yes ☐ No

D.O.T. HAZARDOUS MATERIALS INSPECTION GUIDE

APPENDIX A VIOLATION CITATION APPENDIX

SHIPPING PAPER	VIO.	REFERENCE
1. Uniform Hazardous Waste Manifest		§ 172.205(a)
2. Contents		
a. Legible English		§ 172.201(a) (2)
b. Code or Abbreviation		§ 172.201(a) (3)
c. Continuation page		§ 172.201(e)
3. Shipping Name		§ 172.202(a) (1)
4. Hazard Class		§ 172.202(a) (2)
5. Identification Number		§ 172.202(a) (3)
6. Total Quantity (weight or volume)		§ 172.202(a) (4)&(c)
7. Sequence		§ 172.202(b)
8. Additional Description		§ 172.203
a. Exemption		§ 172.203(a)
b. Limited Quantity		§ 172.203(b)
c. Hazardous Substances		§ 172.203(c)
d. Empty Packages		§ 172.203(e)
e. Cargo Only		§ 172.203(f)
f. Dangerous When Wet		§ 172.203(j)
g. Poisonous Materials Including Materials Toxic by Inhalation		§ 172.203(k)(1)&(2)&(3)&(4)
9. HW Manifest		§ 172.205(a)
Signature - Original		§ 172.205(c) (1)&(2)
Signatures - Copies		§ 172.205(d)

SHIPPER CERTIFICATION	VIO.	REFERENCE
1. Basic Paragraph		
a. General Requirements		§ 172.204(a) (1)
2. Signature (signed by hand)		§ 172.205

TRANSPORTATION OF HAZARDOUS MATERIALS

MARKING	VIO.	REFERENCE
1. Shipping Name		§ 172.301(a)
2. Identification Number and "Inhalation Hazard"		§ 172.301(a)
3. Specifications		§ 172.304
In English		§ 172.304(a)
Not Obscured		§ 172.304(a) (2)&(4)
4. Name/Address of Consignee (or Consignor)		§ 172.306(a)
5. This Side Up (Liquid)		§ 172.312(a)
6. ORM		§ 172.316
7. DOT Specification (if Specification Container Required)		Part 178 and §173.24(c) (1) (i)
8. Hazardous Substances-Solutions/		§ 172.324(a)
Mixtures "RQ" "EPA" "ICRE" or "D" numbers		§ 172.324(b)

MARKING (CARGO TANK)	VIO.	REFERENCE
1. Requirements		§ 172.301(a)
2. Specifications		§ 172.304
a. In English		§ 172.304(a)
b. Not Obscured		§ 172.304(a) (2)&(4)
3. DOT Specification		Part 178 and § 173.24(c) (1) (i)
4. Cargo Tanks		§ 172.328
5. Identification Number		§ 172.332
6. Identification Numbers Prohibited Display		§ 172.334
7. Identification Numbers: Special Provisions and Exceptions		§ 172.336
8. Replacement Identification Numbers		§ 172.338

LABELING	VIO.	REFERENCE
1. Table Label (Step 1)		§ 172.400(a)
2. One Material-Two Hazards (Step 2)		§ 172.402(a)
3. "Poison Inhalation Hazard"		§ 172.402(a) (10)
4. Cargo Aircraft Only		§ 172.402(b)
5. Dangerous When Wet (Step 2)		§ 172.402(c)
6. Mixed Packages (Step 2)		§ 172.404
7. Placement		§ 172.406(a)

PLACARDS	VIO.	REFERENCE
1. Prohibited Placarding		§ 172.502
2. General Requirements		§ 172.504
3. Special Placarding Requirements for poisonous materials		§ 172.505
4. Carrier Requirements		§ 172.506
5. Visibility & Display		§ 172.516
6. Gen. Specifications for Placard		§ 172.519

HIGHWAY TRANSPORTATION	VIO.	REFERENCE
1. General Requirements		§ 171.2
a. Shipper		§ 171.2(a)
b. Carrier		§ 171.2(a)&(b)
2. Driver Training Requirement		§ 177.800
3. Compliance with Motor Carrier Safety Regulations		§ 177.804
4. Incident Reporting		§ 177.807
5. Connecting Carrier Requirement		§ 177.808
6. Lost or Destroyed Labels		§ 177.815
7. Shipping Paper		§ 177.817
a. General Requirements		§ 177.817(a)
b. Certification		§ 177.817(b)
c. Accessibility		§ 177.817(e)
8. Marking & Placarding		§ 177.823
9. Loading & Unloading		
a. General		§ 177.834
b. Explosives		§ 177.835
c. Flammable Liquids		§ 177.836
d. Flammable Solids & Oxidizers		§ 177.838
e. Corrosive Liquids		§ 177.839
f. Compressed Gases		§ 177.840
g. Poisons		§ 177.841
10. Segregation & Separation Chart		§ 177.848
11. Hazardous Material Driving & Parking Rules		*
a. Applicability		§ 397.1
b. Compliance with Motor Carrier Safety Regulations		§ 397.2
c. State & Local Laws		§ 397.3
d. Attendance & Surveillance		§ 397.5
e. Parking		§ 397.7
f. Routes		§ 397.9
g. Fires		§ 397.11
h. Smoking		§ 397.13
i. Fueling		§ 397.15
j. Tires		§ 397.17
12. Vehicle Identification		§ 390.21

* The Federal Motor Carrier Safety Regulations are incorporated by reference in §177.804.

SOLID WASTE

Prepared by Ardis Vaughan
Environmental Engineer
W.R. Grace

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SECTION 1

ENVIRONMENTAL AND PUBLIC HEALTH IMPACT

The disposal of waste materials imposes costs on society and the environment. Even recycling and reuse of waste come with environmental costs.

The handling and disposal of solid waste has become controversial in recent years. Residents of a community are concerned over the impact of solid waste facilities in their town. Emission of air pollutants, odors, noise, blowing trash, and the creation of nuisance conditions may also occur at waste handling, recycling, and disposal facilities.

The principal environmental concern is the potential for contaminating groundwater. Groundwater pollution results from liquids escaping from a disposal site into the soil and underlying aquifers. The escaping liquids may be highly contaminated with heavy metals and complex organic chemicals. When groundwater contamination occurs, there is a possibility that the water supply for nearby residents will be polluted and undrinkable. Cleaning up a contaminated aquifer is usually very difficult and expensive.

Air pollution is also a major concern when handling and disposing of solid waste. At land disposal facilities, the uncontrolled release of dust, smoke, odors, and possibly other harmful gases can result from poor operational controls. This type of pollution is often most noticeable, and objectionable, to site neighbors.

Another problem is the underground migration of methane gas formed inside of landfills which can cause fires or explosions.

Poor operation of a transfer station or landfill can result in blowing trash and garbage into the surrounding neighborhood. It can also attract birds, insects and rodents into the community.

Poor operation of a solid waste facility is not only an eyesore or irritation to the neighborhood, illegal sites can impede access for fire officials responding to an incident. Poorly managed or illegal operations can create fire hazards themselves, especially when storing combustible wastes such as tires. Massive tire fires create large amounts of air pollution, and the runoff from burning tires pollutes wetlands and streams.

Another major environmental problem involving solid waste is the illegal filling of wetlands. Trash and garbage, and more commonly demolition waste, are a cheap source of fill to dump into wetlands areas. The contamination of valuable groundwater is much more likely when solid waste is disposed in wetlands.

SECTION 2 WHERE TO LOOK FOR VIOLATIONS

Solid waste violations fall into three general categories. They are the classic "midnight dumpers", unpermitted facilities operating as legal businesses, and transportation incidents involving waste haulers. Illegal acts are not always easy to spot. Someone dumping a load of trash on the shores of the Quabbin reservoir is obviously committing a crime, but it is harder to spot a recycling company in an urban area as an illegal operation. Permitted companies and facilities may run operations that neighbors complain about, and there are unpermitted businesses that run clean, efficient operations that no one would suspect do not have DEP approvals. Whenever you have questions about the permit status of any company that manages wastes, call DEP to check.

Midnight Dumpers - Midnight dumping can take place across the state wherever open land is available. Frequently, such dumping is found at isolated properties with easy access. These include state forests and parks, town Conservation Lands, wetlands, and undeveloped land along roads. Illegal dumpers rarely bushwhack deep into the woods to dump a load. Illegal dumpers also frequent open urban space. Metropolitan areas undergoing redevelopment projects generate massive amounts of demolition wastes that must be disposed of somewhere. All developers are required

by law to list the disposal location for all building or demolition debris on the building permit. They must amend the permit if the disposal site changes. But it is easy to dump a demo load on a vacant lot a few blocks, or a few miles, away. Midnight dumping is usually not more than a load or two, because the dumper has to be in and out quickly, before the land owner discovers the waste. The wastes are generally from local renovation contractors, small businesses, and household waste, including large appliances.

Ongoing Businesses - Around the state there are businesses that call themselves "Recycling Companies" that are no more than illegal landfills. They bring in waste, collect the revenue and never process the materials. All recycling facilities are required to have authorization from DEP to operate, and must comply with all the standards for the protection of public health and the environment. Sometimes these companies are construction yards that have branched into the solid waste business, or enterprising entrepreneurs who see a ready market. Frequently they are poorly maintained operations that all the neighbors know of, and complain about.

Owners of large undeveloped properties sometimes become operators of illegal landfills. Wetland areas are especially enticing, because when filled with cheap solid waste, they become "usable."

Unpermitted transfer stations are usually located in urban, industrial zones. They are small, ranging from 1/4 acres to about 3 acres. They may look no different from legal transfer stations. They appear to be legal operations, complete with a company sign out front. The only way to know for sure is to check with DEP. Unpermitted transfer stations may ship wastes to unpermitted landfills and further compound the violations.

Transportation Incidents - There is a third area of possible solid waste violations that involve the shipment of wastes. All commercial haulers are required to obtain a permit from the Board of Health in the municipality where the wastes are picked up. The cost of legitimate waste disposal in Massachusetts is high compared to the other New England states, and much of the waste is disposed of out of state. Long hauling is usually done in large 30 yard roll-offs that you see on the interstate highways. Apparently, the cost of illegal disposal also seems to be lower in the other states as well. New Hampshire, Maine, and Vermont enforcement agencies sometimes uncover illegal dumping sites in their states by following trucks coming from Massachusetts. Wastes such as demolition debris, medical waste, asbestos, and oily residues (considered non-hazardous in other states) are frequently landfilled out of state. All of it must be shipped by a licensed hauler. Most communities require haulers to list all the disposal sites that they use on their permit applications.

If you have any questions about the status of any waste hauler, contact the local Board of Health which maintains records for all permitted waste haulers in their city or town.

SECTION 3
SAFETY ISSUES

Whether you are investigating a solid waste violation, or responding to a chemical incident, the substances you are being exposed to pose health and safety concerns. Some of these could result in severe injury. These hazards are a function of the nature of the site, not merely the hazard of any chemicals present. These hazards are:

- Chemical exposure
- Fire and explosion
- Oxygen deficiency
- Radiation
- Biological hazards
- Physical hazards
- Electrical hazards
- Heat Stress/Cold Exposure
- Noise

While chemical hazards may be present at solid waste sites, other safety sections in this manual cover these hazards in detail, and they will not be covered here.

The combination of all of these potential conditions may pose an imminent danger to your life, and yet may not be immediately obvious. You as an investigator working in an unfamiliar environment must assess the potential or actual hazards before an accident occurs. Before you and a partner enter the site, as much information as possible should be collected. Based upon your observations of hazards, such as demolition waste (may contain asbestos), or evidence of medical waste (may contain blood or sharp

objects), the investigator must determine initial safety requirements and decide what safety gear is appropriate. At a minimum, you should be equipped with sturdy shoes or boots, and heavy gloves that will protect you from cuts or punctures.

Preliminary On-Site Evaluation - The initial on-site survey is to determine, on a preliminary basis, hazardous or potentially hazardous conditions. The main effort is to rapidly identify the immediate hazards that may affect you. Of major concern are the real or potential dangers - for example, fire, explosion, oxygen-deficient atmospheres, radiation, airborne contaminants, or hazardous substances. Once on-site, you should make visual observations which would help in evaluating site hazards - for example, dead fish or other animals; land features; wind direction; types of solid wastes stored; stability of waste piles; safe pathways through the site; physical hazards; and other general conditions.

Physical Hazards - When you think of hazards, you may picture clouds of toxic gases being released in the work place, or puddles of acid eating through rubber boots. In reality, hazards are often much more mundane, but can be just as dangerous. A solid waste facility or dump may contain numerous safety hazards such as: holes or ditches, precariously positioned objects such as boards that may fall, sharp objects such as nails, metal or glass, slippery surfaces, steep grades, or unstable surfaces. Some safety

hazards are a function of the work activities at the site. Construction equipment and vehicles create an additional hazard for you.

Biological Hazards - Wastes from hospitals and research facilities may contain contaminated blood or tissue as well as sharp objects such as needles or glass. Biological agents need an entry route for infection (such as a break in the skin), so use caution and gloves when handling.

Flammable Gases - Landfills produce flammable methane gas from the decomposition of waste. This can collect and be released from cracks and fissures long after the site closes operation. The presence or absence of flammable or combustible gases may need to be determined with field sensing equipment. If readings approach or exceed 10% of the lower explosive limit (LEL), extreme caution should be exercised in continuing the investigation. If readings approach or exceed 25% LEL, personnel should be withdrawn immediately.

Radiation - Although radiation monitoring is not necessary for most investigations, it should be incorporated in the initial survey where radioactive materials are suspected - for example, medical waste may contain radioactive agents.

Oxygen Deficiency/Confined Spaces - Ambient air must contain at least 19.5% by volume of oxygen. At lower percentages, air-supplied respiratory protective equipment

is needed. Oxygen measurements are of particular importance for work in enclosed spaces and in low-lying areas, such as swales or ditches or excavation pits, where heavier-than-air vapors can collect and could displace ambient air. These oxygen-deficient areas are also prime locations for taking further organic vapor and combustible gas measurements, since the air has been displaced by other substances. Never go into a confined space without checking for oxygen.

Electrical Hazard - Downed power lines and buried cables can pose the risk of shock or electrocution if you inadvertently come in contact with or sever them in the course of your investigation. Any power tools used should be double insulated, and always checked for damage before use.

Heat Stress/Cold Exposure - Heat stress is a major hazard, especially if you are wearing protective clothing at an investigation site. The same protective materials that protect your body from chemicals limit the dissipation of body heat. Personal protective clothing can create a hazardous condition. It can create a hazard as serious as some chemical exposures. Depending on the weather, heat stress can occur in as little as 15 minutes. Common sense, plenty of water, and frequent rest periods reduce the risk of heat stress.

Frostbite and hypothermia are dangers when working in severe cold. Again, a common sense approach to regular rest periods and appropriate clothing minimizes the risks.

Noise - Working around noisy construction equipment or compressors can be a source of irritation, and make it difficult to communicate. Noise can also cause permanent damage to your hearing. Consider wearing ear plugs or other OSHA approved hearing protection even for short exposure.

SECTION 4

TERM DICTIONARY

Bulky Wastes - waste items of unusually large size including but not limited to large appliances, furniture, large auto parts, stumps, trees, branches, brush.

Demolition and Construction Waste - the waste building materials and rubble resulting from the construction, remodeling, repair or demolition of buildings, pavements, roads or other structures. Demolition and construction waste includes but is not limited to, concrete, bricks, lumber, masonry, road paving materials, reinforcing bar and plaster.

Facility - a sanitary landfill, a refuse transfer station, a refuse incinerator, a dumping ground for refuse or any other works for treating, storing, or disposing of refuse.

Garbage - the animal, vegetable, or other organic waste resulting from the handling, preparation, cooking, serving or consumption of food.

Ground Water - water below the land surface in a saturated zone.

Landfill - a facility or part of a facility established in accordance with a valid site assignment for the disposal of solid waste into or on land.

Leachate - a liquid that has passed through or emerged from solid waste and which may contain soluble or suspended material from such waste.

Municipal Solid Waste - any household, residential or commercial solid waste.

Open Dump - a facility which is operated or maintained in violation of the regulations and criteria promulgated relative to solid waste disposal.

Recyclable Material - a material that has the potential to be recycled and which is not co-mingled with solid waste or contaminated by significant amounts of toxic substances.

Refuse - Putrescible or nonputrescible solid waste materials, consisting of all combustible and non-combustible solid wastes including garbage and rubbish, but not including sewage or liquid wastes.

Rubbish - Combustible or non-combustible solid waste material, except garbage and sewage, including but not limited to such material as paper, rags, cartons, boxes,

wood excelsior, rubber, leather, tree branches, yard trimmings, grass clippings, tin cans, metals, mineral matter, glass, crockery, dust, ashes, construction wastes, industrial wastes, commercial wastes, demolition wastes, agricultural wastes, abandoned vehicles, street sweepings, bulky wastes, the residue from the burning of wood, coke or other combustible materials, and any other unwanted or discarded material.

Site Assignment - a determination by a board of health or by the DEP that designates an area of land for one or more solid waste uses subject to conditions that may be imposed by the assigning agency after a public hearing.

Solid Waste or Waste - useless, unwanted or discarded solid, liquid or contained gaseous material resulting from industrial, commercial, mining, agricultural, municipal or household activities that is abandoned by being disposed or incinerated or is stored, treated or transferred pending such disposal, incineration or other treatment, but does not include: hazardous wastes, sewage, compost or recyclable materials managed in a facility not required to be assigned pursuant to 310 CMR 16.05.

Special Waste - a solid waste that requires special handling or disposal to protect public health or safety or the environment.

Transfer Station - a facility where solid wastes are brought, stored and transferred to vehicles for transport to the location of further processing or treating or ultimate disposal.

SECTION 5

REGULATORY FRAMEWORK

Solid waste facilities are like hospitals, prisons and public housing projects, in that finding a site for them is often controversial. Until recently, authority for approving sites was the responsibility of municipal boards of health. This includes all types of solid waste facilities: landfills, incinerators, transfer stations, as well as recycling centers.

Recognizing the need to develop a more uniform and comprehensive statewide siting process, the Massachusetts Legislature amended the state's solid waste siting laws (M.G.L. Chapter 111, Section 150A) with the passage of the Solid Waste Act of 1987 (Chapter 584 M.G.L.). The Act greatly expands the State's role in the siting process. It requires the DEP to establish criteria for determining whether or not a site for a proposed solid waste facility constitutes a danger to public health, safety and the environment. The regulations provide for the Department of Public Health (DPH) to review applications and issue a report on possible public health implications.

Any person wishing to expand or establish a new site for a solid waste management facility such as a landfill, transfer station, recycling or waste combustion plant, must first obtain approval and assignment from the board of health for the proposed facility. The applicant files a site assignment application with the board of health and sends copies to DEP and DPH. An applicant must comply with the Massachusetts

Environmental Policy Act (MEPA) process if the proposed facility exceeds a certain size threshold.

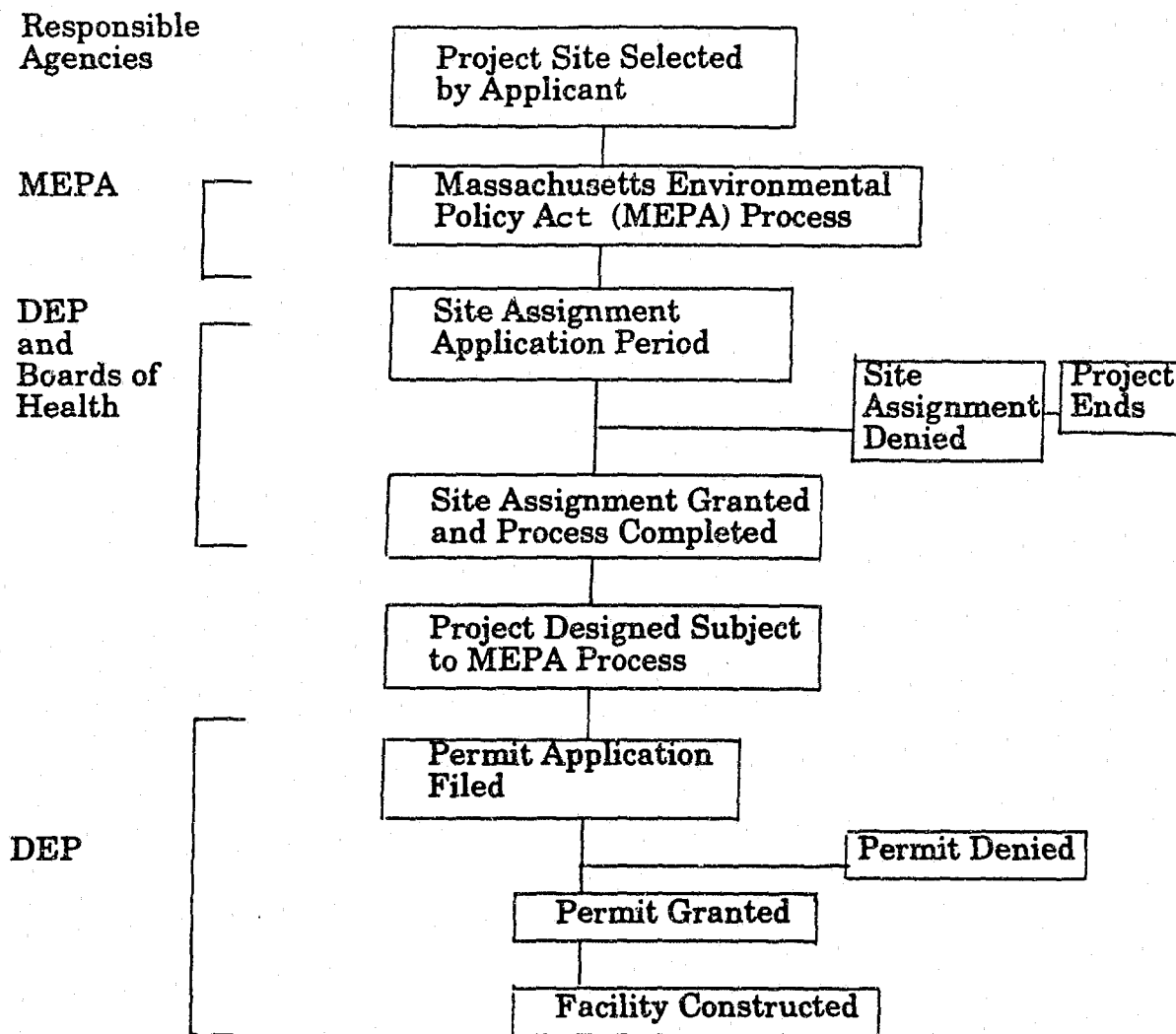
Once DEP determines all the necessary information has been supplied and the application is complete, the applicant provides public notice, and DEP regional offices accept written comments from the board of health and interested parties regarding the application and the suitability of the site.

If the Department reports that the site is unsuitable, the application process ends. If DEP's report is favorable, it is submitted to the board of health for further consideration.

DPH reviews a site assignment application and may make comments as to potential adverse impacts of the site on public health and safety.

The owner then submits an application for a Solid Waste Management Facility Permit to DEP. DEP reviews the design of the facility as well as the proposed plans for operation and maintenance and future closure plans. There is a public notice and comment period, and public hearings are held. Once a facility plan is approved by DEP, an authorization to construct is issued, followed by an operating permit. This DEP permit subjects the operator of a facility to specific conditions: phased development of operation, conditions on amounts of waste received, minimum recycling requirements, the kind of waste allowed to be handled, frequency of inspections, financial assurance requirements, reporting requirements, and any other conditions the DEP determines necessary to protect public health and the environment. The permit also sets a limit on the period the permit is valid.

FACILITY PERMITTING PROCESS



This chart depicts the entire process from selecting a site to constructing a facility.

SECTION 6

STATUTES AND REGULATIONS

(Selected Portions)

Section 150A of Chapter 111 of the General Laws

No place in any city or town shall be maintained or operated by any person, including any political subdivision of the commonwealth, as a site for a facility, or as an expansion of an existing facility, unless, after a public hearing, such place has been assigned by the board of health of such city or town in accordance with the provisions of this section, or, in the case of a facility owned or operated by an agency of the commonwealth, such place has been assigned by the department after a public hearing and unless public notice of such assignment has been given by the board of health or the department, whichever is applicable.

No facility shall be established, constructed, expanded, maintained, operated, or devoted to any past closure as defined by regulation, unless detailed operating plans, specifications, a public health report, if any, and necessary environmental reports have been submitted to the department and the department has granted a permit for the facility, and notice of such permit is recorded in the registry of deeds, or if the land affected thereby is registered land in the registry section of the land court for the district wherein the land lies.

Every person maintaining or operating a facility, including every political subdivision of the commonwealth, shall maintain and operate the same in such manner as will protect the public health and safety and the environment. Upon determination that the operation or maintenance of a facility results in a threat to the public health and safety or the environment, such site assignment decision by a board of health may be rescinded or suspended or may be modified through the imposition or amendment of conditions.

No person shall dispose or contract for the disposal of solid waste at any place which has not been approved by the department pursuant to the provisions of this section or other applicable law.

The department shall adopt and may from time to time amend rules and regulations, and the commissioner may issue orders, to enforce the provisions of this section. Any person, including any political subdivision of the commonwealth who violates this section, or any order issued pursuant thereto, or any rule or regulation promulgated herein: (1) shall be subject to a fine of not more than twenty-five thousand dollars, or by imprisonment for not more than two years in a house of correction, or both, for each such violation; or (2) shall be subject to a civil penalty not to exceed twenty-five thousand

dollars for each such violation. Each day each such violation occurs or continues shall be deemed a separate offense. These penalties shall be in addition to any other penalties that may be prescribed by law.

Section 54 of Chapter 40 of the General Laws

Every city or town shall require, as a condition of issuing a building permit or license for the demolition, renovation, rehabilitation or other alteration of a building or structure, that the debris resulting from such demolition, renovation, rehabilitation or alteration be disposed of in a properly licensed solid waste disposal facility, as defined by section one hundred and fifty A of chapter one hundred and eleven. Any such permit or license shall indicate the location of the facility at which the debris is to be disposed. If for any reason, the debris will not be disposed of as indicated, the permittee or licensee shall notify the issuing authority as to the location where the debris will be disposed. The issuing authority shall amend the permit or license to so indicate.

Section 31A of Chapter 111 of the General Laws

No person shall remove or transport garbage or other offensive substances through the streets of any city or town without first obtaining a permit from the board of health of such city or town. An application for such permit shall be in such form and contain such information, on oath, as such board shall require. All such permits shall expire at the end of the calendar year in which they are issued, but may be renewed annually on application as herein provided.

DEP Regulations 310 CMR 19.00

The following facilities, containers, and operations are exempt from these regulations:

- * operations which collect, store and process only beverage containers
- * dumpsters, roll-offs, or other temporary storage containers located at, and used exclusively for the collection of solid waste generated by, an apartment house, industrial or commercial establishment
- * backyard composting
- * baling and handling operations that process only recyclable paper
- * see text for other exemptions (310 CMR 19.013)

Solid waste shall not be deposited in, or be allowed to enter surface or ground waters of the Commonwealth; solid waste or other discarded materials shall not be unloaded unless the operation is under the direct supervision of the operator; the operator shall post, using appropriate signs or other means, where vehicles are to unload solid waste at the landfill; the deposition of solid waste shall be confined to the smallest area feasible.

All cover material shall (a) control fires, vectors, the occurrence of nuisance conditions such as odors or litter, and be placed in a manner so as to minimize erosion by wind and/or water; (b) maintain a physical separation of the solid waste from the surface environment; (c) be substantially odor free.

(a) The operator shall provide sufficient fences or other barriers to prevent access to the facility except at designated points of entry or exit; (b) a gate shall be provided at all access points and shall be locked at all times when the operator or his agent is not on site or during hours when the facility is not operating.

No person shall dispose or contract for disposal of restricted material except in accordance with the restriction established in the table. No landfill or combustion facility shall accept the restricted material.

<u>Restricted Material</u>	<u>Effective Date of Restriction</u>
Lead Batteries	12/31/90
Leaves	12/31/91
Tires	12/31/91
White Goods	12/31/91
Other Yard Waste	12/31/91

Any person who proposes to make beneficial use of solid waste material must obtain a prior written determination of beneficial use from the Department.

Asbestos waste that has been properly wetted, containerized and labelled in accordance with 310 CMR 7.15 shall not be accepted at any solid waste facility unless that facility has received approval from the Department in accordance with 310 CMR 19.061 to accept asbestos waste.

Asbestos waste that has been properly wetted, containerized and labelled shall be managed so as to maintain the integrity of its containers and to prevent fugitive emissions of asbestos fibers to the ambient air.

Infectious waste that has been rendered non-infectious and is packaged, labeled and otherwise properly managed may be accepted at any solid waste facility. Sharps shall be rendered non-infectious and processed by grinding or another effective method to eliminate any physical hazard.

SECTION 7

REGULATORS AND SOURCES OF INFORMATION

The DEP and local Board of Health have regulatory authority over the siting and operation of solid waste facilities. Both DEP and the Board of Health perform routine inspections as well as review inspection reports from the facility Professional Engineer. The inspection reports are required to be submitted to both agencies. All solid waste facilities are required to maintain operating records and submit annual reports to DEP. These agencies also maintain extensive file material for each landfill, transfer station, incinerator and recycling facility. The files include inspection reports, complaints, and monitoring data, closure plans, as well as operational limitations. Other local agencies may maintain records related to solid waste generation and disposal.

DEP - Boston Office and Regional Offices - Division of Solid Waste

- . Current list of:
 - closed landfills
 - operating landfills
 - transfer stations
 - incinerators
 - recycling operations
 - tire piles
- . Permits for all operating solid waste facilities
- . Names and addresses for facility owners
- . Inspection reports for facilities
- . Violation notices and enforcement orders for facilities

- . Solid waste policy and guidance documents
- . Regional maps of solid waste facilities
- . Massachusetts Solid Waste Master Plan

DEP - Boston and Regional Offices - Division of Air Quality

- . Inspection reports for combustion facilities
- . Violation notices and enforcement orders for combustion facilities
- . Asbestos removal project notification records

Registry of Deeds

- . Record notices of landfill operations, including a description of the site

Local Board of Health

- . Inspection reports for solid waste facilities
- . Violation notices
- . List of licensed commercial haulers authorized to pick up waste in that community

Local Department of Public Works

- . Operating records for municipal landfills

Local Emergency Planning Committee
(Fire Department or Board of Health)

- . Annual company reports listing hazardous chemicals used or processed on the premises for local businesses
- . Right to Know files for local businesses

Local Building Inspector

- . List of building permits, which include the location where debris is to be disposed

TABLES AND FORMS

DEFINITIONS

"Department", the department of environmental protection

"Facility", a sanitary landfill, a refuse transfer station, a refuse incinerator rated by the department at more than one ton of refuse per hour, a resource recovery facility, a refuse composting plant, a dumping ground for refuse or any other works for treating, storing, or disposing of refuse.

"Maintain", to establish, keep or sustain the presence of a facility on a site, whether or not such facility is in operation and whether or not such facility has been closed.

"Refuse", all solid or liquid waste materials, including garbage and rubbish, and sludge, but not including sewage, and those materials defined as hazardous wastes in section two of chapter twenty-one C and those materials defined as source, special nuclear or by-product material under the provisions of the Atomic Energy Act of 1954.

ELEMENTS

MGL C.111, §150A

NO PLACE	No place in any city or town
OPERATED AS	Shall be maintained or operated
FACILITY	as a site for a facility, or as an expansion of any existing facility
w/o SITE ASSIGNMENT	unless, after a public hearing, such place has been assigned by the board of health of such city or town or the department [DEP].
NO FACILITY	No facility
MAINTAINED	shall be established, constructed, expanded, maintained, operated
w/o PLANS, PERMIT, NOTICE	unless detailed operating plans, specifications, a public health report, and necessary environmental reports have been submitted to the department and the department has granted a permit for the facility, and notice of such permit is recorded in the registry of deeds

MGL C.111, §150A

PERSON	Every person
MAINTAIN	maintaining or operating a facility
SAFE MANNER	shall maintain and operated the same in such manner as will protect the public health and safety of the environment.
LANDFILL	If a facility is a landfill owned or operated by any person,
PAYS	such person shall pay to the town where the facility is located
TOWN FEE	an amount in accordance with the provisions of §24A of C.16 for each ton of solid waste which is disposed of in such landfill.
NO PERSON	No person shall
DISPOSE	dispose or contract for the disposal of
SOLID WASTE	solid waste
w/o SITE ASSIGNMENT	at any place which has not been approved by the department pursuant to the provisions of this section.
MISDEMEANOR	\$25,000, 2 years HOC, or both
CIVIL PENALTY	\$25,000

SOLID WASTE INSPECTION CHECKLIST

- Is the Solid Waste material regulated by DEP?
exemptions include: *redemption centers
 *backyard composting
 *dumpsters or roll-offs used exclusively by
 apartment houses, schools, offices or
 commercial establishments, construction
 sites or farms
 *recyclable paper operations
- Does the site have a recycling permit from DEP?
- Does the site have a DEP permit to operate as a Solid Waste Facility?
- Are there obnoxious odors coming from the site?
- Is there windblown trash?
- Is there nuisance dust coming from the site?
- Is there truck traffic after normal business hours?
- Is the facility permitted to accept Special Wastes such as:
 *asbestos
 *infectious waste
 *sludges
- Does the site accept banned wastes such as:
 *Hazardous Waste
 *lead batteries
 *leaves
 *tires
 *household appliances (white goods)
- Does the site accept liquids either in bulk or drums?
- Is Solid Waste deposited in streams, brooks or ponds?
- Is Solid Waste being burned?

SAMPLE LANDFILL PERMIT

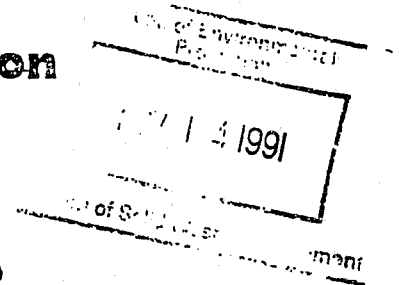


Commonwealth of Massachusetts
Executive Office of Environmental Affairs

Department of Environmental Protection Central Regional Office

William F. Weld
Governor

Daniel S. Greenbaum
Commissioner



November 04, 1991

CERTIFIED

Mr. Robert P. Foley
Martone Trucking, Inc.
199, Depot Road
Barre, Mass. 01005

RE: CRO-DSWM-BARRE, Martone
Sanitary Landfill, Existing
Facility Permit, Section-1,
BWP SW 09 at Depot Rd., Barre
Transmittal #: 5362

Dear Mr. Foley:

The Central Regional Office of the Department of Environmental Protection (the "Department") received the above mentioned "Existing Facility Permit" (BWP SW 09), Section-1 Optimization Project (the "Application"), on July 03, 1991. The application fee was received at the Department's Boston Office on July 03, 1991.

The Existing Facility Permit application was submitted by Northeast Consultants, Incorporated (the "Consultants"), on behalf of Martone Trucking, Incorporated (the "Applicant/Owner"), regarding the Section-1 Optimization/Expansion of the Martone Sanitary Landfill located on Depot Road in Barre, Massachusetts. The submittal consists of a facility information report and engineering design plans for the Section-1 Optimization/Expansion of Martone Sanitary Landfill.

The Report (with the Design Plans) is titled:

Facility Information Supporting Application for
Existing Solid Waste Management Facility
Section 1 - Martone Sanitary Landfill
Barre, Massachusetts
Dated: July 1991

Received by the Department: July 03, 1991

The Section-1 presently is inactive and without a composite liner/leachate collection system. The Section-1 is estimated to contain approximately 35,000 to 50,000 cubic yards of Municipal Solid Waste (MSW) disposed of during the late 1960's to mid 1970's along with the earth materials accumulated from overall site development.

The design plan concept of the proposed Section-1 Optimization/Expansion includes composite-liner, leachate collection, leak detection, groundwater control system, leachate treatment and disposal system for solid waste disposal in Section-1. The proposed Section-1 project area is approximately 6.3 acres in size, and is anticipated to provide approximately 395,000 cubic yards of municipal solid waste landfill capacity. At a refuse delivery rate of eighteen-hundred (1,800) tons per week, the Section-1 is expected to provide over two (2) years of capacity.

The Department has completed its technical review of the above mentioned permit application of the Martone Sanitary Landfill and determined that the permit application is technically complete.

The Department is of the opinion that the aforementioned report and engineering design plans for the Section-1 area of Martone Sanitary Landfill are prepared and designed in accordance with 310 CMR 19.000 "Solid Waste Management Facility Regulations" (the "Facility Regulations"), and in a manner which will ensure adequate protection for public health, safety, and the environment. Acting under the authority of Massachusetts General Laws (M.G.L.), Chapter 111, Section 150A, and the Regulations promulgated thereunder at 310 CMR 19.000, the Department hereby issues the Existing Facility Permit (the "Permit") for Section-1 of the Martone Sanitary Landfill subject to the following conditions:

1. The construction and operation of Section-1 Optimization/Expansion of the Martone Sanitary Landfill shall conform to all applicable provisions of the Facility Regulations, this Permit, the approved report and engineering design plans, and all other applicable Local, State and Federal requirements. No changes or revisions to this Permit and the approved design of the Landfill shall be made without the written approval of the Department.
2. The Applicant shall provide the Department with dates for all the proposed waste audit seminars and public education programs addressing recycling and composting, and provide the Department with evaluations and a brief summary of the findings on these programs, on an annual basis.
3. The construction of the Landfill facility shall be supervised by a full-time engineer experienced in the construction of solid waste facilities. All in-place

testing of the Low Permeability Soil material shall be done by a qualified geotechnical testing laboratory under the supervision of the site engineer. The quality assurance testing of the Flexible Membrane Liner shall be conducted per manufacturer's recommendations and shall be acceptable to the Department.

4. The composite-liner and leachate collection system, as proposed, shall comprise of a Flexible Membrane Liner of sixty (60) mil High Density Poly Ethylene (HDPE), and a base Low Permeability Soil/Admixture Layer. The base Low Permeability liner shall have a minimum thickness of twenty-four (24) inches and shall have an in-place permeability of less than or equal to 1×10^{-7} centimeters per second. A minimum of one in-place permeability test per acre per lift shall be conducted, and a certification acceptable to the Department of the in-place permeability and thickness of representative samples shall be submitted to the Department.
5. The Groundwater Control System of Section-1 shall be constructed and maintained in a manner such that the groundwater is diverted away from the Landfill. The Engineer shall inspect/test the groundwater control system every three (3) months, and within thirty (30) days of each inspection/test, the Engineer shall submit the inspection reports/test results and a brief summary of the findings to the Department, indicating the proper functioning or problems (if any), and the actions taken and/or to be taken, to rectify any existing and/or potential problems.
6. The leak detection/groundwater control system shall collect and remove any leachate that might leak through the HDPE Flexible Membrane Liner and the base Low Permeability liner. The Department shall be notified immediately in the event of a failure of the HDPE liner system and/or when significant quantities of leachate are collected and removed by the leak detection/groundwater control system.
7. The Applicant has proposed "Half-Pipe Waterways with Upslope Siltation Barrier" for surface water run-off drainage swales. The Department's experience has shown that because of poor compaction around the Half-Pipe drainage swales, significant erosion of soil materials has occurred around the Half-Pipe drainage swales. Therefore, the Department would require the Applicant to submit information to the Department addressing these concerns, and obtain the Department's approval prior to the initiation of the

construction work in Section-1 portion of the Landfill Facility.

8. The Owner/Operator shall submit to the Department, documentation showing a backup for the treatment and disposal of leachate, whenever the discharge from the leachate treatment lagoons does not meet the required standards, or when the leachate treatment lagoons become inoperative. This information shall be submitted to the Department as part of the requirements of the request for "Authorization to Operate".
9. The Department shall be notified as soon as possible of any incidents or disruptions which occur at the Landfill facility that could affect the construction and/or operation of the facility.
10. The Leachate Collection System pipes shall be cleaned and tested for broken pipes or other obstructions as proposed in the submittal. These tests shall be conducted at a frequency of every three (3) months after the start of operation. The results from the tests and a brief summary report of the findings shall be submitted to the Department within thirty (30) days of the test.
11. This permit is granted for the engineering design, and construction of Section-1 Optimization/Expansion of the Martone Sanitary Landfill. The discharge of leachate from the said facility or from the leachate treatment lagoons is subject to the approval of Groundwater Discharge Permits by the Division of Water Pollution Control (DWPC). Pending the DWPC's Groundwater Discharge Permit, this approval shall include the monitoring and reporting requirements listed in the DWPC's Draft Permit, dated October 09, 1985, or as modified by the DWPC thereafter.
12. The environmental monitoring program for Section-1 of the Landfill shall be in compliance with 310 CMR 19.132: Environmental Monitoring Requirements of the Facility Regulations.
13. In accordance with the requirements of 310 CMR 19.130(34): Records for Operational and Plan Execution of the Facility Regulations, the Owner/Operator shall submit to the Department, an annual report summarizing the Landfill facility's operations for the previous calendar year. The report shall also include a brief evaluation of the previous calendar year's data and its relation to any pertinent data.

previously collected, to identify trends from groundwater, surface water, and leachate monitoring systems.

14. The proposed Waste Oil drop off/recycling station may need permit or approval from the Division of Hazardous Waste of the Central Regional Office.
15. The Section-1 portion of the Martone Landfill Facility shall be in compliance with all the applicable permit criteria under 310 CMR 19.038: Criteria for Review of Applications for a Permit or Permit Modification.
16. No work shall occur in the areas within the jurisdiction of the Wetlands Protection Act until the final "Order of Conditions" is issued.

In accordance with the provisions of M.G.L., Chapter 111, Section 150A, the Barre Board of Health assigned the site as a Sanitary Landfill area for Leonard P. Martone on August 23, 1973. An approval for the transfer of site assignment from Leonard P. Martone to Martone Trucking, Incorporated, was granted by the Barre Board of Health on October 11, 1983.

Pursuant to M.G.L., Chapter 30, Section 62A, and 10.04(9) of the Regulations governing the implementation of the Massachusetts Environmental Policy Act (MEPA), the Secretary of Executive Office of Environmental Affairs, in the certificate dated May 25, 1983, has made a determination that the Martone Sanitary Landfill project (EOEA Number 4741) does not require an Environmental Impact Report.

Please be advised that the Section-1 Optimization/Expansion of the Martone Sanitary Landfill facility shall not commence operation until an "Authorization to Operate" has been issued by the Department. In accordance with the requirements of 310 CMR 19.042: Authorization to Operate, the Owner/Operator shall file a request for Authorization to Operate in writing with the Department, by submitting all the required information.

This Permit is granted under the authority of 310 CMR 19.000. Pursuant to 310 CMR 19.037(5): Legal Challenges, any person aggrieved by the Department's decision may file an appeal for judicial review of said decision in accordance with the provisions of Chapter 111, Section 150A, and Chapter 30A, not later than thirty (30) days following the receipt of this Permit.

The Department reserves the right to rescind, suspend, or modify this Permit by the imposition of additional conditions

based upon determinations of any actual or potential adverse impacts from site preparation, construction, or operations at the Sanitary Landfill. It is the applicant's responsibility to comply with all other applicable Federal, State and Local statutes or regulations as a prerequisite to the construction and operation of Section-1 of the Barre Martone Sanitary Landfill.

Enclosed is a copy of the Report with the Facility Information and Design Plans for Section-1 Optimization/Expansion of the Barre Martone Sanitary Landfill, approved by the Department. A copy of this Permit letter, the report, and the engineering design plans must be available on-site during construction and remain at the Sanitary Landfill once it becomes operational.

If you have any questions regarding this matter, or need additional information, please write to the letterhead address, or contact Mr. Raymond Belsito or Mr. Purnachander B. Rao of the Division of Solid Waste Management at (508) 792-7653.

Very truly yours,



Paul R. Anderson
Section Chief, Division
of Solid Waste Management

PBR/RB/pbr

Encl: Facility Information Report

cc: Willa S. Kuh, DSWM, DEP-Boston ✓
Dana Samuelson, Fee Co-ordinator, DEP-Worcester
James Fuller, BRP, DEP-Worcester
Michael King, DSWM, DEP-Boston
William Gaughan, DWPC, DEP-Boston
Barre Board of Health
Barre Conservation Commission
Mark W. Popham, Northeast Consultants, Inc.
John F. Shawcross, Director, Water Engineering Dept., MWRA
William Brutsch, Director, Waterworks Division, MWRA
Ilyas Bhatti, Director, Division of Watershed Mgmt., MDC

SAMPLE LANDFILL PERMIT APPLICATION

DEPARTMENT OF ENVIRONMENTAL PROTECTION DIVISION OF SOLID WASTE MANAGEMENT

FACILITY PERMIT AUTHORIZATION TO OPERATE LANDFILL

Date:

Name of Permittee
Mailing Address

Name of Facility
Address of Facility
DEP Region

FILE NO;

I. FACILITY DESCRIPTION AND OUTSTANDING APPROVAL STATUS

A. Facility

1. Owner: Name & Address
2. Lessor: Name & Address
3. Operator: Name & Address
4. Description
 - a. Type(s) of Waste Accepted
 - b. Methods of Management [e.g. landfill & leaf composting]
 - c. Approved amount of waste acceptance----tons per ---
 - d. Estimated Remaining Life

B. Reviews and Approvals Affecting Current or Planned Operation

1. MEPA-----NA
-----ENF Date:
-----EIR Date:
2. Site Suitability Report-----NA
-----Date:
3. Site Assignment----Date(s)
-----Pre 55
4. Title/Description(s) of Current Approved Plan/Permit
5. Date(s) of Plan Approval

C. Existing Facility Permit Application-

1. Applicant name
2. DSWM Permit No:
3. Date of Application

4. Date of Fee Receipt
5. Consulting Registered Professional Engineer
6. Title of Plans & Reports Submission
7. Date of Receipt of Plans & Reports

II. FACILITY PERMIT AND AUTHORIZATION TO OPERATE APPLICATION REVIEW AND APPROVAL

This application complies with the application requirements at 310 CMR 19.030(4) [permits] and 19.042 [authorizations to operate] and was reviewed in accordance with 310 CMR 19.037, Review Procedure for Existing Facility Permits. The plans and reports described above establish that the facility complies with the criteria at 310 CMR 19.038(2)(a)1-10 and (d).

This document is a permit issued pursuant to G.L. c. 111, s. 150A and 310 CMR 19.000, subject to the conditions set forth below. In the event this permit and ATO conflicts with all or parts of prior plan approvals or permits issued pursuant to c. 111, s. 150A or solid waste regulations in effect prior to July 1, 1990 the terms and conditions of this permit and ATO shall supersede the conflicting provisions of the prior permits approvals. This permit/ ATO does not convey property rights of any sort or any exclusive privilege.

III. GENERAL PERMIT CONDITIONS

A. Amount of Waste - The facility shall not accept more than [insert max tpd unless an averaged amount has been approved].
Note: Please note whether tonnage set through MEPA or Site Assignment.

B. Compliance with Plans- The permittee shall conduct operations in accordance with approved plans, reports, and other submissions described in Section I except as may be modified by the conditions set forth in Sections IV and VI. No material changes in the design or activities described in the approved documents shall be performed without prior written Department approval.

C. Compliance with Other Approvals-The construction, operation, maintenance and closure of this facility shall be performed in compliance with other applicable state and federal laws and regulations.

D. Standard Conditions- The permittee [and the owner] shall operate the facility in accordance with the conditions at 310 CMR 19.007-19.011 and 19.043(5).

E. Joint Liability- This permit is issued subject to the conditions of joint liability of the permittee and owner in accordance with 310 CMR 19.043(3).

F. Transfer- No transfer of the this permit shall be

permitted except in accordance with 310 CMR 19.044.

G. Waste Disposal Restrictions- The permittee shall comply with the submission dates for all waste control plans in accordance with 310 CMR 19.017. All waste control plans previously submitted are herein approved.

H. Compliance with RCRA/Subtitle D- Notwithstanding the approval of the plans and reports incorporated herein and the applicable regulations [310 CMR 19.100 et seq, Part II- Landfill Design and Operational Standards] in effect on the date this permit issued, the Department may order the permittee or owner to take all necessary actions to comply with the provision of 310 CMR 19.014 including, without limitation, the submission of plans, reports and monitoring data; financial assurance and modifications of approved operating, maintenance and environmental monitoring procedures. 310 CMR 19.014 prohibits the operation or maintenance of a landfill in violation of the Resource Conservation and Recovery Act, Subtitle D [42 USC 4004(a)(b)] and the regulations and criteria promulgated thereunder.

I. Permit Modification- The Department reserves the right to rescind, suspend or modify this permit by the imposition of additional conditions based upon a determination of actual or the threat of adverse impacts from the construction, operation, maintenance or closure of the facility.

IV. SPECIFIC PERMIT CONDITIONS

A. Special Waste

B. Demonstration Projects

C. Variances

D. Other- [Scheduled dates for compliance with new regulations per 19.030(4)(b), resolution of outstanding enforcement actions, reporting requirements, closure plan submission, etc.

V. AUTHORIZATION TO CONSTRUCT

Before commencing construction in any phase or area not approved for construction by this permit or authorization the permittee shall obtain an Authorization to Construct in accordance with 310 CMR 19.041.

VI. AUTHORIZATION TO OPERATE CONDITIONS

A. Financial Assurance Mechanism- The permittee shall maintain closure and post closure financial assurance in the amounts and through the mechanisms approved in the plans in accordance with 310 CMR 19.051. Two years from the date of this

approval and for every two years after said date for which the facility operates and does not have a certificate of closure the owner or operator shall submit a revised estimate of the cost of closure and post closure financial assurance to the Department in accordance with 310 CMR 19.051.

B. Term- This Authorization to Operate [ATO] shall be valid only for the period of time for the current operating phase to reach its approved limits, or for a fixed term of five [5] years whichever term shall expire first, provided that the Department may amend the term of the ATO: (a) in accordance with an approved modification pursuant to either 310 CMR 19.039 or 19.040; or (b) in order to coincide with the termination or renewal date of other Department permits issued for the solid waste processing, treatment or pollution control equipment located at the facility. If the permittee intends to operate in the current phase of the facility after the expiration of this ATO the permittee is required to submit a request for a renewal of the ATO at least 180 days prior to the expiration of the ATO in accordance with 310 CMR 19.042(4).

C. Approval to Operate in Subsequent Phase- Before commencing operations in any subsequent phase or area not approved for operation under this permit and authorization the permittee shall obtain an Authorization to Operate in accordance with 310 CMR 19.042.

VI. RIGHT OF APPEAL

A. Right to Appeal- Pursuant to 310 CMR 19.037(5), any person aggrieved by the issuance of this permit or authorization to operate may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L., c. 111, s. 150A and C. 30A not later than thirty [30] days following notice of this decision.

B. Notice of Appeal- Any aggrieved person intending to appeal the decision to the superior court shall provide notice to the department of intention to commence such action. Said notice of intention shall include the Department File Number and shall identify with particularity the issues and reason(s) why it is believed the approval decision was not proper. Such notice shall be provided to the Office of General Counsel of the Department and the Regional Director for the regional office which made the decision. The appropriate addresses to which to send such notices are:

General Counsel
Department of Environmental Protection
One Winter Street-Third floor
Boston, 02108

Regional Director
Department of Environmental Protection

No allegation shall be made in any judicial appeal of this decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in those regulations, provided that matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the public health or environmental impact of the permitted activity.

Signature and Title

ACTIVE LANDFILLS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE PREVENTION
SOLID WASTE FACILITY LISTINGS IN MASSACHUSETTS
SITE REPORT - GENERAL INFORMATION

UNIQUE ID	TOWN	REG SITE ADDRESS CONTACT PHONE	STATUS	BOH DEQE SITE ACRE ACRE TYPE	CLOSE OWNERSHIP	OWNER ADDRESS CONTACT PHONE	OPERATOR TYPE	OPERATOR ADDRESS CONTACT PHONE	DESIGN SITE ASSIGN	DATE OF ASSIGN	TPY FOR 1990	TPY FOR 1992	TPY FOR 1995
SL0001.003	ABINGTON	S ABINGTON LANDFILL GROVELAND ST ABINGTON, MA	ACTIVE	0 0 SLF	0 MUNICIPAL		MUNICIPAL			/ /	0	0	0
SL0004.001	ADAMS	M ADAMS LANDFILL EAST RD ADAMS, MA 01220 ROBERT DEGEN (413)743-0620	ACTIVE	7 14 SLF	1993 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	01/01/76	13000	13000	0
SL0005.001	AGAWAM	M AGAWAM LANDFILL-BONDIS ISLAND WORCESTER ST (BONDIS ISLAND) SPRINGFIELD, MA ROBERT HUBBARD (413)567-5785	ACTIVE	100 55 SLF	1995 MUNICIPAL	TOWN OF SPRINGFIELD 1600 EAST COLUMBUS AVENUE SPRINGFIELD, MA 01103 ANTHONY CURTO, DPM	MUNICIPAL	TOWN OF SPRINGFIELD 1600 EAST COLUMBUS AVENUE SPRINGFIELD, MA 01103 ANTHONY CURTO, DPM	SANITARY LANDFILL	/ /	26280	26280	26280 /
SL0008.002	AMHERST	M AMHERST LANDFILL BELCHERTOWN RD/RT 9 (NEW) AMHERST, MA 01002 STAN ZIONSK (413)253-3355	ACTIVE	56 37 SLF	1996 MUNICIPAL	TOWN OF AMHERST TOWN HALL AMHERST, MA 01002 STAN ZIONSK (413)253-3355	MUNICIPAL	AMHERST DPM TOWN HALL AMHERST, MA 01002 STAN ZIONSK (413)253-3355	SANITARY LANDFILL	06/01/75	18200	18200	18200
SL0011.002	ASHBURNHAM	C ASHBURNHAM LANDFILL RTE 12, P.O. BOX 417 ASHBURNHAM, MA 02130	ACTIVE	10 32 SLF	1990 MUNICIPAL		MUNICIPAL			/ /	2500	0	0
SL0012.002	ASHBY	C ASHBY LANDFILL GREENVILLE RD/RT 31 ASHBY, MA 01431	ACTIVE	90 10 SLF	1991 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	/ /	5500	0	0
SL0015.001	ATHOL	C ATHOL LANDFILL WEST ROYLSTON RD ATHOL, MA 01331	ACTIVE	12 12 SLF	1993 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	01/23/78	7500	7500	0
SL0016.001	ATTLEBORO	S ATTLEBORO LANDFILL 179 PECKHAM ST ATTLEBORO, MA 02703 ALBERT DUMONT (508)222-7454	ACTIVE	155 26 SLF	1997 PRIVATE	ATTLEBORO LANDFILL INC 1 RATHBON/WILLARD DRIVE ATTLEBORO, MA 02703 ALBERT DUMONT (508)222-7454	PRIVATE			/ /	109000	109000	109000
SL0020.001	BARNSTABLE	S BARNSTABLE LANDFILL FLINT ST/OLD BARNSTABLE RD BARNSTABLE, MA 02623	ACTIVE	64 61 SLF	1992 MUNICIPAL	TOWN OF BARNSTABLE 367 MAIN STREET HYANNIS, MA 02601	MUNICIPAL	BARNSTABLE DPM 367 MAIN STREET HYANNIS, MA 02601	SOLID WASTE FACILITY	/ /	40000	40000	40000

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SL0021.002	BARRE	C RESOURCE CONTROL INC. LANDFILL VALLEY ROAD/MORCESTER RD/DEPOT BARRE, MA 01005 ROBERT FOLEY (508)355-2861	ACTIVE	40 29 SLF	1992 PRIVATE	RESOURCE CONTROL INC P.O. BOX 550 BARRE, MA 01005 ROBERT FOLEY 413-733-6717 (508)355-6821	PRIVATE	RESOURCE CONTROL INC 199 DEPOT ROAD BARRE, MA 01005 ROBERT FOLEY (508)355-6821	SANITARY LANDFILL	01/01/73	55640	55640	0
SL0024.001	BELCHERTOWN	M BELCHERTOWN LANDFILL HAMILTON ST BELCHERTOWN, MA	ACTIVE	10 10 SLF	1991 MUNICIPAL		MUNICIPAL		/ /		4200	0	0
SL0029.001	BERNARDSTON	M BERNARDSTON LANDFILL CEDAR LN/PARMENTER RD/MERRIFIE BERNARDSTON, MA	ACTIVE	10 10 SLF	1991 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	08/17/88	800	0	0
SL0032.001	BLACKSTONE	C BLACKSTONE LANDFILL CHESTNUT ST BLACKSTONE, MA 01504	ACTIVE	35 35 SLF	1996 MUNICIPAL	TOWN OF BLACKSTONE 15 ST. PAUL STREET BLACKSTONE, MA 01504	MUNICIPAL	TOWN OF BLACKSTONE, DPW 15 ST PAUL STREET BLACKSTONE, MA 01504	/ /		4500	4500	0
SL0034.001	BOLTON	C BOLTON LANDFILL FORBUSH HILL RD BOLTON, MA 01740 WILLIAM KEYSOR (508)779-6456	ACTIVE	3 10 SLF	1990 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	/ /	1600	0	0
SL0036.004	BOURNE	S BOURNE LANDFILL MACARTHUR BLVD/RTE 28 (NEW) BOURNE, MA LS. PELLEGRINI (617)759-3523	ACTIVE	24 11 SLF	2006 MUNICIPAL		MUNICIPAL		01/01/68		18000	18000	18000
SL0038.001	BOXFORD	M BOXFORD LANDFILL SPOFFORD ROAD BOXFORD, MA 01921 RICHARD TAYLOR	ACTIVE	44 0 SLF	1995 MUNICIPAL		MUNICIPAL	SEA CONSULTANTS 485 MASSACHUSETTS AVE CAMBRIDGE, MA 02139-4018 MARK GOULD, PE (617)497-7800	SANITARY LANDFILL	02/13/79	5500	5500	5500
SL0039.001	BOYLSTON	C BOYLSTON LANDFILL MILE HILL RD BOYLSTON, MA 01505 DANIEL DUFFY (617)889-2274	ACTIVE	23 6 SLF	1991 MUNICIPAL	TOWN OF BOYLSTON BOARD OF HEALTH BOYLSTON, MA 01505	MUNICIPAL	E.J. FLYNN ENGINEERS P.O. BOX 630-81 TAINTON ST MIDDLEBORD, MA 02346	SANITARY LANDFILL	/ /	0	0	0
SL0041.001	BREWSTER	S BREWSTER LANDFILL RUN HILL RD BREWSTER, MA 02631	ACTIVE	32 22 SLF	1998 MUNICIPAL	TOWN OF BREWSTER TOWN HALL, 2198 MAIN STREET BREWSTER, MA 02631	MUNICIPAL	BOARD OF HEALTH TOWN HALL, 2198 MAIN STREET BREWSTER, MA 02631	SANITARY LANDFILL	/ /	4500	4500	4500

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SL0042.004	BRIDGEWATER	S CHUCKRAM CORPORATION LANDFILL BEDFORD/COLONIAL DR/RT 18 BEDFORD, MA 02324 PAUL CHUCKRAM (508)697-4468	ACTIVE	50 30 SLF	1990 PRIVATE	CHUCKRAM CORPORATION 1221 BEDFORD STREET BRIDGEWATER, MA 02324 PAUL CHUCKRAM (508)697-4468	PRIVATE			/ /	9500	0	0
SL0045.001	BROOKFIELD	C BROOKFIELD LANDFILL QUABOG ST BROOKFIELD, MA	ACTIVE	0 0 SLF	0 MUNICIPAL		MUNICIPAL			/ /	1500	0	0
SL0047.001	BUCKLAND	M BUCKLAND LANDFILL HODGAN RD/RT 112/CONWAY RD BUCKLAND, MA CHESTER ZAGRUBSKI (413)625-6330	ACTIVE	15 15 SLF	1991 MUNICIPAL	BOARD OF HEALTH 17 STATE STREET BUCKLAND, MA CHESTER ZAGRUBSKI 4136256330	MUNICIPAL	BOARD OF HEALTH 17 STATE STREET BUCKLAND, MA CHESTER ZAGRUBSKI (413)625-6330	SANITARY LANDFILL	07/25/67	1300	0	0
SL0052.004	CARVER	S CARVER-MARION-WAREHAM LANDFILL FEDERAL ST (DISTRICT) SOUTH CARVER, MA 02330 RAY PICKLES	ACTIVE	95 25 SLF	1999 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	01/01/73	131400	131400	131400
SL0054.002	CHARLTON	C CHARLTON LANDFILL FLINT RD CHARLTON, MA	ACTIVE	24 24 SLF	1990 MUNICIPAL		MUNICIPAL			/ /	4000	0	0
SL0055.001	CHATHAM	S CHATHAM LANDFILL SAN RYDER RD/MAIN ST CHATHAM, MA	ACTIVE	50 50 SLF	1996 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	01/01/36	6200	6200	6200
SL0061.001	CHICOPEE	M BFI - AHEARN LANDFILL 845 BURNETT RD CHICOPEE, MA 01020 AL RIVIERE DR MATHEN WILLIAMS (413)592-9411	ACTIVE	60 40 SLF	1992 PRIVATE	BROWNING FERRIS INDUSTRIES 845 BURNETT ROAD CHICOPEE, MA 01020 MATHEN WILLIAMS, DIST. MANAGER (413)592-9411	PRIVATE	BROWNING FERRIS INDUSTRIES 845 BURNETT ROAD CHICOPEE, MA 01020 MATHEN WILLIAMS (413)592-9411	SANITARY LANDFILL	/ /	172500	0	0
SL0061.002	CHICOPEE	M PARTYKA LANDFILL LONBARD RD CHICOPEE, MA 01020 JOHN KREZENINSKI (413)785-1581	ACTIVE	120 47 SLF	1998 PRIVATE	PARTYKA RESOURCE MANAGEMENT 645 SHANNINGAN DRIVE CHICOPEE, MA 01020 JOE PARTYKA	PRIVATE	CT VALLEY SAN WASTE DISPOSAL 645 SHANNINGAN DRIVE CHICOPEE, MA 01020 JOE PARTYKA		/ /	120000	0	0
SL0061.006	CHICOPEE	M M.T. SULLIVAN LANDFILL OFF BURNETT ROAD (HAZ) CHICOPEE, MA 01013	ACTIVE	20 0 SLF	1992 PRIVATE	ATTYS FOLEY, HOAG & ELIOT ONE POST OFFICE SQUARE BOSTON, MA 02109 SETH JAFFE	PRIVATE	SULLIVAN		01/01/01	0	0	0

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SLO062.001	CHILMARK	S CHILMARK LANDFILL TABOR HOUSE RD CHILMARK, MA 02535	ACTIVE	11 0 SLF	1989 MUNICIPAL	TOWN OF CHILMARK	MUNICIPAL	CHILMARK BOARD OF HEALTH	SANITARY LANDFILL	01/01/85	780	780	780
SLO063.001	CLARKSBURG	W CLARKSBURG LANDFILL WEST ST CLARKSBURG, MA 01247	ACTIVE	5 5 SLF	1992 MUNICIPAL	TOWN OF CLARKSBURG TOWN HALL CLARKSBURG, MA 01247	MUNICIPAL	TOWN OF CLARKSBURG WEST STREET CLARKSBURG, MA 01247	SANITARY LANDFILL	/ /	0	0	0
SLO066.004	COLRAIN	W COLRAIN LANDFILL ANDUNT RD/RTE 112 COLRAIN, MA	ACTIVE	10 10 SLF	1991 MUNICIPAL		MUNICIPAL			/ /	1300	0	0
SLO067.001	CONCORD	W CONCORD LANDFILL RTE 2/RTE 126/WALDEN POND RD CONCORD, MA 01742 HAROLD STORRS (617)369-2709	ACTIVE	35 21 SLF	1995 MUNICIPAL	TOWN OF CONCORD TOWN HALL CONCORD, MA 01742	MUNICIPAL	TOWN OF CONCORD TOWN HALL CONCORD, MA 01742	SANITARY LANDFILL	01/01/60	25000	25000	25000
SLO072.004	DARTMOUTH	S DARTMOUTH LANDFILL 759 RUSSELL MILLS RD DARTMOUTH, MA 02748	ACTIVE	115 18 SLF	1990 MUNICIPAL		MUNICIPAL			/ /	20700	0	0
SLO074.001	DEERFIELD	W DEERFIELD LANDFILL LEE RD SOUTH DEERFIELD, MA 01373	ACTIVE	23 15 SLF	1991 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	01/01/76	3900	0	0
SLO075.001	DENNIS	S DENNIS LANDFILL RTE 134/THEO SMITH RD/RTE 6 DENNIS, MA 02660	ACTIVE	70 0 SLF	1998 MUNICIPAL		MUNICIPAL		SOLID WASTE FACILITY	/ /	14000	14000	14000
SLO076.001	DIGHTON	S DIGHTON LANDFILL TRENONT ST NORTH DIGHTON, MA 02715 BOH	ACTIVE	16 16 SLF	1990 MUNICIPAL	TOWN OF DIGHTON TOWN HALL DIGHTON, MA 02715 BOH	MUNICIPAL	BOARD OF HEALTH TOWN HALL DIGHTON, MA 02715 BOH		01/01/50	2000	0	0
SLO080.001	DUDLEY	C DUDLEY LANDFILL INDIAN RD DUDLEY, MA 01570 BOH	ACTIVE	9 9 SLF	1992 MUNICIPAL		PRIVATE	FLYNN ENGINEERING 81 TAUNTON STREET MIDDLEBORO, MA 02346 RICHARD KELLER (617)447-3514	SANITARY LANDFILL	02/13/80	7400	0	0

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SL0083.001	EAST BRIDGEWATER	S EAST BRIDGEWATER LANDFILL BRIDGE ST/PLAIN ST EAST BRIDGEWATER, MA 02333 TOWN HALL	ACTIVE	75 37 SLF	1990 MUNICIPAL	TOWN OF EAST BRIDGEWATER TOWN OFFICE BUILDING EAST BRIDGEWATER, MA 02333 TOWN HALL	MUNICIPAL	TOWN HALL TOWN OFFICE BUILDING EAST BRIDGEWATER, MA 02333 TOWN HALL	SANITARY LANDFILL	01/01/50	10000	0	0
SL0083.003	EAST BRIDGEWATER	S NORTHERN DISPOSAL INC LANDFILL 234 THATCHER ST (BFI) EAST BRIDGEWATER, MA 02333 RICHARD MARTINI (508)588-2260	ACTIVE	233 123 SLF	1991 PRIVATE	BROWNING FERRIS INDUSTRIES 234 THATCHER STREET EAST BRIDGEWATER, MA 02333	PRIVATE	BROWNING FERRIS INDUSTRIES 234 THATCHER STREET EAST BRIDGEWATER, MA 02333	SANITARY LANDFILL	07/12/73	328000	390000	0
SL0086.001	EASTHAM	S EASTHAM LANDFILL ORCHARD STREET EASTHAM, MA	ACTIVE	55 9 SLF	1991 MUNICIPAL	(508)588-2260 TOWN OF EASTHAM TOWN HALL, ROUTE 6 EASTHAM, MA 02642	MUNICIPAL	(508)588-2260 BOARD OF HEALTH TOWN HALL, ROUTE 6 EASTHAM, MA 02642		/ /	6800	0	0
SL0087.001	EASTHAMPTON	M EASTHAMPTON LANDFILL OLIVER ST EASTHAMPTON, MA 01027 RONADL PIZIAK (413)527-0793	ACTIVE	20 20 SLF	1992 MUNICIPAL	TOWN OF EASTHAMPTON 42 MAIN STREET EASTHAMPTON, MA 01027	MUNICIPAL	EASTHAMPTON DPW 43 MAIN STREET EASTHAMPTON, MA 01027	SANITARY LANDFILL	01/01/69	13000	0	0
SL0088.001	EASTON	S EASTON LANDFILL PROSPECT ST EASTON, MA	ACTIVE	90 36 SLF	1990 MUNICIPAL	TOWN OF EASTON	MUNICIPAL	DEPARTMENT OF PUBLIC WORKS	SANITARY LANDFILL	/ /	8500	0	0
SL0089.003	EDGARTOWN	S EDGARTOWN LANDFILL CLEVELAND TOWN RD EDGARTOWN, MA 02539 BOARD OF HEALTH	ACTIVE	19 0 SLF	1991 MUNICIPAL	TOWN OF EDGARTOWN P.O. BOX 1596 EDGARTOWN, MA 02539 BOARD OF HEALTH	MUNICIPAL	BOARD OF HEALTH P.O. BOX 1596 EDGARTOWN, MA 02539 BOARD OF HEALTH	SOLID WASTE FACILITY	01/01/85	2500	0	0
SL0094.001	FAIRHAVEN	S FAIRHAVEN LANDFILL BRIDGE ST FAIRHAVEN, MA 02719 PATRICIA FOWLE 16171993-8531	ACTIVE	30 30 SLF	1995 MUNICIPAL	TOWN OF FAIRHAVEN CENTER STREET FAIRHAVEN, MA 02719 DPW	MUNICIPAL	DPW CENTER STREET FAIRHAVEN, MA 02719 DPW	SANITARY LANDFILL	06/27/77	16000	16000	16000
SL0095.002	FALL RIVER	S FALL RIVER INC LANDFILL 1080 AIRPORT ROAD FALL RIVER, MA 02720 BOB DEROSA (508)678-8860	ACTIVE	200 165 SLF	1993 PRIVATE	NORTHERN DISPOSAL, INC. - BFI JANSEN INDUSTRIAL PARK FALL RIVER, MA 02720 RICK MCEWEN (508)678-8860	PRIVATE	NORTHERN DISPOSAL, INC. - BFI		/ /	450600	450600	0
SL0096.001	FALMOUTH	S FALMOUTH LANDFILL THOMAS LANDERS RD FALMOUTH, MA 02540 WILLIAM B. OWEN, DPW	ACTIVE	54 50 SLF	1991 MUNICIPAL	TOWN OF FALMOUTH 59 TOWN HALL SQUARE FALMOUTH, MA 02540 WILLIAM B. OWEN, DPW	MUNICIPAL	TOWN OF FALMOUTH DPW 59 TOWN HALL SQUARE FALMOUTH, MA 02540 WILLIAM B. OWEN, DPW	SANITARY LANDFILL	05/01/74	28500	0	0

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SLO099.001	FOXBOROUGH	S FOXBOROUGH LANDFILL EAST BELCHER RD FOXBOROUGH, MA 02035	ACTIVE	30 30 SLF	2001 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	01/01/73	8000	8000	0
SLO102.003	FREETOWN	S FREETOWN LANDFILL WEST HOWLAND RD FREETOWN, MA 02702 BRANT HAWORTH (617)947-1090	ACTIVE	56 0 SLF	1990 MUNICIPAL	TOWN OF FREETOWN 3 NORTH MAIN STREET ASSONET, MA 02702	MUNICIPAL	FREETOWN DPW 3 NORTH MAIN STREET ASSONET, MA 02702	SANITARY LANDFILL	/ /	6000	0	0
SLO103.002	GARDNER	C GARDNER LANDFILL WEST ST/RT 68 GARDNER, MA 01440	ACTIVE	25 22 SLF	1991 MUNICIPAL		PRIVATE	RESOURCE CONTROL INC VALLEY RD BARRE, MA 01005 ROBERT FOLEY	SANITARY LANDFILL	/ /	11900	0	0
SLO109.002	GOSNOLD	S GOSNOLD LANDFILL	ACTIVE	0 0 SLF	1990 MUNICIPAL					/ /	0	0	0
SLO111.001	GRANBY	M PARTYKA LANDFILL - GRANBY NEW LUDLOW RD/RT 122 GRANBY, MA JOHN KREZEMINSKI (413)785-1581	ACTIVE	60 60 SLF	1991 PRIVATE	PARTYKA RESOURCE MANAGEMENT 645 SHANNINIGAN DRIVE CHICOPEE, MA 01020 JOE PARTYKA	PRIVATE	PARTYKA RESOURCE MANAGEMENT 645 SHANNINIGAN DRIVE CHICOPEE, MA 01020 JOE PARTYKA		/ /	100000	100000	100000
SLO113.002	GREAT BARRINGTON	M GREAT BARRINGTON LANDFILL RT 7/SHEFFIELD RD GREAT BARRINGTON, MA BOARD OF SELECTMAN (413)528-9315	ACTIVE	22 15 SLF	1993 MUNICIPAL	TOWN OF GREAT BARRINGTON 334 MAIN STREET GREAT BARRINGTON, MA BOARD OF SELECTMAN () -	MUNICIPAL	BOARD OF SELECTMAN	SANITARY LANDFILL	/ /	12000	12000	0
SLO114.001	GREENFIELD	M GREENFIELD LANDFILL WISDOM WAY GREENFIELD, MA JOHN BEAN, SUPERINTENDENT (413)774-7442	ACTIVE	30 25 SLF	1995 MUNICIPAL	TOWN OF GREENFIELD WISDOM WAY GREENFIELD, MA JOHN BEAN, SUPERINTENDENT (413)774-7442	MUNICIPAL	TOWN OF GREENFIELD WISDOM WAY GREENFIELD, MA JOHN BEAN, SUPERINTENDENT (413)774-7442	SANITARY LANDFILL	07/22/90	13000	13000	13000
SLO115.001	GROTON	C GROTON LANDFILL FLAVELL ST/RT 40 GROTON, MA 01450	ACTIVE	11 0 SLF	1990 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	01/03/88	6000	0	0
SLO118.003	HALIFAX	S BFI - HALIFAX LANDFILL 27 LAUREL ST HALIFAX, MA 02338	ACTIVE	44 44 SLF	1991 PRIVATE	BROWNING FERRIS INDUSTRIES P.O. BOX 486 HALIFAX, MA 02338	PRIVATE	BROWNING FERRIS INDUSTRIES P.O. BOX 486 HALIFAX, MA 02338	SANITARY LANDFILL	/ /	143300	0	0

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SL0120.002	HAMPDEN	N HAMPTON LANDFILL CROSS STREET	ACTIVE	10 10 SLF	1994 MUNICIPAL		MUNICIPAL			/ /	0	0	0
SL0124.001	HARDWICK	C HARDWICK LANDFILL PATRILL HOLLOW RD HARDWICK, MA 01037	ACTIVE	15 0 SLF	1991 PRIVATE	DAVID ROACH GREENWICK ROAD WARE, MA 01082	PRIVATE	DAVID ROACH GREENWICK ROAD WARE, MA 01082	SANITARY LANDFILL	01/01/69	2000	0	0
SL0126.001	HARWICH	S HARWICK LANDFILL QUEEN ANN RD/FLAY RD/RTE 28 HARWICK, MA	ACTIVE	150 50 SLF	1997 MUNICIPAL		MUNICIPAL			/ /	8500	8500	8500
SL0128.003	HAVERHILL	N HAVERHILL LANDFILL NECK ROAD/WARD HILL HAVERHILL, MA 01830	ACTIVE	83 55 SLF	2010 PRIVATE	OSDEN HAVERHILL ASSOCIATES 100 RECOVERY WAY HAVERHILL, MA 01830 MULIC RATTERY (508) -	PRIVATE	OSDEN HAVERHILL ASSOCIATES 100 RECOVERY WAY HAVERHILL, MA 01830 ASHVIN PATEL		/ /	200000	200000	200000
SL0131.001	HINGHAM	(508) - N HINGHAM LANDFILL HOBART ST HINGHAM, MA 02043 BRIAN SULLIVAN (617)749-1300	ACTIVE	40 31 SLF	1993 MUNICIPAL	TOWN OF HINGHAM	MUNICIPAL	TOWN OF HINGHAM	SANITARY LANDFILL	01/01/62	14600	14600	0
SL0133.002	HOLBROOK	N HOLBROOK LANDFILL MAPLE RD (REAR) HOLBROOK, MA 02343 THOMAS CUMMINGS (617)767-1800	ACTIVE	23 0 SLF	1991 MUNICIPAL	BOARD OF SELECTMEN TOWN HALL HOLBROOK MA 02343 TOMAS CUMMINGS, SUPT DPW	MUNICIPAL	CAMP DRESSER & MCKEE, INC. ONE CENTER PLAZA BOSTON, MA 02108 RICHARD J. SPIELER, P.E. (617)742-5151	SANITARY LANDFILL	01/01/78	0	0	0
SL0135.001	HOLLAND	N HOLLAND LANDFILL STURBRIDGE RD HOLLAND, MA	ACTIVE	8 8 SLF	1995 MUNICIPAL	TOWN OF HOLLAND	MUNICIPAL	TOWN OF HOLLAND		/ /	0	0	0
SL0140.001	HUBBARDSTON	C HUBBARDSTON LANDFILL NEW TEMPLETON RD HUBBARDSTON, MA 01452 GARY MATER (617)928-5109	ACTIVE	5 5 SLF	1990 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	/ /	1000	0	0
SL0141.002	HUDSON	C RESOURCE CONTROL INC LANDFILL CEMETARY RD/HUDSON RD HUDSON, MA 01749 ROBERT FOLEY (508)344-2861	ACTIVE	23 6 SLF	1991 PRIVATE	RCI P.O. BOX 550 BARRE, MA 01005 ROBERT FOLEY (508)335-6821	PRIVATE	RCI P.O. BOX 176 STOW, MA 01775 JOHN MELONE (508)897-9662		/ /	15600	0	0

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SLO142.002	HULL	M HULL LANDFILL LOGAN AVE HULL, MA 02045	ACTIVE	13	9	SLF	1993 MUNICIPAL		MUNICIPAL		/ /		0	0	0
SLO145.001	KINGSTON	S KINGSTON LANDFILL SMITH LN/CRANBERRY RD KINGSTON, MA	ACTIVE	20	20	SLF	1999 MUNICIPAL		MUNICIPAL		/ /		4500	4500	4500
SLO146.001	LAKEVILLE	S LAKEVILLE LANDFILL RTE 97/RHODE IS RD LAKEVILLE, MA	ACTIVE	18	18	SLF	1996 MUNICIPAL		MUNICIPAL		/ /		5400	5400	5400
SLO147.001	LANCASTER	C LANCASTER LANDFILL LUNENBURG RD LANCASTER, MA 01523 STANLEY ROBERTS (617)365-2412	ACTIVE	0	8	SLF	1991 MUNICIPAL	TOWN OF LANCASTER 392 MILL STREET EXT LANCASTER, MA 01523	MUNICIPAL	LANCASTER DPW 392 MILL STREET EXT LANCASTER, MA 01523	/ /		4000	0	0
SLO150.006	LEE	M MEAD PAPER SLUDGE LANDFILL RTE 102/LAURAL MILL (SLUDGE) LEE, MA 01238 SPECIALTY PAPER DIVISION	ACTIVE	20	0	SLF	1991 PRIVATE	MEAD PAPER COMPANY SPECIALTY PAPER DIVISION LAURAL MILL, LEE MA 01238 MEAD PAPER COMPANY	PRIVATE	MEAD PAPER COMPANY LAURAL MILL LEE, MA 02138 MEAD PAPER COMPANY	/ /		20	0	0
SLO150.007	LEE	M KIMBERLY CLARK SLUDGE LANDFILL WILLOW HILL RD (SLUDGE) LEE, MA 01238 R. J. SCHWITZER	ACTIVE	50	15	SLF	1991 PRIVATE	KIMBERLY CLARK GRAYLOCK STREET LEE, MA 01238 R. J. SCHWITZER	PRIVATE	KIMBERLY CLARK GRAYLOCK STREET LEE, MA 01238 R. J. SCHWITZER	/ /		4000	0	0
SLO151.001	LEICESTER	C LEICESTER LANDFILL MANVILLE RD LEICESTER, MA 01524	ACTIVE	36	36	SLF	1990 MUNICIPAL	TOWN OF LEICESTER WASHBURN SQUARE LEICESTER, MA 01524	MUNICIPAL	LEICESTER BOARD OF HEALTH WASHBURN SQUARE LEICESTER, MA 01524	/ /		0	0	0
SLO154.001	LEVERETT	M LEVERETT LANDFILL CUSHMAN RD/CEMETARY RD MA 01054 JOHN LINK	ACTIVE	9	3	SLF	1991 MUNICIPAL	TOWN OF LEVERETT TOWN HALL LEVERETT, MA JOHN LINK	MUNICIPAL	LEVERETT HIGHWAY DEPARTMENT TOWN HALL LEVERETT, MA WILLIAM STRATFORD	SANITARY 01/01/91 LANDFILL		1300	0	0
SLO159.002	LONGMEADOW	M LONGMEADOW LANDFILL TINA LN LONGMEADOW, MA	ACTIVE	0	0	SLF	1991 MUNICIPAL		MUNICIPAL		/ /		0	0	0

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SLO160.001	LOWELL	N LOWELL LANDFILL WESTFORD ST/STEDMAN STREET LOWELL, MA 01853	ACTIVE	60 0 SLF	1995 MUNICIPAL	CITY OF LOWELL CITY HALL LOWELL, MA 018	PRIVATE	RESOURCE CONTROL, INC. P.O. BOX 550 - BARRE RD. BARRE, MA 01005 MARK W. POPHAM		/ /	81500	81500	81500
SLO161.002	LUDLOW	N LUDLOW LANDFILL HOLYOKE STREET LUDLOW, MA 01056 ALAN DELANCY, TOWN ENGINEER	ACTIVE	30 22 SLF	1992 MUNICIPAL	TOWN ENGINEER OF LUDLOW EN DEPT, 488 CHAPIN STREET LUDLOW, MA 01056 ALAN DELANCY	MUNICIPAL	TOWN ENGINEER 488 CHAPIN STREET LUDLOW, MA 01056 ALAN DELANCY		/ /	6800	0	0
SLO162.001	LUNENBURG	C LUNENBURG LANDFILL (NEW) YOUNGS RD/OFF SUMNER ST LUNENBURG, MA 01462	ACTIVE	30 8 SLF	1991 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	08/19/80	6000	0	0
SLO169.001	MARION	S MARION LANDFILL 2 SPRING ST/BENSON BK MARION, MA 02739	ACTIVE	95 95 SLF	2010 MUNICIPAL		MUNICIPAL			/ /	23000	23000	23000
SLO171.004	MARSHFIELD	S MARSHFIELD LANDFILL CLAY PIT RD/GROVE ST MARSHFIELD, MA	ACTIVE	58 26 SLF	1990 MUNICIPAL		MUNICIPAL			/ /	10200	0	0
SLO172.001	MASHPEE	S MASHPEE LANDFILL ASHERS PATH MASHPEE, MA	ACTIVE	61 61 SLF	1990 MUNICIPAL		PRIVATE			/ /	5500	0	0
SLO173.003	MATTAPoisETT	S MATTAPoisETT LANDFILL NORTH ST/TINKHAM HILL MATTAPoisETT, MA	ACTIVE	26 26 SLF	1999 MUNICIPAL		MUNICIPAL			/ /	2200	2200	2200
SLO175.001	MEDFIELD	N MEDFIELD LANDFILL GROVE ST MEDFIELD, MA	ACTIVE	6 6 SLF	1994 MUNICIPAL	TOWN OF MEDFIELD	MUNICIPAL	TOWN OF MEDFIELD		/ /	10400	0	0
SLO180.003	MERRIMAC	N MERRIMAC LANDFILL BATTIS RD MERRIMAC, MA 01860	ACTIVE	15 5 SLF	1994 MUNICIPAL		PRIVATE	ALFRED WRIGHT RFD 1 KINGSTON, NH ALFRED WRIGHT	SANITARY LANDFILL	/ /	3100	3100	0

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SLO182.002	MIDDLEBOROUGH	S MIDDLEBOROUGH LANDFILL BROOK ST MIDDLEBOROUGH, MA	ACTIVE	25 23 SLF	1991 MUNICIPAL		MUNICIPAL			/ /	10600	0	0
SLO184.002	MIDDLETON	N MIDDLETON LANDFILL RIVER ST/DOVER ST MIDDLETON, MA	ACTIVE	35 2 SLF	1994 MUNICIPAL	TOWN OF MIDDLETON	MUNICIPAL	TOWN OF MIDDLETON		/ /	4200	4200	0
SLO189.001	MILTON	N MILTON (ACE) LANDFILL 780 RANDOLPH AVE/RT 28 MILTON, MA 02186 LARRY DECELLE (617)698-0100	ACTIVE	130 33 SLF	1993 MUNICIPAL	TOWN OF MILTON 523 CANTON AVENUE MILTON, MA 01286	PRIVATE	A. A. WILLS MILTON, MA 02186 (617)698-1074	SANITARY LANDFILL	/ /	25500	25500	0
SLO192.001	MONTAGUE	N MONTAGUE LANDFILL TURNPIKE RD MONTAGUE, MA 01376 SILVIO BARUZZI (413)863-9306	ACTIVE	20 20 SLF	1991 MUNICIPAL	TOWN OF MONTAGUE MONTAGUE, MA SILVIO BARUZZI (413)863-9306	MUNICIPAL	TOWN OF MONTAGUE TURNPIKE ROAD MONTAGUE, MA SILVIO BARUZZI (413)863-9306	SANITARY LANDFILL	/ /	6800	0	0
SLO193.001	MONTEREY	N MONTEREY LANDFILL GOULD RD MONTEREY, MA	ACTIVE	6 6 SLF	1992 MUNICIPAL	TOWN OF MONTEREY	MUNICIPAL	TOWN OF MONTEREY		/ /	1000	0	0
SLO197.001	NANTUCKET	S NANTUCKET LANDFILL MADAKET RD NANTUCKET, MA	ACTIVE	47 47 SLF	1993 MUNICIPAL		MUNICIPAL			/ /	15000	15000	0
SLO198.001	NATICK	N NATICK LANDFILL WEST ST NATICK, MA 01760 GEORGE RUSSELL (617)651-7315	ACTIVE	74 37 SLF	1995 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	/ /	22000	22000	0
SLO199.001	NEEDHAM	N NEEDHAM LANDFILL 1407 CENTRAL AVE/RT 135 NEEDHAM MA 02192 ROBERT MACWEN (617)455-7537	ACTIVE	64 64 SLF	1994 MUNICIPAL		MUNICIPAL		SOLID WASTE FACILITY	11/19/87	25000	0	0
SLO201.001	NEW BEDFORD	S NEW BEDFORD LANDFILL 1103 SHANNAUT AVE NEW BEDFORD, MA 02746	ACTIVE	0 0 SLF	1990 MUNICIPAL		MUNICIPAL			/ /	75000	0	0

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SLO201.003	NEW BEDFORD	S NEW BEDFORD LANDFILL CHURCH ST NEW BEDFORD, MA 02740	ACTIVE	0 0 SLF	1990 MUNICIPAL	TOWN OF NEW BEDFORD 133 WILLIAMS STREET NEW BEDFORD, MA 02740	MUNICIPAL	NEW BEDFORD DPW 133 WILLIAMS STREET NEW BEDFORD, MA 02740		/ /	0	0	0
SLO203.003	NEW MARLBOROUGH	W NEW MARLBOROUGH WOOD WASTE LF SOUTH SANDISFIELD ROAD NEW MARLBOROUGH, MA 01230 JAMES ORNESBEE (413)229-8118	ACTIVE	0 0 SLF	0 MUNICIPAL	TOWN OF NEW MARLBOROUGH SOUTH SANDISFIELD ROAD NEW MARLBOROUGH, MA 01230 MARGARET SMITH (413)229-8118	MUNICIPAL	TOWN OF NEW MARLBOROUGH SOUTH SANDISFIELD ROAD NEW MARLBOROUGH, MA 01230 MARGARET SMITH (413)229-8118		01/01/01	0	0	0
SLO205.002	NEWBURY	N NEWBURY LANDFILL BOSTON/MAY ST NEWBURY, MA	ACTIVE	27 0 SLF	1994 MUNICIPAL	TOWN OF NEWBURY	MUNICIPAL	TOWN OF NEWBURY		/ /	5200	0	0
SLO208.001	NORFOLK	N NORFOLK LANDFILL MEDWAY RD NORFOLK, MA 02056 (508)528-1408	ACTIVE	50 18 SLF	1995 MUNICIPAL	TOWN OF NORFOLK, TOWN HALL 100 MAIN STREET, P.O. BOX 316 NORFOLK, MA 02056 MARILYN MORRIS, TOWN ADMIN (508)528-1408	MUNICIPAL	BOARD OF SELECTMAN 100 MAIN STREET, P.O. BOX 31 NORFOLK, MA 02056 (508)528-1408		/ /	4000	4000	4000
SLO209.003	NORTH ADAMS	W NORTH ADAMS LANDFILL AVENUE E/D STREET NORTH ADAMS, MA	ACTIVE	25 25 SLF	1992 MUNICIPAL	TOWN OF NORTH ADAMS	MUNICIPAL	TOWN OF NORTH ADAMS		/ /	19000	19000	0
SLO211.001	NORTH ATTLEBOROUGH	S NORTH ATTLEBOROUGH LANDFILL MOUNT HOPE RD NORTH ATTLEBOROUGH, MA 02760	ACTIVE	47 47 SLF	1993 MUNICIPAL	TOWN OF NORTH ATTLEBOROUGH 43 SOUTH WASHINGTON STREET NORTH ATTLEBORO, MA 02760	MUNICIPAL	NORTH ATTLEBORO DPW 43 SOUTH WASHINGTON STREET NORTH ATTLEBORO, MA 02760		/ /	20400	20400	20400
SLO212.001	NORTH BROOKFIELD	C NORTH BROOKFIELD LANDFILL EAST BROOKFIELD RD NORTH BROOKFIELD, MA 01535 80H	ACTIVE	13 13 SLF	1990 MUNICIPAL	NORTH BROOKFIELD LANDFILL EAST BROOKFIELD ROAD NORTH BROOKFIELD, MA 01535	PRIVATE	TOWN OF NORTH BROOKFIELD TOWN HALL, MAIN STREET NORTH BROOKFIELD, MA 01535	SANITARY LANDFILL	/ /	2500	0	0
SLO214.001	NORTHAMPTON	W NORTHAMPTON LANDFILL GLENDALE RD NORTHAMPTON, MA 01060 PETER MCERLAIN	ACTIVE	16 5 SLF	1993 MUNICIPAL	TOWN OF NORTHAMPTON CITY HALL NORTHAMPTON, MA 01060 PETER MCERLAIN	PRIVATE	J.F. PARTYKA & SON, INC 645 SHAWINIGAN DRIVE CHICOPEE, MA 01020 JOHN KRZEMINSKI (413)785-1581	SANITARY LANDFILL	01/08/89	25000	0	0
SLO221.001	OAK BLUFFS	S OAK BLUFF LANDFILL COUNTY RD/PENN AVE/BARNES RD OAK BLUFF, MA 02557	ACTIVE	30 30 SLF	1996 MUNICIPAL		MUNICIPAL		SOLID WASTE FACILITY	01/01/84	2500	2500	2500

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SLO222.001	DAKHAM	C DAKHAM LANDFILL SOUTH RD DAKHAM, MA	ACTIVE	4 3 SLF	1991 MUNICIPAL		MUNICIPAL			/ /	600	0	0
SLO223.003	ORANGE	M ORANGE LANDFILL JONES ST ORANGE, MA 01364	ACTIVE	12 12 SLF	1991 MUNICIPAL	TOWN OF ORANGE	MUNICIPAL	TOWN OF ORANGE	SANITARY	01/01/81 LANDFILL	5200	0	0
SLO224.001	ORLEANS	(508) - S ORLEANS LANDFILL LOTS HOLLOW RD ORLEANS, MA 02653 BOB CANNING (617)255-0900	ACTIVE	20 20 SLF	1991 MUNICIPAL	TOWN OF ORLEANS TOWN HALL, SCHOOLHOUSE ROAD ORLEANS, MA 02653	MUNICIPAL	BOARD OF HEALTH TOWN HALL, SCHOOLHOUSE ROAD ORLEANS, MA 02653		/ /	5200	0	0
SLO227.001	PALMER	M PALMER LANDFILL AIRPORT RD/EMERY ST PALMER, MA 01069	ACTIVE	23 23 SLF	1992 MUNICIPAL	BOARD OF SELECTMEN TOWN OF PALMER/TOWN HALL PALMER, MA 01069	PRIVATE	WARE RIVER DEVELOPMENT CORP. 2341 BOSTON RD. WILBRAHAM, MA 01095 PAUL DESANTIS (413)596-4453	SANITARY	11/20/72 LANDFILL	8600	0	0
SLO229.001	PEABODY	M GEN LANDFILL DEARBORN RD/RT 1/FARM AVE PEABODY, MA 01960 BILL ROBERTS (617)431-7354	ACTIVE	24 24 SLF	1991 PRIVATE	GCR WELLESLEY, MA BILL ROBERTS (617)431-7354	PRIVATE	GCR DEARBORN ROAD PEABODY, MA 01960 BILL ROBERTS (617)431-7354	SANITARY	/ / LANDFILL	780000	0	0
SLO231.001	PENBROKE	S PENBROKE LANDFILL HOBOMOCK ST PENBROKE, MA	ACTIVE	30 30 SLF	1992 MUNICIPAL		PRIVATE			/ /	5500	5500	0
SLO232.001	PEPPERELL	C PEPPERELL LANDFILL BOYNTON ST PEPPERELL, MA 01463 CHERYL ROSS (617)433-6700	ACTIVE	14 11 SLF	1991 MUNICIPAL		MUNICIPAL	PEPPERELL TRUCKING CO 12 HT LEBANON STREET PEPPERELL, MA 01463 RAY BLOOD (617)433-5550	SANITARY	01/20/75 LANDFILL	5000	0	0
SLO238.002	PLAINVILLE	S LAIDLAW LANDFILL BELCHER/RYE 1-495 PLAINVILLE MA 02762 HANK VANLAARHOVEN (508)699-2267	ACTIVE	139 133 SLF	1999 PRIVATE	LAIDLAW WASTE SYSTEMS P.O. BOX 1751 PLAINVILLE, MA 02762 HANK VANLAARHOVEN (617)699-2267	PRIVATE	LAIDLAW WASTE SYSTEMS	SANITARY	/ / LANDFILL	782500	782500	782500
SLO239.001	PLYMOUTH	S MANOMET LANDFILL BEAVER DAM RD PLYMOUTH, MA 02360 DPM	ACTIVE	16 14 SLF	1990 MUNICIPAL	TOWN OF PLYMOUTH 11 LINCOLN STREET PLYMOUTH, MA 02360 DPM	PRIVATE	DPM - RUN BY DF1 11 LINCOLN STREET PLYMOUTH, MA 02360 DPM		/ /	65000	0	0

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SL0242.002	PROVINCETOWN	S PROVINCETOWN LANDFILL RACE POINT RD/BENNET RD PROVINCETOWN, MA 02657	ACTIVE	0	25 SLF	1990 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	03/05/65	4200	0	0
SL0244.001	RANDOLPH	N RANDOLPH LANDFILL JOHNSON ST RANDOLPH, MA 02368	ACTIVE	64	64 SLF	1994 PRIVATE	LOUIS M. KMITO & SONS INC BOX 199 RANDOLPH, MA 02368	PRIVATE	BROWNING FERRIS INDUSTRIES 100 HALLET ST BOSTON, MA 02124	SANITARY LANDFILL	/ /	52000	31000	0
SL0245.001	RAYNHAM	() - RAYNHAM LANDFILL KING PHILLIP ST RAYNHAM, MA 02767 HARRY CAREY (508)824-2718	ACTIVE	16	16 SLF	1997 MUNICIPAL	() - TOWN OF RAYNHAM TOWN HALL RAYNHAM, MA HARRY CARRY, HWY SUPER.	PRIVATE	() - HAYWARD BOYNTON & WILLIAMS COURT STREET RAYNHAM, MA 02780 (508)822-9870	SANITARY LANDFILL	04/20/82	5500	5500	5500
SL0247.003	REHOBOTH	S REHOBOTH LANDFILL PLAIN STREET REHOBOTH, MA 02769 SYLVESTER AMARAL (617)252-3759	ACTIVE	0	0 SLF	1990 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	/ /	5500	0	0
SL0250.001	ROCHESTER	S ROCHESTER LANDFILL HIGH ST ROCHESTER, MA 02770 K. GILMORE (617)763-2085	ACTIVE	24	0 SLF	1990 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	01/01/74	4000	0	0
SL0251.001	ROCKLAND	S ROCKLAND LANDFILL BEECH ST ROCKLAND, MA	ACTIVE	92	92 SLF	1993 MUNICIPAL		MUNICIPAL			/ /	20200	20200	0
SL0254.003	ROWLEY	N ROWLEY LANDFILL OLD ROWLEY RD ROWLEY, MA 01969 ALDENE GORDON (617)948-2372	ACTIVE	18	0 SLF	1991 MUNICIPAL	TOWN OF ROWLEY	MUNICIPAL	TOWN OF ROWLEY		/ /	2900	0	0
SL0255.001	ROYALSTON	C ROYALSTON LANDFILL TOWN DUMP RD ROYALSTON, MA	ACTIVE	0	0 SLF	1991 MUNICIPAL		MUNICIPAL			/ /	600	0	0
SL0259.001	SALISBURY	N SALISBURY LANDFILL OLD COUNTY RD SALISBURY, MA	ACTIVE	10	10 SLF	1991 MUNICIPAL		MUNICIPAL			/ /	4300	0	0

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UNIQUE ID	TOWN	REG SITE ADDRESS CONTACT PHONE	STATUS	BOH DEGE SITE ACRE ACRE TYPE	CLOSE OWNERSHIP	OWNER ADDRESS CONTACT PHONE	OPERATOR TYPE	OPERATOR ADDRESS CONTACT PHONE	DESIGN SITE ASSIGN	DATE OF ASSIGN	TPY FOR 1990	TPY FOR 1992	TPY FOR 1995
SLO261.002	SANDWICH	S SANDWICH LANDFILL WATER ST/ RTE 130/ RTE 6 SANDWICH, MA	ACTIVE	14 10 SLF	1990 MUNICIPAL		MUNICIPAL			/ /	11000	0	0
SLO263.001	SAVOY	M SAVOY LANDFILL CHAPEL RD SAVOY, MA BOH (413)743-4294	ACTIVE	10 10 SLF	1991 MUNICIPAL	TOWN OF SAVOY (413)743-4294	MUNICIPAL	TOWN OF SAVOY (413)743-4294	SANITARY LANDFILL	/ /	0	0	0
SLO264.001	SCITUATE	S SCITUATE LANDFILL 161 DRIFTWAY RD SCITUATE, MA 02066	ACTIVE	57 57 SLF	1996 MUNICIPAL		MUNICIPAL			/ /	20000	20000	20000
SLO265.001	SEEKONK	() - S SEEKONK LANDFILL FALL RIVER RD SEEKONK, MA	ACTIVE	14 14 SLF	1989 MUNICIPAL		MUNICIPAL			/ /	0	0	0
SLO266.001	SHARDN	S SHARDN LANDFILL MOUNTAIN ST SHARDN, MA	ACTIVE	35 35 SLF	1990 MUNICIPAL		MUNICIPAL			/ /	15000	0	0
SLO270.001	SHIRLEY	C SHIRLEY LANDFILL LEONINSTER RD (GRAVEL PIT) SHIRLEY, MA 01464 ANITA HAINES (617)448-6664	ACTIVE	20 20 SLF	1991 MUNICIPAL	TOWN OF SHIRLEY SHIRLEY, MA 01464 RICHARD HATCH	MUNICIPAL	RICHARD HATCH A2-235 MAPLE STREET SHIRLEY, MA 01464-9726 RICHARD HATCH (617)425-4330	SOLID WASTE FACILITY	11/01/87	4500	0	0
SLO275.001	SOUTH HADLEY	M SOUTH HADLEY LANDFILL INDUSTRIAL DRIVE SOUTH HADLEY, MA 01075 PHIL PATTERSON	ACTIVE	40 28 SLF	1991 MUNICIPAL	TOWN OF SOUTH HADLEY INDUSTRIAL DRIVE SOUTH HADLEY, MA 01075 PHIL PATTERSON	MUNICIPAL	SOUTH HADLEY DPM INDUSTRIAL DRIVE SOUTH HADLEY, MA 01075 PHIL PATTERSON	SANITARY LANDFILL	/ /	18000	0	0
SLO276.001	SOUTHAMPTON	M SOUTHAMPTON LANDFILL MOOSE BROOK RD SOUTHAMPTON, MA 01073 ED CAULEY (413)527-4920	ACTIVE	40 25 SLF	1993 MUNICIPAL	TOWN OF SOUTHAMPTON TOWN HALL SOUTHAMPTON, MA 01073 ED CAULEY (413)527-4920	MUNICIPAL	TOWN OF SOUTHAMPTON TOWN HALL SOUTHAMPTON, MA 01073 ED CAULEY (413)527-4920		04/21/87	2600	2600	0
SLO278.002	SOUTHBRIDGE	C SOUTHBRIDGE LANDFILL (NEW) BAREFOOT FARM RD SOUTHBRIDGE, MA 01550 DPM (617)765-5472	ACTIVE	23 23 SLF	2000 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	08/01/81	10000	10000	0

DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE PREVENTION
SOLID WASTE FACILITY LISTINGS IN MASSACHUSETTS
SITE REPORT - GENERAL INFORMATION

UNIQUE ID	TOWN	REG SITE ADDRESS CONTACT PHONE	STATUS	BOH DEGE SITE ACRE ACRE TYPE	CLOSE OWNERSHIP	OWNER ADDRESS CONTACT PHONE	OPERATOR TYPE	OPERATOR ADDRESS CONTACT PHONE	DESIGN SITE ASSIGN	DATE OF ASSIGN	TPY FOR 1990	TPY FOR 1992	TPY FOR 1995
SLO282.001	STERLING	C STERLING LANDFILL RTE 12 JUNCTION/CHOCKSETT RD STERLING, MA 01564 ROBERT CUTLER (617)422-6767	ACTIVE	11 11 SLF	1990 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	01/01/71	3500	0	0
SLO287.001	STURBRIDGE	C STURBRIDGE LANDFILL BREAKNECK RD STURBRIDGE, MA 01566	ACTIVE	30 8 SLF	1995 MUNICIPAL	TOWN OF STURBRIDGE STURBRIDGE, MA 01566	MUNICIPAL		SANITARY LANDFILL	01/01/81	3500	3500	3500
SLO288.001	SUDBURY	N SAND HILL LANDFILL 490 BOSTON POST RD/RTE 20 SUDBURY, MA 01776 ROBERT MOYES (617)443-2209	ACTIVE	22 22 SLF	1999 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	06/03/70	14000	14000	14000
SLO289.003	SUNDERLAND	W WILLIAM'S LANDFILL RTE 47/FALL/WESTON RD SUNDERLAND, MA	ACTIVE	6 0 SLF	1994 PRIVATE		PRIVATE			/ /	0	0	0
SLO290.002	SUTTON	C SUTTON LANDFILL OLD STONE RD SUTTON, MA 01527	ACTIVE	39 39 SLF	1992 MUNICIPAL	TOWN OF SUTTON MUNICIPAL CTR, 4 UXBRIDGE RD SUTTON, MA 01527	MUNICIPAL	SUTTON DPW MUNICIPAL CTR, 4 UXBRIDGE RD SUTTON, MA 01527		/ /	3500	0	0
SLO293.002	TAUNTON	S TAUNTON LANDFILL 330 E. BRITANNIA ST TAUNTON, MA 02780 CRAIG SHERMAN (617)823-3021	ACTIVE	58 30 SLF	1992 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	01/01/38	52000	52000	0
SLO294.003	TEMPLETON	C TEMPLETON LANDFILL RTE 202 TEMPLETON, MA 01436	ACTIVE	12 12 SLF	1990 MUNICIPAL		MUNICIPAL	BULLDOZING BY BOUTWELL LEONIMSTER, MA 01453 SCOTT BOUTWELL (617)537-9392	SANITARY LANDFILL	01/01/72	5000	0	0
SLO296.002	TISBURY	S TISBURY LANDFILL VINEYARD HAVEN RD/STATE HWY TISBURY, MA 02568 RUSSELL H. SMITH (508)693-9229	ACTIVE	26 10 SLF	1990 MUNICIPAL	TOWN OF TISBURY	MUNICIPAL	TISBURY BOARD OF HEALTH	SOLID WASTE FACILITY	01/01/84	3120	0	0
SLO298.002	TOPSFIELD	N TOPSFIELD LANDFILL 124 HAVERHILL/BAREHILL/WILMOR TOPSFIELD, MA 01983 CHESTER STOTT (617)887-5390	ACTIVE	59 59 SLF	1995 MUNICIPAL		MUNICIPAL	R.E. THOMPSON CO. 108 EAST STREET TOPSFIELD, MA 01983 RICHARD THOMPSON (617)887-8357	SANITARY LANDFILL	11/01/76	5200	5200	5200

DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE PREVENTION
SOLID WASTE FACILITY LISTINGS IN MASSACHUSETTS
SITE REPORT - GENERAL INFORMATION

UNIQUE ID	TOWN	REG SITE ADDRESS CONTACT PHONE	STATUS	BOW DEGE SITE ACRE ACRE TYPE	CLOSE OWNERSHIP	OWNER ADDRESS CONTACT PHONE	OPERATOR TYPE	OPERATOR ADDRESS CONTACT PHONE	DESIGN SITE ASSIGN	DATE OF ASSIGN	TPY FOR 1990	TPY FOR 1992	TPY FOR 1993
SLO299.002	TOWNSEND	C TOWNSEND LANDFILL TURNPIKE RD TOWNSEND, MA 01469	ACTIVE	22 10 SLF	1991 MUNICIPAL	TOWN OF TOWNSEND TOWN HALL TOWNSEND, MA 01469	PRIVATE	RESOURCE CONTROL INC P.O. BOX 550 BARRE, MA 01005		/ /	4500	0	0
SLO309.001	WARE	M WARE LANDFILL ROBBINS RD WARE, MA 01082 HELEN KUTT (413)323-6553	ACTIVE	15 15 SLF	1991 MUNICIPAL	TOWN OF WARE HELEN KATT (413)323-6553	MUNICIPAL		SANITARY LANDFILL	/ /	36500	0	0
SLO311.001	WARREN	C WARREN LANDFILL BRIMFIELD RD/SOUTH ST WARREN, MA	ACTIVE	20 20 SLF	1990 MUNICIPAL		PRIVATE			/ /	2500	0	0
SLO312.001	WARWICK	M WARWICK LANDFILL GARAGE RD/OFF WINCHESTER RD WARWICK, MA	ACTIVE	20 5 SLF	1993 MUNICIPAL		MUNICIPAL			/ /	600	600	0
SLO315.004	WAYLAND	M COCHITUATE LANDFILL RTE 20 WAYLAND, MA	ACTIVE	25 5 SLF	1997 MUNICIPAL		MUNICIPAL			/ /	18000	18000	0
SLO318.001	WELLFLEET	S WELLFLEET LANDFILL COLES NECK RD/BOND BK 1S RD WELLFLEET, MA 02667 ERVIN GLAHN (617)349-2621	ACTIVE	8 0 SLF	1990 MUNICIPAL	TOWN OF WELLFLEET TOWN HALL WELLFLEET, MA 02667 BOH	MUNICIPAL	BOARD OF HEALTH TOWN HALL WELLFLEET, MA 02667 BOH		/ /	3000	0	0
SLO323.001	WEST BROOKFIELD	C WEST BROOKFIELD LANDFILL WISMAN RD WEST BROOKFIELD, MA 01581	ACTIVE	37 13 SLF	1991 MUNICIPAL		MUNICIPAL	P & S CONTRACTORS WEST BROOKFIELD, MA 01585 COX ENGINEERING	SANITARY LANDFILL	/ /	2000	0	0
SLO327.001	WEST TISBURY	S WEST TISBURY LANDFILL VINEYARD WAGEN RD/STATE ROAD WEST TISBURY, MA 02575	ACTIVE	14 0 SLF	1990 MUNICIPAL	TOWN OF WEST TISBURY	MUNICIPAL	WEST TISBURY BOARD OF HEALTH	SOLID WASTE FACILITY	/ /	1407	0	0
SLO328.001	WESTBOROUGH	C WESTBOROUGH LANDFILL HOPKINTON RD/RTE 135, BOX 1243 WESTBOROUGH, MA 01581 JIM HARVEY (508)366-4123	ACTIVE	0 0 SLF	1990 PRIVATE	E.L. HARVEY & SONS 120 SOUTH STREET WESTBOROUGH, MA 01581 JIM HARVEY (508)366-4123	PRIVATE	E.L. HARVEY & SONS P.O. BOX 1243, RTE 135 WESTBOROUGH, MA 01581 JIM HARVEY (508)366-4123		/ /	20600	0	0

DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE PREVENTION
SOLID WASTE FACILITY LISTINGS IN MASSACHUSETTS
SITE1 REPORT - GENERAL INFORMATION

UNIQUE ID	TOWN	REG SITE ADDRESS CONTACT PHONE	STATUS	BOH DEBE SITE ACRE ACRE TYPE	CLOSE OWNERSHIP	OWNER ADDRESS CONTACT PHONE	OPERATOR TYPE	OPERATOR ADDRESS CONTACT PHONE	DESIGN SITE ASSIGN	DATE OF ASSIGN	TPY FOR 1990	TPY FOR 1992	TPY FOR 1995
SLO329.001	WESTFIELD	W WESTFIELD LANDFILL TWISS ST WESTFIELD, MA DANIEL REARDON, HEALTH DEPT. (413)568-9181	ACTIVE	20 20 SLF	1992 MUNICIPAL	TOWN OF WESTFIELD 59 COURT STREET WESTFIELD, MA 01085 DANIEL REARDON, HEALTH DEPT. (413)568-9181	MUNICIPAL	WESTFIELD BOARD OF HEALTH 59 COURT STREET WESTFIELD, MA 01085 DANIEL REARDON, HEALTH DEPT. (413)568-9181		/ /	44200	44200	0
SLO331.001	WESTHAMPTON	W WESTHAMPTON LANDFILL HATHAWAY RD WESTHAMPTON, MA	ACTIVE	25 5 SLF	1997 MUNICIPAL		PRIVATE			/ /	800	0	0
SLO332.001	WESTMINSTER	C FITCHBERG-WESTMINSTER LANDFILL RTE 31/PRINCETON RD WESTMINSTER, MA	ACTIVE	60 60 SLF	1992 MUNICIPAL		MUNICIPAL	RESOURCE CONTROL INC VALLEY RD BARRE, MA 01005 ROBERT FOLEY (617)345-2861	SANITARY LANDFILL	09/27/71	52200	52200	0
SLO334.002	WESTPORT	S WESTPORT LANDFILL HICKSBIDGE RD WESTPORT, MA 02790	ACTIVE	0 0 SLF	1990 MUNICIPAL		MUNICIPAL		SANITARY LANDFILL	/ /	5200	0	0
SLO339.001	WILBRAHAM	W WILBRAHAM LANDFILL RAILROAD AVE-CORNER WILBRAHAM, MA	ACTIVE	15 15 SLF	1991 MUNICIPAL		MUNICIPAL			/ /	7500	0	0
SLO341.008	WILLIAMSTOWN	W WILLIAMSTOWN LANDFILL SIMONS ROAD WILLIAMSTOWN, MA 02067 TIMOTHY KAISER	ACTIVE	12 0 SLF	1992 MUNICIPAL	TOWN OF WILLIAMSTOWN MUNICIPAL OFFICE BUILDING WILLIAMSTOWN, MA 02067 TIMOTHY KAISER	MUNICIPAL	WILLIAMSTOWN DPM MUNICIPAL OFFICE BUILDING WILLIAMSTOWN, MA 02067 TIMOTHY KAISER	SANITARY LANDFILL	01/01/01	0	0	0
SLO343.001	WINCHENDON	C WINCHENDON LANDFILL RIVER ST WINCHENDON, MA	ACTIVE	60 8 SLF	1992 MUNICIPAL		MUNICIPAL			/ /	4000	4000	0
SLO351.005	YARMOUTH	S YARMOUTH LANDFILL UNION ST/RTE 6/N OF TOWN H.S. YARMOUTH, MA	ACTIVE	125 105 SLF	1990 MUNICIPAL		MUNICIPAL			/ /	24500	0	0
*** Total ***				5510 3435							4892847	2997500	1712560



Commonwealth of Massachusetts
Executive Office of Environmental Affairs

Department of Environmental Protection

William F. Weld
Governor

Daniel S. Greenbaum
Commissioner

ACTIVE TRANSFER STATIONS IN MASSACHUSETTS

Commonwealth of Massachusetts, Department of Environmental Protection, Division of Solid Waste Management, Willa Kuh, Director, 1 Winter Street, 4th Floor, Boston, MA 02108. this information is updated annually. All questions and comments should be directed to Gari Lambert, Environmental Policy Analyst, (617) 292-5979, September 1991.

One Winter Street • Boston, Massachusetts 02108 • FAX (617) 556-1049 • Telephone (617) 292-5500

STATUS = A

DEPARTMENT OF ENVIRONMENTAL PROTECTION
REPORT: SITE 2 - GENERAL SITE INFORMATION - PART III OF III

ID	TOWN REGION PLANNING REG COUNTY	SITE TYPE ASSIGN # STATUS EST CLOSURE	MLM OR PRIV OWNED	OWNER ADDRESS PHONE CONTACT	MLM OR PRIV OPER.	OPERATOR ADDRESS PHONE CONTACT
TR0002.005	ACTON C MIDDLESEX	TRANS 002 ACTIVE 0	M	TOWN OF ACTON 14 FOREST ROAD ACTON, MA (616)264-9624 RICHARD HOWE	M	ACTON HWY DEPARTMENT 14 FOREST ROAD ACTON, MA (617)264-9624 RICHARD HOWE
TR0006.002	ALFORD W FW BERKSHIRE	TRANS 006 ACTIVE 0	M	TOWN OF ALFORD		TOWN OF ALFORD
TR0010.007	ARLINGTON M NE MIDDLESEX	TRANS 010 ACTIVE 0	M	TOWN OF ARLINGTON 51 GROVE STREET ARLINGTON, MA 02174 JOSEPH RICE		TOWN OF ARLINGTON 51 GROVE STREET ARLINGTON, MA 02174 JOSEPH RICE
TR0013.003	ASHFIELD W W FRANKLIN	TRANS ACTIVE 0	P	COMMERCIAL DISPOSAL SPRINGFIELD, MA		TOWN OF ASHFIELD ASHFIELD, MA
TR0018.001	AVON S SE NORFOLK	TRANS 018 ACTIVE 0	M		M	
TR0019.005	AYER C C MIDDLESEX	TRANS ACTIVE 0	M	TOWN OF AYER DPM BROOK STREET AYER, MA 01432 (617)772-3455 WILLIAM G. REDFIELD		TOWN OF AYER DPM BROOK STREET AYER, MA 01432 (617)772-3455 WILLIAM G. REDFIELD
TR0020.004	BARNSTABLE S CA BARNSTABLE	TRANS 020 ACTIVE 0	M	TOWN OF BARNSTABLE 367 MAIN STREET HYANNIS, MA 02601 (617)775-1120 RUSSELL DAVENPORT EXT. 123		
TR0022.002	BECKET W FW BERKSHIRE	TRANS 022 ACTIVE 0	M	TOWN OF BECKET ROUTE 9 BECKET, MA 01223	M	TOWN OF BECKET ROUTE 9 BECKET, MA 01223

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REPORT: SITE 2 - GENERAL SITE INFORMATION - PART III OF III

ID	TOWN REGION PLANNING REG COUNTY	SITE TYPE ASSIGN # STATUS EST CLOSURE	MUN OR PRIV OWNED	OWNER ADDRESS PHONE CONTACT	MUN OR PRIV OPER.	OPERATOR ADDRESS PHONE CONTACT
TR0026.002	BELMONT N NE MIDDLESEX	TRANS 026 ACTIVE 0	M	BOH		BROWNING FERRIS INC
TR0027.003	BERKLEY S SE BRISTOL	TRANS ACTIVE 0	M		M	
TR0028.00	BERLIN C C WORCESTER	TRANS 028 ACTIVE 0	M	TOWN OF BERLIN, BOH BERLIN, MA 01503 (617)838-2442 JOANNE BERGIN		TOWN OF BERLIN, BOH BERLIN, MA 01503 (617)838-2442 JOANNE BERGEN
TR0035.002	BOSTON N NE SUFFOLK	TRANS 035 ACTIVE 0	P	LAILDLAW (USE TO BE GSX) 66 NORFOLK AVENUE ROXBURY, MA 02119 (617)445-1940 NICKY TAYLOR	P	LAILDLAW 66 NORFOLK AVENUE ROXBURY, MA 02119 (617)445-1940 NICKY TAYLOR
TR0035.006	BOSTON N NE SUFFOLK	TRANS 035 ACTIVE 0	P	JET-A-WAY 31-47 KEMBLE STREET ROXBURY, MA 02119 (617)288-7131 JESSIE JETER	P	JET-A-WAY 31-47 KEMBLE STREET ROXBURY, MA 02119 (617)288-7131 BILL WALHOUSE
TR0035.008	BOSTON N NE SUFFOLK	TRANS 035 ACTIVE 0	P	GEORGE LYONS COMPANY STURTEVANT STREET BOSTON, MA 02112 (617)288-1337 GEORGE LYONS	P	GEORGE LYONS STURTEVANT STREET BOSTON, MA 02112 (617)288-1337 GEORGE LYONS
TR0037.003	BOXBOROUGH C C MIDDLESEX	TRANS 037 ACTIVE 0	M	TOWN OF BOXBOROUGH BOXBOROUGH, MA		TOWN OF BOXBOROUGH BOXBOROUGH, MA
TR0039.003	BOYLSTON C C WORCESTER	TRANS 039 ACTIVE 0	M	TOWN OF BOYLSTON TOWN HALL BOYLSTON, MA 01505	M	BOARD OF HEALTH TOWN HALL BOYLSTON, MA 01505

DEPARTMENT OF ENVIRONMENTAL PROTECTION
REPORT: SITE 2 - GENERAL SITE INFORMATION - PART III OF III

ID	TOWN REGION PLANNING REG COUNTY	SITE TYPE ASSIGN # STATUS EST CLOSURE	MUN OR PRIV OWNED	OWNER ADDRESS PHONE CONTACT	MUN OR PRIV OPER.	OPERATOR ADDRESS PHONE CONTACT
TR0040.005	BRAINTREE N NE NORFOLK	TRANS 040 ACTIVE 0	P	SEMASS PARTNERSHIP P.O. BOX 190, RTE 28 ROCHESTER, MA 02770 (508)291-2160 JACKIE WARREN	P	SEMASS PARTNERSHIP P.O. BOX 190, RTE 28 ROCHESTER, MA 02770 (508)291-2160 JACKIE WARREN
TR0042.010	BRIDGEWATER S SE PLYMOUTH	TRANS 042 ACTIVE 0	P	MACDONALD INDUSTRIES INC 14 ELM ST/ BOX 431 BRIDGEWATER, MA 02324 (617)697-5200 ALLAN MACDONALD		MACDONALD INDUSTRIES, INC 14 ELM ST/ BOX 431 BRIDGEWATER, MA 02324 (617)697-5200 ALLAN MACDONALD
TR0046.003	BROOKLINE N NE NORFOLK	TRANS 046 ACTIVE 0	M	TOWN OF BROOKLINE		TOWN OF BROOKLINE DPW
TR0049.004	CAMBRIDGE N NE MIDDLESEX	TRANS 049 ACTIVE 0	P	BROWNING FERRIS INDUSTRIES P.O. BOX 337 CAMBRIDGE, MA 02141 (617)227-7672 PAT PINEAU	P	BROWNING FERRIS INDUSTRIES P.O. BOX 337 CAMBRIDGE, MA 02141 (617)678-8860 JOHN HASTINGS
TR0049.005	CAMBRIDGE N NE MIDDLESEX	TRANS 049 ACTIVE 0	P	BUDDY HABARDY 51 MOONEY STREET CAMBRIDGE, MA 02138 (617)354-7580 BUDDY HABARDY	P	BUDDY HABARDY 51 MOONEY STREET CAMBRIDGE, MA 02138 (617)354-7580 BUDDY HABARDY
TR0051.001	CARLISLE N NE MIDDLESEX	TRANS 051 ACTIVE 0	M	TOWN OF CARLISLE P.O. BOX N CARLISLE, MA 01741 (617)369-6156 CHAIR, BOARD OF SELECTMEN	M	GARY DAVIS DPW, GARAGE SITE P.O. BOX N CARLISLE, MA (617)369-6156 GARY DAVIS
TR0059.003	CHESTER W W HAMPSHIRE	TRANS 059 ACTIVE 0	M	TOWN OF CHESTER BOX 289, SCHOOL STREET CHESTER, MA 01011 (413)354-7760 JOHN BUNNE	P	COMMERCIAL DISPOSAL 149 WAYSIDE AVENUE WEST SPRINGFIELD, MA 01089 () - RED GAGNON
TR0060.001	CHESTERFIELD W W HAMPSHIRE	TRANS 060 ACTIVE 0	M	CHESTERFIELD BOARD OF HEALTH TOWN HALL CHESTERFIELD, MA (800)367-7778 ROBERT C. PAINE	P	BROWNING FERRIS INDUSTRIES (413)296-4207 BILL ELLIS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
REPORT: SITE 2 - GENERAL SITE INFORMATION - PART III OF III

ID	TOWN REGION PLANNING REG COUNTY	SITE TYPE ASSIGN # STATUS EST CLOSURE	MUN OR PRIV OWNED	OWNER ADDRESS PHONE CONTACT	MUN OR PRIV OPER.	OPERATOR ADDRESS PHONE CONTACT
TR0065.005	CONASSET N NE NORFOLK	TRANS 065 ACTIVE 0	M	TOWN OF CONASSET	M	TOWN OF CONASSET
TR0068.004	CONWAY W W FRANKLIN	TRANS 068 ACTIVE 0	P	LEASED PROPERTY CONWAY, MA (413)369-4650 BOARD OF HEALTH	M	CONWAY BOARD OF HEALTH TOWN HALL CONWAY, MA 01341 (413)369-4609 BOARD OF HEALTH
TR0070.003	DALTON W FW BERKSHIRE	TRANS 070 ACTIVE 0	P	BERKSHIRE CLEANWAY P.O. BOX 253 DALTON, MA 01226 (413)684-0165 DAVID MORGAN	P	BERKSHIRE CLEANWAY P.O. BOX 253 DALTON, MA 01226 (413)684-0165 DAVID MORGAN
TR0070.004	DALTON W FW BERKSHIRE	TRANS 070 ACTIVE 0	M	TOWN OF DALTON 462 MAIN STREET DALTON, MA 01226	M	TOWN OF DALTON 462 MAIN STREET DALTON, MA 01226
TR0071.004	DANVERS N NE ESSEX	TRANS 071 ACTIVE 0	P	OGDEN MARTIN SYSTEMS 100 RECOVERY WAY HAVERHILL, MA (617)372-6288 MULIC RADERY	P	OGDEN MARTIN SYSTEMS 100 RECOVERY WAY HAVERHILL, MA (617)372-6288 MULIC RADERY
TR0073.003	DEDHAM N NE NORFOLK	TRANS 073 ACTIVE 0	P	NORTHERN DISPOSAL (BFI) 234 THATCHER ST EAST BRIDGEWATER, MA 02333 (508)588-2260 RICHI MARTINI	P	NORTHERN DISPOSAL (BFI) 234 THATCHER ST EAST BRIDGEWATER, MA 02333 (508)588-2260 RICHI MARTINI
TR0076.005	DIGHTON	TRANS ACTIVE 0	M			
TR0077.001	DOUGLAS C C WORCESTER	TRANS 077 ACTIVE 0	M	CLIFFORD H. BALLOU, BOH 20 DEPOT ST., P.O. BOX 661 DOUGLAS, MA 01516	M	TOWN OF DOUGLAS/BOH MAIN STREET EAST DOUGLAS, MA 01516 (617)476-2247 CLIFFORD BALLOU

DEPARTMENT OF ENVIRONMENTAL PROTECTION
REPORT: SITE 2 - GENERAL SITE INFORMATION - PART III OF III

ID	TOWN REGION PLANNING REG COUNTY	SITE TYPE ASSIGN # STATUS EST CLOSURE	MUN OR PRIV OWNED	OWNER ADDRESS PHONE CONTACT	MUN OR PRIV OPER.	OPERATOR ADDRESS PHONE CONTACT
TR0078.004	DOVER N NE NORFOLK	TRANS 078 ACTIVE 0	M	TOWN OF DOVER 2 DEDHAM STREET DOVER, MA 02030 (508)785-0058 J. JOHN MIELE	M	TOWN OF DOVER HIGHWAY DEPT 2 DEDHAM STREET DOVER, MA 02030 (508)785-0058 J. JOHN MIELE
TR0082.002	DUXBURY S SE PLYMOUTH	TRANS ACTIVE 0	M	TOWN OF DUXBURY 878 TREMONT STREET DUXBURY, MA 02332 (617)934-6586 THORNDIKE LITCHFIELD	M	DUXBURY DPW 878 TREMONT STREET DUXBURY, MA 02332 (617)934-6586 GILBERT BURNS
TR0085.007	EAST LONGMEADOW W W HAMPDEN	TRANS ACTIVE 0	M	TOWN OF EAST LONGMEADOW TOWN HALL EAST LONGMEADOW, MA 01028 (413)525-5410 A. A. MELIEN		TOWN OF EAST LONGMEADOW TOWN HALL EAST LONGMEADOW, MA 01028 (413)525-5410 A. A. MELIEN
TR0092.003	ESSEX N NE ESSEX	TRANS 092 ACTIVE 0	M	TOWN OF ESSEX ESSEX, MA	P	OGDEN MARTIN SYSTEMS
TR0101.002	FRANKLIN S SE NORFOLK	TRANS ACTIVE 0	M		M	
TR0105.003	GEORGETOWN N NE ESSEX	TRANS 105 ACTIVE 0	P	GREG NELLO DISPOSAL CORP. 7 CANTERBURY LANE GEORGETOWN, MA 01833 (508)352-8581 GREG NELLO	P	NELLO DISPOSAL CORPORATION 7 CANTERBURY LANE GEORGETOWN, MA 01833 (508)352-8581 GREG NELLO
TR0108.002	GOSHEN W W HAMPSHIRE	TRANS 108 ACTIVE 0	M	TOWN OF GOSHEN C/O BOARD OF HEALTH TOWN HALL, GOSHEN, MA 01032 (413)268-7856 HAROLD MOLLISON		STEVE MOLLISON C/O BOARD OF HEALTH TOWN HALL, GOSHEN, MA 01032 (413)268-7856
TR0112.002	GRANVILLE W W HAMPDEN	TRANS 112 ACTIVE 0	M	TOWN OF GRANVILLE GRANVILLE, MA 01834 (413)357-8585 KATHY MARTIN		THOMAS LAPTEW-TOWN DUMP MASTER GRANVILLE, MA 01034 (413)357-8585 KATHY MARTIN

DEPARTMENT OF ENVIRONMENTAL PROTECTION
REPORT: SITE 2 - GENERAL SITE INFORMATION - PART III OF III

ID	TOWN REGION PLANNING REG COUNTY	SITE TYPE ASSIGN # STATUS EST CLOSURE	MUN OR PRIV OWNED	OWNER ADDRESS PHONE CONTACT	MUN OR PRIV OPER.	OPERATOR ADDRESS PHONE CONTACT
TR0114.004	GREENFIELD W W FRANKLIN	TRANS 114 ACTIVE 0	P	WOOD ENTERPRISES 10 MAIN STREET FLORENCE, MA 01060 WILLIAM WOOD		WOOD ENTERPRISES 10 MAIN STREET FLORENCE, MA 01060 WILLIAM WOOD
TR0121.002	HANCOCK W FW BERKSHIRE	TRANS 121 ACTIVE 0	M	TOWN OF HANCOCK		
TR0122.003	HANOVER S SE PLYMOUTH	TRANS ACTIVE 0	M	TOWN OF HANOVER (617)826-4611 RICHARD SIMMONS		HANOVER BOH (617)826-4611 RICHARD SIMMONS
TR0123.001	HANSON S SE PLYMOUTH	TRANS ACTIVE 0	M		M	
TR0125.002	HARVARD C C WORCESTER	TRANS ACTIVE 0	M	TOWN OF HARVARD HARVARD DEPOT RD HARVARD, MA 01451 (617)454-3528 BETTY STONE, TOWN ADMIN.		TOWN OF HARVARD HARVARD DEPOT RD HARVARD, MA 01451 (617)454-3528 ROGER WART, HWY SUPERINT.
TR0128.011	HAVERHILL W NE ESSEX	TRANS 128001A ACTIVE 0	P	DECON MEDICAL WASTE SYSTEM INC P 139-141 FERRY ROAD HAVERHILL, MA 01835 CHRISTOPHER D. HAYNES		DECON MEDICAL WASTE SYSTEM INC 139-141 FERRY ROAD HAVERHILL, MA 01835 CHRISTOPHER D. HAYNES
TR0132.003	HINSDALE W FW BERKSHIRE	TRANS 132 ACTIVE 0	M	TOWN OF HINSDALE TOWN HALL HINSDALE, MA (413)665-2245 MEREDITH REED	M	TOWN OF HINSDALE TOWN HALL HINSDALE, MA (413)665-2245 MEREDITH REED
TR0136.005	MOLLISTON C C MIDDLESEX	TRANS 136 ACTIVE 0	P	BROWNING FERRIS INDUSTRIES 115 WASHINGTON ST MOLLISTON, MA 01746 (508)429-6150 P.J. MULLIN OR JIM WARREN	P	BROWNING FERRIS INDUSTRIES 115 WASHINGTON ST MOLLISTON, MA 01746 (508)429-6150 P.J. MULLIN

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REPORT: SITE 2 - GENERAL SITE INFORMATION - PART III OF III

ID	TOWN REGION PLANNING REG COUNTY	SITE TYPE ASSIGN # STATUS EST CLOSURE	MUN OR PRIV OWNED	OWNER ADDRESS PHONE CONTACT	MUN OR PRIV OPER.	OPERATOR ADDRESS PHONE CONTACT
TR0143.005	HUNTINGTON W HAMPSHIRE	TRANS 143005 ACTIVE 0	M	TOWN OF HUNTINGTON TOWN HALL HUNTINGTON, MA 01050 WAYNE MCKINNEY	M	BOARD OF HEALTH TOWN HALL HUNTINGTON, MA 01050 WAYNE MCKINNEY
TR0144.003	IPSWICH N NE ESSEX	TRANS 144 ACTIVE 0	M	TOWN OF IPSWICH	M	
TR0148.002	LANESBOROUGH W FW BERKSHIRE	TRANS 148 ACTIVE 0	M	TOWN OF LANESBOROUGH TOWN HALL LANESBOROUGH, MA (413)442-1167		TOWN OF LANESBOROUGH TOWN HALL LANESBOROUGH, MA (413)442-1167
TR0149.006	LAWRENCE N NE ESSEX	TRANS 149 ACTIVE 0	M	TOWN OF LAWRENCE DPW CITY HALL, 200 COMMON SREET LAWRENCE, MA 01840 RAY DIFIORE	M	DPW CITY HALL, 200 COMMON STREET LAWRENCE, MA 01840 RAY DIFIORE
TR0150.009	LEE W FW BERKSHIRE	TRANS 150 ACTIVE 0	P	DAILY AND SONS TRUCKING P.O. BOX 59 LEE, MA 02138 (413)243-1065 NELSON DALEY	P	DALEY AND SONS TRUCKING P.O. BOX 59 LEE, MA 02138 (413)243-3656 NELSON DALEY
TR0152.004	LENEX W FW BERKSHIRE	TRANS 152002A ACTIVE 0	P	LENEX TRUCKING P.O. BOX 582 LENEX, MA 01240 WILLIAM VAHLE	P	LENEX TRUCKING P.O. BOX 582 LENEX, MA 02140 WILLIAM VAHLE
TR0153.006	LEOMINSTER C C WORCESTER	TRANS 153 ACTIVE 0	P	OGDEN MARTIN SYSTEMS WARD HILL IND. PK. BRADFORD, MA 01830 (508)372-6288 STEVE JIANAKOPOLOF	P	OGDEN MARTIN SYSTEMS WARD HILL IND. PK. BRADFORD, MA 01830 (508)372-6288 STEVE JIANAKOPOLOF
TR0157.005	LINCOLN N NE MIDDLESEX	TRANS 157 ACTIVE 0	M			

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TR0158.002	LITTLETON C MIDDLESEX	TRANS 158 ACTIVE 0	M	TOWN OF LITTLETON		TOWN OF LITTLETON
TR0166.003	MANCHESTER N NE ESSEX	TRANS 166 ACTIVE 0	M	TOWN OF MANCHESTER MANCHESTER, MA	M	TOWN OF MANCHESTER MANCHESTER, MA
TR0168.001	MARBLEHEAD N NE ESSEX	TRANS 168 ACTIVE 0	M		M	
TR0169.002	MARION S SE PLYMOUTH	TRANS ACTIVE 0	M		M	
TR0170.005	MARLBOROUGH C C MIDDLESEX	TRANS 170 ACTIVE 0	P	POST RD TRANSFER & RECOVERY BOSTON POST ROAD- EAST MARLBOROUGH, MA 01752 (508)481-0336 DONALD WRIGHT		POST RD TRANSFER & RECOVERY BOSTON POST ROAD- EAST MARLBOROUGH, MA 01752 (508)481-0365 DONALD WRIGHT
TR0175.004	MEDFIELD N NE NORFOLK	TRANS 175 ACTIVE 0	M	TOWN OF MEDFIELD 459 MAIN ST. MEDFIELD, MA 02052 (508)359-8505 KEN FEENEY	M	TOWN OF MEDFIELD NORTH MEADOWS MEDFIELD, MA 02052 (508)359-8505 KEN FEENEY
TR0178.002	MELROSE N NE MIDDLESEX	TRANS 178001A ACTIVE 0	P	M.J. CONNOLLEY & SONS, INC. PENNEY ROAD MELROSE, MA	P	M.J. CONNOLLY & SONS, INC MELROSE, MA
TR0181.004	METHUEN N NE ESSEX	TRANS 181 ACTIVE 0	M	TOWN OF METHUEN	M	TOWN OF METHUEN

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TR0186.006	MILLBURY C WORCESTER	TRANS 186 ACTIVE 0	P	WHEELABRATOR SYSTEMS INC P.O. BOX 740 331 SW CUTOFF RD MILLBURY, MA 01527 (508)791-8900 DAN RADEBAUGH	P	WHEELABRATOR SYSTEMS INC P.O. BOX 740 MILLBURY, MA 01527 (508)791-8900 DAN RADEBAUGH
TR0186.007	MILLBURY C WORCESTER	TRANS 186 ACTIVE 0	M	TOWN OF MILLBURY MILLBURY, MA 01527	M	TOWN OF MILLBURY MILLBURY, MA 01527
TR0187.003	MILLIS W NE NORFOLK	TRANS 187 ACTIVE 0	M	TOWN OF MILLIS	M	TOWN OF MILLIS
TR0190.003	MONROE W W FRANKLIN	TRANS 190 ACTIVE 0	M	TOWN OF MONROE BUCKLAND, MA (413)424-5272 BOH		TOWN OF MONROE BUCKLAND, MA (413)424-5272 BOH
TR0193.002	MONTEREY W FW BERKSHIRE	TRANS 193 ACTIVE 0	M	TOWN OF MONTEREY DALTON, MA BERNIE LEGER	P	BERKSHIRE CLEANWAY DALTON, MA BERNIE LEGER
TR0199.002	NEEDHAM W NE NORFOLK	TRANS 199 ACTIVE 0	M	TOWN OF NEEDHAM	M	TOWN OF NEEDHAM
TR0203.001	NEW MARLBOROUGH W FW BERKSHIRE	TRANS 203001A ACTIVE 0	P	MALLORY TRUCKING COMPANY M.S.R. BOX 139A GREAT BARRINGTON, MA 01230 J. MALLORY	P	MALLORY TRUCKING COMPANY M.S.R. BOX 139A GREAT BARRINGTON, MA 01230 J. MALLORY
TR0203.002	NEW MARLBOROUGH W FW BERKSHIRE	TRANS 203 ACTIVE 0	M	TOWN OF NEW MARLBOROUGH PO BOX 99, MILL RIVER NEW MARLBOROUGH, MA 01230 (413)229-8116 MARGARET SMITH	M	TOWN OF NEW MARLBOROUGH P.O. BOX 99, MILL RIVER NEW MARLBOROUGH, MA 01230 (413)229-8116 MARGARET SMITH

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TR0204.002	NEW SALEM W FRANKLIN	TRANS 204 ACTIVE 0	M	TOWN OF NEW SALEM TOWN HALL NEW SALEM NEW SALEM, MA 01355 (617)544-6437 BRUCE SPENCER		TOWN OF NEW SALEM WENDELL RD NEW SALEM, MA (617)544-2303 RALPH HUNT
TR0207.006	NEWTON W NE MIDDLESEX	TRANS 207 ACTIVE 0	P	LAI DLAW WASTE SYSTEMS 121 SUMFORD AVE. NEWTON, MA 02166 (617)890-1937 BILL DIETRICH	P	LAI DLAW WASTE SYSTEMS 121 SUMFORD AVE. NEWTON, MA 02166 (617)890-1937 BILL DIETRICH
TR0212.001	NORTH BROOKFIELD C WORCESTER	TRANS 212001A ACTIVE 0	M	TOWN OF NORTH BROOKFIELD TOWN HALL, MAIN STREET NORTH BROOKFIELD, MA 01535 BOARD OF HEALTH		BOARD OF HEALTH TOWN HALL, MAIN STREET NORTH BROOKFIELD, MA 01535 BOARD OF HEALTH
TR0214.006	NORTHAMPTON W HAMPSHIRE	TRANS 214 ACTIVE 0	M	CITY OF NORTHAMPTON		CITY OF NORTHAMPTON
TR0214.007	NORTHAMPTON W HAMPSHIRE	TRANS 214 ACTIVE 0	P	REFUSE RECYCLING CORPORATION BOX 121 NORTHAMPTON, MA 01061 (413)584-6392 EDWARD ALLEN	P	REFUSE RECYCLING CORPORATION BOX 121 NORTHAMPTON, MA 01061 (413)584-6392 EDWARD ALLEN
TR0217.006	NORTHFIELD W FRANKLIN	TRANS 217 ACTIVE 0	M	TOWN OF NORTHFIELD		TOWN OF NORTHFIELD
TR0217.007	NORTHFIELD W FRANKLIN	TRANS 217 ACTIVE 0	P	MUDSON'S 144 SHELBURNE ROAD GILBERTVILLE, MA 01031 GARDNER R. MUDSON	P	MUDSON'S 144 SHELBURNE ROAD GILBERTVILLE, MA 01031 GARDNER R. MUDSON
TR0221.002	OAK BLUFF S CA DUXES	TRANS 221 ACTIVE 0	M	TOWN OF OAK BLUFF (508)693-0072 HERBERT CONBRA	M	OAK BLUFF HIGHWAY DEPARTMENT (508)693-0072 HERBERT CONBRA

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TR0225.003	OTIS W FW BERKSHIRE	TRANS 225 ACTIVE 0	M	TOWN OF OTIS - BOH		TOWN OF OTIS - BOH (508)260-4023 JOY BROWN
TR0229.005	PEABODY M NE ESSEX	TRANS 229 ACTIVE 0	P	LIDLAW WASTE SYS. (ATLANTIC) 404 WYMAN STREET, SUITE 320 WALTHAM, MA 02154 (617) -	P	LIDLAW WASTE SYSTEMS 404 WYMAN STREET, SUITE 320 WALTHAM, MA 02154 (617) -
TR0229.006	PEABODY M NE ESSEX	TRANS 229 ACTIVE 0	P	LIDLAW 295 FOREST STREET PEABODY, MA 01960 MR. INGERSOLL	P	LIDLAW 295 FOREST STREET PEABODY, MA 01960 MR. INGERSOLL
TR0229.007	PEABODY M NE ESSEX	TRANS 229 ACTIVE 0	P	REGIONAL WASTE SERVICES, INC. P.O. BOX 6087 300, FOREST ST. PEABODY, MA 01961-6087 (508)535-4144 MARK PAULINO	P	REGIONAL WASTE SERVICES, INC. P.O. BOX 6087, 300 FOREST ST. PEABODY, MA 01961-6087 (508)535-4144 MARK PAULINO
TR0234.001	PETERSHAM C C WORCESTER	TRANS 234 ACTIVE 0	M	TOWN OF PETERSHAM SOUTH MAIN ST PETERSHAM, MA 01366 (508)724-3353 DANA TOMLIN	M	A.J. LETOURNEAU 500 GROVE ST WORCESTER, MA (508)791-4239 ARTHUR LETOURNEAU
TR0235.002	PHILLIPSTON C C WORCESTER	TRANS 235 ACTIVE 0	M	TOWN OF PHILLIPSTON TOWN HALL PHILLIPSTON, MA 01331 (617)249-6828 FRAN O'CLAIR		TOWN OF PHILLIPSTON TOWN HALL PHILLIPSTON, MA 01331 (617)249-6828 FRAN O'CLAIR
TR0237.004	PLAINFIELD W W HAMPSHIRE	TRANS 237 ACTIVE 0	M	TOWN OF PLAINFIELD		BOARD OF HEALTH PLAINFIELD, MA (603)634-8839 ALBERTINE BECKWITH
TR0239.002	PLYMOUTH S SE PLYMOUTH	TRANS 239 ACTIVE 0	M	TOWN OF PLYMOUTH 11 LINCOLN STREET PLYMOUTH, MA (508)742-1620 LEIGHTON PECK, DPW	M	DEPARTMENT OF PUBLIC WORKS 11 LINCOLN STREET PLYMOUTH, MA (508)742-1620 LEIGHTON PECK, DPW

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TR0240.002	PLYMPTON S SE PLYMOUTH	TRANS ACTIVE 0				
TR0252.006	ROCKPORT W NE ESSEX	TRANS 252 ACTIVE 0	M	TOWN OF ROCKPORT		DEPARTMENT OF PUBLIC WORKS
TR0253.003	ROME W W FRANKLIN	TRANS 253 ACTIVE 0	M	TOWN OF ROME (413)737-3244		ROME HIGHWAY DEPT ROME, MA (413)339-5588 PETE BROWN
TR0256.003	RUSSELL W W HAMPSHIRE	TRANS 256 ACTIVE 0	M	TOWN OF RUSSELL RIVER STREET RUSSELL, MA 01071	M	TOWN OF RUSSELL RIVER STREET RUSSELL, MA 01071
TR0258.004	SALEM W NE ESSEX	TRANS 258 ACTIVE 0	M	CITY OF SALEM 1 SALEM GREEN SALEM, MA 01970 (617)745-9595 GEORGE WHITTIE	M	CITY OF SALEM PUBLIC WORKS 1 SALEM GREEN SALEM, MA 01970 (617)745-9595 GEORGE WHITTIE
TR0260.004	SANDISFIELD W W BERKSHIRE	TRANS 260 ACTIVE 0	M	TOWN OF SANDISFIELD (413)258-4711 ROBERT FREEMAN		TOWN OF SANDISFIELD
TR0261.005	SANDWICH S CA BARNSTABLE	TRANS 261001A ACTIVE 0	P	FRANK DURANTE 295 SERVICE ROAD SANDWICH, MA 02537 FRANK DURANTE	P	FRANK DURANTE 295 SERVICE ROAD SANDWICH, MA 02537 FRANK DURANTE
TR0267.005	SNEFFIELD W W BERKSHIRE	TRANS 267 ACTIVE 0	M	TOWN OF SNEFFIELD SNEFFIELD, MA 01257 (413)229-2335 GILBERT MALNATI		BERKSHIRE CLEANWAY, INC. PO BOX 253 DALTON, MA 01226 (413)684-0165 BERNIE LEDGER

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TR0269.003	SHERBORN N NE MIDDLESEX	TRANS 269 ACTIVE 0	M			
TR0274.001	SOMERVILLE N NE MIDDLESEX	TRANS 274 ACTIVE 0	M	TOWN OF SOMERVILLE TOWN HALL, 93 HIGHLAND AVENUE SOMERVILLE, MA 02143 (617)625-6600 JACK CANTERBURY	P	STERN RLTY TR/WASTE MNGT OF MA 580 EDGEWATER DRIVE WAKEFIELD, MA 01880 () -
TR0277.005	SOUTHBOROUGH C C WORCESTER	TRANS ACTIVE 0	M	TOWN OF SOUTHBOROUGH		
TR0279.004	SOUTHWICK W W HAMPDEN	TRANS 279 ACTIVE 0	M	TOWN OF SOUTHWICK SOUTHWICK, MA (413)569-3375 MERT SEIBERT		TOWN OF SOUTHWICK SOUTHWICK, MA (413)569-3375 MERT SEIBERT
TR0280.001	SPENCER C C WORCESTER	TRANS 280 ACTIVE 0	M	TOWN OF SPENCER SOUTH SPENCER RD SPENCER, MA 01562 (617)885-5963 KEVIN HUARD	M	BOH SPENCER RD SPENCER, MA 01562 (617)885-5963 KEVIN HUARD
TR0283.005	STOCKBRIDGE W FW BERKSHIRE	TRANS 283 ACTIVE 0	P	BERKSHIRE CLEANWAY RUBBISH REM M PO BOX 253 DALTON, MA 01226 (413)684-0165 DAVE MORGAN		TOWN OF STOCKBRIDGE TOWN HALL STOCKBRIDGE, MA 01262 (413)298-4714 HELEN PIGETT
TR0285.003	STOUGHTON S SE WORCESTER	TRANS 285 ACTIVE 0		TOWN OF STOUGHTON 10 PEARL STREET STOUGHTON, MA 02072 (617)344-2112 JAMES WILLIAMS		TOWN OF STOUGHTON 10 PEARL STREET STOUGHTON, MA 02072 (617)344-5491 JOSEPH SBARDELLA
TR0297.002	TOLLAND W W HAMPDEN	TRANS 297 ACTIVE 0	M	TOWN OF TOLLAND STAR ROUTE 149A TOLLAND, MA 01034 (413)258-4794	M	TOWN OF TOLLAND STAR ROUTE 149A TOLLAND, MA 01034 (413)258-4794

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TR0300.002	TRURO S CA BARNSTABLE	TRANS 300 ACTIVE 0	M	TOWN OF TRURO TOWN HALL, BOARD OF HEALTH TRURO, MA 02666 BOARD OF HEALTH	M	BOARD OF HEALTH TOWN HALL TRURO, MA 02666 BOARD OF HEALTH
TR0303.003	UPTON C C WORCESTER	TRANS 303 ACTIVE 0	P	UPTON FUEL & CONSTRUCTION MAPLE AVE UPTON, MA 01568 (508)529-7761 HENRY POIRIER		UPTON FUEL & CONSTRUCTION MAPLE AVE UPTON, MA 01568 (508)529-7761 HENRY POIRIER
TR0303.004	UPTON C C WORCESTER	TRANS 303 ACTIVE 0	M	TOWN OF UPTON UPTON, MA		TOWN OF UPTON UPTON, MA
TR0306.001	WALES W W HAMPDEN	TRANS 306 ACTIVE 0	M	TOWN OF WALES WALES, MA (413)245-7571 THOMAS FISHER	M	WALES- BOARD OF SELECTMAN WALES, MA (413)245-7571 THOMAS FISHER
TR0314.007	WATERTOWN W NE MIDDLESEX	TRANS 314 ACTIVE 0	M			
TR0316.004	WEBSTER C C WORCESTER	TRANS 316 ACTIVE 0	M	TOWN OF WEBSTER WEBSTER, MA		TOWN OF WEBSTER WEBSTER, MA
TR0317.002	WELLESLEY W NE NORFOLK	TRANS 317 ACTIVE 0	M	TOWN OF WELLESLEY 455 WORCESTER STREET WELLESLEY, MA 02181 (617)235-7400 M.R. BERDAN	M	TOWN OF WELLESLEY
TR0318.002	WELLFLEET S CA BARNSTABLE	TRANS 318 ACTIVE 0	M	TOWN OF WELLFLEET TOWN HALL WELLFLEET, MA 02667	M	BOARD OF HEALTH TOWN HALL WELLFLEET, MA 02667

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TR0319.002	WENDELL W FRANKLIN	TRANS 319 ACTIVE 0	M	TOWN OF WENDELL NEW SALEM ROAD WENDELL, MA 01379 BOB LEETS	M	TOWN OF WENDELL NEW SALEM ROAD WENDELL, MA 01379 BOB LEETS
TR0322.003	WEST BRIDGEWATER S SE PLYMOUTH	TRANS 322 ACTIVE 0	M	TOWN OF WEST BRIDGEWATER	M	TOWN OF WEST BRIDGEWATER
TR0325.002	WEST SPRINGFIELD W HAMPDEN	TRANS 325 ACTIVE 0	P	COMMERCIAL DISPOSAL P.O. BOX 389 WEST SPRINGFIELD, MA 01089 COMMERCIAL DISPOSAL	P	COMMERCIAL DISPOSAL P.O. BOX 389 WEST SPRINGFIELD, MA 01089 COMMERCIAL DISPOSAL
TR0326.001	WEST STOCKBRIDGE W W BERKSHIRE	TRANS 326 ACTIVE 0	M	TOWN OF WEST STOCKBRIDGE (508)232-7080 ELUNICE PANZERI		TOWN OF WEST STOCKBRIDGE (508)232-7080 ELUNICE PANZERI
TR0328.005	WESTBOROUGH C C WORCESTER	TRANS 328 ACTIVE 0	P	E. L. HARVEY & SONS 120 SOUTH STREET WESTBOROUGH, MA 01518 (508)366-4123 JIM HARVEY		E. L. HARVEY & SONS 120 SOUTH STREET WESTBOROUGH, MA 01518 (508)366-4123 JIM HARVEY
TR0333.003	WESTON W NE MIDDLESEX	TRANS 333 ACTIVE 0	M	TOWN OF WESTON P.O. BOX 378 WESTON, MA 02193 I. WARD CARTER, EXEC. SEC.	M	TOWN OF WESTON P.O. BOX 378 WESTON, MA 02193
TR0336.004	WEYMOUTH W NE NORFOLK	TRANS 336 ACTIVE 0	M	TOWN OF WEYMOUTH 120 WINTER ST WEYMOUTH, MA 02188 (617)337-5100 FRANK LAGROTTERIA, DIRECTOR	M	DEPARTMENT OF PUBLIC WORKS 120 WINTER ST WEYMOUTH, MA 02188 (617)337-5100 JOE MCCAFFREY
TR0339.005	WILBRAHAM W W HAMPDEN	TRANS 339 ACTIVE 0	M	TOWN OF WILBRAHAM TOWN HALL WILBRAHAM, MA (413)596-8111 MERLIN KLECKER	M	TOWN OF WILBRAHAM TOWN HALL WILBRAHAM, MA (413)596-8111 MERLIN KLECKER

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TR0344.001	WINCHESTER N NE MIDDLESEX	TRANS 344 ACTIVE 0	N		N	

ENFORCEMENT OF THE WETLANDS PROTECTION ACT

Gregor I. McGregor, Esq.*

McGregor & Shea, P.C.

Boston

1) What is Regulated:

Work that occurs in, or affects, certain wetland areas must receive a permit. The primary permit authority is the local conservation commission. All applications for work in areas protected by the Wetlands Protection Act must be submitted to this commission.

Work in wetlands is also regulated by the Massachusetts Department of Environmental Protection (DEP). The DEP writes the rules and regulations that govern the issuance of permits, assists the cities and towns in enforcement problems, and issues permits when the conservation commission decision is appealed.

An excellent reference for enforcement purposes is An Enforcement Manual for Wetlands Protection in Massachusetts published by the DEP in 1990.

2) Environmental and Public Health Impacts:

The Massachusetts Wetlands Protection Act regulates work not only in wetlands, but also in floodplain areas. For this reason, the Wetlands Protection Act could be considered the "Wetlands and Floodplain Protection Act."

Wetlands are essential filters that improve water quality to drinking wells, streams, ponds, and reservoirs. Alterations to wetlands can result in a decreased yield in public drinking wells, loss of fish in streams, contamination of reservoirs, closure of shellfish beds, closing of swimming beaches, and loss of wildlife habitat.

Filling in the floodplain can lead to increased flooding of adjacent and downstream areas, storm damage to property, and loss of important wildlife habitat.

3) Where to Look for Violations:

Violations of the Wetlands Act don't occur just anywhere. They must occur in protected types of wetlands and floodplains. Floodplains are the easiest of the areas to identify, because they are mapped by the federal government. Maps should be on file in city hall with the conservation commission and the building inspector. The maps are known as floodplain maps, FEMA maps, or Flood insurance Rate Maps (FIRM). You may have heard the term "hundred-year floodplain"

describing this jurisdiction.

Wetlands are usually, but not always, found in low areas. They include swamps, marshes, ponds, lakes, stream, and brooks. Swamps and marshes are found along the ponds, lakes, and streams. Some towns and cities have wetland maps of their communities. The maps may have been made by the town, a state agency, or federal agency. While these maps have limitations, they may be used as a guide. Ask the conservation commission what maps are available.

In coastal areas the regulated wetlands may be usually dry areas such as coastal banks or dunes. If banks and dunes occur in your town, you may have heard that experts clash all the time on whether an area is a bank or dune. Don't worry. When it is a close call, you will find that the area is also mapped as a floodplain.

Think of the jurisdictional areas as land along the shore of a pond, lake, river, ocean, etc. One final note, think of a stream as an area that carries water. It may be a natural stream that flows only part of the year, an area where a stream has been dug out to act as a drainage ditch for the road runoff, or even a culvert under a road. The point is that a channel exists that carries water, and it is downstream from, or in, a wetland.

4) Safety Issues:

Unlike hazardous material cases, you don't have to know what a dumped material is. If it is fill, and it is in a wetland or floodplain, it falls under the Wetlands Act.

Remember that cars get stuck in the mud. Don't drive into a wetland area. On the other hand, if you drive into an area and you leave deep ruts or get stuck, you know that you are in a wetland!

5) Term Dictionary: [Caution: Definitions under the Wetlands Protection Act are technical and can be obscure. Please check and reference the Wetlands Regulations, Definitions (310 CMR 10.04) when writing a report.]

Alter-- to change the condition of an area subject to protection under the Act. Includes changing of drainage, the lowering of the water table, the destruction of vegetation, change of water quality including temperature. This is the catch-all term.

Area Subject to Protection Under the Act-- an area in the jurisdiction of the WPA (listed below).

any bank		the ocean
any fresh water wetland		any estuary
any coastal wetland		any creek
any beach	bordering	any river
any flat	on	any stream
any marsh		any pond
or any swamp		or any lake

Area Subject to Protection Under the Act, (cont.)

Land under any of the water bodies listed above
Land subject to tidal action
Land subject to coastal storm flowage
Land subject to flooding

Bank-- the sides of a stream

Beach-- in coastal areas it's the land between the Coastal Bank and low water. Note: In inland areas, a beach may be either a Bank, if below the annual high water line, or, if above the annual high water line, Land Subject to Flooding. The annual high water line is usually identifiable by staining on rocks.

Bordering Vegetated Wetland, (BVW)-- a wetland touching or bordering on a stream, pond, lake, or other water body. The wetland is touching or bordering if a stream channel leaves the wetland and goes to another wetland. Wetlands are characterized by plants that tolerate water, i.e. cattails, reed grass, swamp maples.

Coastal Bank-- land that is not a dune that slopes to the ocean. Can be manmade.

Determination of Applicability, or "Determination"-- a decision by the conservation commission or DEP that specific work will or will not require a Notice of Intent. [see Form 2]

Dredge-- to deepen, widen, or excavate, temporarily or permanently.

Dune-- a low landform running parallel to the coast made up of sand and stones. Formed by waves and wind, often subject to storm overwash. Can be manmade.

Enforcement Order-- formal notice that a violation of the WPA has taken place. The Enforcement Order may order remedial action to take place. Can be issued by the conservation commission or the DEP.

FEMA-- Federal Emergency Management Agency. This agency publishes the Federal Insurance Rate Maps (FIRM).

Fill-- to deposit material so as to raise the level of an area temporarily, or permanently.

Land Subject to Coastal Storm Flowage-- the coastal floodplain. It is shown on the FEMA maps.

Land Subject to Flooding-- areas of inland flooding. For major streams and rivers the area is shown on the FEMA maps. Some isolated basins can also be Land Subject to Flooding, if they are big enough. Consult the conservation commission concerning isolated areas.

Notice of Intent-- a permit application for alterations to resources areas filed with the conservation commission. [see Form 3]

Order of Conditions-- the permit issued for work in resource areas. The permit has conditions attached that are binding on the project, hence its name. [see Form 5]

Pond-- an area of water that doesn't dry out, except in a drought, which covers 10,000 sq. ft. at least once every ten years.

Remove-- to take away any material either temporarily or permanently.

Request for Determination of Applicability, or "Request"-- a written request to the conservation commission to decide if a specific project requires a Notice of Intent. It may also be used to request whether particular land or work is subject to the Act.

Resource Area-- an area subject to protection under the Wetlands Act.

Stream-- a channel that carries water from or in a resource area.

6) Regulatory Framework:

Prior to the commencement of work in an area protected under the Wetlands Act, a Notice of Intent must be filed with the conservation commission and an Order of Conditions must be issued. The Order of Conditions has mandatory criteria listed as "General Conditions" and "Special Conditions" that must be complied with in order for the project to go forward. [see page 2 and 3, Form 5]

For work within one hundred feet (100 ft.) of a resource area, known as the buffer zone, the filing of a Notice of Intent is not always required. The project proponent may elect instead to file a Request for Determination of Applicability with the conservation commission. A Determination of Applicability will be issued in 21 days deciding if the project will require a Notice of Intent. If no permit is required, a Negative Determination is issued [see page 2, Form 2]. For any work to go forward in the buffer zone, an Order of Conditions or Negative Determination of Applicability must have been issued.

No permit is required for work over 100 ft. from a resource area unless that work has somehow removed, filled, dredged, or altered the resource area. Jurisdiction over 100 ft. from the wetland can be considered "after the fact". Typically, this would involve erosion into the resource area or discharge from a storm drain into a wetland or stream.

A requirement of all permits is the placement of a sign

facing the road with the DEP file number. The sign is to be large enough to see from the road. (min. size 2 sq. ft.) A typical sign may read:

Mass DEP
file #41-658

Most violations involve two factors. First, the activity must be in a resource area, or in the buffer zone to a resource area. Second, the activity must entail removing, filling, dredging, or altering the resource area.

Since the nature of violations of the Wetlands Act is that they alter the land, it is not necessary that you are an expert in wetland resource delineation. If you document the type of alteration, by whom it has been performed, and how it was performed, where it took place, and when, then you can return to the site with a member of the conservation commission, or other expert, for a definitive decision on which resource area may be involved.

There are times when it is not clear what, if any, resource area is present on the site. These cases are not appropriate for criminal action. However, civil action is appropriate when the conservation commission and the person responsible for the activity cannot agree to remedies at the administrative level. Do not hesitate to act; unpermitted activity is more likely to be addressed at the administrative level if it is stopped early.

7) Statutes and Regulations:
(Selected Portions)

The Wetlands Protection Act, M.G.L. Chap.131, s. 40, requires that "No person shall remove, fill, dredge or alter any (area subject to protection under the Act)..." unless an Order of Conditions has been issued allowing such activity.

Violations of the Wetlands Act may be punished by a fine not to exceed twenty-five thousand dollars, (\$25,000), or up to two years in prison, or both. Civil penalties are limited up to \$25,000 for each violation.

Each day a violation continues constitutes a separate offense. Failure to comply with an Enforcement Order to restore illegally altered land is a violation of the law. [Read the last two paragraphs of the Wetlands Act for enforcement and penalty details as to what constitutes an offense. You must have the latest copy (December 26, 1990).] [The penalty provisions and access language of the Wetlands Act is attached in Part 9 of this section.]

The Wetlands Regulations, promulgated by DEP, 310 CMR 10.00, are in three parts. Part I gives definitions and explains procedures. Part II contains the Coastal Regulations, and Part III contains the Inland Regulations. Part II and Part III consist of sections that refer to separate resource areas. For example, section 10.27 refers to "Land Under the Ocean", a coastal resource area, and section 10.55 refers to "Bordering Vegetated Wetlands", an inland resource area.

Each section has a preamble, which tells why the area is

important, a paragraph giving the definition and stating the boundaries of the resource area, and several paragraphs that stipulate the review and permitting criteria for the resource area.

When writing a violation report, it is best to refer to the wording in the definition section. For example, "The bulldozer was seaward of high tide line (shown by line of seaweed) and landward of the edge of the water. [ref. 310 CMR 10.27(2)(a)]." In a hurry, a violation report may simply read, "Bulldozer on beach between seaweed and water."

There are some exemptions to the Wetlands Act. They include:

Work on existing telephone, electric, gas, water, and sewer lines.

Mosquito control work performed by the county mosquito control board.

Work to maintain the drainage and flooding systems of cranberry bogs

Work performed for normal maintenance or improvement of land in agricultural use or in aquacultural use.

Emergency projects (these must have Emergency Certificates issued by the conservation commission or DEP.)

8) Regulators:

Conservation Commission---The local permitting authority under the Wetlands Act. Also issues Enforcement Orders. The commission may have an agent or administrator. You should have a 7 day-a-week contact for violations. A copy of all reports should go to the conservation commission.

DEP---The regional office of the Massachusetts Department of Environmental Protection will assist when the conservation commission is unwilling or unable to do so. The regional office can be reached at:

Southeast.....508-946-2800

Northeast.....617-935-2160

Central.....508-792-7650

Western.....413-784-1100

9) Forms and Attachments:

Form 1 Request for Determination of Applicability

Form 2 Determination of Applicability

Form 3 Notice of Intent

Form 5 Order of Conditions

Form 9 Enforcement Order

Contact/Reference List

Penalty and Access Provisions of the Wetlands Act

Sample Affidavit .

Schematic of Inland Jurisdiction

Schematic of Coastal Jurisdiction

Cover, DEP Enforcement Manual

10) Related Laws:

In many cases, there may be overlapping jurisdiction when wetlands are filled. Listed below is a short list of some of those laws, and the agency to contact when violations occur.

M.G.L. Chapter 91: Regulates activity below mean high water along the coast, in ponds over ten acres in size, and most rivers. Contact the Enforcement Coordinator at the Division of Wetlands and Waterways of DEP.

Section 404 of the Clean Water Act: Regulates the placement of fill in wetlands. Contact the U.S. Army Corps of Engineers or E.P.A.

Home Rule Bylaw: Your city or town may have a local bylaw protecting wetlands and floodplains. Contact the conservation commission.

Wetland or Floodplain Zoning: Your city or town may have a zoning bylaw regulating work in wetlands or floodplains. Contact the Building Inspector.

* Mr. McGregor is an environmental lawyer whose Boston law firm, McGregor & Shea, P.C., concentrates in environmental law, real estate, enforcement, and related litigation. The firm represents landowners, municipalities, businesses and citizen groups in all aspects of federal, state, and local wetlands protection. The firm authored the 1990 DEP Enforcement Manual for Wetlands Protection in Massachusetts.

Mr. McGregor is indebted to John Rockwell for his invaluable help in preparing this article and its attachments, and for his perspective as a local official and expert in wetlands protection.

FORMS AND ATTACHMENTS

WETLANDS

Presented by Gregor I. McGregor, Esq.
McGregor & Shea, P.C.

CONTENTS

- I. What is Regulated
- II. Environmental and Public Health Impacts
- III. Where to Look for Violations
- IV. Safety Issues
- V. Term Dictionary
- VI. Regulatory Framework
- VII. Statutes and Regulations (Selected Portions)
- VIII. Regulators and Sources of Information
- IX. Forms and Attachments
- X. Related Laws

**NO PERSON
ALTER
WETLAND**

No person shall remove, fill, dredge or alter any bank, fresh water wetland, coastal wetland, beach, dune, flat, marsh, meadow or swamp bordering on the ocean or on any estuary, creek, river, stream, pond, or lake, or any land under said waters or any land subject to tidal action, coastal storm flowage, or flooding,

**w/o NOTICE
OF INTENT**

without filing written notice of his intention to so remove, fill, dredge or alter, including such plans as may be necessary to describe such proposed activity and its effect on the environment,

**w/o ORDER OF
order
CONDITIONS**

and without receiving and complying with an order of conditions and provided all appeal periods have elapsed.

FILE #

Upon receipt of any notice hereunder the DEP shall designate a file number for such notice and shall send a notification of such number to that person giving notice to the conservation commission [which] states the name of the owner of the land upon which the proposed work is to be done, and the location of said land.

**ENTRY ONTO
PROPERTY**

The conservation commission and its agents, officers and employees and the commissioner of environmental protection and his agents and employees, may enter upon privately owned land for the purpose of performing their duties under this section.

**ORDER OF
CONDITIONS**

If the conservation commission determines that the area on which the proposed work is to be done is significant to public or private water supply, to the groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, to protection of land containing shellfish, to the protection of wildlife habitat or to the protection of fisheries, such conservation commission shall by written order impose such condition as will contribute to the protection of the interests described herein, and all work shall be done in accordance therewith.

**RECORD
NOTICE
w/DEED**

No work proposed in any notice of intention shall be undertaken until the final order, determination, notification, or plan, if required, with respect to such work has been recorded in the registry of deeds.

DISPLAY FILE #	Any site where work is being done which is subject to this section shall display a sign of not less than two square feet or more than three square feet bearing the words, "Massachusetts Department of Environmental Protection File Number" and the sign shall display the file number assigned to the project.
EXCEPTIONS	The provisions of this section shall not apply to any mosquito control work done under the provisions of clause (36) of §5 of C. 40, of C. 252 or of any special act; to maintenance of drainage and flooding systems of cranberry bogs, to work performed for normal maintenance or improvement of land in agricultural use or in aquacultural use; or to any project authorized by special act prior to January first, 1973.
EMERGENCY PROJECTS	The notice of intention requirement shall not apply to emergency projects necessary for the protection of the health or safety of the commonwealth which are to be performed or which are ordered to be performed by an agency of the commonwealth or a political subdivision thereof. An emergency project shall mean any project certified to be an emergency by the conservation commission of the city or town in which the project would be undertaken.
ENFORCEMENT	A conservation commission and its agents, officers, and employees; the commissioner, his agents and employees; environmental officers, and any officer with police powers may issue enforcement orders directing compliance with this section and may undertake any other enforcement action authorized by law.
RESTORATION	Any person who violates this section may be ordered to restore property to its original condition and take other actions deemed necessary.
NO PERSON	No person shall
ALTER w/o AUTHORIZATION	remove, fill, dredge or alter any area subject to protection under this section without the required authorization,
ALLOW ACTIVITY	or cause, suffer or allow such activity, or
FAIL TO RESTORE or COMPLY	leave in place unauthorized fill, or otherwise fail to restore illegally altered land to its original condition, or fail to comply with an enforcement order.
MISDEMEANOR	\$25,0000, 2 years HOC, or both
CIVIL PENALTY	\$25,000
*2 YEAR STATUTE OF LIMITATIONS	

The term "applicant" as used in this section shall mean the person giving notice of intention to remove, fill, dredge or alter.

The term "person" as used in this section shall include any individual, group of individuals, association, partnership, corporation, company, business organization, trust, estate, the commonwealth or political subdivision thereof, administrative agency, public or quasipublic corporation or body, or any other legal entity or its legal representative, agents or assigns.

The term "bogs" as used in this section shall mean areas where standing or slowly running water is near or at the surface during a normal growing season and where a vegetational community has a significant portion of the ground or surface covered with sphagnum moss (Sphagnum) and where the vegetational community is made up of a significant portion of one or more of, but not limited to nor necessarily including all, of the following plants or groups of plants:

aster, azaleas, black spruce, bog cotton, cranberry, high-bush blueberry, larch, laurels, leatherleaf, orchids, pitcher plants, sedges, sundews, sweet gale, white cedar.

The term "coastal wetlands", as used in this section, shall mean any bank, marsh, swamp, meadow, flat or other lowland subject to tidal action or coastal storm flowage.

The term "freshwater wetlands", as used in this section, shall mean wet meadows, marshes, swamps, bogs, areas where groundwater, flowing or standing surface water or ice provide a significant part of the supporting substrate for a plant community for at least five months of the year; emergent and submergent plant communities in inland waters; that portion of any bank which touches any inland waters.

The term "swamps", as used in this section, shall mean areas where ground water is at or near the surface of the ground for a significant part of the growing season or where runoff water from surface drainage frequently collects above the soil surface, and where a significant part of the vegetational community is made up of, but not limited to nor necessarily include all of the following plants or groups of plants:

alders, ashes, azaleas, black alder, black spruce, button bush, American or white elm, white Hellebore, hemlock, highbush blueberry, larch, cowslip, poison sumac, red maple, skunk cabbage, sphagnum mosses, spicebush, black gum tupelo, sweet pepper bush, white cedar, willow.

The term "wet meadows", as used in this section [shall mean areas] where ground water is at the surface for a significant part of the growing season and near the surface throughout the year and where a significant part of the vegetational community is composed of various grasses, sedges and rushes; made up of, but not limited to nor necessarily including all, of the following plants or groups of plants:

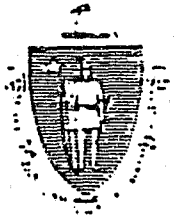
blue flag, vervain, thoroughwort, dock, false loosestrife, hydrophilic grasses, sedges, sensitive fern, smartweed.

The term "marshes", as used in this section, shall mean areas where a vegetational community exists in standing or running water during the growing season and where a significant part of the vegetational community is composed of, but not limited to nor necessarily including all, of the following plants or groups of plants:

arums, bladder worts, bur, duck weeds, eelgrass, frog bits, horsetails, hydrophilic grasses, leatherleaf, pickerel weeds, pipeworts, pond weeds, rushes, sedges, smartweeds, sweet gale, water milfoil, water lilies, water starworts, water willow.

10.99: Forms

Form 1



Commonwealth
of Massachusetts

DEP File No

(To be provided by DEP)

City/Town:

Applicant:

**Request for a Determination of Applicability
Massachusetts Wetlands Protection Act, G.L. c. 131, §40**

1. I, the undersigned, hereby request that the _____
Conservation Commission make a determination as to whether the area, described below, or work to
be performed on said area, also described below, is subject to the jurisdiction of the Wetlands
Protection Act, G.L. c. 131, §40.

2. The area is described as follows. (Use maps or plans, if necessary, to provide a description and the
location of the area subject to this request.)

Location: Street Address _____

Lot Number: _____

3. The work in said area is described below. (Use additional paper, if necessary, to describe the
proposed work.)

10.99: continued

4. The owner(s) of the area, if not the person making this request, has been given written notification of this request on _____ (date)

The name(s) and address(es) of the owner(s):

5. I have filed a complete copy of this request with the appropriate regional office of the Massachusetts Department of Environmental Protection _____ (date)

DEP Northeast Regional Office
5 Commonwealth Avenue
Woburn, MA 01801

DEP Southeast Regional Office
Lakeville Hospital
Route 105
Lakeville, MA 02347

DEP Central Regional Office
75 Grove Street
Worcester, MA 01605

DEP Western Regional Office
State House West, 4th Floor
436 Dwight Street
Springfield, MA 01103

6. I understand that notification of this request will be placed in a local newspaper at my expense in accordance with Section 10.05(3) (b) 1 of the regulations by the Conservation Commission and that I will be billed accordingly.

Signature _____ Name _____

Address _____ Tel. _____

10.99: continued

310 CMR 10.99

Form 2

Commonwealth
of Massachusetts

DEP File No.

(To be provided by DEP)

City/Town

Applicant

Date Request Filed

**Determination of Applicability
Massachusetts Wetlands Protection Act, G.L. c. 131, §40**

From _____ Issuing Authority

To _____
(Name of person making request) (Name of property owner)

Address _____ Address _____

This determination is issued and delivered as follows:

- ☐ by hand delivery to person making request on _____ (date)
- ☐ by certified mail, return receipt requested on _____ (date)

Pursuant to the authority of G.L. c. 131, §40, the _____
has considered your request for a Determination of Applicability and its supporting documentation, and has
made the following determination (check whichever is applicable):

Location: Street Address _____

Lot Number: _____

This Determination is positive.

1. ☐ The area described below, which includes all/part of the area described in your request, is an Area Subject to Protection Under the Act. Therefore, any removing, filling, dredging or altering of that area requires the filing of a Notice of Intent.

2. ☐ The work described below, which includes all/part of the work described in your request, is within an Area Subject to Protection Under the Act and will remove, fill, dredge or alter that area. Therefore, said work requires the filing of a Notice of Intent.

10.99: continued

3. ☐ The work described below, which includes all/part of the work described in your request, is within the Buffer Zone as defined in the regulations, and will alter an Area Subject to Protection Under the Act. Therefore, said work requires the filing of a Notice of Intent.

This Determination is negative:

1. ☐ The area described in your request is not an Area Subject to Protection Under the Act.
2. ☐ The work described in your request is within an Area Subject to Protection Under the Act, but will not remove, fill, dredge, or alter that area. Therefore, said work does not require the filing of a Notice of Intent.
3. ☐ The work described in your request is within the Buffer Zone, as defined in the regulations, but will not alter an Area Subject to Protection Under the Act. Therefore, said work does not require the filing of a Notice of Intent.
4. ☐ The area described in your request is Subject to Protection Under the Act, but since the work described therein meets the requirements for the following exemption, as specified in the Act and the regulations, no Notice of Intent is required: _____

Issued by _____ Conservation Commission

Signature(s) _____

This Determination must be signed by a majority of the Conservation Commission.

On this _____ day of _____, 19____, before me personally appeared _____, to me known to be the person described in, and who executed, the foregoing instrument, and acknowledged that he/she executed the same as his/her free act and deed.

Notary Public

My commission expires _____

This Determination does not relieve the applicant from complying with all other applicable federal, state or local statutes, ordinances, by-laws or regulations. This Determination shall be valid for three years from the date of issuance.

The applicant, the owner, any person aggrieved by this Determination, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the Department of Environmental Protection to issue a Superceding Determination of Applicability, providing the request is made by certified mail or hand delivery to the Department, with the appropriate filing fee and Fee Transmittal Form as provided in 310 CMR 10.03(7) within ten days from the date of issuance of this Determination. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and the applicant.

2-2A

310 CMR 10.99

Form 3

Commonwealth
of Massachusetts

DEP File No.

(To be provided by DEP)

City/Town _____

Applicant _____

Notice of Intent
Under the
Massachusetts Wetlands Protection Act, G.L. c. 131, §40
and
Application for a Department of the Army Permit

Part I: General Information

1. Location: Street Address _____
 Lot Number _____

2. Project: Type _____ Description _____

3. Registry: County _____ Current Book _____ & Page _____

Certificate (If Registered Land) _____

4. Applicant _____ Tel. _____

Address _____

5. Property Owner _____ Tel. _____

Address _____

6. Representative _____ Tel. _____

Address _____

7. a. Have the Conservation Commission and the Department's Regional Office each been sent, by certified mail or hand delivery, 2 copies of completed Notice of Intent, with supporting plans and documents?

Yes ☐ No ☐

b. Has the fee been submitted? ☐ Yes ☐ No

c. Total Filing Fee Submitted _____

d. City/Town Share of Filing Fee _____ State Share of Filing Fee _____
 (sent to City/Town) (1/2 of fee in excess of \$25, sent to DEP)

e. Is a brief statement attached indicating how the applicant calculated the fee? ☐ Yes ☐ No

8. Have all obtainable permits, variances and approvals required by local by-law been obtained?
 Yes ☐ No ☐

Obtained:

Applied For:

Not Applied For:

9. Is any portion of the site subject to a Wetlands Restriction Order pursuant to G.L. c. 131, §40A or G.L. c. 130, §105? Yes ☐ No ☐

10. List all plans and supporting documents submitted with this Notice of Intent.

Identifying
 Number/Letter

Title, Date

11. Check those resource areas within which work is proposed:

(a) ☐ Buffer Zone

(b) Inland:

☐ Bank*

☐ Bordering Vegetated Wetland*

☐ Land Under Water Body & Waterway*

Land Subject to Flooding,

☐ Bordering

☐ Isolated

(c) Coastal:

☐ Land Under the Ocean*

☐ Coastal Beach*

☐ Barrier Beach

☐ Rocky Intertidal Shore*

☐ Land Under Salt Pond*

☐ Fish Run*

☐ Designated Port Area*

☐ Coastal Dune

☐ Coastal Bank

☐ Salt Marsh*

☐ Land Containing Shellfish*

* Likely to involve U.S. Army Corps of Engineers concurrent jurisdiction. See General Instructions for Completing Notice of Intent.

10.99: continued

12. Is the wetland resource area to be altered by the proposed work located on the most recent Estimated Habitat Map (if any) of rare, "state-listed" vertebrate and invertebrate animal species occurrences provided to the conservation commission by the Natural Heritage and Endangered Species Program?

YES ☐ NO ☐
NO MAP AVAILABLE ☐

Date printed on the Estimated Habitat Map issued
(if any) _____

If yes, have you completed an Appendix A and a Notice of Intent and filed them, along with supporting documentation with the Natural Heritage and Endangered Species Program by certified mail or hand delivery, so that the Program shall have received Appendix A prior to the filing of this Notice of Intent?

YES ☐ NO ☐

Part II: Site Description

Indicate which of the following information has been provided (on a plan, in narrative description or calculations) to clearly, completely and accurately describe existing site conditions.

Identifying
Number/Letter
(of plan, narrative
or calculations)

Natural Features:

- _____ Soils
- _____ Vegetation
- _____ Topography
- _____ Open water bodies (including ponds and lakes)
- _____ Flowing water bodies (including streams and rivers)
- _____ Public and private surface water and ground water supplies on or within 100 feet of site
- _____ Maximum annual ground water elevations with dates and location of test
- _____ Boundaries of resource areas checked under Part I, item 11 above
- _____ Other

Man-made Features:

- _____ Structures (such as buildings, piers, towers and headwalls)
- _____ Drainage and flood control facilities at the site and immediately off the site, including culverts and open channels (with inverts), dams and dikes
- _____ Subsurface sewage disposal systems
- _____ Underground utilities
- _____ Roadways and parking areas
- _____ Property boundaries, easements and rights-of-way
- _____ Other

Part III: Work Description

Indicate which of the following information has been provided (on a plan, in narrative description or calculations) to clearly, completely and accurately describe work proposed within each of the resource areas checked in Part I, item 11 above.

Identifying
Number/Letter
(of plan, narrative
or calculations)

Plan, View and Cross Section of:

- _____ Structures (such as buildings, piers, towers and headwalls)
- _____ Drainage and flood control facilities, including culverts and open channels (with inverts), dams and dikes
- _____ Subsurface sewage disposal systems & underground utilities
- _____ Filling, dredging and excavating, indicating volume and composition of material
- _____ Compensatory storage areas, where required in accordance with Part III, Section 10:57 (4) of the regulations
- _____ Wildlife habitat restoration or replication areas
- _____ Other

Point Source Discharge

- _____ Description of characteristics of discharge from point source (both closed and open channel), when point of discharge falls within resource area checked under Part I, item 11 above, as supported by standard engineering calculations, data and plans, including but not limited to the following:

1. Delineation of the drainage area contributing to the point of discharge;
2. Pre- and post-development peak run-off from the drainage area, at the point of discharge, for at least the 10-year and 100-year frequency storm;
3. Pre- and post-development rate of infiltration contributing to the resource area checked under Part I, item 11 above;
4. Estimated water quality characteristics of pre- and post-development run-off at the point of discharge.

Part IV: Mitigating Measures

1. Clearly, completely and accurately describe, with reference to supporting plans and calculations where necessary:
 - (a) All measures and designs proposed to meet the performance standards set forth under each resource area specified in Part II or Part III of the regulations; or
 - (b) why the presumptions set forth under each resource area specified in Part II or Part III of the regulations do not apply.

<input type="checkbox"/> Coastal <input type="checkbox"/> Inland	Resource Area Type:	Identifying number or letter of support documents

<input type="checkbox"/> Coastal <input type="checkbox"/> Inland	Resource Area Type:	Identifying number or letter of support documents

Part V: Additional Information for a Department of the Army Permit

1. COE Application No. _____ 2. _____
 (to be provided by COE) (Name of waterway)

3. Names and addresses of property owners adjoining your property:

4. Document other project alternatives (i.e., other locations and/or construction methods, particularly those that would eliminate the discharge of dredged or fill material into waters or wetlands).
5. 8½" x 11" drawings in planview and cross-section, showing the resource area and the proposed activity within the resource area. Drawings must be to scale and should be clear enough for photocopying.

Certification is required from the Division of Water Pollution Control before the Federal permit can be issued. Certification may be obtained by contacting the Division of Water Pollution Control, 1 Winter Street, Boston, Massachusetts 02108.

Where the activity will take place within the area under the Massachusetts approved Coastal Zone Management Program, the applicant certifies that his proposed activity complies with and will be conducted in a manner that is consistent with the approved program.

Information provided will be used in evaluating the application for a permit and is made a matter of public record through issuance of a public notice. Disclosure of this information is voluntary, however, if necessary information is not provided, the application cannot be processed nor can a permit be issued.

I hereby certify under the pains and penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents and supporting data are true and complete, to the best of my knowledge.

 Signature of Applicant

 Date

 Signature of Applicant's Representative

 Date

RED FORM 100 (TEST)
 1 MAY 82

"Exception to ENG Form 4345 approved by HQUSACE, 6 May 1982"

"This document contains a joint Department of the Army and State of Massachusetts application for a permit to obtain permission to perform activities in United States waters. The Office of Management and Budget (OMB) has approved these questionnaires required by the US Army Corps of Engineers. OMB Number 0702-0036 and expiration date of 30 September 1993 applies" This statement will be set in 6 point type.

Form 5

Commonwealth
of Massachusetts

DEP File No.

(To be provided by DEP)

City/Town

Applicant

**Order of Conditions
Massachusetts Wetlands Protection Act
G.L. c. 131, §40**

From _____

To _____

(Name of Applicant)

(Name of property owner)

Address _____ Address _____

This Order is issued and delivered as follows:

- ☐ by hand delivery to applicant or representative on _____ (date)
- ☐ by certified mail, return receipt requested on _____ (date)

This project is located at _____

The property is recorded at the Registry of _____

Book _____ Page _____

Certificate (if registered) _____

The Notice of Intent for this project was filed on _____ (date)

The public hearing was closed on _____ (date)

Findings

The _____ has reviewed the above-referenced Notice of Intent and plans and has held a public hearing on the project. Based on the information available to the _____ at this time, the _____ has determined that the area on which the proposed work is to be done is significant to the following interests in accordance with the Presumptions of Significance set forth in the regulations for each Area Subject to Protection Under the Act (check as appropriate):

- | | | |
|---|--|---|
| <input type="checkbox"/> Public water supply | <input type="checkbox"/> Flood control | <input type="checkbox"/> Land containing shellfish |
| <input type="checkbox"/> Private water supply | <input type="checkbox"/> Storm damage prevention | <input type="checkbox"/> Fisheries |
| <input type="checkbox"/> Ground water supply | <input type="checkbox"/> Prevention of pollution | <input type="checkbox"/> Protection of wildlife habitat |

Total Filing Fee Submitted _____ State Share _____

City/Town Share _____ (½ fee in excess of \$25)

Total Refund Due \$ _____ City/Town Portion \$ _____ State Portion \$ _____
(½ total) (½ total)

Therefore, the _____ hereby finds that the following conditions are necessary, in accordance with the Performance Standards set forth in the regulations, to protect those interests checked above. The _____ orders that all work shall be performed in accordance with said conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications or other proposals submitted with the Notice of Intent, the conditions shall control.

General Conditions

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. This Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state or local statutes, ordinances, by-laws or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - (a) the work is a maintenance dredging project as provided for in the Act; or
 - (b) the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance and both that date and the special circumstances warranting the extended time period are set forth in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. Any fill used in connection with this project shall be clean fill, containing no trash, refuse, rubbish or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles or parts of any of the foregoing.
7. No work shall be undertaken until all administrative appeal periods from this Order have elapsed or, if such an appeal has been filed, until all proceedings before the Department have been completed.
8. No work shall be undertaken until the Final Order has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is to be done. The recording information shall be submitted to the _____ on the form at the end of this Order prior to commencement of the work.
9. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words, "Massachusetts Department of Environmental Protection,
File Number _____"
10. Where the Department of Environmental Protection is requested to make a determination and to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before the Department.
11. Upon completion of the work described herein, the applicant shall forthwith request in writing that a Certificate of Compliance be issued stating that the work has been satisfactorily completed.
12. The work shall conform to the following plans and special conditions:

10.99: continued

Plans:

Title	Dated	Signed and Stamped by:	On File with

Special Conditions (Use additional paper if necessary)

(Leave Space Blank)

11/10/89

310 CMR - 280.43

Issued By _____ Conservation Commission

Signature(s) _____

This Order must be signed by a majority of the Conservation Commission.

On this _____ day of _____, 19____, before me
personally appeared _____, to me known to be the
person described in and who executed the foregoing instrument and acknowledged that he/she executed
the same as his/her free act and deed.

Notary Public

My commission expires

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the Department of Environmental Protection to issue a Superseding Order, providing the request is made by certified mail or hand delivery to the Department, with the appropriate filing fee and Fee Transmittal Form as provided in 310 CMR 10.03(7), within ten days from the date of issuance of this Determination. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and the applicant.

Detach on dotted line and submit to the _____ prior to commencement of work.

.....
To _____ Issuing Authority

Please be advised that the Order of Conditions for the project at _____

File Number _____ has been recorded at the Registry of _____ and

has been noted in the chain of title of the affected property in accordance with General Condition 8 on _____, 19____.

If recorded land, the instrument number which identifies this transaction is _____

If registered land, the document number which identifies this transaction is _____

Signature _____ Applicant

11/10/89

310 CMR - 280.45

10.99: continued

Form 9

Commonwealth
of Massachusetts

DEP File No.

(To be provided by DEP)

City/Town _____

Applicant _____

Enforcement Order

Massachusetts Wetlands Protection Act, G.L. c. 131, §40

From _____ Issuing Authority

To _____

Date of Issuance _____

Property lot/parcel number, address _____

Extent and type of activity:

The _____ has determined that the activity described above is in violation of the Wetlands Protection Act, G.L. c. 131, §40, and the Regulations promulgated pursuant thereto 310 CMR 10.00, because:

- ☐ Said activity has been/is being conducted without a valid Order of Conditions.
- ☐ Said activity has been/is being conducted in violation of an Order of Conditions issued to _____ dated _____
File number _____, Condition number(s) _____
- ☐ Other (specify) _____

The _____ hereby orders the following:

- ☐ The property owner, his agents, permittees and all others shall immediately cease and desist from further activity affecting the wetland portion of this property.
- ☐ Wetland alterations resulting from said activity shall be corrected and the site returned to its original condition.

10.99: continued

Issued by _____ Commission

- ☐ Completed application forms and plans as required by the Act and Regulations shall be filed with the _____ on or before _____ (date) and no further work shall be performed until a public hearing has been held and an Order of Conditions has been issued to regulate said work. Application forms are available at: _____
- ☐ The property owner shall take every reasonable step to prevent further violations of the act
- ☐ Other (specify) _____

Failure to comply with this Order may constitute grounds for legal action. Massachusetts General Laws Chapter 131, Section 40 provides:

Whoever violates any provision of this section shall be punished by a fine of not more than twenty-five thousand dollars or by imprisonment for not more than two years or both. Each day or portion thereof of continuing violation shall constitute a separate offense.

Questions regarding this Enforcement Order should be directed to: _____

Issued by _____

Signature(s) _____

(Signature of delivery person
or certified mail number)

CONTACT/REFERENCE LIST
MASSACHUSETTS AGENCIES

Enforcement Coordinator
Div. of Wetlands and Waterways
One Winter street
Boston, MA 02108
(617) 292-5700

DEP Southeast Regional Office
Lakeville Hospital
Route 105
Lakeville, MA 02347
(508) 946-2700

DEP Western Regional Office
436 Dwight Street
State House West
Springfield, MA 01103
(413) 784-1100

Attorney General's Office
Environmental Protection Div.
One Ashburton Place - Room 1902
Boston, MA 02108
(617) 727-2265

Metropolitan District Commission
20 Somerset Street
Boston, MA 02108
(617) 727-5215

Environmental Strike Force
One Ashburton Place
Boston, MA 02408-1698
(617) 727-2200

DEP Northeast Regional Office
5 Commonwealth Avenue
Woburn, MA 01801
(617) 935-2160

DEP Central Regional Office
75 Grove Street
Worcester, MA 01605
(508) 792-7650

DEP Division of Water
Pollution Control
One Winter Street
Boston, MA 02108
(617) 292-5693

MEPA Unit
Enforcement Division
100 Cambridge Street
Boston, MA 02202
(617) 727-3267

Dept. of Fisheries, Wildlife,
and Environmental Law Enforcement
Div. of Law Enforcement
100 Cambridge Street - 19th Floor
Boston, MA 02202
(617) 727-3190

FEDERAL AGENCIES

U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9194
(617) 647-8111

U.S. Environmental Protection
Agency - Region One
J.F.K. Federal Building
Boston, MA 02203-2211
(617) 565-3427

NON-PROFITS

Massachusetts Association of
Conservation Commissions
10 Juniper Road
Belmont, MA 02178
(617)
489-3930

Massachusetts Audubon Society
South Great Road
Lincoln, MA 01773
(617) 259-9500

[No change through the twenty-third paragraph.]

[The twenty-fourth paragraph is amended to read as follows:]

Rules and regulations shall be promulgated by the commissioner to effectuate the purposes of this section. However, failure by the commissioner to promulgate rules and regulations shall not act to suspend or invalidate the effect of this section. In addition to the other duties provided for in this section, a conservation commission and its agents, officers, and employees; the commissioner, his agents and employees; environmental officers, and any officer with police powers may issue enforcement orders directing compliance with this section and may undertake any other enforcement action authorized by law. Any person who violates the provisions of this section may be ordered to restore property to its original condition and take other actions deemed necessary to remedy such violations.

[The following paragraph is added:]

No person shall remove, fill, dredge or alter any area subject to protection under this section without the required authorization, or cause, suffer or allow such activity, or leave in place unauthorized fill, or otherwise fail to restore illegally altered land to its original condition, or fail to comply with an enforcement order issued pursuant to this section. Each day such violation continues shall constitute a separate offense except that any person who fails to remove unauthorized fill or otherwise fails to restore illegally altered land to its original condition after giving written notification of said violation to the conservation commission and the department shall not be subject to additional penalties unless said person thereafter fails to comply with an enforcement order or order of conditions.

[The twenty-sixth (formerly twenty-fifth) paragraph is amended to read as follows:]

Whoever violates any provision of this section, (a) shall be punished by a fine of not more than twenty-five thousand dollars or by imprisonment for not more than two years, or both such fine and imprisonment; or (b), shall be subject to a civil penalty not to exceed twenty-five thousand dollars for each violation.

History—

Amended by 1989, 218, approved July 11, 1989, effective 90 days thereafter; 1989, 287, § 54, approved July 26, 1989, effective June 30, 1989; 1990, 177, §§ 232-237, approved, with emergency preamble, Aug 7, 1990; 1990, 388, §§ 1-3, approved, with emergency preamble, Dec 26, 1990.

The conservation commission, selectmen or mayor receiving notice under this section shall hold a public hearing on the proposed activity within twenty-one days of the receipt of said notice. Notice of the time and place of said hearing shall be given by the hearing authority at the expense of the applicant, not less than five days prior to such hearing, by publication in a newspaper of general circulation in the city or town where the activity is proposed and by mailing a notice to the applicant and to the board of health and the planning board of said city or town. The conservation commission and its agents, officers and employees and the commissioner of environmental quality engineering and his agents and employees, may enter upon privately owned land for the purpose of performing their duties under this section. No conditions shall be imposed, nor shall any determination be rendered by a conservation commission, in reference to this section, unless the conservation commission meets with a quorum present.

AFFIDAVIT OF
TOWN OF
RE:

CHAIRMAN
CONSERVATION COMMISSION

1. My name is . I reside at

Massachusetts, in Norfolk County. I am the Chairman of the Conservation Commission of the Town of , a position I have held for more than six years by appointment of the Board of Selectmen. The Commission is charged with administering and enforcing the state Wetlands Protection Act, G.L. Chap. 131, §40.

2. The defendants . . . resid-
ing at . are constructing an access road to a wetland area on a portion of their lot, and filling this area, all subject to the Wetlands Protection Act. They are doing this without filing the necessary information and plans with the Conservation Commission under the statute. Some filling and grading already has taken place, and large piles of fill have been placed on the site, stockpiled for further work, all within the area subject to the jurisdiction of the statute. Photographs have been taken showing this road and other construction activity.

3. On behalf of the Conservation Commission I visited the premises on April 23, . . . I spoke to. . . and we walked the work area. I explained that the statute requires an application, known as a Notice of Intent, and then the Conservation Commission holds a public hearing, thereafter issuing an approval, known as an Order of Conditions. I indicated the

Commission was not prejudging what it would decide in this case, but that the Wetlands Protection Act clearly requires this review and approval for the "filling" and "altering" of this land.

indicated he was acting on advice of counsel, and would not stop the work pending the proper applications.

4. On behalf of the Commission I delivered a letter dated April 23, . . . explaining the basic requirements and procedure of the Wetlands Protection Act. I supplied a copy of the statute and told them in the letter where they may obtain the necessary forms for the application. The letter asked that all work on the wetland area cease forthwith. The work is continuing.

5. The legal counsel for the . . . claims that since no approval is necessary under . . . zoning, no approval is needed from the Conservation Commission. I have explained in a letter to him dated May 14, . . . that the Wetlands Protection Act is completely separate from the Zoning Act and local zoning bylaws. The Conservation Commission administers the Wetlands Protection Act independent of the Board of Appeals under zoning.

6. The filling and altering is occurring in a vegetated wetland and also in a flood-prone area under the statute. This is a bank, flat, marsh, meadow, swamp or freshwater wetland bordering a body of water, namely a stream, in the language of the statute. Regulations of the state Department of Environmental Quality Engineering (DEQE) under the statute define

jurisdiction as reaching out to 100 feet beyond the edge of the wetland vegetation. This site is easily within such an area, and the vegetation is predominantly wetland type. In addition, the land is subject to flooding, in the language of the statute. The DEQE regulations define jurisdiction as reaching out to the 100 year flood elevation. This area is easily within that distance. In fact, the area of work is below the 100 year flood elevation. Moreover, it is very commonly flooded, as is shown on photographs which have been obtained by the Conservation Commission. This filling is not only within the floodplain of the Charles River, it is only a few hundred yards from the river, or even less.

7. At a meeting of the Conservation Commission on May 12, my action in notifying the to cease work was ratified, and it was determined by the Commission to take legal action to enforce compliance with the Wetlands Protection Act.

8. I make these statements on personal knowledge and under the penalties of perjury.

CHAIRMAN
Town of
Conservation Commission

COMMONWEALTH OF MASSACHUSETTS

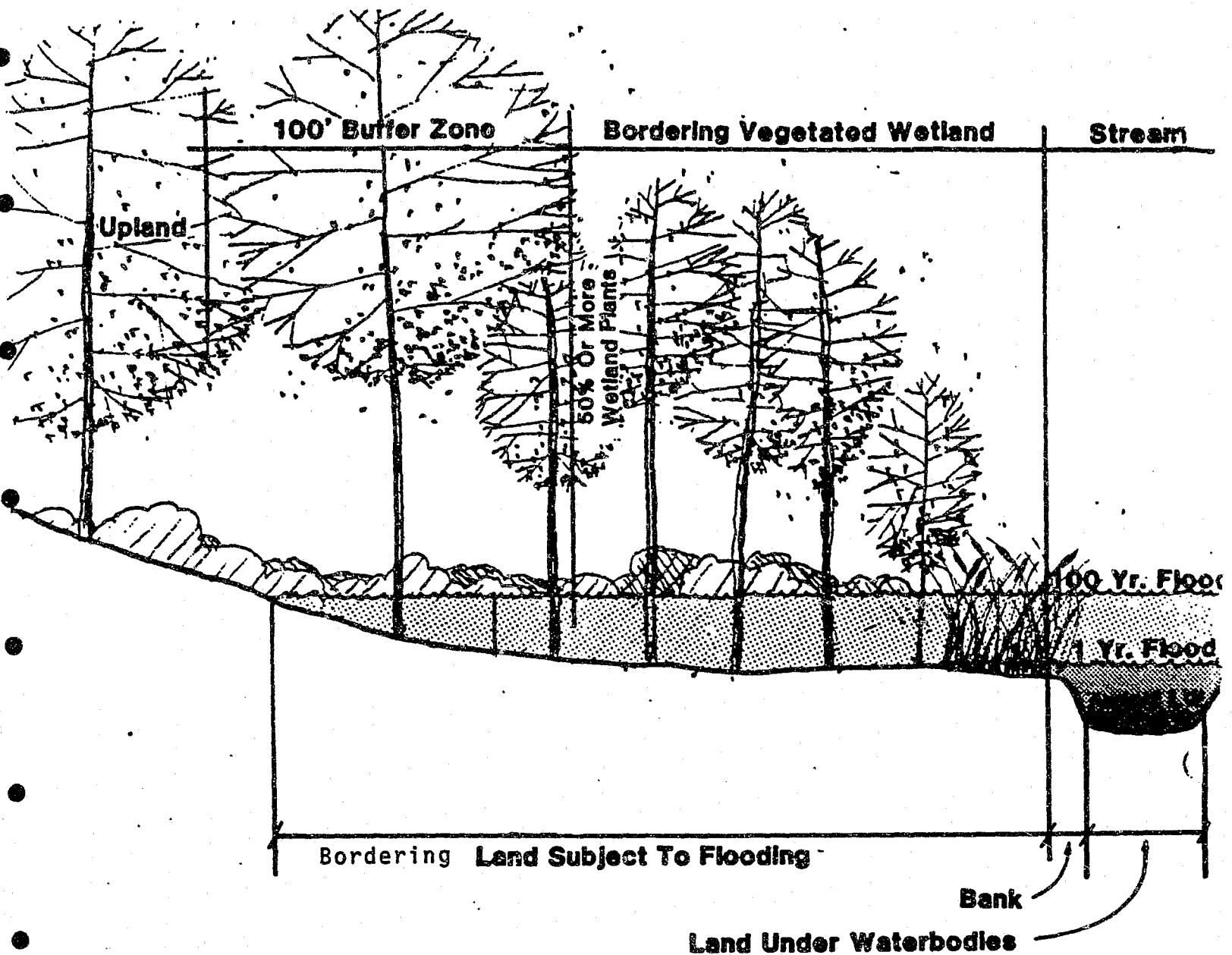
NORFOLK, SS.

May 21, .

Personally appeared before me the above named and stated that the facts in this affidavit are to his personal knowledge, on pains and penalties of perjury.

Notary Public

My Commission Expires: _____



Typical Cross Section Of Resource Areas

SOURCE: "Wetland Protection Act Regulations Workshop Handouts,"
Massachusetts Department of Environmental Quality Engineering, 1983

SALT MARSHES

Section 32

SOURCE: "A Guide to the Coastal Wetlands Regulations," Massachusetts Coastal Zone Management, 1979

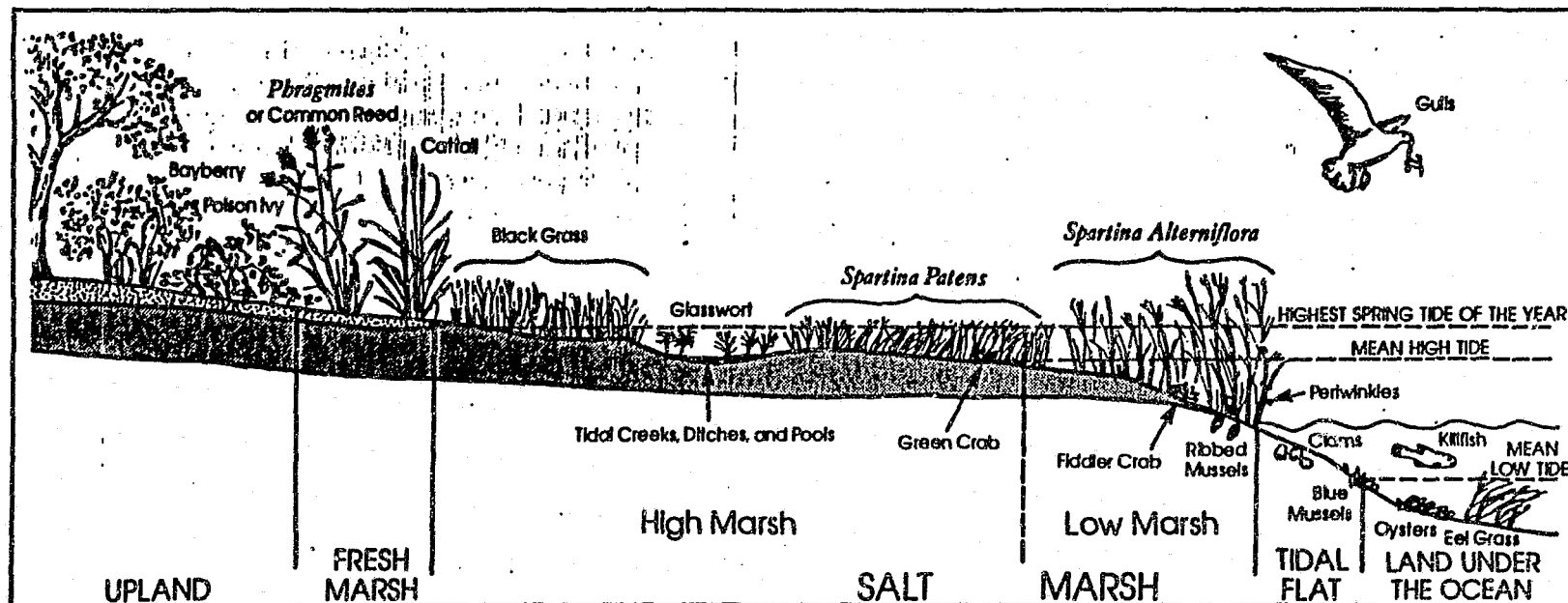
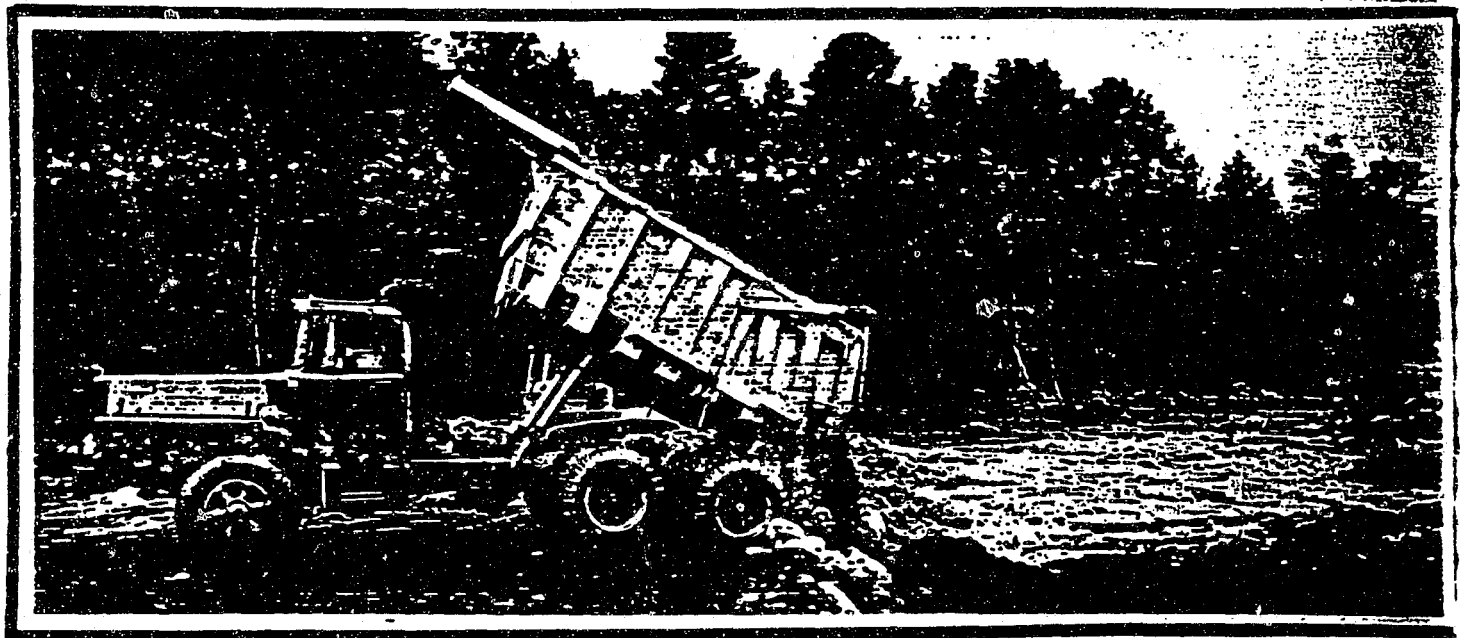


Illustration 26: Cross section of a salt marsh

TYPICAL CROSS SECTION OF COASTAL RESOURCE AREAS

AN ENFORCEMENT MANUAL FOR WETLANDS PROTECTION IN MASSACHUSETTS

*This publication has been prepared for use in DEP's ongoing
technical assistance and training program for Conservation
Commissions.*



WATER POLLUTION/SEWAGE

Prepared by Brian Donahoe
Director, Division of Water Pollution Control
Department of Environmental Protection

CONTENTS

- I. Environmental and Public Health Impacts
- II. Where to Look for Violations
- III. Safety Issues
- IV. Term Dictionary
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- VI. Statutes & Regulations (Selected Portions)
- VII. Regulators and Sources of Information
- VIII. Forms

SECTION 1
ENVIRONMENTAL & PUBLIC HEALTH IMPACTS

Water is the ultimate destination of nearly all of the wastes generated by society. The Division of Water Pollution Control (DWPC) at the Department of Environmental Protection (DEP) is charged with ensuring that the discharges of wastewaters from various sources are accomplished in a way which minimizes the impacts to both groundwater and surface water of the Commonwealth.

Water is used to clean toxic air emissions from industrial facilities and to carry waste from our homes and businesses. It also receives the wastes cleansed from the air by rain and discharged to the ground from fertilizers, pesticides and other land applications.

When levels of pollutants increase, numerous public health and environmental quality problems occur. Just under one half of the Commonwealth uses groundwater for its drinking supply. In addition, much of the surface water supplies are recharged by the groundwater as well as by streams and other surface drainage. Many pollutants, such as heavy metals used in industry, are accumulated in plants, eaten by larger and larger organisms in the food chain and concentrated in fish, shellfish, and other animals, including humans. As these materials are concentrated, they become more toxic and represent more significant human health threats.

Other pollutants, fertilizers from agriculture, lawns and gardens, and the by-products of human wastes, cause accelerated algae growth, called blooms, in our lakes, streams and coastal embayments. These cut off sunlight and decrease oxygen levels in the water bodies, killing animal life. The decaying vegetation causes foul smelling substances, further degrading both water quality and public health.

It is for these and other similar reasons that permits are required to discharge wastewater to the surface or groundwater. The permits establish treatment requirements and the maximum contaminant limits allowable. The Division sets standards for the water quality, approves treatment methods, and sets goals requiring improvement to degraded water in the state. It also establishes the certification and training programs for operators of wastewater treatment plants and engineering standards for the design of these facilities. It only takes the illegal discharge of a relatively small quantity of untreated wastewater or hazardous substance to contaminate a groundwater source for a very long time.

SECTION 2

WHERE TO LOOK FOR VIOLATIONS

Locating illegal discharges to waters of the Commonwealth can be very difficult. Legitimate businesses in most cases already operate within the law and are discharging their wastewater with permits, recorded by the Division. These discharges are monitored by the owner on a regular basis as well as spot checked by the DEP/DWPC. Discharges to surface waters require a National Pollutant Discharge Elimination System (NPDES) permit from EPA and the DWPC. Discharges to the groundwater require a state permit. If a discharge to a water body or to the ground is observed, a quick check with the Department's Regional or Boston Office can verify that a permit has been issued. However, even permitted discharges may deviate from approved limits and unusual colors, odors, or volume of wastewater could indicate illegal activity. Documentation, including pictures and the time of the discharge and relevant activities observed and logged are extremely helpful in building a future case.

One type of illegal discharge which sometimes occurs involves the hauling of septage or wastewater from septic systems and other tanks. Although most septage haulers are reputable individuals and companies which

dispose of their waste properly at treatment plants, a few operate on the fringe. All haulers require licenses to operate and agreements to discharge waste from each town to a wastewater treatment plant. There are limits placed on the quantity and quality of the septage before dumping. Treatment plant operators check the contents of the pumper trucks to ensure the quality does not contain hazardous or toxic materials which would affect the plant. The plant operator will reject these "bad loads", and they must be taken to a treatment facility capable of handling this waste. The temptation then occurs to discharge the waste illegally to reduce the costs associated with more treatment and transportation. One way to discover these problems involves keeping in touch with and knowing the waste haulers and the legal discharge locations in your community. This means knowing the public officials on the Board of Health or Sewer Commission and the Waste Treatment Plant Operators. When they reject a load because it is contaminated, spot checking of the next destination of the truck can help to reduce or document and discover illegal disposal.

Storm drains may also provide evidence of activities which could indicate illegal discharges. Observe storm drains which discharge or drain industrial, commercial or even residential areas which appear colored, or

malodorous or flow even during dry weather. Such conditions could indicate illegal connections to the storm drains. When the appearance of the stream bank changes at a point a pipe enters a stream, an intermittent illegal discharge might be the cause. Yellow, sparse or dying vegetation or an oily sheen to the surface of the water are other indicators of a potential pollution source.

The application of chemicals to treat ponds and other water bodies for excessive weed growth also requires permits from DWPC. Only certain chemicals are approved and acceptable for use in Massachusetts. Any activity from the shore or a boat which appears to be dripping or spraying a substance into the waters must be done by a licensed applicator with a permit to discharge from the state. Therefore, the individual(s) involved should have a permit and license in their possession for such activity.

Another situation which requires DWPC permits involves the Section 401/404 Water Quality Certification Program. Under this Program, a permit is needed for any work in "waters of the Commonwealth" which include all streams, rivers, ponds, lakes, coastal waters and wetlands. (The Massachusetts Wetlands Protection Act also

has jurisdiction over projects involving these areas. The Wetlands Program is discussed separately in these training materials.

Observing a highly cloudy or sediment loaded stream during or after a rain storm may suggest an unpermitted or poorly operated project. Discussion with the local Conservation Commission and with the DWPC Water Quality Section can verify if a permit has been issued and if so, what requirements were imposed to minimize the water quality impacts.

SECTION 3

SAFETY ISSUES

Exposure to hazardous chemicals or potentially life threatening situations in dealing with water pollution activities are possible. Treatment plant operators will confirm many day-to-day hazards which confront them even at properly operated plants. Obviously, when a suspected illegal operation or circumstance is suspected caution should prevail. Volatilization (i.e., dispersal of vapors into the air) of chemicals, such as pesticides, solvents, etc. can be identified at some distance from the source. Therefore, when a "chemical" odor is noticed, proper breathing apparatus should be used. Do not enter confined areas, such as a manhole or closed room< to observe an illegal activity or even to do normal maintenance observations, unless you have proper training and equipment. These confined areas, in many cases, have little or no air in them. Adequate ventilation must be provided or oxygen tanks available. Back pack systems are best. Many wastewater treatment workers are injured when they pass out entering a manhole due to the buildup of carbon dioxide, methane or other gases.

Some other hazards to be concerned with and aware of in evaluating a suspected water pollution case are:

- . Ice-Slippery wet conditions
- . Biological Agents
- . Fire/Explosion Hazards
- Chemical Burns and Exposure/Inhalation
- . Electrical/Mechanical Hazards
- Particularly in Wet Areas
- . Noise and Odor Hazards

The assessment of these situations is crucial to avoiding injury. Many of these potential sources of injury, such as chemical exposure, can take weeks or months to show up, therefore precautions to minimize inhalation or ingestion of these substances are necessary. Never work alone and be prepared to respond in an emergency. Proper clothing to protect skin and eyes is important. Never enter a confined space, without oxygen and inhalation apparatus and appropriate training. One individual should always be stationed "in the clear" and a rope or harness used to be able to quickly evacuate an overcome person to fresh air and first aid.

Other sections of this seminar package adequately outline additional proper and effective safety concerns and protection techniques. Please read them as well.

SECTION 4

TERM DICTIONARY

(Selected Portions)*

GENERAL

Disposal Works Construction Permit- Permit required to locate and construct an individual sewage disposal/treatment system. The flows cannot exceed 15,000 gallons per day designed capacity.

Disposal Works Installer's Permit- Permit which allows and is required before an individual or firm can construct, alter or repair an individual sewage disposal system.

Septage Handlers Permit- A yearly permit which allows a person or firm to pump and/or transport the contents of any individual sewage system. It is issued by the Board of Health. The site of disposal must have been approved by DEP/DWPC.

Pollutant-The [characteristic of] a substance, which by its presence, is or can be injurious to human, animal or plant life, or a property of the substance which interferes with comfortable enjoyment of life or property.

Point Source- Any discanable, confined and discrete discharge (e.g., a pipe from which pollutants are discharged).

Non-Point Source- An indiscreet discharge of pollutants into a water body (e.g., overland sheet flow or stormwater).

Septage- Material removed from an individual sewage disposal system-such as a septic tank or cesspool.

Sanitary Sewer- A pipe which carries sewage.

Sewage- The water carried human or animal wastes from residences or other buildings together with extraneous groundwater which may be present.

Toxic Pollutants- Those pollutants or combination thereof, including disease causing agents, which when ingested, inhaled or assimilated into an organism either directly or indirectly cause death, disease, behavioral abnormalities, cancer, mutations, or affect reproduction or cause physical/biological abnormalities.

Treatment Works- Any and all devices, processes and properties used in the collection, pumping, transmission, storage, treatment, disposal, recycling, reclamation or reuse of waterborne pollutants but not including any works receiving hazardous waste.

NPDES Permits- National Pollutant Discharge Elimination System- is the permit issued jointly by the Federal EPA and DEP/DWPC to allow discharges to surface waters of the Commonwealth. The permit establishes appropriate treatment levels and conditions to discharge treated wastewaters.

Waters of the Commonwealth- All waters within the jurisdiction of the Commonwealth including rivers, streams, lakes, ponds, springs, wetlands, impoundments, estuaries, coastal waters and ground waters.

*A more complete and expansive dictionary of terms can be found in each DWPC regulation. See Section 6.

SECTION 5

REGULATORY FRAMEWORK

Wastewater treatment, conveyance and disposal facilities range from individual systems to large municipal and industrial treatment plants. The Massachusetts Water Resources Authority, for example, is constructing a wastewater treatment plant to handle over one half billion gallons of sewage per day. The control of wastewater treatment in Massachusetts, given the size of the problem, rests with many agencies at the local, regional, state and federal level. The Federal Clean Water Act, PL 92-500 and amendments, plays an important role in supporting state programs. In Massachusetts, our State Clean Water Act, G.L.C 21§26-53, addresses a majority of the enabling activities for our regulations. At the local/regional level, Boards of Health and/or Sewer and Water Commissions or Authorities also have been created to deal with wastewater permits and other approval functions. The state and federal governments also take part in the planning and eventual funding of treatment works, thereby assisting municipalities with resolving wastewater pollution problems.

Siting wastewater facilities can be a complex planning and permitting process. The larger facilities inevitably under go a great deal of scrutiny and conceptual design review before they are approved. Individual requirements and standards which are included in the DWPC/DEP regulations, supplemented by local and federal rules, ensure a sometimes lengthy but comprehensive review.

All discharge to the ground or surface water of the Commonwealth requires permission. The following activities have been identified as specifically requiring permits.

- . Subsurface Sewage Disposal Systems under 15,000 gallons per day. Title 5 local Board of Health. Variances require DWPC approval.
- . Wastewater Treatment Plants-Surface Water discharges. Requires municipal or industrial NPDES permit and Mass. Clean Water Act and 401 Federal Water Quality Certification.
- . Wastewater or Septage Treatment Plants-Groundwater Discharge, Municipal or Industrial. Requires State permit.

- . Filling in Waters of Commonwealth including dredge material disposal or filling wetlands-waterways Section 401/404 permits - state and federal permits.
- . Wastewater Residuals/Sludge Handling Facility, including sludge composting. Requires state permit.
- . Herbicide Application to waterbody. State Permit required (may require local wetlands review).
- . Sewer Connection/Extension Permit to add flow to a properly permitted treatment works. State/local review required.
- . Wastewater Treatment Plant Operators Certification. Various grade operators need state license after passing written exam.

These permits, certifications or licenses cover the majority of activities affecting water quality in the Commonwealth and are interrelated with local and federal law and regulations. Permits for Stormwater Discharges and other unique discharges are at the discretion of the Director of the Division. On-going agency activities are assessing both the reduction of thresholds at which will be required, certain permits as well as requiring permits for certain other discharges, such as stormwater, which had not been regulated in the past.

SECTION 6

STATUTES AND REGULATIONS

The following is a list of Massachusetts Laws and Regulations pertinent to the Division of Water Pollution Control:

LAWS

G.L.c. 21 § 26-53 Enabling Legislation
G.L.c 111 § 17
G.L.c 83 § 5-7
G.L.c 111 § 31D
G.L.c 140 § 32B

REGULATIONS

310 CMR 11.00 and 15.00
314 CMR 1.00 - 15.00
310 CMR 32.00
310 CMR 4.0

21:42. Discharge into water; violations of chapter, regulation, order or permit; false representations; tampering with monitoring device or method; criminal and civil penalties.

Section 42. Any person who, directly or indirectly, throws, drains, runs, discharges or allows the discharge of any pollutant into waters of the commonwealth, except in conformity with a permit issued under section forty-three; or who violates any provision of this chapter, any valid regulation, order or permit prescribed or issued by the director thereunder; or who knowingly makes any false representation in an application, record, report or plan, or falsifies, tampers with or renders inaccurate a monitoring device or method, required under this chapter, (a) shall be punished by a fine of not less than two thousand five hundred dollars nor more than twenty-five thousand dollars for each day such violation occurs or continues, or by imprisonment for not more than one year, or by both; or (b) shall be subject to a civil penalty not to exceed twenty-five thousand dollars per day of such violation, which may be assessed in an action brought on behalf of the commonwealth in any court of competent jurisdiction. This section shall not apply to sections thirty-four B and thirty-four C.

Nothing in this chapter shall be construed as adversely affecting the rights of any person to secure judicial relief against actual or potential waste dischargers under other rules or provisions of law.

No information submitted or made available for inspection in accordance with requirements established by or under this chapter may be used in any criminal proceeding against the individual who submits it, certifies it, or makes it available, except in a prosecution for the making of a false statement or record, or for otherwise failing to comply with reporting or recording requirements under this chapter.

21:43. Permit proceedings and determinations; regulations; necessity and requirements of permit; application; forms; fees.

Section 43. (1) For purposes of this section, "permit proceeding" includes the consideration of any application for a permit and of any proposal or request to suspend, revoke, modify or renew a permit. "Permit determination" means the decision of the director upon such application, proposal or request.

(2) No person shall discharge pollutants into waters of the commonwealth nor construct, install, modify, operate or maintain an outlet for such discharge or any treatment works, without a currently valid permit issued by the director. No person shall engage in any other activity that may reasonably be expected to result, directly or indirectly, in discharge of pollutants into waters of the commonwealth, nor construct, effect, maintain, modify or use any sewer extension or connection, without a currently valid permit issued by the director, unless exempted by regulation of the director.

(3) The director shall adopt regulations with respect to permit proceedings and determinations. Applications for permits shall be submitted within times and on forms prescribed by the director and shall contain such information as he may require.

(4) Public notice of every permit proceeding, including proceedings under paragraph (10), shall be given in the manner provided by section three of chapter thirty. A. The director shall circulate information received concerning the matter pending in accordance with the provisions of clause (7) of section twenty-seven and may hold a public hearing if he deems such hearing to be in the public interest. If the applicant or permittee requests a hearing, the director shall hold a public hearing on the matter in a community within the affected area of the discharge, at least thirty days after giving notice thereof. The director may, upon request of a permittee, revise a schedule of compliance in an issued permit if the director determines that good and valid cause, for which the permittee is not at fault, exists for such revision, and in such cases the provisions of this paragraph for public notice and hearing shall not apply. If the director has proposed to suspend or revoke a permit, in whole or in part, pursuant to paragraph (10), and if the permittee requests an adjudicatory hearing under section forty-five on the proposed determination, the requested hearing may be held as part of the public hearing to be afforded under this paragraph.

(5) The director shall grant a permit only if the discharge and the treatment works proposed in an initial or an amended application will, in his judgement, conform to effluent limitations specified in the permit, and will conform to regulations, receiving water standards and comprehensive plans adopted by the division. The director shall issue any permit proposed for issuance under this section providing it

conforms to all applicable provisions of federal law and of rules and regulations promulgated thereunder. 44 45

(6) The director shall establish by regulation standard and short application forms for discharge permits and rules governing the filing of such forms by the various categories of applicants. 46 47 48

(a) Upon submission of an application short form to the director, an applicant shall pay a fee determined pursuant to section eighteen of chapter twenty-one A; 49 50 51

(b) Upon submission of an application standard form to the director, an applicant shall pay a fee to be determined pursuant to section eighteen of chapter twenty-one A, and if there is more than one outlet from which the discharge will flow, an additional fee, also determined under the aforementioned provision, shall be paid for each additional outlet. Any applicant submitting an application standard form who has previously filed an application short form may deduct from the fee submitted the amount previously submitted with the short form; 52 53 54 55 56 57 58 59 60

(c) Any new or increased discharges of pollutants, however, shall be reported in the appropriate application form. Agencies or instrumentalities of federal, commonwealth, or local governments shall not be required to pay any fee to the commonwealth in connection with the filing of an application. 61 62 63 64 65

(7) Every permit shall specify effluent limitations, interim and final deadlines where appropriate for compliance, the term for which the permit is issued, which may not be in excess of five years, and such requirements of proper operation and maintenance, monitoring, sampling, recording, reporting, and inspection as the director may prescribe. Permits may specify additional requirements, including technical controls and other components of treatment works to be constructed or installed, and provisions for insuring payments of user charges, which the director deems necessary to safeguard the quality of the receiving waters or to comply with pertinent provisions of the laws of the commonwealth or of federal law. 66 67 68 69 70 71 72 73 74 75 76

(8) A permit for a discharge to publicly owned treatment works shall require any user to comply with pretreatment standards and other safeguards which the director may require to prevent excessive or improper waste loadings. With the approval of the director, a municipality, a district or other public agency operating treatment works may administer, in whole or in part, the system of permits that shall regulate discharges to those works. 77 78 79 80 81 82 83

(9) A permit for a discharge from publicly owned treatment works shall require the applicant to have in effect or to establish without delay, and to enforce, an adequate sewer ordinance that prohibits introduction of incompatible wastes and slug loadings into the works, 84 85 86 87

and that requires pretreatment where appropriate. A permit granted 88
under this section shall require the permittee to monitor and report 89
periodically to the director upon waste flows to the treatment works, 90
to adopt procedures that will assist in identifying the source and 91
nature of any new source of discharges to the works and any 92
significant change in such flow and to safeguard against excessive 93
loading of the collection and treatment system and to report same to 94
the director. Nothing in this paragraph shall be construed as su- 95
perseding the powers of any district or municipality under existing 96
law to enact and enforce sewer ordinances and to issue permits for 97
sewer connections consistent with the provisions of this chapter and 98
any regulations issued hereunder. 99

(10) The director may propose and determine to modify, suspend, 100
or revoke any outstanding permit, in whole or in part, for cause, 101
including, but not limited to, violation of any permit term, obtaining a 102
permit by misrepresentation or failure to disclose fully all relevant 103
facts or any change in or discovery of conditions that calls for 104
reduction or discontinuance of the authorized discharge. The director 105
may also modify a permit at the request of the permittee upon a 106
showing, satisfactory to the director, that the requested modification 107
is appropriate in view of circumstances for which the permittee is not 108
at fault. 109

21A:13. State environmental code; adoption; preparation of sewage disposal systems; enforcement of code.

Section 13. The commissioner of the department of environmental protection shall adopt, and from time to time amend, regulations to be known as the state environmental code. Any violation of such code, (a) shall be punishable by a fine of not more than twenty-five thousand dollars for each day that such violation occurs or continues, or by imprisonment for not more than one year, or both such fine and imprisonment; or (b), shall be subject to a civil penalty not to exceed twenty-five thousand dollars for each day that such violation occurs or continues. Said code shall become effective and have the force of law as provided in section six of chapter thirty A. Said code shall deal with matters affecting the environment and the well being of the public of the commonwealth over which the department takes cognizance and responsibility including, but not limited to, standards for the disposal of sewage. A duly registered sanitarian or a professional engineer registered in the commonwealth may prepare plans for subsurface systems for disposal of domestic sewage of not more than

two thousand gallons per day. Any other plans for a sewage disposal system shall be prepared by a professional engineer registered in the commonwealth. Nothing contained in this code shall be in conflict with any general or special law. Notwithstanding the foregoing provisions, nothing in this section or in any rule or regulation shall prohibit the preparation of plans for the repair of subsurface systems for disposal of domestic sewage of not more than two thousand gallons per day by any agent of the owner thereof; provided, however, that such plans are reviewed and approved by the local health authority and by a licensed sanitarian.

Local boards of health shall enforce said code in the same manner in which local health rules and regulations are enforced but, if any such local boards fail after the lapse of a reasonable length of time to enforce the same, the department may in like manner enforce said code against any violator. The superior court shall have jurisdiction to enforce the provisions of said code and any actions brought to enforce said provisions shall be advanced for speedy trial.

21A:14. Disposal of dredged materials.

Section 14. The department of environmental protection is hereby
authorized and directed to issue permits for the disposal of dredged
materials within the marine boundaries of the commonwealth when it
is determined that such disposal and such disposed material will not
unreasonably degrade or endanger the marine environment or public
health. Said permit shall include such terms and conditions as said
department finds necessary to assure conformance with this section
and any other general or special law within its jurisdiction. No
person shall so dispose of dredged material except pursuant to and in
accordance with the terms and conditions of such a permit. Any
violation of any provision of this section or any rule or regulation
promulgated pursuant thereto, (a) shall be punishable by a fine of not
more than twenty-five thousand dollars for each day that such viola-
tion occurs or continues, or by imprisonment for not more than one
year, or both such fine and imprisonment; or (b) shall be subject to a
civil penalty not to exceed twenty-five thousand dollars for each day
that such violation occurs or continues.

Said department is further authorized and directed to promulgate
rules and regulations for the transportation and disposal of such
dredged material within the commonwealth so as to protect and
enhance environmental quality, the public health, and natural re-
sources.

111:160. Examination of water supply; regulations; assistance to cities, towns and districts for protection and conservation of groundwater aquifers and recharge areas, etc.

Section 160. The department may cause examinations of such waters to be made to ascertain their purity and fitness for domestic use, or the possibility of their impairing the interests of the public or of persons lawfully using them or of imperilling the public health. It may make rules and regulations and issue such orders as in its opinion may be necessary to prevent the pollution and to secure the sanitary protection of all such waters used as sources of water supply and to ensure the delivery of a fit and pure water supply to all consumers. It may delegate the granting and withholding of any permit required by such rules or regulations to state departments, boards and commissions and to selectmen in towns, and to boards of health, water boards and water commissioners in cities and towns, to be exercised by such selectmen, departments, boards and commissions, subject to such recommendation and direction as shall be given from time to time by the department; and upon complaint of any person interested, the department shall investigate the granting or withholding of any such permit, and make such orders relative thereto as it may deem necessary for the protection of the public health and to restrain the use of such waters to the extent as in its opinion such use will tend to adversely affect the public health. Whoever violates

any such orders, rules or regulations: (a) shall be punished by a fine of not more than twenty-five thousand dollars, to the use of the commonwealth, for each day that such violation occurs or continues, or by imprisonment for not more than one year, or both such fine and imprisonment; or (b), shall be subject to civil penalty not to exceed twenty-five thousand dollars per day for each day such violation occurs or continues.

The department shall, within one hundred and eighty days of the adoption of a national primary drinking water regulation for lead, promulgate state regulations for lead in drinking water that are no less stringent than the federal standard. Such regulations shall also specify sampling procedures to be followed by water suppliers that are adequate to ensure detection of dangerous levels of lead at all appropriate points in the distribution system, including residential tap water. The department shall monitor the results of such sampling. The department shall also, by July first, nineteen hundred and eighty-eight, promulgate regulations specifying corrosion control measures to be taken by communities in which the drinking water supplied to consumers poses a risk of exposure to dangerous levels of lead.

The department of environmental protection shall establish a program to assist the cities, towns and districts of the commonwealth to acquire, by purchase, gift, lease, eminent domain, or otherwise lands and waters and easements therein to protect and conserve groundwater aquifers and recharge areas, surface water resources and watersheds, and land adjacent to, or nearby said resources, as it determines necessary to meet further water resource needs of the commonwealth for municipal or regional water supply. Said department shall develop criteria and procedures for the administration of said program subject to the approval of the water resources commission. No such city, town or district shall receive such assistance hereunder unless such city, town or district has adopted or is in the process of adopting a local water resources management plan pursuant to regulations established by the water resources commission.

111:160A. Cross connections between distribution systems; certification for inspection and testing of backflow prevention devices.

Section 160A. No physical cross connection shall be maintained between the distribution system of a public water supply, the water of which is used for drinking, domestic or culinary purposes, and the distribution system of any water supply not approved by the department as being of safe sanitary quality, unless said connection has been approved by the department in accordance with rules and regulations adopted for the purpose, and unless a permit therefor has been issued by the department. Such permit may be issued upon the application of a person maintaining such connection and upon the payment of a fee to be determined annually by the commissioner of administration under the provision of section three B of chapter seven, and may be renewed annually upon payment of a like fee. When more than one such connection is maintained on any premises a separate permit shall be required for each connection. A permit may be revoked by the department upon due notice to the person maintaining the connection whenever, in the opinion of the department, the connection or the maintenance thereof no longer complies with its rules and regulations, and no portion of the permit fee shall be refunded.

Whoever maintains such a connection without a permit or after revocation of the permit, maintains such a connection, (a) shall be punished by a fine of not more than twenty-five thousand dollars for each day such violation occurs or continues, or by imprisonment for not more than one year, or both such fine and imprisonment, or (b), shall be subject to a civil penalty not to exceed twenty-five thousand dollars per day for each day that such violation occurs or continues.

The department of environmental protection may establish a program for the certification of persons desiring to engage in inspection and testing of backflow prevention devices installed in accordance with regulations adopted pursuant to section one hundred and sixty. Said department shall adopt regulations for the certification program prescribing the minimum qualifications which such persons must meet in order to be certified. A certificate issued pursuant to this paragraph shall be valid for not longer than three years, after which it shall be renewed by said department upon receipt of an application from the person desiring to be so certified and a determination by said department that the applicant meets the qualifications established by the regulations adopted pursuant to this section. An application to renew a certificate shall be filed not later than one month prior to expiration of such certificate. After notice and opportunity for hearing, said department may suspend or revoke for cause any such certification. Said department may prescribe reasonable application fees for the issuance of such a certificate. Any person who engages in inspecting or testing backflow prevention devices in violation of this paragraph, shall, in addition to any other remedy provided by law, be punished by fine not to exceed five thousand dollars, or by imprisonment for not more than six months, or both.

111:162. Removal of causes of pollution; petition; hearing; notice; damages; violation of order.

Section 162. Upon petition to the department by the mayor of a city or the selectmen of a town, the managing board or officer of any public institution, or by a board of water commissioners, or the president of a water or ice company, stating that manure, excrement, garbage, sewage or any other matter pollutes or tends to pollute the waters of any stream, pond, spring, underground waters, or water-course used by such city, town, institution or company as a source of water supply, the department shall appoint a time and place within the county where the nuisance or pollution is alleged to exist for a hearing, and after notice thereof to parties interested and a hearing, if in its judgment the public health so requires, shall, by an order served upon the party causing or permitting such pollution, prohibit the deposit, keeping or discharge of any such cause of pollution, and shall order him to desist therefrom and to remove any such cause of pollution; but the department shall not prohibit the cultivation and use of the soil in the ordinary methods of agriculture if no human excrement is used thereon. The department shall not prohibit the use of any structure in existence on June eleventh, eighteen hundred and ninety-seven, upon a complaint made by the board of water commissioners of any town or by any water or ice company unless such board of water commissioners or company files with the department a vote of its city council, selectmen or company that such town or company will at its own expense make such changes in said structure or its location as said department shall deem expedient. Such vote shall be binding on such town or company. All damages caused by such changes shall be paid by such town or company; and if the parties cannot agree thereon, the damages may be recovered under chapter seventy-nine. Whoever violates such an order, (a) shall be punished by a fine of not more than twenty-five thousand dollars, to the use of the commonwealth, for each day that such violation occurs or continues, or by imprisonment for not more than one year, or both such fine and imprisonment; or (b), shall be subject to a civil penalty not to

exceed twenty-five thousand dollars per day for each day that such violation occurs or continues.

111:170. Wilful defilement or corruption of spring or source of water.

Section 170. Whoever wilfully and maliciously defiles or corrupts
any spring or other source of water, or reservoir, or destroys or
injures any pipe, conductor of water or other property pertaining to
an aqueduct, or aids or abets in any such trespass, shall be punished
by a fine of not more than twenty-five thousand dollars for each day
that such willful and malicious activity occurs or continues, or impris-
onment for not more than two years, or both such fine and impris-
onment. Whoever otherwise defiles or corrupts any spring or other
source of water, or reservoir, or destroys or injures any pipe, conduc-
tor of water or other property pertaining to an aqueduct shall be
subject to a civil penalty not to exceed twenty-five thousand dollars
per day for each day that such violation occurs or continues.

111:171. Wilful defilement of sources of water supply.

Section 171. Whoever wilfully deposits excrement or foul or decay-
ing matter in water used for domestic water supply, or upon the shore
thereof within five rods of the water, or whoever bathes in such water
shall be punished by a fine of not more than fifty dollars or by
imprisonment for not more than one month. A police officer or
constable of a town where such water is wholly or partially situated,
acting within the limits of such town, and any executive officer or
agent of a water board, board of water commissioners, public institu-
tion or water company furnishing water or ice for domestic purposes,
acting upon the premises of such board, institution or company and

not more than five rods from the water, may without a warrant arrest
any person found in the act of violating this section and detain him in
some convenient place until a complaint can be made against him
therefor. The provisions of this section shall not interfere with the
sewage of a town or public institution, or prevent the enrichment of
land for agricultural purposes by the owner or occupant thereof.

SECTION 7

REGULATORS AND SOURCES OF INFORMATION

As noted earlier, water pollution regulatory authority lies within Federal, State, regional and local agencies. All of these agencies have compliance and enforcement responsibility as well. Therefore, depending on the geographical location of an apparent violation and the type of discharge, one or more agencies may have jurisdiction. For the most part, cooperative work sharing agreements have been developed. Monthly monitoring reports are submitted to DEP, for example, for all ground and surface water discharges. Local boards of health or regional wastewater authorities have regulatory responsibility for septage haulers and residential subsurface disposal projects. They also review and in some instances have sole authority for sewer connecting. Jurisdiction over citing wastewater facilities belongs to a combination of Federal/State and/or local authorities.

Files holding inspection reports, pretreatment audits and reports, operational and permit conditions, design plans and other pertinent information are maintained by the agencies listed below. This list is not all encompassing but provides, in large part, a general overview of potential information sources.

DEP-BOSTON OFFICE AND/OR REGIONAL OFFICE-DIVISION OF
WATER POLLUTION CONTROL.

- CURRENT LIST:
- . Enforcement Orders
 - . Administrative Orders
 - . Court Orders (These are also maintained with the Attorney General's Office)
 - . Closed/Open Septage Lagoons
 - . Herbicide Applications/Permits
 - . 401 Water Quality Certifications (Boston only)
 - . List of all Publicly Owned Treatment Works POTW's-Surface Water Discharges
 - . All Groundwater Discharges Greater than 15,000 gallons per day.
 - . Innovative/Alternative Systems
 - . Inspection Reports
 - . Discharge Monitoring Reports (DMR)
 - . Septage Management Plan
 - . Plans & Specs. for most facilities

LOCAL BOARDS OF HEALTH

- . List of Septage Haulers-Approved
- . Files on all Title 5 Sewage Disposal Systems Approved in Town.
- . Pumping logs for Title 5 Systems and Inspection Reports

- . Septage lagoon records(if lagoon is properly open per DEP)

REGIONAL SEWAGE AUTHORITY AND/OR DEP

- . Most of Board of Health info above may be with these agencies as well
- . Sewer Connections/Extensions
- . Design Plans for Sewer Systems and Treatment facilities (if applicable)
- . Operating Records of Facilities
- . Pretreatment (Industrial) Inspection Reports, etc.

REGISTRY OF DEEDS

- . In some instances site plans and pertinent design info for facilities
- . Pollution Abatement District info
- . Ownership of land parcels of suspected violations

ELEMENTS

MGL C.21, §42: WATER POLLUTION

PERSON Any person who,

[C.21, §26A Definitions: "Person", any agency or political subdivision of the commonwealth, public or private corporation or authority, individual, partnership or association, or other entity, including any officer of a public or private agency or organization.]

DISCHARGE directly or indirectly, throws, drains, runs, discharges or allows the discharge

POLLUTANT of any pollutant

[C.21, §26A Definitions: "Pollutant", any element or property of sewage, agricultural, industrial or commercial waste, runoff, leachate, heated effluent, or other matter, which is or may be discharged, drained or otherwise introduced into any sewerage system, treatment works or waters of the commonwealth.]

INTO WATER into waters of the commonwealth

[C.21, §26A Definitions: "Waters" and "waters of the commonwealth", all waters within the jurisdiction of the commonwealth, including, without limitation, rivers, streams, lakes, ponds, springs, impoundments, estuaries, coastal waters and groundwaters.]

PERMIT VIOLATION or who violates any provision of this chapter, any valid regulation, order or permit

FALSE STATEMENTS or who knowingly makes any false representation in an application, record, report or plan,

TAMPERS or falsifies, tampers with or renders inaccurate a monitoring device or method required under this chapter

MISDEMEANOR \$2,500-\$25,000 1 year HOC or both

CIVIL PENALTY up to \$25,000 per day

SECTION 8

FORMS

Enclosed are some of the forms used by the Division of Water Pollution Control. Other forms are used by local Boards of Health and responsible authorities for their local data management. Please note that DEP is currently re-designing its application forms, including DWPC, to comply with on-going permitting improvements and standardized language and appearance.

15.99: Forms

..... SUGGESTED FORM

BOARD OF HEALTH

MASSACHUSETTS

CERTIFICATE OF COMPLIANCE

THIS IS TO CERTIFY, That the Individual Sewage Disposal System installed ()
or repaired () by _____ at _____
_____ installer
_____ has been constructed in accordance with the provisions
of Title 5 of The State Environmental Code as described in the application for
Disposal Works Construction Permit No. _____ dated _____

The issuance of this certificate shall not be construed as a guarantee that
the system will function satisfactory.

DATE _____ Inspector _____

BOARD OF HEALTH

MASSACHUSETTS

DISPOSAL WORKS CONSTRUCTION PERMIT

No. _____

Permission is hereby granted _____ to construct () or
repair () an Individual Sewage System at No. _____ as shown on the
application for Disposal Works Construction Permit No. _____

Dated _____

DATE _____ Board of Health _____

15.99: Forms continued

No. _____ SUGGESTED FORM _____ Fee _____

BOARD OF HEALTH

MASSACHUSETTS

APPLICATION FOR DISPOSAL WORKS CONSTRUCTION PERMIT

Application is hereby made for a permit to Construct () or Repair () an Individual Sewage Disposal System at:

Location-Address _____ or Lot No. _____

Owner _____ Address _____

Contractor _____ Address _____

Type of Building _____ Size Lot _____ Sq. feet

Dwelling-No. of Bedrooms _____ Expansion Attic () Garbage Grinder ()

Other-Type of Building _____ No. of person _____ Showers ()

Cafeteria () Other fixtures _____

Design Flow _____ gallons per person per day. Total daily flow _____ gallons

Septic Tank-Liquid Capacity _____ gallons Length _____ Width _____

Diameter _____ feet Depth _____ feet

Disposal Trench-No. _____ Width _____ Total Length _____ Total leaching area _____ sq.ft.

Disposal Bed No. _____ Diameter _____ Depth below inlet _____
Total leaching area _____ sq.ft.

Other Distribution box () Dosing tank ()

Percolation Test Results Performed by _____ Date _____

Test Pit No. 1 _____ minutes per inch Depth of Test Pit _____

Test Pit No. 2 _____ minutes per inch Depth of Test Pit _____

Depth to Ground _____

Description of Soil _____

Nature of Repairs or Alterations-Answer when applicable _____

CONTINUE ON PAGE 3

CONTINUE ON REVERSE

3.26: continued

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ YES (Identify the test(s) and describe their purpose below)

☐ NO (go to Section VIII)
VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☐ YES (List the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)

☐ NO (go to Section IX)

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)

3.26: continued

IX. CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I will be responsible for publication of public notice of the applicable permit proceedings identified under 314 CMR 2.06(1)(a) through (d).

Printed Name of Applicant

Title

Signature of Applicant

Date Signed

Name of Preparer

Title

Telephone No.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER (copy from Item 1 of Form 1)

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)

OUTFALL NO.

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT						4. NO. OF ANALYSES	3. UNITS (specify if blank)	4. INTAKE (optional)		
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVG. VALUE (if available)				5. LONG TERM AVERAGE VALUE		6. NO. OF ANALYSES
	(i) CONCENTRATION	(ii) MASS	(i) CONCENTRATION	(ii) MASS	(i) CONCENTRATION	(ii) MASS			(i) CONCENTRATION	(ii) MASS	
a. Biochemical Oxygen Demand (BOD)											
b. Chemical Oxygen Demand (COD)											
c. Total Organic Carbon (TOC)											
d. Total Suspended Solids (TSS)											
e. Ammonia (as N)											
f. Flow	VALUE		VALUE		VALUE				VALUE		
g. Temperature (winter)	VALUE		VALUE		VALUE			°C	VALUE		
h. Temperature (summer)	VALUE		VALUE		VALUE			°C	VALUE		
i. pH	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM				STANDARD UNITS			

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' (a. present, b. absent)	3. EFFLUENT						4. NO. OF ANALYSES	4. UNITS	5. INTAKE (optional)		
		A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVG. VALUE (if available)				6. LONG TERM AVERAGE VALUE		7. NO. OF ANALYSES
		(i) CONCENTRATION	(ii) MASS	(i) CONCENTRATION	(ii) MASS	(i) CONCENTRATION	(ii) MASS			(i) CONCENTRATION	(ii) MASS	
a. Bromide (24959-67-9)												
b. Chlorine, Total Residual												
c. Color												
d. Fecal Coliform												
e. Fluoride (16954-48-2)												
f. Nitrate-Nitrite (as N)												

3.22: Application Form 2A

3.22: Form 2A

COMMONWEALTH OF MASSACHUSETTS
DEQE DIVISION OF WATER POLLUTION CONTROLAPPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
MUNICIPAL

Application Number									
Date Received									
Year			Month				Day		

Do not attempt to complete this form before reading the accompanying instructions.

Please print or type

1. Name or organization responsible for facility

2. Address, location and telephone number of facility producing discharge:

A. Name _____

B. Mailing address: _____

1. Street address _____

2. City _____ 3. County _____

4. State _____ 5. Zip _____

C. Location: _____

1. Street _____

2. City _____ 3. County _____

4. State _____

D. Telephone No. _____

Area
Code

3. Type of treatment:

A. None _____ B. Primary _____ C. Intermediate _____ D. Secondary _____

E. Advanced _____

3.22: continued

4. Design flow (average daily) of facility _____ mgd.

5. Percent BOD removal (actual):

A. 0-29.9 _____ B. 30-64.9 _____ C. 65-84.9 _____ D. 85-94.9 _____
 E. 95 or more _____

6. Population served:

A. 1-199 _____ B. 200-499 _____ C. 500-999 _____ D. 1,000-4,999 _____
 E. 5,000-9,000 _____ F. 10,000 or more _____

7. Number of separate discharge points:

A. 1 _____ B. 2 _____ C. 3 _____ D. 4 _____
 E. 5 _____ F. 6 or more _____

8. Description of wastewater discharged to surface waters only (check as applicable).

Discharge per operating day	Flow, MGD (million gallons per operating day)						
	0-0.0099 (1)	0.01-0.049 (2)	0.05-0.099 (3)	0.1-0.49 (4)	0.5-0.99 (5)	1.0-4.9 (6)	5 or more (7)
A. Average							
B. Maximum							

Discharge per operating day	Volume treated before discharging (percent)				
	None (8)	0.1-34.9 (9)	35-64.9 (10)	65-94.9 (11)	95-100 (12)
A. Average					
B. Maximum					

9. If any wastewater, treated or untreated, is discharged to places other than surface waters, check below as applicable.

Waste water is discharged to	Flow, MGD (millions gallons per operating day)						
	0-0.0099 (1)	0.01-0.049 (2)	0.05-0.099 (3)	0.1-0.49 (4)	0.5-0.99 (5)	1.0-4.9 (6)	5 or more (7)
A. Deep Well							
B. Evaporation Lagoon							
C. Subsurface percolation system							
D. Other, specify:							

3.22: continued

10. Is any sludge ultimately returned to a waterway?

Yes _____ No _____

11. Do you receive industrial waste?

Yes _____ No _____

If yes, enter approximate number of industrial dischargers into system

12. Type of collection sewer system:

- A. Separate sanitary _____
- B. Combined sanitary and storm _____
- C. Both separate and combined sewer systems _____

13. Name of receiving water or waters _____

14. Does your discharge contain or is it possible for your discharge to contain one or more of the following substances: ammonia, cyanide, aluminum, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, phenols.

Yes _____ No _____

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I will be responsible for publication of public notice of the applicable permit proceedings identified under 314 CMR 2.06(1)(a) through (d).

Printed Name of Applicant _____ Title _____

Signature of Applicant _____ Date Signed _____

Name of Preparer _____ Title _____ Telephone No. _____

5.20: Application Form 1

314 CMR: DIVISION OF WATER POLLUTION CONTROL

5.20: Form 1

General Information
and Notification

DATE RECEIVED

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING
DIVISION OF WATER POLLUTION CONTROL

APPLICATION FOR PERMIT TO DISCHARGE TO WATERS OF THE COMMONWEALTH

To be filed by all persons required to obtain a permit to discharge to waters of the Commonwealth.

Do not attempt to complete this form before reading the accompanying instructions.

- Please type or print -

1. NAME, ADDRESS, LOCATION, AND TELEPHONE NUMBER OF FACILITY PRODUCING THE DISCHARGE -

A. Name _____
 B. Mailing Address _____
 Street _____
 City _____ State _____ Zip _____
 C. Location _____
 Street _____ City _____
 County _____
 D. Telephone No. () - -

OWNERSHIPSTATUS

Individual _____
 Corporation _____
 Partnership _____
 Other _____

Private _____
 Public _____
 Other _____

2. CONTACT PERSON -

Give the name, title, and work telephone number of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the Division of Water Pollution Control if necessary.

A. Name _____
 B. Title _____
 C. Telephone No. () - -

5.20: continued

314 CMR: DIVISION OF WATER POLLUTION CONTROL

3. FACILITY STATUS -

existing _____ proposed _____

4. Does this project affect a site of historic or archeological significance as defined in regulations of the Massachusetts Historical Commission, 950 CMR 71.007

Yes _____ No _____

5. Does this project require a filing under 301 CMR 11.00, the Massachusetts Environmental Policy Act?

Yes _____ No _____

If yes, has a filing been made?

Yes _____ No _____

6. APPLICATION FORMS NEEDED -

Answer questions A through F to determine which additional application forms you need to submit to the Division of Water Pollution Control. If you answer "Yes" to any question, you must submit this form and the supplemental form listed in the parentheses following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "No" to each question, you need not submit any of these forms.

	Yes	No	Form Attached
A. Is this facility an existing or proposed publicly owned treatment works which results in a discharge to surface waters of the Commonwealth? (Form 2A)			
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to the surface waters of the Commonwealth? (Form 2B)			
C. Does or will this facility result in a discharge to surface waters of the Commonwealth other than those described in A or B above? (Form 2C)			

5.20: continued

314 CMR: DIVISION OF WATER POLLUTION CONTROL

D. Is this facility an existing or proposed treatment works which results in a discharge only of treated sewage to the land surface or to the ground waters of the Commonwealth? (Form GW-A)			
E. Does or will this facility include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to the land surface or ground waters of the Commonwealth? (Form GW-B)			
F. Does or will this facility result in a discharge to the land surface or the ground waters of the Commonwealth other than those described in D or E above? (Form GW-C)			

7. Is this a RCRA facility as defined in 314 CMR 8.03?

Yes _____ No _____

If yes, submit the information on Form HW contained in 314 CMR 8.20 in accordance with the provisions of 314 CMR 8.08.

8. INDUSTRIAL CLASSIFICATION -

List, in descending order of significance, the four (4) digit standard industrial classification (SIC) codes which best describe your facility in terms of the principal products or services you produce or provide. Also, specify each classification in words.

SIC CODESPECIFY

- A.
B.
C.
D.

5.20: continued

314 CMR: DIVISION OF WATER POLLUTION CONTROL

9. FACILITY OPERATOR -

Give the name, as it is legally referred to, of the person, firm, public organization, or other entity which operates the facility described in this application. If the facility owner is also the operator, write owner and list mailing address only if different from that listed in number 1 above.

A. Name _____
 B. Mailing Address _____
 Street _____
 City _____ State _____ Zip _____

OWNERSHIP

STATUS

Individual _____	Private _____
Corporation _____	Public _____
Partnership _____	Other _____
Other _____	

10. LOCATION OF FACILITY -

A. Is the facility located on Indian Lands?

Yes _____ No _____

B. Provide a topographic map or maps of the area extending at least to one mile beyond the property boundaries of the facility which clearly show the following:

The legal boundaries of the facility;

The location and serial number of each of your existing and proposed intake and discharge structures;

All hazardous waste management facilities;

All springs and surface water bodies in the area, plus all drinking water wells within one mile of the facility which are identified in the public record or otherwise known to you.

If an intake or discharge structure, hazardous waste disposal site, or injection well associated with the facility is located more than one mile from the plant, include it on the map, if possible. If not, attach additional sheets describing the location of the structure, disposal site, or well, and identify the U.S. Geological Survey (or other) map corresponding to the location.

5.20: continued

314 CMR: DIVISION OF WATER POLLUTION CONTROL

On each map, include the map scale, meridian arrow showing north, and latitude and longitude to the nearest whole second. On all maps of rivers, show the direction of the current, and in tidal waters, show the directions of the ebb and flow tides. Use a 7-1/2 minute series map published by the U.S. Geologic Survey.

11. NATURE OF BUSINESS -

Briefly describe the nature of your business, include products produced or services provided.

12. WATER SUPPLY DATA -

A. List sources of water supply and annual water consumption for the past 5 years.

Water Sources	Year				
	1.	2.	3.	4.	5.
1.					
2.					
3.					

TOTAL:

B. Please show the location of your water sources on the map described in paragraph 7.

13. CERTIFICATION -

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I will be responsible for publication of public notice of the applicable permit proceedings identified under 314 CMR 2.06(1)(a) through (d).

Printed Name of Applicant

Title

Signature of Applicant

Date Signed

Name of Preparer

Title

Telephone No.

5.22: Application Form GW-A

5.22: Form GW-A

Ground Water Discharge

APPLICATION NO.

DATE RECEIVED

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING
DIVISION OF WATER POLLUTION CONTROL

APPLICATION FOR PERMIT TO DISCHARGE TO GROUND

To be filed for municipalities and for residential and commercial establishments discharging sewage only.

Do not attempt to complete this form before reading accompanying instructions.

- Please type or print -

1. Name, address, location, and telephone number of facility producing the discharge.

A. Name _____
 B. Mailing Address _____
 Street _____
 City _____ State _____ Zip _____
 C. Location _____
 Street _____ City _____
 D. Telephone No. _____

2. Ownership status: public _____ private _____

3. Type of establishment producing or contributing to discharge.

Residential housing: Total number of bedrooms _____
 Other: Nature of business _____

4. When did or when will this discharge begin? _____ (date)

5. Design flow: Daily average _____ gpd; Daily maximum _____ gpd

6. Basis for design flow:

The State Environmental Code - Title 5 _____
 Measurement _____
 Other: Specify: _____

7. (a) Check here if discharge occurs all year _____, or
 (b) List the months discharge occurs _____
 (c) Number of days per week discharge occurs _____

5.22: continued

8. Type of treatment and disposal system for discharge to ground

9. Location and method of wastewater treatment solids disposal

10. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental program which may affect the discharge described in this application?

Yes _____ Please explain
No _____

11. If a commercial establishment:

A. Are any types of wastewater other than sanitary sewage produced?

Yes Specify _____
Quantity _____ gpd
Method and location of disposal _____

No _____

B. Are any hazardous wastes generated? Yes _____ No _____

12. Does or will the treatment/disposal facility receive industrial wastes?

Yes _____
No _____

13. Are you seeking a reclassification of the ground waters impacted by your discharge?

Yes _____
No _____

If the answer to this question is yes additional information should be submitted pursuant to 314 CMR-6.00, The Massachusetts Ground Water Quality Standards.

14. Are there any public or private drinking water supply wells within 2500 feet of the discharge area?

Yes _____ (Please list below)
No _____

5.22: continued

<u>Well Location</u>	<u>Type of Well (Public/Private)</u>	<u>Status (Active/ Inactive)</u>	<u>Safe Yield of Well</u>
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15. Has a hydrogeologic study been performed to determine the potential impact on the ground water of the discharge or activity?

Yes _____ (Please attach copy)
No _____

16. Have plans and specifications for the treatment works been approved by the Department or if approved prior to July 1975, the Department of Public Health? (Please attach copy of plans and specifications and approval letter.)

Yes _____
No _____

17. Are there any ground water monitoring wells currently in place in the vicinity of the discharge or proposed discharge?

Yes _____ (Please attach information on type of well, and location of wells and available monitoring data)
No _____

18. Do you own the property at the discharge site?

Yes _____
No _____

19.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I will be responsible for publication of public notice of the applicable permit proceedings identified under 314 CMR 2.06(1)(a) through (d).

Printed Name of Applicant

Title

Signature of Applicant

Date Signed

Name of Preparer

Title

Telephone No.

5.24: Application Form GW-B

5.24: Form GW-B

Ground Water Discharge

APPLICATION NO.

DATE RECEIVED

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING
DIVISION OF WATER POLLUTION CONTROL

APPLICATION FOR PERMIT TO DISCHARGE TO THE GROUND

To be filed for facilities which include a concentrated animal feeding operation which results in a discharge to the land surface or ground waters of the Commonwealth.

Do not attempt to complete this form before reading the accompanying instructions.

- Please type of print -

1. NAME, ADDRESS, LOCATION, AND TELEPHONE NUMBER OF FACILITY PROVIDING THE DISCHARGE.

- A. Name _____
- B. Mailing Address _____
Street _____
City _____ State _____ Zip _____
- C. Location _____
Street _____ City _____
County _____
- D. Telephone No. () - -

2. TYPE AND NUMBER OF ANIMALS IN OPEN CONFINEMENT AND HOUSED UNDER ROOF -

A. Type	B. Number in open confinement	C. Number housed under roof

3. BASIS OF DESIGN -

A. Is a runoff diversion being used or planned?

Yes _____ No _____

5.24: continued

B. What is the design basis for the control system? (Specify frequency and duration of storm, and total amount of rain in inches.)

C. Number of acres contributing drainage. _____

D. Design safety factor. _____

4. TREATMENT FACILITY -

Type of treatment and disposal system provided for discharge to ground

5. SOLIDS DISPOSAL -

Location and method of wastewater treatment solids disposal

6. IMPROVEMENTS -

Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction upgrading or operation of wastewater treatment equipment or practices or any other environmental program which may affect the discharge described in this application?

Yes _____ (Please explain below) No _____

7. IMPACT OF DISCHARGE -

A. Are you seeking a reclassification of the ground waters impacted by your discharge?

Yes _____ No _____

If the answer to this question is yes, additional information should be submitted pursuant to 314 CMR 6.00, The Massachusetts Ground Water Quality Standards.

5.24: continued

B. Are there any private drinking water supply wells within 2500 feet or any public drinking water supply wells within 10,000 feet of the discharge area?

Yes _____ (Please list below) No _____

<u>Well Location</u>	<u>Type of Well (Public/Private)</u>	<u>Status (Active/ Inactive)</u>	<u>Safe Yield of Well</u>
----------------------	--	--	-------------------------------

C. Has a hydrogeologic study been performed to determine the potential impact on the ground water of the discharge or activity?

Yes _____ (Please attach a copy) No _____

8. APPROVAL OF TREATMENT WORKS -

A. Have plans and specifications for the treatment works been approved by the Department or if approved prior to July 1975, the Department of Public Health? (Please attach copy of plans and specifications and approval letter.)

Yes _____ No _____

B. When did or when will these discharges begin? _____ (date)

9. Are there any ground water monitoring wells currently in place in the vicinity of the discharge or proposed discharge?

Yes _____ (Please attach information on the type, and location of the wells and available monitoring data)

No _____

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I will be responsible for publication of public notice of the applicable permit proceedings identified under 314 CMR 2.06(1)(a) through (d).

Printed Name of Applicant _____

Title _____

Signature of Applicant _____

Date Signed _____

Name of Preparer _____

Title _____

Telephone No. _____

5.26: Application Form GW-C

5.26: Form GW-C

Ground Water Discharge

APPLICATION NO.

DATE RECEIVED

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING
DIVISION OF WATER POLLUTION CONTROL

APPLICATION FOR PERMIT TO DISCHARGE TO THE GROUND

To be filed by persons engaged in manufacturing, mining or any activity producing industrial wastes.

Do not attempt to complete this form before reading the accompanying instructions.

- Please type or print -

1. NAME, ADDRESS, LOCATION, AND TELEPHONE NUMBER OF FACILITY PRODUCING THE DISCHARGE -

A. Name _____

B. Mailing Address _____

Street _____

City _____ State _____ Zip _____

C. Location _____

Street _____ City _____

D. Telephone No. () - - _____

2. TREATMENT FACILITY -

A. Identification Number	B. General Description	C. Location

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more defined descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g. for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

- (1) All operations contributing wastewater to the effluent, including process wastewater, sewage, cooling water, and storm water runoff;
- (2) The average flow contributed by each operation; and
- (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

[illegible]

Yes _____ (Complete the following table) No _____

5.26: continued

1. Identification Number	2. Operations Contributing Flow	3. Frequency		4. Flow		
		a. Days Per Week	b. Months Per Year	a. Flow Rate	b. Total Volume	c. Duration

4. MAXIMUM PRODUCTION -

A. List the quantity which represents an actual measurement of your maximum level of production, and indicate the affected treatment facility. Please indicate terms and units used.

1. Identification Number of Treatment Facility Affected	2. Quantity Per Day	3. Unit of Measure	4. Operations, Product Material, Etc.

5. IMPROVEMENTS -

Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

Yes _____ (Complete the following table) No _____ (Go to Item 6)

5.26: continued

1. Description of Order or Agreement	2. Identification Number of Affected Treatment Facility	3. Description of Project	4. Final Compliance Date

6. EFFLUENT LIMITATIONS -

- A. List any pollutant which you know or have reason to believe is discharged or may be discharged from the treatment facilities. For every pollutant you list, briefly describe the reason you believe it to be present, its approximate concentration in the discharge and any analytical data in your possession which will support your statement. Additional wastewater analysis may be required as part of this application.

1. Identification Number of Treatment Facility	2. Pollutant	3. Concentration	4. Source	5. Available Analytical Data

- B. Are your operations such that your raw materials, processes, or products can reasonably be expected to vary so that your discharges of pollutants may during the next five years exceed three times the approximate concentrations reported in item 6A?

Yes _____ (Please explain below) No _____

5.26: continued

D. Are you planning on adding any new processes over the next five years?

Yes _____ (Please explain below) No _____

C. Are hazardous wastes generated at your facility?

Yes _____ (Please explain below) No _____

B. Are organic compounds used at your facility?

Yes _____ (Please explain below) No _____

7. BIOLOGICAL TOXICITY TESTING DATA -

A. Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of the discharges within the last three years?

Yes _____ (Please explain below) No _____

8. CONTRACT ANALYSIS INFORMATION -

A. Were any of the analyses or testing reported in items 6A or 7A performed by a contract laboratory or consulting firm?

Yes _____ (Please explain below) No _____

5.26: continued

1. Name of Laboratory or Consultant	2. Address	3. Telephone	4. Pollutant Analyzed

9. IMPACT OF DISCHARGE -

- A. Are you seeking a reclassification of the ground waters impacted by your discharge?

Yes _____ No _____

If the answer to this question is yes, additional information should be submitted pursuant to 314 CMR 6.00, the Massachusetts Ground Water Quality Standards.

- B. Are there any private drinking water supply wells within 2500 feet or any public drinking water supply wells within one mile of the discharge area?

Yes _____ (Please list below) No _____

<u>Well Location</u>	<u>Type of Well (Public/Private)</u>	<u>Status (Active/Inactive)</u>	<u>Safe Yield of Well</u>
--------------------------	--	-------------------------------------	-------------------------------

5.26: continued

- C. Has a hydrogeologic study been performed to determine the potential impact on the ground water of the discharge or activity?

Yes _____ (Please attach a copy) No _____

10. APPROVAL OF TREATMENT WORKS -

- A. Have plans and specifications for the treatment works been approved by the Department or, if approved prior to July 1975, the Department of Public Health? Please attach copy of plans and specifications, if available, and a copy of the approval letter.

Yes _____
No _____

- B. When did or when will these discharges begin? _____ (date)

- C. Location and method of wastewater treatment solids disposal

11. Are there any ground water monitoring wells currently in place in the vicinity of the discharge or proposed discharge?

Yes _____ (Please attach information on the type and location of the wells and available monitoring data)
No _____

12. Do you own the property at the discharge site?

Yes _____
No _____ (Please explain)

13. CERTIFICATION -

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I will be responsible for publication of public notice of the applicable permit proceedings identified under 314 CMR 2.06(1)(a) through (d).

Printed Name of Applicant _____

Title _____

Signature of Applicant _____

Date Signed _____

Name of Preparer _____

Title _____

Telephone No. _____

REGULATORY AUTHORITY

314 CMR 5.00: M.G.L. c. 21, ss. 27(12) and 43.

AIR POLLUTION

Prepared by Sarah Simon
Consultant, Environmental Management Section
Arthur D. Little

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1. Public Health and Environmental Impacts

The environment affects everyone, at every moment, through the air we breathe. Whether you are painting a home, eating in a restaurant, pumping gasoline, working in or near a factory, or driving down the street, air emissions are an unavoidable part of the environment.

Air contamination exposes us to many different health stresses. Particles such as smoke or road dusts contribute directly to respiratory diseases, such as asthma and emphysema.

Particles and gases can be absorbed from the air by the body and can produce a variety of toxic effects.

Carbon monoxide (CO) is a gas that replaces oxygen in the blood stream and causes asphyxiation. Most CO is emitted from cars and other vehicles, but it is also emitted from furnaces and boilers.

Lead particulate affects many body systems and causes mental disfunction and other nervous system problems. Cars using leaded gasoline emit lead. Many exterior paints were once made with lead, so the sandblasting of bridges or old homes releases lead particles.

Many fuels and liquid hazardous materials are volatile organic (carbon - based) compounds (VOC) or hydrocarbons (HC) whose evaporative gas emissions may be toxic. Depending upon the specific chemical, health effects can include watery or burning eyes, skin itching and rashes, dizziness, poisoning, burns, irritation, or cancer. VOC's and HC's are emitted from gasoline, car tailpipes, cleaning fluids other than water, and some paints.

Nitrogen Dioxide (NO₂) is an acidic gas that affects the lung. It is emitted from cars, diesel engines, and electric power plants.

Groundlevel ozone is a gas that causes respiratory damage. It aggravates asthma, emphysema, heart disease and other chronic conditions, and affects healthy people by eye, nose, and throat irritation, headaches and coughing. Ozone is the indicator contaminant used to measure smog. It is created from VOC's, HC's, and NO₂ in a complex atmospheric reaction that occurs when it is sunny, hot, and humid.

Other chemicals created in smog reactions are also toxic. Ozone causing pollutants are emitted from vehicles, electric power plants and boilers, industry, and from evaporating liquids like gasoline and paint.

Sulfur dioxide is acidic and is a respiratory sensitizer that can cause lung damage such as bronchitis. It is emitted when fuels containing sulfur, such as oil and coal, are burned.

Asbestos is a particle which can cause lung cancer or asbestosis, a lung disease. Most asbestos is emitted when asbestos pipe wrap or insulation is disturbed by renovations or released by physical contact, water or wind.

Benzene, an organic chemical, is a known human carcinogen, that is also a central nervous system depressant and a blood system poison. It is emitted from gasoline and some industrial processes.

Particulates and gases affect the environment by being deposited on or absorbed by vegetation, soils, animals, and waterways. *Acid rain*, for example, is the wet deposition of *sulfur oxides* and *nitrogen oxides*. It pollutes the environment in several ways. It can kill fish and plants in waterways and lakes, reduce soil fertility, and cause additional

groundwater contamination by increasing how much metal leaches from the soil. Acid rain also damages cultural resources because it can damage marble, buildings, statues, and paint. Another pollutant, *ozone*, affects the growth of trees and agricultural crops. Many air pollutants affect animals biologically the same way they cause health effects in humans. Another environmental aspect of air pollution is visually unpleasing plumes of smoke or orange or brown atmospheric haze, sometimes called aesthetic pollution.

2. Where to Look for Violations

Air pollution sources come in all shapes and sizes, from factory facilities to cars to home heating systems. Your eyes and nose can detect some air quality problems, but there are also specific types of activities and sources to watch for because they can often cause air quality problems.

Signs of air pollution include **visible emissions** from a smoke stack, building vent, window or brush fire. The particles emitted can block (or scatter) light and obscure the view. When no light is coming through a particle plume, it is totally (100%) "opaque". This means the plume looks solid and you can no longer see things behind the plume. At 20% opacity, you can see through a plume, but the view is somewhat hazy.

One early technique for measuring smoke emission pollution from coal boilers was to determine by sight how black the plume was. Even today, compliance staff are certified as "smoke readers" when training has "calibrated their eyeballs" to accurately determine plume opacity. Opacity monitors required in the stacks of many large, new boilers make a similar, but automated, determination of what percentage of light is blocked.

Not all plumes are indicators of pollution, however. Condensing steam or water vapor can create a 100% opaque, white plume where a hot and humid exhaust stream is being emitted. These plumes usually dissipate close to where they are released.

Particles and smoke can be emitted from boilers, furnaces and stoves; other burning activities; mechanical grinding or cutting processes; asphalt batch plants and gravel sorting or drying; asbestos removal, and other materials handling or loading activities.

In general, it is illegal to emit smoke, and visible emissions from stationary sources should not exceed 20% for more than 6 minutes each hour. With a few exceptions, open burning is banned. There should be no visible emissions from cars or asbestos demolition activities. Diesels shall not cause excessive emissions of visible air pollutants, and opacity should not exceed 40% for more than 10 seconds from aircraft. Renovation and demolition activities shall not cause air pollution, including visible emissions.

Some air pollution can be detected with the nose, especially volatile organic materials or sulfur containing gases. However, many gaseous emissions can neither be seen nor smelled. Odors can be caused by a very small amount of emissions which may not be harmful to health or the environment. On the other hand, some very toxic gases may be undetectable. It is better to know about likely air pollution sources and illegal activities rather than relying on odor for determining air pollution violations.

Polluting gases may come from fuels, combustion, and manufacturing gases and liquids, and cleaning and disinfectant materials. NO_2 and SO_2 are emitted from fuel use and boilers generating electricity. VOC's are emitted from open containers that store volatile liquids, like gasoline, paints and finishes, or cleaning agents.

In Massachusetts, if a solvent degreaser at an autobody shop does not have a cover or the cover is not used, it is not in compliance with the regulations. Large storage tanks of materials such as gasoline that are highly volatile (evaporative) must have emission control systems, such as floating roofs. Dual piping tank filling equipment is required at gas stations to recover gases that collect in the tanks above the liquid and would be vented to the atmosphere when the tank is being refilled. Stations and tanker trucks must have vapor recovery equipment for filling underground gasoline tanks (Stage 1). By April 1992, most gas stations must have recovery equipment for refueling gas tanks in vehicles (Stage 2). You can easily pick out the large fuel nozzles that are part of the Stage 2 systems. They need to be bigger than the older style because they have to accommodate the hose that returns gasoline fumes to the underground tank.

3. Safety Issues

Many kinds of air emissions can be acutely toxic at high concentrations. In general, respiratory protection is one of the most important safety practices because highly contaminated air is such a direct and immediate health threat. Also, some particles and gases can be explosive when mixed with air.

There are three important kinds of activities that present safety problems because of their air emissions.

- chemical air releases from wastewater and water
- gas and volatile liquid storage
- accidents and emergencies

One toxic air pollutant that can be emitted from wastewater is hydrogen sulfide. It is created in stagnant wastewater, and when it accumulates in confined spaces, such as sewer systems, it can be deadly. An important thing to watch out for is that hydrogen sulfide smells like rotten eggs at certain concentrations but after a short time, the nose becomes desensitized. Since people stop being able to smell hydrogen sulfide after a short time, they assume it has gone away, mistakenly believing that it no longer poses a threat. There are many cases where municipal sewer system employees have gone into manholes and been killed by this gas. Ammonia is another toxic gas sometimes created in and emitted from wastewaters.

When gas or liquid storage containers are not sealed, air emissions can pose a safety threat. Chlorine and ammonia emissions from open tanks and chambers where these chemicals are used can generate deadly plumes of these gases. Hazardous emissions evaporating from open or vented liquid tanks can also cause invisible toxic plumes that may have no smell.

Many accidents, such as industrial spills, fires, or transportation emergencies, also release plumes of acutely toxic air emissions. It is always wise to be aware of wind direction and speed during an emergency so people can be kept out of any air contaminant plume. Fires often produce easily visible plumes showing the location of emissions and how fast they are dispersing. Sometimes, safety officials use a smoke bomb for simple information about wind speed and direction if chemical air emissions are not already producing a visible plume. Respiratory protection, like gas masks and self contained air supplies, and safety clothing should be worn in any location suspected to have contaminated air in order to prevent toxic exposure to the lungs, eyes, and skin. Emergency workers need special training to fit and wear this equipment, in order to assure that it works effectively.

4. Term Dictionary

Ambient - the general region, or environment, beyond the fenceline of an individual emission source. Emissions are dispersed in the air in this area, and mixed together from many sources.

Emission - the discharge or release of an air contaminant

Facility - emission source(s) on a property, usually involved in the same industrial activity. An industrial "plant" can often be called a facility.

Modification - the addition of equipment or a change in activities that changes emissions. Regulatory approvals are generally required if emissions increase.

Source - anything that emits air contaminants.

- a) *stationary point sources* are fixed to the ground. Examples are industrial plants, incinerators, and commercial operations.
- b) *mobile sources* are highway vehicles.
- c) *area sources* are individual emission points that don't emit a large volume of contaminants, but in the aggregate, contribute a significant amount of air pollution. Examples are drycleaners, home furnaces, and painting activities.

Regulatory Terms

Air Pollution means the presence in the ambient air space of one or more air contaminants or combinations thereof in such concentrations and of such duration as to:

- a. cause a nuisance;
- b. be injurious, or be, on the basis of current information, potentially injurious to human or animal life, to vegetation or to property; or
- c. unreasonably interfere with the comfortable enjoyment of life and property or the conduct of business. (310 CMR 7.00)

Air Quality Standard - a maximum air contaminant concentration necessary to protect public health and welfare.

Ambient Air means that portion of the atmosphere, external to buildings to which the general public has access. (310 CMR 7.00)

Fossil Fuel Utilization Facility - a boiler or other energy generating equipment that burns oil, natural gas, or coal ("fossil fuels")

State Implementation Plan (SIP) - a state program for achieving and maintaining air quality standards. The U. S. Environmental Protection Agency (EPA) approves SIP's, and they can be enforced by the state or the EPA.

Nonattainment - an area where air quality contamination is greater than the ambient air quality standard allows.

5. Regulatory Framework

Air pollution has been a public health concern for some time, and the key concepts behind the air quality programs are: a) air quality tracking and improvement, b) individual source emission control requirements and permits, and c) general regulations restricting emissions.

Coal burning boilers and other industrial facilities created unhealthy air quality conditions in many cities almost a century ago, and this encouraged Public Health and Sanitation Departments to set the first air pollution control requirements. Local Smoke Districts and regional Air Pollution Control Districts were established in the Commonwealth, and regulatory agencies in these districts enforced smoke laws, shut down polluting sources and reviewed and approved plans for new sources.

Over the past twenty years, the job of protecting ambient environmental air quality (outdoor) has been transferred to the Commonwealth's Department of Environmental Protection (DEP). The four DEP regional offices enforce most of the air quality regulations. However, local officials are still authorized to enforce some of the generic state air regulations, such as nuisance, odor, gasoline vapor recovery, and open burning (30 CMR 7.52). Also, local ordinances can set air quality requirements if they conform to state requirements and are approved by the DEP. For example, several cities in Western Massachusetts have DEP approved wood stove ordinances and have approved requirements for reducing lead emissions during lead paint removal projects.

Air Quality Tracking and Improvement

DEP administers existing air quality programs, monitors air quality around the Commonwealth, tracks emissions, and develops new requirements to address air quality problems. Many of these programs are designed to conform to the federal Clean Air Act whose primary goal is to achieve national ambient air quality standards throughout the nation. Air quality monitoring shows that Massachusetts, and most of the Northeast, does not attain the standard for ground-level ozone, (and this defines Massachusetts as an ozone non-attainment area), and the cities of Worcester, Springfield, Lowell, and several Boston area municipalities are also non-attainment for carbon monoxide.

In order to improve poor air quality, the air programs for non-attainment areas must meet stricter requirements than those that apply where air contamination levels are lower than the ambient standards. For example, the program for SO₂ control is less complex than the program for pollutants that cause ozone, a non-attainment pollutant because Massachusetts meets the ambient SO₂ standard. The Massachusetts non-attainment plan for ozone, or

"State Implementation Plan" (SIP) as approved by the EPA, requires existing sources to retrofit controls and regulates many kinds of smaller sources of ozone causing emissions. Massachusetts is developing more VOC control requirements in 1992 in order to try to achieve the ozone standard. The new Ozone SIP programs being studied include the sale of cleaner automobiles, similar to the California low and zero emitting vehicles (LEV's, ZEV's), cleaner transportation fuels, an improved annual automobile inspection and maintenance program, and retrofit control requirements for smaller, existing emission sources.

Over the next ten years, there will be some significant improvements in the control programs for hazardous air pollutants (HAP's). The revised Clean Air Act includes a list of 189 HAP's that must be addressed at individual facilities and at area sources. Many of these HAP's are already defined as hazardous wastes under other environmental programs. Changes may include reformulating gasoline to reduce HAP emissions from cars. Nationally-required HAP emission limits will be developed for many facility categories, such as publicly owned treatment works, painting operations, chemical production, mineral processing, and combustion.

Individual Source Emission Control Requirements

New and modified air pollution facilities must be as clean as possible. Plans for projects that can emit more than a ton of pollution per year must be reviewed and approved by DEP before construction starts. Modern, appropriate control equipment must be designed into every project and must reflect the Best Available Control Technology (BACT), which takes cost into account. Each plan approval is essentially a permit to construct and operate the facility. In addition, if existing sources are out of compliance with the rules, DEP may issue orders requiring them to install controls and must approve the control plans.

The Clean Air Act requires special permit reviews for large new or modified facilities. In addition to the control technology review, the applicant must show that the emissions from the project will not cause or contribute to a violation of the ambient air quality standards. Scientific studies must be performed to assess the impact of the proposed project. In attainment areas, facilities must comply with criteria that prevent significant deterioration (PSD) of air quality. In non-attainment areas, emissions from new projects must be offset with emission reductions from existing sources before the new facility can be permitted and the control technology must perform at the lowest achievable emission rate (LAER), even if it is very expensive.

The revisions to the Clean Air Act also require that Massachusetts establish an operating permit program for major facilities. The program has not yet been developed, but at a minimum, it must require that permits be renewed at least every five years and that permit fees be established to support the program. The new operating permits are expected to make it easier to know exactly what air requirements apply at each facility and whether it is in compliance. The first Massachusetts operating permits may be issued in about 1995.

General Emission Restrictions

Many air quality regulations are written as general limits for any and all emission sources. Often these are for small, individual air pollution sources, that wouldn't usually require individual source approvals. One example is that painting equipment (surface coating) used in manufacturing processes has emission restrictions, even if the facility does not need individual equipment approvals. Car tailpipe emissions must be tested annually, (the Inspection and Maintenance Program), and must meet carbon monoxide and hydrocarbon emission standards in accordance with their model year. Degreasing tanks,

even those in small machine shops, must have and use covers. Drycleaning facilities must have carbon absorption systems to control perchloroethylene emissions and use systems that reduce/eliminate emissions even further.

Other general restrictions regulate fuels or ban certain activities. Home heating oil cannot contain more than 0.5% sulfur. Open burning is prohibited except that local safety officials can permit burning of non-commercial brush or forestry debris or for agricultural purposes in non-urban areas between January and April. Also, since the definition of air pollution includes nuisance and noise in Massachusetts, local officials, especially the Boards of Health, are sometimes called on to determine whether odor and noise conditions are beyond appropriate limits and should be controlled.

6. Statutes and Regulations

Massachusetts General Laws, Chapter 111

Section 2B: Air Pollution Emergency:

Authorizes the commissioner of environmental protection, with the governor's approval, to declare an air pollution emergency when he determines that the condition or impending condition of the Commonwealth's atmosphere constitutes a present or reasonably imminent danger to health. The DEP is authorized to establish an emergency plan, including controls and restrictions on sources of air contamination.

The commissioner's emergency orders shall be enforced by the department of public health and state and local police, who may, upon reasonable

cause, seek a warrant to search any property, premises or place for evidence of violation of such orders. Such enforcement personnel are further empowered to order any person having control of an air contamination source to stop and abate violation of any emergency order. Whoever knowingly fails within a reasonable time to comply with any such order, giving due consideration to the practicability and to the physical and economic feasibility of compliance, shall be punished by a fine of not less than twenty dollars nor more than ten thousand dollars. Each day or part thereof of continuous or intermittent violation of any such order to stop or abate shall be considered a separate and succeeding offense.

Chapter 111 Section 142A: Pollution or Contamination of Atmosphere:

Any municipality, corporation or person which, after due notice, continues to violate any DEP regulation to prevent air pollution: (a) shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not more than twenty-five thousand dollars, and/or by imprisonment for not more than one year; or (b) shall be subject to a civil penalty of not more than twenty-five thousand dollars for each separate offense. Each day such violation continues shall be a separate offense.

Chapter 111 Section 142B-I: Districts and Standards, etc.:

These sections authorize establishment of air pollution control districts within the Commonwealth, and generally establish DEP's authority over the districts and over property of the Commonwealth with respect to prevention and control of air pollution.

Section 142B further provides that the DEP can order any person, corporation, or political subdivision having control of an air contamination source, other than an employee, to stop or abate violation of the DEP's air pollution rules and regulations, and provides for the right to request a hearing on such order. Any person, corporation, or political subdivision violating any such order (a) shall be punished by a fine of not more than twenty-five thousand dollars and/or imprisonment for not more than one year; or (b) shall be subject to a civil penalty not to exceed twenty-five thousand dollars for each such violation. Each subsequent day or part thereof of violation of such an order, whether such violation be continuous or intermittent, shall be construed as a separate and succeeding offense.

Chapter 111 Section 142J-K: Motor Vehicle Emissions Standards:

These sections establish DEP's authority to set motor vehicle emissions standards and emissions testing procedures.

Section 142K, passed in 1990, authorized the DEP to adopt emissions standards based on the stringent standards adopted in California. Any corporation, person, municipality or other entity that violates the requirements of Section 142K or any regulation adopted thereunder shall be punished by a fine of not more than twenty-five thousand dollars and/or imprisonment for not more than one year and shall be subject to a civil penalty of not more than twenty-five thousand dollars for each such violation. Each day that a violation for any motor vehicle continues shall be a separate offense.

310 Code of Massachusetts Regulations	Section 6.00	<u>Ambient Air Quality Standards</u> : permissible air contamination levels that protect public health and welfare.
	Section 7.00	<u>Definitions</u> :
	Section 7.01	<u>General Regulations to Prevent Air Pollution</u> : illegal for any person to permit emissions that cause a condition of air pollution.
	Section 7.02	<u>Plan Approval and Emission Limitations</u> : permit procedures, removal of air pollution control equipment is prohibited, particulate limits for boilers and industries, incinerator emission limits.
	Section 7.04	<u>Fossil Fuel Utilization Facilities</u> : smoke density monitor requirements, annual boiler efficiency tests, prohibition of outdated burner types in Worcester, limits for used oil fuels.
	Section 7.05	<u>Fuels</u> : sulfur content limits for oil and coal, ash content limits, required fuel supplier records, criteria for approving higher sulfur content limits.
	Section 7.06	<u>Visible Emissions</u> : opacity limits, including incinerators, aircraft, diesel engines.
	Section 7.07	<u>Open Burning</u> : banned, except towns can permit residential brush burning from January 15 to April 30 or agricultural burning. Local enforcement.
	Section 7.09	<u>Dust, Odor, Construction and Demolition</u> : operating, storage and handling of dust and odor emissions in a manner as will prevent causing or

- contributing to a condition of air pollution, notices required prior to construction and demolition. Local enforcement.
- Section 7.10 Noise: no unnecessary sound emissions that cause noise.
- Section 7.11 Transportation Media: excessive idling of cars and diesel trains restricted. Local enforcement.
- Section 7.12 Inspection Certificate, Recordkeeping and Reporting: requires certain point sources to register with DEP.
- Section 7.15 Asbestos: standards for demolition/renovation that could release asbestos, notification requirements, waste asbestos disposal and labelling restrictions. Local enforcement.
- Section 7.18 Volatile and Halogenated Organic Compounds: requirements to minimize emission from storage and specified operations, such as surface coating, metal degreasing (8), dry cleaning systems (13), graphic arts.
- Section 7.20(9) Vehicle Exhaust Emission Standards: tailpipe emission limits for CO and HC by model year.
- Section 7.24 (3) Organic Material Storage and Distribution: certain motor vehicle fuel tanks require Stage 1 vapor recovery systems.
- Section 7.24 (6) Organic Material Storage and Distribution: motor fuel dispensing requires Stage 2 vapor recovery systems. Local enforcement.

	Section 7.52	<u>Enforcement Provisions:</u> local police, fire, Board of Health and building inspection officials authorized to enforce specified air regulations, indicated above as "local enforcement".
	Section 8.00	<u>Air Pollution Episodes and Emergencies</u>
40 Code of Federal Regulations	Sections 50-88	<u>Federal Clean Air Act Regulations:</u> ambient air quality standards for CO, Ozone, NO ₂ , SO ₂ , lead, particulate; authorize EPA to set the framework for state air quality programs to be federally enforced; provide for enforcement procedures and penalties up to \$25,000 per day; provide criteria for permits; authorize state grants.

7. Regulators and Sources of Information

Massachusetts Department of Environmental Protection

Bureau of Waste Prevention

Division of Air Quality Control

Northeast Regional Office: James Belsky, Section Chief (617) 935-2160

Central Regional Office: Thomas Cusson, Section Chief (508) 792-7693

Southeast Regional Office: Vaughan Steeves, Section Chief (508) 946-2700

Western Regional Office: Craig Goff, Section Chief (413) 784-1100

U.S. Environmental Protection Agency, Region I

Air Management Division

JFK Federal Building

Boston, Massachusetts 02203

David Conroy, Air Programs Section (617) 223-3254

Robert O'Meara, Air Enforcement Section (617) 223-3258

Information

Source specific information available in:

DEP Regional Office Inspection Reports

Administrative enforcement orders and agreements

Cease and Desist Orders

Plan Approvals

Source Registrations (at DEP Regional Offices)

Smoke reader training and certification is offered as a joint course by EPA Region I and the regional Air Directors' group, The North East States for Coordinated Air Use Management (NESCAUM). It is offered twice a year at Hanscom Air Base in Bedford, Massachusetts, and is free to government officials. The EPA Regional Laboratory contact person is Chris St. Germain at (617) 860-4300.

Also, *The Journal of the Air and Waste Management Association* includes lots of information about air quality, air pollution, national and international air quality programs and how to protect air quality.

FORMS AND ATTACHMENTS

MGL C.111, §142A AIR POLLUTION

DEP The department of environmental protection, in
REGULATION this section and in sections 142B to 142E,
 inclusive, may adopt or amend regulations to
 prevent pollution or contamination of the
 atmosphere.

PERSON Any municipality, corporation or person which,
NOTICE after due notice,

VIOLATES continues to violate any such regulation;

MISDEMEANOR \$25,000, 1 year HOC, or both

CIVIL PENALTY \$25,000

Suggested Guidelines for Conducting Open Burning:

- Starting the Fire

- Before placing materials to be burned in an area, remove all grass.
- Before burning brush, dry by cutting in advance or covering.

Start the fire using either small amounts of kerosene, #2 fuel (no gasoline), or a pressurized burner which uses diesel fuel.

- While Burning

Someone must attend the fire until completely extinguished. Have available a water supply, such as a pressurized water pump can or hose, and shovels or rakes for controlling the fire.

- Extinguishing the Fire

Burn the fire down to coals and spread the coals with snow, water, sand or soil.

All open burning must be conducted during periods of good atmospheric ventilation* without causing a nuisance*.

* as determined by DEQE.

DIVISION OF AIR QUALITY CONTROL REGIONAL OFFICES:

Central - Worcester
(617) 792-7650

Metropolitan/Northeast - Woburn
(617) 935-2160

Southeast - Lakeville
(617) 947-1231

Western - Springfield
(413) 785-5327

MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL
QUALITY ENGINEERING
ONE WINTER STREET
BOSTON, MA 02108

OPEN BURNING: REQUIREMENTS & RESPONSIBILITIES IN MASSACHUSETTS

Open burning, the burning of any material out-of-doors, releases large amounts of carbon monoxide and other gaseous and solid substances directly into the atmosphere. Open burning causes air pollution and aggravates respiratory problems. Under poor atmospheric conditions, open burning creates a smoke and odor nuisance — as well as a health threat — to area residents, especially in densely populated areas. For these reasons, open burning is restricted in Massachusetts.

You must obtain a PERMIT for open burning from your local fire department or fire warden.

The only times a permit is not necessary are:

- to combat or backfire an existing fire by persons affiliated with an official firefighting agency, or
- for cooking purposes.

Burning (with a permit) of the following materials is ALLOWED:

- brush, cane, driftwood, and forestry debris from other than commercial or industrial land clearing operations between January 15 - May 1 under the following conditions:

- burning must be at least 75 feet from all dwellings,
- burning must be carried out between 10 AM and 4 PM, and
- burning must take place on land closest to the source of material to be burned.

- materials normally associated with the pursuit of agriculture, such as fruit tree prunings, dead raspberry stalks, blueberry patches for pruning purposes, infected beehives for disease control.
- trees and brush resulting from agricultural land clearing.
- fungus-infected elmwood if no other acceptable means of disposal is available (disease-free brush is not an acceptable starting aid).

NO OPEN BURNING PERMITS MAY BE ISSUED for the burning of brush, cane, driftwood, and forestry debris in the following communities:

Arlington	Lowell
Belmont	Malden
Boston	Medford
Brookline	New Bedford
Cambridge	Newton
Chelsea	
Chicopee	Somerville
Everett	Springfield
Fall River	Waltham
	Watertown
Holyoke	West Springfield
Lawrence	Worcester

Permits are also required for the following activities:

- training or research in fire protection or prevention with specific approval by the Department of Environmental Quality Engineering (DEQE).
- burning of Christmas trees from December 26 to January 7 of each year.
- one ceremonial bonfire each year to observe a municipal, state, or national event, under the supervision of the fire department.
- bonfires between July 2 and July 6, under supervision of the fire department.

Burning of the following materials is PROHIBITED statewide:

- brush, trees, cane, and driftwood from commercial and/or institutional land clearing operations.
- grass, hay, leaves, and stumps.
- tires.

Also prohibited is:

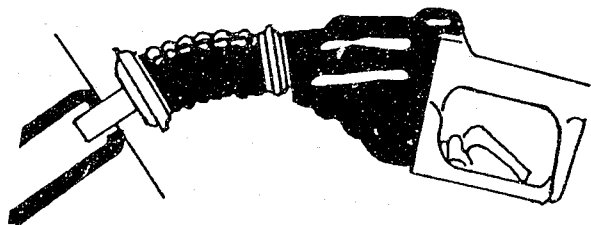
- burning at landfills or refuse disposal facilities other than approved sites.
- stacking, placing, or storing combustible material such that the Department may presume that it will be burned.

on on on

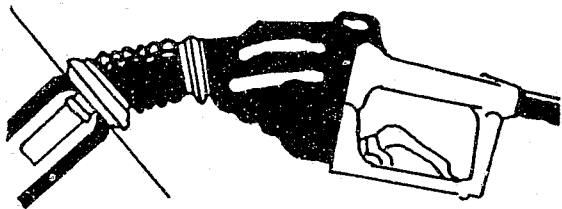
REMEMBER

**Open Burning
Causes
Air Pollution**

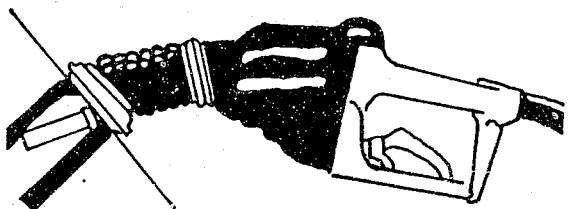
How to Use a Stage II Nozzle



1. Insert the nozzle into your car's fill pipe.



2. Push the nozzle far enough into the fill pipe to compress the bellows and make a tight seal.



3. Push the nozzle down or to the side to latch it firmly into the fill pipe. Tug slightly on the nozzle to check the connection. Once it latches, you can stop pushing. If the nozzle won't latch on, continue applying pressure to maintain a tight seal.

4. Squeeze the lever to begin gasoline flow and fill your tank to the desired level. The nozzle will shut off automatically when the tank is full. Don't top off your tank!

5. Wait a few seconds before removing the nozzle from your car's fill pipe after automatic shutoff to let the remaining gasoline drain out.

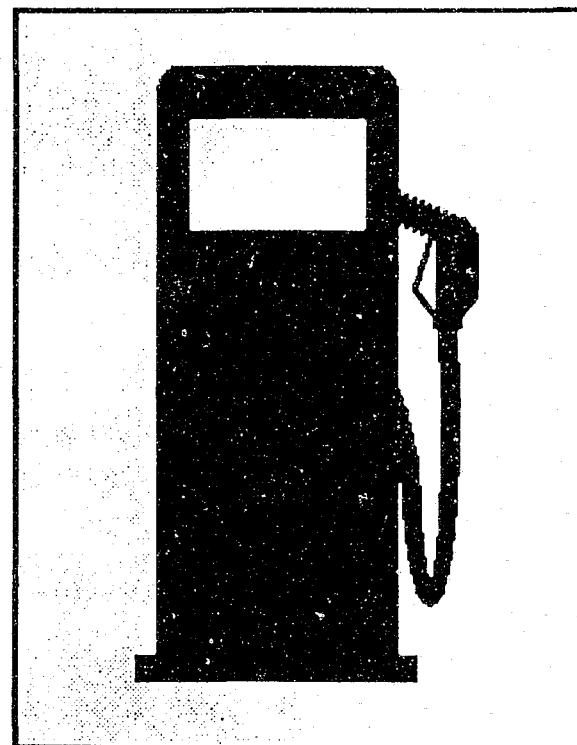
Printed on Recycled Paper



Department of Environmental Protection
Division of Air Quality Control
One Winter Street, 8th Floor
Boston, Massachusetts 02108

Cut Gas Vapors Off At The Pump!

New nozzles on the pumps at Massachusetts gas stations cut smog, conserve fuel and reduce fire hazard



Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Protection

THE STAGE II PROGRAM

You may have noticed a new type of nozzle on the pumps at the gasoline station where you normally fill up your car. The new nozzles are part of the Stage II Vapor Recovery program — a major air pollution prevention initiative by the Department of Environmental Protection.

HOW DOES IT WORK?

The Stage II system is designed to prevent the escape of gasoline vapors into the atmosphere while your car is being filled up. Each pump is equipped with an accordion-like sheath, or bellows, and a coaxial hose (a hose within a hose). With Stage II in place, the vapors which are displaced from your tank by the gasoline being dispensed into it are captured and recycled. DEP is requiring installation of Stage II at the largest service stations in Massachusetts by April 1991. All but the smallest gas stations will be equipped with vapor recovery systems by the middle of 1993.



This brochure was distributed as a public service by the Department of Environmental Protection. For additional information about Stage II, call DEP's Division of Air Quality Control at 617-556-1035 or write the Division at One Winter Street, 8th Floor, Boston, MA 02108.

CLEANER AIR

By 1993, Stage II vapor recovery systems will reduce air pollution from gasoline stations in Massachusetts by an average of 24.6 tons per day, or a total of 9,000 tons annually. And from Day One, they will substantially reduce gasoline odors at the pump.

REDUCED HEALTH RISKS

Gasoline vapors contribute to ground-level ozone, or smog, which aggravates respiratory ailments such as asthma, bronchitis and emphysema. Smog can make it difficult even for healthy people to breathe comfortably. Gas vapors also contain cancer-causing agents. So Stage II greatly reduces your exposure to harmful substances.

ENERGY CONSERVATION

Vapors recovered by Stage II go back to underground storage tanks where they are condensed into gasoline. In Massachusetts, that will mean a savings of nearly three million gallons of fuel per year.

FIRE PREVENTION

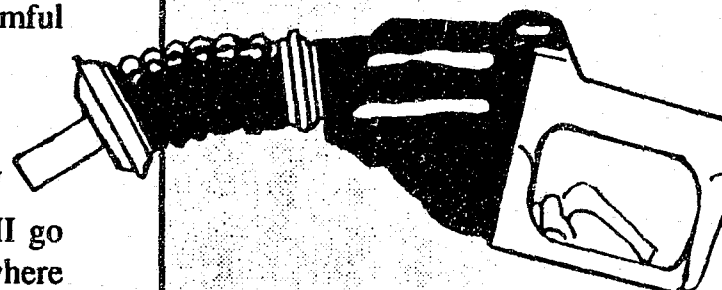
Stage II helps reduce the hazard of fire at service stations by preventing the escape of flammable vapors.

THREE IMPORTANT WAYS

YOU can help make Stage II Vapor Recovery work even better:

- Don't "top off" your tank. If you try to pump more gas into your car after the nozzle has automatically shut off, fuel travels down the vapor hose and blocks the line. If that happens, you or the next customer could be sprayed with gasoline. And in extreme cases, it can cause equipment failure.

- If the nozzle doesn't work and a sign has not been posted to indicate it is out of order, tell the station attendant.



- If you have any questions or comments about vapor recovery or wish to complain about faulty equipment, please call the Stage II office at DEP's Division of Air Quality Control.

617-556-1035

TABLE 7

EFFECT OF SOLVENT VAPOR ON RESPIRATOR CARTRIDGE EFFICIENCY [1]

<u>Solvent</u>	<u>Time to Reach 1% Breakthrough (10 ppm)</u> <u>Minutes (2)</u>
Aromatics 3	
Benzene	73
Toluene	94
Ethyl benzene	84
m-Xylene	99
Cumene	81
Mesitylene	86
Alcohols 3	
Methanol	0.2
Ethanol	28
Isopropanol	54
Allyl alcohol	66
n-Propanol	70
sec-Butanol	96
Butanol	115
2-Methoxyethanol	116
Isoamyl alcohol	97
4-Methyl-2-pentanol	75
2-Ethoxyethanol	77
Amyl alcohol	102
2-Ethyl-1-butanol	76.5
Monochlorides 3	
Methyl chloride	0.05
Vinyl chloride	3.8
Ethyl chloride	5.6
Allyl chloride	31
1-Chloropropane	25
1-Chlorobutane	72
Chlorocyclopentane	78
Chlorobenzene	107
1-Chlorohexane	77
0-Chlorotoluene	102
1-Chloroheptane	82
3-(Chloromethyl heptane)	63

TABLE 7

EFFECT OF SOLVENT VAPOR ON RESPIRATOR CARTRIDGE EFFICIENCY [1]
(Continued...)

<u>Solvent</u>	<u>Time to Reach 1% Breakthrough (10 ppm)</u> <u>Minutes (2)</u>
Dichlorides 3	
Dichloromethane	10
trans-1,2-Dichloroethylene	33
1,1-Dichloroethane	23
cis-1,2-Dichloroethylene	30
1,2-Dichloroethane	54
1,2-Dichloropropane	65
1,4-Dichlorobutane	108
o-Dichlorobenzene	109
Trichlorides 3	
Chloroform	33
Methyl chloroform	40
Trichloroethylene	55
1,1,2-Trichloroethane	72
1,2,3-Trichloropropane	111
Tetra- and Pentachlorides 3	
Carbon tetrachloride	77
Perchloroethylene	107
1,1,2,2-Tetrachloroethane	104
Pentachloroethane	93
Acetates 3	
Methyl acetate	33
Vinyl acetate	55
Ethyl acetate	67
Isopropyl acetate	65
Isopropenyl acetate	83
Propyl acetate	79
Allyl acetate	76
sec-Butyl acetate	83
Butyl acetate	77
Isopentyl acetate	71
2-Methoxyethyl acetate	93
1,3-Dimethylbutyl acetate	61
Amyl acetate	73
2-Ethoxyethyl acetate	80
Hexyl acetate	67

TABLE 7

EFFECT OF SOLVENT VAPOR ON RESPIRATOR CARTRIDGE EFFICIENCY [1]
(Continued...)

<u>Solvent</u>	<u>Time to Reach 1% Breakthrough (10 ppm)</u> <u>Minutes (2)</u>
Ketones 4	
Acetone	37
2-Butanone	82
2-Pentanone	104
3-Pentanone	94
4-Methyl-2-Pentanone	96
Mesityl oxide	122
Cyclopentanone	141
3-Heptanone	91
2-Heptanone	101
Cyclohexanone	126
5-Methyl-3-heptanone	86
3-Methylcyclohexanone	101
Diisobutyl ketone	71
4-Methylcyclohexanone	111
Alkanes 4	
Pentane	61
Hexane	52
Methylcyclopentane	62
Cyclohexane	69
2,2,4-Trimethylpentane	68
Heptane	78
Methylcyclohexane	69
5-Ethylidene-2-norbornene	87
Nonane	76
Decane	71
Amines 4	
Methyl amine	12
Ethyl amine	40
Isopropyl amine	66
Propyl amine	90
Diethyl amine	88
Butyl amine	110
Triethyl amine	81
Dipropyl amine	93
Diisopropyl amine	77
Cyclohexyl amine	112
Dibutyl amine	76

TABLE 7

EFFECT OF SOLVENT VAPOR ON RESPIRATOR CARTRIDGE EFFICIENCY [1]
(Continued...)

<u>Solvent</u>	<u>Time to Reach 1% Breakthrough (10 ppm)</u> <u>Minutes (2)</u>
Miscellaneous materials 4	
Acrylonitrile	49
Pyridine	119
1-Nitropropane	143
Methyl iodide	12
Dibromomethane	82
1,2-Dibromomethane	141
Acetic anhydride	124
Bromobenzene	142

1. Nelson, G.O., and C.A. Harder. Respirator Cartridge Efficiency Studies, University of California, Livermore. 1976.
2. Cartridge pairs tested at 1000 ppm, 50% relative humidity, 22 degrees Celsius, and 53.3 liters/minute (equivalent to a moderately heavy work rate). Pair cartridges preconditioned at room temperature and 50% relative humidity for at least 24 hours prior to testing.
3. Mine Safety Appliances Cartridges.
4. American Optical Cartridges.

The best concentration for a warning property to be first detected is around TLV-TWA. For example, toluene diisocyanate has an odor threshold of 2.14 ppm and a TLV-TWA of 0.005 ppm (See Table 8). The odor threshold, 2.14 ppm, is over 400 times the TLV, obviously not an adequate warning property. An odor threshold at 100 ppm for acetone vs. a TLV of 750 ppm is an adequate warning property. Adequate warning properties are discussed in more detail in the NIOSH/OSHA Respirator Decision Logic Appendix 2 of this section. A list of warning properties is found in Appendix 8.

If a substance causes rapid olfactory fatigue (that is, the sense of smell is no longer effective), its odor is not an adequate warning property. For example, upon entering an atmosphere containing hydrogen sulfide, the odor is quite noticeable. After a short period of time, it is no longer detectable.

D. REQUIREMENTS FOR RESPIRATOR USE

The use of an air-purifying respirator is contingent upon a number of criteria. If the conditions spelled-out in this section of the text cannot be met, then use of an APR is prohibited. Figure 3 illustrates the selection criteria in a flow diagram.

1. Oxygen Content

The normal atmosphere contains approximately 21% oxygen.

The physiological effects of reduced oxygen begin to be evident at 16%. Without regard to contaminants, the atmosphere must contain a minimum of 19.5% oxygen to permit use of an air-purifying respirator. This is a legal requirement of 30 CFR Part 11 and a recommendation of ANSI Z88.2 - 1980. Below 19.5% oxygen, atmosphere-supplying respirators must be used instead.

TABLE 8
ODOR THRESHOLD IN AIR AS COMPARED TO TLV'S

<u>Compound</u>	<u>Odor Description</u>	<u>Odor Threshold</u> (ppm)	<u>TWA Values</u> (ppm)	<u>STEL Values</u> (ppm)
Acetaldehyde	Green, sweet	0.21	100	150
Acetic Acid	Sour	1.0	10	15
Acetone	Chemical sweet, pungent	100.0	750	1000
Acrolein	Burnt sweet, pungent	0.21	0.1	0.3
Ammonia	Pungent	46.8	25	35
Benzene	Solvent	4.68	1	25
Carbontetrachloride	Sweet, pungent	21.4	5(a)	20
Chlorine	Bleach, pungent	0.314	1	3
Dimethylformamide	Fishy, pungent	100.1	10	20
Formaldehyde	Hay, pungent	1.0	2(b)	--
Hydrochloric Acid Gas	Pungent	10.0	--	--
Hydrogen Sulfide Gas	Rotten Egg	0.0047	10	15
Methyl alcohol	Sweet	100.0	200	250
Pherol	Medical	0.047	5	10
Phosgene	Hay-like	1.0	0.1	--
Phosphine	Oniony, mustard	0.021	0.3	1
Toluene	Floral, pungent	0.021	5	10
Toluenediisocyanate	Medicated bandage, pungent	2.14	0.005	0.02
Trichloroethylene	Solvent	21.4	50	150

- (a) Chemical substance suspected of inducing cancer based on either (1) limited epidemiologic evidence, exclusive of clinical report of single case, or (2) demonstration of carcinogenesis in new or more animal species by appropriate methods.
 - (b) It is expected that this substance will soon be classified in category (a) above.
1. Values taken from the 1967 Arthur D. Little study for MCA.
 2. "TLVs for Chemical Substances in Work Air", Adopted by ACGIH for 1982.

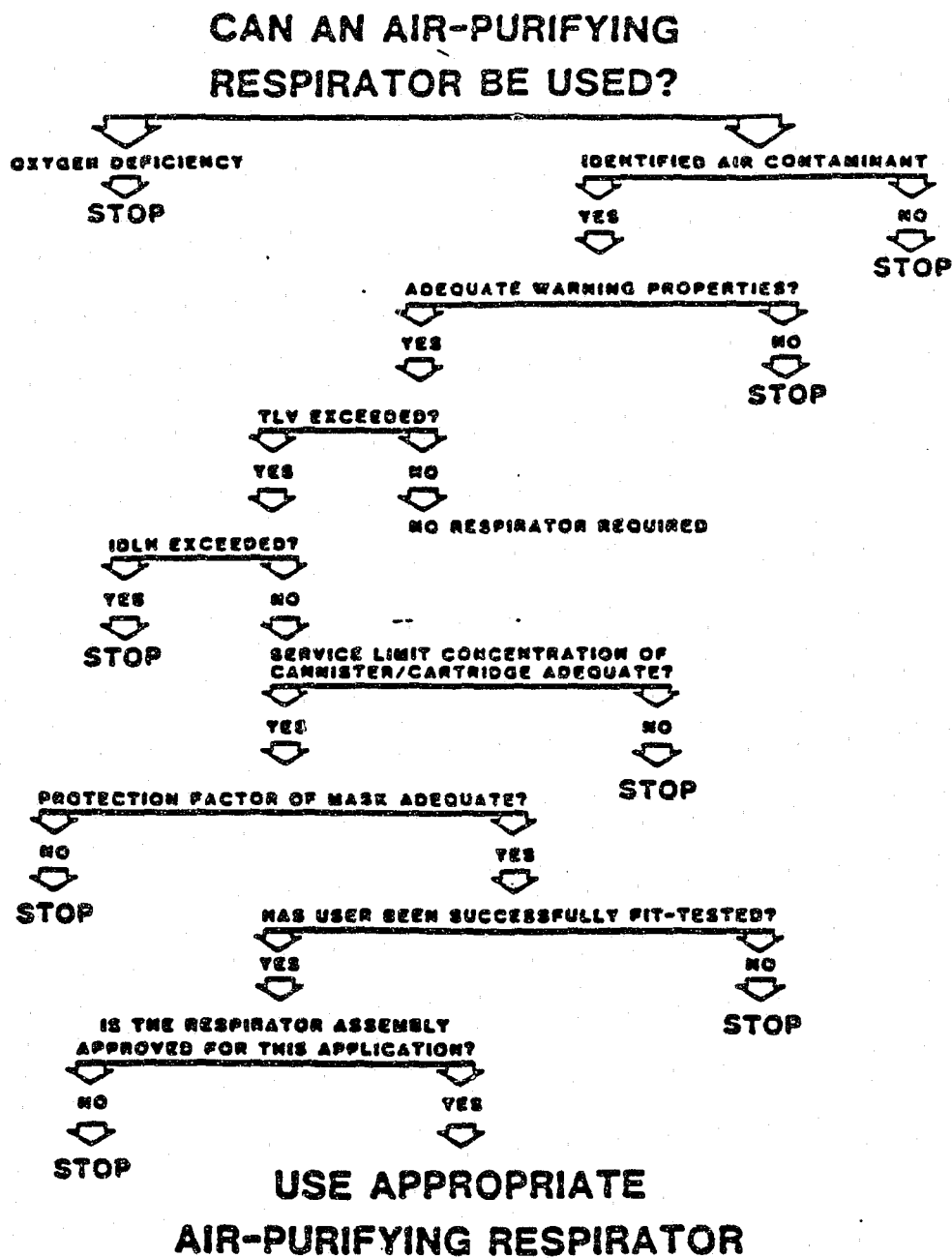


FIGURE 3
SELECTION CONSIDERATION FLOW CHART

CHAPTER 7

AIR-PURIFYING RESPIRATORS

SECTION I: INTRODUCTION TO RESPIRATORY PROTECTION

I-1. INTRODUCTION

The respiratory system is able to tolerate exposures to toxic gases, vapors and particulates, but only to a limited degree. Some chemicals can impair or destroy portions of the respiratory tract, or they may be absorbed directly into the bloodstream from the lungs. Chemicals that enter the blood may eventually affect the function of other organs and tissues. The respiratory system can be protected by avoiding or minimizing exposure to harmful substances. Engineering controls such as ventilation help decrease exposure. When these methods are not feasible, respirators may provide protection. Certain respirators can filter gases, vapors, and particulates in the ambient atmosphere. Other respirators are available which can supply clean air to the wearer.

The use of respirators is regulated by the Occupational Safety and Health Administration (OSHA). Regulations stipulate the use of approved respirators, proper selection, and individual fitting of respirator users. This unit discusses topics necessary to ensure quality respiratory protection.

A. THE RESPIRATORY SYSTEM - STRUCTURE AND FUNCTION

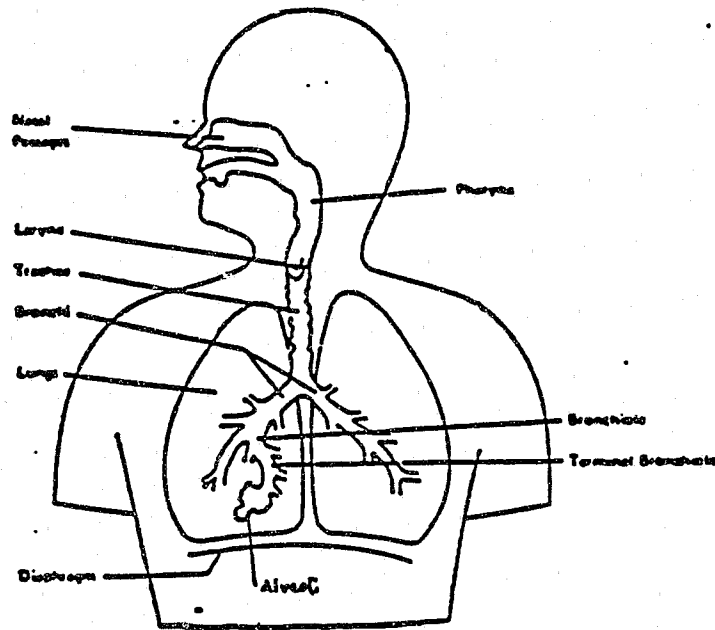


FIGURE 1
STRUCTURE OF RESPIRATORY SYSTEM

1. Inhalation

When air is inhaled, the chest muscles and diaphragm contract, lifting the rib cage and dropping the diaphragm. These activities enlarge the chest cavity. As a result, the lungs expand and fill with air. (Figure 1).

Normally, air is pulled through the nose, but it also can be inhaled through the mouth. The nasal passages are very narrow and divided which forces the air to travel a turbulent path. Particulate matter is impacted, and soluble particulates, and gases are absorbed into the walls of the passages. Still, some contaminants escape this initial deposition and penetrate further into the respiratory system.

The inhaled air passes through the pharynx and enters the trachea at the larynx. The pharynx is the common port for the passage of air and food. The trachea, commonly called the windpipe, divides into two bronchi, one leading to each lung. Further divisions of the bronchus are named bronchioles. Collectively the passages are called conduction tubes because they carry air to the sites where oxygen and carbon dioxide are exchanged. Lining the conducting tubes are mucous and cilia. Contaminants are caught in the mucous, swept up to the esophagus by the cilia, and swallowed. In this way, the respiratory system rids itself of some contaminants in inhaled air.

At the end of the bronchioles are alveoli, sacs with very thin walls, filled with bundles of capillaries (minute blood vessels that connect arteries and veins). Here oxygen in the inhaled air is diffused into the bloodstream and carbon dioxide is diffused out to be exhaled.

2. Exhalation

When air is exhaled, the chest muscles and diaphragm are expanded, decreasing the size of the chest cavity. This forces the air out of the lungs back along the same route.

A relaxed person breathes about 10 liters of air per minute. During brisk activity, the volume can increase to over 75 liters per minute. In such a situation, the respiratory system must handle a very large volume of air.

B. RESPIRATORY HAZARDS

The normal atmosphere consists of 78% nitrogen, 21% oxygen, 0.9% inert gases and 0.04% carbon dioxide. An atmosphere containing toxic contaminants, even at very low concentrations, could be a hazard to the lungs and body. A concentration large enough to decrease the percentage of oxygen in the air can lead to asphyxiation, even if the contaminant is an inert gas.

1. Oxygen Deficiency

The body requires oxygen to live. If the oxygen concentration decreases, the body reacts in various ways (Table 1). Death occurs rapidly when the concentration decreases to 6%.

TABLE 1

PHYSIOLOGICAL EFFECT OF OXYGEN DEFICIENCY

<u>% Oxygen (by volume) at sea level</u>	<u>Effects</u>
21-16	Nothing abnormal.
16-12	Loss of peripheral vision, increased breathing volume, accelerated heartbeat, impaired attention and thinking, impaired coordination.
12-10	Very faulty judgment, very poor muscular coordination, muscular exertion causes fatigue that may cause permanent heart damage, intermittent respiration.
10-6	Nausea, vomiting, inability to perform vigorous movement, or loss of all movement, unconsciousness, followed by death.
<6	Spasmodic breathing, convulsive movements, death in minutes.

Physiological effects of oxygen deficiency are not apparent until the concentration decreases to 16%. The various regulations and standards dealing with respirator use recommend that concentrations ranging from 16-19.5% be considered indicative of an oxygen deficiency. Such numbers take into account individual physiological responses, errors in measurement, and other safety considerations. In hazardous materials response operations, 19.5% oxygen in air is considered the lowest "safe" working concentration.

2. Aerosols

Aerosol is a term used to describe fine particulates (solid or liquid) suspended in air. Particulates ranging in diameter from 5 to 30 microns are deposited in the nasal and pharyngeal passages. The trachea and smaller conducting tubes collect particulates 1-5 microns in diameter. For particulates to diffuse from the bronchioles into alveoli they must be less than 0.5 microns in diameter. Larger particles do reach the alveoli due to gravity. The smallest particulates may never be deposited in the alveoli and may diffuse back into the conducting tubes to be exhaled.

Aerosols can be classified in two ways: by their physical form and origin and by the physiological effect on the body.

a. Physical Classification

- Mechanical dispersed: liquid or solid particle mechanically produced.
- Condensation dispersed: liquid or solid particle often produced by combustion.
- Spray: visible liquid mechanical dispersed.
- Fume: extremely small solid condensation dispersed.
- Mist: liquid condensation dispersed.
- Fog: mist dense enough to obscure vision.
- Smoke: liquid or solid organic particles resulting from incomplete combustion.
- Snog: mixture of smoke and fog.

b. Physiological Classification

- Nuisance: no lung injury but proper lung functioning inhibited.
- Inert pulmonary reaction causing: non specific reaction.
- Pulmonary fibrosis causing: effects ranging from nodule production in lungs to serious diseases such as asbestosis.
- Chemical irritation: irritation, inflammation, or ulceration of lung tissue.
- Systemic poison: diseases in other parts of the body.
- Allergy-producing: causes allergic hypersensitivity reactions such as itching and sneezing.

3. Gaseous Contaminants

Gases and vapors are filtered to some degree on their trip through the respiratory tract. Soluble gases and vapors are absorbed by the conducting tubes in route to the alveoli. Not all will be absorbed and so along with insoluble gases, finally diffuse into the alveoli, where they can be directly absorbed into the bloodstream.

Gaseous contaminants can be classified chemically and physiologically.

a. Chemical Classification

- Acidic: acids or react with water to form acids.
- Alkaline: bases or react with water to form bases.
- Organic: compounds which contain carbon; may range from methane to chlorinated organic solvents.
- Organometallic: organic compounds containing metals.
- Hydrides: compound in which hydrogen is bonded to another metal.
- Inert: no chemical reactivity.

b. Physiological Classification

- Irritant: corrosive substances which injure and inflame tissue.
- Asphyxiants: substances which displace oxygen or prevent the use of oxygen in the body.
- Anesthetics: substances which depress the central nervous system, causing a loss of sensation or intoxication.
- Systemic poisons: substances which can cause disease in various organ systems.

C. RESPIRATORY PROTECTION DEVICES

The basic function of a respirator is to reduce the risk of respiratory injury due to breathing airborne contaminants. A respirator provides protection by removing the contaminants from ambient air or by supplying the wearer with an alternate source of clean breathing air.

All respiratory protection devices are composed of two main parts: (1) the device which supplies or purifies air, and (2) the facepiece which covers the nose and mouth and seals out the contaminants. The first component defines what class of respirator the device is; the second determines the relative measure of protection afforded by that respirator.

1. Classes of Respirators

Respirators are divided into two major classifications according to their mode of operation:

- a. Air Purifying Respirators: Air purifying respirators (APRs) remove contaminants by passing the breathing air through a purifying element. A wide variety of APRs is available to protect against specific contaminants, but they all fall into two specific subclasses: (1) particulate APRs which employ a mechanical filter element, and (2) gas and vapor APRs that utilize chemical sorbents contained in a cartridge or canister.

It is important to realize that there are limitations on the applications of APRs. These devices are specific for certain types of contaminants, so the identity of the hazardous agent must be known. There are maximum concentration limits; this requires a knowledge of the ambient concentration of the contaminant, as well as the Maximum Use Limit (MUL) of the respirator. Since APRs only clean the air, the ambient concentration of oxygen must be sufficient ($\geq 19.5\%$) for the user.

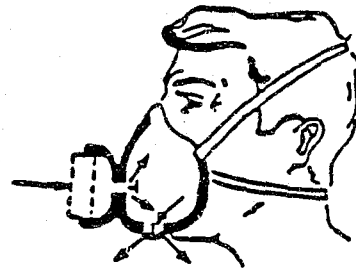
- b. Atmosphere-Supplying Respirators: Atmosphere-supplying respirators (ASRs) provide a substitute source of clean breathing air. The respirable air is supplied to the worker from either a stationary source through a long hose, or from a portable container. The first type are called supplied air respirators and the latter are known as self-contained breathing apparatus (SCBA).

These devices can be used regardless of the type of airborne contaminant or oxygen concentration. However, the contaminant concentration limits vary for the different types of ASRs and the wearer must be aware of the limitations of his/her respirator. ASRs are discussed in detail in Chapter 8.

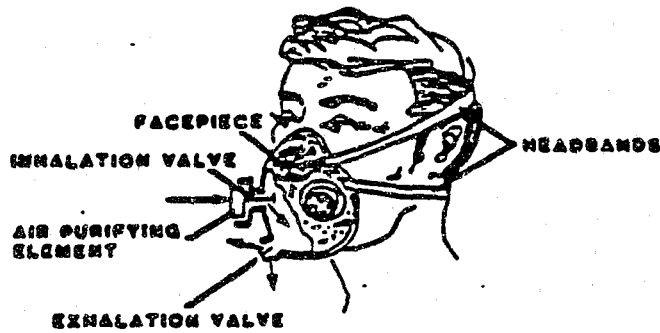
2. Respiratory protection

The protection provided the respirator wearer is a function of how well the facepiece (mask) fits. No matter how efficient the purifying element or how clean the supplied air, there is little protection afforded if the respirator mask does not provide a leak-free facepiece to face seal. Facepieces are available in three basic configurations (see Figure 2) which relate to their protective capacity.

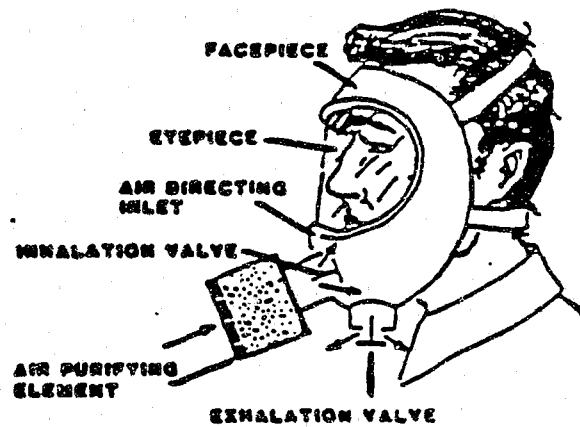
- Quarter-mask (Type B half-mask): fits over the bridge of the nose, along the cheek, and across the top of the chin. The headbands which hold the respirator in place are attached at two or four places of the mask (i.e. two or four point suspension). Limited protection is expected because the respirator can be easily dislodged, creating a breach in the seal.
- Half-mask (Type A half-mask): fits over the bridge of the nose, along the cheek, and under the chin. Headbands have a four-point suspension (crown strap). Because they maintain a better seal and are less likely to be dislodged, half-masks give greater protection than quarter-masks.



QUARTER-MASK RESPIRATOR



HALF-MASK RESPIRATOR



FULL FACEPIECE RESPIRATOR

TYPES OF RESPIRATOR FACEPIECES

FIGURE 2

- Full-Facepiece: fits across the forehead, down over the temples and cheeks, and under the chin. They typically have a head harness with a five or six-point suspension (four-point "hairnet" also). These masks give the greatest protection because they are held in place more securely and because it is easier to maintain a good seal along the forehead than it is across the top of the nose. An added benefit is the eye protection from the clear lens in the full-facepiece.

Not all respirators fit everyone, so each individual must find out which mask he/she can properly wear. At best, any given respirator will fit 60% of the working population. But with the large number of respirators available, at least one type should be found to fit an individual.

The use of respirators is prohibited when conditions prevent a good facepiece-to-face seal. Some examples of these conditions are moustaches, beards, sideburns, skullcaps, dentures, facial deformities, long hair, make-up, temple pieces on eyeglasses. Because maintaining a leak-free seal is so important, personnel required to wear respirators must successfully pass a fit test designed to check the integrity of the seal.

There are two types of fit tests: quantitative and qualitative. The quantitative test is an analytical determination of the concentration of a test agent inside the facepiece compared to that outside the mask. This concentration ratio is called the Protection Factor (PF) and is a measure of the relative protection offered by a respirator.

$$PF = \frac{\text{Concentration outside mask}}{\text{Concentration inside mask}}$$

Because quantitative tests are expensive and tedious, qualitative tests are most often performed to check respirator fit. Quantitative fit tests are required by law if respirators are to be worn as protection against select contaminants (e.g., lead). A qualitative fit test is not an analytical measurement. It is a subjective test where an irritant or aroma is used to determine if there is a good facepiece-to-face seal. If the test subject does not respond (by smelling, tasting, coughing, etc.) to the test agent, he/she can wear the tested respirator with a PF assigned for that type of mask. Table 2 lists the American National Standards Institute (ANSI) standard for several types of respirators and their PFs. The most recent NIOSH PFs are listed in Tables 3 through 5. A protection factor is used to determine the Maximum Use Limit (MUL) of a

successfully fit tested respirator. The MUL is the highest concentration, not exceeding IDLH concentration, of a specific contaminant in which a respirator can be worn:

$$MUL = PF \times TLV$$

For example, if a contaminant has a TLV-TWA of 10 ppm, then the MUL for any half-mask respirator is 100 ppm; the MUL for a full-facepiece APR or demand SCBA is 1000 ppm. If the ambient concentration is greater than 1000 ppm, then a pressure demand SCBA is required.

Fit testing and protection factors are only two of the several considerations for selecting the proper respirator. Much more detailed information on the types and applications of APRs and ASRs is covered in the other parts of this section of the manual. See Appendix 1 for background information on protection factors.

D. RESPIRATOR USE AND SELECTION

1. User Requirements

The health of a respirator wearer is based on how the respirator is used. ANSI has prepared the "American National Standard Practices for Respiratory Protection", and updates it periodically. The latest version Z88.2-1980, was issued in 1980 as a voluntary standard. It addresses all phases of respirator use and is highly recommended as a guide to respiratory protection.

The Occupational Safety and Health Administration (OSHA) cites Z88.2-1969 as the source of respiratory protection regulations (29 CFR Part 1910.134) issued in 1975 which it must enforce.

TABLE 2
SELECTED RESPIRATOR PROTECTION FACTORS*

<u>Type of Respirator</u>	<u>PF (Qualitative Test)</u>
Air-purifying quarter-mask	10
half-mask	10
Air-line quarter-mask	10
half-mask	10
Hose Mask full-facepiece	10
SCBA, demand quarter-mask	10
half-mask	10
Air-purifying full-facepiece	100
Air-line, demand full-facepiece	100
SCBA, demand full-facepiece	100
Air-line, pressure-demand, with escape provision full-facepiece (no test required)	10,000+
SCBA, pressure-demand or positive pressure full-facepiece (no test required)	10,000+

* For more detailed information consult Table 5, "Respirator Protection Factors" in ANSI Z88.2-1980.

TABLE 3

ASSIGNED PROTECTION FACTOR CLASSIFICATION OF RESPIRATORS
FOR PROTECTION AGAINST PARTICULATE EXPOSURES

Assigned protection factor	Type of Respirator
5	Single-use (see definition in Glossary) or quarter mask respirator
10	Any air-purifying half-mask respirator including disposable [3] (see definition in Glossary) equipped with any type of particulate filter except single use [2,4]. Any air-purifying full-facepiece respirator equipped with any type of particulate filter [5].
25	Any supplied-air respirator equipped with half-mask and operated in a demand (negative pressure) mode [2]. Any powered air-purifying respirator equipped with a hood or helmet and any type of particulate filter [4]. Any supplied-air respirator equipped with a hood or helmet and operated in a continuous flow mode [4].

See footnote key.

ASBESTOS

Prepared by John MacAuley
Section Chief, Asbestos
Department of Environmental Protection

CONTENTS

- I. Environmental and Public Health Impact
- II. Where to Look for Violations
 - 1. Illegal/Improper Removal
 - 2. Illegal Disposal/Dumping Incident
 - 3. Demolition Sites
 - 4. Illegal, Unpermitted Transfer Stations
 - 5. Transporters
- III. Safety Issues
- IV. Term Dictionary
- V. Regulatory Framework
- VI. Statutes and Regulations (Selected Portions)
- VII. Regulators and Sources of Information
- VIII. Forms and Attachments

I. ENVIRONMENTAL & PUBLIC HEALTH IMPACTS:

Asbestos was used as early as the 1870's.

Widespread construction uses of asbestos-containing products began in the early 1900's and continued thru the 1970's.

Asbestos is a naturally occurring mineral of which there are two major classes: the serpentine and amphibole groups. Chrysotile and amosite are the two most commonly used asbestos types. Crocidolite tremolite, anthrophyllite and actinolite are the remaining types of asbestos.

The main route of entry for asbestos fibers into the body is inhalation. Exposure to airborne asbestos fibers is known to cause asbestosis, which is a fibrosis of the lung (a restrictive lung disease), as well as mesothelioma, which is a cancer of the lining of the chest or abdominal cavity. Mesothelioma is an incurable disease which is usually fatal within 1-2 years of diagnosis. In addition, asbestos is a known human carcinogen (asbestos exposure causes lung cancer). Typically the latency period (time elapsed between exposure to on-set of disease) for asbestos related diseases is between 10-40 years.

It is generally believed that smoking and asbestos exposure have a synergistic effect with regard to lung

cancer. Smokers who are occupationally exposed to asbestos have a significantly higher risk of lung cancer than nonsmoking asbestos-workers. Currently there is no recognized safe level of exposure to asbestos fibers.

The mere presence of asbestos-containing materials (ACM) in buildings does not itself necessarily represent a health threat to building occupants.

Asbestos-containing material which is improperly removed, improperly packaged, improperly stored, or improperly disposed of can release asbestos fibers. Airborne asbestos fibers can pose a significant health threat to abatement workers, building occupants and/or the general public.

The general regulatory scheme has been to control asbestos in place where possible and to remove asbestos-containing materials only as a last resort. Work practice requirements, packaging requirements, and disposal requirements are all designed to reduce the level of asbestos exposure for the abatement worker, building occupant, and the general public. If a contractor or other entity violates the various standards for asbestos abatement the public health is put at some level of additional risk.

II. WHERE TO LOOK FOR VIOLATIONS:

Asbestos can be found in a wide variety of products used in the construction of buildings. Asbestos can be found in Vinyl Asbestos floor tile, floor underlayments, plaster, ceiling tiles, elevator and/or fire doors, pipe insulation, etc. The three major classes of asbestos-containing building materials (ACBM) are: 1) surfacing material (ie: sprayed or troweled on acoustical material; sprayed on fireproofing; decorative applications), 2) Thermal System Insulation (ie: pipe, duct, boiler, and tank insulations), and 3) other ACM (ie: floor tile; linoleum; transit wall partitions).

Due to the fact that asbestos exists in such a variety of forms in all types of locations from single family homes to large abandoned mill buildings, serious health threatening violations may be found almost anywhere under any circumstances. The following is a list of possible violations and where they are most likely to be located within the community.

1.) Illegal/Improper Removal - Typically, illegal removal is performed by an unlicensed contractor or individual. Such removals are often termed "Rip & Skip", denoting the speed and carelessness with which they are performed. These removals are performed without prior notice to the government (as is required

by law) or permits. The rip & skip operation usually leaves behind a highly contaminated area which will pose a health risk to whoever is unlucky enough to be in the area after the operation. Unfortunately, these improper and illegal operations occur in all types of buildings from single family homes to large mill buildings or older commercial, industrial and residential complexes. The owner may have agreed to this type of operation to save money or he may be the victim of a fast-talking salesperson. Some indicators of possible illegal/improper removal are the use of unmarked trucks, green or black household plastic garbage bags containing asbestos, and/or the failure of workers to use protective equipment (such as disposable suits or masks).

Buildings which have been abandoned for an extended period of time may be the target for an unsolicited copper/bronze salvage operation. These salvage operations tear out copper and bronze piping, usually leaving behind a trail of severely damaged asbestos containing insulation. In addition, some of the "John Doe We Clean Anything" companies have been known to clean, remove, and dispose of everything from a storeroom or basement, including asbestos.

The majority of illegal removals result in dumping or illegal disposal of the asbestos wastes involved.

2) Illegal Disposal/Dumping Incident - The illegal dumping of asbestos can occur anywhere. Asbestos has been found on sidewalks, and in dumpsters of stores, malls or construction sites. In addition, each town or city typically has some area(s) where illegal dumping of solid and hazardous wastes takes place (e.g., vacant lots, vacant buildings, dead-end streets in industrialized areas). Asbestos can be found in a variety of conditions: wet or dry in sealed, labeled asbestos bags; in unsealed, ripped garbage bags; in boxes; or simply laying on the street or soil. Occasionally an address may be found in the bags or the boxes. Suspected asbestos-containing material should be disturbed as little as possible. The containers and/or the asbestos-containing material should not be disturbed without adequate personal protection (i.e., respirator, disposable suit and gloves).

3) Demolition sites - Some demolition contractors will not remove the asbestos-containing material prior to demolition of structures. Pipes or boilers which still appear to have insulation on them while the demolition project is under way are an indicator of a possible violation. If the contractor has failed to obtain local permits for the demolition debris, it is almost certain he is in violation of state and federal notification requirements as well.

4) Illegal, unpermitted transfer stations -

Contractors will on occasion place box trailers or dumpsters of various sizes in locations which are neither the site of origin nor the contractor's office. If the contractor is consolidating waste from various locations in said trailer he may be operating an unapproved transfer station. Often these dumpsters (40-yard rolloffs) or trailers are located on dead end streets in the commercial/industrial area of the town, or they may simply be mixed in with a number of other trailers on a parking lot.

5) Transporters - Transportation of

asbestos-containing waste material is an area on which federal and state oversight is beginning to focus. Because asbestos waste is not a hazardous waste, no license is required to haul it. (Note: Asbestos is a hazardous Air Pollutant and a hazardous material.) Transporters may be operating unpermitted transfer stations, transporting improperly packaged waste, transporting waste without paperwork, or simply disposing of asbestos waste illegally. Any of the above violations could have a serious impact on public health.

III. SAFETY ISSUES:

Given the level of hazard, an officer/investigator/inspector should avoid exposing himself/herself to airborne asbestos fibers if possible. Typical spill/release procedures should be followed. Approach and remain upwind and uphill from any suspect material. Do not open containers. Approach to suspected asbestos incidents should only be made when protective equipment are utilized, including but not limited to a respirator approved for use with asbestos, disposable whole body covering and gloves. Only those individuals who are medically able to wear respiratory protective equipment should do so. Before using respiratory equipment, the individual should have passed a "fit test" with that particular respirator.

Avoid entering "active" asbestos abatement areas. Never enter an active abatement area without the appropriate personal protective equipment. If illegal removal or dumping of asbestos is suspected contact the regional DEP and Department of Labor and Industries ("DLI") office for response. Spill or dumping incidents can be reported to DEP through the State Police (566-4500) during off hours.

IV. TERM DICTIONARY

<u>ACOUSTICAL INSULATION</u>	The general application or use of asbestos for the control of sound.
<u>ACOUSTICAL TILE</u>	A finishing material in a building usually found in the ceiling or walls for the purpose of noise control.
<u>ADEQUATELY WET</u>	Fixing or coating with water to which a surfactant has been added, or with a remover-encapsulant, so as to prevent a friable condition and visible emissions.
<u>AGGRESSIVE SAMPLING</u>	Air sampling which takes place after final clean-up while the air is being physically agitated to produce a "worst case" situation.
<u>AIR CONTAMINANT</u>	Any substance or man-made physical phenomenon in the ambient air space and includes, but is not limited to, dust flyash, gas, fume, mist, odor, smoke, vapor, pollen, microorganism, radioactive material, radiation, heat, sound, any combination thereof, or any decay or reaction product thereof.
<u>AIR LOCK</u>	A system of enclosures consisting of two polyethylene curtained doorways at least three feet apart that does not permit air movement between clean and contaminated areas.
<u>AIR MONITORING</u>	The process of measuring the airborne fiber concentration in a specific quantity of air over a given amount of time.

AIR POLLUTION

The presence in the ambient air space of one or more air contaminants or combinations thereof in such concentrations and of such duration as to:

- a. cause a nuisance;
- b. be injurious, or be on the basis of current information, potentially injurious to human or animal life, to vegetation, or to property; or
- c. unreasonably interfere with the comfortable enjoyment of life and property or the conduct of business.

AMENDED WATER

Water to which a chemical wetting agent (surfactant) has been added to improve penetration into asbestos-containing materials that are being removed.

APPROVED LANDFILL

A site for the disposal of asbestos-containing waste and other wastes that has been approved by the MA DEP or applicable state/local agency if outside of the Commonwealth.

ASBESTIFORM

Fibrous minerals which, due to their crystal structures and chemical composition, can be classified as a form of asbestos.

ASBESTOS

A generic name given to a number of naturally occurring hydrated mineral silicates that possess a unique crystalline structure, are incombustible in air, and are separable into fibers. Asbestos means all asbestiform varieties of the mineral silicates including: chrysotile (serpentine); crocidolite (riebeckite); amosite (cummingtonite-grunerite); anthophyllite; and actinolite - tremolite.

ASBESTOS-
CONTAINING MATERIAL

Friable asbestos and any material containing 1% or more asbestos by weight. This term includes but is not limited to sprayed-on and troweled-on materials applied to ceilings, walls, and other surfaces, insulation on pipes, boilers, tanks, ducts, and other equipment, structural members, tiles, shingles or asbestos-containing paper.

ASBESTOS-
CONTAINING WASTE
MATERIAL

Any friable asbestos-containing material removed during a demolition/renovation project and anything contaminated in the course of a demolition/renovation project including asbestos waste from control devices, bags or containers that previously contained asbestos contaminated clothing, materials used to enclose the work area during the demolition/renovation, and debris.

ASBESTOS CONTRACTOR

Any person, firm, corporation or other entity who has a valid license issued by the Commonwealth for the purpose of entering into or engaging in asbestos work.

ASBESTOS
FIBERS

Fibers with their length being greater than five microns (length to width ration of 3:1), generated from an asbestos-containing material.

ASBESTOS
INSPECTOR

A person who identifies, assesses the condition of, or collects pre-abatement air samples or bulk samples of asbestos-containing material.

ASBESTOS STANDARD

Reference to the OSHA requirements in the general industry standards regarding asbestos exposure (29 CFR 1910.1001), and EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) (40 CFR 61, subpart M).

ASBESTOSIS

A non-malignant, progressive, irreversible lung disease caused by the inhalation of asbestos dust and characterized by diffuse fibrosis.

BULK SAMPLE

The type of sample obtained from a piece of material/product in order to determine if said material is an asbestos-containing material. Bulk samples are analyzed by PLM (Polarized Light Microscopy).

CHRYSOTILE

(white asbestos)

The only asbestiform mineral of the serpentine variety which contains approximately 40% each of silica and magnesium oxide. It is the most common form of asbestos used in buildings.

CLEAN AREA

The first stage of the decontamination enclosure system in which workers prepare to enter the work area.

CLEARANCE AIR
MONITORING

Air monitoring conducted at the conclusion of any asbestos abatement activity which is used in combination with visual inspection to assess adequacy of clean-up and project completion.

CONCRETE-LIKE
ASBESTOS

Hard, non-friable asbestos-containing material that requires a mechanical force to penetrate its surface.

CONTAINMENT

As used in M.G.L. c. 149, §6B, and in accordance with the use of terms in the asbestos abatement industry, the word "containment" shall mean "enclosure".

CRITICAL
BARRIER

A solid, asbestos impermeable partition erected so as to constitute a work area closure; the outer perimeter of an asbestos work area; usually erected across corridors or other open spaces.

DECONTAMINATION
ENCLOSURE SYSTEM

A series of connected rooms with polyethylene curtained doorways for the purpose of preventing contamination of areas adjacent to the work area.

DEMOLITION/
RENOVATION

For the purpose of 310 CMR 7.15, means any operation which involves the wrecking, taking out, removal, stripping, or altering in any way, (including repairing, restoring, drilling, cutting, sanding, sawing, scratching, scraping, or digging into) or construction of one or more facility components or facility component insulation. This term includes load and nonload-supporting structural members of a facility.

DEP

Massachusetts Department of Environmental Protection.

DIRTY AREA

Any area in which the concentration of airborne asbestos fibers exceeds 0.01 f/cc or where there is visible asbestos residue.

DLI

Massachusetts Department of Labor & Industries.

DUST MASK

Single use or disposable dust respirator with a low protection factor. These masks are typically not recommended or used in the asbestos abatement field.

ELECTRON
MICROSCOPY

A method of asbestos sample analysis which utilizes an electron beam to differentiate between fibers.

ENCAPSULATION

The coating of asbestos-containing material with a bonding or sealing agent to prevent the release of airborne fibers.

ENCLOSURE

The covering or wrapping of friable asbestos containing material in, under, or behind air-tight barriers.

EPA

Environmental Protection Agency

EQUIPMENT ROOM

The last stage or room of the worker decontamination system before entering the work area.

FACILITY

For the purpose of 310 CMR 7.15, means any institutional, commercial, or industrial structure or installation located on the same or contiguous property, or residential building including single family homes.

FACILITY
COMPONENT

Any pipe, duct, boiler, tank, turbine, furnace, or structural member located at the facility.

F/CC

Fibers per cubic centimeters of air.

FIBER
CONTAINMENT OR
FULL CONTAINMENT

Enclosing or sealing off an area having airborne asbestos fibers present so that the fibers will not migrate resulting in contamination of other areas.

FIBROSIS

A condition of the lungs caused by the inhalation of excessive amounts of fibrous dust marked by the presence of scar tissue.

FRIABLE

Material that can be crumbled, pulverized or reduced to powder when dry, by hand pressure.

FRIABLE
ASBESTOS-CONTAINING
MATERIAL

Any dry material containing one (1) percent or more asbestos by weight that hand pressure can crumble, pulverize, or reduce to powder.

GLOVEBAG

Plastic bag-type enclosure placed around asbestos-containing pipe lagging so that it may be removed without generating airborne fibers into the atmosphere.

HEPA FILTERED
VACUUM

A High Efficiency Particulate Air (HEPA) filtered vacuum capable of trapping and retaining 99.9% of all particles larger than 0.3 microns.

HEPA UNIT

Air moving machine equipped with a HEPA filter, used during full containment removal projects. HEPA units can move between 1,000 and 6,000 cubic feet of air per minute.

HOLDING AREA

The airlock between the shower room and the clean room in a worker decontamination system.

LOGBOOK

An official record of all activities which occurred during a removal project.

MESOTHELIOMA

A relatively rare form of cancer which develops in the lining of the pleura or peritoneum with no known cure.

NEGATIVE PRESSURE

An atmosphere created in a work area enclosure such that airborne fibers will tend to be drawn through the filtration system rather than leak out into the surrounding areas. The air pressure inside the work area is less than that outside the work area.

NESHAPS

National Emission Standards for Hazardous Air Pollutants (NESHAPS). Those standards adopted by the U.S. Environmental Protection Agency and contained in the Code of Federal Regulations, Title 40, Part 61, and subsequent revisions as specified in the Regulations. Any emission testing to be compared with NESHAPS must be conducted in accordance with applicable procedures as specified in said Code of Federal Regulations, Title 40, Part 61, or amendments thereto, or by another method which has been demonstrated to the satisfaction of the DEP as being equivalent.

OSHA

The Occupational Safety and Health Administration which was created by the Occupational Safety and Health Act of 1970; serves as the enforcement agency for safety and health in the workplace environment.

PEL

Permissible Exposure Limit as stated by OSHA.

PHASE CONTRAST
MICROSCOPY (PCM)

An optical microscopic technique used for the counting of fibers in air samples, but which does not distinguish fiber types.

PIPE LAGGING

The insulation or wrapping around a pipe.

POLARIZED
LIGHT MICROSCOPY
(PLM)

An optical microscopic technique used to distinguish between different types of asbestos fibers by their shape and unique optical properties.

POLYETHYLENE

Plastic sheeting which is often used to seal off an area in which asbestos removal is taking place for the purpose of preventing contamination of other areas.

POSTING

Refers to caution or warning signs which should be posted in any area in which asbestos removal is taking place, or where airborne fiber levels may present a health hazard.

PROTECTIVE
CLOTHING

Protective, lightweight garments worn by workers performing asbestos abatement to keep gross contamination off the body.

QUALITATIVE
FIT TEST

A method of testing a respirator's face-to-facepiece seal by covering the inhalation or exhalation valves and either breathing in or out to determine the presence of any leaks.

RESPIRATOR PROGRAM

A written program established by an employer which provides for the safe use of respirators on its job sites.

SCANNING
ELECTRON
MICROSCOPY (SEM)

A method of microscopic analysis which utilizes an electron beam directed at the sample and then collects the beams that are reflected to produce an image from which fibers can be identified and counted.

SCBA

Self-Contained Breathing Apparatus.

SHOWER ROOM

A room between the clean room and the equipment room in a worker decontamination system in which workers take showers when leaving the work area.

SURFACTANT

A chemical wetting agent added to water to improve its penetration abilities into asbestos-containing materials.

TRANSMISSION
ELECTRON
MICROSCOPY (TEM)

A method of microscopic analysis which utilizes an electron beam that is focused onto a thin sample. As the beam penetrates (transmits) through the sample, the difference in densities produces an image on a fluorescent screen from which samples can be identified and counted. TEM is used to analyze some air samples. It can distinguish between fiber types.

VISIBLE
EMISSION

Airborne fibers given off from an asbestos-containing source that are visible to the human eye.

VISUAL
INSPECTION

A walk-through type inspection of the work area to detect incomplete work, damage, or inadequate clean up of the worksite. A "Final Visual" inspection is performed prior to collecting the final air samples of an abatement project.

WASHROOM

A room between the work area and the clean room in the equipment decontamination enclosure system where workers shower.

WET CLEANING

The process of eliminating asbestos contamination from surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water.

WETTING
AGENTS

Materials that are added to water which is used for wetting the asbestos-containing material in order for the water to penetrate more effectively.

WORK AREA

The area or location where asbestos abatement or asbestos associated work is being performed, or such other areas of a facility which the DLI Commissioner determines may be hazardous to the health and safety of workers as a result of such asbestos work.

WORK PRACTICES

The minimum standards, procedures or actions taken or used for removal, enclosure, or encapsulation of asbestos, or for renovation, demolition, maintenance or repair of facilities containing asbestos. This term also includes the minimum standards, procedures or actions taken or used by persons engaged in surveys, sampling, analysis, risk assessment or other activity relating to asbestos abatement.

V. REGULATORY FRAMEWORK

Asbestos abatement is regulated on the federal, state, and local level.

The first step in any asbestos abatement project is the notifications/permits. Any amount of asbestos removal requires notification to the Mass. DEP. If the asbestos to be removed is greater than 3 square feet or 3 linear feet then the Mass DLI must also be notified. Depending on the type of project (demolition or renovation) and the amount to be removed, a notification of the federal EPA may also be required. The state sanitary code requires that any asbestos abatement performed in a residential property must be "approved" by the local board of health.

The work location which contains the asbestos to be removed must be sealed off from the surrounding area. This containment is designed to control any asbestos fibers which may be released during the abatement. The type and complexity of a containment may vary. In the case of pipe insulation a glovebag may be placed around the pipe to control fibers.

As the asbestos is being removed from the substrate (pipes, boiler, ceiling, or steel) it must be wetted to help prevent fiber emissions (i.e., release of the fibers into the air). Once removed, the asbestos

containing material must remain wet during all handling and disposal operations.

After removal, the asbestos containing material must be sealed into leak-tight containers for disposal. Typically the leak-tight containers are 6 mil thick plastic bags. The containers must be labeled with a standard caution label. In addition, if the asbestos abatement is subject to NESHAPS provisions the bags or containers must be labelled with a generator name and address.

An asbestos removal project is considered complete after the site has passed a visual inspection by a certified 3rd party consultant and final air samples have been taken. (The final air samples must be less than .01 f/cc in the case of PCM analysis.)

The asbestos-containing material should be hauled in a rigid container for disposal at an approved sanitary landfill. Asbestos waste is often hauled in 30-40 yd rolloff containers, 45 foot trailers, and/or some type of cube van or truck. Once the asbestos waste has left the site of origin it must be accompanied by a Waste Shipment Record (WSR). The waste shipment record should be signed by the generator, the transporter, and ultimately the disposal site, with any discrepancies between point of generation and point of disposal noted

on the form. A signed copy of the WSR must be received by the generator within 35 days from the date when the asbestos leaves the site of origin. The generator is responsible for attempting to locate any missing waste. If the generator is unable to locate the load(s) in question within 45 days, the discrepancy must be reported to DEP and the EPA.

During all phases of the asbestos removal project, personal protection is required by anyone wishing to enter the work area. At a minimum, a respirator rated for asbestos and disposable whole body covering are required.

NOTE: The above is only a quick guide or reference to the general asbestos removal process. Work sites require specific work practices and procedures dependant on the exact conditions. This guide is NOT intended to be a substitute for any federal, state, or local regulation and should not be used as a reference for or to determine compliance with any particular regulation. Should questions arise regarding a particular asbestos removal site contact the Mass DEP or the Mass DLI.

VI. STATUTES AND REGULATIONS
(Selected Portions)

ASBESTOS REGULATORS

FEDERAL

<u>HA</u>	regulates worker protection standards and exposures <u>Regulations:</u> 29 CFR Parts 1910 & 1926
<u>DOT</u>	regulates transportation of asbestos under title 49, section 173.1090
<u>EPA</u>	regulates asbestos in schools under The Asbestos Hazard Emergency Response Act (AHERA) of 1986 promulgated under the Toxic Substances Control Act (TSCA); responsible for the Asbestos School Hazard Abatement Act (ASHAA) loan program for removal of asbestos in schools; coordinates state-delegated National Emissions Standards for Hazardous Air Pollutants (NESHAPs) Program <u>Regulations:</u> 40 CFR Part 763 (AHERA), 40 CFR Part 61 Subpart M (NESHAPs)

STATE

<u>DEP</u>	
<u>DAQC</u>	enforces NESHAPs standards; requires notification and strict work practices for asbestos removal, storage, transport, and handling; inspects demolition/renovation and manufacturing operations; <u>Regulations:</u> 310 CMR 4.00 (notification fees), 7.00, 7.09(5), 7.15
<u>DSW</u>	regulates storage, handling, and landfilling of asbestos and asbestos-containing material; <u>Regulations:</u> 310 CMR 18.00 (transfer stations), 19.00
<u>DHW</u>	regulates hazardous material clean-up; material must be reported if released to the ambient air; friable asbestos is a hazardous material if not properly contained.
<u>DPH</u>	Residential repair or removal of asbestos must be done in accordance with the State Sanitary Code. Notice of plans for abatement and removal must be submitted to the Local Board of Health. <u>Regulations:</u> 105 CMR 410.353 (A)-(G) (Sanitary Code) 105 CMR 670 (RTK)
<u>DLI</u>	DLI regulates worker protection in state, county, and municipal government buildings. Asbestos abatement contractors, workers, and consultants must be licensed or certified by the Department of Labor and Industries. The Division of Occupational Hygiene is the governor's designee to review abatement plans of schools required by AHERA and will survey state, county, and municipal buildings for asbestos. RTK requires training, labelling, and record keeping. <u>Regulations:</u> 453 CMR 6.00, 454 CMR 21.00 (RTK)
<u>DCPO</u>	DCPO has contract standards for asbestos removal and repair in state-owned buildings.

LOCAL

Local Boards of Health through delegation of the State Sanitary Code and authority from DAQC and local ordinances, Local Boards of Health regulate residential asbestos conditions, outdoor dust pollution, indoor air conditions, and approve disposal of asbestos in local landfills.

Copies of State Regulations and Statutes may be purchased at the State House Bookstores: State House, Room 116, Boston, MA 02133. Telephone: (617) 727-2834. State House West, 21 Elm Street, Springfield, MA 01103. Telephone: (413) 784-1376.

M.G.L.C. 149:6A-G

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149:6A. Monitoring, inspection and investigation of work involving asbestos.

Section 6A. The department shall monitor, inspect and investigate 1
all work, including construction, demolition, alteration or repair, in- 2
volving any building or structure, including those owned or leased by 3
the commonwealth or any of its political subdivisions or authorities, 4
where such work involves the use or handling of asbestos or material 5
containing asbestos, including the disposal of materials containing 6
asbestos and asbestos contaminated waste. 7

149:6B. License for business activities involving asbestos; fee.

Section 6B. No person, firm, corporation or other entity shall enter 1
into, engage in, or work at the business of removal, containment or 2
encapsulation of asbestos or materials containing asbestos, involving 3
any building or structure, including those owned or leased by the 4
commonwealth or any of its political subdivisions or authorities, 5
unless such person, firm, corporation or entity shall have received a 6
license therefor, issued by the commissioner and in accordance with 7
the provisions set forth in this chapter. The secretary of administra- 8
tion shall determine a fee for such license pursuant to section three B 9
of chapter seven. 10

149:6C. Health and safety of general public and asbestos workers; rules and regulations

Section 6C. The commissioner shall promulgate rules and regula- 1
tions relative to the protection of the general public and the occupa- 2
tional health and safety of workers engaged in the use, handling, 3
removal or disposal of asbestos or materials containing asbestos 4
including, but not limited to, the construction, demolition, alteration or 5
repair of any building or structure, including those owned or leased 6
by the commonwealth or any of its political subdivisions or authori- 7
ties. Such regulations shall require the adequate instruction and 8
training of workers employed by such contractors. Such training 9
shall include, but not be limited to, instructions in health risks, 10
precautionary measures, protective equipment and other safeguards. 11

Such regulations shall provide that in order to constitute adequate 12
precautionary measures, protective equipment, or other safeguards 13
within the protective equipment, meet the following requirements:— 14

(1) Full facepiece Type C supplied-air respirators operated in pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus shall be worn whenever airborne fiber concentrations inside the work area are equal to or greater than 10.0 f/cc. 15
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(2) Full facepiece Type C supplied-air respirators operated in pressure demand mode with HEPA filter disconnect protection shall be worn whenever airborne fiber concentrations inside the work area are equal to or greater than 2.0 f/cc and less than 10.0 f/cc. 20
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(3) Full facepiece powered air-purifying respirators (PAPR) equipped with HEPA filters shall be worn whenever airborne fiber concentrations inside the work area are less than 2.0 f/cc. A supply of charged replacement batteries, HEPA filters and flow test meters shall be available in the clean room for use with powered air-purifying respirators. Any Type C supplied-air respirator operated in continuous flow may be substituted for a powered air-purifying respirator. 24
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(4) Full-face or half mask air-purifying respirators with HEPA filters shall be worn only during asbestos-associated work, preparation of the work area, performance of repairs (e.g. using glovebag techniques), and final clean up procedures. 31
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149:6D. Complaints by employees relating to asbestos; retaliation by employer.

Section 6D. No employee shall be penalized by an employer in any way as a result of such employee's filing of a complaint or otherwise providing notice to the department in regard to the occupational health and safety of such employee or other workers engaged in the use, handling, removal or disposal of asbestos or materials containing asbestos. 1
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149:6E. Violations of workplace standards relating to asbestos; cease and desist orders

Section 6E. The commissioner, upon determination that there is a violation of any workplace standard relative to the protection of the general public and the occupational health and safety of workers or of any standard or requirement of licensure, may order any work site to be closed by way of the issuance of a cease and desist order enforceable in the appropriate courts of the commonwealth. For purposes of such cease and desist order, the work site may include the area where asbestos related work is being performed and other areas of the building or structure which the commissioner determines may be hazardous to the health and safety of workers or the general public as a result of such asbestos work. 1
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ection shall be	21
work area are	22
/cc.	23
rators (PAPR)	24
airborne fiber	25
f/cc. A supply	26
low test meters	27
ed air-purifying	28

149:6F. Penalties.

Section 6F. Any person, firm, corporation or other entity which	1
violates any provision of sections six B to six E, inclusive, shall be	2
punished by a fine of not less than five hundred nor more than fifteen	3
hundred dollars for each such offense. Such violation may be cause	4
for denial, revocation or suspension of a license subject to the deter-	5
mination of the commissioner.	6

149:6G. Release or waiver of damages caused by asbestos.

Section 6G. No person, firm, corporation or other entity shall	1
require any other person, firm, corporation or entity to execute a	2
release or waiver of damages caused by exposure to asbestos or	3
asbestos related materials. Any such release or waiver shall be void	4
as against public policy.	5

VII. REGULATORS AND SOURCES OF INFORMATION

ASBESTOS CONTACTS

FEDERAL

ENVIRONMENTAL PROTECTION AGENCY (EPA)
 Damien Houlihan (NESHAPs).....(617) 565-3265
 James Bryson (TSCA/AHERA).....(617) 565-3836
 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
 Regional Office - Fred Malaby.....(617) 565-7164
 Area Offices - Methuen.....(617) 565-8110
 - Braintree.....(617) 565-6924
 - Springfield.....(413) 785-0123
 CONSUMER PRODUCTS SAFETY COMMISSION (CPSC).....(800) 638-2772
 DEPARTMENT OF TRANSPORTATION (DOT)
 - Lucy Johnson.....(617) 494-2770

STATE

DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP)
 Division of Air Quality Control (DAQC)
 Boston - Jon Anderson.....(617) 292-5630
 - Christine Kirby.....(617) 292-5630
 Regional Compliance and Enforcement Staff
 Northeast/MET Boston
 - John Macauley.....(617) 935-2160
 Southeast - Dave Madden.....(508) 946-2770
 Central - Gregg Levins.....(508) 792-7693
 Western -(413) 784-1100
 Division of Solid Waste (DSW).....(617) 556-1030
 Division of Hazardous Waste (DHW)
 Waste Site Cleanup.....(617) 292-5851
 DEPARTMENT OF PUBLIC HEALTH (DPH)
 - Howard Wensley.....(617) 727-2660
 DEPARTMENT OF LABOR AND INDUSTRIES (DLI)
 Division of Occupational Hygiene (DOH).....(617) 969-7177
 - Ernie Kelly - regulations
 - Julie Jones - AHERA & reimbursements
 Division of Industrial Safety (DIS)
 - Dick Walsh - enforcement..(413) 443-0513
 - licensing/certification...(617) 727-1933
 EXECUTIVE OFFICE OF ADMINISTRATION AND FINANCE
 Division of Capital Planning and Operations (DCPO)
 - Bob Barry - gen. info.....(617) 727-4030
 - Stephen Abbott -
 contractor certification...(617) 727-9320

LOCAL

BOARDS OF HEALTH
 BUILDING DEPARTMENTS
 FIRE DEPARTMENTS
 BOSTON OFFICE OF ENVIRONMENT
 Division of Health and Hospitals
 - John Shea.....(617) 534-5965
 CENTER FOR ENVIRONMENTAL MANAGEMENT, DIV. OF EDUCATION & TRAINING
 Tufts University, Medford
 - asb. info. & training.....(617) 381-3531

11/21/91

CONTACTS IN NEW ENGLAND AGENCIES
INVOLVED IN ASBESTOS MANAGEMENT

CONNECTICUT

Dep't of Environmental Protection
(asbestos contacts)

David McKeegan, Senior
Environmental Analyst
Department of Environmental
Protection
Bureau of Waste Management
165 Capitol Avenue **
Hartford, CT 06106
(203) 566-5847
(disposal, landfills)
Office location:
18-20 Trinity Street
Hartford, CT

Carl Pavetto, Bureau Chief
Department of Environmental
Protection
Bureau of Air Management
(mail address as above) **
(203) 566-2506
(NESHAPS)

Dep't of Public Works

Clark Smith, Asbestos Consultant
Dep't of Public Works
Asbestos Management Group

State Office Building, Room 541
(mail address as above) **
(203) 566-4016
(asbestos in state buildings)

Dep't of Labor

Emil Caruso, Director
Dep't of Labor - OSHA
200 Folly Brook Boulevard
Wethersfield, CT 06109
(203) 566-4550
(State and municipal
employee protection)

Department of Health Services
(asbestos contacts)

* Laurie Gokey, Chief
Department of Health Services
Environmental Health Section
150 Washington St.
Hartford, CT 06106
(203) 566-3122

* William Sawicki, Supervising
Environmental Sanitarian
(203) 566-1260
(mail address as above)
(asbestos in schools, training
provider approval, licensure)

* Ronald Skomro, Supervising
Environmental Sanitarian
(203) 566-1260
(mail address as above)
(standards for asbestos abate-
ment work practices, and
notification)

* Office location:
117 Washington St-Bldg C
Hartford, CT

* FAX (203) 566-2923

Dep't of Environmental Prot.

Scott Deshefy
Department of Environmental
Protection
Bureau of Waste Management
165 Capitol Avenue
Hartford, CT 06106
(203) 566-4630
(Illegal dumping)

** Office location:
18-20 Trinity Street
Hartford, CT

CONTACTS IN NEW ENGLAND STATE AGENCIES
INVOLVED IN ASBESTOS MANAGEMENT

MAINE

Bureau of Labor Standards

Lester Wood, Director
Bureau of Labor Standards
Industrial Safety Div.
283 State Street
State House, Station 82
Augusta, ME 04333
(207) 289-2591

Education & Cultural Services

Richard Redmond, Commissioner
Education & Cultural Services
State House, Station 23
Augusta, ME 04333
(207) 289-2321

U.S. Dept. of Labor

Michael Blotzer, Supervisor
Industrial Hygienists
U.S. Dep't of Labor
40 Western Avenue
Augusta, ME 04330
(207) 622-8417

Bureau of Public Improvement
(asbestos contacts)

Henry Warren, Director
Div. of Safety & Environmental
Services
Bureau of Public Improvement
State House Station 77
Augusta, ME 04333
(207) 289-4511 or 4509

Ted Bradstreet-Mgt Plans
Asbestos Technician
(207) 289-4509

Licensing/Certification
(asbestos contacts)

* Ed Antz
Bureau of Solid Waste Mgt.
State House Station 17
Augusta, ME 04333
(207) 582-8740

* FAX (207) 624-8882

Solid Waste Bureau
(asbestos contacts)

* David Maxwell/Ed Antz
Dep't of Envir. Prot.
Bureau of Solid Waste Mgt.
State House Station 17
Augusta, ME 04333
(207) 582-8740

MASSACHUSETTS

Dep't Labor & Industries

Peter G. Torkildsen,
Commissioner
Dep't of Labor & Industries
100 Cambridge Street, Rm 1107
Boston, MA 02202
(617) 727-3454

Div. of Occupational Hygiene
(asbestos contacts)

* Paul Aboody, Director
Dep't Labor & Industries
Div. of Occupational Hygiene
1001 Watertown Street
West Newton, MA 02165
(617) 969-7177

* Arthur Pennessi
Div. of Occupational Hygiene
(617) 969-7177

CONTACTS IN NEW ENGLAND STATE AGENCIES
INVOLVED IS ASBESTOS MANAGEMENT

Div. Industrial Safety

Joseph Belloli, Director
Dep't Labor & Industries
Div. of Industrial Safety
(617) 727-3567

Dep't Environ. Protection

Laurel J. Carlson, Br. Chief
Program Development
Dep't Environ. Protection
Div. of Air Quality
1 Winter St., 8th floor
Boston, MA 02108
(617) 292-5630 x5598

Div. Occup. Hygiene con't
(asbestos contacts)

* Frank Kramarz (public schools
(AHERA and public buildings)
Div. Occupational Hygiene
1001 Watertown Street
West Newton, MA 02165
(617) 969-7177

* Julie Jones (public/private
schools & reimbursement)
Div. Occupational Hygiene
(617) 969-7177

* Nancy Fitzpatrick (AHERA)
(617) 969-7177

* FAX (617) 727-4581

Licensing/Certification

Maureen Tivnan, Supervisor
Div. of Industrial Safety
Dept. of Labor & Industries
(617) 727-1932

Regulations/Accreditation
(asbestos contacts)

* Ernie Kelley
Div. of Occupational Hygiene
(617) 969-7177
or (413) 445-4214

NEW HAMPSHIRE

Dept. of Education
(asbestos contacts)

Douglas Brown (mgt Plans)
Construction & Finance
Dept. of Education
State Office Park South
101 Pleasant Street
Concord, NH 03301
(603) 271-3620

Dep't of Health & Welfare
Licensing & Certification
(asbestos contacts)

* Joy Hanington
Bureau of Health Risk Assessment
Div. Public Health Services
6 Hazen Drive
Concord, NH 03301
(603) 271-4609

Dep't of Health & Welfare
(asbestos contacts)

* Brook Dupee, Program Manager
Bureau of Health Risk
Assessment
Div. Public Health Services
6 Hazen Drive
Concord, NH 03301
(603) 271-4664

* Mark Januskiewicz (AHERA)
(603) 271-4609
* Marjory P. Yin, Industrial
Hygienist (AHERA)
(603) 271-4609
* Brian Phelps (AHERA)
(603) 271-4609

* FAX (603) 271-3745

CONTACTS IN NEW ENGLAND STATE AGENCIES
INVOLVED IN ASBESTOS MANAGEMENT
RHODE ISLAND

Dep't of Economic Development

Bruce Lang
Business & Universities Liaison
Dept. Economic Development
7 Jackson Walkway
Providence, RI 02903
(401) 277-2601

Dept. of Education

Frank Pontarelli
Facilities Planner
Dept. of Education
22 Hayes Street
Providence, RI 02903
(401)-277-3127

Dep't of Health
(asbestops contacts)

- * William Dundulis
Dept. of Health
Div. of Occupational Health
206 Cannon Building
3 Capitol Hill
Providence, RI 02908-5097
(401) 277-3601
- * Roger Marinelli, Operations
Asbestos Section, Dept Health
(401) 277 - 2438
(address/FAX same)
- * Ed Arcand, Inspector
(401) 277-2438
(address/FAX same)

Licensing/Certification

- * Donna Sousa
(401) 277-2438
- * (address/Fax same)

- * FAX (401) 277-6953

VERMONT

Dept. of Education

Richard Mills, Commissioner
Dept. of Education
120 State Street
Montpelier, VT 05602
(802) 828-3135

Dept. of Health

Robert O'Grady, Director
Div. Environmental Health
Dep't of Health
60 Main St., P.O.Box 70
Burlington, VT 05402
(802) 863-7220

State Building Dep't
John Zampieri, Commissioner
(802) 828-3314

Dept. of Health
(asbestos contacts)

- * Karen Crampton
Asbestos Program Chief
Dept. of Health
Div. Environmental Health
60 Main St., P.O.Box 70
Burlington, VT 05402
(802) 863-7205
- * Alayne Senior-AHERA
(802) 863-7231
- * Phil Cornock-Asb. Inspector
(802) 863-7389
- * Shirley Conger
(802) 863-7389
- Certification/licensing
- * Katherine Masson
(802) 863-7231
- * FAX (802) 863-7425

EPA REGIONAL ASBESTOS COORDINATORS

James M. Bryson
Regional Asbestos Coordinator
EPA, Region I (ATC)
JFK Federal Building
Boston, MA 02203
(617) 565-3835, FTS 835-3835
FAX-FTS 835-4939
FAX (617) 565-4939

Steve Vargo
Regional Asbestos Coordinator
EPA, Region VI (6T-PT)
1445 Ross Avenue
Dallas, TX 75202-2733
(214) 655-7244, FTS 255-7244
FAX-FTS 255-2164
FAX (214) 655-2164

Louis Bevilacqua
Regional Asbestos Coordinator
EPA, Region II (MS-500)
2890 Woodbridge Ave.
Edison, NJ 08830
(908) 321-6793, FTS 340-6671
FAX-FTS 340-6757
FAX (908) 321-6757

Wolfgang Brandner
Regional Asbestos Coordinator
EPA, Region VII (ARTN)
726 Minnesota Avenue
Kansas City, KS 66101
(913) 551-7020, FTS 276-7381
FAX-FTS 276-7065
FAX (913) 552-7065

Carole A. Dougherty
Regional Asbestos Coordinator
EPA, Region III (3HW-42)
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-3160, FTS 597-3160
FAX-FTS 597-3156
FAX (215)

David Combs
Regional Asbestos Coordinator
EPA, Region VIII (8AT-TS)
1 Denver Place, S#500, 18th St
Denver, CO 80202-2413
(303) 293-1442, FTS 330-1442
FAX-FTS 330-1229
FAX (303) 293-1229

Ronda Evans
Regional Asbestos Coordinator
EPA, Region IV
345 Courtland Street
Atlanta, GA 30365
(404) 347-5014, FTS 257-5014
FAX-FTS 257-5207
FAX (404) 347-5207

Joan Semones
Regional Asbestos Coordinator
EPA, Region IX (T-5-2)
75 Hawthorne
San Francisco, CA 94105
(415) 744-1128, FTS 484-1128
FAX-FTS 484-1073
FAX (415) 744-1796

Terrance Stanuch (acting)
Regional Asbestos Coordinator
EPA, Region V (5-SPT-7)
77 West Jackson Street
Chicago, IL 60604
(312) 886-6003, FTS 886-6003
FAX-FTS
FAX (312) 886-2591 or 9096

Matt Wilkening
Regional Asbestos Coordinator
EPA, Region X (8T-083)
1200 6th Avenue
Seattle, WA 98101
(206) 442-4762, FTS 399-2870
FAX-FTS 399-0110 or 8338
FAX (206) 553-0110 or 8338

11/12/91

FORMS AND ATTACHMENTS



S

Massachusetts Department of Environmental Protection

Transmittal Form for Permit Application
and Payment

For DEP Use Only

Permit No. _____

Received Date _____

Reviewed _____

Permit ☐ Appro ☐ Denied

Decision Date _____

Transmittal # _____

Facility ID (if known) _____

Permit Information

Permit Name _____

Permit Category (seven character code from the title of your application form) _____

Brief Project Description _____

Applicant/Legally Responsible Official

Name _____

Address _____

Contact _____

Telephone _____

Facility Information

Name of Facility _____

Address _____

City/Town _____

Telephone _____

Application Prepared By

Name _____

Address _____

Contact _____

Telephone _____

Other Related Permits: Are you applying for other permits related to this permit? If so, please list them below.

Transmittal No. Permit Category No. Description

Amount Due

- Special Provisions: ☐ Fee Exempt (city, town, district, municipal housing authority)
☐ Hardship Request (payment extension according to 310 CMR 4.04(3)(c))
☐ Alternative Schedule Project Request (according to 310 CMR 4.05 and 4.10)

Check No. _____ Dollar Amount \$ _____ Date _____

Make check payable to **Commonwealth of Massachusetts**. Please mail check and **yellow** copy of transmittal form to:
Dept. of Environmental Protection, P.O. Box 4062, Boston, MA, 02211

WHITE: Permit Application YELLOW: Payment PINK: Applicant GOLD: Reserve

Rev 1/91



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention - Air Quality

BWP AQ 04 Asbestos Removal Notification

BWP AQ 06 Notification Prior to Construction or Demolition

Permits for Asbestos

Transmittal #

Facility ID (if known)

For DEP Use Only

Permit No. _____
Received Date _____
Reviewer _____
Permit ☐ Appr. ☐ Denied
Decision Date _____

A Applicability

Demolition/Renovation operations involving asbestos-containing material (ACM) and general Demolition/Renovation operations are regulated by the Department of Environmental Protection (DEP), Bureau of Waste Prevention - Air Quality Division, under Regulations 310 CMR 7.00, 7.09 and 7.15. Notification to the REGIONAL OFFICE of general demolition/

renovation operations and demolition/renovation operations involving ACM is required under 310 CMR 7.09 (2) and 310 CMR 7.15 (1) (b) twenty (20) days prior to any work being performed. The following information is required pursuant to 310 CMR 7.15.

B General Project Description

1. Facility

Name _____

Address _____

City/Town _____

Telephone _____

Size _____

Square feet _____

Number of floors _____

Was the Facility built prior to 1980? ☐ Yes ☐ No

Current or Prior use of Facility _____

Is the Facility Occupied? ☐ Yes ☐ No

Is this Facility Owner-Occupied Residential with 4 units or less?
☐ Yes ☐ No

2. Facility Owner

Name _____

Address _____

City/Town _____

Telephone _____

3. On-Site Manager

Name _____

Address _____

City/Town _____

Telephone _____

4. General Contractor

Name _____

Address _____

City/Town _____

Telephone _____

Does this project involve the removal and/or alteration of any Asbestos Containing Material (ACM) as defined and applied in 310 CMR 7.00 and 7.157?

☐ Yes ☐ No

If Yes, complete Sections C and D.

If No, complete Sections D and E.

C Asbestos Removal Description

1. Asbestos Contractor

Name _____

Address _____

City/Town _____

Telephone _____

Department of Labor and Industries License # _____



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention - Air Quality

BWP AQ 04 Asbestos Removal Notification

BWP AQ 06 Notification Prior to Construction or Demolition

Permits for Asbestos

Transmittal #

Facility ID (if known)

2. On-Site Supervisor

Name

Department of Labor and Industries Certification

3. Hygienist

Name

4. Specific Worksite Locations(s) (i.e. Building name, number, wing, floor, room, tunnel.)

5. Is the job being conducted indoors or outdoors?

6. Estimated amount of Each type of ACM to be handled

Linear / Square Feet

boiler, breeching, duct,
tank surface coatings

/

thermal, solid core pipe insulation

/

corrugated or layered
paper pipe insulation

/

insulating cement

/

spray-on fireproofing

/

trowel/sprayer coatings

/

cloths, woven fabric

/

transite board, wall board

/

other - please describe

/

Total in Linear Feet

/

Total in Square Feet

/

7. Description of techniques used for estimation

8. Asbestos Removal

Start Date

End Date

Hours of Operation

☐ daytime

☐ evening

☐ night

Days of Operation

☐ Mon. - Fri.

☐ Sat. - Sun.

(Note: Any changes in these dates must be reported to the appropriate regional office. If a removal is postponed for more than thirty (30) calendar days separate notification will be required.)

9. Describe the asbestos removal procedures to be used.

☐ glove bag

☐ enclosure

☐ full containment

☐ cleanup

☐ encapsulation

☐ disposal only

☐ other-please describe

10. Transporter of asbestos-containing waste material from site to temporary storage site (if necessary) to final disposal site

Name

Address

City/Town

Telephone



Massachusetts Department of Environmental Protection

Bureau of Waste Prevention - Air Quality

BWP AQ 04 Asbestos Removal Notification

BWP AQ 06 Notification Prior to Construction or Demolition

Permits for Asbestos

Transmittal #

Facility ID (if known)

11. Transporter of asbestos-containing waste material from removal/temporary storage site to final disposal site

Name

Street Address

City/Town

Telephone

13. Final Disposal Site

Name

Address

City/Town

Telephone

Owner's Name

(Note: Disposal of ACM must comply with the Solid Waste Divisions regulations 310 CMR 19.00.)

12. Refuse transfer station facility and owner (if applicable)

Name

Address

City/Town

Telephone

Owner's Name

(Note: Transfer Stations must comply with the Solid Waste Division regulations 310 CMR 18.00.)

14. Emergency Asbestos Removal Operations
DEP official who evaluated the emergency:

Name

Title

Authority

Date of Authorization

D General Demolition/Renovation Description

1. Demolition/Renovation Contractor

Name

Address

City/Town

Telephone

4. Was the facility surveyed for the presence of asbestos containing material (ACM)?

☐ Yes ☐ No

If yes, who Conducted the Survey?

Name

Department of Labor and Industries Certification #

2. On-Site Supervisor

Name

5. If yes, who conducted the survey?

Name

Department of Labor and Industries Certification #

3. Identify the specific Worksite Location(s):

6. Demolition/Renovation Asbestos Removal

Start Date

End Date



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention - Air Quality

BWP AQ 04 Asbestos Removal Notification

BWP AQ 05 Notification Prior to Construction or Demolition

Permits for Asbestos

Transmittal #

Facility ID (if known)

7. Describe the demolition/renovation procedures to be used:

(Note: Demolition/Renovation Operations must comply with 310 CMR 7.09 to control emissions to prevent a condition of air pollution.)

8. Emergency Demolition/Renovation Asbestos Removal Operations

State or local official who evaluated the emergency:

Name

Title

Authority

Date of Authorization

(General Statement: If asbestos-containing material is unexpectedly found or damaged during a Demolition/Renovation operation, all responsible parties must comply with 310 CMR 7.00, 7.09, 7.15 and Chapter 21 E of the General Laws of the Commonwealth. This would include but would not be limited to filing an asbestos removal notification with the Department and/or a notice of a release/threat of release of a hazardous substance to the Department if applicable.)

E Certification

I certify that I have examined the above and that to the best of my knowledge it is true and complete. The signature below subjects the signer to the general statutes regarding a false and misleading statement(s).

Print Name

Authorized Signature

Position/Title

Representing

Date

NOTIFICATION OF DEMOLITION AND RENOVATION

FACILITY INFORMATION (Identify owner, removal contractor, and other operator)

OWNER:

Address:

City:

State:

Zip:

Contact:

Tel:

REMOVAL CONTRACTOR:

Address:

City:

State:

Zip:

Contact:

Tel:

OTHER OPERATOR:

Address:

City:

State:

Zip:

Contact:

Tel:

II. TYPE OF NOTIFICATION (O = Original/R = Revised):

III. TYPE OF OPERATION (D = Demolition/R = Renovation):

IV. IS ASBESTOS PRESENT? (Yes/No)

FACILITY DESCRIPTION (Include building name, number and floor or room number)

Bldg Name:

Address:

Address:

City:

State:

County:

Site Location:

Building Size

SqMeters:

SqFt:

of Floors:

Age in Years:

Present Use:

Prior Use:

VI. PROCEDURE, INCLUDING ANALYTICAL METHOD, IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL:

VII. APPROXIMATE AMOUNT OF RACH TO BE REMOVED AND NONFRIABLE ASBESTOS MATERIAL THAT WILL NOT BE REMOVED. SPECIFY THE AMOUNT OF ASBESTOS BELOW.

Nonfriable Asbestos Material Not to Be Removed

RACH To Be Removed Category I Category II

Pipes - Linear Feet

Pipes - Linear Meters

Surface Area - Square Feet

Surface Area - Square Meters

Volume RACH Off Facility Component - Cubic Feet

Volume RACH Off Facility Component - Cubic Meter

VIII. SCHEDULED DATES OF ASBESTOS REMOVAL (MM/DD/YY)

Start:

Completion:

NOTIFICATION OF DEMOLITION AND RENOVATION (continued)

Y. DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, AND METHOD(S) TO BE USED:

XI. DESCRIPTION OF ENGINEERING CONTROLS AND WORK PRACTICES TO BE USED TO CONTROL EMISSIONS OF ASBESTOS AT THE DEMOLITION AND RENOVATION SITE:

XII. WASTE TRANSPORTER #1

Name:

Address:

City:

State:

Zip:

Contact Person:

Telephone:

WASTE TRANSPORTER #2

Name:

Address:

City:

State:

Zip:

Contact Person:

Telephone:

XIII. WASTE DISPOSAL SITE

Name:

Address:

City:

State:

Zip:

Telephone:

XIV. IF DEMOLITION ORDERED BY A GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW:

Name:

Title:

Authority:

Date of Order (MM/DD/YY):

Date Ordered to Begin (MM/DD/YY):

XV. FOR EMERGENCY RENOVATIONS

Date and Hour of Emergency (MM/DD/YY):

Description of the Sudden, Unexpected Event:

Explanation of How the Event Caused Unsafe Conditions or Serious Disruption of Industrial Operations:

XVI. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER.

XVII. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THIS REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION OR RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS. (Required 1 year after promulgation)

(Signature of Owner/Operator)

(Date)

XVIII. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.

Generator	1. Work site name and mailing address		Owner's name	Owner's telephone no.
	2. Operator's name and address			Operator's telephone no.
	3. Waste disposal site (WDS) name, mailing address, and physical site location			WDS phone no.
	4. Name, and address of responsible agency			
Generator	5. Description of materials		6. Containers No. Type	7. Total quantity m ³ (yd ³)
	8. Special handling instructions and additional information			
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.			
Transporter	Printed/typed name & title		Signature	Month Day Year
	10. Transporter 1 (Acknowledgment of receipt of materials)			
	Printed/typed name & title		Signature	Month Day Year
	Address and telephone no.			
	11. Transporter 2 (Acknowledgment of receipt of materials)			
Disposal Site	Printed/typed name & title		Signature	Month Day Year
	Address and telephone no.			
	12. Discrepancy indication space			
Disposal Site	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.			
	Printed/typed name & title		Signature	Month Day Year

(Continued)

Figure 1. Waste Shipment Record

INSTRUCTIONS

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.
2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.
3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.
4. Provide the name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.
5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is
 - Friable asbestos material
 - Nonfriable asbestos material
6. Enter the number of containers used to transport the asbestos materials listed in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):
 - DM - Metal drums, barrels
 - DP - Plastic drums, barrels
 - BA - 6 mil plastic bags or wrapping
7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).
8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.

NOTE: The waste generator must retain a copy of this form.

(continued)

Figure 1. Waste Shipment Record

9. The authorized agent of the waste generator must read and then sign and date this certification. The date is the date of receipt by transporter.

Transporter Section (Items 10 & 11)

10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.

NOTE: The transporter must retain a copy of this form.

Disposal Site Section (Items 12 & 13)

12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.
13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.

NOTE: The WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.

LEAD PAINT

Prepared by Richard F. Walsh
Inspector of Construction, Asbestos & Lead
Department of Labor & Industries

CONTENTS

- I. Environmental and Public Health Impacts
- II. Where to Look for Violations
- III. Safety Issues
- IV. Term Dictionary
- V. Regulatory Framework
- VI. Statutes & Regulations (Selected Portions)
- VII. Regulators and Sources of Information
- VIII. Forms

I. ENVIRONMENTAL AND PUBLIC HEALTH IMPACTS

Lead is a poison which is all around us. Lead-based paint has been applied in many of our homes. This lead can be released into our home environment in a number of ways. As lead paint ages, it chips and peels.

Renovation projects may involve sanding or other disturbance of lead paint which releases lead dust.

Soils around our homes may have high lead levels from deteriorating or sanded lead-based paint and fumes from leaded gasoline or lead additives to gasoline. Lead may reach our drinking water from corroded lead pipes and solder.

Other activities which may expose one to lead include:

1. Abrasive blasting of any painted surface on any structure or building built prior to 1978.

Important: Except for residences, lead paint can be and is still applied within Massachusetts (e.g., bridges, water tanks, railroad overpasses).

2. Any operations that require the cutting, welding or grinding of painted metal members or wood surfaces (scrap yards, bridges, rail services and most manufacturing plants that use metal).
3. Operations that use solvents/chemicals or abrasives to strip paint from wood or metal surfaces (wood working shops that use vats/tanks to submerge objects to restore antique furniture, metal blasting shops, furniture makers).

4. Operations where firearms and shooting ranges are used (police shooting ranges inside/out, sportsmen's clubs, skeet shooting).
5. Foundries that process metals or recycle used metals; tool and die shops; steel fabricating shops; mobile welding units.

Exposure to lead, by ingestion or inhalation, can have serious and lasting health effects. Children who are exposed may suffer, among other things, long term loss of mental abilities, nerve damage, anemia, kidney damage, and behavioral problems. If lead poisoning is permitted to reach high levels, it can be fatal. While children tend to be at highest risk of lead poisoning, adults can also suffer significant health effects when exposed to lead.

The following health effects are what you may experience from lead exposure. Effects may vary from individual to individual depending on exposure. Should you experience any of these symptoms see your physician.

Early or Mild Symptoms: Fatigue, uneasy stomach or loss of appetite, irritability, nervousness or moodiness, sleeplessness or difficulty in sleeping, headaches, joint or muscle aches and pains, slower reflexes and decreased sexual drive. Many of these symptoms are often thought to be the flu or just a cold.

Later or Severe Symptoms: Aches or pains in the stomach, constipation, nausea, weight loss, memory problems, muscle and joint pains, damage to the nervous system, including wrist or foot drop, tremors, kidney problems.

Chronic Lead Exposure - Long Period of Time: Over an extended period, lead can become stored in the bones and leach out gradually. Such gradual, long term exposure can produce adverse health effects such as impaired hemoglobin synthesis, alteration in the central and peripheral nervous system, and hypertension. Effects on male and female reproductive systems can include low sperm count, lack of sexual drive and damage to a developing fetus.

The impacts of environmental pollution from lead paint can be costly and long lasting. One vivid example of the costs is an incident which happened in July 1990, in Lynn, Massachusetts. Open abrasive blasting of an overhead rail pass cost the taxpayers of the State 6.3 million dollars for clean-up of an entire neighborhood area, including cleaning two dozen dwellings covering several square blocks, a church, school and community center, both inside and out and including personal items and surfaces. Other areas of concern that can affect your community are as follows:

1. Illegal dumping of lead paint, regardless of its form, (chips, liquid, abrasive by-product, solids, chemicals, etc.) can leach into the soil, causing contamination to ground water, and water supplies, streams, lakes, water treatment, and sewage treatment plants.
2. Uncontrolled lead dust or other lead contaminants can cause pollution to soil or ground cover in residential areas, playgrounds, parks, schools, wetlands, etc.

II. WHERE TO LOOK FOR VIOLATIONS

Although, as noted in Section I, there are many potential sources of lead exposure, the Massachusetts lead paint law is principally concerned with the identification and safe removal of lead paint from homes. Hence, the primary situations in which one will find violations are:

1. Lead paint removal projects performed by handymen, landlords, homeowners, or other untrained and unlicensed persons.
2. Renovations, rehabilitation, remodeling, alterations, painting of wooden structures, pre 1978 (any home, apartment, public or private building) with the use of power grinders, planers, other dust generating equipment.

3. Active landfills that may accept demolition materials, wood, or metal, whether buried or incinerated, where lead paint wastes which qualify as hazardous waste may be improperly dumped.
4. Remote wooded areas, watershed areas, vacant lots, secondary or fire roads which are accessible to illegal dumpers. Lead paint chips and wastes may be found in drums, garbage bags, or just dumped on the ground.

III. SAFETY ISSUES

1. Stay upwind of any abrasive operation that may not have enclosed the work area. Ask, or have traffic duty officer ask, if the surface is lead paint. The contractor or, if it is a public works project, the awarding authority (state, city, town), should have this information. Keep personal records of area, or traffic duty where you may be exposed, and inform your department.
2. If you cannot be upwind, try to stay out of the main stream of dust, in cruiser. Close cruiser windows and do not use air conditioning or heater. Keep large objects, (e.g., trucks) between you and this work area, if possible, to break dust stream.

3. Stay out of enclosures where abrasive blasting or power tool abatement has occurred or is taking place. Lead dust concentrations within such areas will be elevated - contamination will be immediate if you are not properly trained and protected.
4. Do not eat, drink, chew gum or smoke in or on contractor trucks, equipment, work areas, etc. that may be contaminated, as this can result in ingestion of lead dust.
5. If you should become exposed your clothing should be properly cleaned by an authorized commercial cleaner, who must be informed of the lead contamination. Do not take clothes home for laundering, as this will contaminate home and expose family or others. Never use compressed air to clean your uniform or cruiser, as this will just spread lead dust and create greater breathing exposure. Shower at station or barracks. Report exposure.
6. Annual Medicals - Ask for blood lead level and ZPP check-ups.
7. You are the best judge of your body - if you should notice a change in your system and you have been exposed to lead dust or fumes (on the job, on the shooting range, and from torch burning or cutting) go for a medical examination, and tell the physician of exposure. (See Health Effects)

8. If you are called to an illegal dump site, whether it may be lead paint (liquid, powder, chemical, solid wood, chips, etc) or other unknown substance, do not handle; call appropriate state agencies or specialized officers who are all trained in these areas. Keep a safe distance from the dump site and keep curiosity seekers away from the area.

IV. TERM DICTIONARY

1. A.A.S. - Atomic Absorption Spectrophotometry - method used for testing lead material and lead concentrations in soil.
2. Accessible, Mouthable Surfaces - are interior or exterior architectural surfaces or fixtures five feet or less from the floor or ground that form a protruding corner or similar edge, or protrude one-half inch or more from a flat wall surface, or are free-standing so that a child may place his/her mouth on the surface or suck the surface. In general, "accessible, mouthable surfaces" refers to woodwork such as doors, door jambs, stairs and stair rails, etc. Baseboards with an exposed horizontal edge may have quarter round molding applied to the top so that only vertical edges forming outside corners, if present, constitute accessible, mouthable surfaces.

3. Acute Poisoning - High exposure - may be short or long period of time.
4. B.L.L. - Blood Lead Level - Amount of lead in blood; reflects recent lead exposure.
5. Chronic Poisoning - Lower exposure - long or continuous period of time.
6. Dangerous Level of Lead in Paint or Other Coating, Putty or Plaster - means the level of lead in paint or other coating, putty, or plaster which materially endangers the health of children or adults by producing a substantial and serious danger of lead poisoning.

(A) When present in paint or coatings offered for sale, a dangerous level of lead shall be deemed to be 600 parts per million or greater as measured by atomic absorption spectrophotometry.

(B) When present in a dried film including but not limited to paint, glaze, stain, or varnish on walls, woodwork or other surfaces or articles, or in plaster, putty or other substance in residential premises, a dangerous level of lead shall be deemed to be the following:

- (1) a positive reaction with a 6% to 8% sodium sulfide solution indicative of more than .5% lead by dry weight; or

(2) more than 1.2 milligrams lead per square centimeter of surface as measured on site by a mobile x-ray fluorescence analyzer or comparable equipment.

7. Dangerous Level of Lead in Soil - Soil shall be deemed to contain a dangerous level of lead upon a determination by the Director, local board of health, or code enforcement agency that:
 - (A) Such soil poses a danger to a child under six years of age who is at significant risk of lead poisoning or re poisoning; and
 - (B) Such soil contains 1,000 parts per million (ppm) or greater of lead as measured by an x-ray fluorescence analyzer which measures lead concentration in parts per million or by an atomic absorption spectrophotometer.
8. D.E.P. - State Department of Environmental Protection
9. D.L.I. - State Department of Labor and Industries
10. D.P.H. - State Department of Public Health
11. Deleader - Any person, corporation or entity engaged in the act of removal, covering or replacement of paint, plaster or other materials containing dangerous levels of lead.

12. Deleading - The act of removal, covering or replacement of paint, plaster or other material containing a dangerous level of lead.
13. HEPA Filter - A high efficiency particulate air (HEPA) filter capable of filtering out monodispersive particles of 0.3 microns or greater diameter from a body of air at 99.97% efficiency or greater.
14. Inspector, Private - "Private Inspector" means any lead inspector other than a code enforcement inspector or housing agency inspector who has met the conditions specified in 105 CMR 460.400.
15. Intact Surface - means a surface with no loose paint.
16. Lead Poisoning - is a disease present in a child when the child has a concentration of lead in whole venous blood of:
- (A) 25 micrograms per deciliter or greater, with an erythro-cyte protoporphyrin (E.P.) level in whole blood of 35 micrograms per deciliter or greater, or
- (B) 40 micrograms per deciliter or greater, regardless of E.P. level.
16. Letter of Compliance - means a written statement signed, dated and issued by a code enforcement, housing agency or private lead inspector certifying

that as long as there continues to be no peeling, chipping or flaking lead paint and as long as coverings forming an effective barrier over lead paint remain in place, that a residential premises or dwelling unit and common areas are:

(A) Determinated upon initial inspection to be in compliance with M.G.L. c. 111, § 197 and 105 CMR 460.110; or

(B) Determined through abatement reinspection(s) to be in compliance with M.G.L. c. 111, § 197 and 105 CMR 460.110; .120 and/or .130, and/or .140; .160; .760; and 545 CMR 22.00.

17. Loose Paint - means peeling, flaking, or chipping paint; paint over crumbling, cracking or falling plaster or plaster with holes in it; or paint that is damaged in any manner such that a child can get paint from the damaged areas.
18. mg/m3 - milligrams per cubic meter - Lead air limit at 0.5mg/m3 requires respirator.
19. Owner - means every person who alone or jointly or severally with others (a) has legal title to any dwelling unit, residential premises, or residential property; or (b) has charge or control of any dwelling unit, residential premises, or residential property in any capacity including but not limited to a mortgagor, agent, executor, executrix,

administrator, administratrix, trustee, or guardian of the estate of the holder of legal title; or (c) any officer or trustee of the association of unit owners of a condominium; or (d) an agent, trustee or other person appointed by the courts. No bank, lending institution, mortgage company or mortgagee, except where such mortgagee takes actual possession pursuant to applicable law, shall be considered an owner. See 105 CMR 460.100(B).

20. S.P.N.E.A. - Society for the Preservation of New England Antiquities (preserves historic elements of homes and building)
21. S.S.S. - Sodium Sulfide Solution Testing 6-8% - Solution is applied to surface to be tested. Change of color, from light to dark gray or black indicates lead concentration greater than 0.5% by dry weight.
22. State Laboratory for Lead and Lead Poisoning Detection - means the laboratory established by the Commissioner pursuant to M.G.L. c. 111, § 195, in the Childhood Lead Poisoning Prevention Program, Institute of Laboratories, Department of Public Health, for the purpose of analyzing blood specimens from children for the presence of lead; and analyzing samples of paint, plaster, and other materials, within the laboratory or on site with mobile units, for dangerous levels of lead.

23. T.C.L.P. - Toxicity Characteristic Leaching

Procedure - EPA - March 1991

- a. A test procedure developed to represent the leaching potential of a hazardous substance from the material to be disposed into landfill.
- b. Limit for lead is 5.0 milligrams per liter (5.0 mg/l).

25. Work Area - The location where lead abatement, renovation, or rehabilitation work is being performed, or such areas of a facility which the DLI Commissioner determines may be hazardous to the health and safety of workers and the general public as a result of such lead abatement work.

26. X-Ray Fluorescence Analyzer

(A) For detection of dangerous levels of lead in paint, "X-Ray Fluorescence Analyzer" ("X.R.F.") means any mobile instrument which measures lead concentration in milligrams per square centimeter (mg/cm^2) by measuring activity of lead electrons activated by a radioactive source within the machine.

(B) For detection of dangerous levels of lead in soil, "X-Ray Fluorescence Analyzer" means any instrument which measures lead concentration in parts per million (ppm) by measuring activity of lead electrons activated by a radioactive source within the machine.

27. Z.P.P. - Zinc Protoporphyrin - Medical test for long term (over 3 months) lead exposure.

V. REGULATORY FRAMEWORK

The Massachusetts Lead Poisoning Prevention and Control Program, established by M.G.L. c. 111, §§190-199A, provides for the detection and removal of lead paint in Massachusetts residences. The lead paint law also outlaws the use of lead-based paint or glaze on all residential surfaces (inside and out), fixtures, furniture, toys, or cooking, eating or drinking utensils, and makes it unlawful to sell or give away any toys, furniture or utensils covered or decorated with lead based paint or glaze. M.G.L. c. 111, §196.

The program is primarily administered by the Department of Public Health (DPH) and the Department of Labor and Industries (DLI). DPH has authority over childhood lead screening programs, lead paint inspections, and response measures taken for the protection of children, and has promulgated regulations at 105 C.M.R. 460 et seq. Local boards of health, code enforcement agencies, and housing inspection agencies can also implement inspection and response measures on a local basis. DLI has authority over deleading work practices, to insure the health and safety of workers engaged in deleading and protect the general public. DLI's regulations are promulgated at 454 C.M.R. 22 et seq.

The disposal of deleading wastes falls within the purview of the Department of Environmental Protection (DEP). Deleading wastes which contain lead at levels high enough to be considered hazardous under M.G.L.c. 21C (measured by T.C.L.P.) must be handled as a hazardous waste according to the requirements of that statute.

Generally, the law requires a property owner to remove or permanently cover lead paint and other lead contaminated surface materials in any house or apartment where a child under six lives or will live, a) where such paint or material is peeling; b) where such paint or material is found on or in contact with movable surfaces of windows with sills five feet or less from the floor or ground; or c) where such paint or material is found on "accessible, mouthable surfaces."

Inspections to determine the presence of lead can be performed only by trained inspectors who have been licensed by the DPH, using methods permitted by the DPH. Where an inspection reveals dangerous levels of lead, notice of this fact must be given to the owner, the residents and the DPH.

While it is the owner's responsibility to delead the residency, work itself can only be performed by trained deleaders licensed by the DLI. Notice of a deleading job must be given to the DLI, DPH, the local health or

code enforcement agency, and the residents, at least five days in advance of the commencement of work. All occupants and pets must be evacuated from the residence, and the occupants' belongings must be removed or covered to protect them from contamination. Work is to be performed in accordance with DLI regulations. Failure to do so can result in gross contamination of the residence, escalating the threat of lead poisoning.

Once a residence has been deleaded and reinspection shows it to be in compliance with the lead paint law, a letter of compliance is issued by a code enforcement or other authorized lead inspector.

VI. STATUTES & REGULATIONS

(Selected Portions)

MGL c. 111, § 196(a) Prohibits application of lead paint or glare to any toy, furniture, cooking, drinking, or catering utensil, or interior or exterior surface or fixture of any dwellings; prohibits selling, exposing for sale, delivering, giving away or possessing with intent to sell, deliver, or give away any toy, furniture, or cooking drinking, or eating utensil which has lead paint or glaze. Each violation may be punished by fine of not less than \$100 nor more than \$500. May also be punished as violation of the State Sanitary Code. Each willful violation may be punished by imprisonment of not more than 3 months.

MGL c. 111, §196(b) Prohibits selling, exposing for sale, delivery, giving away, or possessing with intent to sell, deliver, or give away any lead-based paint, glaze, or other surfaces covering including raw lead or the raw lead compounds utilized in the home manufacturing of glazes. Each violation may be punished by fine of not less than \$200 and not more than \$500. Each willful violation may be punished by imprisonment for not more than 6 months. May also be punished as violation of the State Sanitary Code.

MGL c. 111, § 197(a) Requires owner of residential premises to recover or cover any paint plaster, soil or other accessible material containing dangerous levels of lead whenever a child under six years of age resides, or will reside, in the premises. Also gives DPH and the local board of health or code enforcement agency authority to order lead paint removal where (i) a child under six years of age who is at significant risk of lead poisoning spends more than ten hours a week on the premises for a period of at least one month or (ii) a person of any age with a blood lead elevation who has demonstrated pica or whose cognitive development is delayed or retarded resides or will reside in the premises.

MGL c. 111, §197 (c) Requires notice be given to DPH, DLI, and local authorities, among others, before deleading commences.

MGL c. 111, §197(b) Requires licensure for lead paint inspectors and deleaders.

MGL c. 111, §198 Any violation of §§ 196 and 198, above, may be treated as a violation of the State Sanitary Code.

DPH Regulations

105 CMR 460.050 Establishes mandatory medical screening of all children for lead poisoning. Children must present evidence not having been previously screened as a condition for entry to kindergarten.

105 CMR 460.100 Requires owners to remove or cover lead paint and other surface materials when a child under six years of age resides in the premises, or when ordered to do so pursuant to MGL c. 111, § 197. A bank, lending institution, mortgage company, or mortgagee is considered an "owner" if it takes actual possession of the residential property.

105 CMR 460.110 Establishes lead paint abatement requirements. Repainting with non-lead based paint without removing lead paint does not satisfy abatement requirements.

105 CMR 460.120 Prescribes acceptable methods of lead paint removal, with special methods for properties listed on the State Register of Historic Places.

Requires lead paint waste be disposed of in accordance with all applicable state and federal requirements.

105 CMR 460.130 Describes material which may be used to cover lead paint. Contact paper or non-vinyl wallpaper are not permitted as lead paint cover.

105 CMR 460.150 Five day advance notice must be given by deleading contractors before deleading is commenced.

105 CMR 460.160 Safety precautions and cleanup procedures for deleading. Requires evacuation of all occupants and pets of a dwelling unit undergoing deleading.

105 CMR 460.190 Establishes a fine for violation, ranging from \$10 to \$500 per day of violation.

105 CMR 460.400 Requires licensure of lead inspectors, and requires inspectors to testify in enforcement proceedings initiated on the basis of results of inspections and/or reinspections they perform.

105CMR 460.420 Requires licensure for deleaders. All persons employed in performing building rehabilitation or renovation in a manner that disturbs paint, plaster, or other materials containing dangerous levels of lead must comply with 454 CMR 22.00.

105 CMR 460.430 Violations of lead inspector or deleader law and regulations are punishable by a fine of not less than \$500 nor more than \$1500. DLI or the local code enforcement agency may file a written complaint with the district court where the violation occurred.

105 CMR 460.750 Immediately after completing an inspection which reveals lead paint, the code enforcement inspector must post a notice on the interior side of the door at each entrance to the premises stating that the premises contain dangerous levels of lead. Written notice of lead paint found in rental property must be distributed to all tenants in the building by the owner on a DPH approved form.

105 CMR 460.760 Establishes requirements for reoccupancy reinspections. Occupants of premises undergoing deleading may not resume occupancy until premises passes reoccupancy reinspection.

105 CMR 460.800 If dangerous levels of lead still exist at time of abatement reinspection, the code enforcement agency shall within three working days initiate judicial proceedings which may be either criminal proceedings seeking enforcement of penalties provided under the lead paint law and the Sanitary Code, or a civil action for injunctive relief.

DLI Regulations

454 CMR 22.00 Deleading Regulations - Massachusetts

Department of Labor and Industries, Division of
Industrial Safety, Asbestos/Lead Program

These regulations establish minimum work standards to protect the health and safety of inspectors, deleaders, renovators, rehabilitators and the general public. They are applicable to all activities of employers, employees and others engaged in residential deleading, rehabilitation and renovation projects containing dangerous levels of lead, and removal or covering of leaded soil. If, pursuant to an inspection, a dangerous level of lead is found and an order to delead is issued to the dwelling owner, the contractor performing such work must be licensed as a deleader contractor. The following items are key points to keep in mind.

454 CMR 22.03 The deleading contractor shall have a pictured license, with current effective and expiration dates.

454 CMR 22.04 All deleading workers are required to have medical examinations and updated blood results.

454 CMR 22.07 The contractor must provide Labor & Industries and local or state health departments with a five (5) day notification prior to starting the job.

454 CMR 22.08 (b)(iii) Warning signs to all approaches of abatement site must be posted and shall include the words "Warning Lead Paint Removal Hazard."

454 CMR 22.08(d)(ii) & (iii) All workers performing abatement work must wear protective clothing and respirators in contaminated area at all times.

454 CMR 22.08(b)(iv), (v) & (vi) Windows, doors, heating/cooling vents must be sealed with a layer of 6 mil plastic sheeting; non-movable objects must be covered with plastic.

454 CMR 22.08(b)(ii) A change room must be provided for workers to decontaminate.

454 CMR 22.08(e)(i) A daily clean-up must be performed by contractor in containment area by wet washing and HEPA vacuuming to level of no visible contamination.

454 CMR 22.09 Authority of Labor & Industries to issue immediate Cease and Desist order if job site regulations are violated.

MGL 149 §11A; 454 CMR 23.00 Blood Registry -

Massachusetts Department of Labor & Industries, Division of Occupational Hygiene

454 CMR 23.03 - This Regulation requires every clinical laboratory that performs blood lead testing on-site or that sends blood lead specimens to out-of-state laboratories for lead testing to report such results on

individuals over the age of fifteen to the Commissioner of Labor & Industries. These reports shall include the identity of the reporting laboratory; the name, date of birth/or age, and the blood level of the individual tested; the date the blood sample was drawn; the name and address or telephone number of the health care provider ordering the test, and certain other information. The clinical laboratory report and the provider information shall be maintained confidential and are not matters of public record but may be made available to the Department of Public Health for the purpose of research and analysis.

The purpose of this Regulation is to permit DLI to track workers' blood lead levels. If levels become escalated beyond a certain point, research and investigation of the worker takes place to identify the source of lead exposure, job functions, personal protective measures used or provided, and appropriate measures to reduce exposure.

454 CMR 11.00 - Structure Painting and Safety Bulletin #13; November, 1981 - Massachusetts Department of Labor & Industries, Division of Industrial Safety and Occupational Hygiene

This Regulation is currently being updated to address specific lead paint and abrasive or power tool

abatement of lead painted surfaces and auxiliary procedures related to the same. If such amendments are enacted these regulations will be applicable to all painting, paint removal and related auxiliary procedures involving any structure public and private, with the exception: if such work is conducted in an owner-occupied residence consisting of no more than three dwelling units, and provided no persons other than the owner are engaged in said work. These regulations shall establish reasonable requirements necessary for the protection of the health and safety of persons engaged in structural painting and auxiliary procedures and for the protection of the health and safety of the general public during such operations.

Key items of these proposed regulations are as follows:

1. That all such contractors for painters and riggers are licensed and trained to perform such work in a safe and healthful manner.
2. That employees of such contractors will have required proper medical examinations, respirator protection, knowledge of health effects and any other specific training needed.
3. That a ten (10) day notification of such work affecting lead paint is filed with the Department prior to any job commencing.

4. That enclosures on lead paint sites be erected to ensure no emission to the outside environment.
5. That decontamination facilities be provided for workers, inspectors, etc on the job site.
6. That a final clean-up of lead abatement sites takes place to ensure no visible lead debris.
7. That proper containment, signs, labeling, transportation and disposal of lead contamination as prescribed under State and Federal law takes place.
8. That proper recordkeeping of lead abatement activities are kept and made available for inspection.

VII. REGULATORS AND SOURCES OF INFORMATION

Department of Public Health, Childhood Lead Poisoning Prevention Program, 305 South Street, Jamaica Plain, MA 02130, 1-800-532-9571

Department of Labor and Industries, Division of Industrial Safety, 100 Cambridge Street - 11th Floor, Boston, MA 02202

<u>Lead Removal Program:</u>	Boston--	617-727-6155
		617-727-1933
	New Bedford--	617-727-4990
	Lawrence--	617-727-0611
	Worcester--	508-792-7635
	Springfield--	413-734-1421
	Pittsfield--	413-445-4214

Blood Registry: 1001 Watertown Street, West Newton, MA 02165

Telephone: (617) 969-7177

Department of Environmental Protection, Division of Hazardous Waste, 1 Winter Street, Boston, MA 617-292-5898

Local Boards of Health

Local Housing Code Enforcement Agencies

FORMS



The Commonwealth of Massachusetts
Executive Office of Human Services
Department of Public Health

Childhood Lead Poisoning Prevention Program

305 South Street, Jamaica Plain, 02130

William F. Weld
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RESIDENTIAL LEAD ABATEMENT ADVISORY

The process of abating lead paint is very dangerous. For this reason, the Department of Labor and Industries' Deleading Regulations, 454 CMR 22.00, require that only a certified or licensed deleading contractor can remove or cover lead paint, or replace a fixture or surface coated with lead paint. Regulations for Lead Poisoning Prevention and Control, 105 CMR 460.000, have additional requirements to make sure that occupants of a dwelling unit are not exposed to lead hazards. The most important requirement is that the dwelling unit not be occupied while the unit is being deleading. It is very important that occupants think carefully about what their daily needs will be during the time they are away from home, and take along all that they will need. No one should return to a dwelling unit undergoing deleading. Both property owners and tenants must take their responsibilities seriously and cooperate fully to assure the protection of all concerned. Tenants, property owners or other residents should not interfere with the work being completed safely.

Tenants of the unit to be deleading and other residents must receive written notification at least five days prior to the beginning of any lead paint removal/abatement. All furnishings and possessions of every type should be removed or stored in plastic bags in non-work areas. This includes all children's clothing, toys, stuffed animals, bedding, etc. Everything should be removed and closets must be emptied. Possessions not removed from the work area should be put in plastic bags and left in the center of the room, only as a last resort. The reasons for this extensive precautionary measure is to protect every household article from lead dust contamination. Very fine dust is extremely hazardous and especially difficult to remove.

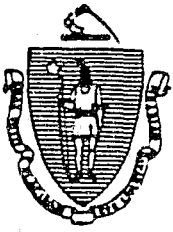
A very thorough final clean-up will be conducted by the deleader no sooner than 24 hours after the completion of active deleading. This is to ensure that fine airborne particulate will settle out and be removed in the final clean-up. Occupants can return only after a lead inspector determines that a residential premises or dwelling unit is safe for occupants to return to through the reoccupancy reinspection. Occupants should leave a phone number where they can be reached so that the inspector can notify them when it is safe to return home.

While there is no substitute for deleading and thorough clean-up to protect children from lead exposure, there are some important steps that can be taken even before deleading occurs. Your public lead inspector's advice and counsel should be carefully followed because of their personal knowledge of your child's home environment.

As part of their normal behavior, young children place things in their mouths, especially toys, and their own fingers. If there are paint chips and dust in your home, they may end up in your child's mouth. Children's toys pick up lead dust, as will food and candy that falls on the floor and most of all, their fingers. It is especially important to wash your child's toys, and to try to keep your child's hands clean, particularly at meal time.

Areas where there are peeling, chipping, or flaking lead paint and dust should be cleaned. Wet sponging and mopping with detergents containing phosphate, like tri-sodium phosphate, are best for this type of cleaning. Windows sills are often a major source of lead exposure. They should be periodically cleaned if paint dust or flakes collect there. If they are in poor condition, the best thing to do may be to keep the lower sash closed and open only the upper sash for ventilation. Contact paper may be applied to areas of peeling paint on window sills, walls, or other surfaces as a temporary measure. We do not recommend that you use your vacuum cleaner to clean up paint chips because it will disperse fine particulate into the air. Sometimes furniture can be moved to form a child-protective barrier to cover deteriorating paint or plaster. If deteriorating paint or plaster is in the child's bedroom, use another room as the child's room, if possible. Think of those parts of the home where your child spend most of his or her time, and try to keep them as clean as you can before deleading.

Lead paint can contaminate soil. If the exterior surfaces of your home have chipping, peeling or flaking lead paint, do not allow your child to play in the soil around the house and be careful not to track soil from these areas into the house. Follow the advice of your code enforcement inspector about soil on your property.



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Childhood Lead Poisoning Prevention Program

305 South Street, Jamaica Plain, 02130

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NOTICE TO TENANTS OF LEAD PAINT HAZARDS

Dangerous levels of lead in violation of the Lead Law (M.G.L. C. 111, ss. 190-199A) and the Regulations for Lead Poisoning Prevention and Control (105 CMR 460.000) have been found in apartment no. _____, in this building. Children exposed to lead paint hazards are at risk of contracting lead poisoning. This disease affects the normal behavioral and intellectual development of children, especially children under the age of 6 years.

If you have children under six years of age, it is important that they be screened for lead poisoning on a periodic basis. If your child has not been screened recently, you should request your child's doctor or health care provider to perform the screening. Screening is the only way lead poisoning can be detected.

Since lead paint has been found in a unit in this building, it is quite possible that your unit may have lead paint too. If you have children under six years of age, you are advised to speak to your landlord about having your apartment inspected for lead paint. You can call your local board of health for a lead inspection, or call 1-800-532-9571 for further advice. It is against Massachusetts law for landlords to discriminate against tenants because of lead paint hazards in their apartment, or to threaten or take reprisals against tenants.

You will receive a notice five days in advance of the date on which deleading will begin in the unit stated above. While the deleading is being conducted, keep your children out of the areas being worked on. Common hallways, staircases and porches may be deleaded. Use an alternative staircase during this process. If your unit is on the same floor on which deleading work is being done, be sure that your doorway is temporarily sealed with masking tape or similar material so that fine lead dust cannot be blown in, around or under the door. If you do not have an alternative means of exit from your apartment, speak to your landlord or the deleading contractor, to coordinate the work. Check window sills and doorways for visible dust after deleading. Lead dust can be cleaned-up with a high phosphate detergent, like tri-sodium phosphate. If you notice lead dust from deleading in your apartment, notify the deleading contractor.

Properly conducted, deleading work should not result in lead dust contamination of your building. If lead paint dust or paint debris is not properly cleaned up at the end of the workday, or if work areas are not properly contained to prevent dust and debris from being dispersed, notify your landlord or call the Department of Labor and Industries at the numbers on the reverse side of this notice.



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Childhood Lead Poisoning Prevention Program

305 South Street, Jamaica Plain, 02130

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NOTICE TO OWNER AND TENANTS' RIGHTS AND REMEDIES

Address of Residential Premises/Dwelling Unit: _____

_____ Date of Inspection _____

VIOLATION

It has been determined that the residential premises or dwelling unit and common areas at the above address contain dangerous levels of lead in paint or other coating in violation of M.G.L. C. 111, ss. 196 and 197 and 105 CMR 460.000, Regulations for Lead Poisoning Prevention and Control. The specific residential surfaces in violation are listed on the accompanying Lead Inspection Report form. The owner of the residential premises is required by M.G.L. C. 111, s. 197 to abate these violations whenever a child under 6 years of age resides on the property or in special cases when directed by local or state authorities.

This violation endangers or materially impairs the health, safety or well-being of persons occupying the premises. The violation was not caused by the occupants of the premises nor by any person(s) acting under the control of the occupants.

TENANTS' RIGHTS AND REMEDIES

The presence of the above violation entitles the occupants of the premises to the following statutory rights and remedies. These remedies are somewhat complex and occupants are advised to obtain legal assistance and/or legal advice before using any of them.

- (1) Alternative Housing M.G.L. C. 111, s. 197 and 105 CMR 460.160(A) require that a dwelling unit or residential premises shall not be occupied while lead abatement is being conducted. The residential premises or dwelling unit cannot be reoccupied until lead abatement is completed, it is cleaned up according to procedures specified in 105 CMR 460.160(D), and it meets the conditions of a reoccupancy reinspection specified in 105 CMR 460.760(A). It is the responsibility of the landlord and tenant to work out an acceptable plan for alternative housing and any costs associated with alternative housing and/or rent abatement. Tenants under lease and tenants at will have legal rights applicable to this circumstance and are advised to seek legal assistance in those circumstances in which a satisfactory arrangement cannot be reached.
- (2) Protection from retaliatory rent increases or eviction. The landlord may not increase rent or evict occupants in reprisal for their having reported a violation or suspected violation of the Lead Law. Landlords who threaten or take reprisals against a tenant for exercising his/her rights under M.G.L. C. 111, ss. 190-199A are liable for damages under M.G.L. C. 186, s. 18 and M.G.L. C. 93A.
- (3) Rent withholding. (M.G.L. C. 239, s. 8A) After the landlord has been notified of the lead paint violations, the occupants may withhold rent as long as lead paint violations remain uncorrected, provided that they are up to date in rent when they start rent with-

holding. To fully protect themselves against attempted evictions, occupants may need to place withheld monies in an escrow (separated savings) account. If these conditions are met, occupants may not be evicted for non-payment of rent or for any other cause which is not the fault of the occupants. However, as soon as the violation is certified as having been corrected, all withheld monies may have to be paid to the owner.

- (4) Rights to repair and deduct. (M.G.L. C. 111, s. 127L) If the owner fails to begin or contract with a certified or licensed deleading contractor for the necessary repairs within five days after notification, the occupants may use up to four months' rent, otherwise due to the owner to contract with a certified or licensed deleading contractor to correct the violations. Before using this remedy, occupants must find out from the inspector the date on which the owner was notified of the violation.
- (5) "Rent receivership". M.G.L. C. 111, ss. 127C to 127J) The occupants and/or the Childhood Lead Poisoning Prevention Program may petition the court to allow rent to be paid into court rather than to the owner, provided that the occupant is up to date in rent. The court may then appoint a "receiver" who may spend as much of the rent money as is needed to correct the violation.
- (6) Abatement of rent may be awarded through a court action under decisions of the Massachusetts Supreme Judicial Court case, Boston Housing Authority vs. Hemingway, 293 NE2d 831, 363 Mass. 184 (1973). In such an action, the court determines the value of the premises with violations and reduces the amount of rent due.
- (7) Landlord liability - compensatory and punitive damages. Pursuant to M.G.L. C. 111, s. 199, the owner of any residential premises is financially liable for all damages associated with a case of childhood lead poisoning arising from his/her failure to abate lead paint, plaster or other lead hazards when a child under six years of age will reside or resides in the premises. The owner of any dwelling unit or residential premises, who is notified of a dangerous level of lead in paint, plaster or other material present upon his or her premises, and who does not satisfactorily correct or remove the dangerous conditions, shall in addition to actual damages, be subject to punitive damages, which are three times the actual damages found.

REPAINTING

Violations of the Lead Law constitute violations of the State Sanitary Code. Although repainting of surfaces from which lead paint or other coatings have been removed is not required for compliance with the Regulations for Lead Poisoning Prevention and Control, repainting of such surfaces is required under the State Sanitary Code, 105 CMR 410.021. It is important that deleaded surfaces be sealed and can be easily cleaned.

Repainting of deleaded surfaces on the interior of the dwelling unit and interior common areas must be completed within sixty days of receipt of the Order to Correct Violations. Exterior surfaces must be repainted within ninety days of receipt of the Order.

This requirement does not apply to surfaces where lead paint has been covered or a new fixture or surface installed to replace a leaded one.

Tenants are advised to call their local board of health if the required repainting is not completed as stipulated above.



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305 South Street, Jamaica Plain, 02130

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CHILDHOOD LEAD POISONING PREVENTION REPORT

The information contained in this report concerning the presence of lead paint does not constitute a comprehensive lead paint inspection. The surfaces tested represent only a portion of those surfaces which would be tested to determine whether the premises are in compliance with the Massachusetts Lead Poisoning Prevention Law (Massachusetts General Laws, chapter 111, sections 190-199A.)

8

Serious lead poisoning hazards are created when materials containing lead paint are disturbed, unless proper safety guidelines are followed. Therefore, Massachusetts law requires that:

Any deleading work done on the premises must be done by a licensed deleader. Letters of Compliance will be withheld if unauthorized deleading has occurred.

Any renovating or rehabilitation of premises containing dangerous levels of lead paint must be done in compliance with the procedures set forth in the regulations issued by the Department of Labor and Industries (434 CMR 22.11), including sealing off the work area from adjacent areas, and using a HEPA vacuum and TSP for final clean-up.

Any deleading work done on the basis of this report will not qualify the owner or occupant for a state tax credit, nor will the cost of such deleading be reimbursable under any state loan or grant programs. In order to qualify for such programs, the premises must first be subject to a comprehensive lead paint inspection.

If a child under six resides in this dwelling, the owner may face criminal or civil liabilities unless all lead paint violations have been corrected. This lead report cannot assure that the property owner has met his or her obligations under the law.

It is unlawful for rental property owners to use the presence of lead as the basis for discrimination against tenants or potential tenants with young children.



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The Commonwealth of Massachusetts

Executive Office of Health and Human Services

Department of Public Health

State Laboratory Institute

305 South Street, Boston, MA 02130-3697

617-622-8700, Fax 617-622-8785

• Childhood Lead
Poisoning
Prevention Program
800-532-9571

ORDER TO CORRECT VIOLATION(S)

Owner or agent of the property located at _____:

Be advised that an agent of the Director of the Childhood Lead Poisoning Prevention Program has determined certain portions of the aforementioned residential property to be in violation of Massachusetts General Laws, Chapter 111, section 197 and the Regulations for Lead Poisoning Prevention and Control, 105 CMR 460.000, and in violation of the State Sanitary Code. The specific areas in violation are detailed in the accompanying "Lead Inspection Report."

Conditions exist in this residence which may endanger and/or materially impair the health of the occupants of these premises.

DECLARATION OF EMERGENCY

The Director of the Childhood Lead Poisoning Prevention Program declares that the presence of the aforementioned violation(s) has poisoned or presents an immediate danger of lead poisoning to one or more occupants of the premises and that this constitutes an emergency pursuant to Massachusetts General Laws (MGL), Chapter 111, section 198, within the meaning of the Sanitary Code, Chapter 1, Section 400.200(B).

ABATEMENT OF LEAD VIOLATION(S)

M.G.L. C.111, ss.190-199A and the Department of Labor and Industries Deleading Regulations, 454 CMR 22.00, as well as the Regulations for Lead Poisoning Prevention and Control require that only licensed deleading contractors conduct residential lead abatement. This means that you cannot conduct lead abatement yourself or hire anyone other than a licensed deleading contractor.

OTC - P1.LI 7/29/91

ORDER

You are hereby ordered to remedy all said violations within the following applicable deadlines:

(A) If you need to arrange financing to accomplish deleading:

- (1) Within thirty days of your receipt of this Order to Correct Violation(s), you must provide to this agency written documentation of your efforts to secure financing. Examples include but are not limited to a copy of a loan application submitted to a lending institution or a governmental agency which offers home improvement and/or deleading loans. The documentation need not include those portions of a loan application which disclose personal financial data. The need for financial assistance does not relieve you of the obligation to obey this Order.
- (2) Within sixty days of your receipt of this order, you must provide to this agency a copy of a signed and dated contract with a licensed deleader. The contract must specify that the deleading will be completed according to the following schedule:
 - (a) Violations of the interior of the dwelling unit and interior common areas must be abated within ninety days of your receipt of this Order. However, if windows are to be replaced and new windows have been ordered within ninety days of receipt of this Order, you shall have a total of one hundred and twenty days from receipt of this Order to install the new windows.
 - (b) Violations on the exterior of the residential premises and exterior common areas must be abated within one hundred and twenty days from your receipt of this Order.

OR:

(B) If you do not need to arrange financing to accomplish deleading:

- (1) Within thirty days of your receipt of this Order to Correct Violation(s) you must provide to this agency a copy of a signed and dated contract with a licensed deleader. The contract shall specify that the deleading will be completed according to the following schedule:
 - (a) Violations of the interior of the dwelling unit and interior common areas must be abated within sixty days of your receipt of this Order. However, if windows are to be replaced and new windows have been ordered within sixty days of receipt of this Order, you shall have a total of ninety days of receipt of this Order to install the new windows.

- (b) Violations on the exterior of the residential premises and exterior common areas must be abated within ninety days from your receipt of this Order.

PROSECUTION AND CIVIL PUNITIVE DAMAGES

Failure to comply with any of the deadlines stipulated above will require this agency to initiate criminal or civil proceedings against you within three working days. Compliance with this Order will be determined by the receipt of the appropriate documentation (including copies of loan applications, deleading contract, etc.) in this agency's office by the specified deadlines and/or by on-site reinspection. The law provides penalties of up to \$500 for each day of non-compliance. In addition, you may become liable for civil punitive damages equal to three times any actual damages for failure to comply with this Order.

CORRECTION OF VIOLATION BY CODE ENFORCEMENT AGENCY

If the dangerous levels of lead are not abated within the time periods stipulated above, this agency may contract with a licensed deleader to correct the violation and bill the owner, or initiate court action to reimburse itself.

Inspector

Brad Preney

Director
Childhood Lead Poisoning
Prevention Program
Massachusetts Department of
Public Health

OTC - P1.LI 7/29/91



William F. Weld
Governor
David P. Forsberg
Secretary
David H. Mulligan
Commissioner

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
State Laboratory Institute

305 South Street, Boston, MA 02130-3597

617-522-3700, Fax 617-522-8735

- Childhood Lead
Poisoning
Prevention Program
800-532-9571

Dear _____:

I have inspected the property at _____ in
_____ owned by you, and I have found lead paint in violation
of Massachusetts General Laws, Chapter 111.

Massachusetts Lead Poisoning Prevention Regulations require that you provide to me, within thirty days of your receipt of this letter, a written contract with a licensed deleader to abate the violations cited on the enclosed inspection report or documentation of your efforts to secure financing. The contract must be signed by the contractor and by you; it must specify that all violations on the interior and interior common areas will be deleaded within sixty days from today, and that all exterior violations and/or any window replacement will be complete within ninety days from today. If I do not receive the required documents by the 31st day, I must by law file a criminal complaint against you in court. You may be fined by the court up to \$500 each day, for each day of non-compliance.

Effective January 1, 1990, only contractors licensed by the Department of Labor and Industries (DLI) may engage in the removal, covering or replacement of known lead hazards. Neither you nor the occupants of this unit nor anyone in your employ may remove or cover any lead paint cited in the enclosed report unless that person is a licensed deleading contractor.

The contractor must provide written notification to DLI, all residential occupants, the local board of health and us, at least five days before any deleading work begins. It is your responsibility, as the owner of the premises, to make sure that the contractor sends the completed forms to all parties (blank form enclosed).

All occupants and pets must be out of the dwelling for the entire time that the interior deleading work is in progress. They may not return until I approve reoccupancy by conducting an on-site reinspection of the unit; this will be done at least twenty four hours after the final deleading clean-up. Deleaded surfaces are not to be repainted until I perform the reinspection.

All work is to be done in a workman-like manner, and the dwelling must be returned to a condition that meets the requirements of Chapter II of the State Sanitary Code. Scraped surfaces must be feathered, made smooth and repainted (Repaint only after my reinspection). Deleaded windows and doors must have all panes of glass intact and must be weathertight.

You are required to provide written notice of the presence of lead paint to all occupants of the building. "Notice to Tenants of Lead Paint Hazards" is enclosed for that purpose.

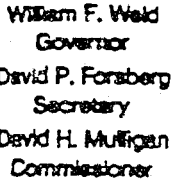
You are also required to send a copy of the inspection report to all mortgagees and lienholders of record.

Questions regarding DLI regulations should be addressed to the DLI Central (617-727-3453) or regional offices. Questions regarding DPH regulations should be addressed to the CLPPP Central Office (800-532-9571) or to me.

I urge you to contact me as soon as possible to discuss your responsibilities in this case, the violations included in the report and the material enclosed. You may reach me by calling ()

Sincerely,

Inspector
MDPH/CLPPP



Executive Office of Health and Human Services

State Laboratory Institute

617-522-3700, Fax 617-522-8735

- **Childhood Lead Poisoning Prevention Program**
800-532-0571

Date of Determination: _____
Inspector: _____
License #: _____
Method Used: _____ Sodium Sulfide Expiration date: _____
 _____ X-Ray Fluorescence Model: _____
 Serial #: _____

Description of Property:

_____ Single family

_____ Multi-family # units _____

_____ Garage

_____ Fence

_____ Other structures _____

Age of Property:

_____ Pre-1978

_____ Post-1978

Occupant: _____
 Occupants under six years of age: _____
 _____ DOB: _____
 _____ DOB: _____
 _____ DOB: _____
 _____ DOB: _____

Any removal, replacement, or covering of lead paint as a result of this report or subsequent inspection must be performed only by a deleading contractor licensed by the Department of Labor and Industries.

	LOCATION	SOURCE	Pb
1.	Child's bedroom	Window parting bead/exterior sill area	
2.	Child's bedroom	Window sill	
3.	Living room	Window parting bead/exterior sill area	
4.	Kitchen	Window parting bead/exterior sill area	
5.	Interior	Flaking paint	
6.	Exterior	Flaking paint	
7.	Exterior	Cellar window units	
8.	Exterior	Window sills below 5'	
9.	Exterior	Main entry door or door casing	
10.	Interior	Outside corner of baseboard	
11.	Kitchen or Bathroom	Chair rail	
12.	Bathroom	Window sill	
13.	Exterior	Threshold	
14.	Interior hallway (common area)	Stair tread or stringer	
15.	Interior hallway (common area)	Balusters	
16.	Interior hallway (common area)	Door casing	
17.	Porch	Stair tread or riser	
18.	Porch	Railing cap	
19.	Porch	Balusters	
20.	Porch	Support columns ($<6"$ diameter or square)	
21.	Porch	Staircase stringer	
22.	Exterior	Bulkhead	
23.	Garage/Outbuilding	Door casing or jamb	

24.	Interior	Closet door or baseboard (uncapped)	
25.	Interior	Cabinet door, shelf, or wall	
26.			
27.			
28.			
29.			
30.			

Office copy

DIAGRAM 8

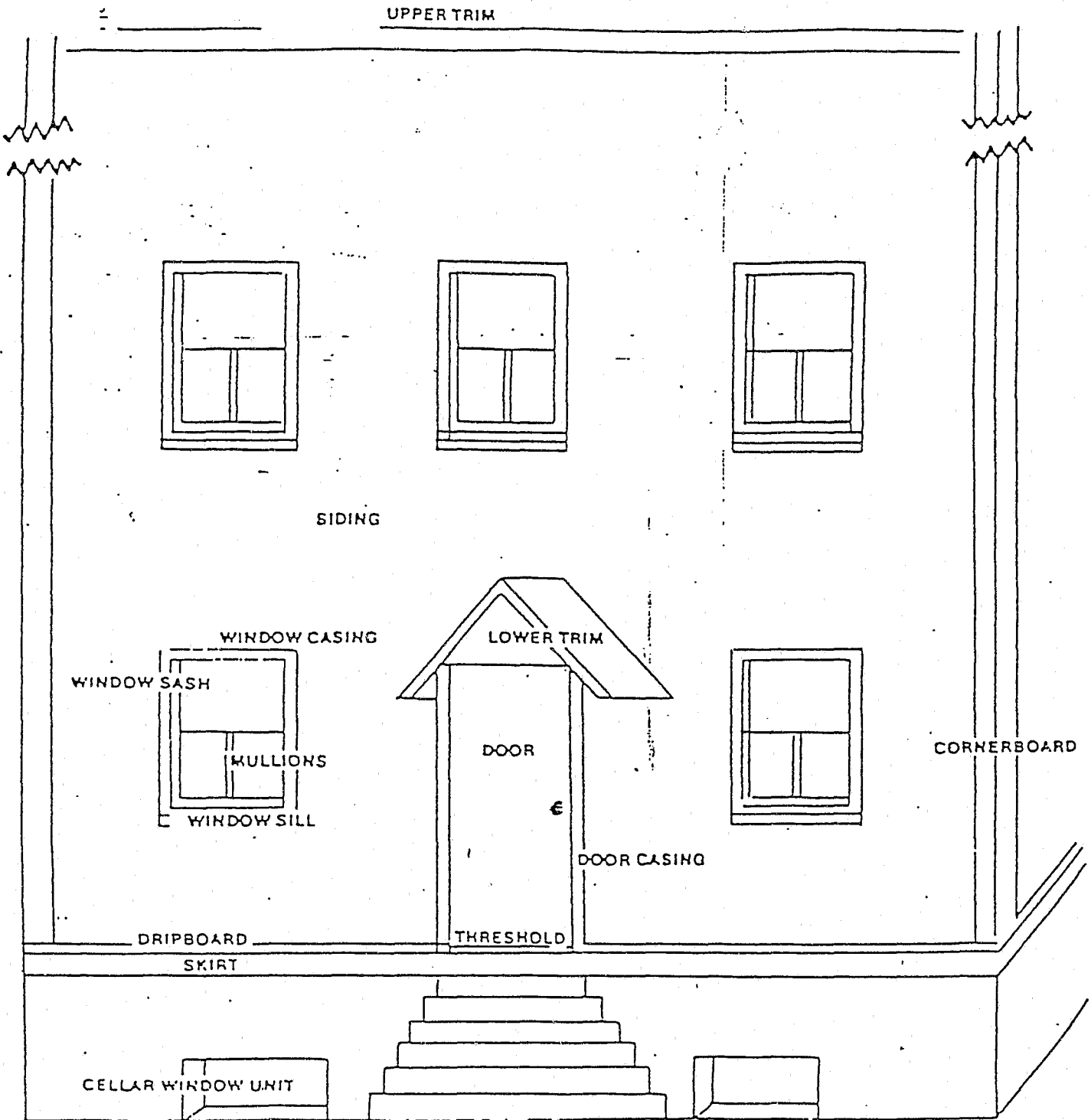


DIAGRAM 7

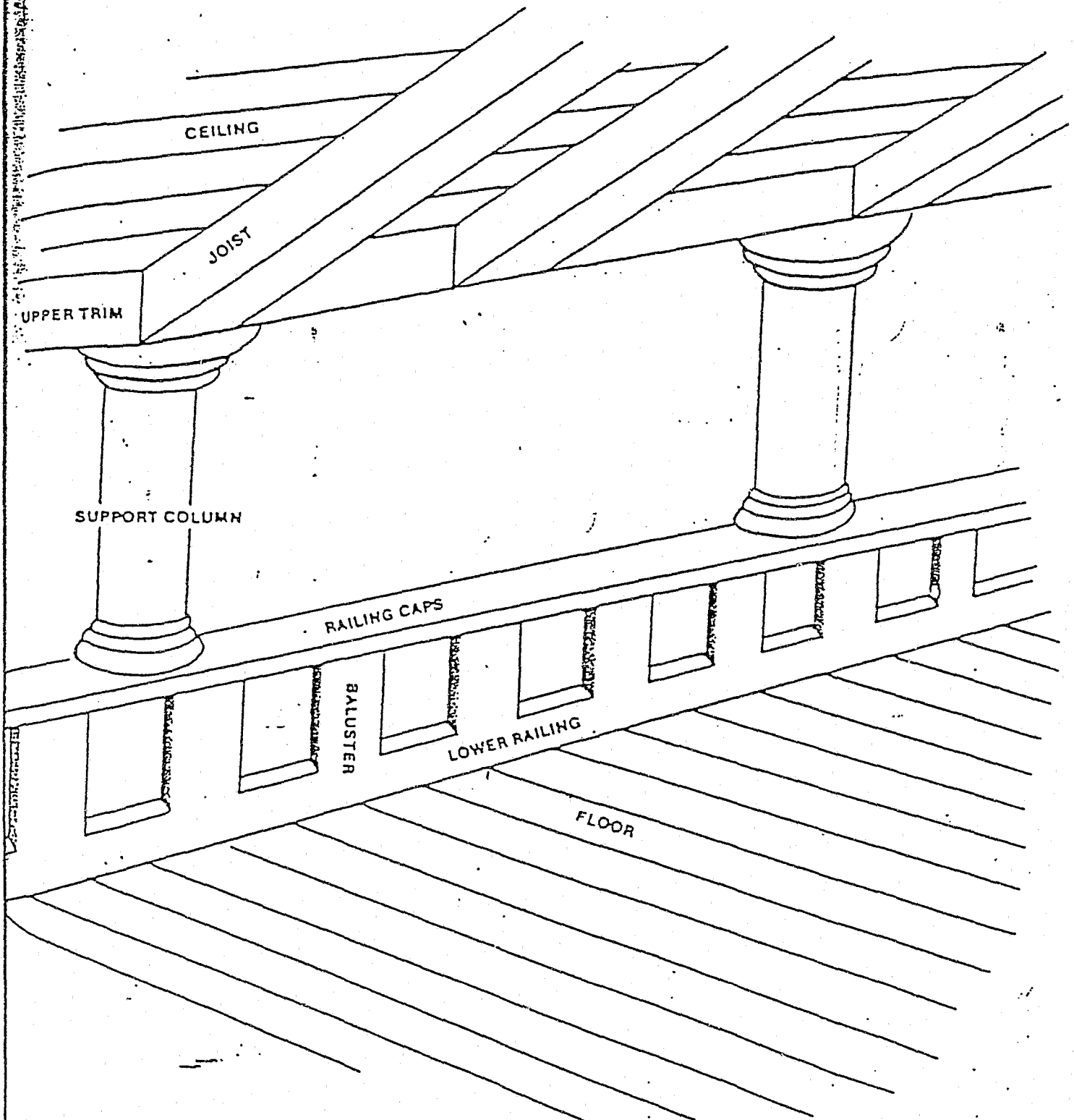


DIAGRAM 6

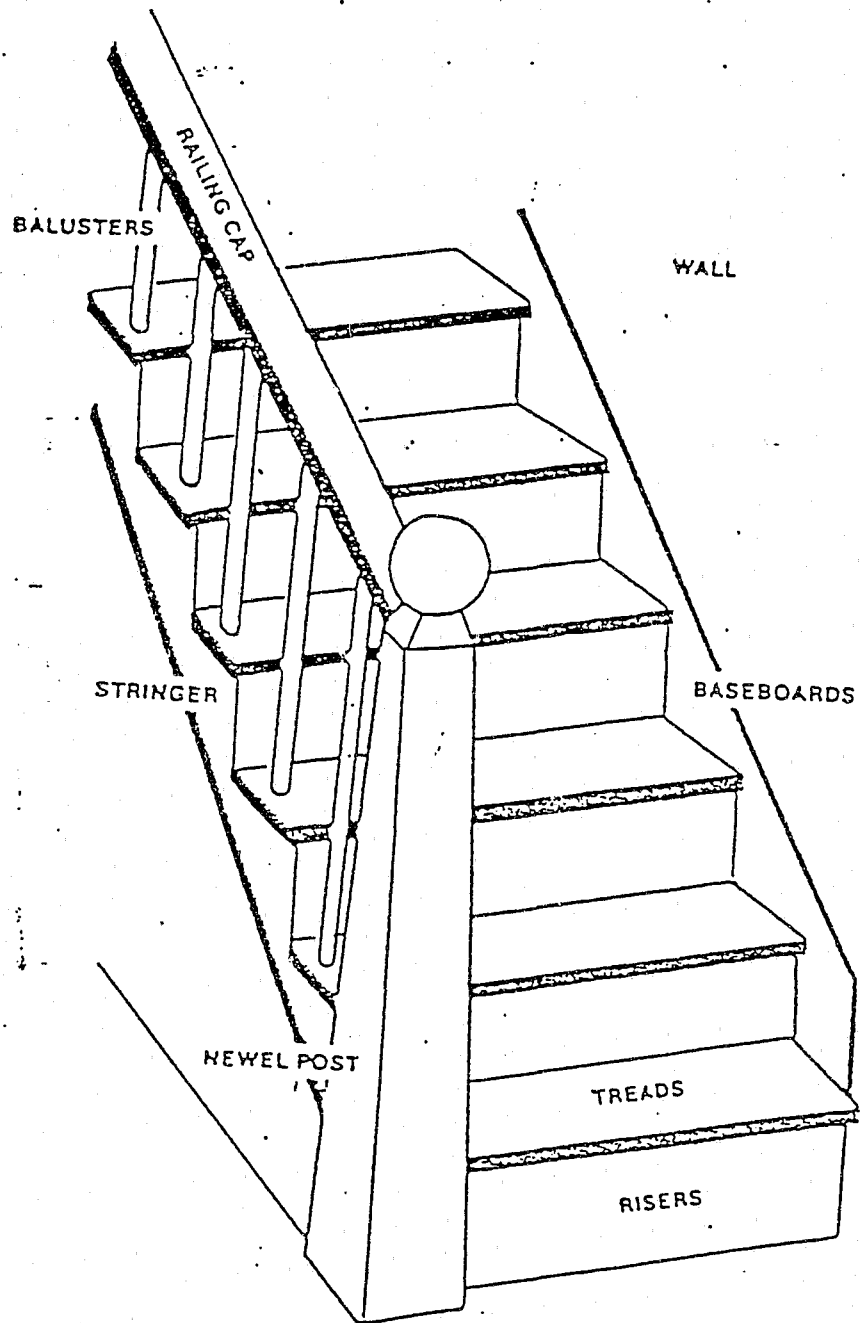
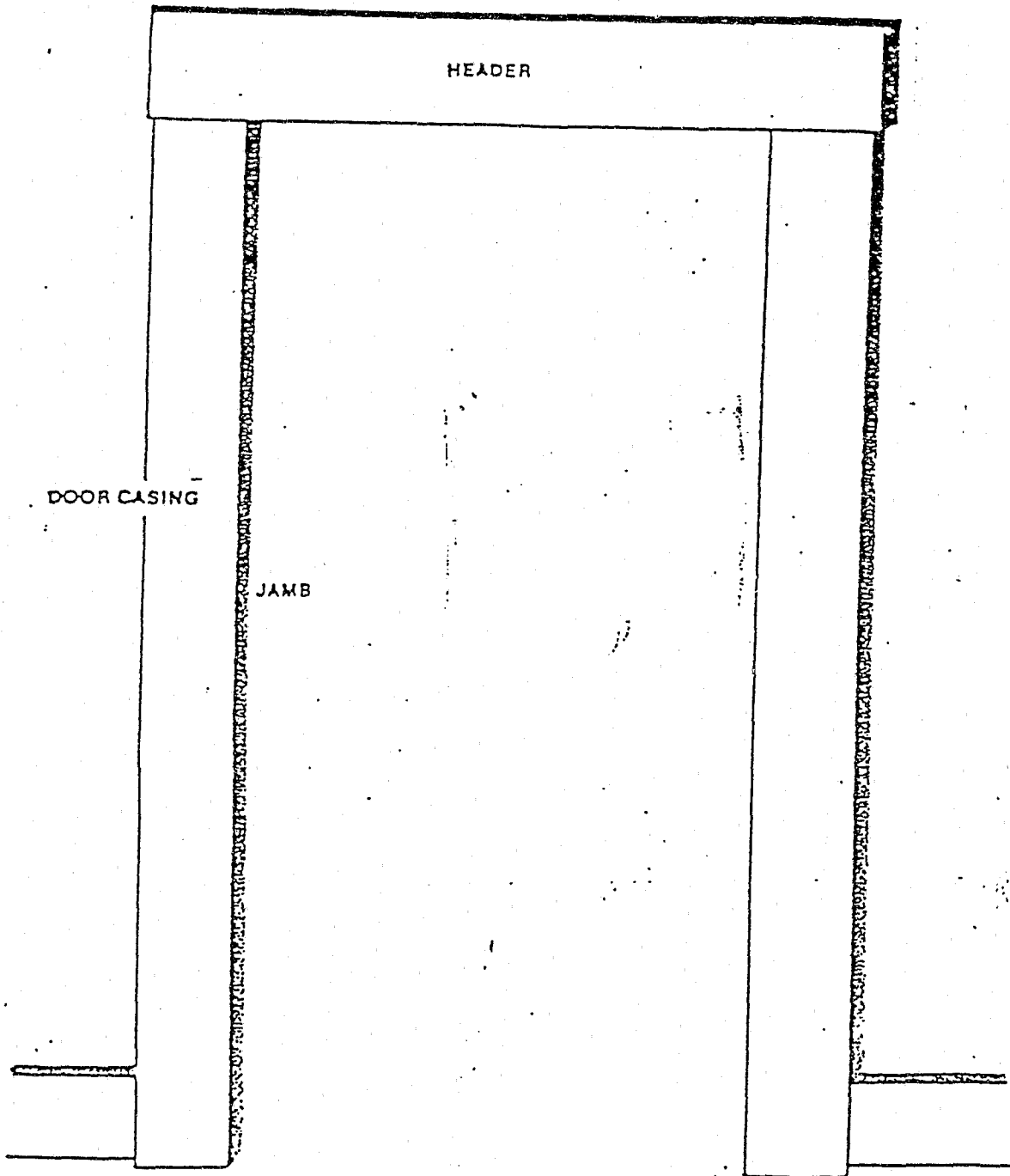
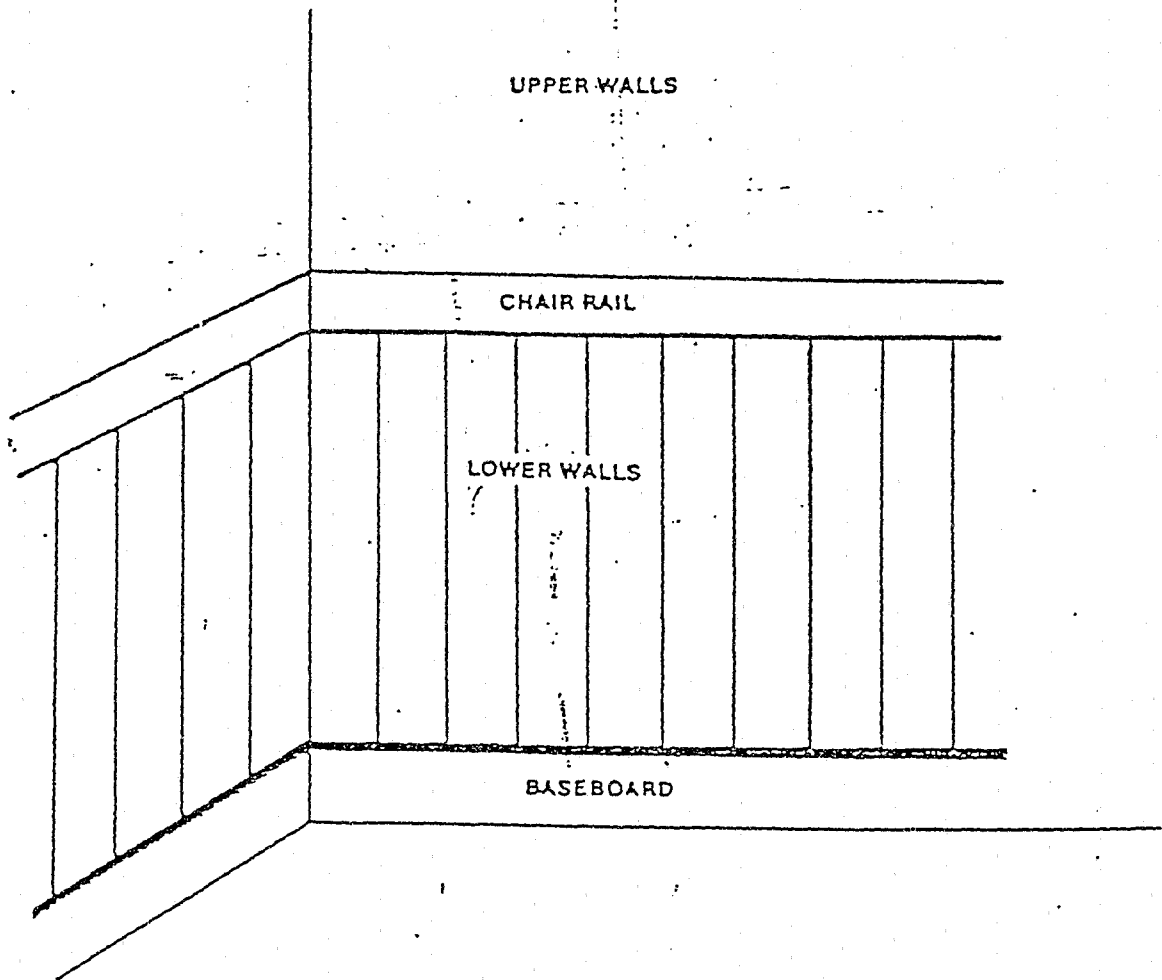


DIAGRAM 5



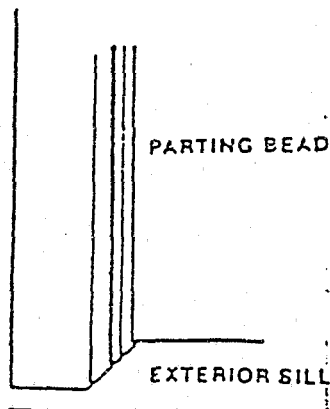
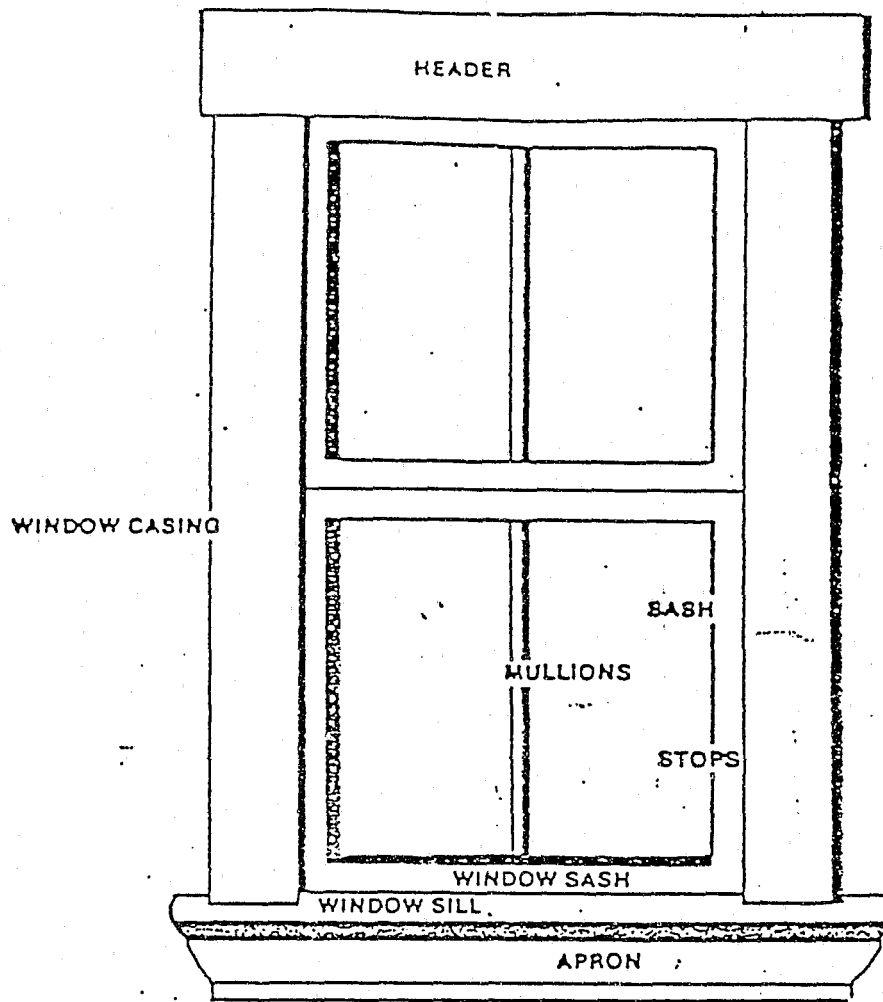
4. ✓

DIAGRAM 4



5.1

DIAGRAM 3



C.V.

DIAGRAM 1.

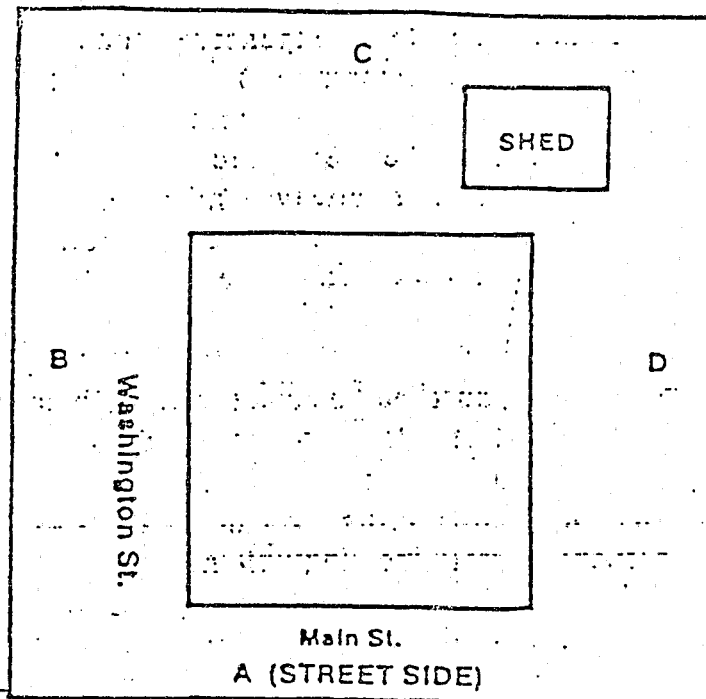
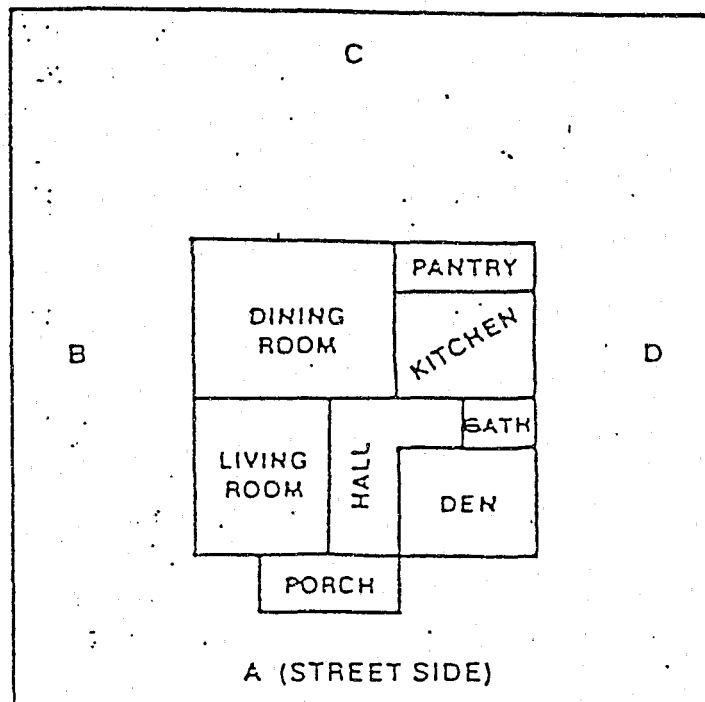


DIAGRAM 2.





The Commonwealth of Massachusetts

Department of Labor and Industries

Division of Industrial Safety

246 North St., 4th Floor, Pittsfield, Mass. 01201

INFORMATIONAL BULLETIN

CHECKLIST FOR SELECTING A DELEADER-CONTRACTOR

Once a determination is made to delead your property, how do you determine whether a deleader-contractor is qualified to safely perform the task? While there are many well-qualified, experienced, and conscientious contractors performing this important and potentially hazardous work, there are, unfortunately, contractors who are neither experienced nor capable of safely removing lead from buildings.

At a minimum, prospective contractors must be licensed by the Department of Labor and Industries. This license ensures that the contractor has attended an approved deleading training course and is routinely monitored by Department of Labor and Industries inspectors on safe work practices. A license alone does not ensure quality work, however. The following checklist is offered as a guideline to consider when selecting a contractor:

1. Contractor should submit a list of references of individuals who can attest to the quality of the contractor's work.
2. Contractor should submit evidence that the job supervisor and workers have attended a deleading training course, as required by Department of Labor and Industries regulations 454 CMR 22.00.
3. Contractor should submit a list of prior deleading contracts, including the names, addresses, and telephone numbers of building owners for whom the projects were performed.
4. Contractor should provide a description of any deleading projects which have been prematurely terminated, including the circumstances surrounding termination.
5. Contractor should provide a list of any contractual penalties which the contractor has paid for breach of contract, such as overruns of completion time or liquidated damages.
6. Contractor should identify any citations levied against him or the property owners by whom he was contracted, for violations related to his deleading work, including the name or location of the project, the date(s), and how the allegations were resolved.
7. Contractor should submit a description of all legal proceedings, lawsuits, or claims which have been filed or levied against the contractor or any of the contractor's past or present employees for deleading related activities.

This checklist should only be used as a guideline to help in the selection of a licensed qualified contractor and by no means should be used as the only selection process of a deleader-contractor.

DEPARTMENT OF PUBLIC HEALTH/DEPARTMENT OF LABOR & INDUSTRIES

NOTIFICATION OF DELEADING WORK

All sections of this form must be completed in order to comply with the notification requirements of M.G.L. C. 111 §197

FILE NUMBER _____

Contractor performing project _____ Certification # _____

Lead Paint Inspector _____ Date of Inspection _____

Address of Project

Building Name (if any) _____ Floor _____

Street Address _____ Apt. No. _____

City _____ Zip _____

Deleading Method: DRY SCRAPING HEAT GUN ENCAPSULATION DEMOLITION
(circle all that apply) POWER SANDING CAUSTICS REPLACEMENT OTHER

If "Other" selected, please explain _____

Check one: dwelling is Multi-family _____ single family _____

Start date _____ Completion Date _____

When will work be done: am _____ pm _____ weekends? _____

Project Supervisor Name _____ Certificate # _____

Property Owner _____

Address _____

City _____ State _____ Zip _____

Telephone _____

In case of emergency contact: _____

Phone: day _____ evening _____

(OVER)

In accordance with Chapter 773 of the Acts of 1987, Massachusetts General Laws C. 111 §197, 454 CMR 22.00 and 105 CMR 460.000, notice of the date and method(s) of removal or covering of paint, plaster soil or other accessible material containing dangerous levels of lead, is to be provided to the following persons at least five days prior to the beginning of deleading.

1. Occupants of the dwelling unit
2. All other occupants of the residential premises, if any
3. Director, Childhood Lead Poisoning Prevention Program
Department of Public Health, 305 South Street, Jamaica Plain, MA 02130
4. Lead Removal Program, Bureau of Technical Services
Department of Labor and Industries, Division of Industrial Safety
100 Cambridge Street, Room 1101, Boston, MA 02202
5. Local Board of Health/Code Enforcement Agency
6. Massachusetts Historical Commission
(if premises is listed on the State Register of Historic Places)

The undersigned hereby states, under the penalties of perjury, that he/she has read and understood the Commonwealth of Massachusetts Deleading Regulations, 454 CMR 22.00, and Lead Poisoning Prevention and Control Regulations, 105 CMR 460.00, and that the information contained in this notification is true and correct to the best of his/her knowledge and belief.

Date _____ Signed: _____
Title: _____
Company: _____

Office Use Only

DATE _____

Violation

No violation

Verbal recommendations

NOTIFICATION NUMBER

LEAD INVESTIGATION REPORT

Inspector(s) _____ Number(s) _____

District _____ Inspection Date/Time _____

Notification	Complaint	Referral	Follow-up	Other

Facility Owner Telephone #

Address of Project(street) (city/town)

Date Start	Date End
------------	----------

Deleader Contractor	License #

[illegible]

Disposal Site	Date
---------------	------

Premises: Private Residence _____ School _____ Public Housing _____
 Rental Property _____ Day Care _____ Other _____

Lead Determination/Inspection (circle one) performed by:

Dangerous level of lead? yes no

Purpose of Deleading:

DPH order : lead poisoning ; pica ; delayed cogn.

Child under 6 (no DPH order) Tax credit Renovation

Other

Type of Abatement:	Interior	Exterior
Asbestos		
Lead		
Radon		
Other		

Method: Enclose Caustic Paste Heat Guns Solvents Scraping

Sanding Replacement Wet-mist blasting Other

Public Contract No.

Worker's Compensation	No.	Exp. Date
-----------------------	-----	-----------

Parties Interviewed:

Name _____

Title

Company/Agency

RECORDKEEPING

- On-site { 1. Contractor's license Y N No. _____
2. Supervisor(s): Name(s) _____
license Y N No. _____
3. Prevailing rates Y N Up-to-date Y N Posted Y N
- Within 5 days { 4. Worker(s): No. _____ Training Certificates Y N
Soc. Sec. #'s _____
5. Medical Records:
a. Written medical statment Y N
b. Blood lead/Zpp level monitoring reports Y N:
Up-to-date Y N ; Acceptable levels Y N
6. Misc. Deleading Records(as per 454 CMR 22.05(3))
a. Notifications Y N
b. Names of deleaders Y N
c. Respirator fit tests Y N
- Opt'l { 7. Job specifications (if written) Y N
8. Air monitoring records Y N who performs?: _____
9. Emergency phone #'s Y N

Comments: _____

WORKER PROTECTION

1. Approved respirators Y N; Type: _____
(minimum protection for caustics/replacement: 1/2 face neg.; all other approved methods: PAPR)
2. Protective clothing (the following must be disposable):
 - a. Full body coveralls Y N ; 2 changes/8 hrs (dust generating) Y N
 - b. Head covering Y N c. Gloves Y N
 - d. Protective eyewear Y N e. Boot or shoe covers Y N
3. Additional protection for caustic de-leading:
 - a. Coveralls and gloves impervious to caustics Y N
 - b. Glove extenders Y N
 - c. Face shield (used when working at or above face level) Y N
4. Other protection: _____

WORK REQUIREMENTS

A. Preparation--INTERIOR

1. Restricted access Y N
2. Entrances 2 layers 6-mil poly Y N
3. Change room--1 layer 6-mil on walls Y N & floors Y N
4. Decontamination of personnel prior to exiting change room Y N
5. Warning signs posted Y N
6. Fire extinguishers Y N
7. Forced air systems shut down Y N ; isolated with 6-mil Y N
8. Moveable objects removed Y N OR covered with 6-mil Y N
9. Non-moveable objects covered with 1 layer 6-mil Y N
10. Floors with 2 layers 6-mil Y N
11. Openings sealed with 6-mil Y N
12. GFCI protection Y N ; Other electrical complying with code Y N

B. Preparation--EXTERIOR

1. Doors and windows with 6-mil poly Y N
2. Plants and ground covered with tarp at least 8 ft. from structure Y N
Tarp attached to structure Y N
3. Special areas--Contaminants properly contained Y N

C. Ventilation

1. HEPA filtration Y N ; in use Y N ; maintained Y N
2. Exhaust air to outside Y N
3. Air ducts free of leaks Y N
4. Pre-filters replaced upon project completion Y N

Comments: _____

WORK PROCEDURES

A. Removal (per 105 CMR 460.00 and 454 CMR 22.08(1)(b))

- | | | |
|---|---|-------------------------|
| 1. Dry scraping alone or with solvent _____ | } | acceptable
methods |
| 2. Hand sanding; wire brushing; <u>OR</u>
machine sanding with HEPA vacuum _____ | | |
| 3. Low level heat gun (temp. <1000°F) _____ | | |
| 4. Dip-tank solvent (off-site) _____ | | |
| 5. Abrasive blasting with wet mist or vacuum _____ | | |
| 6. Torch or flame burning _____ | } | unacceptable
methods |
| 7. Dry abrasive blasting _____ | | |
| 8. KOH or NaOH solutions or methylene chloride _____ | | |
| 9. Machine sanding (no HEPA) _____ | | |
| 10. Other _____ | | |

B. Clean-up

- a. Area cleaned of all visible debris Y N
(1). HEPA vacuuming Y N No. _____
(2). Disposal of all plastic sheeting & debris Y N
(3). Surfaces washed with tri-sodium phosphate Y N
- b. Equipment HEPA vacuumed; OR
cleaned with tri-sodium phosphate Y N
- c. Clothing bagged prior to removal from work site Y N

C. Disposal

- a. Dry contaminated materials double-bagged in 6-mil poly Y N
- b. Wet materials meet EPA & DEQE reg's Y N
- c. Lead contaminated soil wetted prior to disposal Y N

Comments: _____

WRITTEN ORDERS: _____

Date _____

VERBAL RECOMM: _____

Date _____

CEASE & DESIST _____

e _____



COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF LABOR AND INDUSTRIES

WARNING!

DO NOT ENTER-LEAD PAINT HAZARD

This site has been closed by a cease-work order of the Commissioner of Labor and Industries for violation of Massachusetts lead paint laws and regulations.

In accordance with the provisions of M.G.L., Chapter 111, Sections 190-199 and 454 CMR 22.09, the Commissioner hereby gives notice and has ordered and directed that the following areas of these premises ARE CLOSED.

WORK SITE AREAS CLOSED:

No person shall enter the areas described above unless authorized access by the Commissioner.

CEASE-WORK ORDER issued on: _____

TO: _____

for the following violations of 454 CMR 22.00:

VIOLATIONS: _____

The work site area shall remain closed until the following conditions are met: _____

THIS NOTICE SHALL REMAIN POSTED UNTIL THE CEASE-WORK ORDER BY THE COMMISSIONER IS RESCINDED.

COMMISSIONER
DEPARTMENT OF LABOR AND INDUSTRIES



Commonwealth of Massachusetts

RECOMMENDED SAFE PRACTICES BULLETIN METHYLENE CHLORIDE

Synonyms: dichloromethane, methylene
bichloride, methane dichloride
C.A.S. Number: 75-09-2

Chemical Formula: CH_2Cl_2
Date Completed: 6/89

HAZARD SUMMARY

- Methylene chloride is a potential carcinogen and should be handled with extreme caution.
- Exposure to methylene chloride can cause irritation of the eyes, nose, throat and lungs. Severe lung irritation can lead to build-up of fluid in the lungs (pulmonary edema) which can cause death.
- Methylene chloride can cause dizziness, headaches and unconsciousness. Exposure to high concentrations can cause death.
- Phosgene, a highly toxic gas, may be formed when methylene chloride comes in contact with an open flame or hot metal.

GENERAL DESCRIPTION

Methylene chloride is a colorless, volatile liquid with a pleasant odor like that of ether. It is used as a solvent in paint removers, cleaners, and strippers, as an intermediate in the manufacture of chemicals, and in food processing, such as the decaffeination of coffee.

HEALTH HAZARD INFORMATION

Exposure to methylene chloride may occur by inhalation, ingestion, skin contact and eye contact.

Department of Labor and Industries - Division of Occupational Hygiene
1001 Watertown Street, West Newton, MA 02165

Table of Contents

p2. Acute Health Effects
p2. Chronic Health Effects
p3. Emergency Information
p4. Protective Measures
p5. Storage and Reactivity
Information
p5. Physical and Chemical
Data
p6. Definitions

ACUTE (short-term) HEALTH EFFECTS

Inhalation: Methylene chloride is irritating to the respiratory tract (nose, throat and lungs). It can also cause central nervous system depression, including drowsiness, dizziness, and lightheadedness. Significantly higher levels of exposure can cause loss of consciousness and death. Methylene chloride is changed to carbon monoxide in the body, and consequently can cause fatigue, shortness of breath, and heart pain.

Ingestion: The ingestion of methylene chloride can cause the same symptoms described for inhalation exposure.

Eve contact: Methylene chloride can cause pain and irritation of the eyes.

Skin contact: Methylene chloride can cause mild-to-severe irritation of the skin and burns. There is also slight absorption through the skin.

CHRONIC (long-term) HEALTH EFFECTS

Long-term exposure to methylene chloride may result in lung irritation and bronchitis, with cough and/or shortness of breath. The liver may also be damaged by long-term exposure. Memory loss, poor coordination and reduced ability to think may also result from damage to the brain. Repeated skin contact can cause thickening and cracking of the skin.

Cancer Hazard: Methylene chloride has been shown to cause cancer in rats and mice, but there is little information on the relationship between methylene chloride exposure and cancer in humans. It is classified as a potential occupational carcinogen.

Reproductive Hazard: In some studies, methylene chloride given to pregnant rodents has caused skeletal abnormalities and behavioral changes in the offspring. Methylene chloride may cause mutations.

Methylene chloride can convert to carbon monoxide in humans. Carbon monoxide can cause reduced fetal growth, and at high levels it may cause brain damage and fetal death.

Information on the reproductive effects of methylene chloride in humans is very limited. It may affect men's sperm. It crosses the placenta; and it passes into breast milk.

SPECIAL CONSIDERATIONS

Since methylene chloride is changed in the body to carbon monoxide, exposure to both carbon monoxide and methylene chloride will increase the possibility of carbon monoxide poisoning. Methylene chloride can form phosgene gas when it comes in contact with an open flame or hot metal. Phosgene gas can cause severe lung irritation and death.

CONDITIONS THAT MAY BE AGGRAVATED BY EXPOSURE

Lung, liver and coronary artery disease, anemia and angina may be aggravated by exposure.

OCCUPATIONAL EXPOSURE LIMITS

Most OSHA exposure limits are based on recommendations made by the ACGIH. Other recommendations, made by NIOSH, may be more protective of human health. Many chemicals have not been studied for long-term effects. Because of individual susceptibility, a small percentage of workers exposed to this substance at or below any of the recommended limits may experience some ill effects.

OSHA: The legal airborne exposure limit is 500 ppm, averaged over an 8-hour workshift. An exposure of 1000 ppm should not be exceeded at any time, with the exception that a peak exposure of 2000 ppm for a period of 5-minutes is allowed in any 2-hour period. OSHA is considering changes in these limits.

ACGIH: The recommended airborne exposure limit is 50 ppm, averaged over an 8-hour workshift. An exposure of 100 ppm should not be exceeded during any 15-minute period.

NIOSH: The recommended airborne exposure limit is the lowest feasible concentration.

MEDICAL MONITORING

Pre-employment physicals should be performed. Lung, liver, and kidney function should be tested, and a complete blood count and carboxyhemoglobin level should be obtained. This exam should be repeated annually. If a person is acutely exposed, a carboxyhemoglobin, as well as liver and renal function tests, should be performed.

EMERGENCY INFORMATION

FIRST AID

Inhalation: Move patient to fresh air. If patient is not breathing, begin artificial respiration. Get immediate medical attention.

Ingestion: Induce vomiting with ipecac syrup unless the patient is not awake. Get medical attention.

Skin contact: Remove contaminated clothing and shoes immediately. Wash affected areas with soap or mild detergent and large amounts of water until no evidence of the chemical remains (approximately 15-20 minutes).

Eve contact: Irrigate eyes with large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention if irritation persists or if vision is impaired.

FIRE AND EXPLOSION

NEPA Rating

Flammability: 1

Reactivity: 0

Health: 2

Flash Point: NA

Extinguishing Media: dry chemical or
carbon dioxide; water spray or foam for
larger fires

Flammable Limits: lower: 12%; upper: 19%

Respiratory Protection: For firefighting, a self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive-pressure mode should be used. The protection must meet the OSHA Standard 29 CFR 1910.156.

Protective equipment: Protective equipment for fire fighting must meet the OSHA standard 29 CFR 1910.156.

Special Precautions: The poisonous gases phosgene and hydrogen chloride are generated when methylene chloride burns in air. Respiratory protection must be appropriate for these substances.

SPILL, LEAK AND DISPOSAL PROCEDURES

All ignition sources should be shut off, and the area of the spill or leak should be ventilated. Persons not wearing protective equipment should be kept away.

Small Spills: The methylene chloride should be taken up with sand, vermiculite or dry earth, and deposited in sealed containers.

Large Spills: A dike should be erected far ahead of the spill before absorbing and disposal.

EMERGENCY INFORMATION SOURCES

CHEMTREC: (800) 424-9300

Poison Information Center: (800) 682-9211; 232-2120 (Boston area only)

PROTECTIVE MEASURES

ENGINEERING CONTROLS

Engineering controls are almost always the best way to control employee exposure to hazardous chemicals. Engineering controls may include local exhaust ventilation, enclosure of the process, general dilution ventilation and others. However, for some jobs (such as outside work, confined space entry, non-routine maintenance, emergencies, and jobs done while workplace controls are being installed), personal protective equipment may be appropriate.

RESPIRATORY PROTECTION

Only respirators that have been approved by NIOSH or MSHA for exposure to methylene chloride should be used. Such equipment should only be used if the employer has a written program that takes into account air concentrations of the contaminant, and includes respirator fit testing, regular training, maintenance, inspection, cleaning, and evaluation. Improper use of respirators can be dangerous.

Any of the following forms of respiratory protection may be used for methylene chloride at any detectable concentration:

Self-contained breathing apparatus with full facepiece, operated in pressure-demand or other positive-pressure mode;

Supplied-air respirator with full facepiece, operated in pressure-demand or other positive-pressure mode, in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Either of the following may be used for escape:

Any air-purifying full-facepiece respirator (gas mask) with organic vapor canister;

Any appropriate escape-type self-contained breathing apparatus.

PROTECTIVE EQUIPMENT

Eye Protection: Splash-proof safety goggles must be worn to prevent eye contact with methylene chloride.

Clothing: Appropriate impervious clothing (such as polyvinyl chloride or viton) must be worn to prevent repeated or prolonged skin contact.

STORAGE AND REACTIVITY INFORMATION

REACTIVITY

Although methylene chloride is stable at ordinary temperatures and pressures, it can become flammable at high temperature in an oxygen-rich atmosphere.

INCOMPATIBILITIES

Methylene chloride reacts explosively in the presence of strong oxidizing agents and reactive metals such as sodium, potassium, aluminum, magnesium, zinc, and zirconium.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition of methylene chloride may produce phosgene, hydrogen chloride gas, and oxides of carbon.

STORAGE

Storage containers should be protected against physical damage. They should be kept in a cool, dry, well ventilated location away from potential fire hazards.

PHYSICAL AND CHEMICAL DATA

Boiling Point: 104°F (40°C)
Melting Point: -142°F (-95°C)
Vapor Pressure: 380 mm Hg @ 22°C
Specific Gravity (water=1): 1.3

Molecular Weight: 84.93
Solubility in Water: 2%
Evaporation Rate: (butyl acetate=1) 27.5
Vapor Density: 2.9

DEFINITIONS

ACGIH is the American Conference of Governmental Industrial Hygienists. It recommends upper limits for exposure to workplace chemicals.

Action level is the amount of a chemical in the air above which OSHA-specified medical and air monitoring must be done.

A carcinogen is a substance that causes cancer.

The C.A.S. number is assigned by the Chemical Abstracts Service to identify a specific chemical.

The flash point is the temperature at which a liquid or solid gives off enough vapor to form a flammable mixture with air.

mg/m³ means milligrams of a chemical in a cubic meter of air. It is a measure of how much of a chemical is in the air.

MSHA is the Mine Safety and Health Administration, the federal agency that regulates mining. It also evaluates and approves respirators.

A mutagen is a substance that causes a change in the genetic material in a body cell. Mutations can lead to birth defects, miscarriages, or cancer.

NFPA is the National Fire Protection Association. It classifies substances according to their fire and explosion hazard.

NIOSH is the National Institute for occupational Safety and Health. It tests equipment, evaluates and approves respirators, conducts studies of workplace hazards, and proposes standards to OSHA.

OSHA is the Occupational Safety and Health Administration, which adopts and enforces health and safety standards.

ppm means parts of a substance per million parts of air. It is a measure of how much gas or vapor is in the air.

A teratogen is a substance that causes birth defects by damaging the fetus.

The vapor pressure is a measure of how easily a liquid or a solid gives off vapors. A higher vapor pressure indicates a higher concentration of the substance in the air, and therefore increases the amount of it breathed in.

WHERE TO GO FOR ADDITIONAL INFORMATION

The following information is available from the Massachusetts Department of Labor and Industries.

RIGHT TO KNOW INFORMATION

The Right to Know Program can answer questions about particular chemicals, training, labeling, and other Right to Know matters. Violations of the Right to Know Law should be reported to the nearest office of the Department of Labor and Industries.

PUBLIC PRESENTATIONS

Presentations and educational programs on occupational health or the Right to Know Law can be given for labor unions, trade associations and other groups.

OCCUPATIONAL HEALTH AND SAFETY SERVICES

Upon receipt of a complaint, an inspection may be conducted at your workplace. An inspection may include a walk-through, air monitoring, and evaluation of existing conditions and controls. Complaints about workplace health and safety conditions may be reported to any office of the Department of Labor and Industries. Such complaints are maintained strictly confidential. In addition, employers may obtain free technical assistance in complying with OSHA standards and the Massachusetts Right to Know Law.

MEDICAL EVALUATION

The Division of Occupational Hygiene has the names of various occupational health services and occupational physicians who are board-certified. This information is available upon request.

MASSACHUSETTS DEPARTMENT OF LABOR AND INDUSTRIES

Division of Occupational Hygiene

West Newton (617) 969-7177

Division of Industrial Safety

Boston (617) 727-3460
Lawrence (617) 681-7798

New Bedford (617) 997-8263
Springfield (413) 734-1421

Worcester (617) 752-6504
Pittsfield (413) 445-4214

ENVIRONMENTAL WORKPLACE OFFENSES

Prepared by Martin E. Levin
Assistant Attorney General
Chief, Environmental Strike Force

In 1991, the New York Attorney General's Environmental Crimes Unit obtained convictions of the vice president and plant manager of a thermometer manufacturing company for offenses in the workplace. Among the charges brought against the two was assault and battery with a dangerous weapon. The evidence showed that mercury used in the manufacturing process was permitted to vaporize in the workplace. The mercury in the air was so dense that mercury droplets covered every surface. Workers did not wear protective gear, and tests on numerous workers showed unhealthy levels of mercury in their urine. Over a number of years, Federal Occupational Safety and Health Administration ("OSHA") inspectors had advised the company of the dangers of mercury poisoning, recommending better housekeeping practices. The agency had issued a number of citations for violations of OSHA's regulatory standards.

After several years of inspections, OSHA learned that the company was operating a mercury reclamation operation in the plant basement. The company had not previously advised OSHA of this fact. Upon inspection, the government found that for four years, an employee had been working in the poorly ventilated basement, feeding broken thermometers into a glass crusher to recover mercury. The inspection further revealed boxes loaded with broken thermometers piled against walls with mercury leaking out of the boxes onto the floor. Mercury vapor readings were some five times the OSHA limit. The worker was diagnosed as suffering from mercury poisoning which would

decrease his physical and mental powers for the rest of his life. The state charges followed. The vice president and plant manager were sentenced to twenty-six weekends in jail. See, People v. Pymm, 563 N.E.2d 1 (N.Y. 1990), cert. denied, 111 S.Ct. 958 (1991); Workplace Toxics Treated as Street Crime, Boston Globe, May 29, 1991, at 69.

This case was one of several recent state prosecutions brought against employers for exposing employees to toxic substances. See, e.g., People v. Hegedus, 443 N.W.2d 127 (Mich. 1989)(employer charged with involuntary manslaughter in connection with employee's death caused by carbon monoxide intoxication from defective company van); People v. O'Neil, 550 N.E.2d 1090 (Ill. App. 1990), appeal denied, 553 N.E.2d 400 (Ill. 1990) (employer charged with murder, manslaughter, and reckless conduct in connection with employee's death caused by acute cyanide poisoning from inhalation); People v. Chicago Magnet Wire Corp., 534 N.E.2d 962 (Ill. 1989), cert. denied, 493 U.S. 809 (1989)(employer charged with aggravated battery, conspiracy to commit battery, and reckless conduct in connection with exposure of employees to toxic substances). See, also, State ex rel. Cornellier v. Black, 425 N.W.2d 21 (Wis. App. 1988), review denied, 430 N.W.2d 351 (Wis. 1988) (employer charged with homicide by reckless conduct in connection with employee's death caused by fire and explosion at fireworks plant); Sabine Consolidated, Inc. v. State, 816 S.W.2d 784 (Tx. Cr. App. 1992) (employer charged with

criminally negligent homicide in connection with employees' deaths caused by collapse of excavation trench).

Many industries use hazardous materials and generate hazardous wastes in their manufacturing processes. Regulation of these materials and wastes is discussed in other sections of these training materials. Suffice to say that workers in such industries form the "front line" when it comes to direct contact with such substances. They have the right to be informed of the substances they are handling, the potential harm these substances pose to their health, adequate training and equipment to reduce this risk, and first aid information should they suffer exposure. See, e.g., 29 C.F.R. §§ 1910.1200 & 1926.59 (OSHA hazard communication rule).^{1/}

Nonetheless, some employers may evidence little concern for their obligations under these statutes, and may cut costs by ignoring safety considerations. Frequently, employers who

^{1/} Promulgation of the federal hazard communication rule, and its 1987 extension to most employers, appears to have effectively preempted the worker right-to-know portion of Massachusetts' Hazardous Substances Disclosure By Employers statute, M.G.L.c. 111F. See, United Steelworkers of America v. Auchter, 763 F.2d 728, 735 (3d Cir. 1985). But see, State v. GTE Valeron Corp., 553 N.Y.S.2d 555, 557 (A.D. 3 Dept. 1990) (disagreeing with Auchter ruling re statutory authority for Hazardous Communication Standard and also holding that federal standard would not preempt enforcement under state statute where violation occurred before federal standard was in effect). However, that statute remains applicable to non-OSHA covered employers, such as state and local governments, and businesses must still comply with the statute's community right-to-know requirements, c. 111 §§ 16-20.

engage in such practices make use of immigrants or other vulnerable members of our communities who have little or no understanding of the nature of the substances they are handling or their legal right to a safe workplace. Such workers typically depend on their jobs for the very survival of themselves and their families and are reluctant to do or say anything which would anger their employer. These attributes make them "ideal" victims of employment practices which, as illustrated in the cases above, can be severely debilitating or even fatal.

Massachusetts criminal law does provide a vehicle for redressing and deterring egregious employer practices which result in physical harm to employees. The principal legal theories are provided by the traditional crimes of assault and battery and manslaughter.^{2/}

^{2/} Other states which have sought to enforce their criminal laws in the workplace have been confronted by federal preemption claims raised by defendant employers. Essentially, this is a claim that the federal Occupational Safety and Health Act, 29 U.S.C. §§ 651-678, completely occupies the field of worker health and safety, and that any state action would frustrate the federal regulatory framework, and is therefore not permitted. To date, the various states which have considered this claim have rejected it. People v. Pymm, 563 N.E.2d 1 (N.Y. 1990), cert. denied, 111 S.Ct. 958 (1991); People v. Chicago Magnet Wire Corp., 534 N.E.2d 962 (Ill. 1989), cert. denied, 493 U.S. 809 (1989); People v. Hegedus, 443 N.W.2d 127 (Mich. 1989); State ex rel. Cornellier v. Black, 425 N.W.2d 21 (Wis. App. 1988), review denied, 430 N.W.2d 351 (Wis. 1988); Sabine Consolidated, Inc. v. State, 806 S.W.2d 553 (Tx. Cr. App. 1991); State v. Moore, 14 O.S.H. Cas. (BNA) 2054, 1991 WL 181169 (Me. Super. Feb. 19, 1991).

The leading Massachusetts case is Com. v. Godin, 374 Mass. 120 (1977); cert. denied, 436 U.S. 917 (1978). Godin was the President of Pyro Products, Inc., a fireworks manufacturer in Bridgewater, Massachusetts. Due to a strike, storage of uncompleted fireworks was permitted to rise from some 1,500 shells to approximately 5000 shells in one of several buildings which made up the fireworks plant. This accumulation severely limited the ability of employees to move about and do their jobs properly. The storage of this 16,000 pounds of fireworks posed a hazard of ignition by friction and had enough explosive power to set off explosions in the other nearby plant buildings. The evidence showed that Godin had been warned by employees of the dangerous storage condition. Nothing was done to address the problem. One morning, an explosion devastated the entire plant site, injuring several employees and killing three.

Godin was tried and convicted on three indictments for involuntary manslaughter. The Supreme Judicial Court upheld his convictions. Rejecting Godin's argument that an employer had no established legal duty to its employees to use reasonable care to keep the workplace safe, the Court stated, "An employer whose acts or omissions constitute a disregard for the probable harmful consequences and loss of life as to amount to wanton or reckless conduct is properly charged with manslaughter where a foreseeable death is caused thereby. . . . To accept the defendant's arguments here is . . . to create a

class of persons - employees - as to whom a license to kill by wanton and reckless conduct is given." 374 Mass. at 127.

Similarly, under Massachusetts common law, where an employer's wanton and reckless conduct results in actual physical injury to an employee short of death, the employer may be prosecuted on an assault and battery theory. See, Com. v. Welch, 16 Mass. App. Ct. 271, 275 (Mass. App. 1983), review denied, 390 Mass. 1102 (1983) (conviction of assault and battery by means of a dangerous weapon (motor vehicle) reversed, where evidence showed mere physical contact without actual physical injury). Furthermore, toxic substances which, if misused, have a potential to inflict serious bodily harm may constitute dangerous weapons, for the purpose of a charge of assault and battery by means of a dangerous weapon. See, Com. v. Barrett, 386 Mass. 649 (1982) (aerosol spray can, when sprayed in driver's face causing him to lose control of vehicle, was a dangerous weapon). Cf., Com. v. Pierce, 138 Mass. 165, 174-81 (1884) (upholding conviction for manslaughter based on physician's reckless conduct in prescribing "cure" which involved patient's constant exposure to kerosene); Com. v. Sellon, 380 Mass. 220, 232 (1980) (use of plumber's acid in such an outrageous manner as to amount to wanton and reckless misconduct, unintentionally causing death, sufficient to prove charge of involuntary manslaughter).

The elements of such common law workplace offenses are:

- 1) the employer/company was under a legal duty to its employees to use reasonable care to keep its premises safe for their use in their employment;
- 2) the defendant was authorized by the employer/company to maintain, control, operate, construct, alter, supervise and manage the work premises;
- 3) the defendant accepted such responsibility for the work premises;
- 4) the defendant acted, or failed to act, in wilful, wanton, and reckless disregard of his duty to each injured employee and of the probable harmful consequences to such employee; and
- 5) the defendant thereby did assault and beat the employee and by such assault and beating did actual physical injury to the employee.

See, Godin, 374 Mass. at 125; Welch, 16 Mass. App. Ct. at 274-75. See, generally, 32 Mass. Prac. (Nolan & Henry), Criminal Law, §§ 204-205 (involuntary manslaughter), 322 (assault and battery).^{3/}

In establishing the wilful, wanton and reckless conduct of the defendant, it is not necessary to establish that the

^{3/} The foregoing are the elements for the typical workplace offense. Naturally, if the employer acts intentionally to harm the employee, the elements would be accordingly altered, as might the crime itself (i.e., involuntary manslaughter might become voluntary manslaughter or murder).

conduct (or failure to act) constituted a violation of a particular statute, rule or regulation. Godin, 374 Mass. at 129. Rather, the standard applied is "both a subjective and objective standard, and is based in part on the [defendant's] knowledge of facts which would cause a reasonable man to know that a danger of serious harm exists. Such knowledge has its roots in experience, logic, and common sense, as well as in formal legal standards." Id. As set forth in Com. v. Welansky, 316 Mass. 383 (1944):

"To constitute wanton or reckless conduct, as distinguished from mere negligence, grave danger to others must have been apparent, and the defendant must have chosen to run the risk rather than alter his conduct so as to avoid the act or omission which caused the harm. If the grave danger was in fact realized by the defendant, his subsequent voluntary act or omission which caused the harm amounts to wanton or reckless conduct, no matter whether the ordinary man would have realized the gravity of the danger or not. But even if a particular defendant is so stupid [or] so heedless. . . that in fact he did not realize the grave danger, he cannot escape the imputation of wanton or reckless conduct in his dangerous act or omission, if an ordinary normal man under the same circumstances would have realized the gravity of the danger. . . . A man may be reckless within the meaning of the law although he himself thought he was careful."

316 Mass. at 398-99.

Finally, the Commonwealth must prove a legally sufficient causal connection between the defendant's act, or failure to act, and the physical injury suffered by the employee. Com. v. Askeu, 404 Mass. 532, 534 (1989). The defendant's conduct must be the "proximate cause" of the employee's physical injury.

Under Massachusetts criminal law, proximate cause is "the efficient cause that necessarily set in motion the factors that caused the victim's [injury]. . . ." It is "a cause which in the natural and continuous sequence produces the [injury] and without which the [injury] would not have occurred." Askew, 404 Mass. at 534-35, citing, Com. v. Rhoades, 379 Mass. 810, 823-25 (1980). If some independent act or circumstance causes injury, and such act or circumstance was not a reasonably foreseeable result of the situation which the defendant recklessly created, the defendant's conduct is not the legal or proximate cause of the employee's injury. Askew, 404 Mass. at 534, 535. See, e.g., People v. Warner-Lambert Co., 414 N.E.2d 660 (N.Y. 1980), cert. denied, 450 U.S. 1031 (1981) (though defendant employer knew of potential for explosion created by high concentration of magnesium stearate dust in the air, it could not be held criminally liable for employees' deaths from explosion where the evidence was insufficient to show that the actual immediate, triggering cause of the explosion was reasonably foreseeable). To establish causation, the Commonwealth will generally need to rely on expert testimony.

In addition to common law theories, the various environmental statutes may provide a basis for redressing hazardous workplace practices. Frequently, businesses which are careless in providing for the health and safety of their employees are similarly careless in providing for the health and safety of the general public, and have failed to comply

with permitting and handling requirements imposed by the statutes and regulations discussed elsewhere in these materials. Certain regulations, such as state asbestos and lead paint removal regulations, specifically require safe work practices for the protection of both workers and the general public. The Hazardous Waste Management Act, M.G.L.c. 21C, may also be an effective tool for reaching into unsafe workplaces. For example, Section 5 of the Act prohibits any person from collecting, transporting, storing, disposing of, treating, or using hazardous waste in a manner which could endanger human health, safety or welfare.^{4/} Prosecutions under this statute for endangering the health of employees would not require that the prosecutor prove the employees have suffered actual physical injury. Section 5 also prohibits any person from allowing or suffering any employee, agent or contractor to violate any provision of c. 21C or any regulation, license, approval or order issued thereunder. The strict liability misdemeanor provision in Section 10, as well as the felony provision for knowing violations, make this a potent enforcement statute where employers' improper hazardous waste handling practices expose employees to dangerous conditions.

^{4/} A similar endangerment provision in the federal complement to c. 21C has been effectively used to prosecute an employer for knowingly endangering its employees through illegal waste handling practices. U.S. v. Protex Industries, Inc., 874 F.2d 740 (10th Cir. 1989).

PROSECUTORIAL ISSUES

Prepared by

Andrew Lauterback
Regional Criminal Enforcement Counsel
Environmental Protection Agency

Martin Levin
Chief, Environmental Strike Force
Office of the Attorney General

Edward DeAngelo
Assistant Attorney General
Environmental Strike Force

Kevin Connelly
Assistant Attorney General
Environmental Strike Force

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Massachusetts Environmental Enforcement Statutes

I. ASSESSING THE CRIMINALITY OF ENVIRONMENTAL OFFENSES

Virtually every environmental statute makes provision for both civil and criminal penalties in the event of violation of the statutory requirements. Furthermore, under M.G.L. c. 21A, § 16, the DEP has the authority to assess administrative penalties. Hence, an environmental offense can typically result in administrative, civil, or criminal enforcement action.

Certain factors, however, will generally distinguish an offense as appropriate for criminal prosecution. It is important that the prosecutor consider these factors in developing his or her theory of the case. While they may not be elements legally necessary to prove the crime, they may have a significant bearing on whether a judge and jury will conclude that the defendant is in fact guilty of criminal conduct and deserving of criminal punishment.

The factors are:

1) The nature of the wrongful conduct.

Although environmental violations involve public health and safety laws, and many such violations may therefore be subject to prosecution on a strict liability basis, see, discussion at Section VIII, infra, violations which are truly accidental are unlikely subjects of criminal prosecution. (It should be noted, however, that accidental events, if not properly responded to, may lead to criminal prosecution. For example, whether accidental or not, a spill of oil or hazardous material

which is not reported to the DEP may subject a person to serious criminal liability under M.G.L. c. 21E, § 7.)

Generally, it is conduct which is willful, knowing, or reckless which will prompt criminal prosecution. Furthermore, conduct which constitutes a gross statutory or regulatory violation is more likely to become the subject of a criminal prosecution than is conduct which might be seen more as a "paper" or technical violation. This is not to say, however, that technical violations which go to the heart of the regulatory scheme should always escape criminal prosecution. For example, the manifesting requirements of M.G.L. c. 21C form the very basis of the "cradle to grave" hazardous waste tracking system which is designed to insure proper handling and disposal of hazardous wastes. Failure to observe the manifest requirements should therefore be viewed as a significant violation, not merely a "paper" violation. One further indicator of criminal conduct is deception or concealment on the part of the violator. This is not just because such conduct shows "consciousness of guilt." Perhaps more importantly in the field of environmental protection, deception or concealment creates the additional risk of precluding timely response to circumstances which threaten public health and the environment.

2) Impact on the victim.

Conduct which actually poses some harm to an individual, the public health, or the environment is more likely to be seen as "criminal" than are other violations. Hence, storage of hazardous wastes in such a manner as to create a risk of release, human exposure, fire, or explosion will make for a stronger criminal prosecution than simple storage beyond the time permitted by law. Violation of some aspect of an Order of Conditions which results in loss of wetlands is more likely to be viewed as a criminal offense than a violation not affecting the environment (e.g., failure to have a copy of the Order at the work site). In short, in the criminal justice field, the old adage of "no harm, no foul" still holds some persuasive power. However, the public is becoming much more sophisticated in their understanding of the real harm, and risk of harm, posed by improper environmental practices.

3) Motive of the violator.

Motive invariably plays a significant role in depicting the criminality of particular conduct. In some sense, this factor is a corollary of the principle that genuinely accidental incidents will generally not be seen as the proper subject of a criminal prosecution. If the violator was clearly motivated by economic gain, or by malevolent purpose, the violation will more likely be seen as criminal in nature.

4) Criminal and/or regulatory history of the violator.

Where a violator has repeatedly failed to conform its conduct to the environmental laws, it will more likely be seen as in need of serious correction. The most serious form of correction available to society is the stigma of the criminal prosecution and the imposition of the criminal penalty. Hence, the criminal and/or regulatory history of the violator may be an important factor in determining at the outset whether to pursue criminal charges. (It may also be a factor in determining what sentence to seek upon conviction.)

5) The effectiveness of the criminal enforcement option.

Finally, the criminal enforcement option should be considered in light of the four purposes of criminal punishment:

a) Deterrence. Deterrence is usually cited as the most compelling reason for criminal enforcement of the environmental laws. Beyond the general deterrent effect ascribed to all criminal prosecutions, society wishes to ensure that businesses in particular do not view the penalties for environmental misconduct to be simply a cost of business which can be passed on to the consuming public. Imposition of personal criminal liability on corporate officers and employees, including probation and jail terms as appropriate, is seen as one way of ensuring that businesses will take their environmental obligations seriously. While the deterrent effect of any prosecution is therefore generally viewed as an important

reason for bringing a criminal case, it takes on even greater weight if the violation at issue is perceived to be an example of a particular industrywide problem which will benefit from the deterrent impact of a criminal prosecution. For example, improper asbestos removal and handling has been a recurring problem, so asbestos cases have frequently been viewed through a criminal enforcement lense.

b) Public protection. Where the conduct of the violator has been particularly egregious or repetitive, showing a total disregard for public health and safety, it may be necessary to impose incarceration, or strict probation terms with the threat of incarceration, simply to protect the public. Cases involving such fact patterns are therefore likely subjects of criminal prosecution.

c) Retribution. Retribution remains an important and legitimate expressive function of the criminal justice system. Hence, where the environmental violation results in such harm to an individual, the public, or the environment that society demands punishment, the case should likely be prosecuted criminally. On the other hand, if the violated statute does not authorize a meaningful criminal penalty, this factor may counsel in favor of civil or administrative action instead.

d) Remediation. Since the primary goal of criminal environmental enforcement is protection of the public health and safety and the environment, an important consideration may

be the need for quick remediation of any environmental problem. The criminal justice system frequently moves more quickly than civil litigation or even administrative action. If the judgment is made that culpability can be proven more quickly in the criminal context, and that remediation is more likely when made a condition of probation which carries a jail sentence in the event of failure to remediate, the criminal option may be the option of choice.

II. PARALLEL PROCEEDINGS

Since, as noted above, the government can prosecute environmental offenses civilly and administratively, as well as criminally, the criminal prosecutor must be aware that he/she may not be the only government actor on the scene. For example, the administrative agency responsible for enforcing a particular statute may issue an administrative order to remedy the harm created by the commission of an environmental violation, and often also has the authority to assess monetary penalties, revoke licenses, etc. Similarly, the government may bring a civil action to obtain injunctive relief to remedy environmental harm and to seek to impose civil monetary penalties, recover costs, and seek damages. In the environmental area, such civil suits are most frequently filed by the federal government or the Massachusetts Attorney General's Environmental Protection Division, but may, under certain circumstances, also be filed by town counsel where

local authorities have become involved. Where environmental violations are ongoing and present a serious threat to the public health and/or environment, the criminal prosecutor must recognize that administrative or civil actions designed to bring the violations to a halt and address the threat may take precedence even over an ongoing criminal investigation.

Generally, there is no legal impediment to parallel proceedings. United States v. Kordel, 397 U.S. 1 (1970); Commonwealth v. Hogan, 389 Mass. 450 (1983).^{1/} Indeed, a number of courts have held that where there is an independent good faith basis for the civil suit, information gained through the civil litigation may be shared with the criminal prosecutor. See, Kordel, 397 U.S. at 6; United States v. Unruh, 855 F.2d 1363, 1374 (9th Cir. 1987), cert. denied, 488

^{1/} Typically, after any injunctive relief has been obtained through the civil proceeding, it may be appropriate to have that proceeding stayed while the criminal proceeding goes forward. This will avoid any potential statutory and double jeopardy problems, as discussed herein. The civil defendant may also wish to have the civil proceedings stayed, particularly if he is being called upon to respond to civil discovery. Under such circumstances, the defendant is confronted with the choice between giving statements which may later be used against him in any subsequent criminal proceeding, or refusing to testify by asserting his right against self-incrimination. (Unlike in criminal proceedings, the latter act may be used in a civil proceeding to create an inference against the defendant. Baxter v. Palmigiano, 425 U.S. 308 (1976).) See, United States Trust Co. of New York v. Herriott, 10 Mass. App. Ct. 313, 315-20 (1980) (where a civil defendant has a legitimate concern regarding self-incrimination, he should raise that concern through a motion to stay the civil proceeding).

U.S. 974 (1988). Of course, the criminal prosecutor must take care not to share with civil or administrative counsel the information gained through grand jury proceedings. United States v. Sells Engineering, Inc., 463 U.S. 418 (1983). See, generally, Mass. R. Crim. P. 5(f); WBZ-TV 4 v. District Atty. for Suffolk Dist., 408 Mass. 595, 599-600 (1990).

The necessity for some coordination between the government's civil counsel and the criminal prosecutor cannot be overemphasized. If the civil case proceeds to a judgment which includes imposition of a civil penalty, the prosecutor may find that his criminal case is either statutorily or constitutionally barred.

Penalties for violation of the Massachusetts environmental statutes are frequently couched in the disjunctive. For example, G.L. c. 21C, § 10 provides, in pertinent part, that any person who commits a violation under c. 21C "(a) shall be punished by a fine of not more than twenty-five thousand dollars, or by imprisonment for not more than two years in a house of correction, or both, for each such violation; or (b) shall be subject to a civil penalty not to exceed twenty-five thousand dollars for each such violation. . . ." (emphasis added) This language may be held to indicate that imposition of a civil penalty is in the alternative to the criminal penalty. Hence, if a parallel civil matter is permitted to proceed to a judgment which includes payment of a penalty (as opposed to, e.g., injunctive relief or damages), the prosecutor may be

precluded from bringing a subsequent criminal charge for the same violation.

Moreover, and aside from the statutory language, recent case law applying double jeopardy principles indicates that imposition of a civil penalty may have a constitutionally preclusive effect. In United States v. Halper, 109 S.Ct. 1892 (1989), the United States Supreme Court applied the double jeopardy clause to prohibit the government from seeking a civil penalty against a defendant who had already been criminally convicted and punished for the identical conduct. The Court stated that the test for applying the double jeopardy bar against multiple punishment in the civil/criminal context is whether a civil penalty following criminal punishment so far exceeds "rough remedial justice" (including the government's right to recover actual damages and ancillary costs) that it serves only the punitive goals of deterrence or retribution. When the civil penalty bears no rational relation to compensation for the government's loss, and criminal punishment has already been imposed, a subsequent civil sanction is barred under the double jeopardy clause. 109 S.Ct. at 1902.

Halper was applied by the Supreme Judicial Court to similarly bar an administrative fine imposed on a physician for unlawfully dispensing controlled substances after the physician had already been criminally convicted for the same conduct. Kvitka v. Board of Registration in Medicine, 407 Mass. 140 (1990).

Although neither of these cases addresses the question whether a criminal prosecution would be barred by prior imposition of a civil penalty, one may expect the issue to be raised by the defense bar. See, e.g., United States v. Mayers, 897 F.2d 1126 (11th Cir. 1990) (While not deciding the issue, Halper principle that civil penalties can sometimes constitute criminal punishment for double jeopardy purposes "would seem to apply whether the civil penalties come before or after the criminal indictment.").^{2/}

Clearly, if a civil proceeding is pending against the same person who is the focus of the criminal investigation, it is necessary that the prosecutor coordinate with the government's civil counsel to insure that any criminal action is not foreclosed by early imposition of a civil penalty. Although the government's civil claim for injunctive relief and/or damages can go forward without prejudicing criminal enforcement efforts, the issue of any substantial civil penalty is generally best stayed.

III. ADMINISTRATIVE SEARCHES

Many environmental statutes authorize inspectors to enter business premises to look for violations of various

^{2/} Significant differences do exist where the criminal prosecution follows imposition of a civil or administrative penalty. For example, the criminal punishment can be imposed only on a higher standard of proof than in the civil/administrative proceedings. Furthermore, imprisonment is a punishment different in kind from a civil monetary penalty.

regulations. See, e.g., C. 21, sec. 40 (water pollution inspections); C. 21C, sec. 8 (hazardous waste inspections). Regular administrative inspections are an important component of the environmental enforcement system. Such inspections may include a walk-through of the premises, a review of company records, and/or sampling. Hence, evidence of environmental violations may be uncovered by local or state officials conducting non-criminal inspections of a business property. Since those inspections occur without a criminal warrant, the use of the evidence in criminal prosecutions raises issues under the Fourth Amendment and Article 14 of the Declaration of Rights.

Courts recognize an exception to the warrant requirement for so-called "administrative searches." Such searches may be of two types: regular inspections by administrative personnel conducted without a warrant or actual searches pursuant to an administrative warrant. The first type will be the most common.

The first question to consider is whether there was a "search" at all for constitutional purposes. This will turn on whether the inspector entered an area in which the defendant had "a legitimate expectation of privacy." Commonwealth v. Blinn, 399 Mass. 126, 127 (1987). If not, there was no "search" and no constitutional problem. The courts have recognized that "the expectation of privacy that the owner of commercial property enjoys in such property differs

significantly from the sanctity accorded an individual's home." Blinn, 399 Mass. at 128, quoting Dow Chemical Co. v. United States, 476 U.S. 227, 237-38 (1986). Factors to be considered might be whether members of the public have regular access to the area or object that was inspected or whether there are any statutes making that area or object subject to warrantless inspections. For instance, in Blinn, the court held that a police officer's demand to see a hotel register did not constitute a search because the proprietor was required by law to keep the register and make it available for inspections upon demand.

If the administrative inspection does constitute a "search," the next question is whether it was consensual or, if non-consensual, whether it was authorized by statute. If the Commonwealth is relying on statutory authority for the search, the statute must pass constitutional muster.

The test for determining the constitutional validity of a statutorily authorized search is set forth in New York v. Burger, 482 U.S. 691, 700-703 (1987) and Commonwealth v. Tart, 408 Mass. 249, 253-54 (1990). These cases hold that a warrantless inspection of "a closely regulated industry" is constitutional if three criteria are met. First, the state must have "a substantial interest in the regulatory scheme pursuant to which the administrative search is made." Id. Given the public health and safety implications of most

environmental statutes, this condition should not be difficult to satisfy. Second, warrantless inspections must be necessary to further the regulatory scheme. In Tart, which involved an entry on to a ship to check the owner's fishing license, the court reasoned that "if inspection is to be effective and serve as a credible deterrent, unannounced, even frequent, inspections are essential. In this context, the prerequisite of a warrant could easily frustrate inspection." 408 Mass. at 255.

Third, the statute's inspection program must provide a constitutionally adequate substitute for a warrant. This means that "the time, place and scope of the warrantless inspection are limited sufficiently to restrain the discretion of the inspectors...." Tart, 408 Mass. at 256. A critical factor in this regard is whether inspections are conducted according to "standard procedures [which] eliminate any element of discretion in the decision to conduct a search." Id. at 257.

In Commonwealth v. Bizarria, 31 Mass. App. 370 (1991), the fruits of a Registry of Motor Vehicles inspection of an auto body shop were suppressed because inspections were conducted pursuant to a statute which did not itself limit the time, place, or scope of the inspection. When the court looked for an adequate substitute in the agency's standard procedures, it found none. Instead, the court concluded that the agency's inspections were wholly conducted on "an ad hoc basis" whenever

a tip of impropriety was received. Thus, in defending against a motion to suppress, attention should be paid to the agency's system for scheduling and conducting inspections and to any written procedures or checklists which govern the inspection.

The alternative to warrantless inspections are searches pursuant to a so-called "administrative warrant", which is authorized by certain statutes. See, e.g., C. 21C, sec. 8 (hazardous waste). The Supreme Court has held that "administrative warrants", such as one to inspect for building code violations, can be issued under a standard "less stringent" than the probable cause standard used for criminal searches. Camara v. Municipal Court of the City & County of San Francisco, 387 U.S. 523, 538-39 (1967). Such warrants have been considered by Massachusetts courts in cases involving searches of pharmacies under c. 94C. Commonwealth v. Frodyma, 386 Mass. 434 (1982); Commonwealth v. Accaputo, 380 Mass. 435 (1980). Such warrants can be issued on one of two bases: (1) the inspection of a specific business as part of a general administrative plan for enforcement or (2) an inspection based on specific evidence of an existing violation of the regulations. Frodyma, 386 Mass. at 441-42. Because the standard for issuing the warrant is relaxed, the scope is limited and must be particularized in the warrant. An administrative warrant "certainly cannot support a general exploratory search for incriminating evidence." Accaputo, 380 Mass. at 442.

One argument likely to be raised in criminal cases is that the administrative inspection or search was really undertaken to uncover evidence for criminal prosecutions. "If such inspection discloses evidence of wrongdoing, knowledge of this evidence may be used to establish probable cause for the issuance of a criminal investigative search warrant or in prosecution." Frodyma, 386 Mass. at 445. However, it is also clear that "an administrative search may not be used as a subterfuge to avoid the burden of establishing probable cause to support a criminal investigative search." Commonwealth v. Eagleton, 402 Mass. 199, 207 n.13 (1988).

The Supreme Judicial Court has acknowledged that "in some circumstances it might not be possible to set clearly a line of demarcation between regulatory and criminal enforcement activities." Frodyma, 386 Mass. at 443. For instance, the state official may begin a routine inspection and uncover evidence of egregious violations that warrant criminal prosecution. Alternatively, an inspector may suspect a violation (which could be treated either administratively or criminally) and conduct an inspection, only to find the situation worse than suspected. The mere fact that an inspector is suspicious that criminal activity is occurring on the premises to be inspected should not render an otherwise permissible administrative inspection unconstitutional. Commonwealth v. Eagleton, 402 Mass. 199, 207 (1988). However,

"once the purpose behind the search shifts from administrative compliance to a quest for evidence to be used in a criminal prosecution, the government may constitutionally enter the premises only upon securing a warrant supported by full probable cause." Frodyma, 386 Mass. at 445. See also Michigan v. Tyler, 436 U.S. 499, 512 (1978).

IV. THE "OPEN FIELDS" DOCTRINE

Environmental offenses are frequently apparent as a result of conduct found outdoors. For example, illegal solid and hazardous waste dumping may occur in wooded areas, vacant lots, or behind commercial/industrial buildings. Illegal wetland alterations obviously affect open wetland areas. Water pollution violations often involve discharges to the surface waters of the Commonwealth. Detection, investigation, and proof of such crimes will frequently involve outdoor surveillance, inspection, and seizure of samples. The prosecutor should therefore be familiar with the "open fields" doctrine, and its rationale, which generally takes searches in open areas outside the scope of constitutionally protected privacy.

The open fields doctrine was first enunciated in Hester v. United States, 265 U.S. 57, 59 (1923), where the United States Supreme Court held that "the special protection accorded by the Fourth Amendment to the people in their 'persons, houses, papers and effects,' is not extended to the open fields."

Later Supreme Court cases developed a "reasonable expectation of privacy" analysis consistent with the underlying rationale of Hester -- the idea that the Fourth Amendment does not protect the merely subjective expectation of privacy, but only those expectations that society is prepared to recognize as reasonable. People cannot legitimately demand privacy for activities conducted out of doors (except in the curtilage, the area immediately surrounding the home).

Oliver v. United States, 466 U.S. 170, 179 (1984) further elaborated the rationale that underlies the open fields doctrine:

Open fields do not provide the setting for those intimate activities that the [Fourth] Amendment is intended to shelter from government interference or surveillance. There is no societal interest in protecting the privacy of those activities, such as the cultivation of crops, that occur in open fields. Moreover, as a practical matter these lands usually are accessible to the public and the police in ways that a home, an office, or commercial structure would not be. It is not generally true that fences or "No Trespassing" signs effectively bar the public from viewing open fields in rural areas. And . . . the public and police lawfully may survey lands from the air. For these reasons, the asserted expectation of privacy in open fields is not an expectation that "society recognizes as reasonable."

The term "open fields" includes any unoccupied or undeveloped area outside the curtilage. An "open field" need be neither "open" nor a "field" as those terms are understood in common speech. Oliver, at 180 n.11. Thus, a "field" need not be a place suitable for farming or pasture. A "field" may

be "open" even though it is fenced and posted against trespassers. Vacant lots and wooded areas, for example, maybe "open fields."

To fall within the open fields classification, the area in question must lie outside the curtilage. Thus, the definition of curtilage is important. See United States v. Dunn, 480 U.S. 294, 301 (1986):

[C]urtilage questions should be resolved with particular reference to four factors: the proximity of the area claimed to be curtilage to the home, whether the area is included within an enclosure surrounding the home, the nature of the uses to which the area is put, and the steps taken by the resident to protect the area from observation by people passing by.

The intimate activities associated with family privacy and the home and its curtilage do not extend to the outdoor areas or spaces between structures and buildings of a manufacturing plant. Dow Chemical Co. v. United States, 476 U.S. 227, 236 (1986) (since an industrial plant complex is comparable to an open field, aerial photography from navigable airspace is not a search prohibited by the Fourth Amendment).

The mere fact that the government's entry into an open field constitutes a trespass at common law does not mean that it is a "search" in the constitutional sense. Under the open fields analysis, property rights protected by the common law of trespass have little bearing on Fourth Amendment issues. The existence of such rights is only one element to consider in deciding whether an asserted expectation of privacy is

legitimate. Moreover, a defendant's efforts to conceal his activities in an open field do not establish a legitimate expectation of privacy. The test of legitimacy is not whether the defendant has taken steps to hide his activities, but, instead, whether the government's intrusion has infringed upon values protected by the Fourth Amendment.

In Commonwealth v. John G. Grant & Sons Co., 403 Mass. 151, 160-161 (1988), the Supreme Judicial Court noted that it had not adopted a parallel "open fields" principle under art. 14 of the Massachusetts Declaration of Rights, "which defines the scope of its protection in language somewhat different from that of the Fourth Amendment."^{3/} Nevertheless, Massachusetts courts have recognized that police activity in the outdoors which does not intrude upon a legitimate expectation of privacy is not a "search." This is, in effect, an open fields analysis. See Commonwealth v. Simmons, 392 Mass. 45, 48-49 (1984) (no "search" where police took victim onto private property to view defendant's automobile); Commonwealth v. Lewis, 346 Mass. 373, 381-382 (1963) (no illegal search where police officer found defendant's gloves in swamp to which defendant had fled); Commonwealth v. Baldwin, 11 Mass. App. Ct.

^{3/} As noted by the Court in Grant, the Fourth Amendment of the Constitution protects the people's "persons, houses, papers and effects," while Article 14 of the Declaration of Rights protects every subject's "person, his houses, his papers, and all his possessions." 403 Mass. at 160 (emphasis supplied).

386, 390-391 (1981) (no illegal search where police officer entered unfenced commercial premises on which vehicles were displayed for sale and to which public had access by implied invitation).

V. DESTRUCTION OF EVIDENCE CLAIMS

Investigation of environmental crimes routinely involves sampling and analysis of various substances, such as the liquid contents of drums and tanks, sludges, sediments, powders, waste piles, drinking water, groundwater and wastewater. Problems arise when the Commonwealth's testing destroys the sampled material. Such destruction can occur in a number of different ways: the sampled material may be transformed or consumed in the testing process, it may disintegrate with the passage of time, it may be discarded after testing pursuant to routine laboratory practice, or it may simply be lost. Whatever the reason for the loss, the defendant is certain to argue that the sample was "potentially exculpatory" and that the Commonwealth's failure to preserve it has violated his due process rights by depriving him of an opportunity to challenge the accuracy of the Commonwealth's test results. The defendant will seek remedies ranging from suppression of test results to dismissal of the case.

If the defendant can show that the Commonwealth has lost or destroyed potentially exculpatory evidence, a balancing test is employed to determine what remedial action, if any, is necessary. The court will weigh (1) the culpability of the

Commonwealth, (2) the materiality of the evidence, and (3) the potential prejudice to the defendant. Commonwealth v. Buckley, 410 Mass. 209, 218 (1991). The court must employ this balancing test for each piece of missing evidence.

Commonwealth v. Olszewski, 401 Mass. 749, 757 (1988).

The Commonwealth's conduct is a factor to be weighed in determining its culpability. Bad faith or intentional destruction of evidence will weigh very heavily against the Commonwealth. The Commonwealth may be found culpable where it has ignored or rejected a defense request to preserve evidence. Negligence or inadvertence are less culpable than bad faith, but will still be weighed in the balance against the Commonwealth. Olszewski, supra, at 757 n.7. Conversely, the more reasonably the Commonwealth has acted, the less culpable it will be found to have been. Although the test does not require the Commonwealth to prove good faith or earnest efforts to preserve the evidence, Olszewski, supra, at 755; Commonwealth v. Willie, 400 Mass. 427, 432 (1987), the prosecutor must nevertheless be prepared to explain and justify the loss, consumption, or destruction of the test samples. It will be helpful in this regard to show that the Commonwealth acted carefully and reasonably in dealing with the sampled material. For example, in the case of destructive testing, it may be that there are no non-destructive test procedures; in such circumstances, good faith loss may be the necessary and

inescapable result of the testing method used. Commonwealth v. Shipps, 399 Mass. 820, 836 (1987). In situations where the Commonwealth undertakes the testing of a substance which may be consumed in the testing process, the prosecutor should notify opposing counsel so that he can have his own expert present to observe the performance of the test. See Shipps, supra, at 836. Where there is no defense counsel or expert to notify, the Commonwealth will be found culpable in some degree unless it adequately documents or photographs each step in the test procedure. Commonwealth v. Phoenix, 409 Mass. 408, 413 (1991); Commonwealth v. Gomes, 403 Mass. 258, 277 (1988); Shipps, supra at 836.

Where samples have been discarded, it will be helpful if it can be shown that it is the routine practice of the testing laboratory to discard such samples after analysis and that the laboratory acted in good faith and in accord with its normal practice. As a practical matter, many samples have a "holding time" after which they cannot meaningfully be tested. In such circumstances, the Commonwealth cannot in reality "preserve" the samples any longer than their holding time. Such samples may be noxious or otherwise hazardous, making it entirely reasonable to discard them. Such facts would surely be helpful on the issue of culpability.

The second factor is materiality. It is not enough for the defendant to say that the missing evidence might have been

useful to him. The mere possibility that an item of undisclosed information might have helped the defense, or might have affected the outcome of the trial does not establish "materiality" in the constitutional sense. Shipps, supra, at 836. Evidence is material only if, in considering the entire case, it creates a reasonable doubt as to the defendant's guilt that would not otherwise exist. Commonwealth v. Otsuki, 411 Mass. 218, 231 (1991).

The third factor in the balancing test is potential prejudice. The defendant is entitled to no relief absent a showing of potential prejudice. Analysis of the prejudice to the defendant necessarily involves an inquiry into the exculpatory nature of the evidence. Willie, supra at 433. The defendant must establish a "reasonable possibility, based on concrete evidence rather than a fertile imagination," that access to the sample would have produced evidence favorable to his cause. Commonwealth v. Neal, 392 Mass. 1, 12 (1984); Commonwealth v. Troy, 405 Mass. 253, 261-262 (1989). Where the asserted exculpatory nature of the lost evidence is only conjectural, and where other established facts (such as the Commonwealth's inculpatory test results) tend to contradict that assertion, no prejudice is shown. See Commonwealth v. Charles, 397 Mass. 1, 14 (1986).

On the issue of prejudice, it is also important to note that the Commonwealth will usually have furnished discovery of

the reports of scientific tests. The evidence to be presented at trial is not the Commonwealth's now discarded sample, but rather the test results obtained from the sample. See California v. Trombetta, 467 U.S. 479, 488 (1984). The defendant suffers no prejudice since the reports generally permit him to challenge the validity of the test results. Commonwealth v. Repoza, 28 Mass. App. Ct. 321, 326 (1990).

Finally, if the court determines that the loss or destruction of the evidence has resulted in a due process violation, some remedy is appropriate. The question then becomes the extent of the remedy. Dismissal of a criminal case is a remedy of last resort because it precludes a public trial and terminates criminal proceedings. Commonwealth v. Cronk, 396 Mass. 194, 198 (1985). The court may prohibit the Commonwealth from proceeding on a particular theory of criminal liability. Troy, supra, at 261. It may exclude or otherwise limit testimony and evidence relating to the lost or destroyed items. See Willie, supra, at 434. In an appropriate case, it may instruct the jury that they can draw adverse inferences from the Commonwealth's loss of the samples. Id.

VI. DISTRICT V. SUPERIOR COURT PROSECUTIONS

An important early decision to make in prosecuting an environmental case will be the court in which to proceed. This decision will depend on jurisdictional questions, the merits and severity of the case and the need for grand jury investigation.

The charging decision may depend on jurisdictional considerations. For instance, a knowing violation of the hazardous waste laws under C. 21C, sec. 10 is a 20 year felony, without district court jurisdiction. However, a strict liability violation of those laws (in which knowledge is not alleged) is a misdemeanor. Thus, a prosecutor has some discretion in a case where knowledge can be proved, but misdemeanor prosecution might be warranted for other reasons, such as the relative gravity of the offense. Other environmental violations, such as water pollution, c. 21, sec. 42, or illegal disposal of solid waste, c. 111, sec. 150A, are misdemeanors. This does not foreclose indictment and that may be the better course for other considerations, such as the complexity of the case or the need for grand jury investigation.

An important advantage of indictment is the investigative power of the grand jury. This is particularly significant when there is a need to obtain corporate or financial documents to establish the case. District court procedure provides no way of obtaining such documents until the date of trial. This is too late, particularly if the documents subpoenaed provide leads to other sources of information, such as bank, insurance, or other business records that can strengthen the case.

Another advantage of the grand jury is the ability to obtain immunized testimony. The situation may often arise when the offense occurs in a business context and the only witnesses

are lower-level employees, who may have participated but are not the focus of the investigation. In the face of their claim of Fifth Amendment right, the only way to obtain their testimony is to immunize them and that can only be done during the grand jury phase. By proceeding in district court, the prosecutor runs the risk that the employees will invoke the Fifth to avoid having to testify at trial.

A final consideration obviously is the relative speed and ease of prosecution in the two courts. Given the defendant's right to a trial de novo in the district court, a case requiring the presence of expert witnesses or lengthy trial is best brought in the superior court.

VII. GRAND JURY SUBPOENAS

The grand jury subpoena is a very potent tool for investigating allegations of environmental crime. Often large or sophisticated corporate targets prohibit employees from talking with government investigators. The response is the subpoena for testimony before the grand jury. It is particularly helpful in determining the degree of knowledge at the various levels of the corporation. Some witnesses demonstrate an unshakable loyalty to their employers and seem conveniently to forget the most striking aspects of the commission of a heinous crime; whereas others view their appearance before the grand jury as an opportunity to take some well-aimed shots at an employer whose exploitive practices have been indelibly etched in their memory.

One important principle of grand jury practice for environmental crimes is to subpoena documents for every witness, with the possible exception of low level employees or innocent bystanders. Categories of documents that are crucial to an environmental investigation include:

1. diagrams, blueprints, photographs, maps
2. personnel records, chains of command, corporate structure
3. correspondence with other suspects
4. correspondence with local, state, and federal regulatory agencies
5. analytical data, bench sheets, sampling protocols, calibration records, log books
6. correspondence with environmental consultants
7. corporate environmental policies and presence of applicable government regulations
8. documents pertaining to environmental training and attendance at seminars and conferences.

Always ask for interim drafts and handwritten notes. Make sure you get all copies of the same document from all locations at the corporation, as long as it is responsive to the subpoena; this will help you determine who had copies of the document. Also the absence of some documents might be significant. If the attorney representing the corporate target is more familiar with civil discovery practice than criminal, he or she may attempt to withhold a particularly incriminating document. If you know or ever learn of the existence of that document, its nondisclosure is admissible to show the

defendant's consciousness of guilt. Some attorneys may claim a privilege with certain documents, but feel it is unnecessary to inform you of that fact. Ask the attorney in writing whether a privilege is being claimed, and an itemization of those documents and a specification of the privilege. Often the claim is specious, so move to have the documents reviewed in camera by the judge. This also gives the judge an opportunity to learn something about the case and the tactics of the opposing counsel.

VIII. PROVING ENVIRONMENTAL CRIMES

1) Proving Strict Liability Offenses

Many Massachusetts environmental statutes establish misdemeanor offenses which do not contain any express scienter element. Indeed, a distinction made by the legislature in differentiating between the felony and misdemeanor offense provisions of M.G.L. c. 21C was to add the scienter element to the offense in making it a felony. Compare, M.G.L. c. 21C, § 10(a), with, M.G.L. c. 21C, § 10(c). Imposition of punishment for commission of the offense alone, without requiring any element of scienter, is generally referred to as "strict liability." This essentially means that the very doing of the act is prohibited, and one may be liable for doing the act though no moral culpability is shown. Massachusetts has long recognized that in protecting the public welfare, the legislature can impose strict criminal liability.

The early case of Commonwealth v. Mixer, 207 Mass. 141 (1910), best illustrates this principle. There, the defendant was convicted of illegally transporting intoxicating liquor into Lynn without the required license or permit from the city. The case states that Mixer, a driver employed by a common carrier, had a sugar barrel in his load which did not have any appearance which would cause suspicion as to its contents, and that Mixer himself was ignorant of the fact that the barrel contained liquor. Mixer's argument that he could not be convicted of the crime when he neither knew, nor had reason to know, that he was carrying the prohibited brew was rejected by the Court. Noting a series of "public welfare" offenses carved out by the legislature, the Court concluded that there was no common law, statutory, or constitutional impediment to making the mere doing of the prohibited act a crime, and placing the burden on the actor to ascertain whether his conduct is prohibited by the criminal statute. See, generally, discussion in Commonwealth v. Ober, 286 Mass. 25, 30-32 (1934).

Strict liability offenses have survived challenge through the years. See, e.g., Commonwealth v. Tart, 408 Mass. 249, 264-265 (1990) (upholding, as strict liability offense, conviction under G.L. c. 130, § 80 for landing raw fish in the Commonwealth for sale without a State commercial fisherman permit), conviction upheld sub nom Tart v. Massachusetts, No.

90-1929, ____ F.2d ____ (1991); Commonwealth v. Lee, 331 Mass. 166 (1954) (upholding conviction, on strict liability basis, of possession of a narcotic drug); United States v. Engler, 806 F.2d 425, 431-36 (3rd Cir. 1986), cert. denied, 481 U.S. 1019 (1987) (upholding felony strict liability provisions of the federal Migratory Bird Treaty Act); United States v. Freed, 401 U.S. 601 (1971) (upholding strict liability for receipt of unregistered hand grenades); United States v. Dotterweich, 320 U.S. 277 (1943) (upholding strict liability for distributing adulterated drugs); United States v. Park, 421 U.S. 658 (1975) (upholding strict liability for permitting adulteration of food held for sale).

However, as the potential penalty becomes more onerous, statutory language dispensing with any scienter requirement will be subject to closer scrutiny. In Commonwealth v. Buckley, 354 Mass. 508 (1968), the Court imparted scienter as an element of the statutory crime of being present where a narcotic drug is illegally kept or deposited. The Court was concerned that, given the potential for a penalty of up to five years in prison, the statute might not survive constitutional challenge if it was not interpreted as requiring knowledge on the part of the defendant. 354 Mass. 511-512, citing, Morrisette v. United States, 342 U.S. 246 (1952), and, Lambert v. California, 355 U.S. 225 (1957).^{4/} See, also, United

^{4/} Though the Buckley court relied in no small part on Morrisette and Lambert as cause for its concern, neither case
(footnote continued)

States v. Wulff, 758 F.2d 1121 (6th Cir. 1985) (holding that 2 year sentence and \$2000 fine under felony provision of federal Migratory Bird Treaty Act were so severe as to constitutionally prohibit conviction on strict liability basis).

The degree to which the Massachusetts courts will uphold strict liability for commission of environmental offenses will likely be affected by a number of factors which will be more or less stringently applied depending on the severity of the penalty which may be imposed upon conviction. These factors will include such things as the length of the potential term of imprisonment, the clarity and import of the public welfare

(footnote continued)

seems wholly apposite in the area of environmental offenses. In Morissette, the Court was construing a federal statute punishing anyone who "embezzles, steals, purloins, or knowingly converts" government property. In holding that this statute did include an element of intent, the Court placed great weight on the statute's similarity to such common law crimes as stealing and larceny, which have always involved criminal intent. 342 U.S. at 260-273. Lambert struck down a municipal ordinance making it a crime for a convicted felon to remain in the municipality without registering with the authorities. The Court expressly distinguished the statute from licensing statutes common in regulating business activities, reasoning that it punished wholly passive activity of "mere presence". 355 U.S. at 225. The Court held that knowledge of the duty to register was constitutionally required before punishment could be imposed, even though the punishment was only a \$250. fine and three years probation. Query whether the SJC would be guided by either of these cases in construing environmental statutes which have no common law antecedents and often regulate business conduct long recognized to require a high standard of care? See, e.g., United States v. International Minerals and Chemical Corp., 402 U.S. 558, 565 (1971).

purpose served by the statute, whether the legislative history indicates clear intent to dispense with a scienter requirement, and whether the nature of the prohibited conduct is such that any reasonable person engaging in it would know it is subject to close government regulation. See, e.g., Tart v. Massachusetts, id., slip op. at 24-27 (considering entire statutory scheme, nature of regulated conduct, importance of state policy served by statute, and seriousness of harm statute was intended to prevent, in holding that strict liability statute providing for thirty-day maximum sentence for landing raw fish without a license does not violate due process). Given that Massachusetts' strict liability environmental offenses are limited to misdemeanors, with potential sentences not exceeding two years (and frequently less), the Court's holding in Commonwealth v. Jackson, 369 Mass. 904 (1976), may be particularly instructive. There, the Court upheld a conviction for carrying a pistol without a license, which carried a mandatory minimum sentence of one year in a house of correction, and a possible maximum sentence of up to five years in the state prison. The Court held that due process was satisfied by reading a minimal "knowledge" requirement into the statute, requiring as an element the defendant's knowledge that he possesses a firearm. The Court expressly held that so long as the defendant had such knowledge, his absence of knowledge as to the existence of a license was immaterial. 369 Mass. at 916-17.

2) Proving Knowledge

Certain environmental statutes will specifically require, as an element of the offense, that the defendant acted "knowingly". In interpreting this requirement, it is important to keep in mind that, as noted above environmental statutes are regarded as "public welfare" statutes. In contrast to common law crimes which are strictly construed, public welfare statutes are construed to effectuate the regulatory purpose. Furthermore, "knowingly" as used in a public welfare statute does not require proof of specific intent or knowledge of the law. As stated by the Supreme Court in United States v. International Minerals & Chemical Corp., 402 U.S. 558, 565 (1971):

[W]here . . . dangerous or deleterious devices or products or obnoxious waste materials are involved, the probability of regulation is so great that anyone who is aware that he is in possession of them or dealing with them must be presumed to be aware of the regulation.

The term "knowingly" has escaped precise definition and remains, at least in environmental crime cases, a flexible concept. The standard jury instruction definition for "knowingly" is an act that is done "voluntarily and intentionally and not because of mistake, accident, or other innocent reason." 1 Devitt and Blackmar, Federal Jury Practice and Instruction, Section 14.13 (3d Ed. 1977). Due to their label as public welfare statutes, "knowingly" as used in the environmental statutes only requires knowledge and

voluntariness of one's actions. It does not require knowledge of the applicable statutory and regulatory standards. See United States v. International Minerals & Chemical Corp., 402 U.S. 558, 563-64; United States v. Corbin Farm Service, 444 F. Supp. 510, 519 (E.D. Cal.) aff'd., 578 F.2d 259 (9th Cir. 1978). In United States v. Frezzo Brothers, Inc., 546 F. Supp. 713 (E.D. Pa. 1982), aff'd., 703 F.2d 62 (3d Cir.) cert. denied, 464 U.S. 829 (1983), the Court held that the Clean Water Act . . .

. . . is not the type of criminal statute which requires the government to prove the defendants specifically intended to violate the statute. To sustain a conviction under Section 1311, it is necessary only that the defendants acted willfully or negligently and that they intended to do the acts for which they were convicted. It is not necessary that the defendants intended to violate the law.

546 F. Supp. at 720.

a. The Element of Knowledge.

i. Of What?

As discussed above, many of the environmental statutes make it a crime to violate their provisions knowingly. But how far down the sentence does the modifier "knowingly" travel?

A number of federal cases have considered this question in the context of prosecutions under the federal Resource Conservation and Recovery Act ("RCRA").^{5/} In United States

^{5/} RCRA is the federal complement to the Massachusetts Hazardous Waste Management Act, G.L. c. 21C.

v. Johnson & Towers, supra, the Court held that "knowingly" applies to all the elements of the offense. Therefore, the government had to prove that the defendants knew that a disposal was occurring, knew that the disposal was of a hazardous waste, and knew that it was not in compliance with a RCRA permit. Nevertheless the court stated, "[this] does not impose on the government as difficult a burden as it fears." 741 F.2d at 669. Such knowledge, the court held, can be inferred by the jury as to those individuals who hold the requisite responsible positions with the corporation.

The next case to confront this issue was United States v. Hayes International Corporation, 786 F.2d 1499 (11th Cir. 1986). This case followed the reasoning articulated in Johnson & Towers and held that the government had the burden of proving knowledge as to every element of the offense. Nevertheless, it went even further in ruling on what evidence and inferences could be used by the government to prove its case. The facts concerned an airplane refurbishing plant that in the course of its operation generated paint and solvent waste. The company contracted with a waste recycler to haul away all its waste on eight occasions. Government officials subsequently discovered approximately six hundred drums of waste generated by Hayes at seven different illegal disposal sites. The company and one of its officers were convicted of eight counts of knowingly transporting a hazardous waste to an unpermitted facility. On appeal, the defendants raised three arguments:

1. They did not commit a knowing violation because they misunderstood the regulations;
2. They did not know that the waste recycler did not have a permit; and
3. They did not commit a knowing violation because they believed that the waste was going to be recycled.

The court ruled against the defendants on all three arguments and upheld the convictions. The court held that RCRA was a public welfare statute and "it is completely fair and reasonable to charge those who choose to operate in such areas with knowledge of the regulatory provisions . . . [I]t would be no defense to claim no knowledge that the paint waste was within the meaning of the regulations; nor would it be a defense to argue ignorance of the permit requirement." 786 F.2d at 1503. The court held that the government was required to prove knowledge of the permit status, but explained that this should not be difficult. "A defendant acts knowingly if he willfully fails to determine the permit status of the facility." 786 F.2d at 1504. Moreover, the court held that circumstantial evidence can be considered and the jury can draw inferences based on the evidence; for instance, if the price quoted to dispose of the waste is below the market price, the jury can infer that the defendant knows that it is not being taken to a licensed facility. The defendant's third defense concerning the belief that waste was recycled was similarly

rejected. The court held that with mistake of fact defenses like this one, the belief had to be held in good faith, and there was sufficient evidence for the jury to reject the defense in this case.

The Ninth Circuit Court of Appeals has also ruled on the issue whether a criminal conviction under RCRA requires knowledge of the facility's permit status. United States v. Hoflin, 880 F.2d 1033 (9th Cir. 1989), cert. denied, 493 U.S. 1083 (1990). The court declined to follow the holdings in Johnson & Towers and Hayes International and held that the statute does not require proof that the defendant knew of the facility's permit status.^{6/} Recently the Fifth Circuit and the Northern District of New York have entered the debate, and both have ruled that under RCRA, the government need not prove that the defendant was aware of the permit status; all that is essential is that the knowing disposal of hazardous waste be in violation of, or without, a permit. United States v. Sellers, 926 F.2d 410 (5th Cir. 1991); United States v. Laughlin and Donnelly, 768 F. Supp. 957 (N.D.N.Y., 1991).

^{6/} On another issue, whether the government had to prove that the defendant had knowledge of the hazardous nature of the waste, the court did not depart from the prior holdings. The court held that the defendant did not have to know that the waste was a regulated hazardous waste under the applicable regulation, but the government had to prove that the defendant knew that the waste had the potential to be harmful to others or the environment. See also, United States v. Greer, 850 F.2d 1447 (11th Cir. 1988).

ii. How is Knowledge Proven?

The term "knowingly" has escaped precise definition and remains a flexible concept. Because these offenses fall within a category of laws called "public welfare" statutes, the courts have relaxed the standards traditionally applied to the element of knowledge.

There are two methods available by which knowledge can be established. The first and more traditional approach is actual knowledge. It is applied, by means of direct or circumstantial evidence, to show that the defendant committed the act voluntarily and intentionally, and not because of mistake, accident or other innocent reason.

The second method by which knowledge can be established is with conscious avoidance or willful blindness. This doctrine allows knowledge to be inferred when a defendant deliberately closes his or her eyes to what would otherwise have been obvious or available.

The purpose of "[this] theory is to impose criminal liability on people who recognizing the likelihood of wrongdoing, nonetheless consciously refuse to take basic investigatory steps. United States v. Rothrock, 806 F.2d 318, 323 (1st Cir. 1986). It has been applied in several environmental prosecutions. See United States v. Hayes International, supra. Moreover, courts have demonstrated a great deal of latitude as to what is proper evidence of

conscious avoidance. In at least one case, although not in the environmental field, failure to consult records evidenced a reckless disregard for the truth, with a conscious purpose to avoid learning the truth. United States v. White, 765 F.2d 1469 (11th Cir. 1985).

3) Employee and Officer Liability

A corporation often provides an effective shield for its employees against exposure to civil suits. Such is not the case with criminal prosecutions. The general rule of law is that an employee is liable for all criminal acts committed whether or not those acts were performed within the scope of employment. A great deal of the litigation in environmental criminal law has focused on the liability of corporate employees and officers.

a. Lower Level Employees.

Since most of the environmental statutes rely on a permit system as their primary means of regulation, one issue that has been tested is whether employees, who are not owners or operators and therefore have no obligation to obtain permits, are criminally liable for the environmental wrongdoing. This issue was considered in United States v. Johnson & Towers, Inc., et al., 741 F.2d 662 (3rd Cir. 1984). The case involved a New Jersey company that repaired and overhauled large motor vehicles, and used degreasers and other industrial chemicals in its process. Workers had periodically pumped these chemical

wastes from a holding tank into a trench which flowed from the plant's property into a tributary of the Delaware River. The Court held that the company's foreman and service manager can be criminally prosecuted under RCRA, but only if they knew or should have known that there had been no compliance with the permit requirement.

A similar issue was the subject of a recent CERCLA criminal case. United States v. Carr, 880 F.2d 1550 (2d Cir. 1989). Carr was the supervisor of maintenance at Fort Drum, New York, and directed work crews to dispose of waste cans of paint in an improper manner. Under Section 103 of CERCLA, it is a crime for any person "in charge of a facility" from which a prohibited amount of hazardous substance is released to fail to report such release to the appropriate federal agency. Carr failed to report the release. His claim on appeal was that he did not come within the reporting requirement of Section 103 of CERCLA because he was not in charge of the facility. In upholding the conviction, the Second Circuit stated: "[W]e believe Congress intended the reporting requirements of CERCLA's section 103 to reach a person -- even if of relatively low rank -- who, because he was in charge of a facility, was in a position to detect, prevent and abate a release of hazardous substances." at 4739.

b. Responsible Corporate Officer Doctrine

It is well-settled that corporate officers are liable for their own criminal acts, for the criminal acts they have others commit, and when they aid and abet in the commission of a crime. Arising out of two Supreme Court cases, United States v. Park, 421 U.S. 658 (1975) and United States v. Dotterweich, 320 U.S. 277 (1943), courts have recognized that in the area of public welfare statutes, corporate officers can be held criminally liable if they bear a "responsible relationship" to, or have a "responsible share" in, the prohibited conduct. The responsible corporate officer doctrine allows liability for the physical acts of lower level employees to be transferred to the corporate officer who shares in the responsibility for that conduct. It is important to note, however, that position in a corporation alone may not be sufficient to support a conviction; the government must still prove that each individual satisfies any scienter element of the charge.^{7/} In United States v. MacDonald & Watson Waste Oil Company, et al., 933 F.2d 35 (1st Cir. 1991), the Court of Appeals reversed a conviction of the corporate president because the government based its case solely on the individual's position in the

^{7/} Where the charge contains no scienter element (i.e., is a strict liability crime), it is sufficient for the government to prove that the officer, by virtue of his position, had authority and responsibility to deal with the situation which gave rise to the crime. United States v. Park, 421 U.S. at 674.

company and admitted that it did not have any evidence that he actually knew of the illegal transportation of hazardous waste. Position in the corporation, the Court held, is one factor the jury can consider, but the scienter requirement in that case was "knowing" and the judge's charge to the jury allowed for a lesser standard. Those corporate agents vested with the appropriate power and responsibility are required to devise whatever measures are necessary to ensure compliance, or their failure to act coupled with evidence that they knew or remained willfully blind would support a criminal felony conviction.

This is a powerful tool for a prosecutor, especially when the statute's mens rea is negligence, like the misdemeanor provisions in the CWA. In that context, the corporate officer can satisfy all the elements of the offense for a CWA violation committed within his or her area of responsibility, for which the officer had no knowledge, but should have known. In an early CWA criminal case, United States v. Frezzo Bros., Inc., 602 F.2d 1123 (3rd Cir 1979), cert. denied, 444 U.S. 1074 (1980), the government relied upon the responsible corporate officer doctrine in the prosecution of the co-owners of a mushroom farm for the discharge of process waste without an NPDES permit. The conviction was upheld. "We have examined the judge's charge and we perceive no error in the instruction to the jury on this theory." at 1130 n.11.

4. Corporate Criminal Liability

There are two theories of criminal law that are used in corporate prosecutions. The first is the principle of respondeat superior. It holds a corporation criminally liable for the acts of its employees as long as the acts were performed within the scope of employment. Commonwealth v. L.A.L. Corp., 400 Mass. 737, 744 (1987) (criminal liability is imposed upon a corporate defendant if "criminal conduct [is] performed for its benefit, by its agent authorized to act for the corporation in relation to the particular sphere of corporate business in which the agent was engaged when the criminal conduct took place."). See, generally, Commonwealth v. Beneficial Fin. Co., 360 Mass. 188, 280-81 (1971), cert. denied sub nom. Farrell v. Massachusetts, 407 U.S. 910, and sub nom. Beneficial Fin. Co. v. Massachusetts, 407 U.S. 914 (1972). The second theory is merely an expansion of the first; it holds that even though one individual employee may not satisfy all of the elements of the offense, a corporation can be held criminally accountable for the collective acts of all of its employees. In other words, if several yard employees of a manufacturing firm routinely dump waste on the ground, but in good faith believe that the material is distilled water, and another employee is unaware of the practice but knows that this particular waste is a hazardous waste and that the company does not possess a RCRA permit, the corporation is liable for the

collective acts and knowledge of its employees. Although this theory has not been tested in a judicial decision in the environmental area, there are several opinions upholding its application in other public welfare statutes, e.g., United States v. Illinois Central Railroad Co., 303 U.S. 239 (1983), and United States v. Bank of New England, N.A., 821 F.2d 844 (1st Cir.) cert. denied, 484 U.S. 943 (1987).

5) Sampling And Analytical Protocol

One aspect of a case that is often overlooked, but could prove to be very damaging, is sampling and analytical protocol. It is imperative that the prosecutor learn and understand all the technical and scientific details of a case. This may include how a treatment system works, the toxicological effects of certain chemicals, and sampling and analysis. There are prescribed methods for when and how a sample should be taken. For example, should the sample be composite, or grab? Is the sample representative of the waste? Were upstream discharges isolated? Were holding times for the samples exceeded? Does the analysis comport with the regulatory definition of the waste; (e.g.), asbestos is defined by weight, not volume; amenable cyanide is a reactive waste, but total cyanide is not? There are written methodologies for sampling and analysis. You should get copies and assure yourself that they were followed.

In addition to the science of sampling and analysis, the prosecutor should also be familiar with the agency's chain of custody procedures, whether those procedures comply with current court rulings, and whether those procedures were actually followed. Do not be surprised to learn that there may have been breaks in the chain of custody. You need to assess the evidentiary impact of any irregularity, and of course, it is best to learn of them early in case development. Do not wait to hear about these problems from the defense attorney during cross examination.

The issue of chain of custody is whether there is sufficient documentation and testimony to convince a court that the object or sample to be offered into evidence has not been misidentified, tampered with or exchanged with something else. See United States v. Mendel, 746 F.2d 155, 167 (2d Cir. 1984), cert. denied, 469 U.S. 1213 (1985). The majority of courts have adopted a "reasonable probability" standard of proof; i.e., "the prosecution need only prove a rational basis from which to conclude that the exhibit did, in fact, belong to the appellants." Id. at 167; see also United States v. Casamento, 887 F.2d 1141, 1188 (2d Cir. 1989), cert. denied, 110 S. Ct. 1138 (1990); United States v. Ladd, 885 F.2d 954 956 (1st Cir. 1989) (attack on sloppy handling of blood and urine samples in laboratory went to the weight and not the admissibility of the evidence, while mislabelling of samples constituted a break in

the chain of custody). Moreover, actions taken by government officials are given a presumption of official regularity, in the absence of clear evidence to the contrary. United States v. Luna, 585 F.2d 1, 6 (1st Cir. 1978); United States v. Franchi-Forlando, 838 F.2d 585 (1st Cir. 1988). Thus, even if an object or sample is not absolutely secured, the court will presume, in the absence of any evidence to the contrary, that no tampering or altering took place while in official custody.

6) Expert Witnesses

Prosecuting environmental cases may involve recourse to experts in a number of fields. For instance, a prosecution for illegal disposal of hazardous waste in a manner that might endanger human health, safety or the environment, under C. 21C, sec. 5, might require testimony from a chemist to establish that the substances involved were hazardous; from a toxicologist to establish that the illegal disposal presented risks to human beings who were exposed to the chemicals; from a fire safety expert to establish that the illegal disposal presented fire or explosion hazards; or from a marine biologist to establish that discharge of the chemicals into the water endangered aquatic life. In some cases, persons with this expertise may have been involved in the investigation of the case. For instance, samples taken at a scene will be sent to state laboratories and tested by a chemist. Often an inspector from the fire department is called when wastes are first

discovered and may be able to discuss the hazards. In other cases, like the toxicologist or marine biologist, effort must be made to locate the experts and familiarize them with the case. Given the cost of most private experts, and the limited resources available to the prosecutor, the prosecutor will normally try to locate a qualified expert within a government agency.

The principles governing use of expert testimony are well-known. An expert can testify as to matters beyond the ordinary experience and knowledge of an average juror. Commonwealth v. Francis, 390 Mass. 89 (1983). The qualification of a particular expert is in the broad discretion of the trial judge. Keating v. Duxbury Housing Authority, 11 Mass. App. 934 (1981). Given the relative novelty of environmental law, prosecutors may be relying on experts who have never qualified to testify before. Thus, particular care should be given to eliciting qualifications beyond education and work experience, such as publication of articles, research activities, experience presenting lectures or training at professional conferences, and membership in professional societies which require special qualifications. Also, care should be taken to frame the area of expertise broadly enough to allow the expert to answer a number of questions. See, e.g., Commonwealth v. Seit, 373 Mass. 83 (1977). For instance, a toxicologist testifying on risks to human health should be

able to testify about safe levels of the chemical in drinking water or the air and about the likelihood of certain medical conditions arising from exposure.

The greatest challenge will be in presenting the expert's testimony in a comprehensible way. Preparation is necessary to anticipate inevitable technical language and jargon and to consider ways to translate that terminology into plain English for the judge or jury to comprehend. The use of everyday examples -- for instance, household applications of a particular industrial chemical -- may also assist the fact-finder in understanding what is involved in a particular case. Chalks should be used, particularly when the expert must offer a lot of data, such as test results, that will be difficult to retain. It is important to present evidence in a way that makes clear the dangers presented by the violation, particularly when the dangers are clear and immediate, such as fire hazard. This will be useful to combat an attempt to portray the violations as technical "nitpicking" or over-regulation.

The defense is also likely to rely on its own experts. This should be anticipated from the time of the pre-trial conference, and the Commonwealth should make specific discovery requests pursuant to Mass. R. Crim. P. 14(a). These can include advance disclosure of any experts who will testify, their resumes, and any reports or tests upon which they will

rely. Such a request for advance notice will be particularly helpful if the defendant presents an unanticipated expert and the Commonwealth is required to respond with rebuttal evidence.

Cross-examination of the defense expert will largely turn on the amount of advance preparation. An effort should be made to speak with the opposing expert before trial -- assuming consent -- in order to learn the nature and scope of the testimony. Obviously, consultation with the Commonwealth's expert is also needed to explore weaknesses in the defense position and develop areas of cross-examination. Some points that seem quite technical may be easy to rebut. For instance, a defense expert can state that the levels of chemicals in the air are within OSHA standards for a safe workplace. However, cross-examination can draw out that OSHA standards are designed only for healthy adults and are not acceptable for the general public, including children, the elderly or persons with medical conditions. Certain, predictable areas are worth consideration. For instance, the defense expert may have very limited exposure to the facts of the case or may not have been told certain critical facts. It is worth examining the task assigned to the expert; for instance, was the expert not asked to look at certain questions. The defense expert may also be able to bolster some aspects of the Commonwealth's case. For instance, if the defense conducted no further testing on the physical evidence, does that indicate agreement that the Commonwealth's testing was sufficient?

IX. SENTENCING

The prosecutor must be prepared with a reasoned recommendation for sentencing. The area of environmental crimes is still relatively new to most Commonwealth judges. Therefore, there are few established benchmarks for sentencing. Furthermore, the court may not view environmental crimes as seriously as the typical violent or property crime brought before the criminal courts. It is up to the prosecutor to advise the court of the public health and safety implications of the act for which conviction was obtained, as well as the other factors discussed in Section I, above. The prosecutor may also want to consult with the offices of the state attorney general or United States Attorney to determine what sentences have been imposed for similar offenses which may have been previously prosecuted.

An additional hurdle for which the state prosecutor should be prepared is the general disinclination the court may have for incarcerating the "white collar" criminal. Where environmental crimes have been committed in a business setting, the defendant may be able to portray himself as an educated, upstanding member of the community who "just made a mistake." Yet, it is exactly this kind of defendant for whom incarceration, even for a brief period of time, will have a substantial deterrent, as well as punitive, impact. Furthermore, it is the fundamental rationale of criminal

prosecution of environmental offenses that the threat of incarceration will deter conscious decisions to ignore important environmental requirements in an attempt to save or make money. Hence, at the very least, the prosecutor should consider pressing for a probationary term with meaningful conditions to insure that the defendant understands that further environmental offenses will land him in jail.

Finally, whether or not the prosecutor can reasonably recommend or secure a meaningful sentence of incarceration, he should, in the appropriate case, press for imposition of a meaningful fine. Again, the prosecutor should be prepared to make the court aware of the amount of money the defendant likely saved or made by his offense, and of the defendant's general economic status. Argument should be made that a sufficient fine should be imposed so the defendant will not have profitted by his crime.

1) The Federal Sentencing Guidelines

One "objective" source the state prosecutor may wish to consult in fashioning a sentencing recommendation is the federal sentencing guidelines. In 1984, Congress passed the Comprehensive Crime Control Act, which established the U.S. Sentencing Commission. The commission's purpose was to promulgate sentencing guidelines for all federal crimes in order to diminish the disparity in sentencing defendants convicted of similar offenses. The final sentencing guidelines

became effective on November 1, 1987, and replaced the discretion of the sentencing judge with a formula and matrix that allows for very little flexibility. In fact, it is quite possible for any potential, albeit sophisticated, offender to determine the exact number of months in prison he or she may spend if apprehended and convicted of the anticipated federal crime.

The sentencing guidelines appear in Part Q. Subpart 2Q1 concerns the universe of environmental regulatory crimes, whereas Subpart 2Q2 is limited to conservation and wildlife offenses. Subpart 2Q1 is further broken out into six sections:

- § 2Q1.1 Knowing endangerment
- § 2Q1.2 Mishandling of hazardous or toxic substances or pesticides; recordkeeping, tampering, and falsification
- § 2Q1.3 Mishandling of other environmental pollutants; recordkeeping, tampering, and falsification
- § 2Q1.4 Tampering or attempted tampering with public water systems
- § 2Q1.5 Threatened tampering with public water systems
- § 2Q1.6 Hazardous or injurious devices on federal lands

Most, if not all, of the environmental sentences imposed under the guidelines have fallen within § 2Q1.2 and § 2Q1.3, with a handful under § 2Q1.1. The guidelines assign a base offense level for each defined category of crime, to which specific offense characteristics are added to either raise or

lower that level. In addition, the guidelines allow for some movement from the calculation if certain aggravating or mitigating circumstances exist. See Subpart 3B - Role in the Offense; Subpart 5K - Departures.

For environmental crimes involving hazardous substances, the applicable sentencing guideline is § 2Q1.2, which has a base offense level of 8. There are, at a minimum, two specific offense characteristics that apply to most criminal conduct falling within this guideline. They are: § 2Q1.2(b)(1)(B) if the offense otherwise involved a discharge, release, or emission of a hazardous or toxic substance or pesticide, increase by 4 levels; and § 2Q1.2(b)(4) if the offense involved transportation, treatment, storage, or disposal without a permit or in violation of a permit, increase by 4 levels. This means that the heartland federal hazardous waste criminal case results in a minimum of 16 levels, which translates into 21 to 27 months in prison for a first offense. It must be noted that probation is not available for any offense above six levels, and the number of months in prison is actual time served.

5501J

APPENDIX

MASSACHUSETTS ENVIRONMENTAL ENFORCEMENT STATUTES^{1/}

AIR

Clean Air Act, M.G.L. c. 111, §§142A & B

ENDANGERED SPECIES

Endangered Species Act, M.G.L. c. 131A

FISH AND GAME

M.G.L. c. 130, §§23-27 (pollution of coastal waters)

M.G.L. c. 130, §75 (digging shellfish in contaminated areas)

M.G.L. c. 131, §§41-42 (protection of fish in inland waters)

HAZARDOUS MATERIALS

Oil and Hazardous Material Release Prevention and Response Act,
M.G.L. c. 21E

Toxics Use Reduction Act, M.G.L. c. 21I

HAZARDOUS WASTE

Hazardous Waste Management Act, M.G.L. c. 21C

Hazardous Waste Facility Assignment Act, M.G.L. c. 111, §150B

LEAD

Lead Poisoning Prevention and Control, M.G.L. c. 111, §§190-199A

OCCUPATIONAL SAFETY AND HEALTH

M.G.L. c. 149, §6 (general provision authorizing Department of
Labor and Industries regulations)

M.G.L. c. 149, §§6A-G (asbestos)

Hazardous Substances Disclosure By Employers Act, M.G.L. c. 111F

PESTICIDES

Pesticide Control Act, M.G.L. c. 132B

SEWAGE

Environmental Code, M.G.L. c. 21A, §13

M.G.L. c. 130, §25 (discharge of sewage into coastal waters)

^{1/} This list is illustrative of those environmental statutes which may typically be the subject of government enforcement activity. It is neither an exhaustive list of Massachusetts statutes providing for environmental protection, nor an exclusive list of those laws and legal theories under which the government may choose to act.

SOLID WASTE

Solid Waste Disposal Act, M.G.L. c. 111, §§150A-150A1/2
Solid Waste Facilities Act, M.G.L. c. 21H

UNDERGROUND STORAGE TANKS

M.G.L. c. 148, §§16, 37-38I

WATER

Clean Waters Act, M.G.L. c. 21, §§26-53
Disposal of Dredged Materials, M.G.L. c. 21A, §14
Water Management Act, M.G.L. c. 21G
Waterways Act, M.G.L. c. 91
Water Supply Act, M.G.L. c. 111, §§159-174A

WETLANDS

Coastal Wetlands Restriction Act, M.G.L. c. 130, §105
Wetlands Protection Act, M.G.L. c. 131, §40
Inland Wetlands Restriction Act, M.G.L. c. 131, §40A

LOCAL PHONE DIRECTORY

Key Departments and Telephone Numbers in Your Community

Mayor's Office:

City Council/Board of Alderman:

Board of Selectmen:

City or Town Clerk:

Board of Health:

Building Inspector:

Conservation Commission:

Emergency Planning:

Fire Department:

Health Department or Agent:

Planning Department or Board:

Public Works Department:

Recycling Programs (Local):

Recycling Programs (Regional):

Sewers and Waste Water Treatment Plant:

Water Supply Agency:

EMERGENCY ENVIRONMENTAL PHONE LIST

If you suspect legal violations, contact:

Environmental Strike Force
Office of the Attorney General
(617) 727-2200

or

The Department of Environmental Protection
(617) 566-1000

Emergency Spill Response

Contact:

Local Fire Department
DEP Emergency Response/State Police (617)
566-4500

Pollution of Wetlands and Waterways

Contact:

Local Conservation Commission
Environmental Police (800) 632-8075

Workplace Toxic Exposures (including lead and asbestos)

Contact:

Department of Labor & Industries (617) 727-1932
or 1933

Health Effects of Exposures

First contact should be local Board of Health or Health Officer. If additional information is required, contact:

1) for chemical-related health effects, Department of
Public Health, Division of Environmental Health
Assessment (617) 727-7170

2) for infectious or medical waste health effects,
Department of Public
Health, Division of Communicable Diseases (617)
522-3700, Ext. 420

Pesticides

Contact:

Pesticide Bureau (617) 727-3020

CONTACT/REFERENCE LIST
MASSACHUSETTS AGENCIES

Enforcement Coordinator
Div. of Wetlands and Waterways
One Winter street
Boston, MA 02108
(617) 292-5700

DEP Southeast Regional Office
Lakeville Hospital
Route 105
Lakeville, MA 02347
(508) 946-2700

DEP Western Regional Office
436 Dwight Street
State House West
Springfield, MA 01103
(413) 784-1100

Attorney General's Office
Environmental Protection Div.
One Ashburton Place - Room 1902
Boston, MA 02108
(617) 727-2265

Metropolitan District Commission
20 Somerset Street
Boston, MA 02108
(617) 727-5215

Environmental Strike Force
One Ashburton Place
Boston, MA 02408-1698
(617) 727-2200

DEP Northeast Regional Office
5 Commonwealth Avenue
Woburn, MA 01801
(617) 935-2160

DEP Central Regional Office
75 Grove Street
Worcester, MA 01605
(508) 792-7650

DEP Division of Water
Pollution Control
One Winter Street
Boston, MA 02108
(617) 292-5693

MEPA Unit
Enforcement Division
100 Cambridge Street
Boston, MA 02202
(617) 727-3267

Dept. of Fisheries, Wildlife,
and Environmental Law Enforcement
Div. of Law Enforcement
100 Cambridge Street - 19th Floor
Boston, MA 02202
(617) 727-3190

FEDERAL AGENCIES

U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9194
(617) 647-8111

U.S. Environmental Protection
Agency - Region One
J.F.K. Federal Building
Boston, MA 02203-2211
(617) 565-3427

NON-PROFITS

Massachusetts Association of
Conservation Commissions
10 Juniper Road
Belmont, MA 02178
(617)
489-3930

Massachusetts Audubon Society
South Great Road
Lincoln, MA 01773
(617) 259-9500

PART II

D.E.P. TELEPHONE DIRECTORY

Section A: Frequently Called Numbers

Section B: Regional Office Telephone Listing

Section C: Master Index and Telephone List

Section D: Other D.E.P. Facilities Outside Boston

EXCERPTED FROM FINDING YOUR WAY THROUGH D.E.P. For a complete copy of this manual, please contact the Department of Environmental Protection.

PART II (Section A)

D.E.P. PHONE DIRECTORY **FREQUENTLY CALLED NUMBERS**

REGIONAL OFFICES

Northeast (Woburn) Region	617-935-2160
Southeast (Lakeville) Region	508-946-2700
Central (Worcester) Region	508-792-7650
Western (Springfield) Region	413-784-1100

BOSTON OFFICE

AIR QUALITY (Division of)	617-292-5630
D.E.P. SWITCHBOARD	617-292-5500
ENFORCEMENT	617-292-5575
HAZARDOUS WASTE (Division of)	617-292-5851
LEGAL OFFICE	617-292-5568
LEGISLATIVE AFFAIRS	617-292-5506
MEDIA INFORMATION	617-292-5515
MUNICIPAL/CONSTITUENT AFFAIRS	617-556-1087

JUNE, 1989

MUNICIPAL FACILITIES 617-292-5793
(Bureau of)

PRESS OFFICE 617-292-5515

PUBLIC AFFAIRS (Press, Legislative, Municipal/Constituent) 617-292-5506

PUBLICATIONS 617-292-5515

RESOURCE PROTECTION 617-292-5770
(Bureau of)

RESEARCH AND STANDARDS 617-292-5570

SOLID WASTE 617-292-5960
(Division of)

WATER POLLUTION CONTROL 617-292-5673
(Division of)

WATER SUPPLY 617-292-5770
(Division of)

WASTE PREVENTION 617-292-5953
(Bureau of)

WASTE SITE CLEANUP 617-292-5648
(Bureau of)

WETLANDS/WATERWAYS 617-292-5695
(Division of)

OTHER FACILITIES

Lawrence Experiment Station 508-682-5237

Millbury Training Center 508-792-7745

Technical Services Branch 508-792-7470
in Westborough

Division of Air Quality in 617-727-9015
Tewksbury

PART II (Section B)

REGIONAL TELEPHONE LISTING

WESTERN REGIONAL OFFICE

436 Dwight Street
4th Floor StateHouse West
Springfield, Massachusetts 01103
(413) 784-1100

Cities and Towns in the Western Region: Adams, Agawam, Alford, Amherst, Ashfield, Becket, Belchertown, Bernardston, Blandford, Brimfield, Buckland, Charlemont, Cheshire, Chester, Chesterfield, CHICOPEE, Clarksburg, Colrain, Conway, Cummington, Dalton, Deerfield, Easthampton, East Longmeadow, Egremont, Erving, Florida, Gill, Goshen, Granby, Granville, Great Barrington, Greenfield, Hadley, Hampden, Hancock, Hatfield, Hawley, Heath, Hinsdale, Holland, HOLYOKE, Huntington, Lanesboro, Lee, Lenox, Leverett, Leyden, Longmeadow, Ludlow, Middlefield, Monroe, Munson, Montague, Monterey, Montgomery, Mount Washington, New Ashford, New Salem, New Marlboro, NORTH ADAMS, NORTHHAMPTON, Northfield, Orange, Otis, Palmer, Pelham, Peru, PITTSFIELD, Plainfield, Richmond, Rowe, Russell, Sandisfield, Savoy, Sheffield, Shelburne, Shutesbury, South Hadley, Southampton, Southwick, SPRINGFIELD, Stockbridge, Sunderland, Tolland, Tyringham, Wales, Ware, Warwick, Washington, Wendell, WESTFIELD, Westhampton, West Springfield, West Stockbridge, Whately, Wilbraham, Williamsburg, Williamstown, Windsor, and Worthington.

*Cities in capital letters

DIRECTOR

(413) 784-1100

PUBLIC AFFAIRS / GENERAL INFORMATION

TO BE
ANNOUNCED

RESOURCE PROTECTION

(413) 784-1100

Regional Engineer
Water Pollution Control
Water Supply
Wetlands

WASTE PREVENTION

(413) 784-1100

Regional Engineer
Air, Noise, Odor and Asbestos
Solid Waste Management
Hazardous Waste Compliance

WASTE SITE CLEAN-UP

(413) 784-1100

Regional Engineer
Emergency Response
Site Assessment

Please see pages 55-59 for a description of the regional offices.

JUNE, 1989

CENTRAL REGIONAL OFFICE

75 Grove Street
Worcester, Massachusetts 01605
(508) 792-7650

Cities and Towns in the Central Region: Acton, Ashburnham, Ashby, Athol, Auburn, Ayer, Barre, Bellingham, Berlin, Blackstone, Bolton, Boxborough, Boylston, Brookfield, Charlton, Clinton, Douglas, Dudley, Dunstable, East Brookfield, FITCHBURG, GARDNER, Grafton, Groton, Hardwick, Harvard, Holden, Hopedale, Hopkinton, Hubbardston, Hudson, Holliston, Lancaster, Leicester, LEOMINSTER, Littleton, Lunenburg, MARLBORO, Maynard, Medway, Mendon, Milford, Millbury, Millville, New Braintree, Northborough, Northbridge, North Brookfield, Oakham, Oxford, Paxton, Pepperell, Petersham, Phillipston, Princeton, Royalston, Rutland, Shirley, Shrewsbury, Southborough, Southbridge, Spencer, Sterling, Stow, Sturbridge, Sutton, Templeton, Townsend, Tyngsboro, Upton, Uxbridge, Warren, Webster, Westborough, West Boylston, West Brookfield, Westford, Westminster, Winchendon, and WORCESTER.

*Cities in Capitals

DIRECTOR

(508) 792-7650

PUBLIC AFFAIRS / GENERAL INFORMATION

**TO BE
ANNOUNCED**

RESOURCE PROTECTION

Regional Engineer
Water Pollution Control
Water Supply
Wetlands

(508) 792-7650

WASTE PREVENTION

Regional Engineer
Air, Noise, Odor and Asbestos
Solid Waste

(508) 792-7690

WASTE SITE CLEAN-UP

Regional Engineer
Emergency Response
Site Assessment
Hazardous Waste

(508) 792-7653

Please see pages 55-59 for a description of the regional offices.

JUNE, 1989

METRO BOSTON/NORTHEAST REGIONAL OFFICE

5 Commonwealth Avenue
Woburn, Massachusetts 01801
(617) 935-2160

Cities and Towns in the Northeast Region:* Amesbury, Andover, Arlington, Ashland, Bedford, Belmont, BEVERLY, Billerica, BOSTON, Boxford, Braintree, Brookline, Burlington, CAMBRIDGE, Canton, Carlisle, Chelmsford, CHELSEA, Cohasset, Concord, Danvers, Dedham, Dover, Dracut, Essex, EVERETT, Framingham, Georgetown, GLOUCESTER, Groveland, Hamilton, HAVERHILL, Hingham, Holbrook, Hull, Ipswich, LAWRENCE, Lexington, Lincoln, LOWELL, LYNN, Lynnfield, MALDEN, Manchester, Marblehead, MEDFORD, MELROSE, Merrimac, Methuen, Middleton, Millis, Milton, Nahant, Natick, Needham, Newbury, NEWBURYPORT, NEWTON, Norfolk, North Andover, North Reading, Norwood, PEABODY, QUINCY, Randolph, Reading, REVERE, Rockport, Rowley, SALEM, Salisbury, Saugus, Sherborn, SOMERVILLE, Stoneham, Sudbury, Swampscott, Tewksbury, Topsfield, Wakefield, Walpole, WALTHAM, Watertown, Wayland, Wellesley, Wenham, West Newbury, Weston, Westwood, Weymouth, Wilmington, Winchester, Winthrop, and WOBURN.

*Cities in capital letters

DIRECTOR (617) 935-2160

PUBLIC AFFAIRS / GENERAL INFORMATION (617) 935-2160

RESOURCE PROTECTION (617) 935-2160

Regional Engineer
Water Pollution Control
Water Supply
Wetlands

WASTE PREVENTION (617) 935-2160

Regional Engineer
Air, Noise, Odor and Asbestos
Solid Waste
Hazardous Waste

WASTE SITE CLEAN-UP (617) 935-2160

Regional Engineer
Emergency Response
Site Assessment

Please see pages 55-59 for a description of the regional offices.

JUNE, 1989

SOUTHEAST REGIONAL OFFICE

Lakeville Hospital
Route 105
Lakeville, Massachusetts 02346
(508) 946-2700

Cities and Towns in the Southeast Region:* Abington, Acushnet, ATTLEBORO, Avon, Barnstable, Berkley, Bourne, Brewster, Bridgewater, BROCKTON, Carver, Chatham, Chilmark, Dartmouth, Dennis, Dighton, Duxbury, East Bridgewater, Eastham, Easton, Edgartown, Fairhaven, FALL RIVER, Falmouth, Foxborough, Franklin, Freetown, Gay Head, Gosnold, Halifax, Hanover, Hanson, Harwich, Kingston, Lakeville, Mansfield, Marion, Marshfield, Mashpee, Mattapoisett, Middleborough, Nantucket, NEW BEDFORD, North Attleboro, Norton, Norwell, Oak Bluffs, Orleans, Pembroke, Plainville, Plymouth, Plympton, Provincetown, Raynham, Rehoboth, Rochester, Rockland, Sandwich, Scituate, Seekonk, Sharon, Somerset, Stoughton, Swansea, TAUNTON, Tisbury, Truro, Wareham, Wellfleet, West Bridgewater, Westport, West Tisbury, Whitman, Wrentham, and Yarmouth.

*Cities in capital letters

DIRECTOR

(508) 946-2700

PUBLIC AFFAIRS / GENERAL INFORMATION

**TO BE
ANNOUNCED**

RESOURCE PROTECTION

Regional Engineer
Water Pollution Control
Water Supply
Wetlands

(508) 946-2750
(508) 946-2750
(508) 946-2760
(508) 946-2800

WASTE PREVENTION

Regional Engineer
Air, Noise, Odor and Asbestos
Solid Waste
Hazardous Waste

(508) 946-2770
(508) 946-2770
(508) 946-2828
(508) 946-2817

WASTE SITE CLEAN UP

Regional Engineer
Emergency Response
Site Assessment

(508) 946-2850
(508) 946-2850
(508) 946-2862

Please see pages 55-59 for a description of the regional offices.

JUNE, 1989

PART II (Section C)

MASTER INDEX AND TELEPHONE LIST FOR DEP.

This is a combined alphabetical index and listing of DEP telephone numbers. It also includes a page reference that details where the description of the program or item being listed is found in the text of Finding Your Way Through DEP.

<u>Program Item</u>	<u>Telephone</u>	<u>Page(s)</u>
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Water Supply Technical Assistance	292-5931	35, 36, 44
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PART II (Section D)

OTHER FACILITIES OUTSIDE BOSTON

LAWRENCE

(508) 682-5237

LAWRENCE EXPERIMENT STATION
Division of Environmental Analysis
37 Shattuck Street
Lawrence, Massachusetts 01843

WESTBOROUGH

(508) 792-7470

**WATER POLLUTION CONTROL
TECHNICAL SERVICES BRANCH**
Lyman School
Westview Building
Westborough, Massachusetts 01581

River Basin Planning

(508) 792-7470

Biology

(508) 792-7470

Clean Lakes Grant Program

(508) 792-7470

Coastal Pollution Program

(508) 792-7470

Engineering

(508) 792-7470

Lakes (Limnology)

(508) 792-7470

Non-Point Source Program

(508) 792-7470

MILLBURY

(508) 792-7745

DEP TRAINING FACILITY
Route 20
Millbury, Massachusetts 01527

(508) 756-7281

(508) 756-7549

MILLBURY

RESIDUALS SLUDGE MANAGEMENT
Route 20
Millbury, Massachusetts 01527

(508) 752-8648

TEWKSBURY

(617) 727-9015

AIR QUALITY CONTROL
2 East Street. Room C 158
State Hospital
Tewksbury, Massachusetts 01876

JUNE, 1989

APPENDIX

CONTENTS

- I. Facility Multi-Media Survey
- II. Massachusetts Environmental Enforcement Statutes
- III. Sample Search Warrant
- IV. Sample Affidavit

FACILITY MULTI-MEDIA SURVEY

GENERAL INFORMATION Inspector: _____ Date: _____

Facility Name: _____ Contact: _____

Address: _____
(STREET) (CITY) (STATE) (ZIP)

Phone No.: () - SIC Code: _____ No. Employees: _____

Products mfgd. and description of facility: _____

Air: Stationary Source Compliance

1. Did you observe opaque smoke emitted from a smokestack (dark enough to obscure anything behind the plume)? _____
- If yes - Which process line (be specific, i.e., boiler No. 4)? _____
- Air pollution control equipment out of service? _____
- If yes - When will it be back on line? _____
2. Did you smell any strong odors? _____ If yes, from what process? _____ Is the process controlled by air pollution control equipment? _____
3. Does the facility have any coating operations? _____
- Water-based or solvent-based coatings? _____
- Are all solvent-based process lines controlled by air pollution control equipment? _____
4. Does the facility handle/emit any of the following NESHAP pollutants? mercury _____ asbestos _____ vinyl chloride _____ benzene _____ arsenic _____ radionuclides _____
5. Has the facility added any processes or expanded any pre-existing processes in the last two years? _____
- If yes, were state or federal air permits obtained? _____
6. Has the facility undergone any renovations or demolitions during the last 18 months which involved the removal or disturbance of asbestos-containing materials? _____
- If yes - Approx. how many square feet or linear feet? _____
- Name of contractor: _____ EPA/State notified? _____

EPCRA (Title III)

1. Has facility had a release of a hazardous substance in excess of the Superfund reportable quantity? _____
- If yes - To whom was notification of the release provided? _____
Was notification oral or written? _____
2. Does the facility manufacture, process, or use any toxic chemicals in a quantity greater than 10,000 lbs per year? _____
Has the facility submitted any toxic chemical release forms (Form R) to EPA? _____

FIFRA

1. Does the facility produce pesticides?
 - If no go to 2
 - If yes - what products and EPA and FIFRA establishment registration numbers _____
2. Does the facility sell or distribute pesticides?
 - If not go to 3
 - If yes - Do the pesticides being sold or distributed contain registration numbers on their labels?
3. Is the facility applying pesticides?
 Yes _____ No _____

RCRA**Storage of Wastes in Containers/Drums/Tanks/Pails/Dumpsters**

1. Do you see any of the above containing waste? Who did you speak to regarding this? _____

2. Were any of the above containers (drums, pails, etc) open? Were any of them in poor condition (leaking, corroded, etc)? If so, describe waste (ie., liquid, sludge, etc), indicate markings on containers and the container location(s).

3. Would any of the above containers be difficult to access? If so, indicated reason (such as poor aisle space or obstruction of containers). _____

Potential Improper Disposal of Wastes

1. Is there any evidence of spills, leaks, process discharge or dumping to the ground, pits or lagoons? If so, note location and extent of release. _____

SPCC

1. How many gallons of oil does the facility store above and below ground? _____
 - If the facility stores more than 660 gallons in a single tank or more than 1320 gallons in a number of tanks above ground or more than 42,000 gallons below ground - Does the facility have a certified SPCC (Spill Prevention, Control, and Countermeasure) plan signed by a P.E.? _____

TSCA PCB

1. Does the facility use electrical equipment that contains PCB's? _____ - If yes - What is the concentration of PCB's in the equipment? _____ (Note: Equipment containing less than 50 ppm is considered non-PCB.)
2. Does the facility store PCB's or PCB-containing electrical equipment on site? _____ Labels? _____
3. Is there any evidence of PCB spills or leaking electrical equipment? _____

TSCA Core

1. Does the facility manufacture or import chemicals of any kind, in any amount? _____
2. Does the facility have a working research and development laboratory (i.e. more than a simple QC lab)? _____
3. Has the facility ever submitted a Pre-Manufacturing Notification (PMN) under TSCA to the EPA? _____

UST

1. Observe - Do underground tanks appear to be a potential problem due to excessive spillage, cracked or broken fill/vent lines or leaking pumps, joints, or valves? _____
 - If yes for virgin petroleum and chemical tanks - Are the tanks registered with the state? _____
 - Are the tanks equipped with a leak detection system? _____
 - When was the tank last tested? _____
 - If yes for waste tanks - Is the tank equipped with secondary containment and continuous leak detection monitoring system? _____
 - If not - Has the tank had an integrity assessment by an independent P.E.? _____
 - Does the piping have secondary containment? _____
 - If not - Is the piping visually inspected daily? _____

WATER

1. Observe/Ask - Does the facility use water in its manufacturing processes? _____
 - If yes - Does the facility discharge wastewater into a receiving stream, municipal sewer system, or a subsurface disposal system? _____ Which? _____
 - Does the facility have a permit for each of these discharges? _____
 - Does facility treat wastewater prior to discharge? _____

2. Observe - Is the effluent from the wastewater treatment facilities clear and free of solids? _____
 - Does the equipment appear to be clean and well maintained? _____
 - Are there any unusual odors? _____
 - Is the effluent from the facility currently in compliance with the limitations established in the discharge permit? _____
3. Observe/Ask - Does the facility have floor drains? _____
 - If yes - What materials are spilled down the floor drains? _____
 - Where do the floor drains discharge (treatment facility, the municipal sewer, or directly to a receiving water? _____

UIC

1. Observe/Ask - Is there or has there ever been any discharge from this facility onto or into the ground other than sanitary waste (i.e., does this facility have or has it had any wells (dug, drilled or driven), dry wells, leachfields or septic systems which receive(d) commercial or industrial waste (liquid and/or solid), cooling water, boiler blowdown water or drainage from roof drains, floor drains, or parking lot drains)? _____ If yes, give a brief description: _____

WETLANDS

1. Observe - Are there any wet areas near the facility with wetland-type vegetation (cattails, rushes, sedges) that have been disturbed by waste disposal, ditching, or filling? _____
 - If yes- Did facility obtain a federal section 404 permit or any state or local permit authorizing the fill? _____

POLLUTION PREVENTION (Optional)

1. Has the facility ever made process changes specifically to reduce waste generation, or emissions to any media?
2. Has the facility considered substituting non-toxic materials as inputs for products that are currently made with hazardous substances?
3. Has the facility ever determined how much it costs to manage its wastes?
4. Does the facility or company have a formal pollution prevention policy or waste minimization policy?

ADDITIONAL COMMENTS

CONCLUSION

RECOMMENDATION FOR FOLLOW-UP

MASSACHUSETTS ENVIRONMENTAL ENFORCEMENT STATUTES^{1/}

AIR

Clean Air Act, M.G.L. c. 111, §§142A & B

ENDANGERED SPECIES

Endangered Species Act, M.G.L. c. 131A

FISH AND GAME

M.G.L. c. 130, §§23-27 (pollution of coastal waters)

M.G.L. c. 130, §75 (digging shellfish in contaminated areas)

M.G.L. c. 131, §§41-42 (protection of fish in inland waters)

HAZARDOUS MATERIALS

Oil and Hazardous Material Release Prevention and Response Act,
M.G.L. c. 21E

Toxics Use Reduction Act, M.G.L. c. 21I

HAZARDOUS WASTE

Hazardous Waste Management Act, M.G.L. c. 21C

Hazardous Waste Facility Assignment Act, M.G.L. c. 111, §150B

LEAD

Lead Poisoning Prevention and Control, M.G.L. c. 111, §§190-199A

OCCUPATIONAL SAFETY AND HEALTH

M.G.L. c. 149, §6 (general provision authorizing Department of
Labor and Industries regulations)

M.G.L. c. 149, §§6A-G (asbestos)

Hazardous Substances Disclosure By Employers Act, M.G.L. c. 111F

PESTICIDES

Pesticide Control Act, M.G.L. c. 132B

SEWAGE

Environmental Code, M.G.L. c. 21A, §13

M.G.L. c. 130, §25 (discharge of sewage into coastal waters)

^{1/} This list is illustrative of those environmental statutes which may typically be the subject of government enforcement activity. It is neither an exhaustive list of Massachusetts statutes providing for environmental protection, nor an exclusive list of those laws and legal theories under which the government may choose to act.

SOLID WASTE

Solid Waste Disposal Act, M.G.L. c. 111, §§150A-150A1/2
Solid Waste Facilities Act, M.G.L. c. 21H

UNDERGROUND STORAGE TANKS

M.G.L. c. 148, §§16, 37-38I

WATER

Clean Waters Act, M.G.L. c. 21, §§26-53
Disposal of Dredged Materials, M.G.L. c. 21A, §14
Water Management Act, M.G.L. c. 21G
Waterways Act, M.G.L. c. 91
Water Supply Act, M.G.L. c. 111, §§159-174A

WETLANDS

Coastal Wetlands Restriction Act, M.G.L. c. 130, §105
Wetlands Protection Act, M.G.L. c. 131, §40
Inland Wetlands Restriction Act, M.G.L. c. 131, §40A

SEARCH WARRANT
COMMONWEALTH OF MASSACHUSETTS

BRISTOL, SS.

TO THE SHERIFFS OF OUR SEVERAL
COUNTIES OR THEIR DEPUTIES, ANY
STATE POLICE OFFICER, ANY CONSTABLE
OR POLICE OFFICER OF ANY CITY OR TOWN,
OR ANY PERSON AUTHORIZED TO SERVE CRIMINAL
PROCESS WITHIN THE COMMONWEALTH, ANY ENVIRONMENTAL
POLICE OFFICER, OR ANY PERSONNEL OR AUTHORIZED
AGENT OF THE DEPARTMENT OF ENVIRONMENTAL QUALITY
ENGINEERING WITHIN OUR SAID COMMONWEALTH.

Proof by Affidavit, a copy of which is attached hereto and
incorporated herein by reference, having been made this day
before Superior Court Justice SANDRA L. Hanley by

, an engineer with the Massachusetts Department of
Environmental Quality Engineering ("DEQE"), that there is
probable cause to believe that violations of the Hazardous
Waste Management Act, G.L. c.21C, the Oil and Hazardous
Material Release Prevention Act, G.L. c.21E, and the
Massachusetts Clean Waters Act, G.L. c.21, §§26-53, have
occurred and continue to occur at the premises of the

, Inc. located at

, Massachusetts, which can be more particularly described
as a site of approximately five acres with a one story (two
stories in height) cement block building thereon, surrounded by
a parking lot, scrub brush and wooded swamp to the north,
filled land and woodland to the east, to the

South, and loading dock, parking lot, and an industrial building under construction to the west. The building at
has a sign stating
on the south side of the building. The front (south) quarter of the building contains office space, and the rear three quarters contains open factory space and machinery.

The property to be seized is more particularly described as follows: waste oil, waste substances, or pollutants, both liquid and solid, which are being stored, disposed of, transported, or in anyway released, at, to, or from the aforementioned premises at in violation of G.L. c.21, §§26-53, 21C, or 21E; books, papers, or documents showing purchase, ownership, dominion or control of the aforementioned premises, including the building and machinery thereon; books, papers, or documents showing purchase, ownership, dominion or control of the aforementioned waste oil, waste substances, or pollutants; books, papers, or documents relating to the transportation or disposal of the aforementioned waste oil, waste substances, or pollutants; boxes or other containers containing any liquid or solid waste; samples, in part or whole, of substances from the ground, soil, water, containers, ground water monitoring wells, equipment and building at the aforementioned premises, these samples to be taken under the supervision of highly trained and experienced

officials of the DEQE's Division of Hazardous Waste, who will be present when this warrant is executed. I authorize the aforementioned DEQE officials to perform such on-site tests as are necessary to determine the origin, location, and means of disposal of the aforementioned waste oil, substances, or pollutants. I further authorize law enforcement officials or persons acting under the authority of law enforcement officials, including agents of the DEQE, to excavate where necessary to carry out the search and seizure.

WE THEREFORE COMMAND you in the daytime or the nighttime to make search of the land-both above and below the surface-and the building thereon, and to take samples, including samples from monitoring wells which have been previously installed, and to remain on the premises until the search and sampling has been completed, and if you find and seize any samples or any of the above-described property, to bring it before the Trial Court Division of the Fall River District Court, in the City of Fall River, Massachusetts.

Dated at Boston this EIGHTH
day of January, 1987.

Samuel L. Hamel
JUSTICE, SUPERIOR COURT

COMMONWEALTH OF MASSACHUSETTS

BRISTOL, SS.

AFFIDAVIT

I, _____, an engineer with the Massachusetts Department of Environmental Quality Engineering ("DEQE"), Division of Solid and Hazardous Waste, affirm the following facts:

1. I have been employed by the DEQE for approximately seven years. Prior to my employment with DEQE, I worked as an analytical chemist in several laboratories. For the past two years, I have held the position of Chief of the Enforcement Branch of the Division of Solid and Hazardous Waste. I supervise the activities of several scientists and engineers as they relate to the investigation of administrative, civil and criminal enforcement cases. I received my B.A. degree in Biology from Fitchburg State College in 1970, and my M.S. degree in Environmental Science from the College of Engineering, Lowell Technological Institute, in 1978. I have also successfully completed at least four special training programs in the detection and investigation of hazardous waste cases. I have had occasion to investigate numerous violations of G.L. c.21C (Hazardous Waste Management Act), G.L. c.21E (Oil and Hazardous Material Release Prevention Act,) and G.L. c.21, §§26-53 (Massachusetts Clean Waters Act.)

2. In or about December, 1986, I received information

pertaining to a Massachusetts corporation named

, Inc.

doing business at

, Massachusetts. This information

was received from , who is an Assistant Sanitary Engineer with DEQE, and has degrees in biology and environmental engineering. The premises at

can be more particularly described as a site of approximately five acres with a one story (two stories in height) cement block building thereon, surrounded by a parking lot, scrub brush and wooded swamp to the north, filled land and woodland to the east,

to the South, and loading dock, parking lot, and an industrial building under construction to the west. The building at

has a sign stating

on the south side of the

building. The front (south) quarter of the building contains office space, and the rear three quarters contains open factory space and machinery. The premises at

can be

more particularly described as a site of approximately two acres with a one story (two stories in height) metal building thereon, surrounded by to the north, filled land and woodland to the east, woodland to the south, and a loading dock and woodland to the west. The building has a sign stating

on the north side of the

building. The front (north) quarter of the building contains

office space, and the rear three quarters contains open factory space and machinery. The premises at
are located across the street from each other.

3. On December 10 and 29, 1986, informed me that on or about August 28 and 29, 1986, he received telephone calls from . . . and from a
of the Fire Department,
respectively, informing him of an oil leak onto the ground at
described the leak as covering a two
foot by ten foot surface soil area. In response to those phone
calls, inspected the site located at
was permitted on the site by

. He observed an area of stained soil approximately ten feet by thirty feet, which was covered with clean gravel.

also observed that a drainage trench, and a drainage swale, located on the site to the north of the building, were saturated with an oily substance. He also saw a pit approximately ten feet in diameter which contained approximately four inches of free standing water with oil globules on the water surface. observed that all of the forementioned stained and saturated areas were within one hundred feet of a wetland located to the north of the building.

4. informed me that on September 8 and 16, 1986, he returned to the facility at

to conduct an inspection. was accompanied
by , also of DEQE. On each occasion
permitted to come on the sites to
conduct his inspection. informed
that manufactures and packages metal bolts. Since
1980, the manufacturing process takes place at the
facility. The bolts are then taken to the
facility for cleaning, packaging, and shipping.

observed machinery used in the manufacturing process,
which includes six high speed machines to manufacture bolts of
various sizes. According to , each machine
contains approximately one hundred gallons of oil. also
observed a large bolt cutter, which stated
contains approximately three hundred to four hundred gallons of
oil. In addition, there are five "header" machines which were
not in operation at the time of the inspection, but which
appear to utilize oil. stated that the process
generates approximately one fifty-five gallon drum of waste oil
per month.

5. observed an area of surface soil approximately
ten feet by thirty feet, on the site at , and
located near the northwest corner of the building thereon,
which was contaminated with waste oil. had
initially informed that this was the area of the
reported oil

leak, that the affected area was two feet by ten feet, and that the leak had resulted when oil saturated speedy dry was placed by in a nearby dumpster. At the same site, a drainage swale leading from the rear of the building's parking lot, northwest of the building, and extending northerly to a wetland area, was coated with waste oil over a distance of approximately one hundred and fifty feet. A ponded area approximately ten feet in diameter and three feet deep, located at the edge of the woods on the north side of the building at , was filled with waste oil, and a trench which begins approximately fifty feet from the north side of the building and leads to the ponded area was coated with oil. Two one-half inch pipes located on the west and north sides of the building at , near the northwest corner, were discharging an unknown liquid which appeared to be an oil and water mixture onto the ground, resulting in surface staining.

6. informed me that stated that from 1982 to 1984, he gave waste oil generated at to a of

, Massachusetts.

also stated that between 1984 and 1986, waste oil generated at was transported by

vehicles to the site located at

7. informed me that during his inspection of the site at , he observed sixteen drums which identified as containing waste oil from the facility. These drums were located inside the building, on the east side and approximately in the middle of the building. These drums bore no labels, dates, or other apparent markings.

8. Pursuant to 310 C.M.R. 30.340, said drums were required to be clearly marked to identify the contents and associated hazards and date of accumulation of the contents. also observed a "hopper" which stated was used to wash the bolts. stated that the wash system uses water and biodegradable soap, the wash water then goes into the sewer system, and the bolts are then packaged and shipped out.

9. , and have never been licensed to transport, store, or dispose of hazardous waste.

10. On January 7, 1987, informed me that in October, 1986, he had a telephone conversation with one , a project engineer with the firm of of , Massachusetts. is a hydrogeological consulting firm. stated that told him that has sunk

several groundwater monitoring wells on the premises located at .

11. Based on the foregoing, there is probable cause to believe that violations of the Hazardous Waste Management Act, G.L. c. 21C, the Oil and Hazardous Material Release Prevention Act, G.L. c. 21E, and the Clean Waters Act, G.L. c. 21, §§26-53, have occurred and continue to occur at the site located at , Massachusetts; and violations of G.L.c. 21C have occurred and continue to occur at the site located at , Massachusetts. The property for which I seek the issuance of a search warrant is hazardous wastes or hazardous materials (i.e., waste oil) as defined in G.L. c. 21C and 21E, or pollutants, as defined in G.L. c. 21, §§26-53, which are being stored or disposed of at the sites, transported to or from the sites, or are in any way being released at, to, or from the sites; books, papers, or documents showing purchase, ownership, dominion or control of the premises at , including the buildings and machinery thereon; books, papers, or documents showing purchase, ownership, dominion or control of the aforementioned hazardous wastes, hazardous materials, or pollutants; books, papers, or documents relating to the transportation or disposal of the aforementioned hazardous wastes or hazardous materials; boxes or other containers

Signed under the pains and penalties of perjury
this 8th day of January, 1987.

Respectfully submitted,

Division of Solid and
Hazardous Waste
Department of Environmental
Quality Engineering

Then personally appeared the above-named and
made oath that the foregoing Affidavit by him subscribed is
true.

Dated this 8th day of January, 1987 at Boston,
Massachusetts.

Samuel L. Hand
JUSTICE OF THE SUPERIOR COURT