STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

STATE OF CONNECTICUT

V.

GRAPHIC IMAGE, INC.

CONSENT ORDER no. CO WSWDH 10012

Date Issued: August 2, 2010

A. With the agreement of Graphic Image, Inc. ("Respondent"), the Commissioner of Environmental Protection ("the Commissioner") finds:

General Findings:

1. Respondent is a graphics and printing company located at 561 Boston Post Road in Milford, Connecticut ("the site").

2. Respondent is or has been a generator of hazardous waste at the site.

3. As of September 18, 2009, Respondent:

   a. Accumulated hazardous waste on-site for greater than 90 days without having obtained a permit or without having interim status, in violation of section 22a-449(c)-102(a)(1) of the Regulations of Connecticut State Agencies ("RCSA"), incorporating Title 40 of the Code of Federal Regulations ("40 CFR") 262.34(a) and (b). Specifically, eleven 55-gallon drums containing spent developer chemicals and water that were determined to be hazardous waste due to the silver content (EPA hazardous waste code D011), had been accumulating for greater than 90 days.

   b. Failed to notify for hazardous waste activities and obtain a permanent United States Environmental Protection Agency identification number, as required by section 22a-449(c)-102(a)(1) of the RCSA, incorporating 40 CFR 262.12(a).

   c. Failed to perform hazardous waste determinations, as required by section 22a-449(c)-102(a)(1) of the RCSA, incorporating 40 CFR 262.11. Specifically,

hazardous waste determinations were needed for the contents of eleven 55-gallon drums containing spent developer chemicals and water. Also, by failing to perform an initial hazardous waste determination, Respondent failed to perform the annual evaluations as required by section 22a-449(c)-102(a)(2)(A) of the RCSA, incorporating 40 CFR 262.11, with specified changes.

d. Failed to provide secondary containment and an impervious surface for storage of hazardous waste containers, as required by section 22a-449(c)-102(a)(2)(E) of the RCSA, incorporating 40 CFR 264.175(b). Specifically, eleven 55-gallon drums containing spent developer chemicals and water were being stored on gravel, behind the building.

e. Failed to develop and follow a written inspection program, as required by section 22a-449(c)-102(b)(2) of the RCSA, incorporating 40 CFR 265.15(b) and (d). Specifically, there were no inspection schedules or logs for the hazardous waste storage area(s), loading and unloading area(s), and safety and emergency equipment.

f. Failed to conduct inspections of hazardous waste container storage areas, as required by section 22a-449(c)-102(a)(1) of the RCSA, incorporating 40 CFR 262.34(a)(1)(i) and 265.174.

g. Failed to conduct inspections to identify possible threats to human health and/or the environment, as required by section 22a-449(c)-102(b)(2) of the RCSA, incorporating 40 CFR 265.15(a).

h. Failed to mark satellite accumulation containers with the words "Hazardous Waste" and other words to identify their contents, such as the chemical name, as required by section 22a-449(c)-102(a)(2)(N) of the RCSA, incorporating 40 CFR 262.34(c)(1)(ii), with specified changes. Specifically, approximately nineteen 2½-gallon containers containing spent developer chemicals and water were not marked with the words "Hazardous Waste" and a description of their contents.

i. Failed to mark containers with the words "Hazardous Waste" and other words to identify their contents, such as the chemical name, as required by section 22a-449(c)-102(a)(2)(J) of the RCSA, incorporating 40 CFR 262.34(a)(3), with specified changes. Specifically, the words "Hazardous Waste" and other words to identify the contents, such as the chemical name, were lacking for eleven 55-gallon drums containing spent developer chemicals and water.

j. Failed to mark containers of hazardous waste with the date upon which the accumulation began, as required by section 22a-449(c)-102(a)(1) of the RCSA,

incorporating 40 CFR 262.34(a)(2). Specifically, eleven 55-gallon drums containing spent developer chemicals and water stored on site lacked the date of accumulation.

k. Failed to maintain adequate aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility in an emergency, as required by section 22a-449(c)-102(a)(1) of the RCSA, incorporating 40 CFR 262.34(a)(4) and 265.35.

l. Failed to develop and maintain a contingency plan, as required by section 22a-449(c)-102(a)(1) of the RCSA, incorporating 40 CFR 262.34(a)(4) and 265.51.

m. Failed to designate at least one employee as an emergency coordinator, as required by section 22a-449(c)-102(a)(1) of the RCSA, incorporating 40 CFR 262.34(a)(4) and 265.55.

n. Failed to provide instruction that teaches facility personnel hazardous waste management procedures, as required by section 22a-449(c)-102(a)(1) of the RCSA, incorporating 40 CFR 262.34(a)(4) and 265.16(a) and (b).

o. Failed to develop and maintain records including the job title for each position at the facility related to hazardous waste management, the name of the employee filling each position, a written job description for each position and a written description of the type and amount of introductory and continuing training for each position, as required by section 22a-449(c)-102(a)(1) of the RCSA, incorporating 40 CFR 262.34(a)(4) and 265.16(d).

4. On November 24, 2009, the Department of Environmental Protection ("DEP") issued Notice of Violation No. WSWDH09110 to Respondent to correct the violations listed in paragraphs A.3.a through A.3.o of this consent order.

5. Based on documentation submitted to the DEP by Respondent, dated June 2, 2010, Respondent has corrected the violations in paragraphs A.3.a. through A.3.o. as of Respondent's submittal received on June 3, 2010.

6. By virtue of the above, Respondent has violated Sections 22a-449(c)–100 through 119 of the RCSA, incorporating 40 CFR, Parts 260 through 279.

7. By agreeing to the issuance of this consent order, Respondent makes no admission of fact or law with respect to the matters addressed herein, other than the facts asserted in paragraph A.1. and A.2. inclusive.

Consent Order Requirements:

B. With the agreement of Respondent, the Commissioner, acting under Sections 22a-6, 22a-131, and 22a-449 of the Connecticut General Statutes ("CGS"), orders Respondent as follows:

1. Compliance. Respondent shall maintain its compliance with all applicable provisions of the hazardous waste management regulations, RCSA Sections 22a-449(c), et. seq., including, but not limited to those regulations applicable to generators of hazardous waste, including the provisions of the RCSA identified in paragraph A.3 above. In particular:

   a. Within **thirty (30) calendar days** from the issuance of this consent order, Respondent shall retain one or more qualified consultants acceptable to the Commissioner to prepare the documents and implement or oversee the actions required by paragraph B.1.d. of this consent order and shall, by that date, notify the Commissioner in writing of the identity of such consultant(s). The consultant(s) retained to prepare the documents and implement or oversee the actions required to achieve compliance with paragraph B.1.d. shall be an independent, registered professional licensed to practice in Connecticut with qualifications acceptable to the Commissioner. Nothing in this paragraph shall preclude the Commissioner from finding a previously acceptable consultant unacceptable.

   b. On or before **sixty (60) days** after issuance of this consent order, Respondent shall submit for the Commissioner's review and written approval a plan detailing all actions and/or operational changes it has or will undertake at the site to ensure compliance with the hazardous waste management requirements specified in paragraph A.3 of this consent order and all applicable provisions of the hazardous waste management regulations, RCSA sections 22a-449(c), et. seq. If Graphic Image is going to maintain compliance by operating as a conditionally exempt small quantity generator, then the plan must describe measures to maintain conditionally exempt small quantity generator status, especially measures to ensure that the 1,000 kilogram accumulation limit is not exceeded. Within five (5) days after the Commissioner approves such plan in writing, Respondent shall carry out the plan approved by the Commissioner and maintain it in full effect thereafter.

   c. Respondent shall conduct a comprehensive recycling review of its operations at 561 Boston Post Road in Milford, CT, to evaluate compliance with Connecticut's recycling laws set forth in Section 22a-241b(c) of the CGS. On or before **sixty**

(60) days after the date of issuance of this consent order, Respondent shall submit for the Commissioner's review and written approval a business recycling profile documenting the management of recyclable materials. An example profile is included as Attachment A to this consent order.

d. On or before **ninety (90) days** after issuance of this consent order, Respondent shall perform hazardous waste management unit closure/decontamination, and/or equipment, structure and soil removal as required by Section 22a-449(c)-102 (a)(2)(K) of the RCSA, incorporating 40 CFR 262.34(a)(1), 40 CFR 265.111, 40 CFR 265.113(a), (b) and (c), and 40 CFR 265.114, and submit for review and approval documentation demonstrating that the former hazardous waste area, located outdoors at the north end of the site, has been closed in accordance with the DEP's draft "RCRA Closure Guidance for Generators Who Store Less than 90 Days" (Attachment B).

2. Status of Notice of Violation No. WSWDH09110. This consent order supersedes Notice of Violation No. WSWDH009110.

Penalty Requirements:

3. Civil penalty for violations. Respondent shall pay a civil penalty of **forty-three thousand, two hundred dollars ($43,200)** as the total civil penalty to be sought by the Commissioner for those, and only those, violations described in paragraph A.3. of this consent order. Payment shall be made in four (4) equal installments of **four thousand, five hundred dollars ($4,500)** and a fifth installment of **twenty-five thousand, two hundred dollars ($25,200)** in accordance with the provisions of paragraph B.5., according to the following schedule:

a. The first installment of **four thousand, five hundred dollars ($4,500)** shall be due and payable on or before **fourteen (14)** days after the date of issuance of this consent order.

b. The second installment of **four thousand, five hundred dollars ($4,500)** shall be due and payable on or before **one hundred and four (104)** days after the date of issuance of this consent order.

c. The third installment of **four thousand, five hundred dollars ($4,500)** shall be due and payable on or before **one hundred and ninety four (194)** days after the date of issuance of this consent order.

d. The fourth installment of **four thousand, five hundred dollars ($4,500)** shall be due and payable on or before **two hundred and eighty four (284)** days after the date of issuance of this consent order.

e. The fifth installment of **twenty-five thousand, two hundred dollars ($25,200)** shall be due and payable on or before **three hundred and seventy (374)** days after the date of issuance of this consent order.

4. Supplemental Environmental Projects. In lieu of making the fourth and fifth civil penalty payment installments prescribed in paragraph B.3. above, Respondent may comply with the requirements of either paragraphs B.4.a. or B.4.b. below regarding supplemental environmental projects ("SEP").

a. Payment to the Statewide SEP Account.

(1) Respondent shall pay **twenty-nine thousand, seven hundred dollars ($29,700)** to the Statewide SEP Account. Payment shall be made in two (2) installments.

i. The first installment of the SEP payment in the amount of **four thousand, five hundred dollars ($4,500)** shall be due and payable on or before **two hundred and eighty four (284)** days after the date of issuance of this consent order.

ii. The second installment of the SEP payment in the amount of **twenty-five thousand, two hundred dollars ($25,200)** shall be due and payable on or before **three hundred and seventy (374)** days after the date of issuance of this consent order.

(2) The payments shall be mailed or personally delivered to the Department of Environmental Protection, Bureau of Financial and Support Services, Accounts Receivable Office, 79 Elm Street, Hartford, CT 06106-5127, and shall be by certified or bank check payable to "Treasurer, State of Connecticut", with the notation thereon "Statewide SEP Account" and "Consent Order no. WSWD_____." Copies of the check and any transmittal letter shall also be sent to Julie Dutton in the Bureau of Materials Management and Compliance Assurance of the same address.

b. Performance of SEP(s)

(1) On or before **forty-five (45)** days after the date of issuance of this consent order, Respondent shall submit for the Commissioner's review and written approval a proposal to perform one or more SEPs ("proposal"),

according to the Department's February 15, 1996 "Policy on Supplemental Environmental Projects". The proposal shall include:

i. a detailed description of each SEP,

ii. itemized costs to be incurred by Respondent in carrying out each SEP,

iii. documentation to support such cost estimates,

iv. an explanation as to why each SEP is being proposed,

v. a proposed schedule (of not more than 180 days) for implementation and completion of each SEP, and

vi. a description of the benefit of each SEP to the general public or the environment.

Respondent shall be credited up to **twenty-nine thousand, seven hundred dollars ($29,700)** to partially fund any SEP(s).

(2) The Commissioner will either:

i. approve the proposal, including in such approval the dollar amount of the penalty offset to be realized by Respondent attributable to the SEP(s) and any additional conditions deemed necessary by the Commissioner; or

ii. disapprove the proposal and notify Respondent, in writing, of deficiencies in the proposal and any additional actions or information required to be taken or supplied by Respondent.

The decision to approve or disapprove an SEP shall be in the sole discretion of the Commissioner.

(3) If the dollar amount of the penalty offset attributable to the approved SEP(s) is less than **twenty-nine thousand, seven hundred dollars ($29,700)**, Respondent shall pay the difference in accordance with a revised schedule established by the Commissioner.

(4) Respondent shall not be given any credit, or reduction in the civil penalty provided for by this paragraph if an SEP included in an approved proposal is not fully complied with. If Respondent fails to fully perform any SEP in accordance with the proposal approved pursuant to paragraph

B.4.b.(2).i., Respondent shall immediately notify the Commissioner in writing of such noncompliance and shall, upon written request by the Commissioner, remit a payment equal to the total estimated cost, as determined by the Commissioner, of all such SEP(s), plus either two thousand five hundred dollars ($2,500) or 10% of such total estimated cost, whichever is greater. Respondent shall make such payment in accordance with the remittance procedures for unexpended SEP funds in subparagraph B.4.b.(10). of this consent order.

(5) The net present after-tax value of the SEP(s) shall be equivalent to the sum(s) identified in this paragraph or Respondent shall submit certified documentation that no tax credits shall be obtained as a result of the SEP(s) performed under this paragraph.

(6) If and when Respondent disseminates any publicity, including but not limited to any press releases regarding funding an SEP, Respondent shall include a statement that such funding is in partial settlement of an enforcement action brought by the Commissioner.

(7) Respondent shall not claim or represent that any SEP payment made pursuant to this consent order constitutes an ordinary business expense or charitable contribution or any other type of tax deductible expense, and Respondent shall not seek or obtain any other tax benefit such as a tax credit as a result of the payment under this paragraph.

(8) On or before thirty (30) days after completion of each SEP, Respondent shall submit for the Commissioner's review and written approval a comprehensive final report that certifies completion of each SEP. Such final report shall include, at a minimum:

i. a narrative history of the project,

ii. detailed explanation of its design and implementation,

iii. summary of any data collected,

iv. complete final accounting of actual project costs including receipts for out-of-pocket costs, and

v. a discussion of environmental benefits resulting from each SEP.

(9) Should the Commissioner determine that the actual cost to Respondent in completing an SEP is less than the estimated cost identified in the

proposal approved by the Commissioner in accordance with paragraph B.4.b.(2).i, Respondent shall pay the difference between such actual cost and estimated cost to the Commissioner as unexpended SEP funds. The Commissioner shall notify Respondent in writing of the amount of any such unexpended SEP funds which are due.

(10) Respondent shall, within fourteen (14) days after the date of such written notice, remit the full amount of the unexpended SEP funds. Payment of unexpended SEP funds shall by certified or bank check payable to "Treasurer, State of Connecticut" and the check shall state on its face "Statewide SEP Account" and "Consent Order no. WSWD_____." Any payment shall be made in accordance with paragraph B.4.a.2. of this consent order.

5. Payment of penalties for violations. Payment of penalties under paragraph B.3. of this consent order shall be mailed or personally delivered to the Department of Environmental Protection, Bureau of Financial and Support Services, Accounts Receivable Office, 79 Elm Street, Hartford, CT 06106-5127, and shall be by certified or bank check payable to "Treasurer, State of Connecticut". The check shall state on its face, "Bureau of Materials Management and Compliance Assurance, Waste Engineering and Enforcement Division civil penalty, consent order no. COWSWDH _____." A copy of the check and any transmittal letter shall also be sent to Ms. Julie Dutton in the Bureau of Materials Management and Compliance Assurance at the same address.

Other Provisions/Conditions of the Consent Order:

6. Full compliance. Respondent shall not be considered in full compliance with this consent order until all actions required by this consent order have been completed as approved and to the Commissioner's satisfaction.

7. Sampling and sample analyses. All sample analyses which are required by this order and all reporting of such sample analyses shall be conducted by a laboratory certified by the Connecticut Department of Public Health to conduct such sampling and analyses. All sampling and sample analyses performed under this order shall be performed in accordance with procedures specified or approved in writing by the Commissioner, or, if no such procedures have been specified or approved, in accordance with EPA document SW-846. Unless otherwise specified by the Commissioner in writing, the value of each parameter shall be reported to the maximum level of precision and accuracy specified in the applicable protocol, and if no such level is specified, to the Analytical Detection Limit, as defined in Section 22a-133k-1 of the Regulations of Connecticut State Agencies. All samples shall be discrete rather than composite samples.

8. Approvals. Respondent shall use best efforts to submit to the Commissioner all documents required by this consent order in a complete and approvable form. If the Commissioner notifies Respondent that any document or other action is deficient, and does not approve it with conditions or modifications, it is deemed disapproved, and Respondent shall correct the deficiencies and resubmit it within the time specified by the Commissioner or, if no time is specified by the Commissioner, within thirty (30) days of the Commissioner's notice of deficiencies. In approving any document or other action under this consent order, the Commissioner may approve the document or other action as submitted or performed or with such conditions or modifications as the Commissioner deems necessary to carry out the purposes of this consent order. Nothing in this paragraph shall excuse noncompliance or delay.

9. Definitions. As used in this consent order, "Commissioner" means the Commissioner or a representative of the Commissioner. "Hazardous substances" shall be defined as that term is defined in 42 U.S.C. Section 9601, but shall not include any substance regulated as a hazardous waste under Subtitle C of the Resource Conservation and Recovery Act. "Underground storage tank system" shall be defined as that term is defined in Regulations of Connecticut State Agencies Section 22a-449(d)-101(d)(63). "Petroleum" shall be defined as that term is defined in Regulations of Connecticut State Agencies Section 22a-449(d)-101(d)(48)(b) and shall include all of the items listed as a "regulated substance" in Regulations of Connecticut State Agencies Section 22a-449(d)-101(d)(48)(b).

10. Dates. The date of "issuance" of this consent order is the date the consent order is deposited in the U.S. mail or personally delivered, whichever is earlier. The date of submission to the Commissioner of any document required by this consent order shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this consent order, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is deposited in the U.S. mail or is personally delivered, whichever is earlier. Except as otherwise specified in this consent order, the word "day" as used in this consent order means calendar day. Any document or action which is required by this consent order to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed by the next day which is not a Saturday, Sunday or Connecticut or federal holiday.

11. Certification of documents. Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this consent order shall be signed by Respondent or, if Respondent is not an individual, by Respondent's chief executive officer or a duly authorized representative of such officer, as those terms are

defined in Section 22a-430-3(b)(2) of the Regulations of Connecticut State Agencies, and by the individual(s) responsible for actually preparing such document, and Respondent or Respondent's chief executive officer and each such individual shall certify in writing as follows:

> *"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, that the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under Section 53a-157b of the Connecticut General Statutes and any other applicable law."*

12. Noncompliance. This consent order is a final order of the Commissioner with respect to the matters addressed herein, and is nonappealable and immediately enforceable. Failure to comply with this consent order may subject Respondent to an injunction and penalties.

13. False statements. Any false statement in any information submitted pursuant to this consent order may be punishable as a criminal offense under Section 53a-157b of the Connecticut General Statutes and any other applicable law.

14. Notice of transfer; liability of Respondent. Until Respondent has fully complied with this consent order, Respondent shall notify the Commissioner in writing no later than fifteen (15) days after transferring all or any portion of the facility, the operations, the site or the business which is the subject of this consent order or after obtaining a new mailing or location address. Respondent's obligations under this consent order shall not be affected by the passage of title to any property to any other person or municipality.

15. Commissioner's powers. Except as provided hereinabove with respect to payment of civil penalties, nothing in this consent order shall affect the Commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for past, present, or future violations of law. If at any time the Commissioner determines that the actions taken by Respondent pursuant to this consent order have not successfully corrected all violations, fully characterized the extent or degree of any pollution, or successfully abated or prevented pollution, the Commissioner may institute any proceeding to require Respondent to undertake further investigation or further action to prevent or abate violations or pollution.

16. Respondent's obligations under law. Nothing in this consent order shall relieve Respondent of other obligations under applicable federal, state and local law.

17. No assurance by Commissioner. No provision of this consent order and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by Respondent pursuant to this consent order will result in compliance or prevent or abate pollution.

18. Access to site. Any representative of the Department of Environmental Protection may enter the site without prior notice for the purposes of monitoring and enforcing the actions required or allowed by this consent order.

19. No effect on rights of other persons. This consent order neither creates nor affects any rights of persons or municipalities that are not parties to this consent order.

20. Notice to Commissioner of changes. Within fifteen (15) days of the date Respondent becomes aware of a change in any information submitted to the Commissioner under this consent order, or that any such information was inaccurate or misleading or that any relevant information was omitted, Respondent shall submit the correct or omitted information to the Commissioner.

21. Notification of noncompliance. In the event that Respondent becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this consent order or of any document required hereunder, Respondent shall immediately notify by telephone the individual identified in the next paragraph and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. Within five (5) days of the initial notice, Respondent shall submit in writing the date, time, and duration of the noncompliance and the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and Respondent shall comply with any dates which may be approved in writing by the Commissioner. Notification by Respondent shall not excuse noncompliance or delay, and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically so stated by the Commissioner in writing.

22. Submission of related documents. Any document required to be submitted to the Commissioner under this consent order shall, unless otherwise specified in this consent order or in writing by the Commissioner, be directed to:

Mr. Joseph A. Schiavone, Sanitary Engineer
Waste Engineering and Enforcement Division
Bureau of Materials Management and Compliance Assurance
Department of Environmental Protection
79 Elm Street
Hartford, Connecticut 06106-5127

Respondent consents to the issuance of this consent order without further notice. The undersigned certifies that he/she is fully authorized to enter into this consent order and to legally bind the Respondent to the terms and conditions of the consent order.

Graphic Image, Inc.

BY: _____
Signature

LEIGH D ANGENBERG
Type name and title

JULY 16, 2010
Date

Issued as a final order of the Commissioner of the Department of Environmental Protection.

_____ July 30, 2010
AMEY MARRELLA, Commissioner date

CONSENT ORDER no. CO WSWDH10012

Sent Via Electronic Certified Mail

ATTACHMENT A

BUSINESS RECYCLING PROFILE

Business Recycling Profile

In Connecticut recycling is mandatory. Connecticut General Statutes and the Regulations of Connecticut State Agencies require designated items to be recycled by **everyone**. Every resident, business, government facility, school, college, hospital, institution, etc. is required *by law* to recycle glass & metal food and beverage containers, corrugated cardboard, newspaper, white office paper (except from a residential property), scrap metal, Ni-Cd rechargeable batteries, used crankcase oil, lead acid batteries, leaves and grass clippings.

Recycling these items is a critical action we can all take to move the State towards achieving our recycling rate of 58% by 2024 as stated in the amended December 2006 CT State Solid Waste Management Plan. Complying with the state recycling laws has tremendous environmental benefits such as conserving natural resources, reducing pollutants emitted to our air and water; conserving energy, reducing greenhouse gas emissions, and eliminating the need for new solid waste disposal facilities.

This form is a guidance document to help businesses better manage their recycling program and increase recovery efforts. This form does not need to be submitted to DEP unless it is requested, in response to an inspection and/or an enforcement action. For more recycling resources please visit our Business Recycling Resources webpage.

Part I: Company Information

1. Company Name:

   Mailing Address: City/Town: State: Zip Code:

2. Recycling Contact: Title:

   Phone(s): Email:

3. Additional Contact: Title:

   Phone(s): Email:

Part II: Facility/Operations

1. Type of business:
2. Number of buildings:
3. Total square footage of building(s)
4. Acreage of lawn area::
5. Number of employees:

Part II: Facility/Operations (continued)

6. Current solid waste/recycling hauler(s):

   Name: Phone:

   Name: Phone:

   Name: Phone:

☐ Check here if additional sheets are necessary, and label and attach them to this sheet.

7. Building Owner:

   Mailing Address: City/Town: State: Zip Code:

   Phone: Email:

All Businesses Are Required to Recycle:

High Grade White Office Paper (HGWOP): White copy paper, computer paper, office stationery, memo paper, etc.

Old Corrugated Cardboard(OCC): Old or discarded corrugated boxes – *Not waxed*

Old Newspaper (ONP): Used or discarded newspapers

Glass & Metal Food and Beverage Containers (including 5¢ deposit containers)

Leaves: Foliage which has fallen from trees must be recycled

Used Crankcase Oil: Used crankcase oil from internal combustion engines

Lead Acid Storage Batteries: Used batteries from cars, airplanes, boats, tractors, etc.

Scrap Metal: Used or discarded items which consist predominantly of metals such as iron, aluminum, brass, copper, lead, chromium, tin, nickel, etc. or alloys of these metals, including but not limited to appliances.

Rechargeable Batteries: Nickel-cadmium (NiCd) rechargeable batteries, both those contained within appliances and those sold individually are required to be recycled after they no longer are usable.

Grass Clippings: Best practice is to recycle grass by leaving grass clippings on the lawn.

In addition to the state mandated recyclables listed above, check your **local ordinances** to learn about additional materials your business may be required to recycle including plastic bottles.

58% by 2024

Part III: Company's Current Recycling & Recovery Efforts

Please use the table below to describe your company's current recycling program. Attachments of photos or other documents are also accepted if you are requested to submit this form.

RECYCLABLE MATERIAL	AVG WEIGHT (indicate tons or pounds) COLLECTED FOR RECYCLING EACH MONTH (if you do not have weight data enter the number and size of containers and collection frequency)	HOW & WHERE MATERIAL IS COLLECTED	WHO PICKS-UP MATERIAL AND WHERE IS THE MATERIAL TAKEN FOR RECYCLING
EXAMPLE: *OFFICE PAPER (White and other paper combined)*	*One 40-gallon wheeled cart/week*	*Everyone collects at their desk, brought to central location (large wheeled cart near elevators). Janitor brings to loading dock when it is full (about once a week)*	*Our current trash hauler, (XYZ Trash Hauling, Windsor, CT) empties our paper recycling wheeled cart 2x/month (we call them as-needed) and material is taken to the ABC recycling facility in (Name of Town).*
Office paper (white paper)**			
Newspaper**			
Other paper or mixed paper (please list types here)			

** Mandatory item that everyone is required to recycle in Connecticut.

Part III: Company's Current Recycling & Recovery Efforts (continued)

RECYCLABLE MATERIAL	AVG WEIGHT (indicate tons or pounds) COLLECTED FOR RECYCLING EACH MONTH (if you don't have weight data enter the number and size of containers and collection frequency)	HOW & WHERE MATERIAL IS COLLECTED	WHO PICKS-UP MATERIAL AND WHERE IS THE MATERIAL TAKEN FOR RECYCLING
EXAMPLE: *Old Corrugated Cardboard*	*We have a 4-yard dumpster behind our main warehouse. It's picked up twice a week.*	*Warehouse staff collect and flatten boxes as we go along. A small pile is created during a shift (we have 3 shifts/day). At the end of the shift an employee removes the small pile and brings to dumpster outside.*	*Our current trash hauler, (PQ Trash Hauling, City, CT) empties cardboard dumpster Mondays and Thursdays.*
Corrugated cardboard**			
Food and beverage containers (check all those collected for recycling) ☐ **Glass**** ☐ **Metal**** ☐ **Plastic** ☐ **Paper carton or (juice-type) box**			
Other			

** Mandatory item that everyone is required to recycle in Connecticut

Part III: Company's Current Recycling & Recovery Efforts (continued)

RECYCLABLE MATERIAL	AVG WEIGHT (indicate tons or pounds) COLLECTED FOR RECYCLING EACH MONTH (if you don't have weight data enter the number and size of containers and collection frequency)	HOW & WHERE MATERIAL IS COLLECTED	WHO PICKS-UP MATERIAL AND WHERE IS THE MATERIAL TAKEN FOR RECYCLING
EXAMPLE: Printer Toner cartridges	*We have 8 printers in our offices and generally replace/recycle 1/month*	*Office manager returns all toner cartridges to Office Supply Store for a credit towards future office supplies*	*Use mailer envelopes that come with new toner. We mail them back to Office supply store (or they pick up with new deliveries).*
Lead Acid Storage Batteries (car, truck, boat)**			
Rechargeable Batteries**			
Used Crankcase Oil**			
Scrap Metal**			

** Mandatory item that everyone is required to recycle in Connecticut

Part III: Company's Current Recycling & Recovery Efforts (continued)

MATERIAL	AVG WEIGHT (indicate tons or pounds) COLLECTED FOR RECYCLING EACHMONTH (if you don't have weight data enter the number and size of containers and collection frequency)	HOW & WHERE MATERIAL IS COLLECTED	WHO PICKS-UP MATERIAL AND WHERE IS THE MATERIAL TAKEN FOR RECYCLING
EXAMPLE: Leaves and other yard debris	*N/A*	*Our landscape company (NAME, TOWN) mows our lawns and maintains our entry garden. They remove all the materials (although grass clippings are left on the lawn).*	*Our landscape company takes them away.*
Leaves**			
Grass clippings**			
Brush, stumps and other yard debris			

** Mandatory item that everyone is required to recycle in Connecticut

Part III: Company's Current Recycling & Recovery Efforts (continued)

MATERIAL	AVG WEIGHT (indicate tons or pounds) COLLECTED FOR RECYCLING EACHMONTH (if you don't have weight data enter the number and size of containers and collection frequency)	HOW & WHERE MATERIAL IS COLLECTED	WHO PICKS-UP MATERIAL AND WHERE IS THE MATERIAL TAKEN FOR RECYCLING
Food waste			
Other			
Other			

Part IV Company's Current Waste Reduction, Reuse And Other Recovery Programs

WASTE REDUCTION, REUSE AND OTHER RECOVERY PROGRAMS	PROJECT DESCRIPTION
EXAMPLE: Waste Reduction	*Our cafeteria recently began using reusable trays and washing them instead of using Styrofoam trays which we were throwing away. We have also instituted a reusable mug program (providing a free mug to employees) to try and reduce the amount of coffee cup waste.*
Waste Reduction	
Waste Reduction	
Other	
EXAMPLE: *ReUse*	*Our company generates approximately 10 used Gaylord containers /week that we donate to Foodshare for their produce distribution program. We also donate over-stock and discontinued building supplies to the ReCONNstruction Center in New Britain.*
ReUse	
ReUse	
Other	
Other	

Part V: Recycling & Recovery Programs Planned

Please use the table below to describe future recycling efforts and how compliance with the mandatory items, if not already recovered for recycling, will be achieved.

IDEA / MATERIAL	ESTIMATED GENERATION RATE	HOW AND WHERE WILL THE MATERIAL BE COLLECTED?	WHO WILL PICK-UP THIS MATERIAL? FINAL/END MARKET?	WHEN WILL PROGRAM BE IMPLEMENTED?
EXAMPLE: Food and Beverage containers (glass, metal and plastic)	*25 gallons/month*	*Will place barrel in break room; janitorial staff will empty and remove materials to a larger container on our loading dock.*	*There are a lot of 5¢ deposit containers. We're looking into having a local non-profit organization collect them for free and redeem the deposits.*	*We will start this program by August 8, 2008 (2 weeks from now).*
EXAMPLE: 55 gallon drums	*10/week*	*We generate 55 gallon drums, which contained non-hazardous substances. We stockpile them outside the plant until we have 50 drums.*	*Working with XYZ, a company that reconditions the drums. We've found this to be more cost effective than recycling them at this time.*	*We've already started collecting and expect our first pick up to be next week (June 5, 2008)*

Part V: Recycling & Recovery Programs Planned (continued)

IDEA / MATERIAL	ESTIMATED GENERATION RATE	HOW AND WHERE WILL THE MATERIAL BE COLLECTED?	WHO WILL PICK-UP THIS MATERIAL? FINAL/END MARKET?	WHEN WILL PROGRAM BE IMPLEMENTED?
EXAMPLE: 5 gallon buckets	*15-30 buckets/month*	*We generate buckets (contained non-hazardous substances) and cannot use them. Will rinse and stack (with lids) off to side of loading dock.*	*We're trying to secure a connection with a local reuse center or distribute via materials exchange program.*	*We hope to start this program by the end of August 2008.*

Reminder: This form is only required to be submitted when requested by DEP.

When requested by DEP, please include photos of your recycling bins and containers and any copies of recycling/waste contract. If you have additional pages or items to help explain/show successes in your waste recycling/recovery efforts, please attach those as well including brochures, flyers, employee educational materials, etc.

When requested by DEP, please submit the completed form and all Supporting Documents to:

DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
WASTE ENGINEERING AND ENFORCEMENT DIVISION
79 ELM STREET, 4TH FLOOR
HARTFORD, CT 06106-5127

PHONE: (860) 424-3365

ATTACHMENT B

DRAFT RCRA CLOSURE GUIDANCE FOR GENERATORS WHO STORE LESS THAN 90 DAYS CONTAINER STORAGE AREAS AND TANK SYSTEMS

STATE OF CONNECTICUT
BUREAU OF WASTE MANAGEMENT
ENGINEERING & ENFORCEMENT DIVISION

79 ELM STREET, HARTFORD CT 06106-5127

TEL. (860) 424-3366 TOLL-FREE (RCRA Questions Only): 1-888-424-4193 www.dep.state.ct.us/

DRAFT RCRA CLOSURE GUIDANCE FOR GENERATORS WHO STORE LESS THAN 90 DAYS CONTAINER STORAGE AREAS AND TANK SYSTEMS

INTRODUCTION

This document was developed by the Connecticut Department of Environmental Protection (CTDEP) to guide all persons involved in closing Resource Conservation and Recovery Act ("RCRA") container storage areas and tank systems which have been used to store hazardous waste for **LESS THAN**[1] 90 days.

These facilities, known as RCRA "generators", are subject to the provisions of Section 22a-449(c)-102(a)(2)(K) of the Regulations of Connecticut State Agencies, incorporating 40 CFR 265.111, 40 CFR 265.113(a), (b) and (c), and 40 CFR 265.114.

RCRA generator regulations require closure of hazardous waste storage areas in a manner that is protective of human health and the environment, however these regulations neither require that a closure plan be submitted for review and approval nor do they specify the steps necessary for closure. To address this gap in the regulation, this document provides guidance (not regulations) for generators who wish to close.

Generators who plan to discontinue storing hazardous waste, those who are going out of business, and those relocating a waste storage area within their facility and need to close old area(s) will use this document.

Although a written closure plan is not required by regulation or this guidance, we recommend, and in certain circumstances may require that you document all of your closure activities by photographing or video recording each closure activity, (e.g. decontamination, soil excavation, soil sampling events); maintaining analytical results of samples taken after decontamination or removal of contaminated equipment, structures and soil; and maintaining copies of manifests if decontamination activities generated waste which was disposed of offsite. This documentation may also be helpful in meeting the requirements of the Transfer Act (Section 22a-134 of the Connecticut General Statutes) if you ever sell your property.

[1]For those generators who stored hazardous waste for greater than 90 days, you may be required to close in accordance with more rigorous requirements. See Attachment A for more information.

This guidance describes how, after the hazardous waste inventory has been removed from the storage facility, you must characterize any residual contamination, clean it up, and verify that the clean-up is complete.

TABLE OF CONTENTS

CHARACTERIZE THE CONTAMINATION

Characterize any residual contamination in three steps:

I. Develop a list of **constituents of concern (COCs).** This is a list of all hazardous constituents that were ever stored at your hazardous waste storage area(s);

II. **Determine if structures or soils are contaminated;**

III. **Determine the extent of contamination in soils** in order to know how much needs to be cleaned up.

Each step is explained in further detail below.

I. Constituents of Concern (COCs)

To develop the COCs for your storage area or tank (regulated unit) you must list all of the hazardous constituents that were ever stored there. Hazardous constituents are those listed in 40 CFR Part 261 Appendix VIII and 40 CFR Part 264 Appendix IX. The following paragraphs A through I are suggested sources of information at your site which can be used for this. You may not have to use every source if one or two sources provide a complete list:

A. Material Safety Data Sheets,

B. Hazardous waste inspection reports,

C. Existing waste analysis records at your facility or the offsite licensed hazardous waste facility which received your waste,

D. Manifests,

E. Other environmental permits in place at the facility, e.g. a waste water permit,

F. Groundwater monitoring parameters, if available,

G. Interview former employees,

H. Review CTDEP hazardous waste and water compliance files.

I. If none of the above are available or adequate, e.g. a site has ceased operation and all records are gone or incomplete, then analyze the waste, structures and/or soil for the constituents listed in **Appendix IX** of 40 CFR Part 264:

1. Analyze the waste (if still on site) for Appendix IX constituents. Table 1 provides guidance on sampling and analysis of wastes in addition to the following:

a. Each waste type must be sampled in accordance with Test Methods for Evaluating Solid Waste, dated November 1986, (SW-846). The samples must be representative of all wastes stored at the regulated unit.

b. Any Appendix IX constituents detected in the waste that are above the lowest analytical detection level ("hits") must be added to the COC list.

2. Analyze porous secondary containment **structures** (e.g., concrete) for Appendix IX constituents. See Table 1 for guidance on sampling and analysis of porous structures. Any Appendix IX hits must be added to the COC list.

3. Analyze surrounding and/or underlying soil for Appendix IX constituents. See Table 1 for guidance on sampling and analysis of soil. Any Appendix IX hits are added to the COC list.

II. Determine if Structures or Soils are Contaminated

If you know structures are contaminated, skip this section and go to the section titled CLEAN UP THE CONTAMINATION THAT IS FOUND. If you know soil is contaminated, skip this section and go to the section titled "Determine the Extent of Contamination in Soils". If you believe that neither structures nor soil are contaminated, use the following guidance to verify that the unit is clean.

A. Definitions

1. **"Contamination"** is defined as any COC which is found on/in structures or soil which is above the media closure criteria as measured by both TCLP and mass analysis of a representative sample.

2. **"Media Closure Criteria"** are risk-based standards for each media (structures, soil); they must be developed for each COC. They can be found in the Risk-Based Concentration Table, EPA Region III or the proposed Connecticut Cleanup Standard Regulations which contain "Numeric Cleanup Criteria". If both sources have an MCC for a given constituent, the most stringent must be used.

B. Structures

Verify that structures (e.g. concrete secondary containment system) are clean. See Table 1 for guidance on sampling and analysis of structures

1. Analyze each sample for all COCs, compare each discrete sample result (no compositing of samples) to the relevant media closure criteria. If any result exceeds the media closure criteria (MCC), then contamination is present and it must be cleaned up and verified so as described in the following sections.

2. If each discrete sample result is below the MCC then the structures can be considered free of contamination requiring remediation. Proceed to the next section on determination of the presence/absence of contamination in soils.

C. **Soils**

Verify that the soils are clean. Inspect the pad for cracks, gaps, slab joints, deteriorating concrete, or anything that could have allowed liquid to pass through to the surrounding or underlying soils. Consider the following:

1. If resurfacing/recoating of pad has concealed cracks, etc. go to step 3 below.
2. Inspect for the above features after a dry sweep of the pad but prior to decontamination,
3. If any of the above features are present, determine if contaminants migrated to the soils using the following procedure:
   a. Bore a 4-inch core through the containment structure at the suspected conduit(s) and remove plug(s),
   b. Inspect each plug cross section,
   c. If feature (e.g. crack) extends through plug, sample each soil horizon down to groundwater or clean soil, whichever comes first, analyze (mass basis) each sample for the indicator COCs or full COC list if indicators are not detected.
   d. If any sample exceeds MCCs in any soil type then determine the extent of the contamination as described in the next section.
   e. If crack does not extend through plug but volatile organics are on the constituent of concern list, use a portable organic vapor analyzer to measure soil vapors in the slab borehole.
      - If volatile organics are detected in the borehole, determine extent of the volatile contamination as described in section **III.**
      - If volatile organics are not detected in the borehole, then further investigation for the extent of contamination in soil (described in the next section) is not necessary.
   f. Regrout boreholes before proceeding with closure.

D. **Soils Contaminated by Tank Systems**

A "tank system" includes the tank, the secondary containment structure, and all ancillary equipment directly connected to the tank or secondary containment structure, including piping, pressure relief valves, instrumentation, valves, level sensors.

If you do not think the tank system leaked, verify its condition by conducting a tank system integrity assessment. If you know the tank system leaked then this

assessment is not necessary; proceed to the section titled **"Determine the Extent of Contamination in Soils".**

The tank system integrity assessment includes:

1. An assessment of the structural integrity of each tank system which is reviewed and certified by an independent, qualified, registered professional engineer.

2. For non-enterable, underground tank systems including ancillary components, the assessment should include a leak test that meets the requirements of 40 CFR 265.191. If the tank is to be removed as part of closure, a visual inspection could be performed in lieu of a leak test.

3. All integrity assessments must include an inspection of each tank system component for cracks, leaks, corrosion, and erosion.

4. For tank systems which had secondary containment for their entire operating life, review the leak inspections or leak-detection system monitoring data to verify that no leaks ever occurred during the lifetime of the tank system. If this information is not available, conduct an integrity assessment as described above.

5. If the tank integrity assessment indicates that there was a potential for leakage then determine the extent of the contamination as described in the next section.

6. In addition to the integrity assessment, the operating practices, e.g. filling/emptying, must be evaluated for potential sources of contaminant release.

7. If tank system integrity assessment shows no corrosion, cracks, etc. and there were no spills during filling/emptying, subsoils need not be investigated for presence or extent of contamination.

E. **If, after going through the above procedures in paragraphs A through D, no contamination is found, then closure is complete; no further characterization work or subsequent cleanup work is necessary.**

III. Determine the Extent of Contamination in Soils

If contamination is known to be present or was found to be present in soils surrounding or underlying the regulated unit during the previous exercise, the extent of contamination must be determined. Once the extent of contamination is known, you will know how much to clean up.

The following provides guidance on determining the three-dimensional extent of contamination in soils. See Table 1 for further guidance.

A. If the regulated unit has perimeter berms or a similar feature designed to prevent lateral escape of hazardous wastes in the event of a spill, and there are no historic records of spills released beyond these barriers, then **sampling for the lateral extent of contamination beyond these barriers is not required**. Soils directly beneath the unit, however, still must be characterized both laterally and vertically.

B. Estimate the depth and perimeter of the contamination. Sample below and outside this estimated volume.

C. Sample borings should extend to "clean soil" or mean seasonal low groundwater, which ever comes first. Samples should be taken at each soil horizon.

D. General Sampling and Analysis Guidance for Determining the Extent of Contamination:

1. Use of one or two of the prevalent COCs (indicator parameters) for your initial sampling to save on analytical costs is allowed but the full COC list must be analyzed at the sampling round thought to be at the extent of contamination.

2. For sampling of organics in soil, take from 6 inches below the surface to avoid bias due to volatilization.

3. Perform all site characterization sampling prior to decontamination or removal of containment structures.

4. If any sample result is in excess of any MCC then move outward and/or deeper and resample. The extent of contamination requiring remediation is defined by the outermost or deepest set of samples which contain constituents of concern at concentration levels at or below established MCCs. Once this is reached, no further sampling is necessary. Soils requiring remediation are those which lie within this sampling perimeter.

CLEAN UP THE CONTAMINATION THAT IS FOUND

Decontaminate or remove and dispose of all equipment, structures and soils measured (in the previous section) to be in excess of the media closure criteria.

I. General

A. When you are performing the clean up, avoid creating other problems like dust, contaminated run-off, etc.

B. When finished, all equipment used in the cleanup must be decontaminated.

C. Properly dispose of all wastes generated by the cleanup.

D. Backfilling of excavations

1. Clean soil must be used; the location and history of the borrow site must be considered to avoid bringing contaminated material on to the site.

2. Backfilled soil must be compacted when placed in the excavation in such a manner as to prevent post-closure settlement.

E. If you are unable to clean up the contamination that was found due to its nature, extent or location you may contact CTDEP for further guidance.

II. Tank Systems

A. We encourage removing and disposing of all in-ground and underground tanks. You may abandon in-place provided CTDEP approves in writing and the tank is filled with an inert dry sand or equivalent media.

B. For additional information on closing tank systems, see Chapter 12 of the Technical Resource Document For The Storage And Treatment Of Hazardous Waste In Tank Systems, dated December 1986, NTIS #PB87-134391.

VERIFY THAT CLEANUP IS COMPLETE

I. Sample all structures and soils which were contaminated and then cleaned up. Table 1 provides sampling and analysis guidance for soils, porous and non-porous structures.

II. Media closure criteria must be achieved for each COC at each sample point; comparison of a mean concentration to clean-up criteria is *not* acceptable. Repeat the removal or decontamination of structures or soils if media closure criteria is not achieved.

III. If subsoils are removed, the floor and sidewalls of the excavation must be sampled and analyzed.

IV. For tank systems, the tank itself will be non-porous and will require a wipe test (see Attachment B). For tank system piping, triple rinse with an appropriate decontamination solution and analyze the final rinse for all constituents of concern to verify that all media closure criteria have been met.

V. Media closure criteria (clean-up standards) for wipe samples is <u>non-detect</u> for all COCs; in cases where interferences are encountered, e.g. metals detected from a steel tank, develop a background value by sampling a similar material that was unaffected by the waste.

ATTACHMENT A:
DETERMINING CLOSURE REQUIREMENTS FOR GENERATORS WHO STORED HAZARDOUS WASTE GREATER THAN 90 DAYS

In cases where a generator[1] has stored for greater than 90 days, CTDEP may require more rigorous Treatment Storage and Disposal Facility (TSDF) closure requirements. These requirements can be found in the CTDEP draft document titled RCRA Closure Plan Guidance, Container Storage Areas and Tank Systems, dated November, 1993. Some criteria we may use to decide whether to apply TSDF or generator closure requirements to a particular site are as follows:

1. The number of occurrences of greater than 90-day storage;
2. The reason(s) for greater than 90-day storage (e.g. transporter delay, weather delay);
3. The length of time waste was stored beyond the 90th day ;
4. The quantity of hazardous waste that was stored greater than 90 days;
5. The nature of hazardous waste that was stored greater than 90 days;
6. The presence/lack of secondary containment (e.g. concrete floor and berm);
7. The condition of the storage area secondary containment (e.g. presence of cracks, gaps, staining);
8. The presence of leaking containers;
9. The company's overall compliance history;
10. The groundwater classification in the area where the generator is located;
11. Storage area located indoors or outdoors;
12. Other programs involved, e.g. Property Transfer, Corrective Action;
13. Presence of groundwater contamination.

[1]Generators store hazardous waste for 90 days or less

ATTACHMENT B:
WIPE SAMPLING PROCEDURE

The following procedure is used to sample non-porous material to verify that media closure criteria have been achieved after decontamination or removal has been completed. Examples of non-porous material are: steel or fiberglass tanks, structural steel (painted or unpainted).

1. Select an area of 1/4 square meter on the equipment/structure to be tested.
2. For analysis of constituents of concern, saturate a cotton gauze with:
    a. Methanol for volatiles,
    b. Hexane-acetone mix (1:1), or methylene chloride for semi-volatiles,
    c. Hexane for PCBs,
    d. Dilute nitric acid (1:4 nitric acid to deionized water) for metals,
    e. Dilute sodium hydroxide for cyanide.
3. Wipe the saturated gauze over the entire sampling area (1/4 square meter) repeatedly in the vertical direction, applying moderate pressure. Turn the gauze over and wipe repeatedly in the horizontal direction.
4. Repeat the above procedure for each additional category of COCs (a through e above) with new gauze on a newly selected 1/4 square meter sampling area.
5. Place each gauze in a separate jar with a Teflon seal and submit the samples for laboratory analysis.
6. Analyze each gauze for the appropriate contaminants of concern.

Media closure criteria for wipe samples is non-detect for all contaminants of concern. Repeat the decontamination process and resample if necessary.

Consider the potential for interferences from the material being sampled.

TABLE 1:
RCRA CLOSURE GUIDANCE FOR GENERATORS WHO STORE LESS THAN 90 DAYS
SAMPLING AND ANALYSIS GUIDANCE

Objective -->	Develop COCs by Appendix IX Analysis of:			Contamination on Structures	Extent of Contamination in Soil		Verify Clean		
	Waste	Porous Structures	Soil		Lateral	Vertical	Soils	Porous Structures	Non-Porous Structures
Number of Samples	1 per waste type	Inorganics: 1/100 ft^2 surface area but no less than 3 Organics: 1/1000 ft^2 surface area	Inorganics: 1/100 ft^2 surface area but no less than 3 Organics: 1/1000 ft^2 surface area	1/100 ft^2 surface area	1 per 20 ft of circumference outside of contaminated area, minimum 4	1 per each soil horizon down to clean soil or ground water	1/100 ft^2 surface area; minimum 3	1/100 ft^2 surface area; minimum 3	1/1000 ft^2 surface area; minimum 1
Method to Select Sample Locations	N/A (Sample Containers and/or Tanks)	Inorganics: Random & Judgmental[1] Organics: Use OVA[2] to screen location	Inorganics: Random & Judgmental[1] Organics: Use OVA[2] to screen location	Random & judgmental[1]	At or beyond estimated perimeter of contaminated area	At each crack, gap, or other conduit to subsoils	Random & Judgmental[1]	Random & Judgmental[1]	Judgmental[1]
Sampling Methodology (Composite, Discrete, Chip, Wipe)	Compatible wastes: Composite Incompatible: discrete	Inorganics: Composite Chips Organics: Discrete Chip	Inorganics: Composite Organics: Discrete	Discrete chips	Discrete Soil Samples	Discrete Soil Samples	Discrete Soil Samples	Discrete chip samples	Wipe sample (See Attachment B)
Analytical Parameters	Parameters listed in 40 CFR 264 Appendix IX	Parameters listed in 40 CFR 264 Appendix IX	Parameters listed in 40 CFR 264 Appendix IX	All COCs	All COCs at outermost sample; may use subset for initial samples	All COCs at deepest sample; may use subset for upper samples	All COCs	All COCs	All COCs
Analysis of Mass or Extract from Leach Procedure	Mass	Mass	Mass	Mass and leach[3]	Mass and leach[3]	Mass and leach[3]	Mass and leach[3]	Mass and leach[3]	Mass

[1]Judgmental sample locations are chosen based on appearance, spill locations, previous analytical results, OVA readings, etc.
[2]OVA: portable organic vapor analyzer
[3]Leach values can be determined by analysis or by calculating: [Mass(mg/kg)) 20] = leach(mg/l)